Regional Case Study Series:

The Public Health Response to COVID-19 in the Southwest Region of Missouri

Spring 2022

Milken Institute School
of Public Health
THE GEORGE WASHINGTON UNIVERSITY

Missouri *Foundation*
for Health
a catalyst for change

Authors

Jennifer Trott, MPH

K. Holly Mead, PhD

Marie-Anais Benoit

Dora Hughes, MD, MPH*

Jeffrey Levi, PhD

Jacqueline Baños, MPH

Semret Seyoum, MPH

Marsha Regenstein, PhD

*Dr. Hughes is currently the Chief Medical Officer at the Centers for Medicare and Medicaid Services Innovation Center.

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Executive Summary:

Southwest Missouri's Public Health Response to COVID–19

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The Public Health Response to COVID-19 in the Southwest Region of Missouri is one of three regional reports that offers findings from conversations with local stakeholders and residents about their experience with the state and region's pandemic response. The study focused on the period from March 2020 through May 2021, just prior to the surge caused by the delta variant and well before the emergence of the omicron variant. Its aim is to document efforts by Southwest Missouri's local public health agencies (LPHAs) and a multitude of other stakeholders to combat COVID-19, and to identify lessons that could strengthen public health practices to better safeguard communities in the future.

Missouri's approach to public health is decentralized, and as such LPHAs were tasked with tapping local, regional, and state relationships and resources to wage a locally tailored response to a global virus. Uneven resources and a varied approach challenged pandemic response coordination, both regionally and across the state, despite enormous dedication by local public health; state and local elected officials; health care organizations; first responders; community non-profits; and countless others.

Southwest Missouri's 18 local public health departments (defined using the boundaries of Highway Patrol Region D[1])

have been chronically underfunded compared to departments in other states. Years of underinvestment in local public health agencies took an enormous toll on staff, operations, and all other aspects of LPHAs' response to COVID-19. Some LPHAs had reserves they had built over a period of years that could be tapped for a major scale-up in workforce and other needed areas. Other LPHAs had little or no rainy-day funds and depended heavily on federal Coronavirus Aid, Relief, and Economic Security Act (CARES Act) dollars to bridge their funding gaps. In the absence of CARES Act funding or reserves, LPHAs were challenged to muster a robust pandemic response *and* maintain traditional public health programs designed to help those most in need in their communities.

Our hope is that the following key study findings will be leveraged to strengthen the public health system's ability to continue responding to the COVID-19 pandemic and to face future crises with greater resources, coordination, equitable strategies, modernized infrastructure, and public trust. Because Missouri is a large and diverse state, we also acknowledge there is no single pandemic story. Experiences and events of the crisis — including the speed of the virus's spread, how infection impacted populations, and how local authorities and stakeholders responded — differed from region to region.

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1   Missouri Department of Health and Senior Services divides its health reporting regions according to the Missouri State Highway Patrol map. To view the regional map, see https://health.mo.gov/data/gis/pdf/map_ReportingRegions.pdf.

Readers therefore may also be interested in the companion reports, *The Public Health Response to COVID-19 in the Northeast Region of Missouri*[2] and *The Public Health Response to COVID-19 in the St. Louis Region of Missouri*[3]. Findings from the three reports were used to inform the state-level recommendations in our report *Missouri's Public Health Response to COVID-19: Key Findings and Recommendations for State Action and Investment,* which was developed for the purpose of strengthening the state public health system's ability to face future crises, and to capitalize on new and timely federal funding opportunities in the wake of the pandemic.[4]

2   Trott, J., Mead, K., Markus, A., Acosta, A., Baños, J., Conway, C., Benoit, M., and Regenstein, M. "The Public Health Response to COVID-19 in the Northeast Region of Missouri" (2022). *Health Policy and Management Issue Briefs*. https://hsrc.himmelfarb.gwu.edu/sphhs_policy_missouri/

3   Regenstein, M., Mead, K., Trott, J., Seyoum, S., Baños, J., Van Bronkhorst, H., Benoit, M., and Hughes, D. "The Public Health Response to COVID-19 in the St. Louis Region of Missouri" (2022). *Health Policy and Management Issue Briefs*. https://hsrc.himmelfarb.gwu.edu/sphhs_policy_missouri/

4   Levi, J., Regenstein, M., Hughes, D., Trott, J., Markus, A., Seyoum, S., Acosta, A., Benoit, M., Van Bronkhorst, H., Conway, C. "Missouri's Public Health Response to COVID-19: Key Findings and Recommendations for State Action and Investment". (September 2021). *Health Policy and Management Issue Briefs.* Paper 61. https://hsrc.himmelfarb.gwu.edu/sphhs_policy_briefs/61

KEY FINDINGS: SOUTHWEST MISSOURI'S PUBLIC HEALTH RESPONSE TO COVID-19

	Key Finding	Summary
A	Prior Natural Disaster Response and Preparedness Training Was an Asset During the Pandemic	Historical experience with emergency preparedness and disaster response efforts is a defining characteristic of the Southwest region and was an asset in pandemic response efforts. However, many stakeholders noted the limited training and preparation for infectious-disease outbreaks of COVID-19's scope and scale. Compared to prior infectious-disease efforts like the 2009 H1N1 response, local public health stakeholders reported weaker coordination with the state.
B	Community Partnerships Enhanced the Pandemic Response	Formal and ad hoc partnerships were leveraged within and across sectors to organize various aspects of local COVID-19 response efforts. Many Southwest stakeholders reported that pre-existing relationships enabled a more nimble response, and that community partnerships reduced redundancies and increased information and resource sharing. Partnerships that included participation from LPHA directors and local elected officials were perceived as effective, though some noted that LPHAs did not always participate in partnerships (sometimes due to limited bandwidth and resources). When response efforts were collaborative, residents were sometimes confused about where to go or whom to turn to for services and guidance.
C	LPHA Staffing and Resource Constraints Profoundly Limited the Effectiveness of the Pandemic Response	Chronic funding challenges and limited staffing inhibited the Southwest's LPHAs from sufficiently scaling up to meet the region's public health needs during the pandemic. Most LPHAs diverted employees to COVID-19 activities, thus taking away from other essential public health functions. Workforce needs were difficult to predict. Some LPHAs were able to access federal funds for additional hiring purposes, but for others administrative hurdles were too onerous. Although some residents felt frustration with inefficiencies and delays in pandemic services like testing, most felt that public health authorities had done the best that they could with the resources in hand.

