Crossroads

The University of Michigan Undergraduate Journal of Anthropology

The Future after Covid-19: Implications of a Global Pandemic

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This collaborative research project considers the future consequences of the Covid-19 pandemic. The topics considered include: (1) healthcare, (2) education, (3) the socioeconomic contract between states and citizens, (4) food systems, (5) social relationships and interaction, (6) health literacy, (7) social movement politics, (8) accessibility and accommodations for the disabled and other high-risk groups, (9) gender roles and women's rights, (10) global e-commerce, (11) sports and entertainment, and (12) urban planning. The research methods included examination of past epidemics and disasters, assembling information about the contemporary impacts of Covid-19, and attention to debates about future impacts. Interviews and short surveys provided additional information. While some trends were evident prior to the pandemic, and therefore relatively easy to predict, such as the exponential growth of e-commerce during the lockdown, other trends have stabilized, or even reversed course, such as the economic status of women. In other examples, we see divergent possibilities, such as the question whether office work will ever resume at full capacity, or will people continue to work from home after the pandemic? We also see the promotion of false claims, such as assertions made by university administrators that college students will be eager to continue learning remotely after the pandemic. Finally, we point to some changes—such as the renegotiation of the socioeconomic contract, including universal health care and living wages, or steps to enhance trust in medical information—that would benefit society should they be implemented.

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Letter from the Journal Editor

Dear Readers,

On behalf of the Editorial Board, it is my pleasure to share with you this volume of *Crossroads*: The University of Michigan Undergraduate Journal of Anthropology. The articles in this volume represent the outstanding anthropological research and writing that is currently being accomplished at the undergraduate level at the University of Michigan in the course "Covid-19 Futures," taught by Professor Stuart Kirsch. We are proud to present the first special edition volume of *Crossroads* featuring this research project, and that this journal represents the diversity of theoretical and methodological approaches at use in anthropology today.

This volume of *Crossroads* is comprised of essays which draw on anthropology and other fields to examine the Covid-19 pandemic from a variety of perspectives. Each topic examines past epidemics along with the Covid-19 pandemic to consider how the current pandemic could impact the future. The authors use a variety of research methods to consider the possibilities for social change that may become a reality after the pandemic and how this would affect the world.

I would like to thank every member of the Editorial Board, as well as our authors, for the time and effort they have dedicated to the success of this publication. The process would not have been nearly as rewarding without their thoughtful revisions and brilliant ideas. In addition, this issue would not have been possible without the help of faculty in the Department of Anthropology and Professor Stuart Kirsch.

Sincerely,

Madeline Topor, Editor-in-Chief, *Crossroads*

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The Future after Covid-19: Implications of a Global Pandemic

Preface: Covid-19 Futures

By Stuart Kirsch

Most of us first learned about the novel coronavirus in January. By March it had disrupted societies around the world. Economies were shut down and people were told to stay at home for weeks or months at a time. The extent to which the routines of daily life have been transformed has led people to question whether life will ever return to normal. Some are nostalgic about the past and hope that once the vaccine is successfully administered and herd immunity established, we will be able to pick up our lives where we left off. Yet others seek to ensure that we heed the lessons conveyed by the harsh exposure of precarity and vulnerability during the pandemic, including the need for a more communitarian social ethos. They do not want to revert to the status quo but to leverage the "great pause" to achieve social change.

This special issue on "The Future after Covid-19: Implications of a Global Pandemic" examines all of these possibilities in detail. What will daily life be like after the pandemic recedes from view? Given the opportunity, will people resume their familiar routines as though it never happened? Or have these past ten months resulted in new habits and dispositions that will be difficult to shake? These are challenging questions to answer in part because they deal with the future, which to some extent is always unknowable. Social scientists are not in the practice of predicting the future. Yet there are resources we can draw on to help us think about these matters. This includes looking to the history of pandemics and past disasters for insight into the future. For example, the Black Death in the late Middle Ages may have contributed to the emergence of the middle classes in northern Italy (Mann 2020), the Spanish Flu of 1918

influenced gender roles and probably accelerated women's suffrage (Mann 2020), and Hurricane Katrina shaped the foundations of the Black Lives Matter movement (Bouie 2015). Pandemics and disasters almost always lead to social change, in part because the underlying structural contradictions of society are made publicly and painfully visible.

Another source of inspiration for these papers is the concept of *liminality*, which refers to the experience of being "betwixt and between" two social roles or positions (Turner 1969). Disaster anthropologist Anthony Oliver-Smith (1986) invoked the concept of liminality to describe what happened to the residents of a small town in Peru destroyed by a massive earthquake while they waited for their community to be rebuilt. We have been experiencing liminality on a global scale during the Covid-19 pandemic. We are unable to live as we used to, and deeply miss social interaction, whether visiting family members, hanging out with friends, going to football games and church services, or attending weddings and funerals. Many people's lives have been disrupted to a far greater degree, becoming sick from the coronavirus or having relatives die from it; losing their jobs, homes, and businesses; or having to stop working to take care of family members, including children learning from home. Liminality is characterized by a sense of fellow-feeling, which is evident in the popular slogan "we are all in this together." We see the expression of this sentiment in the tremendous outpouring of support for frontline workers, especially medical health professionals and other caregivers, but also people working in grocery stores and pharmacies, as well as teachers, all of whom put their own health at risk to provide others with essential services.

Our experience of what is often referred to as the "new normal" has led many of us to reflect on larger problems in society, including the lack of universal access to health care and the history of structural racism that has resulted in the disproportionate impacts of the pandemic on

people of color and other economically marginalized and vulnerable populations. The most optimistic views of the future build on the sense of solidarity generated during this liminal period, which the anthropologist Victor Turner (1969) referred to as "communitas," yielding widespread calls for radical social change. The result was a summer of protests led by social movements like Black Lives Matter, which challenged the status quo and demanded an alternative future (see McNamara et al., this issue).

But an alternative reading of the past ten months, including counter-protests against masks and lockdowns, could just as easily lead us to expect a mad scramble to go back to the way things were as quickly as possible. Certainly, a return to the familiar would be comforting in many ways. Yet the habits and dispositions built up during the extended period of social distancing and isolation may make it difficult to resume life as we once knew it. Will people be ready to congregate in crowded places? Make new friends? Go back to school in classrooms that are not socially-distanced? Travel to distant lands, out of reach of our health-care plans? Obviously some members of society were unwilling to alter their behavior in the first place. But for the remainder of society, even if they fantasize about doing all of these things, they will not know for sure whether they will be comfortable doing so until the opportunity arises.

What will the post-pandemic world look like? Will people resume their daily commute to work at their offices, or continue to work remotely (see Steiger et al., this issue)? Will we address the urgent need to reform healthcare (see Abdelhady et al., this issue), or continue to fight over every attempt to fix a system that abandoned so many people in their hour of greatest need? Will efforts to renegotiate the social contract with the state be successful or run into familiar opposition (see Galasso et al., this issue)? Will we address the risks of zoonotic spillover responsible for the pandemic (Liu 2020; Langrou 2020; Worcester 2020), which threaten to

unleash future pandemics on the world, or ignore the problem by reverting back to unrestrained global capitalism? Which lessons will we learn from the pandemic, and even more importantly, which will we heed?

To some extent, it is possible to make predictions about the future based on recent trends. Even before the pandemic, the volume of online purchases was growing at a rapid rate. With restrictions on mobility and the closure of non-essential businesses for extended periods of time, e-commerce has expanded exponentially, and the contributors to this special issue predict that this trend will continue despite the eventual resumption of shopping in person (see Nambiar et al., this issue). But other trends have been altered by the pandemic and our response to it. For example, women's economic standing has been negatively affected, reversing the progress being made towards greater gender equality (see Rothstein et al., this issue). Other practices that have been completely upended by the pandemic are likely to return to status quo, including spectator sports, which were abruptly cancelled but later resumed in live bubbles (see Siddiqui et al., this issue).

The contributors to this special issue are all undergraduate students at the University of Michigan, although they vary widely in their majors, their year in school, their hometowns and countries, and to some extent their politics. The topics they wrote about were selected collaboratively, and each student was both a lead author for one article and a contributing author to at least two more. The articles consider how the pandemic has affected different aspects of daily life, including education (see Yang and Armus et al., this issue) and food systems (see Ellis et al., this issue), and how these changes will carry over into the future. Others examine how the pandemic has altered social interactions and relationships (see Reinert et al., this issue), urban planning (see Steiger et al., this issue), the challenges of accessibility and accommodation (see

Skriloff and Reinert, this issue), and the need to improve health literacy and counter misinformation about vaccines (see McCormick et al., this issue).

In conducting their research, the students made use of a variety of research methods. We spent the first month of the semester reading about how past pandemics and disasters contributed to social change, and discussed our personal experiences of living through a global pandemic. We also read and evaluated predictions made by experts, journalists, and pundits about the long-term impacts of the pandemic. The students then conducted literature reviews on their topics, consulting academic journals and contemporary media. Many of the groups interviewed professionals in their areas of interest, including school teachers, nurses, and sports executives. They spoke to people about dating while social-distancing, being pregnant and giving birth during the pandemic, and other topics. One group distributed a short questionnaire. The fact that we were working collaboratively on these issues meant that their articles were influenced by the findings of the other research teams from the class.

How has Covid-19 shaped the future? I can say with confidence that many of the students' predictions will prove to be accurate, while some will not, although it is impossible to know which is which in advance. But the articles in this special issue are guaranteed to help you understand what to expect.

Stuart Kirsch

Ann Arbor

December 15, 2020

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The Future after Covid-19: Implications of a Global Pandemic

Healthcare in a Post-Covid World

By Mohamed Abdelhady, Myah S. McCormick, Noelle McNamara, and Marc J. Skriloff

Healthcare in the United States has been the subject of considerable debate. However, with the Covid-19 pandemic, the spotlight on healthcare has increased dramatically. There are many barriers of access to healthcare, including the lack of insurance due to high costs, high prescription drug costs, and access to quality care centers. Americans do not have equal access to the vast US healthcare system. The combination of the pandemic and the US presidential election this year have kept the debate on healthcare reform in the public eye. With large-scale reforms being proposed, such as single-payer healthcare or a public-option system allowing private insurers to continue operating, there is considerable disagreement on the most desirable path to improvement. In this article, we focus on access to healthcare providers, and specifically the rise in telehealth opportunities, that have emerged in response to the Covid-19 pandemic, and how its continued implementation beyond the pandemic could significantly enhance access to healthcare for many Americans. We also compare the government response to Covid-19 to its reaction to the H1N1 virus. We also examine vaccine distribution plans for Covid-19 as an example of short-term reform in the US healthcare system to predict the likelihood of long-term structural changes to the healthcare system.

INTRODUCTION

One of the most important and contentious debates in American politics, and even more so during the current pandemic, is healthcare. Healthcare reform bills are frequently proposed and just as frequently voted down. This is due to an array of factors including inequalities within the system, concerns about costs and taxes, the economic interests of the private insurance industry, lobbying by the pharmaceutical industry, and party politics. Many stakeholders see different problems within the system and propose alternative solutions as a result. Some believe that current federal programs providing coverage are "too generous" and overly burden taxpayers. Others want to reduce the number of uninsured persons and the

burdens felt from high insurance premiums by increasing cost-sharing (Fiedler and Young 2020). Despite the difference in views on healthcare, the Covid-19 pandemic has changed the views of many Americans on this topic. The virus exposed cracks within the system that were previously invisible or ignored.

Covid-19 has not only had disproportionate impacts on vulnerable populations, but it has also exposed other inequalities within our society. First, we have seen significant disparities in health care access between different populations. Many Americans are learning, for the first time, about the social determinants of health. This includes everything from housing conditions, food access, community networks, and education, all of which can affect a person's access to quality, affordable healthcare. This plays out especially in communities of color, which have been hit harder by the coronavirus. This is due to the prevalence of structural racism embedded within American society and institutions. Communities of color are systematically prevented from obtaining medium and high paying jobs, which limits their residence to poorer communities and exposes them to harmful environmental impacts (see McNamara et al., this volume). It also makes investors reluctant to provide new resources, and forces community members to send their children to less affluent schools. The cycle then repeats itself (Myers 2020).
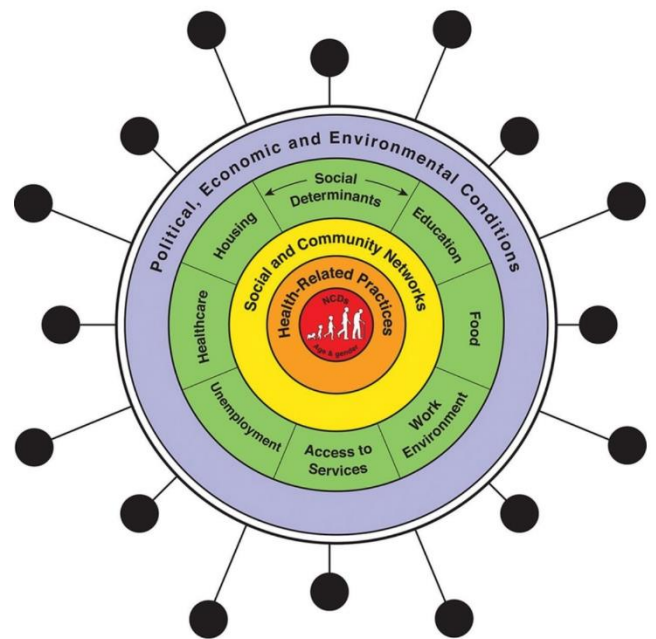
Another set of problems highlighted by the pandemic is the presence of a significant resource divide. Green spaces (parks, nature trails, forests, etc.) are much more accessible in

wealthier, white neighborhoods. This became abundantly clear during the lockdown when green spaces became a sanctuary for people. Unequal access to parks and other public spaces directly correlates with mental and physical health status. Similarly, the digital divide revealed vast disparities in access to the internet as much of the world went online. This resulted in significant barriers to education, employment, and even the ability to make a doctor's appointment. According to Pew Research Center, 15% of adults in rural areas and 9% in urban areas do not have access to or use the internet. Meanwhile, 8% of white people report that they do not use the internet, compared to 15% of Black people (Myers 2020).

One of the few things that most Americans agree on is that our healthcare system is broken. However, there are various schools of thought as to how to fix it. The first school of thought pertains to universal coverage (Rovner 2020). This would ensure that all Americans have access to healthcare through public programs, private programs, or a combination of both, with the trade-off of higher taxes for many Americans. Alternatively, some would prefer a single-payer method of universal coverage, which refers to a system in which the bills are paid by the government but the delivery system remains mostly private (Rovner 2020). This system would essentially expand Medicare to all Americans. Third, there are others who believe the government should be less involved in healthcare and favor private insurance. For example, the Trump administration has favored decreasing regulation of private insurance, and in its final days was debating a proposal that would allow states to cap their Medicaid program spending. However, since the start of the pandemic, Americans have increasingly begun to lean toward a universal coverage plan. Still, polls show that Americans are more concerned with healthcare costs than coverage, so any new plans would be hard pressed to pass if it was contingent on a tax increase (Rovner 2020).

FUTURE OF TELEHEALTH

Telehealth is a relatively new phenomenon that became immensely popular during the height of the Covid-19 pandemic. It allowed healthcare providers to continue to help patients while still maintaining a safe distance as the appointment is conducted virtually. In the US, there was a dramatic increase of 154% in telehealth usage in the last week of March 2020 relative to the same week in the previous year (Jolly 2020). People with Medicare insurance have had a tremendous increase in access to telehealth services, between the beginning of the pandemic and August 2020, roughly 36% of Medicare insured people have received telehealth care (CMS 2020). During this pandemic, the federal government has embraced telehealth by expanding access to telehealth services for Medicare beneficiaries, allowing these people to continue to access healthcare services virtually. Furthermore, the Centers for Medicare & Medicaid Services has continued to increase approved telehealth services, as recently as May 1, 2020, 11 new services have been authorized to be done virtually (CMS 2020). Even after the initial pandemic quarantine, it appears that support for telehealth usage at least among Medicare plans is continuing. However, many of the incentives and changes that spurred a steep rise in telehealth use are not permanent. A large-scale rollout of telehealth that lasts beyond the pandemic will require lawmakers to change many healthcare-related laws permanently.

The pandemic removed many barriers to telehealth from both the perspective of the patients and the providers. For patients, one of the barriers to telehealth is that patients no longer need to have a pre-existing relationship with the provider to use telehealth services (Zarefsky 2020). This meant that patients could exclusively see a healthcare provider for the first time from the comfort of their own homes, which is very beneficial to the residents of rural

communities that have adequate access to the internet. These individuals could access health care without having to travel long distances to receive care. This helps to minimize the time needed for an appointment, which is likely to increase the incentive to seek treatment. Given that cost is a prohibitive barrier to healthcare for many Americans, whether or not they have health insurance, the use of telehealth during the pandemic has helped make a doctor's visit more affordable because providers could choose to reduce or eliminate the cost-sharing requirement for telehealth visits (Zarefsky 2020). Telehealth provides avenues to make regular healthcare visits more accessible for many Americans.

Telehealth is not a new practice, and existed before the pandemic, but it was not very popular, in part because medical providers were not compensated as much for telehealth visits. During the pandemic, however, Medicare actually began compensating providers equally for telehealth visits and in-person visits (Zarefsky 2020). This greatly increased the incentive for providers to offer telehealth services during the pandemic. Since the current healthcare system is privately run, incentivising providers to use telehealth is a great way to ensure that the shift continues over the long-term. Since the change in compensation is thus far only temporary, the current spike in telehealth is likely to evaporate without action from federal and state governments.

Many of the changes that have been made to promote telehealth use are temporary in nature and were only implemented to allow patients to see providers while avoiding exposure to Covid-19 during the pandemic. To maintain this level of telehealth use after the pandemic, governments will have to make changes to state law. Currently only 31 states and D.C. have laws that mandate equal compensation for providers for in-person and telehealth visits and many insurance providers including Medicaid and Medicare are exempt from these laws

(Maher et al. 2019). State legislatures and Congress will have to work together to update these laws to ensure that insurance companies cover these visits and provide equal compensation. Given the US national climate, it becomes unlikely that Congress will make these changes although state legislatures can individually change their laws to address these concerns. Medical licensing laws would also need to be updated, as current medical providers are only allowed to practice medicine in states where they are licensed. This keeps providers from seeing patients located in other states during their appointment, which means that they cannot see their own physician when traveling for work or other reasons (Maher et al. 2019). Such provisions are due to antiquated laws that do not take the vast reach of the internet into account. Possible solutions to this problem include the creation of a federal licensing program that allows physicians to qualify for a federal license to practice telehealth without regard to geographical boundaries. Alternatively, states could enact laws to provide reciprocity for medical licenses, much like many states do with the license to practice law. This would still allow states to maintain control over licensing requirements while providing patients and doctors with additional flexibility.

Although telehealth provides many benefits and increases the accessibility of healthcare, there are also some drawbacks to practicing medicine at a distance. The main premise of telehealth is that patients can visit their physician from their homes, however, for patients who suffer from IPV (Intimate Partner Violence), it becomes harder for physicians to screen for this concern (Evans et al. 2020). For these patients, as well as many others, a physician's office is a safe space where they can disclose and discuss confidential issues with their physicians. Therefore telehealth will never work for everyone, and office visits for medical appointments must remain an option for patients. Telehealth should also not be used as a way to cut down on

costs by fully transitioning to telehealth, thus eliminating office visits entirely. Instead physicians, patients, and the government should view telehealth as one of the many avenues through which patients can access the healthcare system. Another concern posed by telehealth is that many rural Americans have poor or no access to the internet, and so their ability to utilize telehealth is greatly diminished. An estimated 18 million American do not have access to broadband internet, most of whom live in rural areas (Wheeler 2020). As such, many Americans who would benefit the most from telehealth, given the distance between their homes and care centers, may not be able to make use of telehealth technology. The only solution to this inequality would be to expand broadband access across the country. While this problem is not new, the Covid-19 pandemic has made internet access essential, and improved internet access would assist many rural Americans in acquiring the health care they require, which has the potential to holistically make the country healthier.

VACCINE DISTRIBUTION

As of December 11, 2020, Pfizer's Covid-19 vaccine has received a vote of confidence from the Food and Drug Administration's vaccine advisory panel, it is only a matter of time before the vaccine is officially approved by the FDA (Thomas et al. 2020). Once the vaccine is approved, vaccine distribution will present its own set of obstacles. Although there is still no release date for a vaccine, within 24 hours of approval 6.4 million doses will be shipped (Thomas et al. 2020). However, half of the vaccines will be reserved for initial recipients to receive their second dose as the current pending vaccine is most effective with two doses given roughly three weeks apart (Thomas et al. 2020). Delegating who will be eligible for the first round of vaccines and future roll-outs is a complex task that can hopefully be mitigated with

the insight gained from the H1N1 outbreak in 2009.

The H1N1 outbreak, with all of its trials and tribulations, presents a framework for how vaccinations should be distributed in the face of a pandemic. The H1N1 vaccine distribution offers important lessons for the Covid-19 vaccination plan and exposed a number of flaws in our current system, including the need for better ways to track vaccine distribution, the ability to transport vaccines in various weather conditions, and the need for the federal government to deal with Native American tribes directly (Stroud et al. 2010). One success of the H1N1 vaccine distribution was the use of the Vaccines For Children (CDC 2016) program as a foundation for distribution programs (Stroud et al. 2010). The VFC program is funded by the federal government and provides vaccines at no cost to children who otherwise would not be vaccinated (CDC 2016). It was noted by many that a counterpart program for adults should be considered, however that has yet to come to fruition on a federal level (Stroud et al. 2010).

The current framework for vaccine distribution is divided into four phases. The first part of phase one will only cover an initial 5 percent of the United States population, with priority given to front-line workers, health care facility workers, first-responders, and other people who risk exposure to bodily fluids (NAS 2016). The second part of phase one covers an additional 10 percent of the population, including people of all ages who have underlying conditions that make them high risk for severe Covid-19 complications and death (see Skriloff et al., this issue). This includes adults who are over 65 years of age and live in places such as nursing homes or jails, as they are also at a greater risk for Covid-19 complications due to their age and living situation (NAS 2020).

Phase two covers an additional 30 to 35 percent of the population, including child care workers, school staff, and k-12 teachers (NAS 2020). Workers who cannot avoid exposure to

Covid-19, such as those employed in public transport, the homeless population, those working in prisons and jails, and persons of all ages who have underlying conditions that make them moderately high risk are also covered in phase two (NAS 2020).

Phase three covers the remaining 40 to 45 percent of the population (NAS 2020). It includes children, young adults, and workers who are necessary for the functioning of society but whose workplaces most likely lack adequate prevention measures, such as many banks, factories, and universities (NAS 2020). Phase four covers the remainder of the population that did not receive vaccines in the earlier phases (NAS 2020). This current framework remains a template and may be altered in the coming months (NAS 2020). However, there are likely to be exceptions to these guidelines, including certain populations who are likely to have special access to the vaccine before their turn as determined by the government. For example, the NBA and other sports leagues may procure doses for its athletes directly from the vaccine companies so that they can continue to compete (see Galasso et al., this issue). While it may not be unreasonable to prioritize athletes as their jobs require them to be unmasked in close proximity to each other, it would be unreasonable for them to receive the vaccine before healthcare workers that are regularly exposed to Covid-19 patients receive the vaccine. More broadly, people with significantly higher incomes may have the means to gain access to the vaccine by negotiating directly with pharmaceutical companies rather than waiting for access through the healthcare system. While the framework set out by the government is likely to apply to the majority of Americans, it would be naive to assume that some individuals will not find ways to jump the queue.

In its response to the H1N1 outbreak, the government over promised and under delivered (Radcliffe 2020). The government conservatively estimated that they would have between 120

to 160 million vaccines ready before the second wave of infection, yet initially they only delivered 23 million vaccines (Radcliffe 2020). On top of that, the government plan also had poor communication and left the responsibility for distributing vaccines to the states, which in turn led to some states to transfer that task to local distribution networks (Radcliffe 2020). Ultimately there was a mass wave of confusion as responsibility was handed off to those with less authority. As we race towards the distribution of the Covid-19 vaccine, we hope that due to more comprehensive planning, the federal government has learned from their mistakes, enabling it to make the future Covid-19 vaccine distributions more efficient. Prioritizing health workers and other high-risk groups will also ensure that the vaccine is initially received by those persons who need it the most.

CONCLUSION

As we look to the future, it becomes clear that change is needed to better meet the healthcare needs of all Americans. Improving the healthcare system will not only improve long-term primary care for all Americans, but will also help to protect our country against the next pandemic. However, implementing large-scale change to the healthcare system may not be possible once the liminal period of disaster is past us and the return to partisanship is in full force. Consequently, we think it more likely that we will see smaller changes to the healthcare system that over time can result in significant structural changes.

Our primary prediction is that telehealth will become a more regular and accepted component of healthcare access as a result of the increased use and growing familiarity with this technology during the pandemic. Furthermore, as telehealth and other internet-based programs increase in popularity due to necessity, economic savings, and convenience, we

expect to see the broadband internet gap begin to decrease. The increased push for virtual appointments will put pressure on governments and corporations to expand broadband internet into rural areas that previously did not have quality internet. With internet equality, we will begin to fully release the potential of telehealth as a means to bring medical care into any home, and reducing the barriers to healthcare will ensure that more Americans identify health problems earlier, contributing to improved health outcomes overall.

With regard to long-term changes in the healthcare system, it is quite unlikely that the entire healthcare system will be torn down and replaced completely. There is simply insufficient political will to completely overhaul the American healthcare system and replace it with a system operated entirely by the government. However, there continues to be support for reforming the healthcare system, potentially by expanding Medicare and Medicaid so that it covers more lower income Americans, and thereby significantly decreases the number of uninsured Americans. This change would not significantly alter the overall delivery of healthcare, and could result in continued inequities. It would, however, improve healthcare access and allow more Americans to receive routine check-ups, and help to reduce the need for acute care if problems are caught earlier.

Looking at the planning for the Covid-19 pandemic, while the initial government response is universally seen as inadequate, there is hope that the delivery of vaccinations will run more smoothly. There is an expectation that there will be substantial vaccine shortages, but the increase in government planning in the comparison to the H1N1 vaccine has led us to believe that the initial distribution will be more organized and effective. Ultimately, many Americans will not have immediate access to the vaccine but over time, it should eventually reach everyone who is willing to be vaccinated. During the pandemic, we have seen additional

research designed to ensure that the vaccine reaches minority populations, and these signs point to a more equitable vaccine distribution in comparison to the H1N1 vaccine distribution. Looking past the Covid-19 pandemic, views about how to improve the healthcare system are likely to remain contested, and consequently we anticipate that questions about long-term transformations of the healthcare system are likely to be influenced by how these smaller changes play out and their reception by both the public and healthcare providers.

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The Future after Covid-19: Implications of a Global Pandemic

Education in the Time of Covid-19 and its Future Implications

By YeaJin Yang, Dan Armus, Rachel Ellis, and Kayla Rothstein

The educational system in the US is a perennial topic of debate. The Covid-19 pandemic highlights some of the questions of equity in school systems, from the lack of resources for schools and teachers, to the growing divide between the education children receive based on socioeconomic status. During the crisis, the country faced an enormous challenge in trying to safely open the schools in time for the new year, often in situations where they were not provided adequate resources to accomplish this. With many students opting out due to busy or concerned parents, or making the switch to a private education in order to keep up, the country will be faced with a growing divide in the quality of education children receive. With unprecedented challenges posed by the switch to online and hybrid models of teaching, we examine the impact that the virus has had on our education system and the youth, including how children with special needs have handled the transition. In addition, we seek to understand the effects of the pandemic on universities and international students, assessing what the future of higher education might look like and whether the United States will continue to be the preferred destination for international students seeking to study abroad. With the high cost of university education and questions about the quality of education students receive while working online and remotely in comparison to being in the classroom with their peers, we consider the impact of the pandemic on the future of higher education.

INTRODUCTION

The US has long struggled with questions of equity in its educational system, whether it be related to proper funding, equality of access to those of different socioeconomic backgrounds, or the level of aid given to programs such as special education. When Covid-19 sent both teachers and students home in March, these problems were greatly exacerbated and raised new concerns about the lack of student access to the resources necessary to fully

participate in their education. These problems have affected all levels of education, from K-12 schools to colleges and universities. With the switch to online learning, young children have had to learn new programs and how to operate new technology, usually with the assistance of parents who struggle to balance working full time jobs while making sure their children receive a proper education. When schools offer a hybrid learning model as an alternative to fully online, parents often have to make the difficult choice between sending their children to places where, due to a lack of adequate funding from the government, they may be at risk of exposure to the virus.

At the same time, students enrolled in colleges and universities are being asked to pay the full price of tuition for an experience and education that is very different from the norm. Online lectures and labs don't provide the same interactive and lively experience that makes these classes so beneficial, raising the question of whether or not it is worth the hefty price tag. This is especially true for international students who pay the same high tuition and often face additional challenges posed by living in different time zones and having to attend class at incredibly early or late hours. This has renewed the debate on whether the US will continue to be the gold standard for education, and with the rise in xenophobia and political animosity towards international students, there could be a noticeable decline in the number of students coming from abroad to study here. In this article, we will look at the problems faced by the US educational system during the pandemic and their future consequences through means of academic research and by various interviews with teachers and students alike.

ONLINE LEARNING

Prior to the pandemic, it was unusual to find young students learning primarily through

technology. However, some alternative schools, such as private and charter schools, have been online long before Covid-19 (Fox 2020). Charter schools such as the Rural Virtual Academy in Wisconsin have seen a huge increase in demand for enrollment due to their extensive experience teaching in an online environment (Fox 2020). We're seeing a wider variety of students studying online now, whereas before, only a select group of students would opt to be online. The issue is, students with medical conditions or family members with medical conditions are also seeking to learn online. This poses an increased challenge for charter schools to accommodate these new students, especially since this demand may decrease again after the pandemic. Other students, rather than turning to technology to avoid the risk of exposure in large public school classrooms, are enrolling in smaller private and charter schools that are able to provide smaller class sizes to maintain desirable in-person instruction. But for families facing economic challenges from the pandemic, monetary insecurity may force them to switch their children from private to public schools (Lee 2020). These changes will affect future patterns in enrollment after the pandemic.

Class sizes in public schools have increased substantially since the shift to online teaching during the pandemic. For instance, the limit for classroom sizes in New York elementary schools was formerly between 25 and 32 students (Veiga 2020). Now, there are online classes of more than 60 students. This poses the threat of reduction in the effectiveness of class time; teachers cannot be expected to give equal attention to each student in classes so large. With students having more trouble learning virtually as opposed to in person, the need for individualized attention is greater now than ever.

