What Social Sciences Tell Us About COVID-19's True Toll—and How They Can Help Plan for the Future

🌐 issues.org/social-sciences-covid-toll-public-health-threats-kellogg-reyna

September 20, 2021

September 20, 2021

By <u>Erin Kellogg</u>, <u>Valerie Reyna</u>

Social science research provides insight into human behavior that can help policymakers better understand and recover from the current pandemic, and confront future public health threats.

Society was not prepared for the COVID-19 pandemic. To be sure, biomedical scientists and public health officials have drawn on scientific evidence in order to tell citizens how to slow the spread of the virus and protect communities and individuals. However, these experts were unable to translate that knowledge to influence human behavior effectively and efficiently.

As a result, the COVID-19 pandemic has wreaked havoc on individual and community health in the United States and across the world. Preventable deaths aside, stress and anxiety levels have increased and education has been interrupted. And the impacts of the pandemic have fallen particularly hard on poor communities, rural communities, and communities of color in the United States. <u>Black Americans have died at 1.4 times the rate</u> of white Americans, while Black, Hispanic, and Asian Americans are also more likely to have <u>suffered from job loss</u> because of the pandemic.

During the next phase of the COVID-19 pandemic and recovery, policymakers should request rigorous analysis from the social, behavioral, and economic sciences to assist their decisionmaking. Using a new generation of tools and concepts, social scientists are now able to uncover and understand previously unexplained or misunderstood aspects of human behavior. This can be seen in the way these sciences have brought clarity and insight to some of the mysteries of the COVID-19 pandemic, including vaccine hesitancy, high rates of infections in nursing homes, and even toilet paper shortages.

Understanding human behavior and decisionmaking is essential not only to respond to the current public health crisis, but also to respond to future health challenges that will otherwise have widespread impact. By uncovering these uniquely human factors that affect responses to catastrophes, the social sciences can inform more nuanced and effective policy, now and in the future.

Vaccine Hesitancy

Since the successful launch of the COVID-19 vaccines in early 2021, the number of Americans who do not intend to get vaccinated has shocked, confused, and infuriated many people. The motivations of the vaccine hesitant vary, but social science has done research that both explains this reaction to the technology and provides roadmaps for increasing vaccine acceptance.

> By uncovering uniquely human factors that affect responses to catastrophes, the social sciences can inform more nuanced and effective policy, now and in the future.

Consider those who exhibit vaccine complacency, who believe that the risks associated with the virus are low and vaccination is therefore unnecessary. Refusal to wear masks or social distance, belief that only certain populations are susceptible, and claims that the media is exaggerating infection and death rates are all examples of this perception in action. Evidence from social and behavioral science research is particularly helpful in understanding how to combat these challenges. Social network analysis, for example, has found that a person is more likely to get the vaccine if they have a personal connection to someone who has had the virus or who has already been vaccinated. This kind of insight into behavioral patterns gleaned from social science research should inform public health strategies during the early stages of future crises.

Another place where social science is uniquely positioned to provide actionable insights is the issue of confidence in the vaccines. Surveys show us that many people do not trust the effectiveness of the various COVID-19 vaccines, or have doubts about the vaccines' components. Some of this mistrust stems from the history of the US medical system abusing disadvantaged populations—one primary example being the Tuskegee Syphilis Study. Here again, use of social network analysis can help identify strategies for building public confidence broadly. First, social science research reveals that partnerships with community organizations, as well as trusted messengers who can serve as vaccine endorsers, are essential. Churches with primarily Black congregations have demonstrated the effectiveness of this strategy, collaborating with public health providers to help combat distrust in their communities.

Furthermore, new approaches to understanding how people think about risks have been successful in helping them make health decisions that reflect their values. Fuzzy trace theory, which recognizes that an individual's prior beliefs and experiences play a role in how that individual interprets information, explains the causes and remedies for some of the misconceptions about vaccine safety. When hearing scientific information, especially when presented as statistics and numerical results, people will understand the gist of that information in the context of their own experiences. And their decisions mainly depend on that gist. So rather than relying solely on rote facts and figures, communicators must also consider the gist of information and how it connects to the emotions, values, and beliefs of an intended audience.