D	Poor Coordination Between the State and Local Levels Exacerbated the Spread of Infection	A decentralized public health system and "home rule" approach to policy drove pandemic response efforts. Though communities were empowered to take a locally tailored approach, inconsistent public health guidance and protocols weakened messaging and mitigation strategies, including masking, quarantining, social distancing, and testing. Communities in which public health and local elected leaders worked in tandem were viewed as more effective.
		Confusion existed around which local entity had the authority to implement and enforce pandemic policies. Furthermore, the organization of health regions according to the state highway patrol map was not viewed as useful to response efforts like vaccine distribution.
E	Weak Data Reporting and Outdated IT Systems Stymied Timely Decision Making	LPHA and state data systems were not aligned or up-to-date, and various workarounds were used locally to track cases, testing, and vaccines. New case tracking systems were introduced by the state later in the pandemic. Some LPHAs were able to leverage technology to gain efficiencies.
		Discrepancies in state and local data undermined trust in the data among some residents. Technology played a key role in pandemic response efforts like vaccination registration, which led to some residents challenged by internet and technology access being left out.
F	Disjointed Communications Eroded Public Confidence and Created Space for Misinformation to Flourish	Inconsistent messaging weakened public health credibility and contributed to confusion over which guidelines residents and stakeholders should follow. Additionally, misinformation on certain news outlets and social media called into question the threat of the virus, and important public health strategies like vaccination suffered as a result.
		LPHAs, health care leaders, and other partners tried to get ahead of misinformation with varied results. Most Southwest residents who participated in focus groups for this case study trusted and regularly sought information from their local health department, and one-third knew who their local health director was by name.
G	Public Health Was Not Sufficiently Responsive to High Rates of Poverty in the Region	Many Southwest residents are living in poverty, making them more vulnerable to COVID-19's impacts. These residents experienced financial, technological, and transportation accessibility challenges when it came to seeking public health services and health care. In some areas of the region, lack of public and political support for anti-poverty measures was believed to have made it difficult to prioritize assistance for those living in poverty during the pandemic.
H	The Pandemic Response Inadequately Served the Needs of Latino, Black, and Immigrant Communities	People of color made up a disproportionate share of COVID-19 infections and deaths, and many, including immigrants, held essential jobs that put them at increased risk of exposure. Pandemic services like testing and contact tracing were sometimes difficult to access due to cost, language, and transportation barriers. Some Black and Latino residents distrusted the government response in part due to experiences of racism.
		In some counties, there was a disconnect between LPHA communication and community needs when it came to outreach to underserved and linguistically diverse groups. LPHAs were not always able to hire interpreter services and campaigns did not necessarily target communities with culturally sensitive messaging.

Study Approach and Methods

In summer 2020, Missouri Foundation for Health contracted with The George Washington University Milken Institute School of Public Health to assess Missouri's public health preparedness and response capacities to the COVID-19 pandemic and future public health crises. The purpose of the regional case studies is to 1) document the multi-level and multi-stakeholder efforts to combat COVID-19 and 2) identify lessons from the pandemic that could strengthen public health practices to better safeguard communities in the future.

In the Southwest region, which is designated Region D by Missouri Department of Health and Senior Services (DHSS) (Figure 2), we spoke candidly with 30 professional stakeholders in various counties and towns (see the types of stakeholders we interviewed in Appendix A, Table A). Our sample included stakeholders within and outside the field of public health, including schools, health care, the business community, faith-based groups, policymakers, and social service organizations. Our interviews began in October 2020 and concluded in May 2021, prior to the surge caused by the delta variant. We promised confidentiality and anonymity to study participants to encourage candor when recounting their perspectives and professional experiences. *We refer to this group throughout the report as stakeholders.*

We also conducted 12 focus groups with people living in the Southwest region to examine public perceptions of the pandemic response. *We refer to this group throughout the report as focus group residents or participants.* We spoke with a total of 78 residents during spring 2021. To delve into how the pandemic uniquely impacted a variety of racial and ethnic groups, we held two focus groups with Hispanic/Latino residents (a total of 16 participants) and one group with Black residents and family members (a total of 12 participants; some family members identified as White or mixed race). Table B in Appendix A provides information on the characteristics of the focus group participants. *One limitation of our study is that our sample of residents consisted of individuals who were well-informed about and interested in discussing the Southwest region's response to COVID-19.* They were also generally supportive of public health's role in helping to stop the spread of the virus. As such, they provided thoughtful and reasoned input on the public health response in Missouri; however, we acknowledge that our sample does not represent large groups of residents who favored a limited role for public health and other government organizations with respect to the COVID-19 response.

Our interviews with stakeholders and focus group discussions with residents were supplemented by media accounts and other publicly available data sources. For more information on the study methodology see Appendix A.

How the COVID-19 Pandemic Unfolded in Southwest Missouri

March 2020–May 2021

"I'll never forget that he said, 'The closest parallel we can see is probably the Spanish flu of 1918.' And I remember saying at the time, 'Well, the first thing you need to be clear is never say Spanish flu again. That's going to scare everybody. There's no reason to do this that way. Let's not lose our heads here.' But obviously, he was right. That is the closest parallel."

– LOCAL BUSINESS STAKEHOLDER

As context to understanding the COVID-19 response in Southwest Missouri, it is important to first paint a picture of how the virus impacted the region and its residents over the time of the case study, from March 2020 through May 2021.

In the early months of the pandemic, Southwest Missouri did not initially see high rates of cases, hospitalizations, and deaths, especially compared to more populated regions of the state such as St. Louis and Kansas City (see Figure 1). Local public health authorities thus approached the situation with a degree of uncertainty. Public sentiment

in these early months was divided, with some pushing for strict mitigation efforts and others opposing public health restrictions they considered disproportionate to the threat as it was understood at the time.[5] By April, however, local public health departments, health care, and other community organizations had opened shared lines of communication, and some had formed multi-sector partnerships to respond to the escalating crisis.

Following a statewide stay-at-home order on April 3, 2020, and an extension to that order on April 16 that placed limits on building capacity and non-essential

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5   Woodin, D. (2020, April 1). Residents question city's stance on shelter-in-place order. *The Joplin Globe*. https://www.joplinglobe.com/coronavirus/residents-question-citys-stance-on-shelter-in-place-order/article_b2ea8369-084b-5610-b740-695f09f959ec.html

FIGURE 1. WEEKLY AND CUMULATIVE COVID-19 CASES FOR SOUTHWEST MISSOURI, MARCH 2020 – NOVEMBER 2021
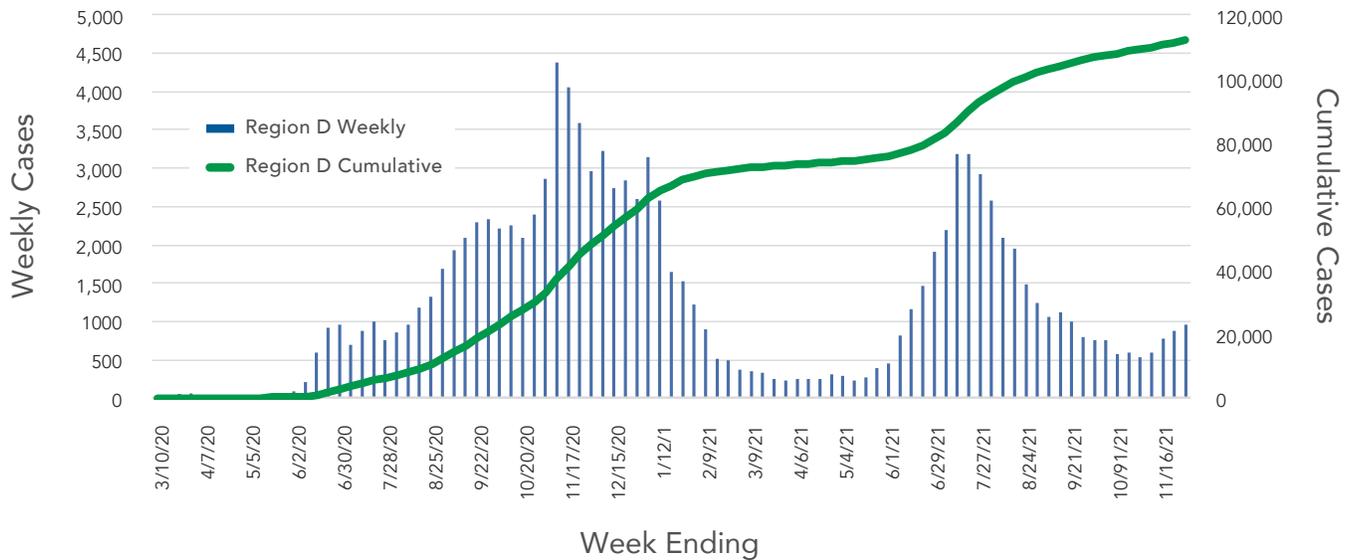
This graph represents weekly and cumulative PCR confirmed COVID-19 cases for Highway Patrol Region D.
SOURCE: Missouri Hospital Association analysis of MO DHSS EpiTrax data, Mar. 10, 2020 – Nov. 30, 2021.

travel[6,7] shifts in business operations began negatively affecting the area's economy. In Taney County, home to much of the state's tourism activity, unemployment climbed to 24.5% by April 2020.[8] These early economic shocks, coupled with the public's perception that the virus posed little risk, likely contributed to localized resistance to public health mitigation measures, including mask mandates.