SCHOOL FUNDING

Another major issue aside from the high volume of screen time for school-age children is the cost it has taken for schools to prepare for teaching online, both in terms of providing students with the resources they need to be able to participate virtually and the ability to retrofit the schools with the required protective equipment to ensure that any in-person learning can occur. There has been a "clear need for additional stimulus funding for education" (Campbell 2020), with some students lacking access to the internet or computer services, and schools not being able to properly prepare the required safety measures, such as improved ventilation and personal protective equipment for all teachers and students. This is even more pronounced for students and schools in lower socioeconomic districts. Their local governments have nowhere near the level of funding of wealthier districts, and their resources cannot be allocated to the public schools to assist with pandemic-related issues.

We can look back to the Great Recession of 2008 and its effect on the funding for public schools to illustrate how much additional stimulus is needed. During the recession, Congress passed the American Recovery and Reinvestment Act (ARRA), which contained $48.6 billion for state budgets with a focus on K-12 education. Even with this large boost in stimulus funding, school spending declined and wouldn't return to pre-2008 levels until around 2015 (Partelow et al 2020). This is considered to be a "lost decade when it comes to funding" (Partelow et al 2020), with schools continuously getting their budgets cut until 2013 . While the recession had a big hand in this problem, some of it stemmed from deliberate policy decisions that hurt school budgets, such as tax cuts while business revenues were climbing as they started to stabilize that imposed a limit on the amount of funding available for education. From the problems seen from the Great Recession we know that without additional funding, this school year will likely be less

beneficial for students than in the past. A shortage of funding and online schooling, or a lack thereof for students who cannot afford it, will create the perfect storm of a learning melt, an issue where students quickly unlearn whatever materials they learned during a school year over long breaks like summer where they aren't frequently using those tools, that could severely impact children for years to come. It is more important now than ever before for those in power to increase funding for schools through additional stimulus and, after schools begin to recover, through directing local and state tax funds towards educational aid to help students make up for lost time.

Lack of funding for schools directly correlates to how students perform, and it is clear that the less money there is the worse off they are. "A 2018 analysis found that in schools with a heavy reliance on state funding for education, every 10 percent cut in school funding during the recession correlated with a 7.8 percent of a standard deviation decrease in student test scores measured by the National Assessment of Educational Progress (NAEP)" (Partelow et al 2020). Another 2017 study found that scores in math and English fell, especially among students in poor economic conditions and in students of color where there were more likely to be reductions in staff (Partelow et al 2020). These studies highlight the importance of providing schools with sufficient resources and the challenges that arise when those needs are not met. With the Covid-19 pandemic already having a greater impact on the economy than the Great Recession, it is important that action is taken and students and teachers are given what they need to stay afloat during these hard times.

SPECIAL EDUCATION

Virtual special education presents a set of unique challenges for students, parents, and

teachers. A variation from the typical classroom experience, special education classes often focus on life skills, adapt lessons to the needs of each student, and have individualized attention from teachers and instructional assistants, which is difficult to replicate in an online setting.

Younger and older special education students adapt to the virtual setting differently, as younger students are accustomed to using technology. A kindergarten special education teacher reported that her students are "resilient" in the online environment and have not had much more difficulty adjusting than their general education peers. Meanwhile, high school special education teachers reported a very difficult transition to the online classroom when the Covid-19 pandemic first took place in March. The difference can likely be accounted to the fact that kindergarteners have not had enough time in school yet to become accustomed to a routine, whereas high school students have attended school in person for years and now have to cope with the unexpected changes. High school special education teachers find it helpful to send a daily schedule to students and their families to replicate a normal classroom routine. However, when classes return to in-person for special education, teachers worry that the hybrid model will upset students even more due to the lack of structure. We learned from speaking with multiple special education teachers that some wish that their county would just choose all or nothing when returning back to the school building, so their students can have a consistent routine.

Low incidence teachers often work on "life skills" in their classrooms, which vary from student to student. Some students may need to learn to eat with utensils, while some may be learning to cut paper or use a printer. This aspect of their education has been especially difficult to replicate online. Special education teachers report the increasing need, therefore, for parent involvement, therefore, for parent involvement which presents its own unique challenges see Rothstein and Ellis this issue.

Parents of children with special needs have always played a crucial part in the child's care and development, but during the pandemic they have needed to engage even more than before, according to one of the teachers we spoke with. Starting from the moment they help their child log onto zoom or other school platforms, parents need to be constantly involved in their child's education to help them stay on task and make sure they are navigating their programs properly. Therefore, as with all levels of schooling, special education students' education is progressing quite differently depending on their socioeconomic status and family background. If a student has a family member at home who is constantly available to help them join class, practice their life skills, and create a structured environment, the increased need for them is not as much of a problem. For students whose parents work or do not speak English as a first language, there are additional obstacles to helping the students participate fully. There are likely to be major gaps in the education of different students in special education due to the pandemic.

Once special education students return to school in-person, the classroom environment will not be the same. Students will be required to wear masks, which is overwhelming for those with sensory issues. As a solution, one special education teacher said she asked parents to send their child to school with at least three masks so teachers could help them find the one that is most comfortable for them. Instruction assistance and personal aides have found other challenges when a student needs help being fed or using the bathroom, which forces them to break social distance guidelines. Special education teachers will need to be prepared to help more than they did before the pandemic once we are ready to return to school and are back to learning in-person full time.

UNIVERSITIES ONLINE

The current pandemic also seriously impacted multiple aspects of the higher education system. It has forced the universities to convert most in-person classes to a remote learning system, which caused many university students to discontinue their studies, changed the grading system, eliminated extracurricular activities, reduced the quality of education in many instances, and weakened the bond between students and professors. These changes have negatively affected both university students and their professors.

First of all, most universities required students to return to their family homes for their safety at the start of the pandemic. Both the students and the professors had to adjust to new technologies and put up with distracting technological glitches. During the fall semester, some universities opted for hybrid classes, which created other problems (Gallagher & Palmer, 2020). Secondly, the pandemic affected the health and financials of many university students and their families, impacting the ability of some students to continue their studies. Some students at the University of Michigan needed to help support their families economically and take care of family members who were sick, limiting their time to study and actively participate in online classes. Thirdly, one way that universities responded to the precarity of their students was by shifting the grading system from letter grades to a pass or fail system, which did not penalize the students academically for their inability to focus full-time on their schoolwork (Marcus, 2020). A student from the University of Michigan reported that "having my classes online to begin with was hard, but knowing that I could receive a pass for the semester let me take things easier and less stressful knowing I would get full credit for my courses." While this may have relieved some of the stress from having to deal with the semester online, it still has ramifications like having difficulties in transferring credits (Marcus, 2020). Fourth, extracurricular activities

including sports, studying abroad, internships, and school competitions were greatly restricted, which limited the ability of students to gain experiences while simultaneously reducing university income. The system of remote learning and limitations on extracurricular activities reduced the overall quality of the educational experience for students (Tribune Herald, 2020). Fifth, the remote learning system dramatically reduced the interest and focus of the students who were used to in-person classes. Professors who were used to teaching in person often had difficulty teaching remotely and effectively managing the new technology. Online learning reduced the opportunities of the students to interact not only with their classmates but also with professors, which ultimately weakened the bonds between them (Tribune Herald, 2020).

The lower quality of online education has led some students and their parents to demand reduction in tuitions. Combined with revenue losses for many universities stemming from decreased enrollments, concerns about rising inequalities between wealthy and poor students have raised questions about the economic sustainability of higher education in the United States (Fain, 2020). Wealthy students can access to demanding technologies (virtual and mixed reality, telepresence) while poor students can only access weak infrastructure technologies (asynchronous video, audio, images and text) (Lederman, 2020). With the financial difficulties and inequalities in technology uses, lower income students had 55 percent more chance to defer their graduation than higher income students (Amour, 2020). Some of these problems are the result of recent trends in funding for higher education. In an interview with Professor Scott Galloway from New York University, he stated that there has been a dramatic increase in university tuition in relation to the increased wages of people in the United States (Galloway, 2020). He claimed that with these tuition increases, students began to treat universities like luxury brands. This limited the educational opportunities available to students, and is a concern

that needs to be addressed as soon as possible. Galloway predicts that universities may need to partner with big technology companies to expand their revenue streams. Another source of additional financial support for colleges and universities could be the state, but based on recent trends in the funding of higher education, is not likely to occur. Similarly, partnerships between nonprofit universities and for-profit tech companies are likely to face their own challenges, including a clash in goals and priorities (Galloway, 2020).

Based on the shift to online education during the pandemic, it is evident that virtual learning reduces opportunities for experience and weakens the bonds between the students and the professors, affecting the overall educational experiences of students. However, we still can expect improvements in remote learning systems which would probably stay as a new normal in the education system. These refinements should focus mainly on reducing inequalities between rich and poor students and technological glitches.

INTERNATIONAL STUDENTS

Many universities in the United States have profited greatly from the high tuition rates paid by international students, who account for 5.5% (19,720,000) of the students enrolled in colleges and universities in the US (Struck 2020). According to the United States commerce department, international students contributed $45 billion to the country's economy in 2018 (BBC 2020). In recent decades, international students considered studying in the United States to be the "gold-standard" for education (Berger 2020). However, the Covid-19 has flipped the conventional perspectives of the international students on the value of studying in the United States. New enrollment of international students has dropped by 43% since the onset of the Covid-19 pandemic (Struck 2020). This includes a significant decline in the enrollment of

international students at the University of Michigan for the fall semester of 2020, as reported by the president, Dr. Mark S. Schlissel, in a webinar.

The Covid-19 pandemic has ruthlessly revealed and exacerbated formerly existing problems faced by international students. Inflexible university attitudes towards expensive tuition rates despite the switch to online classes, which reduces many of the benefits of in-person classes, have led many international students to reconsider their enrollment in the United States (Berger 2020; Struck 2020). These problems are compounded by the need for students living overseas to take classes at odd hours, including the middle of the night. Another obstacle that has contributed to the reluctance of international students to continue their enrollment in American universities is the public presence of xenophobia and racial discrimination. From the start of the Covid-19 pandemic and especially with President Trump's repeated reference to Covid-19 as the "Chinese virus," international students have reported repeated physical and psychological attacks on Asians regardless of their nationalities (Lau 2020). The difficulties in acquiring visas is perhaps the most significant problem, and it is not disconnected from the problems of xenophobia and racism. At the beginning of the pandemic, the Trump administration tried to enact a visa policy that prevented international students from remaining in the US unless they are enrolled and taking in-person classes. This meant that international students could face deportation if they did not comply with the rules--even if their universities were not offering in-person classes because of the health risks from the pandemic. The policy applied to holders of F-1 and M-1 visas for academic and vocational students (BBC 2020). Fortunately, the law was not enacted after it met with strong resistance from major universities like Harvard University and the Massachusetts Institute of Technology (Silva 2020), as well as the University of Michigan. In contrast to the United States, other countries, including Britain,

Canada, New Zealand, and Australia, increased their enrollment of international students since the outbreak of Covid-19, as they implemented policies that made it easier for the international students to come and study (Berger 2020).

Given the contribution of international students to higher education in the United States, it is important to develop policies that facilitate their continued enrollment. The value of international students to American colleges and universities includes, but is not limited to the substantial financial contribution that they make. International students also play a vital role in helping domestic students gain a better understanding of global society. Universities and colleagues often promote their enrollment figures of international students as a source of pride and an advantage over their competitors. Yet, many international students face economic hardships and other obstacles when seeking an education in the US. These challenges have grown more difficult as a result of the pandemic. Greater recognition of the benefits that international students bring to higher education beyond their tuition dollars, and a more communal attitude towards rectifying the disproportionate burdens shouldered by international students would be especially welcome during the pandemic, but are equally warranted going forward into the future as well.

CONCLUSION

The Covid-19 pandemic has impacted every facet of our lives, including education. All levels of education have been affected, from K-12 schools to the most prestigious universities in the country. The transition to online learning has diminished the value of the education that school-age children receive and in many cases has caused students to become less engaged with their work. Even when students are allowed to return to the classroom for their hybrid learning,

the experience is very restricted and does not allow for the same level of interaction that makes in-person learning effective. There certainly are benefits to online learning for children attending K-12 schools, primarily that children are still able to gain some form of an education this year, even if it isn't what would be considered typical. With that being said, there are still many families without the resources needed to participate fully in these activities because of a lack of an internet connection or computer access. Due to the lack of funding and stimulus from the government, the disparities that already exist in education between families of high and low socioeconomic status have expanded during the pandemic. In addition to the growth of these disparities, this period of online and hybrid learning could harm younger students going forward as their lack of access to in-person schooling creates an exacerbated version of the "learning melt," that ordinarily occurs over breaks from schooling during the summer months.

Questions about the quality of the educational experience that students receive from online courses extends to colleges and universities as well. With the high tuition rates charged by colleges and universities remaining the same, or in some cases even increasing during the pandemic, parents and students face a tough decision whether to continue studying under less than optimal conditions, or take a break until classes resume in-person, especially given the uncertainties as to when this will occur.. International students, who have long regarded the US educational system as the "gold standard," face similar challenges. Given the increase in xenophobia in recent years, and the failure to appreciate the contribution that international students make to the US education system, it is possible that the enrollment of international students in US institutions will fail to rebound after the pandemic.

The quality of education students are receiving as a result of the Covid-19 pandemic may have far reaching consequences past this year. With children forced to deal with online learning,

or participate in hybrid programs if they are lucky, the quality of education they receive is less than the normal prior to the pandemic. With this being the case, it is possible that the educational status of the current cohort of students will suffer in comparison to their peers. There is also a possibility of students becoming fatigued and disinterested in online studies, opting to turn their attentions elsewhere, and therefore lose out on their education even more. Additional steps need to be taken, especially in terms of financial assistance, to support schools and students get back on track with their education before any serious harm is done from this year of online learning.

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The Future after Covid-19: Implications of a Global Pandemic

Renegotiating America's Socioeconomic Contract

By Raymond G. Galasso, Noelle McNamara, and Jason R. Steiger

The concept of a social contract refers to obligations that parties have to one another. Since the onset of Covid-19, Americans have increasingly come to recognize that the US government has failed to hold up its end of the social contract. This article explores the government's shortcomings relative to income, poverty measurements, and unemployment, and provides potential policy solutions through which the government can mend its relationship with American citizens.

Introduction

A functional society depends upon its adherence to unspoken social contracts. These social contracts include such things as moral and political rules for behavior. For example, persons living in the US are governed by a set of rights and obligations that are spelled out in the Declaration of Independence and the Constitution. This includes the obligation of the US government to "promote the general Welfare" (US Constitution 1787) and guarantee "life, liberty and the pursuit of happiness" (US Declaration of Independence 1776).

But in the wake of Covid-19, many Americans have recognized that the US government has failed to hold up its end of the social contract. The US does not adequately promote the general welfare of all Americans. The country's recent history of neoliberal economic policy has curtailed welfare support and shortchanged other programs intended to help those living below the poverty line. Consequently, when the pandemic began, Congress was forced to develop, pass, and implement trillions of dollars worth of stimulus packages to mitigate the

impact of the shut-down on working people and their families. Despite their best efforts, an additional 8 million Americans have fallen into poverty since May, when federal aid dried up (DeParle 2020). The lackluster efforts of the federal government during the pandemic raises broader questions about the adequacy of US social safety nets (Ståhl and MacEachen 2020).This article will take a close look at income, poverty measurements, and unemployment compensation as potential policy options for improving the US welfare state in a post-Covid world.

WAGE AND INCOME SECURITY

The pandemic has raised fundamental questions regarding what constitutes a living wage. Essential workers often have the lowest wages within our society. Nationwide, essential employees earn 18.2% less on average than employees in other industries (McQuarrie 2020). Meanwhile, the US has no ready-made policy remedies for the crisis of mass unemployment and underemployment. Instead, we have seen limited-term emergency hand-outs, such as the payout of $1200 to all US citizens with a gross income less than $75,000–$150,000 in April 2020. However, these stimulus packages left out self-employed, gig workers, and part-time workers. Some posit a program of Universal Basic Income (UBI) as a potential solution for some of the financial consequences of the Covid-19 pandemic for workers as well as a "long-term solution to our changing economies that increasingly include precarious employment and income insecurity" (Ståhl and MacEachen 2020).

Universal Basic Income consists of a payment made "by a political community to all its members on an individual basis, without means test or work requirement" (Ståhl and MacEachen 2020). The idea of a UBI has been promoted by individuals and organizations across the political spectrum. It would function as a replacement for the dysfunctional welfare

bureaucracy with a simpler, more efficient model of support, potentially making it palatable to the political right, and provides universal support, which makes it attractive to the political left (Ståhl and MacEachen 2020). UBI would also negate arguments around minimum wage and unemployment benefits, because every American would be supplied with a basic income. Additionally, the program would mitigate the stigma associated with welfare benefits because everyone will receive these payments, even the one percent.

An important criticism of UBI is that it might decrease workforce participation. Despite these concerns, pilot studies of UBI have shown limited or no decrease in work participation. Results from an experiment in Manitoba, Canada, in the 1970s demonstrated that those who withdrew from work did so in order to engage in education or care work, or because they had disabilities or uneven employment opportunities (Ståhl and MacEachen 2020). The same experiment also showed a reduction in healthcare use. A recent two-year experiment in Finland examined a number of people who were provided with unemployment benefits with no obligation to seek employment and no reduction in their benefit if they found work. The participants in the program had higher life satisfaction, better mental health status, and increased trust in authorities compared to the control group, with no adverse effects on employment outcomes (Ståhl and MacEachen 2020).

Some supporters of Universal Basic Income have even argued that it could lead to increased labor participation by alleviating "policy traps" experienced by those in the welfare system. When an individual on unemployment benefits receives income from work, their benefit award or amount subsequently decreases. This can make obtaining a job less enticing for low-skill workers, given that the job may not pay as much as the unemployment benefits. One of the complaints about the payment of additional unemployment benefits over the past summer is that some recipients would have had to reduce their net income if they resumed

work and stopped receiving payments. The employment trap is another such problem. In the cycle of procuring low-wage jobs in order to survive, investing time or income into child care or education can be very difficult, even though it could prove beneficial to employment in the long run (Ståhl and MacEachen 2020). In an editorial published in the *Journal of Occupational Rehabilitation,* Christian Ståhl and Ellen MacEachen (2020) argue that:

The main advantage of UBI is that it offers financial stability to individuals that is never uncertain or questioned. This would likely most benefit disadvantaged workers, such as people working in precarious jobs or in the gig economy, as UBI would reduce the stress of irregular income (e.g. zero-hours contracts, varying gig income) or losing one's income. It could also serve as a safety net for those who do not qualify for other benefits due to weak employment status, without stigmatizing the recipients. Further, in the context of COVID-19, UBI would support the temporary workers who see their livelihood vanishing with the crumbling economy.

POVERTY MEASUREMENTS AND THEIR BROADER IMPLICATIONS

As articulated in the 1948 Universal Declaration of Human Rights and the 1966 International Covenant on Economic, Social and Cultural Rights, international human rights law recognizes every person's right to adequate housing and an adequate standard of living. Since housing conditions serve as an influencer and indicator of health, educational, and economic outcomes, a successful government housing policy is a central component of a quality standard of living (see Steiger, et. al, this issue); however, due to the financialization of housing and food markets in the United States, many Americans experience homelessness, food-insecurity, or home-insecurity.

The Covid-19 pandemic has greatly exacerbated this problem, as nearly 83 million adults—or nearly one out of every three Americans—have reported difficulty covering their household expenses, according to data from November 11 to 23 (CBPP 2020). Approximately 12.5% of Americans have experienced housing distress (meaning that they were late on their rent or mortgage payments, or their payments were deferred) as a result of the economic hardships caused by the pandemic, with African Americans and Hispanics having twice the rate of housing distress compared to Whites and Asians (Ricketts 2020). Even further, the Covid-19 pandemic has caused the real unemployment rate to rise up to 22.5%, a level not seen since the Great Depression, and has also stripped jobs away from 39 percent of those in households earning $40,000 or less (Jones 2020). These statistics suggest two things, that the government is not doing all that it can to ensure its citizens' rights to basic necessities, and that current government policy has and continues to exacerbate inequality.

In this way, the experience of Covid-19 has highlighted the need to reform how the US government assesses vulnerability and precarity. In order to determine those families or individuals that are in need of government assistance programs, the Federal Government currently uses an outdated and inefficient poverty measurement system that was developed in the 1960s. This threshold, or "poverty line," does not take into account geographical variation, housing, transportation, child care, or medical costs and, as a result, excludes many Americans from welfare programs who are in desperate need of assistance (Haider and Schweitzer 2020). Indeed, given that 43% of people could not afford to pay for basic necessities (i.e., rent and food) even before the pandemic, it is clear that the federal poverty line has perpetuated rather than eliminated inequality and therefore failed to achieve its intended purpose (Luhby 2018).

In response to the Covid-19 pandemic, the Centers for Disease Control implemented a temporary renter eviction moratorium in order to prevent further spreading of the virus, as well

as to aid those renters who have faced economic hardships; however, with this order set to expire on December 31, 2020, many families will have great difficulty paying their rent and transportation costs, as well as paying for their food. To support those who will have difficulty paying for necessities that are basic human rights, the government urgently needs to reevaluate the federal poverty threshold. The Recognizing Poverty Act (H.R. 5069), a bill introduced by Rep. Alexandria Ocasio-Cortez (D-NY), would force the Department of Health and Human Services to develop a new formula to calculate the federal poverty line, in particular factoring in differential costs of living across states and cities, costs of health insurance, work and travel expenses, child care, and internet access (GovTrack 2019). Seeking to raise the individual poverty threshold to $38,000, this bill would nearly triple the current federal poverty line and would ensure that many more individuals and families—who currently face unnecessary and unjust economic hardships—are covered by federal assistance programs in the future.

UNEMPLOYMENT

Ever since the global pandemic reached American shores and shut down the United State's economy, one of the most significant numbers that citizens have been keeping track of, besides Covid-19 cases, hospitalizations, and deaths, have been the number of jobs lost and the unemployment rate. The "Great Pause" and the temporary shutdown of all businesses and social interactions resulted in a loss of 21.4 million jobs, more than all jobs added in the previous 107 months. With millions temporarily laid off or fired, unemployment levels skyrocketed, peaking at an astonishing rate of 14.9% in April, a number comparable only to the state of the American economy during the Great Depression (see figure 1). At present, it seems as though the worst has passed, with temporary layoffs declining from 18.1 million in April to 3.2 million in October, and the unemployment rate dropping to 6.7% in November. But these

events have not been without lasting impacts. The sudden loss of massive numbers of jobs has forced an unorthodox response by the government in terms of how the US classifies unemployment and who qualifies for unemployment. These determinations have fundamentally changed as a result of the pandemic.
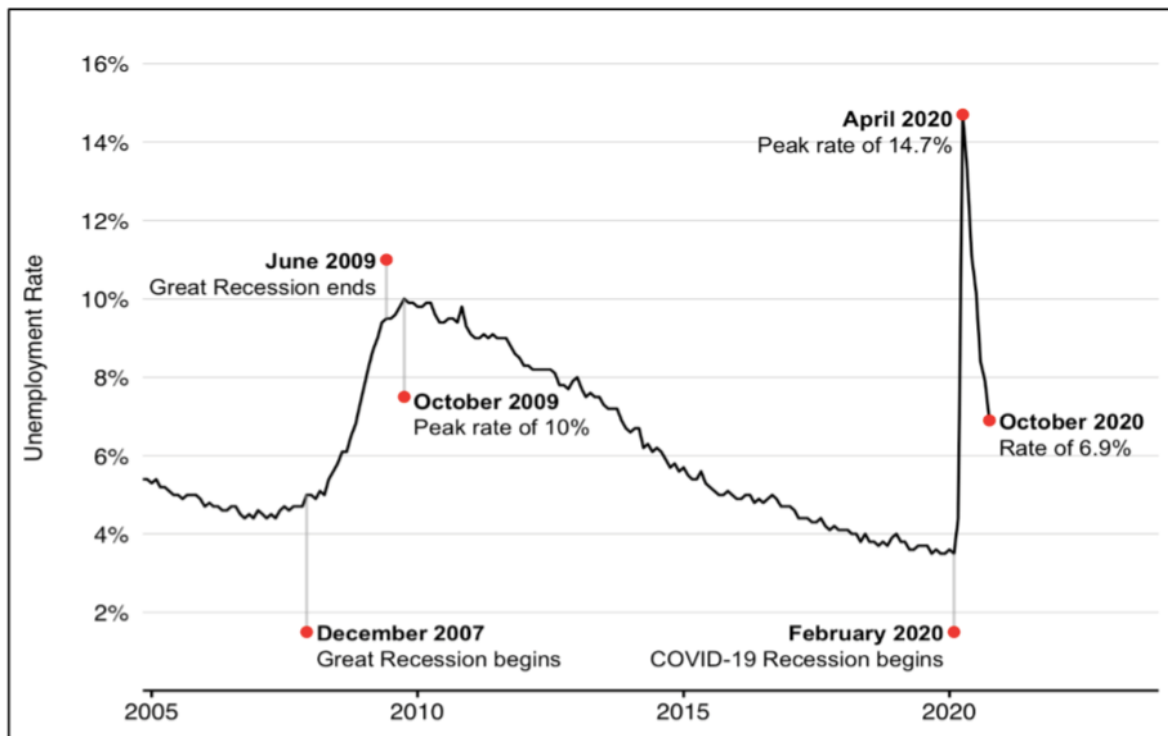
Source: Created by CRS using data from the Bureau of Labor Statistics (BLS).

Figure 1: U.S. Unemployment Rate (Falk et al. 2020)

The unemployment rate is ordinarily defined as the number of persons who are employable and seeking a job, but unable to find one. This does not include those who are not seeking employment, and historically gig workers, independent contractors, those who are self-employed, 1099 filers, and farmers facing a bad season do not qualify for unemployment benefits, although each state has its own qualifications and guidelines. However, this has changed due to the high rates of unemployment during the pandemic. On March 27th, 2020, the Coronavirus Aid, Relief, and Economic Security (CARES) Act was passed by Congress

through overwhelmingly bipartisan support and signed into law by President Trump. The $2 trillion aid package provided American households with $1,200 per adult for individuals whose income was less than $99,000 and $500 per child under 17 years old, or up to $3,400 for a family of four. Additional support for small businesses and to incentivize job retention were included in the package. The CARES Act also temporarily expanded the qualifications for unemployment benefits to include those who have insufficient work history and to those who traditionally do not qualify while including a $600 weekly bonus and extending unemployment benefits for new claimants to 39 weeks instead of the typical 26 weeks.

By temporarily expanding the qualifications for unemployment benefits during this time of crisis, the government has acknowledged that gig workers, independent contractors, and others working informally may need unemployment benefits. However, the argument against including these people has shown itself in the form of problems caused by fraudulent claims. The reason gig workers, independent contractors, and 1099 filers typically do not qualify for unemployment benefits is because it is difficult to prove they have had sufficient work history and are currently jobless when they are switching employer to employer every week or provide their own paychecks. In order for them to submit their unemployment claims, the government has waved certain requirements to qualify for weekly claims, including evidence of past employment and proof that you are currently looking for employment. One consequence of the new policy was an influx of individuals who should not be applying for and receiving unemployment aid and a massive amount of identity theft and fraud. In September 2020, the *New York Times* reported that a recent surge of 400,000 new claims in California is attributed to fraud (Casselman et al. 2020). Michigan reported that attempts to speed unemployment payments— including personnel moves, policy changes and technological shortcuts—exposed their system to fraud amounting to "hundreds of millions" of dollars and in May they stopped

payments on 640,000 claims until the individuals' identity could be verified (LeBlanc 2020).

Identity theft aside, if our society chooses to allow gig workers and independent contractors to qualify for unemployment benefits, the government will need to devise and implement a new system that allows people who are self-employed to demonstrate that they have an adequate work history and are unemployed, and thereby qualify for relief. An alternative to such a system would be the implementation of Universal Basic Income, as discussed above. As congress continues to debate extending the CARES Act, this temporary extension of unemployment qualifications has given Americans a new perspective on unemployment and may well change how society supports the unemployed during boom times and lean times, including disasters like the current pandemic.

CONCLUSION

While the policies and rhetoric surrounding the Covid-19 pandemic have fostered widespread discontent with and distrust of the United States government, the health crisis has also underscored the importance of the relationship between a government and its citizens in fostering a healthy and equitable democratic society. Given the many structural shortcomings that have been exposed during the past nine months, it would be immoral and, frankly, anti-democratic for public officials to disregard the need for improved federal assistance and leadership on a going-forward basis. In this way, the pandemic should provide an impetus for the reevaluation and reconstruction of America's social contract. This would require governmental authorities to transcend partisan polarization, shifting priorities away from party politics to refocus on the general welfare. Indeed, by reforming housing policy, wage and employment regulations, and welfare programs, as argued above, the government would uphold its side of the social contract with the American people.

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The Future after Covid-19: Implications of a Global Pandemic

Food Systems during and after the Pandemic

By Rachel Ellis, Raymond G. Galasso, Dan Armus, and Shayaan Siddiqui

Food is not usually a headline topic in the daily news and often takes a backseat to political, economic, and social issues. But that changed when the Covid-19 pandemic revealed significant cracks in our food systems. The general public certainly felt it when restaurants were closed and the poor nutrition of American diets affected hospitalization rates from the virus. In this article, we explore the link between chronic diseases and illnesses caused by poor nutrition, and how this impacts Covid hospitalizations and deaths. This includes some of the reasons why our diets are problematic and how eating habits have changed in recent years as well as during the pandemic. Next, we consider the impact of the pandemic on restaurants, including which establishments are surviving, and which have not, how Americans have dealt with these brief or permanent closures, and the types of precautions and other changes we see in the restaurant business. Then we turn our attention to the other side of the food system, where food is being grown and produced, to ask questions about access and waste. Looking at both small and large farms, we delve into the question why so much food has been wasted during the pandemic and the problems of food distribution this reveals. Finally, we explore potential solutions to these concerns about nutrition, restaurant, and food waste.

INTRODUCTION

Nutrition plays a vital role in the outcome of nearly every health condition, Covid-19 included. Improper nutrition puts any given individual at greater risk for a wide range of health issues and diseases. For example, American diets include excess consumption of sodium, saturated and trans fat, refined grains, and overall calories. It also lacks sufficient fruits and vegetables. These nutritional deficiencies can result in significant health impacts. Too much sodium can increase the risk of high blood pressure, leading to heart attack or stroke (USFDA 2020). Too much saturated fat can raise LDL cholesterol (also known as "bad" cholesterol),

increasing the risk of cardiovascular disease. Excess consumption of refined grains can lead to cardiovascular disease and contribute to the development of type two diabetes, as it elevates blood sugar levels. Refined grains lack sufficient fiber. An excess in calories and insufficient exercise can lead to obesity, putting individuals at risk for a wide range of health consequences, including type two diabetes, depression, cancer, and cardiovascular disease. Crucial micronutrients from fruits and vegetables, such as vitamin C, vitamin D, and iron, are necessary for proper immune system functioning and general health.

Given these widespread health deficiencies resulting from American diets, it is no surprise that the US is experiencing high rates of hospitalization from Covid-19. Nearly half of Covid hospitalizations are obese individuals, more than 30% of whom had type two diabetes (Novo Nordisk 2020).

