

Lessons Learned from Missouri Institutions of Higher Education Response to the COVID-19 Pandemic

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1. Background

1.1 Impact of COVID on Higher Education

Institutions of higher education (IHE) have worked tirelessly to mitigate the effect of SARS-CoV-2 (COVID-19) on their campuses. It is estimated that there have been more than 320,000 COVID-19 cases and 80 deaths at over 1,700 IHE since COVID-19 began.¹ College students are a unique population because they live in communal spaces, increasing the risk of transmission.² Additionally, one-third of faculty are over the age of 55, placing them at increased risk for hospitalization from COVID.³ Mitigation strategies on campuses are imperative to reduce the risk of COVID-19. These strategies have included screening of asymptomatic and symptomatic students with laboratory tests, mask wearing, social distancing, hybrid (in person and online) instruction of courses and a switch to full virtual learning.⁴ Each mitigation strategy has trade-offs and IHE needed to balance safety of their campuses with reduced educational quality and financial impact.⁵

One mitigation strategy employed by IHE was identifying individuals with COVID-19, isolating positive cases and quarantining their close contacts.⁶ Antigen tests, referred to as rapid tests, received FDA emergency authorization and were used at IHE because they are relatively inexpensive and can turn around results quickly, some in 15 minutes.⁷ Polymerase chain reaction (PCR) testing is referred to as the “gold-standard” of testing because it

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¹ Elena Losina et al., “College Campuses and COVID-19 Mitigation: Clinical and Economic Value,” *Annals of Internal Medicine* 4 (December 2021): 174.

² Ibid.

³ Ibid.

⁴ Ibid.; and Andrew DePietro, “Here’s a Look at the Impact of Coronavirus (COVID-19) on Colleges and Universities in the U.S.,” *Forbes Magazine*, April 30, 2020, accessed July 14, 2021, www.forbes.com/sites/andrewdepietro/2020/04/30/impact-coronavirus-covid-19-colleges-universities/?sh=52861a4161a6.

⁵ DePietro, “Here’s a Look at the Impact of Coronavirus.”

⁶ “Considerations for Case Investigation and Contact Tracing in K-12 Schools and Institutions of Higher Education,” CDC, accessed July 14, 2021, <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/contact-tracing.html>.

⁷ Ian W. Pray et al., “Performance of an Antigen-Based Test for Asymptomatic and Symptomatic SARS-CoV-2 Testing at Two University Campuses — Wisconsin, September–October, 2020,” *Morbidity and Mortality Weekly Report (MMWR)* 69 (January 1, 2021):1642–1647, accessed July 12, 2021, https://www.cdc.gov/mmwr/volumes/69/wr/mm695152a3.htm?s_cid=mm695152a3_w.

has higher sensitivity and specificity among symptomatic students,⁸ but it is more expensive and has a longer wait time for results (often close to a week).

1.2 Collaboration of IHE

During the COVID-19 pandemic, IHE shared resources and information to implement mitigation strategies. This type of collaboration is not common among IHE who are often competing for resources and students. When institutional collaborations occur, they are typically for research⁹ and streamlining administrative efficiencies, such as technology.¹⁰ However, institutional collaborations have the potential to align national priorities and create efficiencies.¹¹ Governmental organizations encourage collaboration through grants that incentivize partnerships.¹² An important aspect in the success of institutional collaborations is stakeholder buy-in from the administration.^{13,14} COVID provided a unique opportunity for collaboration between IHE and governmental agencies.

1.3 History of the Group

Shortly after COVID-19 hit Missouri, state-hosted Fusion Cell daily meetings arose, comprised of roughly 300 people across the state. Fusion Cell members represented various state departments, Local Public Health Agencies (LPHAs), physicians, and other individuals or entities with a vested interest in gaining a common understanding of the pandemic. This Fusion Cell branched into separate microcells that focused on specific topics, all reporting back to the state Fusion Cell. This model, developed by the McChrystal Group, led to effective and efficient statewide communication with diverse stakeholders.