In early May 2020, federal funds from the CARES Act were distributed to counties, ostensibly for activities like contact tracing and testing.[9] However, some county governments refused to pass the funds on to their LPHAs. As a consequence, some LPHAs were forced to draw upon their own limited resources, dipping into reserve funds and diverting precious staff resources to pandemic efforts.[10]

6   Missouri Governor Michael L. Parson. Stay at home order. (2020, April 3). https://governor.mo.gov/press-releases/archive/governor-parson-issues-statewide-stay-home-missouri-order-control-contain

7   Missouri Governor Michael L. Parson. Extension stay at home order COVID-19. (2020, April 16). https://governor.mo.gov/press-releases/archive/governor-parson-extends-statewide-stay-home-missouri-order-through-may-3

8   Missouri Department of Labor & Industrial Relations. Unemployment benefits by county. https://laborwebapps.mo.gov/ui_stats?s=1&county=107&month_year=All+Months%2FYears

9   Missouri State Treasurer. Treasurer Fitzpatrick Announces First CARES Act Payments to Local Governments Processed. (2020, May 4). https://treasurer.mo.gov/newsroom/news-and-events-item?pr=d1bd7058-eca5-40b3-af74-cae92d8d0da8

10 Weinberg, T. (2020, October 30). 'Emotional rollercoaster': Missouri county health agencies struggle to get federal COVID-19 funds. *The Missouri Independent.* https://missouriindependent.com/2020/10/29/emotional-rollercoaster-county-health-agencies-struggle-to-get-federal-covid-19-funds/

Summer and fall 2020 saw a sharp rise in cases that overwhelmed local public health agencies' capacity to conduct contact tracing. Some LPHAs brought in temporary staff, and most leaned on other sectors, such as health care and education, for help shouldering the burden.

By summer 2020, disparities in case counts and deaths were becoming evident everywhere in the state, including the Southwest region. Older adults were particularly vulnerable due to outbreaks in nursing homes, assisted-living centers, and long-term care facilities, which accounted for half of COVID-19 deaths in the Southwest by August 2020.[11] Asian or Pacific Islander, Black, and Hispanic/Latino people working in meat and poultry processing and in the service industry had a disproportionate burden of infections given higher workplace exposure.[12] Immigrant communities were particularly vulnerable in McDonald County, for example, where Tyson and Simmons poultry plants are located. In June 2020, widespread testing at the Tyson facilities found that nearly one-third of employees were positive for COVID-19.[13] In Jasper County, Hispanic/Latino people make up 8.5% of the population, but by summer 2020 accounted for 40% of cases.[14]

Vaccines came to Missouri in December 2020, promising a path forward to combat the virus. Despite their extensive experience with vaccination protocols and campaigns, many LPHAs in the region faced new challenges with vaccine distribution, storage, registration, and tracking efforts. Some areas of the Southwest hosted high-throughput vaccine sites, delivering thousands of shots each week by utilizing health systems and federally qualified health centers as the principal vehicle for vaccine delivery. Initial demand for the vaccine was overwhelming. But by spring 2021, as demand in the region dropped, counties in the Southwest found it hard to use up their supplies. Low vaccination rates would continue to be a struggle for the Southwest, and for Missouri as a whole.

Entering spring 2021, with most Southwest counties reaching their lowest case numbers since the pandemic began, the few remaining restrictions around social distancing and masks were lifted for fully vaccinated people, in accordance with CDC guidance at the time.[15] Many public health entities started meeting less frequently. Exhausted workers in health departments and health care organizations took a breath, hoping that the worst of the pandemic was behind them.

Unfortunately, the respite was fleeting as, Missouri's Southwest region soon became a harbinger for the rest of the country. On May 10, 2021, the delta variant was detected in a sewershed sample in Branson, Missouri.[16] Vaccination rates in the region (and the state) were low, making communities particularly vulnerable to this more highly transmissible variant of COVID-19.

11 Kull, K. (2020, August 9). Long-term care facility outbreaks responsible for nearly half of SW MO COVID-19 deaths. *Springfield News-Leader*. https://www.news-leader.com/story/news/local/ozarks/2020/08/09/sw-missouri-covid-19-deaths-long-term-care-facilities/3322085001/

12 Waltenburg MA, Rose CE, Victoroff T, et al. Coronavirus Disease among Workers in Food Processing, Food Manufacturing, and Agriculture Workplaces. *Emerg Infect Dis.* 2021;27(1):243-249. doi:10.3201/eid2701.203821

13 Crews, J. (2020, June 29). Tyson confirms hundreds of COVID-19 cases at Missouri chicken plant. *Meat and Poultry.* https://www.meatpoultry.com/articles/23379-tyson-confirms-hundreds-of-covid-19-cases-at-missouri-chicken-plant

14 Martinez Valdivia, S. (2020, August 7). In rural Missouri Latinos learn to contain and cope with the coronavirus. *Kaiser Health News.* https://khn.org/news/in-rural-missouri-latinos-learn-to-contain-and-cope-with-the-coronavirus/

15 Rabin, RC., Mandavilli, A., Weiland, N. (2021, May 13). Vaccinated Americans may go without masks in most places, federal officials say. *The New York Times.* https://www.nytimes.com/2021/05/13/health/coronavirus-masks-cdc.html

16 Barone, E. (2021, July 29). How the delta variant overtook Missouri: a lesson for the rest of the U.S. *Time.* https://time.com/6085454/delta-variant/

In the weeks that followed, case rates in Southwest Missouri skyrocketed back to heights previously seen in February 2021. In populous Greene County, the delta variant accounted for around 95% of cases by July 2021.[17] Quite literally, Southwest Missouri became the national story for the pandemic resurgence. Mercy Hospital in Springfield was operating at a higher capacity than at any previous point during the pandemic. The neighboring hospital, Cox Medical Center South, also reported they were at capacity, stating in an interview with *The Atlantic,* *"We only get beds available when someone dies, which happens several times a day."*[18] By the first week of August 2021, cases in Springfield were three times the national average and cases in Branson were four times the national average.[19] Even more concerning was the number of children impacted by the variant and the increase of hospitalizations among this younger age group. The delta surge had a modest impact on vaccination rates in the Southwest, which increased 11.1 percentage points between the first detection of delta on May 10 and three months later, on August 10.[20]

Since our study ended, the Southwest region continues to fight the virus, including facing the emergence of the omicron variant. The past two years have left many in the public health field feeling defeated; however, this study comes at an opportune time to address the long-standing problems and weaknesses that were made so apparent by COVID-19, and to learn from and invest in the successes of the region's pandemic response.