During the pandemic, people have changed the way they eat in a variety of ways, and not always in ways that decrease their risk of suffering severe symptoms from Covid-19. Due to the impact of the pandemic on mental health, stress eating has increased and eating disorders have also been on the rise (Konstantinovsky 2020). An assistant professor of psychiatry from Washington University School of Medicine believes this is because eating disorders "thrive in isolation" (Konstantinovsky 2020). The situation is made even worse by the difficulty of receiving medical attention during the pandemic. Stress eating and some other eating disorders can lead to weight gain and ultimately obesity, increasing the health impacts of contracting Covid-19.

Children's diets and eating habits have also changed during the pandemic. During the school year, many children eat lunches prepared for them at school. This is especially important for students on food stamps from lower income families. Although school lunches can certainly

be improved, according to the World Health Organization, they typically provide students with better nutrition than they receive at home (WHO 2020). Consequently, the shift to eating every meal at home may have negative health impacts.

The pandemic has led to even worse nutrition due to food insecurity for many. Although food security is often thought of as not having enough food to eat, there are various types of food security (USDA 2020). High food security is the ability to constantly have enough food to eat that fulfills proper nutrition requirements without any anxiety around the subject. Marginal food security is a step down from high food security, as it refers to those with enough to eat, and able to meet their nutritional needs, yet sometimes face anxiety or worries that they might not be able to. Low food security refers to having enough to eat, but not necessarily adequate nutrition, and very low food security refers to not having enough food to eat. Food security has generally shifted downward in all levels. According to the World Health Organization, due to the increase in unemployment from the pandemic, those with "no income means no food, or, at best, less food and less nutritious food" (WHO 2020). Food security was actually improving before Covid-19, but since the onset of the pandemic, it has decreased significantly. Very low food security affected about 10.5% of the US population in 2019, according to the USDA (Kuchment 2020). However, during the pandemic it has increased to over 20%, with higher rates of food insecurity in minority communities. Poor nutrition resulting from food insecurity can also increase the risk of health complications from Covid-19 infections.

ECONOMIC IMPACT OF COVID-19 ON THE FOOD INDUSTRY

The restaurant and food industry has been especially hard-hit by government regulations seeking to reduce people's exposure to Covid-19. Reducing capacity, closing, re-opening, and

closing again has put many owners and employers in difficult positions. These businesses were thriving before Covid-19, with the National Restaurant Association reporting an estimated $899 billion in sales this year, up four percent from last year (National Restaurant Association 2020). Now, with the majority of the country locked down and heavy restrictions on restaurants, about 1 in 6 have shut down for an estimated 100,000 establishments that have closed down permanently or long term (National Restaurant Association 2020). An estimated 3 million employees in this industry have lost their jobs, adding to the historic unemployment rate the United States is facing right now (National Restaurant Association 2020). "For an industry built on service and hospitality, the last six months have challenged the core understanding of our business," National Restaurant Association president & CEO Tom Bené said in a statement (Chang 2020). Restaurants have been built around serving people and creating a welcoming atmosphere for those who enter. In the midst of the pandemic, it is nearly impossible to have the same level of hospitality, with seating severely limited as well as the interaction between servers and diners. It will take a period of adjustment, and likely stimulus aid, before restaurants to get closer to a familiar feeling.

With the virus still surging and restrictions unlikely to ease in the immediate future, it will be tough for those running dining establishments to keep operating their businesses the same way they did in the past. One change that has resulted from the lockdown and restrictions on dining in restaurants is the boost in delivery services such as Uber Eats and DoorDash. These apps have enabled contactless delivery, making it possible to order food from your favorite restaurant without having to dine in. The global food delivery services market earned $23,500 million in 2018 and is estimated to reach $98,200 million by 2027 growing at a compounded annual growth rate of 17.2% (Research and Markets 2020). With the current

trajectory of the virus and cases continuing to climb at the writing of this article, it is unlikely that in-person dining will see a significant revival during the pandemic, especially not in comparison to the number of deliveries that people are getting instead.

However, keeping a restaurant going based strictly on deliveries is a very challenging task. It is already difficult enough to earn a profit in the food business, and even more so when you are not able to attract the type of walk-in business you would attract in normal circumstances. To keep their businesses afloat, owners have to maintain a kitchen staff, provide personal protective equipment (PPE), and support delivery options in the event that they can't use one of the aforementioned apps. The Eater Detroit magazine wrote "Businesses that already operated on thin margins are now taking on new supply and maintenance costs during the pandemic. This is in addition to the psychological burdens of protecting the health and safety of customers and employees" (Houck 2020). In the same article, Omar Anani, chef and owner of Saffron De Twah in Detroit says that he spent $8,000-10,000 trying to reopen, saying "We've had to reorder everything" (cited in Houck 2020). In addition to the extra costs that are required to meet safety protocols, prices have skyrocketed for food due to disruptions in the processing and distribution network. All of these additional costs take a heavy toll on owners and the staff working there who may have to be laid off or furloughed due to budget constraints.

Universities have also felt the effects of Covid-19 on its dining halls and campus cafes. When speaking with a staff member of the University of Michigan dining and food programs, we were told that most retail stores on campus have had to close due to lack of business. People are not going out to eat as much as they were prior to the pandemic, and the lack of foot traffic prevents these restaurants from reopening. More generally, institutional dining has taken a pretty big hit. With people remaining at home for work, corporate dining halls aren't operating,

leaving many people in the food industry out of work right now.

While restaurants have been badly affected by the coronavirus, supermarkets and grocery stores have experienced the opposite impacts. Families were typically going to the store about 2.7 times a week, but when the lockdowns came this jumped up to around 3.6 (Redman 2020). Without the ability to eat out, many switched to eating at home and are cooking more for themselves than they had in the past. Revenues at grocery stores shot up 25% since February and remain about 10% higher than pre-pandemic levels. These changes in consumption patterns may mean that Americans will continue to rely more on grocery stores and cooking at home and less on restaurants and dining out after the pandemic than before.

A few weeks after the shutdown you may have seen news stories in your local paper or on your local TV news channel about how the more rural farming counties in your state were fairing. While city streets were empty for the first time in living memory, rural life continued much as before with local businesses staying open and their daily activities not being prohibited by the government because of their status as "essential business." The virus may not have reached rural America in March as did in big cities but farmers still felt the consequences of these shut-downs.

Covid-19 has economically impacted many farms across the country including Brightly Farms in Upstate State New York. In a News 8 WROC interview conducted by James Gilbert in April, Dean Brightly and his wife commented on how they "still have a couple hundred tons" of cabbage and squash, "which is over $100,000 worth of produce that [they] will have to dump" (Gilbert 2020). With the demand for coleslaw and other prepared food items that use the Brightlys crops suddenly plummeting, they have no one to sell their harvest to, wasting a large amount of food. In Sheridan, Montana, an interview by *Business Insider* conducted in June

reveals that the town has already dumped 700 tons of potatoes raised by farmers across the states of Montana and Idaho, losing $8 million (Imam and Narishkin 2020). Paul Allen and one of his vegetable farming neighbors in Georgia reported having to destroy 4 million pounds of green beans, 5 million pounds of cabbage, and 10 million pounds of tomatoes. Dairy farmers, including New York State dairy farmer Patrick Grimshaw, have been dumping millions of gallons of milk, losing tens of thousands of dollars every week (Inside Edition 2020). Drew Bowman, a turkey farmed raising over 70,000 free range birds in New Carlisle, Ohio, predicts that large turkey sales are going to plummet this thanksgiving season and that many 'toms' will be going to waste this year (Reiley 2020). Even the flowers aren't spared from the assault on agriculture, with 140 million tulips being destroyed as the Easter celebrations were canceled (Siegel 2020).

You might be thinking, why don't the farmers donate their produce or stop growing and harvesting, instead of letting it all go to waste? The answer is not that simple. All of these farmers have been donating food whenever and wherever they can but charities, foodbanks, churches, and other organizations only have so much refrigeration and capacity to store perishable foods. Even if they had the space, refrigeration is costly. It is not easy to preserve large volumes of fresh food during a pandemic. Everyone is understaffed and losing money and the demand for certain types of produce just isn't there. It is much more convenient and cheaper for farmers to simply plow under their crops as compost for the next planting season than to spend the time and money harvesting and delivering them elsewhere.

Farmers cannot just stop growing food either, as this is their livelihood. Throughout the pandemic, farmers have been growing new crops, plowing them under, replanting the field, and then repeating the process over again, in hope that the demand for their crops will return but

exacerbating the food waste problem in the process. No one knows when restaurants will reopen along with the demand for their produce, and farmers have to be ready to sell their crops when they do. For other industries like turkey and dairy farming, they cannot just halt the harvest. Lactating dairy cows still need to be milked even if the demand is at rock bottom. Turkeys are costly to feed and it would do more harm than good if turkey farmers did not prepare them for thanksgiving. Sorry Turkey Tom, it looks like you aren't getting pardoned this year.

It is abundantly clear that food systems have taken a significant hit since the onset of the pandemic. From farms to processing facilities and distributors, extending all the way to restaurants and retailers, solutions need to be found and implemented to protect this vital industry. One organization that is working on reducing food wastes is the ReFED Covid-19 Food Waste Solutions Fund. The fund relies on support from more than 20 donors to help deliver aid to more than 37 not-for-profit and for-profit organizations, simultaneously scaling down food waste and contributing to hunger relief efforts. The fund has also provided $3.5 million in support for midsize organizations across the United States that are responsible for preventing "more than 50 million pounds of food waste," equivalent to "41.5 million meals rescued within 90 days" (ReFED 2020). The organization draws on community collaboration and partnerships, and is actively looking for additional partners to scale up their work and reach others who are facing food insecurity as a result of the pandemic.

CONCLUSION

Although we do not know which changes in the way people eat will be permanent, we expect that some impacts from the pandemic will be more lasting than others. Although the

pandemic has spurred the rise of organizations trying to tackle America's food waste problems such as ReFED, it is hard to see Covid-19 leaving its mark in this sphere. The pandemic has briefly brought food waste into mainstream discussion, especially with the national headlines about thousands of gallons of wasted milk and mountains of potatoes left unconsumed, but reducing food waste continues to be a low priority for most Americans.

But one area in which the pandemic is likely to have a lasting impact is in our eating habits. Since people's eating habits began to change about nine months ago, many people become accustomed to cooking at home more and eating out less. They may prefer this to how they ate before the pandemic. They may have developed their cooking skills during this time. It may also be more convenient for them to cook and eat at home. There are also economic benefits when people prepare their own meals instead of paying for high-priced meals at restaurants. And if people continue to work from home after the pandemic, rather than returning to work in their offices full-time, this may also contribute to the continuation of the trend (see Steiger et al., this issue).

In addition, many restaurants will not be able to survive the economic consequences of lost patronage during the pandemic and may need to shut down permanently. Even though the restaurant industry always has high turnover rates, it is unclear whether we can expect to see the same number of restaurants after the pandemic as before. This includes fast-food restaurants, which usually contribute to the American diet of caloric-heavy meals containing excess sodium, refined grains, and trans and saturated fats. With a reduced number of restaurants in the marketplace, including fast-food restaurants, people may turn to healthier alternative diets.

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The Future after Covid-19: Implications of a Global Pandemic

Pandemic Relationships: Incitement of Cultural Change

By Alana J. Reinert, Kayla Rothstein, and Shayaan Siddiqui

When the Covid-19 pandemic shut down the world, we isolated to protect ourselves and each other. This sudden shift changed the way we relate to each other as family, as friends, and as romantic interests. How will these changes impact us long term? By determining what has shifted in the way we interrelate and the implications of this shift, we can hopefully prepare for the future of socialization and relationships. We examine why our behaviors changed, how they reconstructed our social world, and what this means for our mental and social health. Social networks have shrunk as weak friendships dissolve, physical romance dissipates, and families associate primarily among themselves. Social interaction has become increasingly virtual and in-person gatherings are either reduced in size or cancelled altogether. How are we coping? Are things better this way? To answer these questions, we must observe the new social landscapes we have built around ourselves since the pandemic and determine the new value of relationships and in-person interaction.

INTRODUCTION

Humans as a species are social creatures. We construct our identities, sense of self, social institutions, and roles within society through our communication and interaction with each other (Valsiner 2007). In addressing the challenges that the Covid-19 pandemic has presented for social relationships, it proves useful to unpack how our interactions are at the root of our culture and society. To provide a context for our analysis, we must first define the major terms on which our argument is based. The sociologist Robert E. Park (1939) explained that "socialization is the process by which the individual finds, at its various levels of social organization--ecological, economic, political, and moral or cultural--his [or her] place and

function in society." Covid-19 presents us with the unique circumstance of having to redefine our place and function in society given the systematic changes wrought by the pandemic. By examining the existing literature on social relationships and conducting surveys and interviews, we describe how the pandemic has impacted the ways we regulate our social interactions. Our attention to these changes allows us to take note of key trends in how social distancing affects our relationships, and analyze what this means for our personal identities, our place in society, and our health during the pandemic and in the coming years.

VALUE OF SOCIAL RELATIONSHIPS

Within the sociocultural context in which we are analyzing the implications of Covid-19, the "social" aspect of daily life tends to be overlooked in favor of the "cultural" aspect. Yet the two go hand-in-hand; the separation between them is relative. Simply put, "any culture exists through and is objectivized by some social group; and any social group has this or that kind of culture" (Sorokin 2017). Covid-19 has shattered the taken-for-granted networks that comprise social life, and in that sense, has reconstituted the concept of society. The sociologist Emanuel Schegloff explains that social interaction is "the infrastructure for social institutions, the natural ecological niche for language, and the arena in which culture is enacted" (cited in Mondada et al. 2020, 443). When the social interactions that shape relationships are disrupted, society, language, and culture itself change along with it. Quarantine and the many other restrictions implemented to protect against the transmission of Covid-19 has limited our ability to engage with others, suspending most ordinary interactions. Unable to comfortably engage with our peers and social networks, we have found ourselves forced into novel situations that challenge our expectations and understandings of social relationships.

For the purpose of our research, we treat three types of relationships as separate: romantic, familial, and friendship. All of these relationships contribute to the webs that make up our social networks, and Covid-19 has altered each in different ways. Yet before we address this, we wish to consider why the potential alteration in the way we relate to each other is important. We still have our social relationships, albeit in different forms, so why are the changes that the pandemic has made so important to our culture and lives? The simple answer boils down to our quality of life. When individuals have access to a wide network of friends, a partner to confide in, and can avoid adverse interactions within their close relationships, their quality of life is higher than those who are missing these aspects in their relationships (Liao and Brunner 2016). In turn, quality of life can have significant impacts on the physical and mental health of an individual, which can amplify to affect those around them (Umberson and Montez 2010). The loneliness and depression, or the love and happiness, of an individual can spread through their social networks just as the virus is transmitted through our social networks.

ROMANTIC RELATIONSHIPS

Covid-19 has significantly impacted the development of romantic relationships. From virtual dates, to socially distanced meetups, to labeling relationships, new practices have arisen for those looking to find love during this pandemic. Dating apps have become increasingly popular during the pandemic, mostly because of the decrease in opportunities to meet new singles during Covid-19 lockdowns, but also because people simply have more time on their hands. In fact, according to *Business Insider*, Tinder has seen a 15% increase in users since the initial lockdown (Meisenzahl 2020). An interview with a young woman dating during the pandemic brought to light that even though the quality of people on dating apps has not

changed, conversations seem to flow more naturally. While there is great uncertainty during the pandemic, people seem to have more time and are more eager to connect with one another via dating apps. These applications will certainly continue to be popular after the pandemic, as matches on Tinder and Bumble have been on the rise for the past several years, according to *Business Insider* (Meisenzahl 2020). However, there is likely to be a return to our old habits for meeting people once the pandemic is over, such as casual conversations or hookups.

The next stage of dating during Covid-19 is usually talking via Facetime or Zoom. An editorial from *The Atlantic* reports that there appears to be less pressure when first meeting online as one is in the comfort of their own home, and women often feel more in control over the encounter (Hogan 2020). If a date is uncomfortable, people can easily leave or even blame it on bad internet connection. Many enjoy talking on Zoom first to evaluate if they see the person as a potential partner, rather than spending money on an expensive, and frequently awkward meal. However, there are some downsides to meeting initially online. Some find that people take meeting over FaceTime too casually and do not put in sufficient effort, making the online dating process tedious. One single reported that people have failed to show up to pre-arranged Zoom dates because virtual appointments are easy to forget. Despite this, interviews and articles suggest that singles generally seem satisfied with speaking virtually first once they have matched via dating app or mutual connection to assess if they see any potential, which may continue after the pandemic as well.

Another way people have met online during the pandemic is through virtual happy hours. There seems to be less satisfaction with this alternative, however, as conversations are short and awkward in breakout rooms, where singles have conversations in smaller settings. One single who attended several virtual happy hours reported that she easily got "zoom fatigue" and

the conversations she had were not of substance or particularly interesting. The boring conversations may be due to the awkwardness of talking online. Though meeting people online was initially thrilling, it soon lost its appeal. While some may find meeting through Zoom convenient for the immediate future, meeting people through virtual blind dates does not seem to be a trend that will continue after the pandemic.

Although the virtual options for dating are available, there are still many individuals who prefer to meet in-person. This looks different depending on the respective infection rates and safety practices of each person's city or town. For instance, a single in California reported that after she made a potential connection with someone online, they arranged a socially distanced meet-up, which often took place outside to adhere to Covid-19 safety guidelines. This could look like sitting on separate benches at a park, or having a picnic on different blankets. This option is far more convenient for those living in warmer environments, and likely to become an obstacle during winter months in colder climates. Typical dates from the past, like going out to dinner, are unlikely to happen as they are not viewed as a safe option. Some have also reported that dates with facemasks feel more restrictive and it is challenging to flirt without smiling. Some singles from interviews report that if they can make it through a 2-hour date, socially distanced and with a mask, they see potential in the match. More so than before the pandemic, meeting in person is considered a "big deal" as one must see enough potential to enter the risk of meeting face to face.

Defining the actual relationship is also quite different during the pandemic. Interviews conducted have found that for many, the relationship becomes official once they break Covid-19 safety guidelines in each other's presence, such as hanging out without a mask, going inside, and being intimate. Once a couple enters this stage, they are not likely to be seeing other

people, for safety reasons, making the relationship official. However, this is particularly tricky for those who live with other people, thus expanding everyone's quarantine "bubble." Many couples agree to keep their circle of friends and family small in order to be Covid-safe. Dates inside the home are what one would typically expect--a lot of Netflix and takeout. However, many are able to find Covid-safe things to do, such as a drive-through zoo or drive-in movie, which a young person interviewed found.

Couples interviewed who began dating during the pandemic found themselves worrying about how their relationship would continue in a Covid-free world. Because it is awkward to introduce each other to their friends and family during the pandemic, they do not experience this natural, important milestone. Also from interviews, many wonder how their partner behaves around other people. Furthermore, when jobs return to their normal ways, many will start travelling again or become consumed by their work, which can be an ultimate deal-breaker for relationships.

FAMILIAL RELATIONSHIPS

At the onset of the pandemic, two types of family units began to form: those that were quarantined together and those that were isolated from each other. Whichever form these relationships took, people experienced a change in communication with their family members and many assumed roles that differed from what they were previously familiar with. Some people felt that the quality of their relationships with family members were negatively impacted by Covid-19, either from their inability to interact in person, or, in contrast, from being forced to spend too much time interacting in a small space. These circumstances set up individuals, either by choice or by force, to spend more time talking with their family than they were used

to. In a survey of 194 individuals that we conducted (see Appendix 1), the majority of participants experienced an increase in the frequency of their familial communication at the onset of quarantine, with 51% speaking to family members daily. Access to technology such as Zoom and Facetime allowed families to see each other even when quarantined in different parts of the world. This came as a saving grace for many people who were isolated from their families during lockdown, as was revealed to me through an interview with a university professor. As an immunocompromised individual, she isolated in her home as soon as she heard about the pandemic. Unfortunately, this prevented her from visiting her daughter and witnessing her first granddaughter being born. While it is by no means a sufficient replacement, she praised Zoom for allowing her to see her granddaughter in these extenuating circumstances. She did concede, however, that as the pandemic progressed she grew tired of only seeing her family through a screen.

An issue that soon arose with the increased frequency of communication was the subject matter of people's conversations. Covid-19 had shut down the world, and the only changes on a daily basis were the updates on our knowledge of the virus and how it spreads. Many found themselves lacking anything to talk about other than the highly politicized guidelines and recommendations released about Covid-19. In an interview with a woman who was confined to her home for most of quarantine due to her high risk state, she described how the pandemic did not necessarily bring her closer together with her husband, but did change their interactions considerably. Before the pandemic they would both go to work and return home at the end of the day; thus their conversations consisted of the two sharing their experiences from that day. When they began working from home at the beginning of the pandemic, however, she confessed that they had to adjust to being around each other all the time and discover new

topics to talk about. Yet in another conversation with a woman about extended family members, she communicated that a rift had arisen between herself and family members who did not fully adhere to health and safety guidelines. While she was pregnant, she was upset at how few people she saw because they did not quarantine as much as she would have liked. On the flipside, much of her family was upset with her after the baby was born because she would not allow them to come see him unless they had strictly quarantined, even if they had taken care to be cautious. This revealed to us a major element of social relationships that the coronavirus has shifted: whether or not people share values concerning the health and safety guidelines meant to reduce transmission of the Covid-19 virus.

The behavioral guidelines set to curb the pandemic have changed more than just the exposure rate. The fact that these guidelines were issued by the government has turned them into a political issue. Stemming from the work of political journalist David Brooks (2000) on how political ideology fills a similar space to that occupied by religious belief, Susan Harding's (2000) ethnographic research on charismatic religion can be used as a lens through which to analyze how the Covid-19 health and safety guidelines did or did not become incorporated as people's personal values. The politicization of these guidelines suggests that they can be identified as a form of political ideology since, according to Brooks, the act of adopting religious beliefs as personal values is mirrored in the political context. An important distinction to make here is that these Covid-19 values go beyond the status of an opinion. Values are opinions that people adopt as moral convictions, making any adverse reaction to them a personal affront, and any agreement to them a sign of respect and acceptance. When put in the context of familial relationships, the sharing of similar values with another elicits a sense of connectedness that can alleviate some of the strain placed on relationships by the pandemic

(Wolf et al. 2020). Unfortunately, for family members who don't agree on whether or not to adhere to the Covid-19 guidelines, the pandemic has amplified differing values that have sown turmoil within their relationships.

FRIENDSHIPS

All around the world, communication and interactions among friends have changed significantly since the onset of the pandemic. From what was once seen as casual, comfortable, and easy-going interactions, youth and adults alike are now facing growing concerns over how to create and maintain friendships; mainly due to the Coronavirus. Since 2019 alone, 79% of Americans are connected to social media to interact and share their lives with friends and family (Clement 2020). Social media has taken the United States by storm and is rapidly becoming the primary system in how people interact with each other and with their environment. This is largely due to the nature of social media and ease of access to communication it brings. An individual is able to take their phone out of their pockets and send a direct message or video to their friend or colleague hundreds of miles away in mere seconds. Through the normalization of apps such as Instagram and Twitter, people are able to connect with a broader audience as well.

With the onset of the pandemic, the only safe way to communicate has been through social media platforms and outlets. There has been roughly a 45-50% increase in social media usage since February 2020, a pattern that is likely to continue throughout the duration of the pandemic and well into the future (Samet 2020). During this period we have seen the rise in popularity of social streaming applications such as Twitch and Discord, as well as the viral short video-sharing service TikTok, leading individuals to become more aware and expressive

through the internet to stay in touch with their friends. Friends regularly meet up online and keep in touch through video calls via Facebook Messenger and Facetime. Social gatherings such as happy hours and birthday celebrations, and even holidays are coordinated through Zoom and Google Hangouts (Siegal 2020). These social gatherings tend to include group activities such as online gaming and traditional board games, like Uno and Monopoly, that have gone online. Many are getting innovative and have "watch parties" where they stream music and television shows on platforms that allow for it. Although these new modes of communication and interaction may not be the most ideal way to meet, they allow friends and families to help each other stay safe and healthy while also maintaining the bond and memories that they share together. Even though these virtual outlets are helping continue social life during the pandemic, they are proving detrimental for in-person interaction. If people become too accustomed to this less confrontational mode of communication, their social skills begin to degrade (Jensen 2013). Instead of meeting in person, people become dependent on sticking to the less stressful options via social applications and virtual methods of interaction, even more so during a pandemic. As a result of these changes in habits, in-person interactions may be more awkward, take more time to readjust to, or flat out may not be a thing of interest for them anymore. This would lead to less enjoyable social interactions in all aspects.

In the past, meeting new people and making friends on campus occurred in classes, work, social organizations, restaurants, clubs, parties, and other social activities. Before the pandemic, friendship networks were established through these interactions, but this is no longer the case. Due to the health risks during the pandemic, freshmen are forced to make friends online, through a roommate, or a dorm mate. This can be especially difficult if you do not have a compatible roommate or are uncomfortable approaching other students online, resulting in

feelings of loneliness and isolation that make it more difficult when pursuing new friendships.

From a college student's perspective, first year students have had the most challenging experience creating new friendships during the pandemic. They are unfamiliar with the campus environment and typically lack established friendships and relationships on campus, and are deprived of opportunities to develop their social skills through in-person meetings. A first year student at the University of Michigan who was living in on-campus housing said that, "Things definitely did not start off easy. Kids in my dorm were super awkward when making conversations and trying to connect. Although it did get better and I made a few friends, I was thankful that I was placed in a four person suite for this whole ordeal." Things also looked a little different for the two first year students that were interviewed whose university did not open the dorms for their first semester. Without living on campus, the possibility to physically meet new people or be part of the campus culture and community was completely taken away. While discussing how they developed friendships, one student said, "If I had not rushed this fall and joined a sorority, I would not have made any new friends," adding, "I actually met most of them through events that my sorority hosted on campus." It would be interesting to note how the Greek Life system will change in regards to making friends through such events. While they are not too worried currently about finding and developing friendships, there does seem to be a concern about post-pandemic life once they return back to campus. Both agreed that they are "going to feel like a fish out of water." Unable to become familiar with the campus environment, their fear of not fitting in or finding people who have not already established friendships is high. However, the excitement and thrill of relocating to campus for the first time is still worth the trouble of a more difficult time in making and establishing new friendships.

These limitations among others have presented individuals of all ages with the harsh reality that is prevalent in society today. In particular the presence of social media dating apps on the market, such as Tinder or Bumble, were primarily created for the sake of finding and creating romantic and sexual relationships. They were not traditionally designed to be used for finding friendships, but there are potential solutions to this. Speaking to a current undergraduate student in Texas, we found out that he has partnered with several other students at their university to create non-romantic connections with other individuals of the student-body through a social media app called Pop Social Inc. Having started developing the product in 2018, the aim of this application is to make new friends in a virtual environment, but with a twist. Users begin participating anonymously, and if interests and personalities are matched, they are able to connect and play chat games to unlock the other person's name, picture, and so on. Once both parties are interested, they are able to have video calls to ensure safety as well as putting a face to a name. What began as an app for one university has now expanded to many other universities across the US to "empower college students to find quality friendships while getting rid of stereotypes and generalizations along the way."

We may see other online applications like these become a popular outlet for creating well-grounded friendships even after the pandemic is over. For the student behind Pop Social, he thinks that this is a generational shift and will become the new norm. He said that, "From personal experiences, I have found that apps like Bumble or Hinge have the right prompts to nudge relationships in the right direction, but the lack of conversational openers and the superficiality present in these outlets can become counter-productive. There needs to be more of an emphasis on building comfortability." With countless challenges continuing to present themselves, it will be exciting to see how the shift in platform and social media maturation will

dictate the future of creating and cementing friendships.

SOCIAL STIGMA AND THE SUPPORT WE GIVE

With the vaccine for Covid-19 not readily available, social distancing continues to be the primary strategy used to mitigate the spread of the pandemic, although individuals follow the safety guidelines to varying degrees. In a study on the barriers and facilitators of adherence to social distancing recommendations, it was found that one of the strongest influencers on the rejection of social distancing behavior was the desire to socialize to avoid feeling stressed and lonely (Coroiu et al. 2020). Although social media has been a great help in connecting to our social networks when we feel lonely, its use is also associated with increased odds of anxiety (Moreno et al. 2020). A survey on mental health in the US conducted from April to June 2020 yielded a 40.9% response of participants experiencing at least one adverse mental health condition, including anxiety disorder, depressive disorder, Covid-19 trauma-and stressor-related disorder, substance abuse, and suicide contemplation (Czeisler et al. 2020). Statistically, people suffering from mental health related issues are less likely to seek medical help than if they were suffering from a different health condition (Bharadwaj et al. 2017), raising concerns about the long-term consequences of social isolation.

The desire to escape the loneliness and restriction resulting from the measures put in place to protect against Covid-19 has led to considerable debate over who is at risk, who has to quarantine, who has to wear a mask, and so forth. Whether or not people sympathize with each other often comes down to whether or not they see them as vulnerable to forces beyond their control (Mechanic and Tanner 2007). In the context of the pandemic, a young autistic child refusing to wear a mask might be looked on with compassion, whereas a middle-class,

neurotypical adult refusing to wear one is likely to be viewed with stigma. A group of children on the playground forgetting to stay 6-feet apart is forgiven, but a crowded party of college students is frowned upon. Underage children, individuals with mental illness, and others unable to control their environment and circumstances are less likely to be stigmatized during the pandemic if they fail to abide by health and safety guidelines. For the rest of society, if the opinion that masks should or don't need to be worn, or that gatherings of individuals not living together is acceptable or not, is not shared by others in their social network, their relationships are put under pressure and judgement is passed on the opinions of those they disapprove of. In speaking with a first year college student about her experience in the dorms making friends, she admitted that there were some girls across the hall from her who would never wear masks, and because she valued the standard that masks are required, she immediately decided that she didn't like them. "They could have been really nice girls," she continued, but because of their differing values, she developed a stigma against them that limited the potential for developing new relationships.

CONCLUSION

The Covid-19 pandemic has put people in the unique position of having to abruptly suspend their ways of life, which are constituted by social relationships. When we are told to socially distance, we have to define what is social and how far is distant. In all three forms of social relations discussed in this article--friendships, families, and romantic relationships--the Covid-19 pandemic made people judge what their relationships were worth and determine how to coexist with others when they are advised by the government and other health care authorities to avoid them. Humans are creative beings who strive to find alternate routes to

achieve their goals when a given path is blocked. When instructed to social distance from each other, we integrate technology into our lives in a previously unprecedented way. Families calling each other over Zoom, skyrocketing use of dating apps, and friends playing virtual board games together demonstrate the impressive ways in which humans are unique problem solvers. But it also shows us how much of a need we have for these relationships. The great lengths people have gone to in order to maintain and create friendships, such as creating entirely new apps, speaks to the underlying fears we have of losing those social connections. The truth is that these social networks are tenuous at best; social distancing has caused friendships to crumble and families to fractionate. Shared values lie at the root of the most successful relationships, and the politicization of Covid-19 and its guidelines for protection have exposed divergent values possessed by the members of formerly close social networks. Even the relationships we've managed to maintain during the pandemic are at risk of decreasing in quality the longer we are separated or compelled to socialize intensively and exclusively.