The Missouri Department of Higher Education and Workforce Development (DHEWD) began facilitating weekly video meetings with higher education leaders across the state as a result of several influencing factors. Three separate but simultaneous groups were meeting regularly in an effort to gain information about the COVID-19 pandemic. These separate efforts, involving college/university presidents, academic affairs personnel, and student affairs personnel, were taxing on DHEWD time and personnel, and leadership acknowledged the need to streamline resources and information. This group, led by Assistant Commissioner for Postsecondary Policy Mara Woody, evolved organically into weekly meetings where the DHEWD shared information, leveraged resources, and allowed IHE to share and discuss challenges, logistics, questions, and best practices. The group has a listserv of 193 members with representation from human resources, emergency management, presidents, provost offices, deans, chiefs of staff, student health centers, government relations, and student life. Weekly attendance ranged from 70-80 participants in Fall 2020 to 40-50 participants in late spring and early summer of 2021.¹⁵

The purpose of this research is to highlight how institutions of higher education collaborated across the state of Missouri during the COVID-19 pandemic, identify lessons learned during the process, and identify how public health and higher education can apply these lessons moving forward.

⁸ Ibid.

⁹ Jun Song Huang and Andrew Brown, "Enabling Collaborative Work in Higher Education: An Exploration of Enhancing Research Collaborations Within an Institution," *Journal of Research Administration* 50, no. 3 (Fall 2019): 63-89, accessed July 12, 2021, <https://files.eric.ed.gov/fulltext/EJ1237830.pdf>.

¹⁰ Jonathan Williams. 2017. "Collaboration, Alliance, and Merger Among Higher Education Institutions," OECD education working paper 160.

¹¹ Huang and Brown, "Enabling Collaborative Work," 3.

¹² Williams, "Collaboration, Alliance, and Merger."

¹³ Huang and Brown, "Enabling Collaborative Work," 3.

¹⁴ Williams, "Collaboration, Alliance, and Merger."

¹⁵ Mara Woody, personal communication with author, July 2, 2021.

2. Methods

The research team explored the collaboration with the DHEWD, the Missouri Department of Health and Senior Services (DHSS), and IHE during the pandemic. A Sunshine Law request was made to the DHEWD on June 3, 2021, to gain access to the meeting videos and related documentation. A DHEWD representative gave the research team access to the Box file-sharing site that contained all documents and video links requested. The research team evaluated thirty-one video recordings of weekly meetings from November 4, 2020, to June 9, 2021. Videos were not available for earlier meetings and although meetings continued throughout the summer of 2021, data analysis concluded with the June 9, 2021, meeting. Meeting length averaged one hour.

The research team interviewed DHEWD staff about the development of the consortium meetings and their overall perspective about the consortium. The research team developed defined codes that were used to organize information from the video recordings. These codes were entered into a template that was used to categorize notes from each video recording. The research team met to discuss the findings from a small sample of videos, to ensure coding consistency. The research team divided the remaining videos, watched each assigned video, and took detailed notes utilizing the code template. Each member of the research team then summarized their findings in separate documents for each code.

3. Results

Content analysis revealed several important findings related to the structure, process, and value of these weekly statewide meetings. This analysis highlights the role of the DHEWD, leaders that emerged among the meeting participants, challenges posed by the COVID-19 pandemic, and successes and accomplishments experienced by Missouri institutions of higher education.

3.1 DHEWD Role

3.1.1. Information and experts

The DHEWD facilitated the meetings and provided leadership and guidance throughout the weekly meetings. They provided concise summary emails each week to all those on the list. The DHEWD provided general information on COVID-19 (data, trends, and emerging variants) as well as wastewater testing options, vaccine shipments and the Missouri rollout process, and Missouri resources and websites.

DHEWD staff invited several experts to meetings to provide detailed information on specific topics. Experts from the Missouri Department of Health and Senior Services (DHSS) included representatives from the Section for Environmental Public Health, Division of Community and Public Health, Epidemiology, Bureau of Immunizations, and the State Public Health Laboratory. DHEWD also hosted a representative from the Missouri Office of Administrations Information Technology Department.

A significant amount of time was spent discussing COVID-19 testing options, nuances, requirements, waivers, and logistics. DHEWD staff and related experts explained the test ordering and reporting process, standing physician orders, and lab requirements. Members of the group learned about the difference in PCR versus antigen testing. Experts also updated the group on community and at-home testing options. These experts helped IHE understand their options and make decisions for their institutions at various times of the year, depending on the community context and case numbers.

Members of the group asked several questions about legislation and funding that might influence their communities or their decision-making process. The DHEWD invited a legislative expert to several meetings to explain specific bill processes and status reports throughout the spring and summer meetings. This expert also provided information to the group on the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), the American Rescue Plan Act, and Higher Education Emergency Relief Funds.