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17 Yong, E. (2021, July 16). Delta is driving a wedge through Missouri. *The Atlantic.* https://www.theatlantic.com/health/archive/2021/07/delta-missouri-pandemic-surge/619456/

18 Yong, E. (2021, July 16). Delta is driving a wedge through Missouri. *The Atlantic.* https://www.theatlantic.com/health/archive/2021/07/delta-missouri-pandemic-surge/619456/

19 Sullender, A. (2021, August 1). Springfield, MO a COVID-19 hotspot as health leaders battle delta variant, misinformation. https://www.news-leader.com/story/news/health/2021/08/01/springfield-mo-missouri-COVID-19-hotspot-cdc-guidance-recommends-masks-vaccinated-delta-variant/5418638001/

20 Our World Data. Coronavirus (COVID-19) vaccinations. (2021). https://ourworldindata.org/COVID-vaccinations?country=USA

I. Public Health Infrastructure in the Southwest

Missouri's public health system represents a decentralized approach that relies on decision-making at the local level.[21] Eighteen (18) of the state's 115 local health departments are located in counties in the Southwest region (see Region D, highlighted in Figure 2). Each county has its own health department of varying size, staffing, infrastructure, services, governance, and funding (see Appendix A, Table C), and one city (Joplin) also has its own health department.

The Southwest's LPHAs serve a geographic area that is mostly rural. The median county population is approximately 31,500, with populations ranging from about 7,500 residents in Dade County to nearly 300,000 residents in Greene County, the most populous county in the region. The state's third-largest city, Springfield, is located in Greene County and serves as a major hub for the Southwest region's economic and health care activity. The Southwest is also home to the Branson area, a highly-visited tourist destination that brings economic vitality to local economies; however, seasonal population surges also strain LPHA budgets and staff resources.

The region's population is predominantly White. Hispanic/Latino populations range from 2% to 11.4% of residents. Larger populations of Hispanic/Latino and other ethnic groups generally reflect sizable numbers of immigrant workers in agriculture and meat processing industries.

The region has relatively small Black, Asian, and multiracial populations (see Appendix A, Table C).

Poverty is a critical issue in Southwest Missouri. Most counties (89%) have a poverty rate that exceeds the state average. LPHAs work to mitigate poverty's health impacts through a variety of programs related to healthy food and nutrition, chronic disease management, maternal and child health, injury prevention, opioid and other substance use interventions, and many other issues.

In order to demonstrate the ability to serve a community, local public health departments can seek voluntary accreditation. The process of accreditation enhances an LPHA's ability to respond to public health crises because it requires a comprehensive review of capacity and public health processes, including an emphasis on emergency preparedness. However, accreditation is costly and time-consuming, which can be a major deterrent to LPHAs, especially those that serve smaller populations and thus have fewer staff and resources.[22]

In the absence of standards that all LPHAs must meet, there is wide variation in services provided, as well as staff training and experience. Fifteen of the Southwest's 18 LPHAs are not accredited by either of the two accrediting bodies available to LPHAs in the state — the Public Health Accreditation Board (PHAB), a national organization that sets standards for tribal, state, local

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21 Decentralized local public health governance indicates that local government employees lead local health departments and local governments have autonomy over fiscal decisions. See, https://www.astho.org/Research/Data-and-Analysis/State-and-Local-Governance-Classification-Tree/.

22 HealthierMO. (2021, March 13). Report on the Capacity of Missouri's Public Health System to Deliver the Missouri Foundational Public Health Services Model. https://www.healthiermo.org/our-work

FIGURE 2. MAP OF MISSOURI DHSS HEALTH REPORTING REGIONS: SOUTHWEST (D)
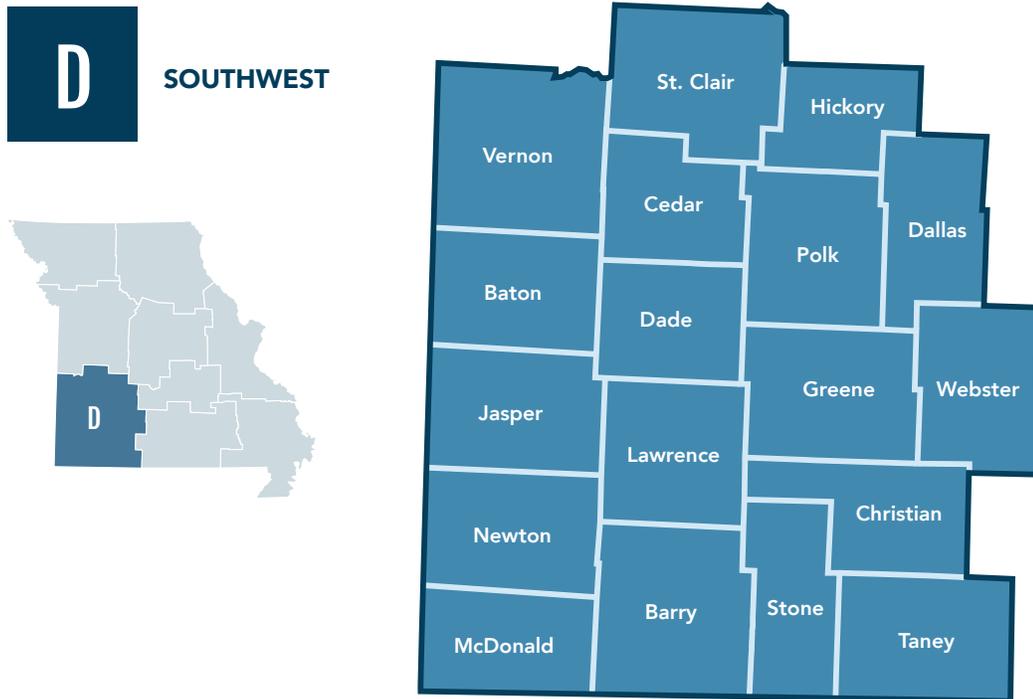
and territorial public health agencies,[23] and the Missouri Institute for Community Health (MICH), the accrediting body for Missouri's Voluntary Accreditation Program for LPHAs.[24] Just three LPHAs—those in Greene, Polk, and Taney counties—are accredited by either PHAB, MICH, or both (see Appendix A, Table C). Further adding to the diversity of Missouri's public health system are the

six professional organizations that offer technical support, training, and membership.[25] Many LPHAs have worked collaboratively to set common goals for statewide public health through HealthierMO, a grassroots initiative formed in 2017 that convenes public health agencies and other partners to identify strategic priorities and alignment across the state's diverse system.[26]

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23 Public Health Accreditation Board. Why become accredited? https://phaboard.org/why-become-accredited/

24 Missouri Institute for Community Health. Accreditation introduction. https://michweb.org/accreditation-introduction/

25 The six professional organizations include: The Missouri Association of Local Public Health Agencies (https://www.moalpha.org), Missouri Center for Public Health Excellence (https://www.mocphe.org), Missouri Environmental Health Association (https://me-hamo.org/), Missouri Institute for Community Health (https://michweb.org), the Missouri Public Health Association (https://www.mopha.org), and the Missouri Council for Public Health Nursing (https://health.mo.gov/living/lpha/phnursing/cphn.php).

26 HealthierMO is an initiative of the Missouri Public Health Association with support from Missouri Foundation for Health and other funders that convenes public health agencies and partners to build "a stronger, more resilient public health system." For more information about HealthierMO, see https://www.healthiermo.org/.

There is also great variation in how LPHAs are funded. In the Southwest, as in other parts of the state, most counties received only about 20-30% of their revenues from the state of Missouri or from federal funding in 2018.[27] About 72% of LPHAs in the Southwest are governed by boards of trustees and raise local funding for public health through a tax levy.[28] Others have adopted a city or county commission model, in which the LPHA is governed by commissions and receives financial support through nonspecific county revenue.[29] Adding to the complexity, some cities in the Southwest, like a handful of other cities throughout the state, are geographically divided between two counties, which creates confusion regarding the allocation of funding.