The foundation of our culture and health has been jeopardized by the pandemic. Rates of depression are rising, the quality of life is declining, and some people are unsure where their relationships will go from here. A possible issue could lie in the name we have chosen to identify our defense against Covid-19: social distancing. We should not be isolating ourselves during a time of panic and uncertainty. The social and psychological consequences of our abstaining from social interaction could potentially have lasting negative effects well after the pandemic ends. Some measures such as social network-based distancing have already been taken to alleviate the negative effects of isolation while maintaining the effectiveness of distancing strategies (Block et al. 2020), but this only addresses the issue of compliance. The

term "social distancing" is leading us astray as to how best protect ourselves during this pandemic. As creative as we are in inventing solutions, human beings can also be easily susceptible to suggestion. Though physically we must remain apart to avoid being infected, we cannot afford to continue risking our social relationships by remaining cut off from each other. This concept was best described by Thomas Abel and David McQueen (2020), who write: "Thus does effective public health entail both physical distance, and social support. Empathy, shared responsibility, and collective understanding encompass social support… Both are key to overcoming this crisis." For the remainder of the pandemic, we should strive for spatial distancing, not social distancing.

The future will be shaped by how we have adapted to the "new normal" established during the pandemic and what we have learned from those experiences. The impact of social isolation and weakened social networks is likely to last well past the end of the pandemic. The rise in loneliness that we have seen this year will continue to lead to an increase in mental health conditions. Even those who reach out to their friends and family while remaining isolated are prone to increased loneliness and depression (Krendl and Perry 2020; see Skriloff and Reinert, this issue). The development of differences in values over whether to wear masks and social distance is not something that will be easily forgotten. No matter their stance on the Covid-19 guidelines, the trust that relationships rely on is weakened when people feel that their moral outlook on life is fundamentally different. The use of streaming technology and socializing apps will continue, although post-pandemic they may be used more as a means to find people with the intention of meeting face-to-face. For romantic uses of these apps, virtual first dates may continue, especially for women who are unsure of their safety in meeting potential dates.

Although the loneliness and mental health struggle from social isolation will make people want to return to the way things were before the pandemic, it is not likely that it will happen immediately or completely. New technologies have been developed and used for dating, making friends, and playing games with family members who live far away. The mental health problems that emerged during the pandemic will not disappear with the vaccine; it will take work and social support to acknowledge and heal the damage from quarantine. People who have been separated from the other members of their social networks will rush to spend more time with them, while people who have been socializing too intensively and exclusively with the people with whom they have been isolating will seek their independence and separation. The way we relate to each other is what creates our society, and every action we make ripples through social networks to change the world. Although we may be uncertain about how to interact at first, humans will always need fulfilling social relationships and will pursue them in the most effective ways possible.

Appendix

Familial Relationships during COVID Survey
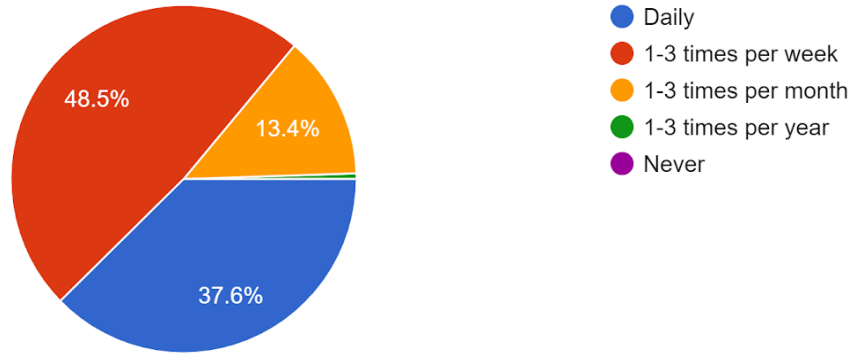*Distributed to US Facebook users ages 18+*
For questions 4-6, 1 = very bad and 5 = very good

1.

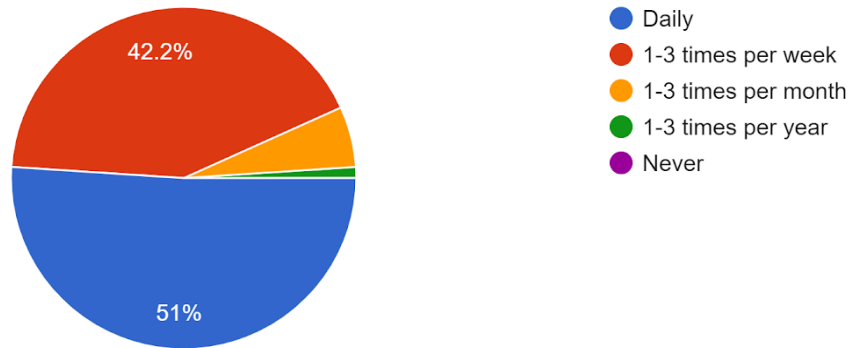### How often did you speak with your family pre-covid?
194 responses

- Daily
- 1-3 times per week
- 1-3 times per month
- 1-3 times per year
- Never

48.5%
13.4%
37.6%

2.

How often did you speak with your family during quarantine?
192 responses

- Daily
- 1-3 times per week
- 1-3 times per month
- 1-3 times per year
- Never

42.2%
51%

3.

How often do you speak with your family now?
193 responses

- Daily
- 1-3 times per week
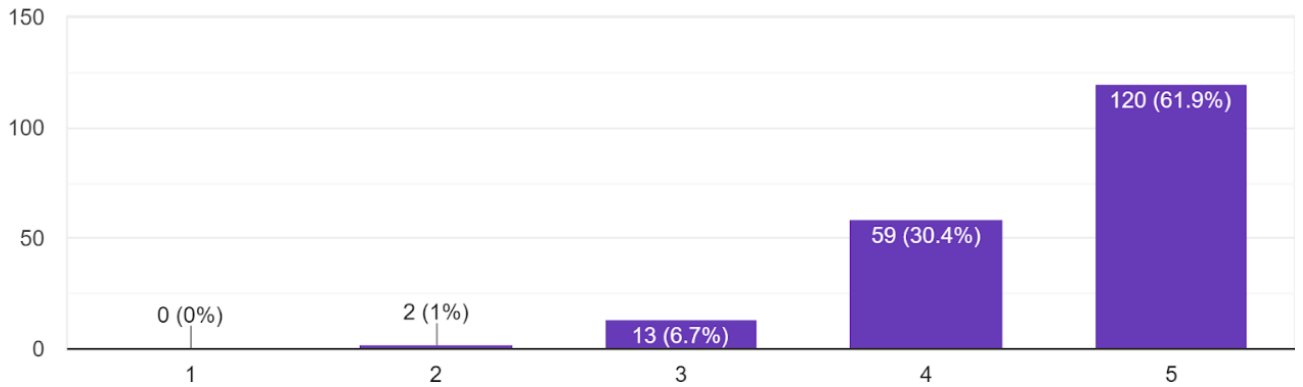- 1-3 times per month
- 1-3 times per year
- Never
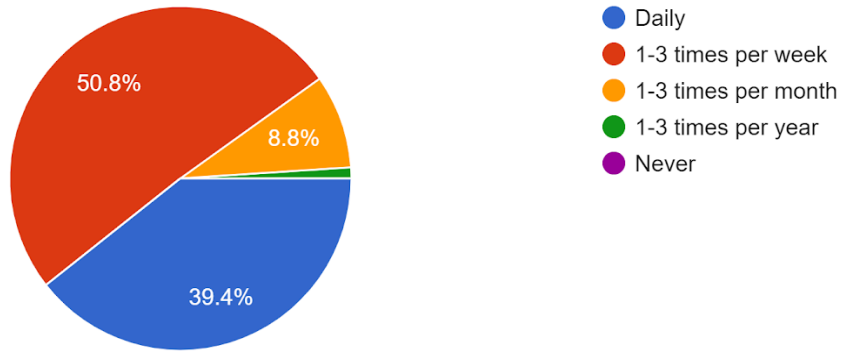
4.

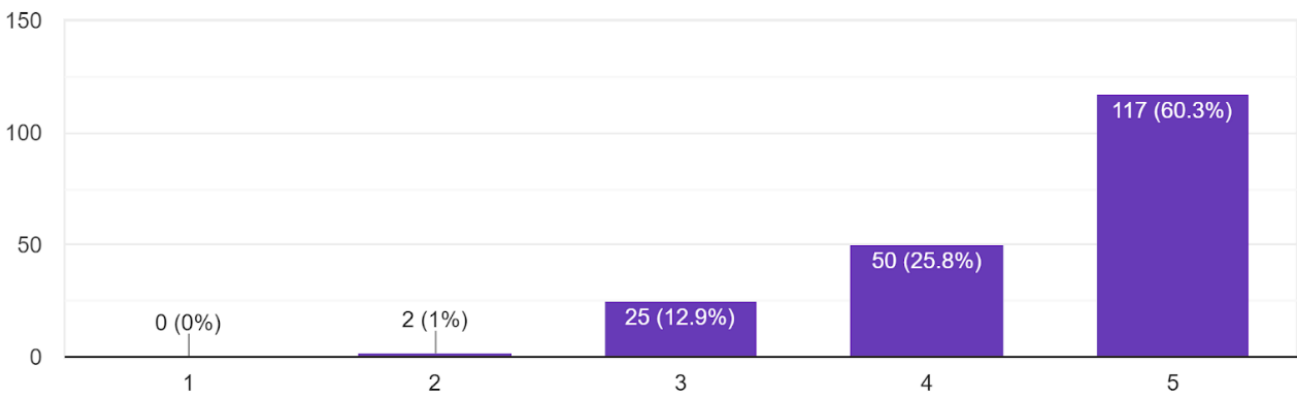## How would you rate your relationship with your family pre-covid?
194 responses

5.

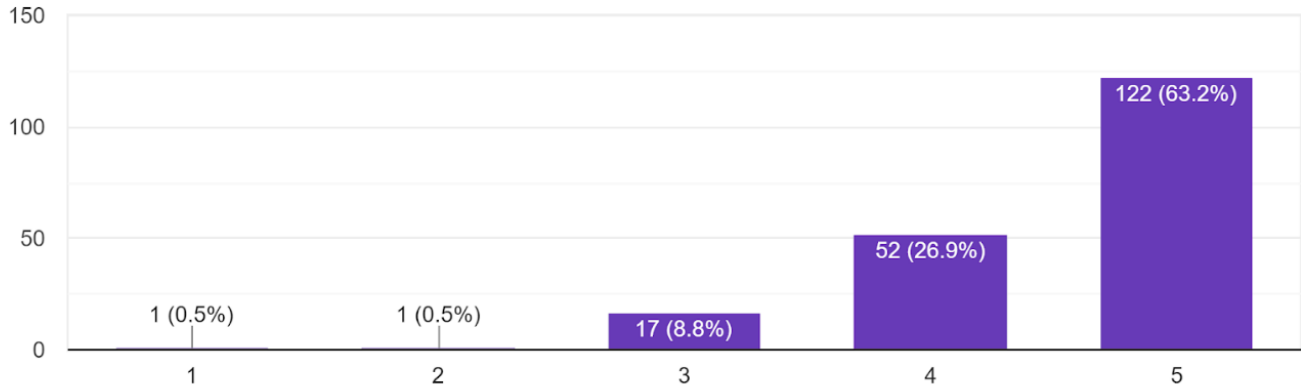## How would you rate your relationship with your family during quarantine?
194 responses

6.

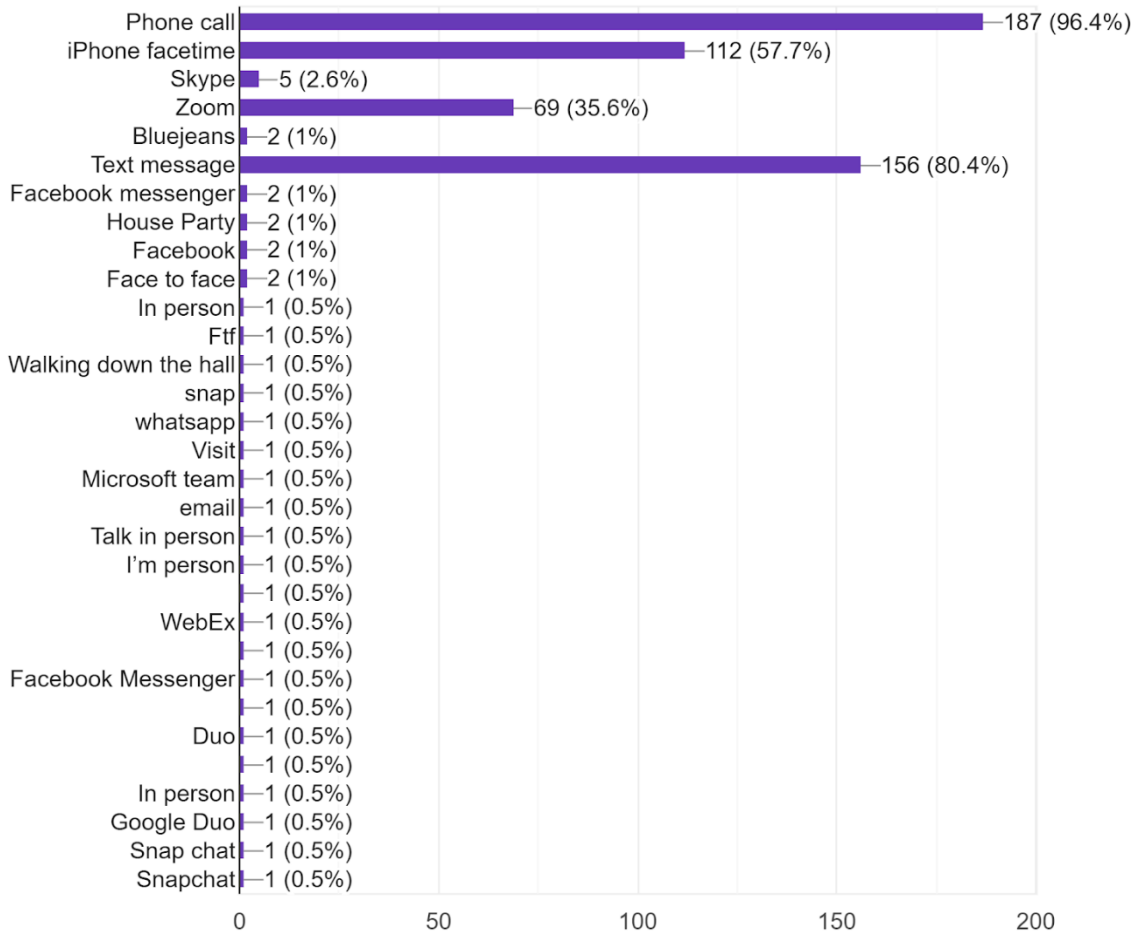## How would you rate your relationship with your family now?
193 responses

7.

What platforms did you use to communicate with your family? (Select all that apply)
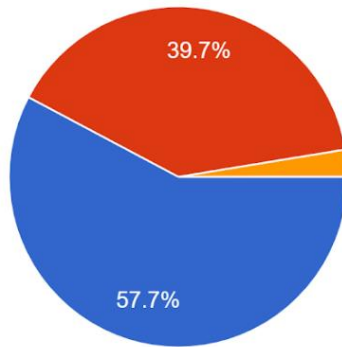194 responses

8.

In a post-covid world, would you want to see your family...
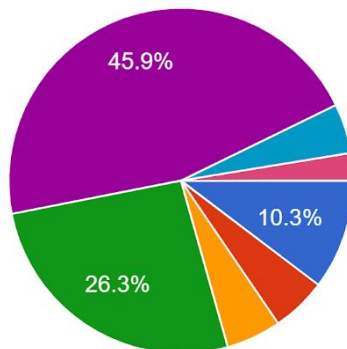
194 responses

- More than I see them now
- The same amount as I see them now
- Less than I see them now

39.7%

57.7%

9.

What is your age?

194 responses

- 18-21
- 22-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70+

45.9%

10.3%

26.3%

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Health Literacy and its Implications during and after Covid-19

By Myah S. McCormick, Noelle McNamara, and Vaishali Nambiar

Health literacy is defined by the World Health Organization (WHO) as "the personal characteristics and social resources needed for individuals and communities to access, understand, appraise, and use information and services to make decisions about health." This article analyzes how the lack of health literacy at an individual and national level contributed to the spread of Covid-19. Misinformation and fear of potential vaccines are also discussed as a consequence of health illiteracy. We suggest several paths towards increasing health literacy, including paying greater attention to the role of and demand for community health workers, and discuss the future directions of health literacy in the United States.

INTRODUCTION

Health literacy as defined by the World Health Organization (WHO 2020a) is "the personal characteristics and social resources needed for individuals and communities to access, understand, appraise, and use information and services to make decisions about health." Health literacy is vital to the overall well-being of any community. Health is not simply the absence of disease or illness, it is a state of mental, physical, and social-well being (WHO 2020a). As the overall health of communities around the world deteriorates as a result of Covid-19, the need for health-literate communities has become imperative. Poor health literacy is directly connected to low education, unemployment, and low socioeconomic status, while greater health literacy enables people to effectively manage their health and can help bridge health inequalities (Springer 2020).

SOURCES OF MISINFORMATION

From its initial detection in December 2019 to its rapid spread and declaration as a pandemic in March 2020, Covid-19 has proven to be an unforeseen and quickly-developing situation that people everywhere in the world have struggled to keep pace with. Despite government response measures implemented and enforced throughout 2020, Covid-19 remains shrouded in mystery. The uncertainty is pervasive, baffling even the experts, including scientific researchers, health organizations, and government agencies. An especially harmful consequence resulting from this overarching doubt has been the spread of misinformation and the resulting public confusion. Misinformation refers to inaccurate information that is communicated, regardless of an intention to deceive. Between society's increasing access and reliance on technology and the internet, which allows everyone to publish and consume information, the potential for exposure to misinformation is higher than ever before. *Disinformation*, a subset of misinformation, refers to information conveyed with the intention to deceive. Exposure to disinformation may have been particularly high at the onset of the pandemic, in March. With governments around the world playing the blame-game on who was responsible for the global crisis and various countries publishing inaccurate Covid-19 case reports and data, many people were likely exposed to some form of disinformation. However, as we progress through the pandemic and more verified information about Covid-19 is disseminated, it becomes more difficult, even for powerful entities like the government, to so easily deceive those seeking scientific fact.

In March, the *Economist* found that 13% of Americans believed the Covid-19 was a hoax, 49% believed the Covid-19 was man-made, and 44% believed the threat of Covid-19 was being exaggerated for political reasons (*Economist* 2020). This has been a particularly

dangerous trend during the pandemic, as false information can negatively affect an individual and community's health behaviors and their trust in public health experts.

One way to conceptualize this spread of misinformation is by differentiating between top-down misinformation and bottom-up misinformation (Brennen et al. 2020). In a top-down approach, false information is spread from prominent public figures, including health officials, politicians, and celebrities, to the general public. With the pandemic escalating during an election year in the United States, Covid-19 was subject to even greater controversy and politicization. Many prominent conservative and liberal leaders strongly disagreed on the seriousness of the threat from Covid-19 and the appropriate response. In turn, the ways that many news media sources covered the pandemic aligned with their political leanings. Polling data from mid-March revealed that only 38% of regular viewers of Fox News, a largely right-wing media source, were worried about Covid-19, as compared to 72% of national newspaper readers or 71% of CNN viewers, a more liberal media source (Motta et al. 2020). Furthermore, a study found that people who solely or sometimes consumed right-leaning media were significantly more likely to believe that Covid-19 was purposefully made in a lab and that a Covid-19 vaccine already exists (Motta et al. 2020). The same study found that right-leaning outlets, such as Fox News, were responsible for 3,839 stories that referenced misinformation about Covid-19 in February and March alone, while mainstream outlets highlighted misinformation considerably less frequently, at 1,541 stories (Motta et al. 2020). Apart from the direct implications of these stories on people's understanding of the virus, these articles also have had a significant impact on people's trust in government health agencies. For example, those who believed that Covid-19 was purposefully made or that a vaccine already exists, were significantly more likely to be distrustful of the Centers for Disease Control (CDC) than those

who did not (Motta et al. 2020). This group was also more likely to believe that the CDC was exaggerating the health risks of the virus (Motta et al. 2020).

Politicians and prominent public figures have always had a significant impact on the dissemination of information due to their platforms. However, as the internet, social media, and access to digital electronics continues to rapidly expand, virtually everyone has a "platform" to voice their personal opinions, which has led to an increase in bottom-up misinformation. While these accounts do not always have the power and influence of public figures, they do contribute in a unique way to a large portion of the misinformation found online. As the pandemic has progressed, so have terms such as "Covid-influencer" and "armchair epidemiologist," which refer to social media users who over-confidently make interpretations about Covid-19 statistics, despite having minimal qualifications in this area of expertise (Weinman 2020). Members of the public appear to have many reasons for sharing misinformation including a desire to "troll," the legitimate belief the information is true, and political partisanship (Brennen et al. 2020).

On occasion, certain social media content or news media posted by a layperson goes viral and receives a great deal of attention and engagement. One example was a rumor about the supposed efficacy of saunas and hairdryers in preventing Covid-19 (Brennen et al. 2020). To combat popular myths spread about Covid-19 WHO launched a "Coronavirus disease (COVID-19) advice for the Public: Mythbusters" page on their website which used downloadable infographics to debunk the more popular misconceptions about Covid-19 (WHO 2020b). In addition to publicly posted information, private and group messaging applications are also prone to the spread of misinformation. One way this occurs is when chain messages and emails containing false claims are forwarded through social media, reaching many recipients and groups. However, even when given factual information and protocol, there are

still going to be a percentage of people who refuse to follow it.

In a post-pandemic world, we may see government health agencies focusing on efforts that take a more active role in developing creative and comprehensive health education campaigns that harness the influence of social media. These initiatives could potentially communicate a more prepared government system and thereby have the potential to resonate with the general public and reduce misinformation in the future. Outside of government organizations, we may see a trend towards more fact-checking websites and reference sources on the internet. We may also see a continued trend of social media sites like Twitter and Facebook working to reduce misinformation both by removing incorrect information and incorporating factual information about Covid-19 on their platforms.

VACCINE HESITANCY

As Covid-19 continues to spread throughout the United States, there is the prospect of light at the end of a dark tunnel with a vaccine on the horizon. However, Americans have a complicated history with vaccines that makes four out of ten Americans reject the Covid-19 vaccine before it is even released (Reinhart 2020). Even so, the
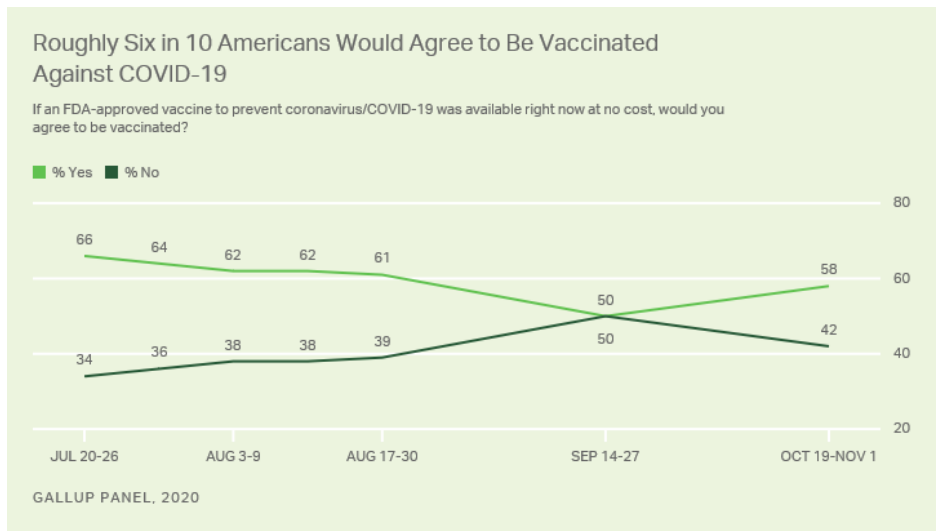

Figure 1: (Reinhart 2020)

percentage of Americans unwilling to get the Covid-19 vaccine has been decreasing since September (Reinhart 2020; see Figure 1). From false studies reporting that vaccines cause

autism to an anti-vax movement that is unparalleled, for many Americans the threat of contracting Covid-19 is less scary than getting a vaccine. For the rest of this paper, we will refer to uncertainty or hesitancy about vaccinations rather than use polarizing terms such as "anti-vaxxer," because we advocate for empathetic scientific communication.

Empathy is more important than persuasion, especially when it comes to discussing vaccinations (Olson 2020). Understanding the root of fear allows scientists to contextualize information and offers a broader perspective (Olson 2020). Health-related decisions are not made solely based on scientific fact, they are influenced by cultural, social, political, and spiritual backgrounds (Olson 2020). For example, 69% of Democrats are willing to get a Covid-19 vaccine whereas only 49% of Republicans are willing to get a Covid-19 vaccine (Reinhart 2020). Age also seems to be a factor as Americans between the ages of 45 and 64 are the age group least likely to get vaccinated, even though they are one of the age groups suffering serious complications from Covid-19 (Reinhart 2020).

From recent studies surrounding the Covid-19 vaccine, it can be deduced that a lack of knowledge and understanding is the main reason 42% of Americans are reluctant to get a Covid- 19 vaccine (Reinhart 2020). Of the Americans who are hesitant to receive the Covid-19 vaccine 37% are worried about the timeline of the vaccine's development, 26% are worried about vaccine safety, and 12% simply do not trust vaccines (Reinhart 2020). Some experts have suggested that extra clinical testing and a longer development period will encourage more people to get vaccinated by addressing the most common reasons for vaccine hesitancy (Reinhart 2020). However, there is still a percentage of Americans who are against the Covid-19 vaccine due to a distrust of vaccines in general (Reinhart 2020). While there have been suggestions to decrease this percentage by delaying the approval of the vaccine and showing

that the vaccine has no side effects, it is quite possible that these people may never be persuaded (Reinhart 2020).

America still has a long way to go regarding empathetic scientific communication, and the vaccine hesitancy plaguing Americans is just one example. While the initial release of the Covid-19 vaccine is going to be met with great hesitancy, an effort by scientists to communicate information in a socially appropriate way can improve the future vaccine's approval rate.

COMMUNITY HEALTH WORKERS

Using past global health crises as a guide, it is evident that community health workers are an underutilized resource that have previously proven effective in increasing health literacy. During the Ebola and Zika epidemics, nations utilized community health workers (CHWs) to educate the public and assist the healthcare system (Boyce and Katz 2019). CHWs are medical professionals who operate in a non-clinical capacity. CHWs typically do not have medical degrees, but rather rely on their lived experiences with traditionally underserved communities. They have proven to be highly effective for consulting about and meeting patients' social needs (Heath 2020). During the Ebola and Zika epidemics, CHWs promoted pandemic preparedness before the epidemics by increasing access to health services and products within communities. They were able to communicate health concepts in a culturally-appropriate fashion and even reduce the burdens felt by formal healthcare systems (Boyce and Katz 2019).

At the start of the Covid-19 pandemic, the National Health Systems Resource Centre (NHSRC) in India funded a study that reviewed the existing literature on the contributions CHWs could make and the barriers they face in assisting health campaigns like those needed

for Covid-19 prevention and control (Bhaumik 2020). They concluded that if integrated into a national health policy, CHWs can increase community awareness, engagement and sensitisation, and contact tracing. However, they also found that CHWs need clearer guidance, training for changing roles, and a definition of what constitutes essential activities. (Bhaumik 2020).

The CDC also encourages the use of CHWs claiming they can support home-based care in low resource settings. This includes supporting patients, their families, and their communities during Covid-19 (CDC 2020). We have seen instances of CHWs involved in contact tracing in the United States, but outside of this, they have been largely sidelined during the pandemic. In contrast, South Africa retrained and deployed 28,000 CHWs door-to-door, and was able to screen 7 million, about 1 in 10, South Africans in the one month (McNamara 2020).

There are already 60,000 certified CHWs in the US, but they have the capacity to do more than they have been asked to do to help during the pandemic (McNamara 2020). The NHSRC study also found that in high-income countries there is little contribution from CHW programs during pandemics. This is largely because many CHWs are either stigmatized or socially ostracized during pandemics. Health workers are too overwhelmed to train or implement CHWs properly, so the communities they are supposed to protect do not see them as a source of authority. As the Health Law Institute explained:

CHWs have proven themselves to be effective and cost-efficient during pandemics. They have already been deployed in other areas across the world. So why hasn't more of the US jumped at the opportunity to use them? Why have we not listened to our current healthcare workers? They need help. They are overwhelmed. And we have an untapped army ready to

help them (McNamara 2020).

It is likely we will start to see more CHWs in wealthy countries in the future. The pandemic has revealed a great shortage of healthcare workers across the globe. We believe CHWs could be the solution to this issue. CHWs also have the ability to communicate with members of society in a culturally appropriate manner. For example, in the Spring of 2020, Yale's school of Public health partnered with various non-profits like the Rotary Club to start Volunteer Surge. Volunteer Surge is an initiative to recruit, train, and dispense 1,000,000 CHWs across the United States to aid in the fight against Covid-19 (McNamara 2020). We believe CHWs could be invaluable to community health literacy and it is about time Americans began to realize that.

CONCLUSION

Covid-19 has exposed the lack of health literacy in America and this lack of health literacy is negatively impacting the spread of the pandemic. We hope that governmental institutions will continue to counter the spread of misinformation by continuing to create comprehensive awareness campaigns as WHO did with their "Mythbusters" page. Unfortunately, the long routed mistrust in the vaccination process will likely impact the number of people willing to receive the Covid-19 vaccine when it is released, however, with the help of empathetic scientists and medical professionals, it is hoped that America's confidence in vaccines will rise. Community health workers are an underutilized resource and this pandemic has made it evident how necessary they are in industrialized countries. We hope that community health workers will become more prevalent in communities across America, during and after this pandemic. Ultimately, it is the job of scientists and medical professionals

everywhere to practice socially appropriate and empathetic science communication to help stop

the spread of Covid-19, and hopefully to prevent, or at least greatly ameliorate, the impacts of

future pandemics.