3.1.2. Leveraging Resources and Advocating for IHE

The DHEWD, DHSS, and State Public Health Laboratory spent significant time and effort negotiating contracts with COVID-19 testing vendors on behalf of public IHE. While private IHE could not automatically access these contracted rates on the state-developed Qualified Vendor List (QVL), they could leverage a conversation with companies on the QVL to develop their own contract. Missouri negotiated three testing options, which included 1) end-to-end testing (approved companies staff and host a testing event using certified lab), 2) lab processing vendors (IHE coordinates testing and sends specimens to an approved lab for processing), and 3) vendors with Fluidigm equipment from Missouri for PCR testing.

Missouri leveraged and managed a major testing contract with Abbott Laboratories pertaining to their BinaxNow product. The DHEWD disseminated information to the group and in November 2020, twenty-three IHE completed the request to participate in this program. Throughout the course of these thirty-one meetings, the DHEWD provided updates, negotiated contract extensions, and clarified information and logistics for the IHE using BinaxNow for surveillance testing. The DHEWD also coordinated redistribution of expiring tests and over-supply. Additionally, Missouri departments negotiated vendors to collaborate with Fluidigm and their COVID-19 saliva test. Personnel were able to extend the state emergency use agreements for this product.

The DHEWD and various state departments advocated on behalf of IHE in multiple ways throughout the COVID-19 pandemic. In November 2020, the governor's office released information that conflicted with Centers for Disease Control and Prevention (CDC)/LPHA guidance, posing a challenge for IHE. State personnel addressed these concerns with the governor's office and the group emphasized the need to follow guidance issues from the LPHAs. When vaccine tier information was released, the group expressed concern and need for IHE healthcare workers and students to be placed in Tier 1A, given their exposure and risk status. In response to concerns regarding the college student demographic and known challenges regarding vaccine compliance, the DHEWD advocated for college students to have priority status for the Johnson & Johnson (one-dose) vaccine. This was unable to happen, due to the higher priority needs of the homeless and homebound populations, but IHE participants appreciated the ongoing conversations regarding this request.

DHEWD staff reported that the Public Health Microcell, a branch of the State Fusion Cell, was working to leverage federal funding to respond to IHE needs. She solicited input from the group participants, which resulted in expressed need for mental health support and opportunities for IHE to engage with public health preparedness and emergency management in the future.

3.2 Leaders

In addition to the leadership role that the DHEWD played in this consortium, key leaders emerged among the participants. IHE that had medical centers and schools of public health provided expertise and experiences that were valuable to the group. DHEWD and DHSS staff were on various committees and could provide expertise and explain complex issues (testing, vaccines, variants, surveillance, state plans, and legislation) to the group. They also provided support and guidance regarding changing CDC and state guidance.

3.3 Challenges

When specifically asked about the challenges posed by the COVID-19 pandemic, participants indicated some general issues of balancing different opinions, student success outcomes, not having answers to their questions, providing effective virtual courses, teaching virtually and in-person simultaneously, just doing their jobs, and working with people who refused to wear a mask. Participants discuss at length such challenges as CDC and other guidance, finances, and how to best make decisions.

3.3.1 CDC guidance

Schools had to navigate conflicts between CDC guidance about asymptomatic testing and feasibility. The group discussed spring surveillance testing during November 2020 – January 2021 meetings and at this point in the pandemic, vaccines were introduced to high priority populations and were in scarce supply. It was recommended by the CDC that IHE test all students before they arrive on campus (not just residents) and that students quarantine while they await test results. This was not financially feasible for all institutions and the turnaround time for PCR testing can be up to two and a half days, creating a burden. Schools that did mass testing with PCR tests absorbed the cost of the tests. BinaxNOW has low sensitivity and specificity for asymptomatic individuals, so it was not recommended for mass testing of asymptomatic students.

Logistical challenges with mass testing were staffing, time and capacity. One private, mid-sized school reported that it took five days and a large team of people to test one third of the student body. Schools without medical or allied health programs reported challenges in finding medically qualified people to administer tests. One private IHE reported that they planned to do Spring 2021 return-to-campus testing for all students specifically based on feedback from commuter students, indicating they were not happy to be excluded from Fall 2020 testing. One public IHE indicated that they were not planning to do spring surveillance testing due to low resources.