Regardless of the arrangement, Southwest Missouri's local public health departments, like those across the state, have been chronically underfunded. In 2020, Missouri had the lowest per person state public health funding in the U.S.[30] Given vast differences in population size among Southwest counties, pre-pandemic annual LPHA revenues ranged from under $300,000 to over $10 million, and per capita spending ranged from $13 to $68 (see Appendix A, Table C).[31]

Governance and funding arrangements held enormous importance for LPHAs during the pandemic. Some LPHAs had reserves they had built over a period of years that could be tapped for a major scale-up in workforce and other needed areas. Other LPHAs had little or no rainy-day funds and depended heavily on federal CARES Act dollars to bridge their funding gaps. In the absence of CARES Act funding or reserves, LPHAs were challenged to muster a robust pandemic response *and* maintain traditional public health programs designed to help those most in need in their communities.[32]

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27 Missouri Department of Health and Senior Services. LPHA revenue sources 2018. (2018). https://health.mo.gov/living/lpha/review18/Table_Contents.php

28 Missouri Department of Health and Senior Services. Public Health Works: A Web-Based Orientation Manual for Public Health Leaders. (March 2019). https://health.mo.gov/living/lpha/phworks/publichealthworks.pdf

29 Missouri Department of Health and Senior Services. Local public health agencies. https://health.mo.gov/living/lpha/

30 SHADAC Analysis of Per Person State Public Health Funding, State Health Compare. (2021, July 9). SHADAC, University of Minnesota. http://statehealthcompare.shadac.org/

31 Missouri Department of Health and Senior Services. Revenue Sources for Local Public Health Agencies. (2018). https://health.mo.gov/living/lpha/review18/Table_Contents.php

32 Missouri Department of Health and Senior Services. CARES Act funding toolkit for local governments. https://health.mo.gov/news/newsitem/uuid/64d61390-482c-4322-b2b7-71d74ba119d7

II. Strengths and Challenges in Southwest Missouri's Public Health Response to COVID-19

The following sections present key findings related to strengths and challenges identified by professionals from multiple sectors involved in the pandemic response, as well as residents' perceptions of the pandemic response.

A. Prior Natural Disaster Response and Preparedness Training Was an Asset During the Pandemic

"I would say we learned a lot on the fly. We had brought in some new team members that had some areas of expertise, or at least some experience in emergency preparedness and planning. We leaned a lot on our professional organizations. We leaned a lot on other health departments. We [tried] not to recreate the wheel where we didn't have to."

— LOCAL PUBLIC HEALTH STAKEHOLDER

Southwest Missouri is no stranger to crises. In May 2011, the city of Joplin, in Jasper County, faced a devastating tornado, which resulted in 161 deaths, approximately 1,000 injuries, and damage to over 8,000 buildings, at a financial cost of $2.8 billion.[33] The National Institute of Standards and Technology studied the disaster and developed recommendations to improve emergency response, prompting individual sectors, including LPHAs and hospitals, to update their emergency management and response plans. A stakeholder from the business sector stated that the pandemic was *"eerily familiar"* to the region because of the 2011 tornado and that the Southwest was known as being *"really resilient"* after the disaster.

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33 Griffin, J. The Joplin tornado: a calamity and a boon to resilience, 10 years on. (2021, May 21). https://www.nist.gov/feature-stories/joplin-tornado-calamity-and-boon-resilience-10-years

Stakeholders highlighted the strong collaborations in emergency preparedness efforts across sectors in the Southwest. Even before the pandemic, emergency planners from all 18 counties met quarterly at regional administrators' meetings and were involved in the Southwest Missouri Emergency Support Association. Additionally, emergency managers from the Southwest met annually at a State Emergency Management Conference, where they collaborated with leaders from other regions. An interviewee in the emergency management sector described the connections as "*very strong locally, really strong regionally, and a little strong across regions.*"

The Southwest also had a relatively active Community Organizations Active in Disaster (COAD), which focused on coordinating emergency responses to address gaps in the response and avoid duplicating services. In many counties, the LPHAs were actively involved with their respective COADs, planning and training together. One emergency manager described conducting an exercise on a health emergency with their LPHA prior to the pandemic, which identified gaps in information sharing and funding. This knowledge allowed the county to jump right into the pandemic with an activated emergency operations center; the emergency manager "*talked every single day with public health.*"

Several groups established in the aftermath of the Joplin tornado, including the Jasper County COAD and the Long-Term Recovery Committee, were reactivated in the county's initial COVID-19 response.[34] Another local collaboration, One Joplin, included nonprofits and churches in the counties surrounding Jasper. The members of this coalition were activated early in the pandemic and communicated via previously established communication channels. As the pandemic began, the LPHA in Joplin—along with hospitals, nursing homes, health centers, and government agencies in Jasper County and the surrounding area—engaged in a partnership called the Emergency Healthcare Coalition, which met regularly to share information and develop contingency plans. Local residents were also involved in these meetings and provided input for how to reopen safely.

Limitations of Emergency Preparedness

While the region felt adequately prepared to deal with tornadoes and floods, pandemic response was a different matter. Some LPHAs reported years of experience conducting exercises in preparation for health emergencies, but these drills tended to focus on natural disasters. According to a public health stakeholder, what they had "*prepared for wasn't what occurred at all.*" Another leader in public health talked about the challenges of changing tack from responding to tornadoes—where "*the minute the first stick was picked up the situation improved*"— to responding to the virus, which required a starkly different strategy.

Several stakeholders also described a disconnect between local and state emergency preparedness and response. LPHAs tapped into local emergency groups, but limited input from the state precluded a standard approach across regions. In the public health sector, multiple stakeholders reported that the state was much more involved during the H1N1 response in 2009, reliably communicating and coordinating with the locals. Indeed, in the post-H1N1 period, a formal regional coordination system (with staffing) was created, but this effort went by the wayside as funding for preparedness diminished.[35] Had this system been maintained, some stakeholders felt that regional coordination in response to COVID-19 might have been stronger.

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34 Woodin, D. (2020, April 8). Joplin tornado nexus groups reactivate in face of pandemic. *The Joplin Globe.* https://www.joplinglobe.com/coronavirus/joplin-tornado-nexus-groups-reactivate-in-face-of-pandemic/article_af8a69fd-c00d-5a48-bd50-0d6404f1f7fc.html

35 Levi, J., Vinter, S., Segal, L., St. Laurent, R. Ready or not 2010: Protecting the public from disease, disasters, and bioterrorism. Trust for America's Health. (2010). https://www.tfah.org/report-details/ready-or-not-2010/

B. Community Partnerships Enhanced the Pandemic Response

> " So why don't we go back to one more thing that's working well? The relationships and the collaborative effort of the Southwest region [have] been bar none, by far, the best. "
>
> — LOCAL PUBLIC HEALTH STAKEHOLDER

Stakeholders described new and old partnerships in Southwest Missouri as instrumental in the pandemic response. These partnerships were structured both within and across sectors. Collaboration allowed for more-efficient resource identification to meet community needs. According to stakeholders, the Springfield-Greene area, in particular, leveraged an array of formally structured partnerships to address COVID-19. The COVID-19 Task Force for Homelessness regularly brought Greene County homeless service providers together regularly to coordinate efforts. Religious leaders in the Springfield-Greene area came together to organize a faith-based-community response through the Have Faith Initiative, which served as a national model for other states.