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The Future after Covid-19: Implications of a Global Pandemic

Social Movement Activism in the Time of Covid-19 and its Consequences

By Noelle McNamara, Myah S. McCormick, and Alana J. Reinert

The Covid-19 pandemic has revealed the fault lines of American social structures and motivated communities across the country to demand transformative change. Covid-19 affects various populations and social groups differently. The elderly, people of color, and the immunocompromised have been overwhelmingly harder hit than other communities. This is due to a system that systematically advantages the norm or the status quo. The 30 to 40 year old white, heterosexual male is treated as the norm in the provision of health care. People who are located outside of this norm are often excluded by the laws passed to protect Americans. During the pandemic, social movements have called attention to these problems. In this article, we consider how the government's response to Covid-19 has revitalized activism in America. We also draw parallels to the government's response to Hurricane Katrina just 15 years ago. Through the lens of Black Lives Matter, environmental justice, and calls for universal healthcare, we examine critiques of our current healthcare system. Will this time be different? Will we finally see transformative, systematic change? We predict that the stars are beginning to align for these three movements, and recommend that we do not let the moment pass or their momentum die.

INTRODUCTION

Since the election of Donald Trump in 2016, activism has taken on a new shape in the United States. The *New Yorker*'s Rebecca Traister claims that Americans are in the middle of a new progressive movement. Many Americans thought that on the heels of our first black president, the United States would never elect a facist president. The 2016 election forced people to acknowledge that the country is not as progressive or open-minded as many had

thought. Traister observed:

[W]hile the beginning of this period (the Women's March) and its bookend (the BLM protests of the summer) may feel a million miles apart in spirit and style, a startlingly durable, historically rare thread has connected them: a continued move toward public acknowledgment of inequality, an energetic critique of the systems that govern us. And, with all that, a shift toward the left (or something like it) and some recognition that we are tasked with acting on behalf of our own civil rights and liberties, are responsible for saving our democracy ourselves. We are wide awake now (Traister 2020).

Consequently, Covid-19 has brought record-breaking protests across the country, as seen in the table below (Brennan 2020).
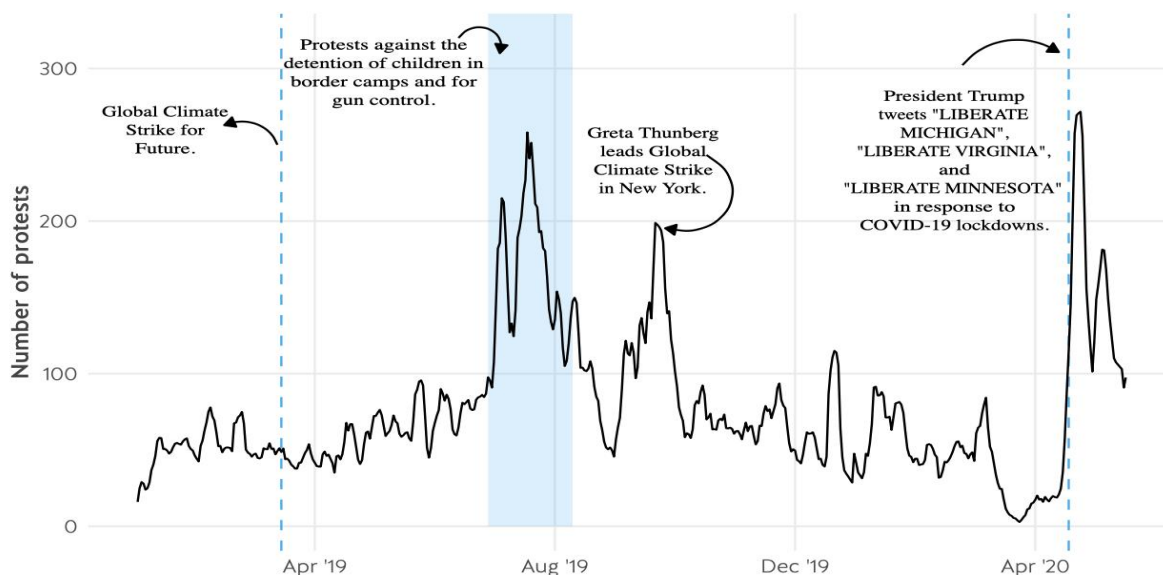
This article takes a deeper look at Black Lives Matter, environmental justice, and the universal health care movement to examine how activism is changing in America. We will also consider the future of activism and how Covid-19 will help to shape it.

BLACK LIVES MATTER

Started in 2013 by Alicia Garza, Patrizze Cullons, and Opal Tometi, Black Lives Matter (BLM) is an organization working towards liberation for people of color (POC) from white supremacy and the violence inflicted on their communities. Though the movement has been active in protesting injustice since the acquittal of Treyvon Martin's murderer, this year brought a new wave of Black Lives Matter support sparked by the killing of George Floyd in May 2020. According to a BLM supporter and march organizer, when people were quarantined in their homes due to Covid-19, it created the time and space for an explosion of information sharing on social media. On Twitter, the use of the #BlackLivesMatter hashtag lept to 8.8 million tweets on May 28th and stayed above 2 million tweets per day until the first week of June (Anderson et al. 2020). Antiracist reading lists began circulating the internet, specifically designed to address systemic racism, the black struggle, and white supremacy (Rambsy and Rambsy 2020). Whereas the month of May saw no books dealing with racism on the top 10 bestseller list, by the first week of June, number 2 on the bestseller list was *So You Want to Talk about Race* (2018) by Iljeoma Oluo.

As information spread, so did protests. By June 16th, 286 cities had seen major protests for BLM, and health officials began to voice concern for the affects these protests could have on the spread of Covid-19 (Dave et al. 2020). Many began to see these two movements in opposition to each other; were the goals of protesting worth the costs? The threat of Covid-19 added another layer of consideration for supporters of BLM, making it harder for individuals to decide whether or not to attend marches. Protest organizers had to take Covid-19 into account when planning marches and to ensure that all health and safety measures were being met. These added risks might have severely damaged popular participation and support for the Black Lives

Matter movement, but there was no evidence that the protests were exacerbating the spread of Covid-19. In fact, according to the National Bureau of Economic Research, "cities which had protests saw a net *increase* in social distancing behavior for the overall population relative to cities that did not. In addition, we find no evidence that net Covid-19 case or mortality growth differentially rose following the onset of Black Lives Matter protest" (Dave et al. 2020, 2). The protests increased the perceived risk of leaving home, so individuals who chose not to attend were more likely to not only avoid the protests, but also other activities outside of their homes (Dave et al. 2020).

However, with increased attention to the Black Lives Matter movement, counter-protests also rose in prominence on social media. In addition to the supporters of BLM at home sharing information on social media, there was also a spike in individuals invoking the slogans "Blue Lives Matter" (referring to the police) and "All Lives Matter" in efforts to discredit the movement. Despite the fact that BLM protesters this year have been overwhelmingly peaceful, many reports still claim that they were violent and destructive (Chenoweth and Pressman 2020). Much of this is due to the influence of a white supremacy group, the Boogaloo movement, whose members "seek to exploit public unrest to incite a race war that will bring about a new government" (Alba 2020). These individuals have been using social media and physical violence as a way to promote a sense of distrust towards the BLM movement in the US. Yet, as argued by rhetorical theorist Karlyn Campbell, "The presence of such racist remarks vindicates the urgency of struggles for racial justice and the challenges facing activists and citizens" (Yang 2016, 16).

During the pandemic, people are reminded of their own vulnerabilities and fears. Perhaps that is why people are now more receptive to hearing the struggles of others. The spike in

support of Black Lives Matter during this pandemic is likely to be temporary. Once people feel safe again, the attention given to the BLM movement is not likely to continue to grow at the rate it did this year. But a university student and long time supporter of the Black Lives Matter movement whom we interviewed predicts that there will be an increase in support from the younger generations. As the ones who spend the most amount of time on social media, these younger audiences were the primary recipients of a large influx of information on the Black Lives Matter movement. The pandemic aided in spreading the word and facilitating conversations on systemic racism; the remaining challenge is for Americans to take that knowledge and bring about functional change to ensure a more just future for everyone.

ENVIRONMENTAL JUSTICE

In addition to systemic violence towards Blacks by the police and the criminal justice system, the environmental justice movement had plenty to fight against prior to the Covid-19 pandemic. The lack of investment in low income and minority communities coupled with historic and systemic racism in America has resulted in disproportionately high rates of toxic air, properties contaminated by industrial pollution, unemployment, chronic illness, and crumbling infrastructure (Kelly and Reta 2020). Environmental justice advocates worked towards equal protection from environmental health hazards and equal access to the decision-making process to have healthy living, learning, and working environments (*Environmental Justice* 2020).

Now that recent studies have found a link between high levels of pollution and an increased severity of Covid-19 effects, environmental justice advocates have yet another reason to fight against structural racism (Brandt et al. 2020). However, Covid-19 does offer a silver-

lining. Sacoby Wilson, an environmental health scientist at the University of Maryland, believes the coronavirus "has made a lot of populations we made invisible, visible" (Bagley 2020). He further explains:

In many cases, in white, higher-income communities, you have more political power because of your economic power. So this NIMBY-ism, "Not In My Backyard," can stop an incinerator, stop a landfill, stop a highway from being built in those neighborhoods. Whereas, a lower-wealth community of color, because they don't have the economic capital which drives their political capital, they don't have the capacity to prevent the siting of those types of things in their community (Bagley 2020).

So, while the overall average global air quality has improved dramatically around the globe during the lockdown, Covid-19 has not affected all environments equally (McFarlane 2020). For Laura Cortez and Cindy Donis, community environmental activists from a predominantly Hispanic, low-income community, Covid-19 has led to worsened environmental conditions (Flanders 2020). The businesses and factories in their neighborhood are considered essential, and consequently they are being exposed to higher levels of air pollution during the pandemic. Their Covid-19 death rate is significantly higher as well (Flanders 2020). Low-income communities of color are disproportionately affected by the environment during the pandemic because incinerators, landfills, and factories are all considered essential to the economy and are working overtime. These community members are stuck at home as well, increasing their exposure to the toxic air and pollution in their community (Flanders 2020).

Lockdowns and a global pandemic have not stopped environmental justice work, but has forced it to evolve. Traditional door-knocking, grassroots fundraising, and large gatherings have all gone by the wayside (Baragona 2020). As a result, youth-led climate change activism

has become much more prevalent online. Every Friday, young people across the world lead a digital #ClimateStrike "to raise awareness of important legislative initiatives and create tangible ways for individuals to get involved in the fight against climate change" (Jaisinghani 2020). For example, on Earth Day this year, youth held a 72-hour, live-streamed "digital march" with protests, speeches, and was attended by more than 200,000 viewers. Young people are pivoting their strategies, and when the streets are safe again, they will continue their activism by marching to raise awareness both on the streets and digitally (Jaisinghani 2020).

The pandemic has also changed the way people think about sustainable living. According to Michael Méndez, UCI assistant professor of urban planning & public policy, the pandemic:

has given us the opportunity to imagine a world where we can live with less and consume less and be able to reduce our impact on the environment. It has given us the opportunity to imagine what a more sustainable lifestyle could mean for the planet and, more importantly, for the health of communities–such as people living next to polluting factories, power plants and oil refineries, who every day are directly exposed to toxic emissions (Garcia 2020).

However, he also explains that individual actions will not be enough to make the changes Americans need. There needs to be systematic changes that can only come from government mandates, like the Green New Deal, on how people use energy, consume food, and travel.

Due to the intersectional character of systemic racism in the United States, recent BLM protests demanding widespread social change will likely have an effect on environmental policy as well. Racism is pervasive within our society and affects everything, including education, healthcare, and environmental issues (Garcia 2020). Prior to the Covid-19 pandemic,

policies like the Green New Deal were not always taken seriously. During the past three years there has been a reversal of environmental protections under the Trump administration. But now, even the clean energy and environmental-justice policy platform of Joe Biden, the 2020 Democratic president elect, accounts for the cumulative impact of multiple pollution sources, community health and safety, and self-determination in land development (Garcia 2020). While the momentum is present for transformative environmental change, policy changes are contingent on control over the Senate. This remains uncertain at the time this article was written. Although thus far, nothing has changed yet for environmental activists or people disproportionately affected by the environment. The pandemic has exposed widespread environmental injustices within the United States and has even inspired many individuals to shift towards a more sustainable lifestyle. But as Michael Méndez recently explained, the kind of change America needs will not result from individual actions alone (cited in Garcia 2020). Americans concerned about environmental justice need to seize this moment and demand widespread, transformative change from the incoming Biden Administration.

UNIVERSAL HEALTH CARE

Before the Covid-19 pandemic, fewer than half of all Americans considered our current healthcare system to be above average; 42% to be exact (Santhanam 2020). Pre-pandemic, over half of Americans with employment-based healthcare delayed treatment due to the cost (King 2020). In fact, Americans were paying more for healthcare while facing worse health outcomes, even before the Covid-19 pandemic (Santhanam 2020). Disasters are often normalized within society as inevitable. In reality, disasters only occur when a powerful force comes into contact with a vulnerable or at-risk population. As a result, they often reveal existing structural flaws in

society (Briggs and Lovell 2020). The pandemic did not create the flaws in the American healthcare system, it simply exposed them. For example, while White Americans are dying at an unprecedented rate due to Covid-19, for White Americans to experience the same mortality rate as Black Americans in any given year, mortality would need to increase by a factor of six (Wrigley-Field 2020). Even still, people of color are disproportionately affected by Covid-19, with lack of access to healthcare being one of the main contributing factors (CDC 2020). However, in countries with universal healthcare, such as Canada, racial disparities in the healthcare system have decreased (Siddiqi et al. 2016). Universal health care reduces racial inequality and provides medical care to all citizens regardless of race and employment status.

The United States is the only country out of 33 developed nations that does not have universal healthcare for all of its citizens (Amadeo 2020). Universal healthcare is not as foreign an idea to Americans as it may seem. The United States has universal healthcare in place for specific populations, such as Medicaid, Medicare, and the Department of Veteran Affairs (Amadeo 2020). As unemployment rates skyrocket due to the Covid-19 pandemic so does the number of uninsured Americans, this pandemic has exposed the need for healthcare for all citizens. More Americans than ever are starting to recognize it as a right rather than a privilege. It is no doubt that the current healthcare system contributed to the spread and devastating health effects of the pandemic. In March, at the start of the pandemic, sixty-eight percent of adults said the out-of-pocket cost associated with testing and treating Covid-19 would impact their decision to seek medical attention if they had symptoms of Covid-19 (King 2020). In an effort to slow the spread of Covid-19 the government has passed two acts, the Families First Coronavirus Response Act (FFCRA) and the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which can serve as a stepping stone for establishing universal health care (King

2020). The FFCRA dedicated $1 billion for the Public Health and Social Services Emergency Fund for testing of uninsured persons and required all private insurers, along with Medicare and Medicaid, to cover the costs and eliminate all cost-sharing relating to testing for Covid-19 (King20). The CARES Act was a $2.2 trillion pandemic-relief bill, dedicating $100 billion to hospitals and healthcare providers, and required all private insurers to cover testing and any future vaccines (King 2020).

While the FFCRA and CARES Act is a start to equalizing healthcare, it is not enough. Americans need to have the security of health insurance regardless of a global pandemic. We argue that universal healthcare for all Americans is a necessity to fight the Covid-19 pandemic. This time of crisis should be utilized as an opportunity to highlight the importance of healthcare for all Americans regardless of their employment status.

CONCLUSION

All three of the political movements discussed in this article respond to deeply rooted and racialized inequalities in the United States. As Peggy Shepard, co-founder of WE ACT for Environmental Justice, said:

There's a continuum of racism that has permeated government, institutions, and all systems and sectors of society for communities of color and people of low income. The Black Lives Matter demonstrations have been a catalyst for renewing awareness and understanding of the intersectionality of issues such as environmental degradation, education disinvestment, economic instability, and housing segregation with racism (cited in Kelly and Reta 2020).

As a result of Covid-19, structural racism has become part of the national lexicon, environmental discrimination is now visible to all members of society, and more Americans

than ever are looking towards the government to provide healthcare. Biden's democratic agenda will highlight these progressive ideals. However, historically in the US, activists' victories send many Americans back to complacency. Activism is strongest when the protection of civil liberties is at its lowest. A Biden win is likely to make people feel safer and protected, so many Americans will no longer feel the need to fight anymore. As a result, America will likely see some victories for BLM, environmental justice, and UHC; but they are unlikely to be systemically transformative. Sweeping victories would have required Democrats to win the Senate as well, which remains uncertain at the time this article was written. It would also require Americans to keep their fire, drive, and momentum for change. Ultimately, Covid-19 exposed these issues within the United States, now it is up to Americans what they choose to do with it.

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The Future after Covid-19: Implications of a Global Pandemic

Accessibility and Accommodations for Disabled and High-Risk Groups during Covid-19 and Afterwards

By Marc J. Skriloff and Alana J. Reinert

The Covid-19 pandemic has wreaked havoc on the world since gaining traction in early 2020. Not only has it effectively caused society to come to a halt, but it has also exposed and exacerbated undeniable flaws about which much of the general public was previously unaware or uninformed. One example of this concerns the risks to individuals considered to be at higher risk in the context of the pandemic; more specifically, individuals with pre-existing and/or confounding conditions that put them at a greater risk of serious complications from Covid-19. Many of these populations include individuals with conditions defined by the Americans with Disabilities Act of 1990, such as autoimmune disorders and addiction; time-sensitive conditions with variables that put them at risk, such as pregnancy; and populations that have to manage both, such as the elderly. This also includes factors such as lower socioeconomic standing and race, which are correlated with disproportionately higher impacts from Covid-19. The definitions of these groups prior to the pandemic have been subdued by politics and the general public, altering their weight in society during the pandemic and forcing affected individuals to deal with the repercussions without adequate resources or assistance. As the pandemic progresses and society moves toward reopening, questions about the current societal format and the ability to properly accommodate these populations needs to be addressed. We use current literature and interviews with specialists on these topics to examine questions about risk stratification associated with returning to work and the implementation of public health measures to evaluate these questions. We also discuss the likelihood of short and long-term societal changes involving these populations.

INTRODUCTION

Since its inception in 1990, the Americans with Disabilities Act (ADA) has acted to protect people with disabilities by prohibiting discrimination and guaranteeing equal opportunities to participate in the mainstream of American life. To be protected by the ADA, one must have a disability, which the ADA defines as a "physical or mental impairment that

substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment" (US DOJ 2020). This legislation has made great strides towards improving the treatment of these populations in American society, and over time, other medical conditions and disorders have also been recognized as being covered by the provisions of the ADA. Although an exhaustive list of disabilities recognized by the ADA does not exist, the inclusion of new medical conditions under the ADA demonstrates the flexibility of the act (SHRM 2019). For instance, the changes under the Equal Employment Opportunity Commission (EEOC) now consider an individual with a back injury for 2-3 months, who is subsequently unable to lift fifty pounds or more to perform their job duties, to have an ADA disability (Cox 2012). Since lifting greater than fifty pounds 10 times per day is strongly associated with preterm birth between gestational weeks 22-27 in pregnant women (Runge et al. 2013), we suggest that pregnancy should also be considered within the guidelines of the ADA. The back injury circumstance is relatively comparable to the work-related difficulties pregnant women may experience, so the ADA cannot justify the fact that pregnancy does not currently qualify as a disability (US EEOC 2020). A critically important distinction that becomes increasingly visible throughout times of crisis is how minorities are also recognized as high-risk groups. Factors such as socioeconomic status and race have proven to be correlated with disproportionately higher risks from Covid-19 since exposure and vulnerability are socially constructed. In this article we consider how the Covid-19 epidemic has imposed new forms of restrictions on medically vulnerable individuals and populations, raising important questions about how society can adequately address and accommodate people with disabilities. Through a holistic analysis of the trends observed during the pandemic, it is possible to recognize more general underlying concerns about the dynamic

relationships between these populations and American society and how they can be adjusted.

GROUPS DEFINED UNDER THE ADA DURING THE PANDEMIC

The Covid-19 pandemic has brought new attention to people whose rights are protected under the ADA, as well as other groups of people who have also been heavily impacted. These groups include people who are considered to be at a greater risk of infection or life-threatening complications if they were to contract the disease due to either pre-existing conditions or confounding health-related factors, such as having a suppressed immune system, pacemaker, or breathing tube. It is important to note that not all conditions covered under the ADA are included in the high-risk category for Covid-19. In this article, we examine four groups that fit both descriptors: autoimmune disease, medicinal addiction, pregnancy, and the elderly.

AUTOIMMUNE DISEASE

Autoimmune diseases include a number of conditions that can lead the body to produce antibodies that, instead of fighting infections and harmful foreign materials, such as viruses or bacteria, attack the body's healthy cells, tissues, and organs. According to Johns Hopkins Medicine, there are currently more than 80 clinically distinct human diseases that result at least in part from an autoimmune response, including Inflammatory Bowel Disease, Lupus, and Rheumatoid arthritis. (Johns Hopkins Medicine 2020). These diseases can affect any tissue or organ in the body with a wide range of symptom severity that can vary significantly between individuals with the same disease. Many of these conditions share symptoms including fatigue, joint pain and swelling, skin problems, digestive problems, recurring fever, and swollen glands (Johns Hopkins Medicine 2020). This can make these conditions difficult to diagnose, as the

same symptoms can arise from many other common medical conditions. Additionally, researchers do not know what causes autoimmune disease--except the trademark factor of an overactive immune system. Risk factors that have been found to increase the chances of developing such diseases include genetics or hereditary factors, obesity, smoking, taking certain medications that may alter the typical functioning of the body, and a myriad of environmental factors (Scudellari 2017). According to reports from the Center for Disease Control and Prevention (CDC), the rising incidence of autoimmune diseases has increased upwards of 400% (varying by disorder) from 1950 to 2000 and has only continued this trend over the past 20 years (Global Autoimmune Institute 2020).

The complexity of these diseases has been the subject of rigorous medical research, especially in the months following the start of the Covid-19 pandemic. As the number of studies on autoimmune disease and SARS-CoV-2 increase, a better understanding of why certain conditions are high risk is beginning to be better understood. Nonetheless, the complexities of these interactions have proven challenging for researchers, as there are instances in which having an autoimmune disease increases vulnerability to Covid-19 complications, and other cases in which having the Covid-19 infection may trigger an autoimmune response, which is a potential double-edged sword (Global Autoimmune Institute 2020). An additional factor complicating this research is that each individual's risks and how the virus will impact them is unique, like a fingerprint is unique to each person, which means that no two people experience Covid-19 in the same way. Due to the limited understanding of the Covid-19 pathogenic mechanisms, much of the research to date has focused more on implementing immunosuppressive treatments commonly used to treat autoimmune diseases than the short-term treatment of severe Covid-19 symptoms (Anaya et al. 2020). Until greater

knowledge about Covid-19 is obtained or approved vaccinations become available, research in the area of autoimmune disease will be on pause. As more research continues to be conducted and the vaccine trials continue to be underway, a clearer picture of these associations will be drawn, leading to a greater understanding of the relationship between Covid-19 and autoimmune disease. Only after thorough research of the effects of the prospective vaccines on people with autoimmune disease can these populations begin to take steps toward reintegrating into society.

OPIOID ADDICTION AND OTHER SUBSTANCE USE DISORDERS

Opioids are a class of drugs naturally derived from the opium poppy plant or synthesized to mimic its effects. They are used as powerful pain-reducing medications and have benefits as well as potentially serious risks when taken by patients. One of the major risks of taking opioids is the high rate of addiction associated with their use, which has been a leading force in the war on drugs in recent history. Opioids have a unique history in medicine since their implementation as a mainstream medication. In the 19th century when medicine professionalized, doctors worked to police the boundaries between legitimate and illegitimate drug use, positioning themselves as the arbiters of addiction (H. Cowles, Pers. Comm. 2019). As a result, the recent opioid epidemic is generally seen as iatrogenic, or caused by doctors, who need to be policed themselves.

In more recent headlines, Purdue Pharma, the main distributor of the most well-known opioid Oxycontin, recently pled guilty to criminal charges for promoting opioid sales despite being aware of their negative side-effects, especially its addictive qualities. The public health crisis that resulted from their negligence has killed more than 450,000 Americans since 1999,

and the problems affecting this population have only been exacerbated by the Covid-19 pandemic (Hoffman and Benner 2020). The novel coronavirus has presented an increased risk to over 20 million Americans with substance use disorders (SUDs), including opioid use disorder, who are heavily dependent on face-to-face healthcare delivery and access to medications for addiction treatment (Alexander et al. 2020). Providers who treat substance use disorders note a complex mix of experiences among those needing care, and researchers have identified a slurry of factors such as anxiety, grief, isolation, financial and employment worries, and an ongoing sense of uncertainty that couple with SUDs in creating additional harm to those afflicted (Weiner 2020). With more comprehensive research being conducted on understanding Covid-19, both socially and biologically, the scope of its impact on individuals suffering from SUDs can be better understood. This will hopefully lead to more effective alternatives in granting people the treatment options and alleviation they desperately need in a time where the traditionally accepted options cannot be safely implemented.

PREGNANCY

Pregnancy is a time during which the immune system is modulated, affecting women's susceptibility to certain infectious diseases (Mor and Cardenas 2010). Although pregnancy itself does not currently qualify as a disability under the ADA, many believe that ADA's definition of "persons with minor temporary physical limitations" is comparable to the effects experienced while pregnant (Cox 2012). With the arrival of Covid-19, it has become apparent that the risk posed by the virus to women in this condition requires special accommodations that have not previously been given to them under the ADA without the necessity of providing proof of severe complications.

The coronavirus is a pro-inflammatory disease likely to more easily invade environments with similar pro-inflammatory conditions. Pregnancy has long been considered an anti-inflammatory state due to the complications that would arise if inflammation were to occur. Yet recently, it has been discovered that while the second trimester of pregnancy is an anti-inflammatory phase, the first and third trimesters are pro-inflammatory. This means that women in their first and third trimesters are at a higher risk for contracting Covid-19 (Phoswa and Khaliq 2020), which can result in premature rupture of membranes, preterm delivery, fetal tachycardia, and fetal distress (Liang and Acharya 2020). Pregnant women with Covid-19 have been found "significantly more likely to require intensive care, to be connected to a specialized heart-lung bypass machine, and to require mechanical ventilation than nonpregnant women of the same age who had Covid symptoms" (Rabin 2020). Although the overall risk for severe illness and death is low for women aged 15-44, that risk is increased when women become pregnant.

Beyond the physical health risks that Covid-19 poses for pregnant women, the social and psychological implications should also be acknowledged. When women get pregnant, they are excited to share their experience with those around them; they host baby showers, do pregnancy photo shoots, and celebrate with their friends and family. The quarantine that was implemented at the onset of Covid-19 cut these women off from the pregnancy experience that they expected. The mothers the second author spoke to who were pregnant at the onset of Covid-19 reported that they felt lonely, constantly in fear, and a lot more stressed. A registered nurse, who was pregnant when the pandemic arrived in the US, shared with us the fear she had felt at the prospect of giving birth during this crisis. She was terrified she might go into labor and be unable to have her husband or anyone else in the delivery room to support her, but her

worst nightmare was testing positive for Covid-19 and being unable to hold her own baby. The stress and anxiety these women experienced was beyond anything they had to deal with in a pre-Covid world, putting them at a greater risk for mental health issues. Emotional stressors such as illness, death of a loved one, or changes in social relationships, all situations women could potentially be put in as a result of Covid-19, can lead to the development of postpartum depression (Cagliostro 2020). As if their own mental health wasn't cause enough for concern, depression and anxiety from undue stress during pregnancy can lead to complications such as inadequate weight gain, under utilization of prenatal care, increased substance use, premature birth, lower birth weight, decreased Apgar scores, and smaller head circumference of the baby (Marcus 2009).

While the women I spoke with both had positive experiences with the medical care system in adapting to their needs during the Covid-19 pandemic, they shared that many women they knew did not have the same luxury, and therein lies another problem. It should not be considered a luxury for all pregnant women to receive adequate care during the pandemic, this is a necessity to which many of them do not have access. A nurse whom the second author interviewed stressed the importance of standardizing these treatment plans across all medical care facilities. All pregnant women are experiencing this risk, and all deserve to feel safe while they are at their most vulnerable. Factors such as unequal access to healthcare, insurance, transportation, and time off work during the pandemic have created unnecessary hurdles that prove challenging to overcome. A retired hairdresser I spoke with lamented that some of her pregnant friends were still attending appointments at doctors' offices where people were not wearing masks. These women had to risk their own health and that of their children because these healthcare facilities didn't have a standard protocol for treating high risk patients.

In a departure from the common conception of "pregnancy," it is important to address the vulnerability of these women even after they have given birth. The loss of the placenta during delivery alters the immunal state of the new mothers; a state that may not return "normal" until one year after the birth (Groer et al. 2014). The nurse interviewed by the second author referred to postpartum as the "fourth trimester," with the first few weeks being almost as rough as the pregnancy itself. Most people know about postpartum depression (PPD) and watch for the symptoms in new mothers; up to 20% of women who recently gave birth display one or more signs of PPD (Cagliostro 2020). Yet the high immunal vulnerability of new mothers and infants after birth is not as commonly considered, potentially creating tension between new mothers and their families. Both women I interviewed shared how upset and confused their family and friends were when told they could not come visit the new babies. One woman had relatives making flight plans to come visit; they didn't consider the diseases they could have brought from the airport into the home of the mother and baby. In a musing about the future, the nurse, now mother, reflected on how few people her son has met, and how few people he would continue to meet. Though she knows they are both vulnerable in this state, she is worried about how his immune system will develop as a result of limiting his exposure to other humans. The future implications of this pandemic and our response to it could be many layers deeper than we might imagine.

THE ELDERLY POPULATION

Generalizing about an entire population of people who are categorized as "elderly" may not be very informative. On average, most people in western societies define the elderly as those 65-70 years of age and older (Emling 2017). As a group, older adults are becoming the

largest collective group to benefit from the ADA and its policies, with about one-fourth of the elderly population having disabilities acquired through age-related conditions (Bachelder and Hilton 1994). Even if an older adult is not considered disabled, the body naturally begins to lose its ability to fight infection and heal wounds as the amount of total body protein reduces in later years (Chernoff 2013). This decrease in immune function puts all individuals considered to be elderly at a greater risk of developing severe symptoms to illness, which has moved to the forefront of concern with the onset of the Covid-19 pandemic.

In general, elderly patients with Covid-19 are more likely to progress to a severe state and have a higher risk of mortality than younger patients (Liu et al. 2020). For older adults who have died of Covid-19, the disease progressed rapidly, with the median length of time an elderly patient survived after hospital admission being 5 days (Wang et al. 2020). For fear of a poor outcome as a result of Covid-19, the elderly have been closely monitored and protected by those involved in their lives. With family members afraid of exposing their loved ones to Covid-19, and the elderly hesitant to receive that care in return, some have no other choice but to turn to nursing homes, palliative care, and/or hospice care.

The practice of alleviating physical and emotional discomfort for patients and their families is at the heart of the foundation of medicine, yet the demand for care has far outweighed the supply following the flood of severely ill Covid-19 patients. Even before the pandemic, access to palliative and hospice care for pain and symptom management tended to fall short; but after these problems were largely ignored during the first wave of the pandemic, it has become clear that the issue needs to be addressed (Abbott et al. 2020). In order to better understand the impact of Covid-19 on the care received by the elderly, the second author spoke with the co-founder and operator of a Medicare and Medicaid certified hospice program as well

as the director of nursing for the company about their observations and experiences with the elderly during the pandemic.