The experiences of the past few months, as a large contingency of the population remains hesitant about vaccines, demonstrate that the evidence-based work of the social and behavioral sciences must be central to biomedical science communication in the future. Vaccine hesitancy is not a new phenomenon and social science theories reveal how to address this crucial aspect of how humans respond to technology. Without the application of social and psychological theory to public health strategies, vaccines will be ineffective in stemming the spread of COVID-19.

Early Childcare

Long before the pandemic disrupted the early childcare system, social science research revealed that it was a weak link in workforce preparedness. Decades of research suggest that supporting high-quality childcare for those experiencing poverty not only enables parents to work and support their families, but also prepares children for school and makes them more likely to participate in the workforce in the future.

> Rather than relying solely on rote facts and figures, communicators must also consider the gist of information and how it connects to the emotions, values, and beliefs of an intended audience.

Before the COVID-19 pandemic, for middle class families and lower-income families, childcare costs could routinely reach 20% or more of family income. As parents and caregivers experienced job losses in the early stages of the pandemic, these costs became unsustainable for many families, causing childcare facilities to close. For caregivers who were not able to work from home, childcare costs often increased because of social distancing guidelines and decreased availability of childcare providers. The vulnerable state of the childcare system before the pandemic resulted in a cascade of effects that put additional stress on the most vulnerable families during the COVID crisis—with a disproportionate impact on working mothers.

Evidence from social science research shows that capping early childcare costs to no more than 7% of income for low-income families would have substantial benefits for children, including increased cognitive abilities and improved language access as well as decreased educational disparities over time. Indeed, universal high-quality preschool for 3- and 4-year-olds in the United States would ensure all children have a strong educational base before entering kindergarten, addressing educational disparities from the start. Furthermore, access to childcare makes it more likely that parents will be able to participate fully in the workforce —particularly women. Policymakers and members of the public might disagree about who should pay and at what cost, but it's clear that new policies supporting access to early childcare would foster economic growth in the country and encourage greater participation of women in the workforce.

K–12 Schools

For nearly a year during the pandemic, most students did not have access to in-person learning. And although many schools were able to offer remote learning opportunities, the pandemic exacerbated existing disparities in access to education and educational outcomes, particularly for children living in disadvantaged or rural communities.

> Universal high-quality preschool for 3- and 4-year-olds in the United States would ensure all children have a strong educational base before entering kindergarten, addressing educational disparities from the start.

Evidence-based solutions from social science can point us to strategies for addressing these disparities. In the community schools model, for example, schools partner with community organizations to provide students with physical health, mental health, nutrition, and family support services. In New York City, this model has demonstrated a positive impact on grade progression, attendance, math achievement, and reduced disciplinary incidents.

In a COVID-19 recovery plan, similar models could be used to support the communities that were disproportionately affected by the pandemic. This would address not only the increased academic needs of the students, but could also help alleviate other problems that burdened communities face, including increased stress, lack of access to vaccines or other health care needs, and food insecurity. Schools could be used to provide nutritional support for whole families. Across the nation, similar programs have demonstrated efficacy in increasing the economic capacity and prosperity of communities. In applying this social science research, policymakers can not only improve educational outcomes for all students and help address academic disparities but will also help to create a workforce that is better prepared for the future.

Mental Health

After more than a year of the stress and grief caused by the pandemic, psychologists and other mental health providers should be prepared to address a growing need for mental health care. Evidence from the behavioral sciences can help mental health providers to identify individuals and communities in need of extra resources and support.

> In the community schools model, for example, schools partner with community organizations to provide students with physical health, mental health, nutrition, and family support services.

The pandemic has produced effects that are similar to those of other population-level disasters, which have been extensively studied by the social sciences. This long history of researching recovery and resiliency in the context of collective traumas equips social scientists to provide information and strategies for helping individuals cope with the varied stresses of the pandemic. To predict an individual's mental health response to the stress of the pandemic, it's important to understand the physical, mental, economic, and social resources that a person had access to before the pandemic.

There are also community-level factors to consider. In particular, there is the collective stress of living in a "hot spot" with a higher incidence of COVID-19 cases and higher probability of infection. Recognizing these hot spots could help policymakers identify communities that may need increased support and access to mental health services.