Tapping partnerships that predated the pandemic allowed for a more nimble response and, according to one education stakeholder in the community, "created the ability to network quickly and collaborate when COVID hit." Long-standing partnerships such as the Springfield-based Community Leadership Forum—made up of leaders from the chamber of commerce, school districts and higher education, and other sectors—pivoted to bring in local health care and public health officials to strengthen their COVID-19 efforts. In a report documenting the Springfield-Greene pandemic response, the Mayor of Springfield noted that the region's cross-sector partnerships were integral to the successes in the COVID-19 response and "*allowed for connections that would have never occurred otherwise.*"[36]

> Tapping partnerships that predated the pandemic allowed for a more nimble response and, according to one education stakeholder in the community, "created the ability to network quickly and collaborate when COVID hit."

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36 Jackson, A., Scott, A., Knouer, L. First response: Springfield-Greene County confronts COVID-19, March 2020-July 2021. (2021). https://media.cfozarks.org/covid-report-first-response-web.pdf?mtime=20200924105334

Community organizations also formed ad hoc or informal partnerships throughout the pandemic. These organizations often figured out how they could meet community needs through word-of-mouth communication rather than formal direction. This was especially true in the early days of the pandemic because, as one stakeholder explained, *"Initially everybody wanted to bring everything, so we had truckloads of stuff being dropped off here. So trying to collaborate with other agencies to get them that stuff required figuring out how to distribute it, even taking it to some of our nearby partners."*

The role of LPHAs in community partnerships varied. In some counties, LPHA directors engaged in or even led effective efforts organized by these partnerships. Southwest LPHAs believed that their established credibility, among other factors, allowed them to step in as local *"connectors"* who brought together disparate groups. While some stakeholders echoed this sentiment, others—particularly those in the health care sector—noted that LPHAs did not always participate in partnerships (sometimes due to limited bandwidth

and resources). This required other stakeholders to take on leadership roles.

Residents in the focus groups were aware of the players participating in the pandemic response, particularly in larger counties. However, many residents perceived sectors to be working in parallel rather than in collaboration. Some residents said that contradictory protocols and messages coming from different sectors caused confusion and seemed to indicate leaders were not working together. Some felt that the emergence of organizations outside of public health as strong leaders in the response suggested the local health departments were not equipped to handle the pandemic.

Despite resident perceptions, stakeholders said that community partnerships reduced redundancies and strengthened response efforts. As one health department interviewee stated, *"The reason we're partnering [across sectors] is because we feel like you can be more effective if you have people within the community engaged in what you're working on."* Partnerships between public school systems and health care warded off potential staffing shortages whose effects would have been amplified throughout the region. In one instance, a hospital system teamed up with the education sector to establish a day-school run by public school volunteer teachers, which ensured that clinicians would not have to miss work to care for their kids. Cross-sector partnerships also allowed practical integration of services and helped LPHAs reach populations that faced barriers to care. For example, one health department worked with a housing provider to operate a mobile vaccine clinic that also provided meals to those in need. Such collaborations sparked discussions that led officials to reevaluate their strategies for providing services to vulnerable populations.

Partnerships between public school systems and health care warded off potential staffing shortages whose effects would have been amplified throughout the region.

C. LPHA Staffing and Resource Constraints Profoundly Limited the Effectiveness of the Pandemic Response

" We're going to have to take some hard looks at our workforce development ... [in terms of] training and developing our own internal staff, so that we can react to situations like a pandemic but also [to] more day-to-day activities in a more collective fashion. "

— LOCAL PUBLIC HEALTH STAKEHOLDER

With the exception of a few LPHAs in more heavily populated areas, most public health agencies in Southwest Missouri had very few staff going into the pandemic. Several LPHAs noted they did not have the resources to employ full-time staff, so certain employees were routinely contracted out to other counties on different days of the week—for example, some LPHA directors also staffed their departments' WIC programs.

As LPHAs pivoted to respond to COVID-19, staffing shortages prompted large internal workforce shifts, as well as hiring of volunteers and retired health personnel.

As LPHAs pivoted to respond to COVID-19, staffing shortages prompted large internal workforce shifts, as well as hiring of volunteers and retired health personnel. LPHAs assigned most staff members to pandemic-related activities at the beginning of the outbreak, and many reported still devoting the majority of staff to the pandemic in the winter and spring of 2021, as distributing and administering vaccines became a priority. Some LPHAs reported being able to hire additional staff with CARES Act funding, at least temporarily. Several LPHAs that had staffed up to respond to COVID-19 reported that the process of hiring new staff was challenging and that they worried about workforce reductions at subsequent stages of the pandemic. The pandemic disrupted many day-to-day public health activities and functions, and diverted resources. As one example, a local hepatitis A outbreak was not investigated by the health department.

LPHAs faced huge financial shortfalls if they were one of the unlucky health departments whose counties declined to pass along sufficient COVID-19 relief funding when it became available through the state.[37] But even when

37 Kansas City Star. Missouri got millions to fight COVID-19, but 50 health agencies haven't seen a penny. (2020, August 2). https://www.kansascity.com/news/coronavirus/article244568372.html

> "I do think a large part is that our health department here is so understaffed for something of this magnitude. So I think they were constantly trying to pivot where they could be playing a lot of catch-up. And so even recently, now that we've shifted towards the vaccine being their primary focus…we [are] struggling."
>
> – Local public health stakeholder

Resource and staffing constraints were evident during LPHAs' efforts to quickly ramp up testing and rollout vaccination efforts, and were especially apparent during case surges, when most public health agencies "*couldn't keep up with the volume*" and a lack of personnel prompted LPHAs to stop tracing close contacts. Focus group residents generally offered praise for LPHAs' response to the pandemic, acknowledging that "*they've done the best they could do*" in the face of overwhelming challenges. Nevertheless, many highlighted challenges in the provision of pandemic-related services, citing LPHA staffing and funding constraints: "*I do think a large part is that our health department here is so understaffed for something of this magnitude. So I think they were constantly trying to pivot where they could be playing a lot of catch-up. And so even recently, now that we've shifted towards the vaccine being their primary focus… we [are] struggling.*"

Despite such awareness of LPHAs' resource challenges, several residents were frustrated that they could not get the services they needed in a timely way. Early in the pandemic, for example, limited laboratory capacity in the Southwest led to delays in COVID-19 test results and inefficiencies in contact tracing. Several residents noted the need for organizations outside of public health to step in and help facilitate these and other services. They described instances when LPHAs seemed to rely heavily on local health facilities, which residents saw as having better organized testing and vaccination efforts than their health department.

COVID-19 relief funding from CARES Act or other sources was made available, the administrative requirements could be onerous, making it difficult for many LPHAs to take advantage of available funding streams. COVID-19 relief funding in many cases enabled LPHAs to resume core public health services that had been curtailed or suspended early in the pandemic. Resuming these services was important to the community, but it was also a critical component of the LPHA's financial sustainability. One LPHA director explained: "*We can't be closed down because, even though we're a government entity, we still rely on funding that we get from our services, insurance billing, and some other things.*"

D. Poor Coordination Between the State and Local Levels Exacerbated the Spread of Infection

> " If you're talking about international viruses, then it seems silly to say each county should handle this in their own way. In my mind, the federal government was like, 'Well, we're afraid politically to make a call, so we're going to pass that to the states.' In Missouri, the governor said, 'I wouldn't dream of dictating anything to you, because that would be politically unpopular. So I'm going to ask counties to do it.' "
>
> — LOCAL PUBLIC HEALTH STAKEHOLDER

The state's "home rule" approach to policy and the decentralized nature of public health drove a locally tailored response that attempted to balance safety with economic interests and personal freedoms. The scope, scale, and novelty of the pandemic challenged this approach. Stakeholders and residents repeatedly called attention to how weak coordination at multiple levels created a cascade of negative impacts on public safety.