Although the pandemic has brought on many challenges, the public health measures meant to combat Covid-19 have been limited for both the hospice programs providing care and the families of the patients. The director of nursing described how it is not only professional caregivers who are limited in their access to patients residing in nursing homes and assisted living facilities, but also their families. She lamented over the number of families she has seen communicating over facetime with their loved one and missing out on crucial end of life contact. The overwhelming challenges of treating patients with Covid-19 prevents the hospice nurses from giving patients the full amount of care they need, especially socialization. As summarized by the director of nursing, "In science we showed the difference of an animal being raised with touch, and an animal being raised with just technology and viewing, and there's a difference in the two. I truly believe that difference reflects at the end of life and in the dying as well. Your life needs to have meaning, and for your life to have meaning, it's all those loved ones around you talking about fond memories and laughing about things we did and you enjoying those. Covid takes all of that away, where people feel like they are dying alone." Even within their own programs, she spoke about how wearing PPE takes away from the intimacy of their care and impedes interaction with the patients. According to a study at Oxford University, older adults who have been isolated due to Covid-19 have reported higher depression and greater loneliness since the onset of the pandemic (Krendl and Perry 2020). Given that hospice care is meant to alleviate the psychological stress and despair that comes with death (Delisle et al. 2020), this pandemic is not only killing the elderly, but depriving them of their basic needs for the end of life care provided by hospice.

The co-founder, and operator, of the hospice program elaborated on the impact of the pandemic, explaining how their outreach to the families has been limited. They are unable to sit down with the families to explain how hospice works, allow them to meet with clinicians, and more generally provide the services that help ease the decision-making process. And these services are needed even more during these unprecedented times; the hospice operator sees families losing loved ones every day, only able to look at them through a window. In his experience, while all of his patients and their families take Covid-19 seriously, many are willing to take the risk of exposure to say their goodbyes and share in their last moments. In one study dealing with these issues, a patient defied protocols when removed from a ventilator in order to engage with his family and the things he loved before death (Delisle et al 2020). This brings up the challenging issue for hospice workers of whether to strictly follow health protocols to prevent the spread of Covid-19, or allow some risk while fulfilling their commitment to comfort-focused care.

Many different programs have been implemented in an effort to reduce the exposure that elderly individuals have to the Covid-19 virus. As explained by the operator of the hospice program, a local nursing home selected them to conduct a pilot program introducing palliative care into their facility in an effort to reduce the number of residents being sent to the hospital and potentially exposing them to Covid-19. If a resident who isn't already registered in a hospice or palliative care program has an issue that can't be managed on the nursing home premises, they are required to be sent to the hospital, where they run the risk of being exposed to Covid-19 and potentially contaminating the entire nursing home facility. The palliative care program is being implemented as a measure to help stop the spread of Covid-19 to the high-risk elderly population living in the nursing homes. The operator of the hospice center conducting

this pilot program is hoping that, in light of the pandemic, the federal government will see that institutionalizing our seniors is not the best option. For a future with a societal landscape designed to properly accommodate the needs of the elderly, the system needs to change and allow for the elderly to have the option of residing in environments other than nursing homes, such as a home environment, a group home, or assisted living.

ARE CURRENT DEFINITIONS CONTEXTUALLY APPROPRIATE?

SARS-CoV-2 is a novel coronavirus, which means it is a new strain that has not been previously identified by the scientific community and is not the same coronavirus that commonly circulates among humans causing mild illness at its worst. That being the case, additions and revisions to the sea of information about this novel coronavirus are constantly being made, which in turn makes it difficult to create a definitive list of underlying medical conditions that are considered to be high-risk. Even though additional knowledge about Covid-19 is being gained every day, researchers will need more concrete evidence to adequately assess the impact of the virus on immune systems in order to improve more effective preventative and treatment options. One factor that will become increasingly important in developing solutions to these problems is how the high-risk populations are defined. More specifically, exploring the question of whether the definitions that have been carried over from pre-pandemic society, as well as those that have been adopted throughout this pandemic, are accurate, applicable, and sufficient enough to represent the people who require assistance or need provisions put in place. Additionally, vulnerability is socially constructed, and the disproportionate impact of the pandemic on minorities/low socioeconomic status includes them under the high risk label. Socioeconomic precarity can also be considered a form of

vulnerability during the pandemic, as factors such as wage security, unemployment, and race, among others, have heavily impacted how individuals have been able to navigate the challenges created by the pandemic (see Galasso et al., this issue, on socioeconomic contracts). How vulnerable populations are defined moving forward will directly impact how they are treated as society moves toward reopening, so applying the correct definitions is fundamental to properly recognizing their condition and shaping the narratives surrounding them. Definitions are inherently black and white: established in the fact that they are the accepted characteristics of a given word, phrase, thing, or phenomenon. How they are constructed impacts people's lives by branching out into components of their livelihood, including through social, medical, and legal lenses, which can directly determine the outcome of a given situation due to their stark nature. Only after they are established can they be applied in the context of a sentence or situation; figuring out how to correctly establish the definitions of which groups should be considered at an increased risk from Covid-19 is vital toward amending or developing new definitions as society progresses toward a new normal.

The CDC, as well as many other prominent institutions in health and medicine, have attempted to tackle this feat by creating Covid-19 dashboards that are continuously updated to convey which populations may be at an increased risk of severe illness from the virus. One aspect of these dashboards that cannot be avoided is that a majority of the information presented is meant to be taken as a recommendation determined by offering an educated guess at a specific point in time. Although there are some conditions that without a doubt put someone at a higher risk, the CDC states on their webpage that there currently "... are limited data and information about the impact of many underlying medical conditions and whether they increase the risk for severe disease from Covid-19" (US CDC 2020, 1). Revisions are made

weekly to reflect updated data supporting this relationship between Covid-19 and a particular condition, with information supporting increased risk during pregnancy from the virus being the most recent to be added and updated.

When looking to the future and attempting to predict long-term trends using the data already known, it is vital to consider the future as a social and cultural fact. Arjun Appadurai (2013, 4) explores this approach in his book titled *The Future as Cultural Fact: Essays on the Global Condition*, where he explores the future by examining "three notable human preoccupations that shape the future as a cultural fact," imagination, anticipation, and aspiration. He describes each of these concepts in considerable depth, but when coupling them with information regarding the Covid-19 pandemic, they take on a new light. First with imagination, Appadurai talks about how not enough attention is rooted in its daily applications: it is mainly employed in "big ticket" items where it should be oriented to include everyday, mundane occurrences. Secondly with anticipation, he addresses the tensions between two categories of anticipatory ethics--the ethics of possibility, which are often aspirational, and the ethics of probability, which refers to calculations made by the insurance industry and markets to cover risks--to suggest that the push-pull relationships between the two provide a necessary tool to assess cultural approaches to risk stratification. Thirdly with aspiration, he describes how the concept of progress offers a general narrative to projects, spanning a spectrum from wealth and material possessions to relationships and human rights, and how they can be either transformational or predictive in nature. These concepts provide a valuable structure for working toward an all-inclusive, positive, equitable society, though they are meant to be overarching themes and need to be refined before being applied to specific circumstances.

In regard to the ADA, the constant evolution of the Covid-19 pandemic makes it challenging for employers to assess any prospective plans toward reopening or reintegrating into an in-person work environment. According to the U.S. Equal Employment Opportunity Commission (EEOC), employers should continue to follow the most current information maintaining workplace safety, though there may be some details not yet known that are crucial toward a seamless transition back to fully in-person work (US EEOC 2020). As the pandemic continues to develop and the virus continues to be researched, more accurate information about these subjects is being released. The most critical element of these definitions moving forward will be their plasticity, that is, how they continue to be shaped and molded to any adjusted form of pandemic life. In the meantime, society will have to take these previously established definitions with a grain of salt due to what still remains unknown. Any attempt to ease back into a sense of normalcy will be insufficient until it can confidently be said that the virus is thoroughly understood, the recommendations become fully established as definitions, and society can be fully reopened without any harmful recoil.

CONCLUSION: REFORMATTING SOCIAL LANDSCAPES

Many accommodations in the past have been very successful and well-achieved, and the Covid-19 pandemic offers a new perspective on the suitability of societal landscapes before and during the pandemic for groups at an increased risk from Covid-19. Drawing conclusions about post-pandemic society remains impractical; vaccine efficacy, safety and distribution continue to be analyzed and show promising results, though their delivery still presents enormous challenges, including the large numbers of vaccines that this will require, the superficial nature of their trials, and the conditions that they need to be stored at post-production. Due to these

factors, this analysis focuses on what is currently known about conditions before and during the pandemic, and how these landscapes could be transformed in the future. Factors pertaining to reopening society that have become significantly more relevant during the pandemic include daily testing and health screenings, employee relations, remote versus in-person work (see Steiger et al., this issue), coronavirus relief and other questions about economic security (see Galasso et al., this issue), and the essential nature of particular jobs, among others.

The world is no stranger to the threat from infectious diseases; there have been innumerable outbreaks, epidemics, and pandemics that have either raced through societies like wildfire or successfully been contained before they gained traction. According to historian Charles Rosenberg, each instance of a disease invading a human population operates as a form of "dramaturgy," in other words, patterned as stories or narratives that can obfuscate the causes or inhibit the treatment of disease (cited in Langstaff 2020). When applied to the Covid-19 pandemic, the worst pandemic since the influenza pandemic of 1918, the stories taking shape mirror certain key motifs that have been observed many times before. Two motifs that align with high-risk populations in the Covid-19 pandemic landscape are the image of the virus as a malevolent actor and metaphors of containment ("walls"), although there are many more that apply to the pandemic at large. These motifs are heavily integrated into the relationships people develop within and around societal components, especially with these vulnerable populations in question that require society to accommodate their needs without directly acknowledging their differences, which would otherwise be considered a form of discrimination. The first change is not personifying the virus, but rather acknowledging its agency as a vehicle that sparks evil or negativity in society. On a broad scale, this has been seen through politicization of the virus, resistance to scientific experts and public health measures, and a clogged-up healthcare system;

on a more specific scale, the virus has caused divides in populations, as the vast range in people's comfort with the virus has led to differing responses and interactions with society. The second of these changes helps to illustrate the discrepancies that high-risk populations face in this pandemic society as it continues to evolve. Barriers have been constructed by those who feel the virus poses a relatively small threat, which these vulnerable populations then need to maneuver, leading to reduced opportunities and a greater sense of inequality.

An important limitation of the dramaturgy model, though, is that it assumes an ending, whereas there will be no returning to a pre-Covid-19 past, and it remains to be seen what the post-pandemic future will look like. Any amended version of Covid-influenced society will in no doubt be different from what it looked like before, granting the ideal circumstances for redefining boundaries, reformatting civilization, and redrawing what is accepted. Specifically, this refers to how current definitions and characterizations of different groups can be changed, how the general order of society can shift as time progresses, and how acceptance of seemingly risky events and occurrences, such as protests and other large gatherings, influence public opinion. To what extent society will change in each of these respects is difficult to identify; however, the social climate created by the pandemic has allowed these factors to float into the mainstream, prompting increased awareness and more serious discussion about properly accounting for these high-risk populations moving forward.

One aspect of current pandemic society that is becoming increasingly relevant as businesses start to reopen to in-person work is the process that individuals and populations need to go through to receive approved accommodations. Under the current EEOC guidelines, there are multiple hoops that they need to jump through to start a conversation about receiving accommodations, including paperwork and medical records, among other verifying forms of

documentation (US EEOC 2020). Working toward implementing less stringent and more streamlined procedures will be imperative as society continues to become reintegrated. Additionally, as the guidance from public health authorities continues to update the shifting Covid-19 landscape, workplace safety and accommodation information will likely parallel those recommendations until the virus becomes static or is completely eradicated from society. The relationship between Covid-19 and society as well as the constantly changing nature of social landscapes, particularly those pertaining to high-risk populations, will continue to be modified and morph over time. Only as we obtain a deeper understanding of the virus, the diseases it causes, and the idiosyncrasies of how it interacts within American society can far-reaching questions about the future be asked, as a question asked today could potentially be invalidated tomorrow.

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The Future after Covid-19: Implications of a Global Pandemic

Disproportionate Gender Impacts of the Pandemic and the Future of Women's Rights and Opportunities

By Kayla Rothstein and Rachel Ellis

Much like previous pandemics, the Covid-19 pandemic has disproportionately impacted women. From employment to domestic violence, and to cultural shifts inside and outside of the home, the Covid-19 virus has changed the status of women's roles and the progression towards gender equity. This article considers how past pandemics affected the social status of women's roles and potential consequences for women post-Covid-19. Our research focuses on the different effects of the pandemic on white-collar workers versus blue-collar workers on the frontlines of the pandemic. White-collar women lost jobs at a greater rate than men during the pandemic, both because of the types of jobs women occupy in companies, but also because mothers have left the workforce in higher numbers to take care of their children after schools shifted to virtual learning. We assess the likelihood of women returning to work at the end of the pandemic. For white-collar women, we have seen a cultural shift in the workforce, which may be of benefit in the future by providing women more flexibility in when and where they work. Meanwhile, blue-collar workers and women working on the frontlines of the pandemic continue to be widely employed, although caregivers are often asked to work extended hours. This has affected gender roles at home, forcing siblings and other family members to assume parental responsibilities while men may take on more of the unpaid domestic labor. The negative consequences of Covid-19 have also greatly increased the responsibilities of single mothers, especially women of color. The pandemic emphasizes the need for government policies providing universal and affordable child care and paid family medical leave. Additionally, domestic violence cases have nationally risen, and we discuss the efforts of domestic violence shelters and hotlines to address the problem.

INTRODUCTION

Historically, pandemics have had different consequences for men and women. For instance, prior to the twenty-first century, men were more likely to travel and interact with others outside the household, and therefore contracted infectious diseases more frequently than

women (Dietrichson 2020). The opposite trend occurred during the Black Death during the Fourteenth Century, which was spread through rats. Since women stayed primarily in the house where rats were, they contracted the disease more easily compared to their male counterparts (Dietrichson 2020). Women were also more likely to be exposed to the infected, as they were typically the caregivers. Additionally, there have often been negative connotations and assumptions associated with the contraction of contagious disease. For instance, when family members contracted tuberculosis, it was commonly said that the woman did not take care of the home well (Dietrichson 2020).

Women have been disproportionately affected socioeconomically by past pandemics as well. For example, more women than men were put out of work during the Zika and Ebola epidemics, and within 13 months, 63% of those men were back at work while only 17% of women were (Wenhem et al. 2020). Conversely, the 1918 Spanish flu pandemic brought about advantages for women. In the midst of World War I (Haridasani Gupta 2020), women were needed to replace the roles of men who had left for war, and as a result, more women were employed in the workforce than ever before. This continued throughout the Spanish flu pandemic, especially because more men were killed by the virus than women, as many men were soldiers in close proximity to others who were infected, and were more vulnerable to infection due to malnourishment (Blackburn et al. 2018). The consequences may also have ended up helping women advance the case for women's suffrage (Blackburn et al. 2018). Not only were women maintaining their own households during the war and the pandemic, but they were also helping to keep the economy going. Through these experiences, they gained a sense of accomplishment that changed their ideas for the future. Women were also frequently called upon to serve as nurses, and helped take care of sick patients more frequently than men (Onion

2019). According to Rebecca Onion from *Slate Magazine*, "it was the women who did most of the work, and that work was dangerous drudgery." These women played a role comparable to frontline workers during the current pandemic, as they were directly working with sick patients, not only putting themselves and their families at risk, but also directly combating the disease.

METHODS

To conduct the research for this report, Rothstein interviewed a national expert on women's policy. We also conducted a literature review on gender and the pandemic, compiling statistics and trends of how women were and will continue to be affected by the Covid-19 pandemic.

CHANGES IN WORKFORCE

The Covid-19 pandemic has affected every facet of social life. Women have lost jobs at a disproportionate rate to men during the Covid-19 pandemic due to the types of jobs they occupy, the hours they work, the positions they hold, and their need to take care of family members, whether young children or older relatives. The pandemic has battered particular industry sectors, such as restaurants, retail, hospitality, the arts, and child care, where women's employment is more concentrated. These businesses were often the first to close and lay off employees during the pandemic. Statistically speaking, women hold lower-seniority positions and work fewer hours than men; as such, women comprised the vast majority of employees to be let go first. Women are also at a disadvantage when it comes to unemployment because their jobs were less likely to allow them to telecommute, as only 22% of female workers are able to work virtually as compared to 28% of men (Karageorge 2020). Most importantly, women are

far more likely than men to quit their jobs to provide care for children and sick family members. Mothers with small children, and especially single mothers, have widely felt both the need and social pressure to stay home with their children during virtual school. (Dagher 2020). All in all, by mid-April of 2020, nearly 5.7 million women had lost their jobs, as compared to 3.2 million men. In other words, 17% of all women have lost their jobs since the pandemic began, compared to 13% percent of men (Costello et al. 2020).

WHITE COLLAR WORKING WOMEN

The Covid-19 pandemic has affected women in white collar jobs, and blue collar and frontline jobs differently. Although many white-collar working women were able to continue working online during the pandemic, others found themselves in a position where they needed to quit their jobs to take care of children and sick loved ones. Nonetheless, many white-collar working women are working virtually, which is shifting the culture of the workforce. For example, women in office jobs are being offered more flexibility by their employers, as the challenges of the pandemic have contributed to a culture of understanding. Some companies actively encourage their employees to get up and take stretch breaks, which did not necessarily happen before the pandemic. However, because most child care responsibilities tend to fall on females in nuclear families, women have found it difficult to care for children while in the middle of a meeting or working from home in general. Women in white collar jobs have tried to keep their personal lives separate from their work life for years, so as to better fit into the "good ol' boys club" (Madgavkar et al. 2020). By working from home, some women worry that their image will revert back to that of a mother rather than a professional, leading their employers and co-workers to not take them as seriously (Madgavkar et al. 2020).

In the future, according to an interview with a policy expert and office worker herself, she suggested that many white-collar women hope that some aspects of their company's virtual culture will continue even after the pandemic is over. Working online has proven that employees do not necessarily have to come into work five days a week for eight hours a day. Instead, it is possible, and sometimes more effective, to work from home at one's own pace. This will allow women to spend more time with their children and have more time for themselves. Working from home benefits women, but it can also benefit their employer as women can spend more time working if they no longer need to spend time commuting or managing child care, if they have children. Similar to the findings of the article on urban planning (Steiger et al., this issue), some employers are making a full shift to a virtual workspace, including the tech company Twitter. This will hopefully continue to positively impact women when they have greater flexibility in managing their own work schedules. Furthermore, the women's policy expert interviewed for this article noted that the pandemic has compelled many women to improve their technological skills, which is likely to have a lasting positive effect on their employment for many years to come.

BLUE COLLAR WOMEN AND FRONTLINE WORKERS

Many blue collar and frontline working women face challenging circumstances. Because health care workers and grocery store employees are still greatly needed during the pandemic, they have not seen a drastic unemployment rate, unless they have left their jobs to take care of their families, are high risk individuals, or left their job because they feel unsafe interacting with the public. More so than ever, women in blue collar jobs and frontline jobs are working extended hours. This has had negative consequences for the health and well-being of these

working women, as well as their families (Burki 2020). As a result of frontline and blue-collar employees working long hours, many older children have stepped up into parental roles. While this is an excellent opportunity for children to learn independence and responsibility, it does not provide the same level of care as that of a parent (Burki 2020). This can have negative effects on a child's development and the home environment, as evidenced by a policy expert's observation that there has been a 25% garbage increase in homes nationwide (Granger 2020). Cleaning and child care responsibilities do not fall solely on women, but women in society still shoulder the majority of these unpaid labor responsibilities.

THE FUTURE FOR WORKING WOMEN

Despite the problems faced by working women during the pandemic, there may also be some unexpected positive consequences of the Covid-19 pandemic. Foremost among them, gender roles may change in the home (Caprino 2020). Women account for 40% of the total workforce, yet women in the twenty-first century are still responsible for 70% of unpaid domestic labor (Catalyst 2020). This means that although women are working as many hours at their jobs as their husbands, they still take on the majority of the household work, including cooking, cleaning, and child care. However, during the pandemic, these patterns have shifted somewhat. When both men and women are working virtually, there is no reason a husband cannot help care for children during and after a meeting just as much as his wife, therefore more equitably sharing the responsibility. Likewise, if a mom is a frontline or blue-collar worker and her husband is home more, he may have to take on more of the unpaid labor responsibilities. Though the pandemic has been a setback for women's social and economic status in general, this cultural shift may have a positive lasting impact (Catalyst 2020).

Depending on the community, the pandemic has also brought to light the need to become better acquainted with one's neighbors. Because neighbors commonly share similar burdens of working from home, in many cases they are often helping to care for each other's children and other domestic responsibilities, including cooking meals. These new or increased forms of collaboration may positively impact women by sharing caregiving responsibilities and building a stronger community of support for working women. Especially for frontline workers, support from communities has become more important than ever.

PUBLIC POLICY

The pandemic has also brought to light the dire need for a series of public policy changes that will benefit working women. First, paid family leave is a perennial topic of debate for policy makers, and would have been immensely valuable for women during Covid-19. Paid family medical leave provides benefits to individuals who need to take time off work to care for a seriously ill child, parent, parent-in-law, grandparent, grandchild, sibling, spouse, or registered domestic partner. Benefits are also available to parents who need time to bond with a new child entering their life either by birth, adoption, or foster care placement (Employment Development Department 2020). This policy would be of particular economic benefit to women, who are more likely to sacrifice paid employment to take care of the family member in need of support. Furthermore, this policy would also allow men to take paid leave, shifting the balance of responsibility for care-giving. Had there been a national policy for paid family leave during the pandemic, it would have saved jobs for many women as they could have helped their family members without having to resign from their positions altogether. Furthermore, universal and affordable child care would also benefit working women with children (Hsu

2020). An expert in women's policy whom I interviewed suggested that the US could follow the military's model, which provides child care depending on the pay scale. If policies like these had been implemented prior to the pandemic, as many policy experts have suggested, women would not have had to quit their jobs to take care of children at home. From speaking to a policy expert, it is clear that female policy experts are well aware of this issue and have been advocating for affordable child care and paid family medical leave for years, but as expert interviewed said, acknowledging the persistence of gender bias in politics, "it is not until your wife has to quit her job and your family income splits in half that men truly understand why affordable child care is so crucial." Hopefully, these policy matters will be taken seriously in the future.

DOMESTIC VIOLENCE

Due to the Covid-19 pandemic, there has also been a spike in the incidence of domestic violence (Bettinger-Lopez and Bro 2020). Rising cases of illness, unemployment, and isolation have set the stage for a crisis of domestic violence. Survivors are often isolated with their abuser without a network of family, friends, and coworkers to provide support or to intervene during a conflict. Due to the stress of the pandemic, abusers may turn to alcohol and drugs, or hoard guns as an emergency measure. The combination of stress, substance abuse, increased access to weapons, and pent-up anger have unfortunately created a perfect storm for the rise in domestic violence cases (Mozes 2020). Hotlines for domestic violence have seen a significant rise in calls, and domestic violence shelters are overwhelmed. While many domestic violence shelters are full, others have been converted into health care facilities or closed due to Covid-19 safety measures (Mozes 2020). Some shelters are sending survivors to hotels, although they

cannot afford many beds. Thus survivors of domestic violence are having difficulty finding a safe haven, and seeking refuge at a friend or family member's house has been less of an option due to the pandemic. Additionally, because prisons have become hotbeds for Covid-19 cases, police officers are halting arrests and prisons are releasing inmates. With the disruption and confusion caused by the pandemic, survivors of domestic abuse are not always adequately notified of the release of the perpetrator, another major safety concern. These concerns have been partially counterbalanced by increased precaution and awareness. For example, domestic violence websites have an easy escape button in case an abuser is watching over one's shoulder. Additionally, national signals of domestic violence are being shared through popular social media platforms, such as TikTok. Experts in domestic violence have also encouraged women to take the opportunity to tell someone at the grocery store or their child's doctor about their situation if necessary.

HEALTH CARE

The Covid-19 pandemic has also had negative consequences for women's health care. In terms of pregnancy, there is an increase in women choosing to give birth outside of hospitals to avoid risking exposure to the virus (Fields Allsbrook 2020). Many of these women are interested in alternatives such as birthing centers and home births, although these services are limited. Other women have chosen to delay pregnancy, given the uncertainty of the world and concerns about Covid-19's potential impact on pregnancy. Therefore, affordable contraception and birth control are more crucial than ever, especially since many women have found themselves with reduced incomes or even unemployed due to the poor economy, making it difficult for them to purchase birth control. Besides affordability, access has also become a

significant barrier, in particular for birth control, which requires a prescription from a physician, and many women have been unable to make appointments during this time. Abortion rights are also in danger, as in several states, abortions were banned (Sobel et al. 2020). Some states did this by categorizing abortion as a non-essential health procedure, and in many cases, non-essential health procedures were banned until the end of the public health emergency. This can lead women to attempt to perform an abortion themselves, which is unsafe for their health. Other women may try to travel to another jurisdiction for an abortion, but this is costly and not all women have the means to do so.

SINGLE MOTHERS

The pandemic has also disproportionately affected single mothers. There are approximately 13.6 million single parents in the US, raising 22.4 million children. Eighty percent of those single parents are women (Arnold 2020). For single mothers, leaving their job to take care of their child is not as easy an option as it is for women in a nuclear family with a second wage-earner, and they are likely to face long term financial burdens if they do so (Dagher 2020). They face a difficult double bind in having to choose between taking care of their children or financially supporting their family. Also, due to social-distancing guidelines, single mothers and their households are cut off from their outside support system, which is crucial to the wellbeing of the family and child development (Discoversociety 2020). Although the national cry during the pandemic has been "we're all in this together," this does not apply to women and families who are isolated during Covid-19, resulting in long-term negative consequences. Single mothers are rarely given enough attention and finding additional data on how the pandemic has impacted their lives is crucial.

WOMEN OF COLOR

Women of color have faced some of the most devastating consequences as a result of the pandemic. They have the highest unemployment rates, with 19.0% of Latinas, 16.5% black women, and 13.1% unemployment 13.1% of white women facing unemployment. By comparison, 15.1% of Latinos, 15.5% of Black men, 10.7% of White men face unemployment (Gould and Wilson 2020). The disparity is due in part to women of color occupying jobs in services and businesses that laid off workers during the pandemic, such as daycare and retail sales. It also accounts for the fact that many women of color tend to work jobs that cannot be done virtually, forcing many of them to quit so that they can stay home and take care of their families. Additionally, black and brown women are more likely to live in areas of poverty, which puts them at further risk of food insecurity (Levine 2020). In general, African American, Hispanic, and Native American communities tend to have higher rates of pre-existing conditions that are associated with increased risk for Covid-19, such as heart disease, asthma, and diabetes; and lower rates of health insurance, which also makes them more susceptible to the negative health consequences of contracting Covid-19 (Erickson 2020; see Skriloff et al., this issue, and Ellis et al., this issue). Lastly, with the rise of domestic violence cases, women of color are likely to be disproportionately impacted. Although anyone can be the target of domestic violence, many women of color also face language barriers, limited resources, and fear of deportation, which discourages them from seeking help.

CONCLUSION

Previous pandemics have affected men and women differently, including the ways in which women are viewed, the rates at which they are exposed to and contract the disease, and

changes in their employment opportunities, as well as women's rights more generally. The Covid-19 pandemic is also having gendered impacts that are likely to persist beyond the end of the current health crisis.

The Covid-19 pandemic has and will continue to affect white collar working women and blue collar and frontline working women in different ways. Though white-collar working women have faced higher rates of unemployment due to competing domestic responsibilities, the opportunities provided by working virtually are likely to positively impact them in the long run. Meanwhile, blue collar and frontline working women are regularly overworked and their children are more likely to be adversely impacted, further exaggerating the disproportionate impacts and opportunities of different socioeconomic classes.

Public policy reform could have prevented many of the disproportionate negative consequences of the Covid-19 pandemic for women, and the devastating effects of the economic shut-down for women have brought to light how crucial these policy initiatives are. Paid family medical leave would have protected a large number of jobs for women who were forced to quit to take care of their family members, and policy makers are seeing how new policies would benefit working women irrespective of the pandemic. Similarly, universal and affordable child care would have helped many other women keep their jobs, showing how it is necessary to ensure gender equity in the workforce.

The pandemic has also had negative consequences for survivors of domestic violence, single mothers, women of color, and women's health care. Because many survivors of domestic violence have been quarantined with their abuser, there has been an acute rise of domestic violence cases, and shelters and police are not able to respond adequately. However, there is greater awareness and more conscious efforts to help these women, which will hopefully

continue after the pandemic. Single mothers are facing difficult decisions whether to support their families financially by continuing to work, or to leave their jobs to take care of children who are home from school. This issue has not been given the attention it deserves, and single mothers need additional support. Furthermore, women of color face the highest unemployment rates, are most likely to be survivors of domestic violence, and are more likely to have health conditions making them susceptible to harmful side effects of Covid-19. Lastly, affordable contraception is more vital than ever, and some employers have used the pandemic as an excuse to discriminate against women's access to health care.

Ultimately, increased unemployment, the rise in domestic violence, the lack of adequate health care coverage, and disproportionate impacts of the Covid-19 pandemic on single mothers and women of color has been largely detrimental for women and feminism. However, changing norms and patterns of behavior regarding domestic labor and changing expectations in the workplace may hopefully benefit women for years to come.

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The Future of Global E-Commerce after Covid-19

By Vaishali Nambiar, Jason R. Steiger, and Mohamed Abdelhady

Electronic commerce, more commonly known as "e-commerce," refers to any kind of commercial transaction conducted on the internet. These transactions may be business to business (B2B), business to consumer (B2C), consumer to consumer (C2C), or consumer to business (C2B). The range of goods, services, buyers, and sellers readily available through e-commerce has allowed for great flexibility and convenience in the midst of the Covid-19 pandemic. During the pandemic, many consumers have increasingly made use of online shopping options in order to avoid the potential risk of exposure to the virus posed by in-person shopping. As a result, the e-commerce industry has grown rapidly, with US e-commerce sales reaching $794.50 billion this year and e-commerce making up 14.4% of all US retail spending this year. The accelerated growth of this industry has had a variety of both positive and negative impacts on different markets and stakeholders. In this article we explore the e-commerce industry's impacts on initial pandemic recovery efforts, large and small businesses, and the environment. Amazon.com Inc. is the leading force in the U.S. e-commerce industry, with approximately 38.7% market share. We have chosen Amazon as a case example to guide our discussion and illustrate the impacts of large corporations in the growing e-commerce industry. We also outline predictions on the future of e-commerce in a "post-pandemic" world, and offer recommendations to ensure a more sustainable and equitable future for this industry and its stakeholders.