CDC released new quarantine guidance in December of 2020 that reduced the quarantine period from fourteen days to ten days without a negative test, if no symptoms have been reported during daily monitoring. When diagnostic testing resources are sufficient and available, then quarantine can end after day seven if a person tests negative and if no symptoms were reported during daily monitoring. Most schools reported that they did not follow these guidelines. For IHE that did change to the reduced quarantine, it was because their LPHAs implemented the change and they were following that guidance. One challenge is that LPHAs practiced quarantine guidance in different ways. For example, some used antigen tests and others required PCR tests for quarantine procedures. It was suggested that the institution needs to communicate with the LPHA and align their practices with LPHA practices.

In March 2020, the group discussed the benefits and feasibility of continued spring surveillance testing. At this point, many IHE chose to stop surveillance testing due to cost, lack of personnel (specifically because the testing staff was needed to pivot to provide vaccinations instead), and low community rates that did not warrant continued testing. One public institution reported that at this point in the semester, and due to their medical teams not agreeing with CDC guidance regarding continued serial screening,¹⁶ they were going to shift their campus efforts to focus on health promotion and risk-avoidance behaviors and messages.

In May 2021, the CDC revised their mask guidance, indicating that fully vaccinated people no longer needed to wear masks indoors or outdoors. During the meeting that occurred shortly after that announcement, the group discussed how to alter their campus plans for Fall 2021. IHE responses to this announcement varied. A community college planned to base their mask mandate decision on city/county ordinances and would wait for guidance

¹⁶ “Interim Guidance for SARS-CoV-2 Testing and Screening at Institutions of Higher Education,” CDC, accessed July 19, 2021, <https://www.cdc.gov/coronavirus/2019-ncov/community/colleges-universities/ihe-testing.html>.

before making decisions. A public IHE reported that they would consider local hospital ICU and ventilator availability, if the university had adequate quarantine space, and community vaccination rates to determine campus mask policies. Another public IHE acknowledged that while science indicated low classroom transmission rates, they were influenced by faculty needs and perspectives regarding masks, as well as their case trends.

The group also weighed the multiple local and national guidance regarding mitigation strategies. Many IHE expressed desire to follow CDC guidelines, but acknowledged that many times it was unreasonable or unrealistic given their infrastructure, capacity, finances, and personnel. Several members voiced the importance of following LPHAs over national guidelines, due to the need to acknowledge the local context and culture. One member maintained commitment to the Occupational Safety and Health Administration (OSHA) guidance, indicating that failure to comply with OSHA could result in an audit or a fine, whereas other national guidance did not.

3.3.2 Vaccine mandates, incentives, and documentation

An early challenge after vaccines became available was IHE determining the legality of mandating vaccines that were given emergency use approval. This topic was discussed at several meetings and many IHE consulted with general counsel to help them understand their options. Participants were aware of various bills submitted to the Missouri General Assembly that could influence their decision making. The DHEWD brought in a legislative expert to help explain the process and update the members on the status of various bills.

Another challenge most IHE faced was conflicting and strong opinions of the entire IHE community. One private IHE received feedback that stated “if you require vaccines, I won’t send my child back” as well as “if you don’t require vaccines, I won’t send my child back.” Another private IHE indicated that their students wanted a vaccine mandate but their parents did not. Balancing these differing opinions was a challenge for many IHE. Another challenge related to vaccine mandates was precedence. Many IHE didn’t require other vaccines so they struggled with knowing if and how to start this process.

There was much discussion on how to best incentivize vaccinations, in the absence of a mandate. Several ideas were raised, such as T-shirts, gift certificates, money, free parking, free three-credit course, health insurance discount for employees, and raffles. Participants also discussed the ability to use Higher Education Emergency Relief Funds or institutional funds and acknowledged that certain types of incentive packages might affect student financial aid.