A major challenge stemmed from confusion and disagreement over which entity—the health department, city, county, or state—had the final authority to implement and enforce pandemic policy.

In some counties, the health department could provide advice and recommendations to the city council, but the city council had the legal authority to implement recommendations and could disregard public health guidance. Some local elected leaders, for example, highlighted the importance of personal responsibility rather than imposing shelter-in-place orders to control the spread of the virus.[38] Recommendations that did not have the backing of local authorities often went ignored, and sometimes inflamed community tensions. When businesses or schools tried to implement their own mandates, the absence of a local or state mandate, and the lack of buy-in from law enforcement in some areas, undermined their ability to enforce them. As one focus group resident explained, *"The corporations are saying you have to wear a mask and people are going, 'Yeah, whatever, make me.'"*

Stakeholders observed that even community members who wished to follow guidelines had trouble knowing which orders were in place in their county or neighboring areas. Isolation and quarantine orders were generally issued by LPHAs, but for individuals living in one LPHA's jurisdiction and working in another, it was unclear which orders applied. Crossing the border between Missouri and Oklahoma, Kansas, or Arkansas further complicated matters for residents in the Southwest. Additionally, the professional qualifications and stature of the local public health boards were not strong in some smaller counties, further challenging public confidence in the decisions being made. One stakeholder in the business sector stated, *"There was no decision-making happening at higher levels, so it forced everyone else to make it up as you go. Communities like ours are smaller, you're talking about farmers and retirees making public health decisions. They're just not qualified to make those decisions."*

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38 Woodin, D. (2020, April 2). Joplin Mayor: Shelter-in-place order so far not needed. *The Joplin Globe.* https://www.joplinglobe. com/coronavirus/joplin-mayor-shelter-in-place-order-so-far-not-needed/article_d4aa7671-4295-5adb-b4f0-5c2fbaa555e9.html

Residents in the focus groups expressed concern that patchwork policies confused community members and undermined public health messaging about the importance of masks, social distancing, and other CDC recommendations. For example, focus group residents from cities with mask mandates, such as Branson and Springfield, reported that people who wanted to avoid wearing a mask simply patronized shops and restaurants in neighboring areas that did not have a mandate. One resident explained that people were *"actively seeking places where they don't have to [wear a mask] and boycotting businesses where they do."* Some residents suggested that the differences in mask ordinances across counties led to ambiguity that weakened an important frontline strategy: *"It's absurdly frustrating to see all the mixed messaging … and, unfortunately, there's a lot of people going, 'It doesn't really matter. Why inconvenience yourself?'"*

LPHAs also encountered coordination challenges in implementing early testing efforts. Requirements for testing varied from one organization to the next, causing confusion for the public. For example, some LPHAs and other organizations tested only symptomatic cases. Furthermore, the cost of testing varied based on where it was given and was a financial barrier for some individuals. The timeline for results could also be lengthy and unpredictable, which impeded some residents' ability to return to work or school and sometimes served as a disincentive to get tested, according to residents.

Some stakeholders also felt that using the state highway patrol map rather than population density or health care service areas further complicated their response efforts. This was especially the case with vaccine distribution, which was perceived by many as resulting in a system that was *"not well-coordinated"* and sometimes caused disproportionate vaccine distribution across and within regions. Vaccine shipments could also be unpredictable, with one health department stakeholder stating that they would learn about a shipment of vaccines only a day in advance, and had to *"mobilize really quickly,"* while continuing to carry out day-to-day functions. State requirements for vaccine distributors, and the need for the Pfizer-BioNTech (and eventually Moderna) vaccine to be stored at cold temperatures, effectively excluded many LPHAs from the initial vaccine rollout. The questions posed by a public health stakeholder reflected common sentiment among LPHAs: *"Who can store?*

Who's got storage levels? Who's got refrigerator space? Who's got freezer space? Who's got all of this?"

Examples of Strong Coordination

Despite the prevailing state of confusion, stakeholders and residents pointed to some examples where public health and elected officials did manage to collaborate with one another to develop and implement some COVID-19 policies, especially in larger counties. These partnerships saved time, resources, and energy and helped to navigate major public battles that otherwise might have sunk mitigation measures during critical waves of the virus. One city government stakeholder stated that every decision was made *"hand in hand"* with the health department: *"You could call them at any point in time and ask them any question, and they were prepared to answer those questions."* Another political leader stated that the city manager, mayor, health department, and city council were *"in lockstep"* regarding the passage of a mask mandate. The mayor did not want to act without full support from public health, even though he had the authority to enact measures without them.

Many residents in the study noted how important it was for public health officials to have the endorsement and public support of local leaders to increase constituents' confidence in the public health response. These partnerships were seen as critical not only for passing local ordinances, but also for ensuring better enforcement of the rules and increasing residents' trust in LPHAs. As one resident put it, *"I think that communities that had a good political backing on their public health policies … probably had more success than counties and cities who did not have the political support of those individuals."*

Notably, Springfield-Greene was seen as setting an example for more aggressive mitigation measures and guidance. An LPHA director outside of Greene County stated that Springfield-Greene *"takes a lead role in the region."* A director of a community organization in a neighboring county attributed this to strong LPHA leadership, more resources, and better access to media compared to smaller counties. While some counties benefited from the example Greene County set, other areas chose to follow different, sometimes less-restrictive paths that leaders felt were more in line with their local conditions.

E. Weak Data Reporting and Outdated IT Systems Stymied Timely Decision Making

> " I don't think we ever felt like [testing data] was a high predictor or [useful for] decision-making because we just didn't know how it was being administered accurately throughout the region or state or nation."
>
> — K-12 EDUCATION STAKEHOLDER

Stakeholders noted that outdated IT and the lack of a standardized approach to tracking cases caused challenges to data collection, analysis, and sharing at both the local and state level. According to a stakeholder working for a local government, "*There's always been a gap between the state's figures and the local health department because of how they count.*" For nearly five months, health care providers and LPHAs each relied on their own separate systems to track cases. When the state eventually implemented standardized disease tracking systems like Epitrax, it did so late in the response, forcing local entities to switch gears midstream. The systems for tracking cases at the state level were updated several times throughout the pandemic creating "*huge problems*" on the local end and taking precious staff time away from other pandemic response activities.

Residents in the focus groups who followed the tracking and reporting of data were often aware of discrepancies between state and local numbers, which eroded their confidence in public health disease tracking and monitoring. Several residents said they instead relied on

Matthew Holloway, a Joplin resident, who has tracked the pandemic statewide with daily Facebook updates since March 2020.[39] Those who followed him on Facebook said he had more up-to-date numbers than the state. Others noted that his infographics were engaging and easier to interpret than some of the public health sites, which helped them sort through the noise and gain a better understanding of the virus's impact in their area.

> Outdated IT and the lack of a standardized approach to tracking cases caused challenges to data collection, analysis, and sharing at both the local and state level.

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39 Holloway, M. Missouri COVID-19 update. (2020). https://theholloway.wixsite.com/mholloway-covid19

Technology both enabled and hampered access to pandemic services, including testing and vaccines.