INTRODUCTION

Electronic commerce, more commonly known as "e-commerce," refers to any kind of commercial transaction conducted on the internet. After the "dot-com bubble" in the late 1990s, the internet and technology has only continued to grow in sophistication, scale, and accessibility with each passing year. This has been a promising trend for the e-commerce industry, which in today's world, is almost completely dependent on the global connectivity of

the internet.

When most people think of e-commerce today, their minds may immediately jump to online shopping sites. Less commonly thought of are companies like Airbnb or ride-sharing services, like Uber and Lyft. In this paper, we will primarily focus on e-commerce companies like Amazon and Ebay, but it is important to acknowledge how broad the e-commerce industry is. One way to understand the differences between e-commerce companies is to grasp the different kinds of transactions carried out through each company. There are four major kinds of transactional relationships that take place on e-commerce platforms: businesses selling to other businesses (B2B), businesses selling to consumers (B2C), consumers selling to other consumers (C2C), and consumers selling to businesses (C2B). While Amazon is both B2C and C2C, Ebay is primarily only C2C. Understanding the differences between these transactions shows how e-commerce platforms are able to offer such a broad range of goods and services and connect the everyday user with buyers and sellers at the click of a button.

GLOBAL E-COMMERCE TRENDS

Prior to the pandemic, the e-commerce market was already rapidly growing. The Asia-Pacific region is the industry leader, followed by North America, and Western Europe, respectively (Cramer-Flood 2020). In China, the leading e-commerce forces are Alibaba, JD.com, and Pinduoduo (see Figure 1). There is approximately a $800 billion difference in sales differentiating Alibaba from JD.com. This gap is also observable in the United States, with a $228 billion difference in sales separating the industry leader Amazon and Walmart, in volume of e-commerce sales respectively (see Figure 1). During the pandemic, the demand and use of e-commerce platforms rose substantially. In 2020 so far, there has been almost a 7%

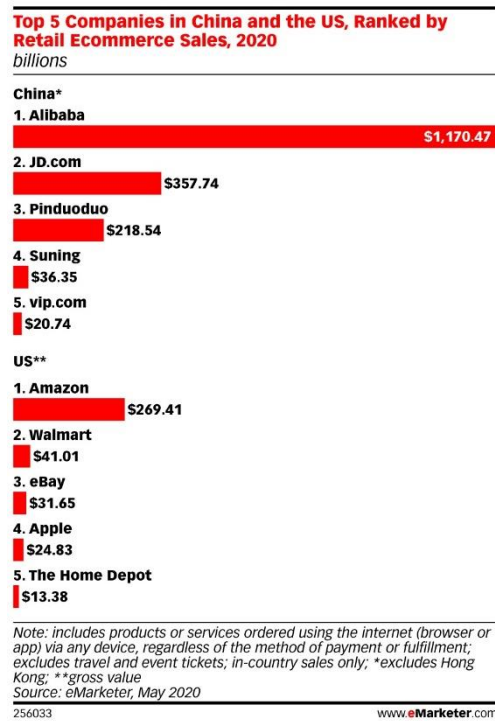increase in digital buyer growth worldwide (see Figures 2 and 3).

Figure 1: Top 5 Companies in China and the US,

Ranked by Retail Ecommerce Sales, 2020 (Cramer-Flood 2020)

In the beginning months of the pandemic, a significant driver of demand was "panic buying." In an attempt to limit risk of exposure to the virus, purchasers would resort to excessively stocking up on items during a single trip to their local store. As a result, items deemed "essential," such as face masks, paper towels, toilet paper, and certain food products, were regularly sold out or unavailable. Traditional stores were unable to keep up with this unforeseen level of demand. Being confronted with empty shelves at local stores was a foreign concept for many Americans, who were previously used to lives of inexhaustible supply. The psychological impact of this likely led people to online to e-commerce platforms, like Amazon, to scour for options. Surely, many found success simply due to the sheer number of sellers and

options available on e-commerce platforms. As the pandemic progressed into a "new reality,"
more people became familiar with online shopping and recognized its unparalleled level of
convenience. This combination of convenience and utility in a time of need also served as a
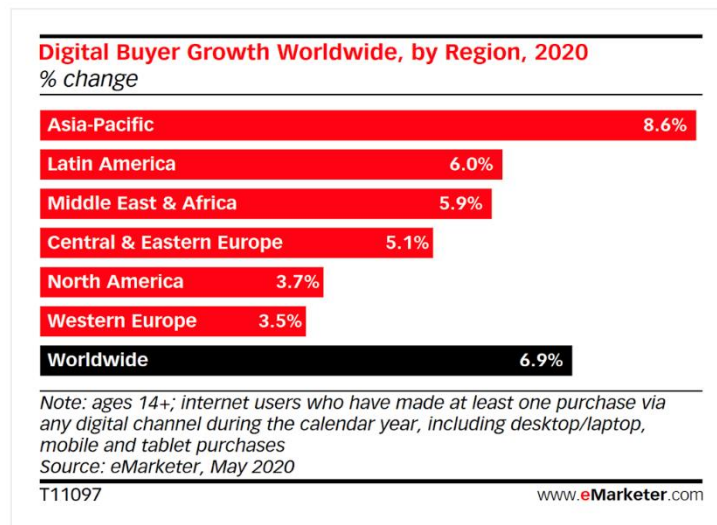major force propelling the e-commerce industry forward.

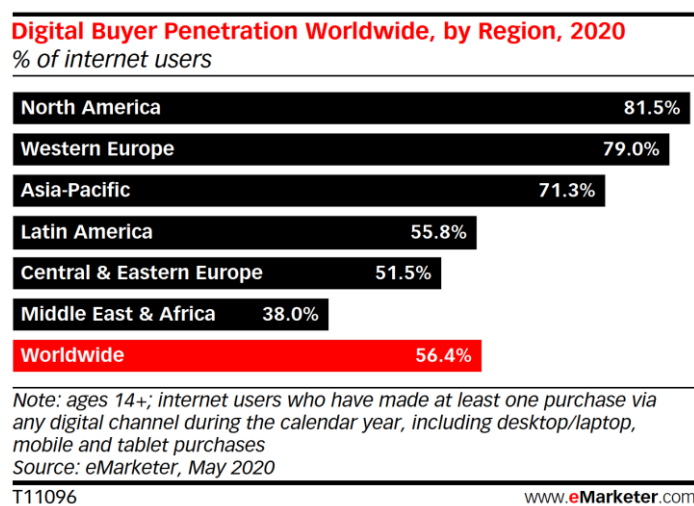Figure 2: Digital Buyer Growth Worldwide, by Region, 2020 (Cramer-Flood 2020)

Figure 3: Digital Buyer Penetration Worldwide, by Region, 2020 (Cramer-Flood 2020)

CASE STUDY: AMAZON

BACKGROUND

Amazon is a large multinational corporation the stock value of which exceeds one trillion dollars, commanding 49% market share of the United States e-commerce market. Meanwhile, Ebay, another giant in the e-commerce space, only holds 6.6% market share. In the midst of the pandemic, while many companies have suffered due to the global shutdown, Amazon has seen its second quarter net sales increase by 40% to $88.9 billion, compared to its net sales in the second quarter of 2019 $63.4 billion (Business Wire 2020). This increase in sales during the pandemic underscores the resiliency of Amazon relative to traditional brick and mortar stores. This year's Prime Day, held in October this year due to the pandemic, resulted in an estimated total sales of $10.4 billion, over $3 billion more in sales than Prime Day 2019 of $7.16 billion (Ali 2020). With increased sales at a time when the general market is doing poorly, Amazon increased not only its market share, but also its power and influence over its suppliers.

Despite its success and growing power, Amazon has faced criticism from governments, small businesses, and the general public for its internal practices. In March, at the onset of the pandemic, Amazon issued a vague order that it would shift to only warehousing "high demand" products. Despite the significance and consequences of this shift, sellers were given little to no guidance on what Amazon deemed a "high demand" item (Semuels 2020). This dramatically hurt small businesses that relied on Amazon's shipping network to sell their products. Even for third-party sellers allowed to continue operations, many suffered from slow shipping and incorrect shipments of ordered items. This was detrimental for many small businesses, as consumers interacting with Amazon's platform are largely unaware that sellers have little control over the shipping process. This results in customers leaving negative reviews of *sellers,*

instead of Amazon itself (Semuels 2020). Furthermore, this new regulation really only applied to third-party sellers. Therefore, ultimately, Amazon's own retail products still remained in stock on the website. While the pandemic has illustrated Amazon's ability to impact small and medium-sized businesses (SMBs) with very little accountability, the lack of transparency in the company's practices may not really be all that new. Unfortunately, SMBs faced similar problems before the pandemic, although they were not in the position to initiate efforts to influence or challenge Amazon's detrimental practices.

THE RELATIONSHIP BETWEEN AMAZON AND SMALL BUSINESSES

Amazon's dominance in the e-commerce market is, in large measure, attributable to the company's relationship with small and medium sized businesses as Amazon provides the platform and SMBs provide the products. Indeed, nearly half of all Amazon sales are from small businesses, indicating that the corporate giant's success relies on its partnership with small business owners (Blake 2019). Likewise, many small businesses have undoubtedly benefited from Amazon's worldwide presence in the e-commerce marketplace, which has allowed small companies to exponentially expand their customer bases and revenue growth. In fact, a survey from the International Data Corporation (IDC) finds that SMBs that sell their products through Amazon's online stores are 2.5 times more likely to experience revenue growth of more than 25% than SMBs that work independently from the company (Denissen 2020). This figure has drastically increased as a result of the Covid-19 pandemic, which forced many brick-and-mortar stores to close down for extended periods of time. As experiential, in-person shopping decreased, many customers and SMBs were dragooned into the digital world. Amazon's e-commerce interface was the most simplistic and efficient option for many SMBs

seeking to make the expeditious transition online. Creating a quality personal website, with a level of customer attraction on par with Amazon, required prior expertise, time, and money that many SMBs simply could not afford during a time as volatile as the pandemic. Amazon's staggering increase in e-commerce consumers and businesses during the pandemic enabled SMBs to sell 3.4 billion products by the end of the fiscal year (May 31, 2020), a 25% uptick from the previous year (Semuels 2020). It is evident that Amazon's global platform has opened many doors for SMBs, which have substantially increased their revenues and customer bases even though its position as a business enabler has met with controversy and backlash from both governments and companies. The "Amazon effect" and Amazon's vertical market share begs the question as to whether the relationship between Amazon and SMBs is really mutually beneficial. Many people subscribe to the old adage, "if something is too good to be true, it probably is," and that is why Amazon's business practices are being publicly dissected in the news.

A large portion of SMBs face nearly insuperable obstacles to success in Amazon's e-commerce marketplace. The increase in opportunities for SMBs through Amazon's online platform are, in many ways, a facade. For example, in 2015, Amazon launched "Amazon Handmade," a platform designated for local artisans to sell their handmade products. In making a decision on where to sell their products, artisans are often faced with the dilemma of choosing between Amazon Handmade and Etsy, a separate e-commerce platform well known for its community of crafting and art enthusiasts. From a purely economic perspective, most artisans will find it cheaper to sell on Etsy rather than Amazon Handmade (Jules 2020). Amazon Handmade's commission fee per sale is *three* times that of Etsy's and the cost to sellers only increases when factoring in the monthly $39.99 fee for certain accounts and the $1 percent

referral fee (Jules 2020). Nonetheless, many SMBs continue to join Amazon Handmade. Though Etsy's primary market and customer base center around art and handmade items, their customer base is much smaller than Amazon's. As a result, many sellers still decide to take on the costs and risks to their business by establishing themselves on Amazon, all in hopes of benefitting from their vast customer base. However, it is questionable how many of Amazon's customers SMBs are actually able to meaningfully reach and win over.

One small business owner and e-commerce professor whom we interviewed was critical of Amazon's partnership with SMBs, explaining the great difficulties experienced by SMBs in building brand loyalty through the company's online interface. This difficulty can be attributed to fierce competition not only from other SMBs, but also from Amazon itself. Essentially, as SMBs continue to flock to Amazon's all-encompassing ecosystem, the process of establishing brand loyalty will become increasingly onerous for companies that sell ubiquitous products. He explained that, in order for SMBs to establish a presence on Amazon, they must purchase advertisements, as this is the principal way through which SMBs can work to ensure potential customers notice and engage with their specific profiles. As the third biggest digital ad seller in the US, Amazon has a tremendous advantage over SMBs in determining the price of ad content and, as an increasing number of companies compete for market share through ad content, Amazon will continue to raise ad prices. Indeed, revenues from advertising in the first three months of 2020 were up 43.8% from the previous year and 359% since 2017 (Semuels 2020). Since Amazon controls this massive marketplace, it has access to an unlimited supply of data, meaning the tech giant is well-informed on its consumers' behavior, with a strong ability to predict the products that sell and the products that remain on the shelf. Equipped with this information, Amazon has the unique ability to release its own version of a product with

minimal risk and high reward (Strouther 2020). So, even if a SMB finds success in Amazon's marketplace against other SMBs, Amazon, itself, can outcompete the SMB with its own version of a given product. In this way, the very platform that offers SMBs the ability to expand their customer base paradoxically prevents SMBs from succeeding in the e-commerce market.

THE ENVIRONMENTAL IMPACT OF E-COMMERCE

The pandemic has accelerated the growth of the e-commerce industry, and it is important to consider the environmental impact of this transition and growth. As e-commerce is still an emerging field, there is ongoing research and debate over the severity of its negative impact on the environment in comparison to traditional storefronts. Furthermore, due to the sheer variability involved in an e-commerce supply chain, it can be difficult to uniformly estimate and gauge environmental impact. For example, regional variations in transportation practices and selection of delivery vehicles may all differ greatly between e-commerce companies (Associated Press 2020).

In B2B transactions, increased e-commerce appears to have a net positive effect, exhibiting improved supply chain refinement and reduced excess inventory in comparison to traditional storefronts. This results in decreased need for warehouse space and more efficient land use (Cushman-Roisin n.d.). In turn, this means that undeveloped forests do not have to be torn down to make way for more warehouse buildings, which ultimately protects the biodiversity of ecosystems. With regard to B2C sales, the environmental impact is more mixed. Packaging is a major environmental issue, largely specific to e-commerce. Environmental activists have highlighted this problem for several years, but the pandemic has further

exacerbated the severity of this issue. The pandemic has made the general public more cognizant of sanitation and hygiene. One way e-commerce companies have tried to respond to this consumer concern is by increasing the amount of packaging on shipped items to at the least create an illusion of safety for consumers. The damage is further amplified because packaging producers create packaging that is more cost-effective to dispose of after a single use than it is to reclaim it (Blake 2020). Another major issue, especially within the B2C fashion market, is the issue of returns. Over one-third of online shoppers returned a purchased item in the previous three months (Associated Press 2020). Returning an item involves double transportation (increasing vehicle emissions) and in many cases may result in disposal rather than restocking and resale (Associated Press 2020). Even short-term sales events like Prime Day and Black Friday can have strong negative environmental impacts. The volume of sales and demand for items during these events places increased pressure throughout the e-commerce supply chain, especially in regards to shipping and delivery, which can result in an increase in environmental waste.

However, e-commerce platforms are making strides towards decreasing the burden of their environmental impact. Amazon, in particular, is ushering in the development of electric vehicle delivery fleets, to decrease greenhouse gas emissions. The company recently invested $700 million in an electric vehicle start-up, Rivian (Eavis 2019). Furthermore, Amazon has announced that it plans to have 10,000 electric delivery trucks by 2022 and 100,000 by 2030 (Staff 2020). It is much more feasible for companies with the scale and wealth of Amazon to spearhead the transition to electric vehicles as opposed to the general consumer market making this switch first. Therefore, in the long run, it is likely that a move to E-Commerce may ultimately have positive environmental consequences, including a reduction in air pollution.

CONCLUSION

For most people, prior to Covid-19, the e-commerce industry may not have seemed to serve much more purpose than casual online shopping. However, during the pandemic, the e-commerce industry took on an essential role and has strongly impacted the way in which many have experienced this crisis. For the everyday consumer, e-commerce became a form of pandemic infrastructure--a reliable distributor of essential products in a time of unpredictable scarcity. As we consider the possibilities of future pandemics and crises, we expect that e-commerce platforms will be more quickly leveraged by consumers worldwide as a disaster response measure to coordinate resources. In regards to small business owners, the pandemic either pushed SMBs to establish a presence on e-commerce platforms or compelled them to find new ways to maintain their existing presence and remain competitive online. As discussed in previous sections, e-commerce served as both an opportunity and challenge for SMBs as they worked to survive the tough times. In a world after the pandemic, many consumers are likely to crave in-person shopping experiences and flock towards traditional storefronts. However, we still predict a continued trend of more SMBs entering the digital space, whether it be on e-commerce platforms or their own personal websites. Furthermore, as the e-commerce industry continues to grow, we hope the conversation about environmental impact does not get left behind. While this is a big issue, it is also a preventable one. If e-commerce industry leaders make concerted efforts to reimagine some of their operations, like packaging and delivery, we can take a step forward to a more sustainable and equitable industry for all.

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Cancellation, Innovation, and Live Bubbles: Sports and Entertainment during the Pandemic and its Legacies

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Covid-19 has had unprecedented economic consequences for every industry in the world, including bringing the combined $700 billion value of sports and entertainment to a sudden halt. Although it initially seemed like the challenges posed by the pandemic would be impossible to overcome, both sports and entertainment are making a slow yet remarkable comeback. In recent months, professional athletes have been living in bubbles and playing in largely empty arenas and stadiums (NFL, NBA, MLB). Some college sports, especially the high revenue sports, have followed suit. Live entertainment, including music and theatre, have shifted to virtual or distanced platforms. The aim of this article is to examine what the future holds for these respective businesses with regard to live events, fan interaction, and the other challenges of operating during the pandemic. We also consider the influence of politics and the large revenue from sports and entertainment on revenue on health and safety guidelines, as well as how these changes may influence the future of these industries after the pandemic.

INTRODUCTION

The impact of the Covid-19 pandemic brought much of the US economy to a sudden and dramatic halt. Thousands of businesses have closed down, stores have limited hours, and people have been confined to their homes for extended periods of time. These measures have also had significant impacts on the sports and entertainment industry. What was once an industry that earned a combined $155 billion in revenue per year, with forecasts projecting $200 billion in revenue in the coming year, since March 2020 alone these industries have suffered a catastrophic $13 billion in economic losses and more than 1.3 million jobs lost in

sports (Burrow 2020). With the entertainment sector also facing potential losses of more than $160 billion over the next five years (Katz 2020a), a huge economic chasm has been created as a result of Covid-19. This article focuses on the implications of the pandemic for the sports and entertainment industries, be they economic, financial, or social, and how these changes may impact future practices. Our methods of data collection included multiple interviews ranging from current student employees and recent graduates, to established industry professionals and experts. Additional information was sourced through online databases and articles.

SPORTS

The Covid-19 pandemic has presented sports leagues at all levels of competition (youth, collegiate, and professional) across the United States and around the globe with unprecedented challenges. Games were abruptly postponed, rescheduled, or canceled. Seasons were brought to a sudden halt, whether at the beginning of Spring Training for MLB; midseason for the NBA, NHL, and MLS; or even before the season began in the case of many NCAA sports and Indycar Series Racing. This resulted in tremendous economic losses and logistical nightmares for league managers and coordinators across the United States.

In addition to the financial problems this caused, fans were also largely missing from most of the events that were held. In this article, we take a closer look at how the different leagues were able to operate and formulate their plans during the pandemic. This will give us a better understanding of what the future might hold in terms of how we consume live sports entertainment and more importantly, how professional athletes and sports leagues can continue to earn a profit during the pandemic. We also look at the precautions undertaken to protect the players, the venues, and the spectators allowed at each event, and how revenues were and will

continue to be affected, to see what has and has not worked.

PROFESSIONAL LEAGUES

When lockdowns began in March, spectator sporting events were among the first activities to be cancelled. The National Basketball Association and National Hockey League were in the middle of their seasons, and Major League Baseball was in the midst of Spring Training when they were put on hold with no knowledge of when they would be able to resume. Eventually, things began to come back but in ways unlike anything we had ever seen before. The NBA and NHL returned, but instead of playing in stadiums and arenas with thousands of fans cheering them on, they were now isolated from the outside world in "bubbles" with artificial crowd noises pumped in. These bubbles were created in order to prevent and combat the spread of Covid-19 while also resuming sports in the seasons when they would normally be held.

Baseball chose not to return with this same type of hyper-secure bubble but instead opted for a revised schedule with no fan attendance at games but crowd noise being artificially generated. Even to play in empty stadiums and arenas required extensive coordination between league officials, teams, those in charge of the venues, and the support staff who make these events possible. During an interview with an executive from MLB, he explained that, from his perspective, the greatest hurdle to preparing for this season was "coming up with an overall game plan and addressing it with all our respective constituents." He went on to describe the challenges of ensuring that all the moving parts would fit together, and that all of the rules and regulations were being followed on a state-by-state basis. He said that trying to ensure that so many different groups of people are able to collaborate on making the plan work is challenging

enough in ordinary circumstances, but it is especially difficult in a scenario like this where everyone is still learning about the virus and new developments are occurring every day. In order to be ready for anything that might occur, he said that "there was a plan that was north of 100 pages that addressed just about everything, and there was a process for coming up with a new plan when we needed to pivot. Each situation that arose called for a different response, and the responses often required us to change things around depending on the science we learned about." A key take-away from his experience is that the science and knowledge about Covid-19 is changing every day. Scientists are constantly learning how the virus works, including impressive advancements on a vaccine, and as these developments continue, those parties responsible for operating professional sports leagues must be ready to adapt as the world gradually becomes more "normal" and events gradually resume as before.

The National Football League took a different approach than other professional sports. The NFL recently completed the twelfth week of its regular season and has not had to cancel a single game since the start back in September 10, 2020 (Kirk 2020). But as a result of the league resuming play much like they previously operated in the pre-Covid environment, in just the first week of November alone there were 60 confirmed cases between staff and players, and it does not look like the infection rate will be slowing down until the end of the season (Seifert 2020). While the league has created a Covid-19/Injury Reserve list for any players who contract the virus, current data suggests that this will not be enough to control the spread of the virus. It appears to experts and views from outsider intel that the NFL is in denial about the Coronavirus entirely, opting to keep the season going for pride and greed. As one commentator noted, "the NFL's stupid goal is to teach the virus that it cannot deprive of us our freedoms" (Kirk 2020). A sense of National and City pride alongside a prevailing notion of the American

right to play and watch competitive sports may have been important factors influencing the decision to resume the season. Time will tell just how consequential this decision turned out to be.

COLLEGIATE LEAGUES

Collegiate athletic departments across the country were also brought to a sudden stop by the spread of Covid-19. The pandemic struck college athletes at the worst time, as athletes in many sports were ready to start declaring or had already declared their intention to compete at professional levels, be it NFL, NBA/WNBA, or MLS. Since many draft events and pre-draft events such as combines were scheduled for the spring and summer, these activities had to operate remotely. The top athletes were unable to display their full skillset and potential to scouts, potentially affecting their draft stock and future athletic careers. This year's rising athletes face a similar, if not more difficult position than their counterparts if their seasons are cancelled or compromised.

Like their professional counterparts, attendance at collegiate sporting events will be greatly limited, which will mean the loss of a significant revenue stream. According to a manager for the University of Michigan basketball team, "I would be surprised if there were fans at Michigan Stadium this year," adding, "I would expect the bench to look similar to what you saw in the NBA bubble where it is more spread out and if anyone can come to sporting events it will probably be just parents." This is in line with how the University of Michigan has handled its football season this year, although these policies vary from state to state and conference to conference. With no official plans for winter sports announced, it is unclear whether these trends will continue, but at the writing of this paper, Covid-19 cases still look to

be rising at an alarming rate. Furthermore, as the weather gets colder and seasonal influenza is added into the mix, it is difficult to imagine fans being a big part of any upcoming sports events this coming winter.

FAN EXPERIENCE

One question about the future is what will happen with fan experiences? Events such as the World Series were able to experiment with allowing a limited number of socially-distanced fans in the stands even in the middle of the pandemic, as did some college sports depending on their location. While fixtures like these might be a little easier given the outdoor setting, it is unclear whether fans will be able to gather for indoor events like basketball once the season resumes. While the NBA was able to play in a bubble for the remainder of the 2019-2020 season, it operated without fans participation, except for a small number of virtual fans whose images were included in broadcasts. Even former President Barack Obama participated as a virtual fan during a playoff game. However, officials from the NBA allowed players to have their families in the bubble once the second round of playoffs began. This meant that wives, girlfriends, and children were able to reunite with the players. Everyone's needs were also being heard and met, with the National Basketball Player's Association also creating a "teacher-led classroom for players' children to continue attending school inside the bubble" (Uggetti 2020).

While these protocols were evidently established in an ad hoc fashion after the onset of the pandemic, new protocols released for the 2020-2021 NBA season look a little bit different. For starters, as games are currently scheduled to be held in arenas again, teams are allowed to decide whether or not they want to host fans. If fans are present, then the ones seated within 30

feet of the court have to either register negative for Covid-19 two days prior to a game, or test negative on a rapid test the day of the event. Standard protocols of wearing masks and socially distancing remain in place with food and beverages only allowed for fans at least 30 feet away from the court and arena occupancies limited to a maximum of 50 percent capacity (Jackson 2020). Given a flawless track record for the NBA (zero cases in the bubble) thus far, it will be interesting to see how their planning pays off, and whether other leagues from collegiate to professional around the country can follow their example.

ENTERTAINMENT

The entertainment sector faced devastating losses as a result of the pandemic. As of late October 2020, it was estimated that "284,000 jobs in fashion, entertainment, digital media and arts institutions" had been lost (Sakoui 2020). This brought the national job loss count in this sector to more than 678,000 positions since the beginning of the pandemic resulting in a staggering financial loss of $58.4 billion (Sakoui 2020). With the halt of major Hollywood productions, blockbuster TV shows, and live theater, a major component of everyday life for Americans changed dramatically. As the country's leading companies and industry experts are working to bring the entertainment sector back in full force, we took a deep dive to see what has currently worked, what is likely to work in the future, and the current status of the business from a creative perspective.

LIVE THEATER

Probably the hardest hit sector of the entertainment industry is the small live theater scene. Unable to stay open due to safety concerns and government mandates, many theaters

across the country and the world have seen permanent staff reductions or permanent foreclosures. In the UK alone, "an estimated 70% of theatres [are] due to close by the end of the year without urgent financial support" (Rhys 2020). Flexible movie and live performance venues in Ann Arbor such as the Michigan Theater and State Theater were forced to raise funding to keep operating through fundraisers and donations (Parlette 2020). Countless small, local performance theaters across the country have had to adjust to the same conditions and many face closure and bankruptcy. Other unfortunate circumstances include not having the luxury to stream live performances of their shows online due to copyright restrictions. Moreover, performing online does not provide the same experience for the actors and the audience. The emotional and physical connections that they would have formed with the audience members are no longer possible when performing via Zoom or Cisco Webex. Most small theaters lack the financial resources of big chain movie theaters, leaving them especially vulnerable and reliant on government support and private donations while they remain closed.

To gain a better sense of the situation for small theaters in America, we interviewed two recent graduates from the University of Michigan's School of Music, Theater, and Dance. Both Michigan alumni graduated in the class of 2020 but took different paths in their theatrical careers. One went on to continue their education in graduate school while the other found a job at a small theater. These are typical paths theater students take after earning their bachelor's degree, but it became apparent during our interviews that the option of returning to school to obtain an advanced degree was becoming more popular for students during the pandemic. When asking the interviewee who plans to continue their education at Northwestern University's Graduate School about their decision, they said that, "Not much is happening in the industry right now. Right now I am spending time improving and preparing myself for

when theaters reopen." In contrast, when interviewing the other recent graduate, who is currently working in a small theatre in Midland, Texas, about their experience during the pandemic, they commented on how a number of their job interviews had been cancelled and things started to look bleak. They said that, "I got super lucky to get this job," and that, "I don't know anyone else in my class that has found a job."

Whether the trend of theater students returning to school will continue after the pandemic remains to be seen. But the financial and creative decisions that live theaters are making to stay afloat during the pandemic, such as livestreaming their performances or reducing their budgets and the size of their shows, are choices that may be commonly seen in the near future as the world gradually returns to normal and theaters across the globe reopen to their full capacities.

MOVIES AND CONCERTS

Movie fans and concert-goers were not spared from impacts of the coronavirus. The box office this year is estimated to rake in a dismal $3.3 billion, the lowest revenue since 1987 and a 70% loss for the year (Katz 2020b). Highly-anticipated movies and productions were halted, scrapped, or postponed. Substantial adjustments had to be made not only by movie production companies, but also by movie chains such as AMC and Cinemark. Professional actors, music artists, and other performers were forced to change their gameplans as well.

For movie companies, the production and release of movies was mainly suspended or delayed until late 2021, and possibly extending into 2022. This has been financially stressful for movie theaters such as AMC, whose sole income is based on being able to screen new movies. AMC has started implementing novel ways of combating Covid-19, with opportunities for special reservations to reassure patrons about appropriate social distancing. Another plan is

"to join a handful of cinemas letting customers rent out auditoriums for private screenings" (Heyward and Valdes 2020). This would not only reassure their customers and reduce the risk of spreading the virus, but also help secure a small but important stream of income for the company. Other creative methods used by the industry to combat their financial precarity include the reopening of drive-in theatres and the release of movies on cable TV, including Disney's blockbuster animated feature *Mulan*, a trend that is expected to continue well into 2021 and even 2022 in some instances (Perry 2020).

Musical performance activities were also faced with a sudden stop when all live events were cancelled. Internationally recognized festivals such as Coachella, Rolling Loud, and Electric Forest were all abandoned in March (Smalls II 2020). Smaller individual concerts and tours were also cancelled and delayed, with no definitive plans to bring them back, causing industry as a whole to lose millions. Recent projections have indicated that these shutdowns "will . . . cause live music revenues to fall by 85%" and incomes of musicians will drop by two-thirds (Savage 2020). Nine months into the pandemic, however, things appear to be trending in the upwards direction during the coming year. For starters, we see the return for the hip-hop festival Rolling Loud Miami, which is slated to return early May 2021 and will be live. Although the Rolling Loud committee was able to hold a virtual event this year, the 2021 festival is projected to have 255,000 fans in attendance (Smalls II 2020). However, we may yet see a change of plans for this and similar events depending on the timeline and delivery of the Covid-19 vaccine.

Regarding indoor concerts and venues, we have already seen some dynamic ways that the sports and entertainment industry has responded to the need for social distancing and limiting the harmful spread of the virus. The Flaming Lips, an American rock band, hosted a

concert in Oklahoma City in October with everyone in attendance, including the performers themselves, placed in inflatable human-sized bubbles. This was promoted as an opportunity to "defend themselves and fans against Covid-19 while finding a way to play live" (Kurtz 2020). However, recent research suggests that indoor concerts may not be a significant threat to health and safety after all. Findings in a study conducted by scientists in Germany suggest that "the impact of such events on the spread of the coronavirus is low to very low" (Kwai 2020). While the study indicates that there needs to be strict ventilation and hygiene protocols in place in order to have a low transmission risk, indoor concerts may be back sooner than expected. Additional replication and review of the study must be made, however, before establishing new policies.