Member IHE struggled with the legality and logistics of documenting vaccine status of students and employees. Initial conversations focused on whether IHE could legally require proof of vaccine status given the emergency use approval of the COVID-19 vaccination, or if IHE could require proof if they were not mandating the vaccine among their community members. A representative from a public university later informed the group that their general counsel indicated this particular IHE could ask for proof, which led that institution to decide to ask for proof but would not track or maintain vaccination records. Another concern was the method of documentation. One private IHE planned to use Salesforce for these purposes, another private IHE planned on using an internal tracking system, and another member asked about using ShowMeVax, Missouri’s Immunization Information System.¹⁷ This resulted in a discussion about the logistics, ease, and access to this website, which led to the DHEWD inviting DHSS staff to the next meeting to discuss this process in more detail. Finally, there was concern among a few members that vaccine ID cards are easily fabricated. One benefit the group identified was that IHE could use vaccine completion, and proof of such completion, as an incentive to eliminate the need for daily health

¹⁷ “ShowMeVax,” Missouri’s Immunization Information System, accessed July 8, 2021, <https://showmevax.health.mo.gov/smv/login.aspx>.

assessments, testing, and quarantine.

3.3.3. Human Resources/Employee Issues

The pandemic forced colleges and universities across the country to work in untraditional ways, with many working and teaching 100 percent remotely. During June meetings, many participants reflected on the past year and explored if and how to maintain remote work policies, and how to justify revised policies if their respective administration/leadership were not supportive. One participant from a community college shared that leadership had acknowledged that they learned from this experience and realized employees were successful and productive when working from home. This institution also recognized that moving towards a more flexible work policy could be beneficial when recruiting and retaining quality employees. Some IHE were challenged by the inflexibility of some employee positions (campus security, groundskeeping, etc.) and how a remote work policy would not benefit many employees. However, the group discussed research that showed increased productivity and morale and decreased turnover when remote work policies were implemented.

3.4 Successes and Accomplishments

Participants were able to identify several successes and accomplishments, despite the challenges. IHE expressed overwhelming pride in maintaining a healthy campus and being able to stay open, maintaining in-person classes, keeping students in residence halls, and offering programs and services to students. Some IHE also emphasized the importance of continuity of operations plans and understanding and seeing the practical application of emergency preparedness/management. Participants also highlighted specific staff and departments, including the professionalism of health center staff, student life staff, and overall resiliency across their employees. Innovation was also identified as a point of success during the past year.

3.4.1 Partnerships

The COVID-19 pandemic resulted in many collaborations between IHE and Local Public Health Agencies. IHE met with LPHAs and looked to them for public health guidance, sometimes overriding CDC or other national level guidance. One public institution specifically stated they took over the management of contact tracing for their university community at the beginning of the pandemic, and then moved that responsibility back to the LPHA when cases declined and they were seeing overlap in their efforts. These IHE-LPHA relationships were encouraged by the DHEWD and other state departments.

Several IHE mentioned new partnerships with testing labs and pharmaceutical companies. Some IHE also identified new collaborations with local hospitals, community clinics, and K-12 school districts. These relationships were mutually beneficial, with the IHE both receiving a service or information from the hospital as well as the IHE providing clinic personnel to understaffed community clinics or school district vaccination events. Two IHE worked with their local chamber of commerce and local retail industry for vaccination events and incentive plans.

Participants identified the significance of institutional partnerships and collaborations. Several IHE mentioned that this experience helped breakdown institutional silos, helping people understand the importance of centralized decision making and working together. Finally, IHE acknowledged the importance of new communication and networking routines that will continue to allow for more integrated working relationships.

3.4.2. Collegiality

An unanticipated accomplishment or sense of pride felt by many participants was the ability to meet with this specific group on a weekly basis. Participants appreciated the ability to share information and resources with one another. Some IHE were able to share lessons learned from vaccine clinics or mass testing events that proved beneficial to other IHE. Participants willingly shared excess BinaxNow tests and provided sample institutional policy templates to help their colleagues across the state. The sense of collaboration and collegiality demonstrated by this group earned them the League of Extraordinary DHEWDs award by the DHEWD in May 2021. One representative said “. . . the benefit of this group is to help us think through these things and get other university’s perspectives.” (Participant, public institution).