Supply Chains

The pandemic exposed previously hidden vulnerabilities in supply chains around the world, but insights from social sciences revealed surprising fixes for these problems in the United States. For example, applying a social network analysis to the supply chain for restaurant food, a crucial part of the economic system, can help us understand where the vulnerabilities were. One study found that in many instances shortage of food was not the real problem. As customers stayed home and demand declined, deliveries of products also declined. In some cases, farmers saw surplus food going to waste while consumers and restaurants experienced decreased availability of food. This demonstrates that the shortages were created by how people behaved, not by lack of food or technical issues in logistics. And because this dysfunction was rooted in a human problem, it potentially has a human solution. Surprising results such as these illustrate how policymakers and logistics managers could apply evidence-based improvements in behaviorally informed supply logistics to keep food moving during a crisis.

> The shortages were created by how people behaved, not by lack of food or technical issues in logistics.

Such insights from supply chains may also be indicative of what occurred in other supply crunches. The widespread toilet paper shortage in the early months of the pandemic was due to panic buying (and excess demand), which then produced disruptions in the supply chain— the very outcome consumers were trying to avoid. Similar issues occurred with the distribution of essential medical supplies, including N95 masks, causing shortages and inefficient allocations of lifesaving resources. Applying insights from social science research can help prepare to secure food supplies and product chains in a future crisis.

Staffing Structures and Job Sustainability

Social science research tools sometimes reveal evidence that is counterintuitive to the prevailing social narrative. And insights from economic research can provide additional insight into how human behavior contributes to the spread of disease, and how seemingly unrelated workforce practices and public health vulnerabilities are intimately connected.

This connection became particularly clear when social scientists studied the causes of the rapid spread of COVID-19 through nursing homes. Early in the pandemic, nursing homes and other longer-term care (LTC) facilities accounted for a disproportionate share of COVID-

19 cases and fatalities. Nursing homes were quick to implement visitor restrictions. Surprisingly, even after these restrictions were in place, outbreaks associated with nursing homes continued.

An early report from the Centers for Disease Control and Prevention pointed to nursing home workers—rather than nursing home visitors—as a likely source of the spread of COVID-19. Though this was counterintuitive to the prevailing narrative at the time, it revealed how complex labor structures were spreading COVID. Because of the significantly low pay for these jobs, many LTC workers—the majority of whom are nonwhite females—combined employment across multiple homes; many also took on additional employment from staffing agencies to go where LTC workers were needed. These multiple jobs turned out to be the major—and unappreciated—factor in spreading the virus in nursing homes.

Specifically, many LTC workers were traveling from one high-risk environment to another, exposing both themselves and their patients to even greater risk. The first large-scale analysis of nursing home connections via shared staff found that nursing homes, on average, shared connections with a surprising *seven other facilities*. While visitors were barred from entering nursing homes, employees were passing with little notice from one vulnerable site to another—and their impact was not understood until social science research was conducted. Indeed, by September 2020, nursing homes accounted for more than 190,000 COVID-19 cases and more than 900 deaths. And at least 1 in 10 nursing home workers got COVID-19—a rate much higher than that of the general population.

> Many longer-term care workers were traveling from one high-risk environment to another, exposing both themselves and their patients to even greater risk.

Research into the spread of COVID-19 through nursing homes highlights two key points. First, greater availability of personal protective equipment (PPE) might have slowed the spread, and nursing homes often lacked access to these lifesaving measures, exacerbating the effects of the staffing models. Second, these findings should promote rethinking of such unsustainable staffing models in health care facilities. Paying living wages should be considered a key part of maintaining an effective health care setting. As we begin the economic recovery and prepare the workforce for future public health crises, this is a crucial consideration.

While for many Americans it may have seemed as though this pandemic came unexpectedly, scientists have been warning about potential disease outbreaks for years. This is not the first pandemic to threaten global health, and it certainly will not be the last. But although predicting how a new public health threat begins may be impossible, society can be better prepared to prevent its development into a pandemic. That is, leaders can control how society responds to that threat to mitigate or even eliminate widespread impact. But that will require recognizing that scientific knowledge means very little if experts are unable to translate and apply it to actual human behavior.