POLITICS

At the beginning of the pandemic it was difficult for many to gain access to testing and proper personal protective equipment (PPE) to ensure safety for the general public. This was not the case, however, for superstar athletes and big Hollywood stars who seemed to get special treatment when it came to testing. While the country was struggling to provide fast and affordable testing for patients in hospitals and their family members who worried they had been infected by the virus, those with wealth and fame had seemingly instant access to the nasal swabs and rapid tests that only became available to the general public months later. The NBA was shut down on March 11th when a positive test came back for Utah Jazz center Rudy Gobert, and in the immediate aftermath "the NBA has been testing as many players as possible" (Cwik 2020). Ths disparity in access to rapid testing prompted a public outcry, with New York City Mayor Bill de Blasio even tweeting "We wish them a speedy recovery. But,

with all due respect, an entire NBA team should NOT get tested for COVID-19 while there are critically ill patients waiting to be tested" in response to the Brooklyn Nets players receiving tests (Keating 2020).

This issue was highlighted again when the league made its way to their Orlando bubble to finish off the season back in July. The guidelines of the bubble required players to be tested daily, along with coaches and staff being on the same schedule (Heid 2020). In comparison to the beginning of the pandemic, the disparity in access to testing was not as dramatic so the public reaction was largely muted. When the NBA moved to Florida for the bubble, they were no longer competing with the general public for tests and had even launched a mobile testing site to help with the surge of cases that occurred in the state (Golden et al. 2020). The NBA also helped to fund the saliva tests developed by Yale University (Lowe 2020). The early days of the pandemic had many people anxious and concerned over how it was being handled in the United States, and the idea that the wealthy and people of high status were getting preferential treatment rubbed many the wrong way, but the NBA has worked hard to assure its fans and the rest of the country that were willing to help others, and have done so through their contributions to fund additional testing and creating sites for people to get tested should they need to.

Aside from the politics surrounding the preferential treatment being given to those with a higher status, there was also a spotlight on the politics regarding social justice across all major leagues. In the NBA, bubble courts were emblazoned with the line "Black Lives Matter" (see McNamara et al., this issue). Both the NFL and NBA were running ads during their programs about the election to enourage people to vote and players in the NBA, MLB, NHL, and NFL have taken a knee during the national anthem or had a moment of silence for those lost to

violence due to racial discrimination. The NBA even came close to shutting down after the shooting of Jacob Blake in Kenosha, Wisconsin, on August 23rd. The Milwaukee Bucks refused to leave their locker room for their scheduled game against the Orlando Magic, creating a multi-league wide domino effect that resulted in multiple NBA, WNBA, and MLB games being postponed and rescheduled for a later date. George Hill, point guard for the Bucks at the time, came out with a statement when the game was postponed, saying, "We're tired of the killings and injustice" (Gilman 2020). Given their highly visible public profile, these athletes and organizations decided that they had a responsibility to speak up and be heard. What began with Colin Kaepernick taking a knee at the beginning of a football game in 2016 has turned into the demonstration by players in multiple leagues that they are willing to halt sporting events to get their message across, if that's what it takes. There will very likely be more to come from players across all leagues in the future in terms of social justice and awareness, and this summer provided the perfect opportunity to ignite the spark for social change with people having nothing to do except watch.

CONCLUSION

The sports and entertainment industry has undergone a dramatic makeover since the beginning of the pandemic. With strict limitations imposed on their operations, the industry has had to innovate to stay afloat. Recent news that a Covid-19 vaccine has been approved for general use in the United Kingdom has made headlines across the globe. The Pfizer and BioNTech vaccine was first administered on Tuesday, December 8th and the whole world is watching the outcome (Smith-Spark et. al 2020). Once the vaccine has been widely administered, many of the changes to the sports and entertainment industry described in this

article will gradually be rolled back.

The delivery of the vaccine will no doubt bring a huge sigh of relief to planners and participants in the sports and entertainment industries, as well as to audiences and fans. While it may not be until the end of summer 2021 that sufficient numbers of the general population will have been vaccinated that full attendance at live sporting events is possible, industry leaders have acquired a better understanding of the challenges posed by the pandemic and are able to create alternative plans to suit the circumstances. In the near future, most of the changes to the industry described in this article will remain in place. Box office movies will continue to be released on streaming platforms or cable networks. Concerts and performances will still be held virtually or delayed until after the threat of Covid-19 has dissipated. The same is true for the sports realm, with leagues at all levels of competition either having a limited capacity for fans or not allowing fans at all. Safety precautions and active social distancing will remain in place for these events, with patience being emphasized throughout this process.

A final question worth considering is the influence of the pandemic on people's appetite for attending sporting events and other forms of in-person entertainment, including live theater and cinema. When the pandemic is over, will people still want to attend these in-person events? After all, they will have spent more than a year accessing sports competitions and other forms of entertainment on various screens from the comfort of their own homes. Perhaps more significantly, how will their experiences of social isolation affect their desire to attend events in person? How long will it take for people to become comfortable in large crowds? Venue coordinators and stage directors can pump in artificial noises and laugh tracks all they want, but once the pandemic is over, we expect that the demand for human interaction and involvement in live entertainment will be at an all-time high.

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The Future after Covid-19: Implications of a Global Pandemic

The Future of Urban Planning and Policy in the Wake of Covid-19

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The Covid-19 pandemic has disproportionately impacted cities throughout the world. The disease's devastating impacts on metropolitan areas is attributable to the complex environments in which people live and work, defined by factors such as density, global connectivity, pollution, and accessibility. While cities have experienced higher death rates than rural communities, low-income neighborhoods and persons of color have often borne the brunt of the Covid-19 pandemic, just as they have during other natural disasters. Indeed, this prolonged health crisis has exposed many of the injustices and shortcomings of current urban planning and policy that have insidiously defined city life. It is imperative that urban planning and policy play reformist roles not only in the post-pandemic recovery period, but also in efforts to prepare for future natural disasters. In this paper, we address the structural deficiencies associated with urban planning and policy, as well as discuss other trends and preparative measures that we believe will gradually change the quality of life for city residents. The first part of our article discusses empirical examples of urban planning and policy reform in order to create a framework through which to understand the field's importance in preparation for and recovery from natural disasters. In the second part of the article, we examine some of the key issues that have arisen in the wake of the current pandemic, including potential changes to housing, transportation, new demands for environmental sustainability, the introduction of novel touchless technology, and the utilization of vacant office and retail spaces.

THE ROLE OF URBAN PLANNING IN DISASTER RECOVERY AND RESILIENCE

In the early 19th century the US underwent an epidemiological transition due to decreasing mortality rates and improved living conditions. This shifted the kinds of diseases that were prevalent and impacting the country. Chronic and degenerative diseases like cancer, obesity, and mood disorders began to replace the infectious diseases that had previously

affected the country (Omran 2005). This shift, coupled with the assumption that the US was a wealthy and developed country, led to complacency relative to the need to maintain and improve living conditions in urban areas. In the face of the Covid-19 pandemic, the United States has been forced to confront these false notions of safety and security. Covid-19 has exposed many structural deficiencies in urban policy and planning, given the disproportionate impact of the virus on low-income neighborhoods. The virus has also taken a major toll on staple features of city life, including mobility and socialization.

Prior to the pandemic, the link between urban planning and health was less likely to be recognized and understood. However, the consequences of Covid-19 have reframed conversations on public health and risk-reduction. Ideas from urban planning can be incorporated into responses to pandemics and disasters not only to provide aid for the purposes of relief and recovery, but also to increase the resilience of cities to future disasters. Ironically, these are not novel concepts, but rather draw on pages taken out of urban history. Urban planning ideas have been utilized in the response to infectious disease since the 14th century. During this period, in order to combat the bubonic plague, new urban planning developments such as early quarantine facilities and open public spaces were implemented (Megahed and Ghoneim 2020). Later, in the age of cholera and typhoid, the urban planning agenda shifted to the establishment of water and sewage systems. These innovations led to the construction of straighter and wider city streets that could accommodate underground pipe systems (Megahed and Ghoneim 2020).

We can further supplement our understanding of the urban planning response to Covid-19 by observing the impact of natural disasters. In 2005, Hurricane Katrina hit the southeastern United States area, severely impacting Louisiana, Mississippi, and the New Orleans area. The

hurricane caused severe flooding that further damaged communities, certainly qualifying the onset of these events as a natural disaster. However, it is worthwhile to consider that the severity of the damage and the widening of racial inequities that resulted were largely *man-made* and the result of unjust and lacking urban policy. In "Pre-Katrina" New Orleans, the Black poverty rate was more than three times the White rate of 11%. (Hartman et.al 2006). The city also ranked second among the nation's 50 largest cities on the degree to which its poor families, mostly African American, were clustered in extremely poor neighborhoods (Berube and Katz 2005). These disparities did not develop overnight. When New Orleans first developed as a settlement, it grew outwards from the original French Quarter, which placed it up and down the river. The elevation was raised along the avenues where the wealthy built homes, but not where working class communities lived (Gilmore 1944). Eventually, when low-lying areas were drained and developed, "White flight" to the suburbs increased (Laskow and Morrow 2006). This left the flood-prone, inner city areas to low-income African Americans. By 2000, New Orleans had become highly segregated by race and developed high concentrations of poverty in the city, such that "the Black community and White community were living in quite literally different worlds before the storm hit" (Hartman et. al 2006, 3). As a result, a major component of Post-Katrina urban planning recovery efforts sought to address these issues by reforming housing policies. For example, urban planners advocated for reconstructed neighborhoods that would have greater opportunities for lower-income housing dispersed *throughout* the city. Another major urban planning initiative was to elevate thousands of homes, especially in flood-prone areas, in order to decrease the risks of flood damage in the future (Olshansky 2006). Ensuring that this new development would be applied in historically low-income areas of the community was an important feature of creating a more equitable post-

disaster New Orleans.

While the Covid-19 pandemic is an unprecedented crisis of immense scale and severity, there are a number of well-documented disasters from the past that have had significant impacts on urban planning. Many of these disasters have resulted in progress through innovation and successful policy reform. In a post-pandemic world, urban planning solutions that stem from both of these approaches are needed to increase resilience in cities.

HOUSING, TRANSPORTATION AND COVID-19

The disproportionate effects of Covid-19 on low-income persons of color can be largely attributed to exclusionary zoning laws, a policy medium that has insidiously perpetuated racial segregation across urban areas throughout the United States. Exclusionary zoning laws establish very specific—and often unjust—restrictions, such as the exclusion of multi-family dwellings, or the requirement to purchase or lease a minimum square footage of property in particular neighborhoods. In practice, exclusionary zoning laws sustain redlining by reinforcing the exclusion of impoverished people of color from prosperous urban areas.

The negative feedback loop between exclusionary zoning laws and health outcomes is a well-documented phenomenon. Even before the pandemic, the life expectancy differential between low-income persons of color and wealthy individuals was much greater in highly segregated urban areas than in integrated cities (Spoer 2019). Accordingly, more racially segregated cities have experienced larger disparities in Covid-19 cases and deaths in comparison to less segregated metropolitan areas (Cortright 2020). In particular, the Covid-19 infection rate is three times higher and the death rate a staggering six times higher in African-American communities than white communities (Abrams and Szefler 2020). The pandemic has

exposed systemic inequality associated with traditional urban planning that continues to wreak havoc on racially segregated neighborhoods throughout the nation.

One such shortcoming of exclusionary zoning laws is that the policy medium has forced minority populations to take up residence near high-pollution areas which, in turn, produces disproportional pre-morbidity rates between racial groups. In practice, this means that people of color who live in urban areas often live in close proximity to chemical waste fields and factories (Cheatham and Marechal 2018). Indeed, empirical research has demonstrated that minority populations are much more vulnerable to diseases such as Covid-19 in part because of the greater prevalence of respiratory illnesses as a result of these industrial exposures (The NHLBI Working Group 1995). In this regard, urban planners and policymakers must relocate waste infrastructure sites away from densely populated urban areas, so as to improve air quality in low-income, minority communities. One example of a policy intervention that would help accomplish this is New York City's "Renewable Rikers Act," which aims to move waste centers away from communities in the South Bronx, North Brooklyn, and Jamaica, Queens to Rikers Island (Fuentes Rojas and Florian Rodríguez 2020). Relocating waste infrastructure to non-residential areas would disrupt a major component of the negative feedback loop between housing policy and pernicious health outcomes for persons of color. It would also improve the environmental sustainability of urban areas and serve as an essential preparative measure to safeguard against uneven negative outcomes in future disasters or pandemics (see McNamara et al., this issue).

In addition to the relocation of waste infrastructure, the pandemic warrants a comprehensive reevaluation of how urban planners and policymakers define a standard of living. The travel restrictions and confinement measures imposed by state and local

governments have created numerous challenges for urban residents. In particular, quarantine and isolation orders have engendered living conditions that have produced maladaptations such as psychological distress and physical inactivity (Banzer et al. 2020). Due to reduced physical activity and diminished opportunities for socialization, those who are forced to quarantine often experience depression, stress, irritability, insomnia, poor concentration, and indecisiveness (see Reinert et al., this issue), all of which may persist in the long term (Brooks et al. 2020). In this way, the pandemic has underscored the importance of public spaces. Urban planners should work in tandem with policymakers to ensure the rapid construction and equitable placement of public spaces. For example, city planners could follow the lead of Philadelphia's Playstreets program, which closed off streets and delivered recreational items such as hula hoops and jump ropes to community members. The program provides a valuable model for how best to utilize public land during the pandemic by limiting transportation between home and park while simultaneously providing families with public spaces for physical activity (Gendall 2020). Other ideas include converting neighborhood streets into recreational sites (gyms, basketball courts, theatres, lounge areas), epitomized by architect Walter Hood's proposal to turn a street in Oakland, California into a site for dance rehearsals and performances (Gendall 2020). These novel and innovative approaches to urban planning would serve as essential mechanisms by which to reduce many of the psychological and physical effects produced by social distancing measures during the Covid-19 pandemic.

The pandemic has also highlighted the need for extensive transportation reforms. In the wake of the Covid-19 health crisis, public transit systems throughout the US have suffered huge losses in revenue, with ridership levels decreasing by as much as 95% (Puentes 2020). As a result, transportation agencies nationwide currently face budget deficits that total hundreds of

millions of dollars and, thus, have had little choice but to cut many existing transit routes.

However, the way in which agencies have cut transportation routes has often been inequitable.

The downsizing of public transit options has had a disproportionate effect on people of color

because the agencies based their decision on ridership statistics, suspending transportation to

areas with the smallest number of riders. While this makes economic sense for transportation

agencies, ridership levels do not always align with need (Ezike and Plerhoples Stacy 2020).

This explains why many low-income people of color, who have been pushed out of densely

populated areas with the highest ridership levels by exclusionary zoning laws, did not have

easy access to public transportation *before* the pandemic.
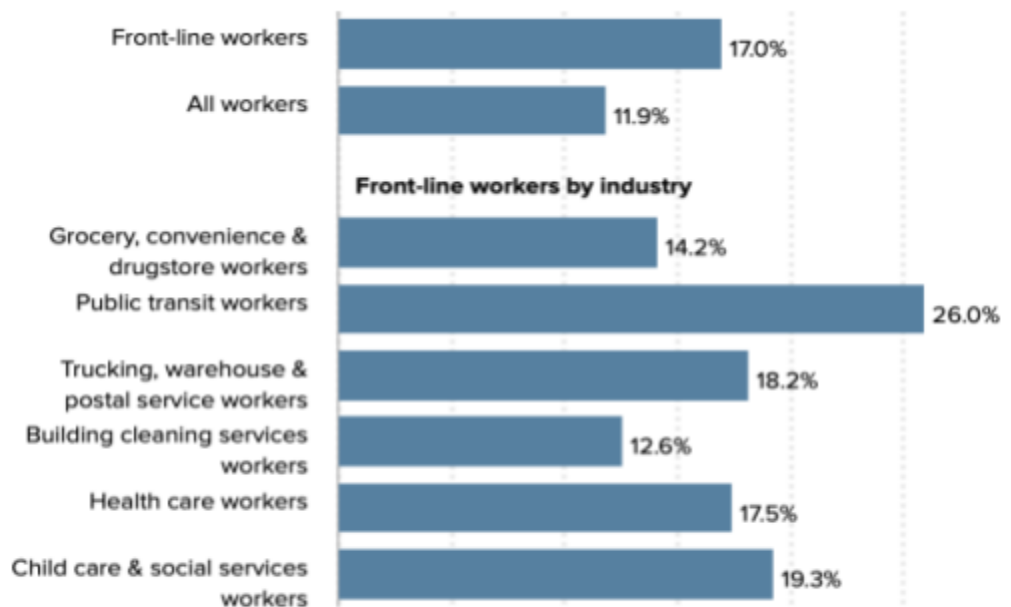
Black workers as a share of all workers in a given industry (After Brown et al., 2020)

In this way, Covid-19 has exacerbated the lack of accessibility and immobility of minority

groups. Since African Americans account for a large portion of the essential workforce (see

Figure 1), many have relied on public transportation in order to travel to and from their places

of employment each day. Similarly, 45 percent of Hispanic households have at least one high-proximity worker — meaning that they work in environments that require them be close to other people (Airgood-Obrycki 2020). When transportation lines were suspended, these public transit dependent essential workers were faced with a difficult choice: they could continue to use public transportation, or they could buy a car (Ezike and Plerhoples Stacy 2020).

However, since many low-income families simply cannot afford to purchase a car, they have had no choice but to use mass transit to move around the city. Unfortunately, commuters who continued to use public transportation experienced longer travel times and more crowded trains and buses (as fewer routes equated to congestion on the remaining routes), which posed greater risks to their health. Additionally, those who could not afford a car, but chose not to use mass transit for fear of contracting Covid-19, have had great difficulty navigating the city. Thus, the negative impacts of transportation reform, temporary or not, on those who do not own cars are twofold. First, the decrease in transportation routes reduces accessibility to workplaces, healthcare facilities, and grocery stores, reinforcing the urban segregation of racial groups by inhibiting or impeding their access to essential services. Secondly, those who continue to use public transportation are at increased risk of contracting Covid-19 (NCIRD 2020). As 26% of African American households and 27% of Hispanic households are multigenerational, and as people of color are likely to have pre-existing conditions that increase co-morbidity risks, those who continue to ride on buses and trains experience disproportionate negative impacts of Covid-19 not only to themselves as individuals, but also to their families (Cohn and Passel 2018).

Transportation agencies face nearly insurmountable budget deficits, and as people of color are forced to contend with the risks of mass transit, as well as with barriers to mobility,

the question arises: What should the future of urban transportation look like in order to reduce these inequities? In both the short and long term, city planners ought to introduce reforms that increase transit-accessibility and improve transit-sustainability. Through this framework, public policy must necessarily address the widespread transit-insecurity experienced throughout low-income neighborhoods. First, even though it may be necessary for transportation agencies to eliminate certain transportation lines to stay afloat, they should consider cutting routes based on need, rather than based on ridership levels alone. In order to determine which routes serve high-need groups, transportation agencies should use methods such as spatial mismatch maps for low-wage and essential workers, as well as for unemployed urban residents (Ezike and Plerhoples Stacy 2020). Using spatial mismatch maps will allow agencies to see where jobs are located in comparison to where job seekers, essential workers, and low-income workers live, and to make decisions about cutting routes accordingly. Access to spatial mismatch data will encourage urban policymakers to make decisions based on not only economics, but also equity and accessibility issues. Second, urban planners should improve accessibility and sustainability via increases in alternative modes of transportation. As transportation agencies face large-scale economic cutbacks, urban planners have an opportunity to help reset urban transportation systems. Indeed, the pandemic has fostered the rapid development of the Slow Streets Movement, which envisions a sustainable future of urban transportation defined by increases in public space (i.e., walking lanes, bike lanes, closed streets) through reductions in car lanes and, subsequently, in car usage (Glandorf 2020). In cities such as Oakland, Washington D.C., and New York City, services such as bike sharing and electric scooters have served, and should continue to serve, as a principal means by which transit-dependent workers and individuals can navigate the city without putting themselves at high-risk of contracting Covid-19 on buses and

trains (Ezike and Plerhoples Stacy 2020). The transition to more biker- and walker-friendly cities would also improve the air quality in urban areas and, thus, would help to reduce pollution-induced respiratory conditions endured disproportionately by urban residents (Popovich 2019).

In the long term, increased usage of bikes, scooters, and walking lanes is likely to be coupled with new, high-tech modes of transportation that will also help to improve mobility and sustainability. In particular, the widespread implementation and use of sustainable, autonomous vehicles (AV) will help to improve transit-accessibility, as well as productivity, for all urban residents by reducing the time spent on transport, thereby increasing access to education and employment opportunities (Litman 2020). While the process of implementing such an ambitious initiative has been relatively slow-moving, urban residents are likely to experience enhanced mobility by the 2030-40s, and improved air quality and environmental sustainability by the 2050-60s (Litman 2020).

TOUCHLESS TECHNOLOGY

Social distancing has become a keyword in the time of Covid-19. This has led to the adoption of touchless technology more quickly than we might have thought possible. Since the onset of the pandemic, there has been a 2000% increase in the frequency of online searches on Amazon for touch free faucets and soap dispensers, contactless thermometers, and other forms of touchless technology (Cao 2020). These technologies have been installed in residences, public restrooms, offices, and retail establishments (Cao 2020).

Smartphones play a key role in many new forms of touchless technology. They are essential to home automation by using apps to control lighting, thermostats, and security.

Businesses use smartphone apps for touchless payment systems such as ApplePay. Hotels are experimenting with cell phone apps for check-in and room access, replacing room keys and keycards. Motion-activated lighting that was initially installed to reduce energy consumption has the added benefit of reducing contact with light switches in common areas. However, there are contexts in which motion-activated lighting is inappropriate, such as dental offices and retail environments (Su 2020).

Studies have shown that, on average, new habits are formed in 66 days, indicating that the use of contact-free technology may very well become a normal practice (Frothingham 2019). Since the adoption of touchless technology has been greatly accelerated by the pandemic, this increased attention to good hygiene practices over the past ten months suggests that contact free technology will continue to be in high demand even after the pandemic. There are also areas in which new touchless solutions are desirable, such as elevator buttons and self-checkout options in retail stories.

CHANGING USE OF OFFICE SPACE

The Covid-19 pandemic has dramatically changed the office landscape over the past year. But looking beyond the present, it is possible to see deviating trends in the return to office life for most Americans. Even though many companies have made commitments to continue the model of working from home for the time-being, the path forward is not particularly clear. Instead, we are seeing evidence of a wait-and-see attitude by companies that are not fully comfortable with a business model based on working from home. To further complicate matters, workers are split on their desire to return to the office. Together these uncertainties make it difficult to predict whether workforces will continue to operate from home after the

pandemic.

When the pandemic first hit, many companies sent their workers home and closed down their office spaces. This resulted in a huge surge of employees working from home, leaving expensive commercial office space vacant for months; a situation that was unprecedented in the US and urban centers across the world. But given that the pandemic is still on-going, is it possible to predict how different companies will address the question of working from home after the pandemic? Some companies have been laying out their plans for the future. For instance, a well- known social media company, Twitter, has announced that all of its employees may continue to work from home should they choose to do so (Dwoskin 2020). Twitter is not the only example of this shift in workplace culture, as many other tech companies have also embraced a permanent change, including Dropbox and Square, with the former planning to set up satellite offices around the country for workers to meet in person after the pandemic passes (Bursztynsky 2020). The Dropbox model may become more prevalent as companies appear to value some face-to-face interaction between their employees. Other large companies, including Facebook and Microsoft, believe that many of their employees will continue to work from home beyond the end of the pandemic, and are not expecting their employees to return back to the office until mid-2021 (Bursztynsky 2020). While all four of these companies plan to implement some sort of work from home policy after the pandemic, it is clear that the approach will vary by company. Consequently, we may not see the emergence of a clear industry standard on the question of working from home for a number of years. Another consideration is that many of the large companies that are transitioning to long-term work from home models are tech companies that have the means and resources to more easily adapt to changing work environments. The transition to working from home may ultimately depend in large measure on

the sector that the company works in. For example, other sectors of the economy may be more risk-averse than the technology industry.

Even as some technology-based companies are switching to a permanent work from home policy, it is not clear if these companies are fully committed to this model. Even though Twitter plans to allow its employees to work from home, they have also been holding onto their commercial real estate for the time being (Dwoskin 2020). Amazon, another large company, also plans to continue construction of its secondary headquarters even though it doesn't expect any employees to resume work in the office until mid-2021 (Capriel 2020). These real estate decisions may hint at the uncertainty companies face with regards to a work from home model, and their desire to hedge their bets by not fully committing to scaling down their physical footprint.

While companies are making decisions about a work from home model, there appears to be a divide among workers themselves. Older workers appear to prefer a continuation of the work from home policy, whereas younger workers typically prefer to return to the office space where they benefit from both social interaction and mentorship (Miller 2020). This division in worker sentiment will make it more difficult for companies to fully transition to the work from home model or return to pre-covid environment. The differing opinions among workers also helps to solidify the idea that work may take the form of a hybrid model that combines work from home options while returning some employees to the office based on the employee's specific responsibility. It also does not seem unrealistic to predict that workers may go to the office less frequently, splitting their time between their homes and the office. Ultimately, employee sentiment towards working from home or back at the office, along with the real estate decisions companies are making, suggests that a hybrid approach to work in the future is

most likely.

CONCLUSION

At a time when polarization and financial insecurity strongly influence the actions and values of America's government and citizens, political stagnation is an unfortunate possibility with which we must contend. However, the pandemic represents an opportunity for Americans to transcend politics, to unify as a single society, and to make ambitious and lasting changes. The Covid-19 health crisis did not create the problems of urban planning we have highlighted throughout this article, but it has brought insidious structural issues to the forefront of urban policy discussions. Both the public and private sectors should take advantage of this window of opportunity to implement immediate reforms, as well as create longer-term plans to ensure that urban environments overcome their present-day shortcomings.

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The Future after Covid-19: Implications of a Global Pandemic

Conclusion

By Vaishali Nambiar, Alana J. Reinert, and
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Living through a pandemic of this proportion was a crisis most of us never thought we would experience in our lifetimes; an emergency with the potential to unleash profound social, political, and economic change. When faced with such unfamiliar and radical change, it is not uncommon for people to experience a kind of crisis-paralysis, in this case, a sense of powerlessness in the wake of the global shutdown (Masco 2017). While this can lead some to yearn for stabilization and a return to familiar conditions, we have also witnessed it ignite a sense of purpose and determination to use this time of transition for the betterment of society.

As undergraduate students, the contributors to this special issue found themselves in a transitional state even before the onset of the pandemic, making them acutely perceptive of the emerging trends. Whether or not life will resume as usual, if newly developed habits will be long-lasting, and what can be learned from these experiences are questions they have faced in other forms since the beginning of their college careers. It is not only important to pay attention to these questions, but also why we ask them. College students ponder these questions because they know their undergraduate years will reveal aspects of their character or talents about which they may not have been fully aware. It is the same with disasters such as the current pandemic. When the Black Death swept through Europe in the 1300s, preconceived notions of what the world was and should be were broken. In need of an explanation, people eventually confronted the disaster with scrutiny and an eye toward reform, which some scholars believe is

what led to the Renaissance and Reformation (Mann 2020). When confronted with upheaval, humans search for answers made visible by social and cultural disruptions. What we find is not predetermined, but it is important that we pay attention to how society responds.

Looking to the future can be a terrifying practice, especially when it requires reflecting on the past. As a people, a country, and a world, we have suffered a great many losses: the death of loved ones, failed businesses and restaurants (see Ellis et al., this issue), millions of Americans living in poverty (see Galasso et al., this issue), and a moral divide in our country over what is the truth and what is a lie. And yet, the pandemic has also created opportunities for US citizens to thrive, including increased use of technology, greater awareness of community power and the potential for government reform, open conversations on how to solve the public health crisis, and a potential shift in our values.

Covid-19 has decimated the country and taught us that we need to work together and trust each other in order to make progress, but trust does not come easy. Covid-19 encouraged us to appreciate the essential work of teachers (see Yang and Armus et al., this issue), food providers (see Ellis et al., this issue), healthcare workers (see Abdelhady et al., this issue; see McCormick et al., this issue), and many others. But as we've learned from past disasters, when you shine a light on the roots of society, you're going to see what is in the shadows, and this pandemic is no exception. The systemic racism (see McNamara et al., this issue) and xenophobia embedded in our culture, the failure of the state to maintain our socioeconomic contract (see Galasso et al., this issue), restrictions on access to opportunities and resources for low-income individuals and families (see Steiger et al., this issue), and so many other issues that have been brought to our attention present us with a unique opportunity to right past wrongs.

The losses and opportunities presented by the pandemic represent major trends that will undoubtedly have lasting implications for the future. After the pandemic, more people will likely be able to recognize the intersection of factors like race, gender, environment, and socioeconomic status with healthcare access and health outcomes (see Abdelhady et al., this issue; Galasso et al., this issue; McNamara et al., this issue; Rothstein et al., this issue). Many areas of society that may have previously seemed unrelated to public health will likely shift towards framing innovations and solutions from a more health-oriented perspective. For example, a field like urban planning may be mobilized as a risk-reduction strategy, with design solutions intended to embed coordination and disaster resilience into the structure of communities (see Steiger et al., this issue). Technology will likely be viewed as a tool to leverage in future emergency management and disaster response measures (see Nambiar et al., this issue). This shift in dialogue to a public-health informed perspective may prove to be one of the most valuable contributions of the current pandemic to future crises.

As we conclude this group report in December 2020, there is both hesitancy and hope in the air, as our society enters the first stage of the vaccine distribution. Many are clutching onto a renewed sense of optimism and dreaming about resuming their lives right where they left off last March. There is a strong sense of longing for getting "back to normal," with a clear line drawn in the sand indicating that Covid-19 is officially over. However, as illustrated in our report, almost everything about the way we experience life has fundamentally changed. It is our hope that this compilation of articles will encourage others to take the leap towards envisioning a better future, instead of a nostalgia-driven return to the past. In writing this report, the authors were confronted with the challenge of deciding the most appropriate way to think and write about the future. Ultimately, we have primarily adopted an aspirational outlook on the future

(see Appadurai 2013). The pandemic has tested our society's resilience, imposed changes on our communities, and we *have* adapted in the face of crisis. While our responses have been far from perfect, we are now seeing an individualistic society adopting more communitarian and collectivist values. During this period, more people became aware of the health, economic, and racial inequalities that have always been pervasive in our society. Despite the lockdowns and quarantines, this year has been far from a time of hibernation. This period of transformation *can* and *should* continue past the pandemic. The course of action we take towards redressing our shortcomings as a society will allow us to emerge stronger and more unified.

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