4. Discussion

The Missouri DHEWD facilitated a collaborative learning process for all institutions of higher education across the state during the COVID-19 pandemic. During weekly meetings, participants were presented with scientific information and brainstormed together how to interpret the information and make appropriate and feasible decisions for their respective campuses. While several individuals participating in the weekly meetings had a public health background, many did not. This posed a challenge. IHE representatives had to understand and comprehend a global pandemic and make informed decisions. They had to understand scientific nuances about COVID-19 test specificity and sensitivity, and balance that with staffing feasibility and budget. They had to understand when the scientific body of knowledge and guidance continued to change over time and then pivot their campus policies quickly. This past year has required deep understanding, teamwork (within individual institutions and across the state), and nimble decision-making in order to implement successful recovery and move forward.¹⁸

Participants represented diverse stakeholders and various types of IHE. Missouri is home to thirteen public four-year institutions, fourteen public two-year institutions, twenty-four independent private institutions, eleven specialized technical colleges, seventeen theological institutions, and more than 150 proprietary private schools.¹⁹ While these IHE are in urban, rural, and suburban communities, their students originate from Missouri, across the country, and across the globe. IHE communicated scientific and constantly changing information, and their related institutional policies, to their diverse stakeholders in a timely manner. Many participants indicated they faced political pressure while making decisions, which exasperated an already confusing and stressful time. The IHE were keenly aware of potential Missouri legislation and local ordinances that helped support, or challenged, their process.

4.1 Recommendations

This research highlights the importance of continued cross-disciplinary collaboration among IHE and various state departments during a pandemic. The dialogue that occurred in these meetings clearly showed that all members valued and benefitted from public health expertise. Future collaborations would benefit from ensuring a public health voice is part of the discussion and problem-solving strategy. Smaller institutions, and those without public health or a medical/nursing faculty, would also benefit from organized partnerships with public health experts and faculty to share resources and information.

¹⁸ Marc J. Kahn and Benjamin P. Sachs, “Crisis and Turnaround Management: Lessons Learned from Recovery of New Orleans and Tulane University Following Hurricane Katrina,” *Rambam Maimonides Medical Journal* 9, no. 4 (October 2018) accessed July 14, 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6186005/>.

¹⁹ “Missouri Higher Education Institutions,” Department of Higher Education and Workforce Development, accessed July 3, 2021, <https://dhewd.mo.gov/public-and-independent-colleges.php>.

Similarly, there is value in having IHE represented in larger statewide conversations regarding emergency management, given their vital role. One member expressed value in having IHE collaborate with emergency preparedness in the future, considering their role in the implementation and management of emergency situations, specifically with contact tracing, vaccination centers, and testing, identifying that “. . . whenever public health is overwhelmed, then it will fall to us with our populations.”

The role of the DHEWD leadership cannot be overlooked. This collaborative process emphasized the value in providing IHE with opportunities to discuss and jointly strategize, rather than compete for resources and students. This research suggests that state departments and IHE look for more opportunities for collaboration in the future. Finally, Missouri IHE, DHEWD, and DHSS need to prepare for the increased need for culturally competent mental health support for their students and employees. As of July 14, 2021, there have been 4,049,372 deaths worldwide due to COVID-19.²⁰ IHE representatives expressed need for improved mental health services during these meetings, acknowledging the anticipated increase in attention and care for students. Missouri IHE can learn from Hurricane Katrina recovery and properly fund, staff, and provide mental health services.²¹

4.2. Limitations

This research is not without limitations. While the DHEWD facilitated many events to help support IHE during the COVID-19 pandemic (group meetings, workshops, panels, and communication), this research only reports on thirty-one weekly meetings from November 4, 2020 – June 9, 2021. This research only includes the perspectives of the people and the IHE that contributed (vocally or via the chat) to the meetings in this timeframe and does not include input from IHE that did not speak during these meetings.

5. Conclusion

The COVID-19 pandemic continues to challenge individuals, communities, institutions, and our global community. The process led by the DHEWD has shown the significant benefits of collaborative problem-solving in this challenging time. It is important that Missouri and other states learn from these lessons and apply them to future emergencies in order to be healthy, safe, and successful.

²⁰ “WHO Coronavirus (COVID-19) Dashboard,” World Health Organization, accessed July 14, 2021, <https://covid19.who.int/>.

²¹ Jeanne S. Ringel et al. 2007. “Lessons Learned from State and Local Public Health Response to Hurricane Katrina,” RAND Corporation working paper WR-473-DHHS, accessed July 14, 2021, https://www.rand.org/content/dam/rand/pubs/working_papers/2007/RAND_WR473.pdf; and “The Road to Recovery: Looking back 10 Years After Hurricane Katrina,” *the Dialogue* 11, no. 3-4 (2015), accessed July 14, 2021, <https://www.samhsa.gov/sites/default/files/dtac/dialogue-vol11-1-is3-4.pdf>.