Some residents said they lacked confidence in LPHAs who did not update their websites on local COVID-19 conditions. Others faulted their LPHAs for failing to use texting or other technologies for contact tracing. As one participant noted, "*Our county health department did not do as well as [other] counties did as far as informing on different things. They're not quite as technologically advanced…So, when we would get updates about numbers in our counties and stuff like that…it was fairly slow in coming out.*"

Technology both enabled and hampered access to pandemic services, including testing and vaccines.

As stated by one LPHA official, "*If I wanted to get screened for COVID, for example, in the last 12 months, I would need a solid internet connection. We're missing the non-internet-connected or poorly-internet-connected and technology-illiterate communities that I think are some of the ones that we want to serve the most.*" When vaccines became available and were distributed to LPHAs and other providers, the systems available at the local level for making vaccine appointments were described as "*cumbersome and archaic,*" and vaccine distribution data was not easily compared across multiple sectors including health care, public health, state entities, local pharmacies, and other providers.

Although technology at times burdened the Southwest pandemic response, it also created some efficiencies. Some LPHAs saved valuable time by relying on technology to automate components of their disease tracking and monitoring process. For example, text-notification systems quickly informed people of their test results; electronic surveys sped up contact tracing; and websites were updated with resources like COVID-19 self-reporting tools. As one LPHA remarked, these tools allowed them to work "*smarter rather than harder.*"

F. Disjointed Communications Eroded Public Confidence and Created Space for Misinformation to Flourish

" It would have been better if health departments and health care systems could have all sat down at the table early on and said, 'Let's talk about what message we want to send to the community, because the community is looking to these entities for some sort of guidance. So let's do this together. Let's create a shared message.' "

— HEALTH CARE STAKEHOLDER

Communication about the pandemic was a critical responsibility of local public health agencies. Public health stakeholders said their focus was to make sure information from state and federal sources reached the local level in a clear, accessible form.

Despite the successes of some LPHAs early in the pandemic to control the message and communicate important guidelines, many stakeholders said that inconsistent and confusing messaging weakened the credibility of public health. As the pandemic progressed, LPHAs had to work harder to build and maintain trust and confidence with both the public and their stakeholder partners. Inconsistencies in mitigation strategies between jurisdictions, discrepancies in epidemiological data, and extensive misinformation spread by social media and some news outlets proved to be formidable communications challenges.

Like stakeholders, some residents felt that LPHAs faced communication challenges—often beyond their control —that led to confusing messaging. For example, some

said that discrepancies between how the state and counties reported data undermined the credibility of public health agencies: "*When they talk about the discrepancy in [case] numbers and how information wasn't the same, it made it really hard to know who was the trustworthy source.*"

A number of residents also raised concerns about a lack of information on testing and vaccination sites, and said that some local health departments could have done a better job broadcasting this information. Some residents also said messaging around the safety and efficacy of the vaccines could have been clearer to help alleviate concerns related to their emergency authorization status. Others noted confusion about what to do if they tested positive for COVID-19. Some reached out to their public health agencies for guidance on how long to isolate, when to go back to work, or when to seek out care, and did not always receive an adequate response to their questions and concerns. One resident who became sick with COVID-19 described their experience as follows:

"It was confusion of where to go, what to do, with whom to go. And there was disinformation. We did not know what to do. I think that created … even more terrible panic."

Notably, smaller LPHAs generally did not have dedicated communications staff. This left message development and media outreach to the department director or other staff, who may have lacked technical capacity in these areas and had to balance them with other critical duties.

Misinformation Flourished and Further Eroded Confidence and Trust in LPHAs

Stakeholders pointed to the excess of misinformation spread on some news outlets and social media sites as one of the biggest challenges facing LPHAs' messaging strategy. These forums constantly undermined public health messages by calling into question the threat of the virus and the effectiveness of prevention and mitigation strategies. One stakeholder from a community organization said large numbers of people in their area received a "*barrage of information telling them this [the virus] is a hoax.*" Other stakeholders expressed frustration that messages from unvetted internet sources seemed to resonate more with residents than those from well-informed experts.

Both stakeholders and residents described how social media sites stoked division. According to an emergency management stakeholder, as their organization tried to encourage people to get vaccinated, they would see posts on Facebook telling people "*don't get [the vaccine]. They're tracking us*" or "*[the vaccine] is not effective.*" As a result, the health department held media conferences lasting up to three hours, "*just trying to dispel some of those things.*" One health care organization stakeholder explained their efforts to fight misinformation around vaccine hesitancy: "*We try as much as possible to be a good education resource … for our patients, and try to help them to get rid of some of the noise and try to find what's the reality and what's vetted information. On our social media, we try to provide information about some true sources that you can feel confident in. 'Here's actual validated information about what the vaccine is.'*"

In an effort to correct misinformation on certain news outlets and social media sites, a number of LPHAs saturated their own social media with daily counts, video messages, and other resources. Health department leadership stressed the need to "*get ahead*" of false information and control the narrative. One local public health stakeholder said, "*I just think we have to be really cautious and also do a lot better saturation of messaging in all the different venues … I don't think that the state's website … where they talk about the conspiracy theories is visible enough.*"[40]

Most focus group residents expressed appreciation for their LPHAs' communication efforts and said they looked to public health officials to help cut through the confusing and sometimes contradictory messages about the pandemic and public health guidelines. The majority of focus group participants from the Southwest region said they trusted their LPHA officials, and one-third could identify their LPHA director by name. In contrast, fewer than half said they trusted the state department of health, and only 2 of the 78 focus group participants could name the state health director.

The same factors that contributed to misinformation and diminished public trust also had a profound effect on the stakeholders we spoke with. Many people in local public health were physically and emotionally exhausted and deeply saddened that the pandemic had challenged their professional and personal relationships in the community. In some cases, LPHA staff received threats of violence and were subjected to verbal attacks.

Both stakeholders and residents described how social media sites stoked division.

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40 Missouri Department of Health and Senior Services. Rumor control. (2020). https://covidvaccine.mo.gov/facts/#rumor-control

G. Public Health Was Not Sufficiently Responsive to High Rates of Poverty in the Region

Poverty is a critical issue in Southwest Missouri. While the average poverty rate in Missouri is 12.9%, nearly every county in the Southwest (89%) has a poverty rate that exceeds this.[41] People with low or modest incomes experienced the pandemic differently from more affluent populations. Service sector workers had no option for working from home and were thus at greater risk of contracting the virus. For low-income populations living in rural areas, access to testing, health care, and vaccination was complicated by long travel times and the absence of reliable digital connectivity. As the economy suffered from business shutdowns, residents with lower-paying jobs were more likely to experience job loss and to struggle to recover from economic hardships.[42] Further, the pandemic exacerbated already serious inequities in access to food, housing, and health care. According to stakeholders, lack of housing, especially as residents lost their jobs and income, became a major issue. Many counties in Southwest Missouri provided assistance and referrals for social services throughout the pandemic, with informal coordination among the various providers. For residents who did not qualify for services because they were immigrants or seasonal workers, community-based organizations and faith-based institutions played a central role.

Transportation issues were a particularly notable barrier for individuals with low income. Stakeholders described the Southwest as "*a kind of place where it's hard to get around*" due to a lack of public transit and the rural geography, and many cited transportation as a major equity issue in the region. In some instances, local transportation companies were able to "*provide rides to the grocery store, to the food pantries, or to a local health clinic for prescriptions.*" But for the most part,

> **People with low or modest incomes experienced the pandemic differently from more affluent populations.**

rural residents and individuals living in poverty faced significant transit-related barriers. The state's decision to prioritize distribution of vaccine doses to hospitals made access particularly challenging for people without reliable access to transportation. Vaccination thus disproportionately favored higher-income populations. As one stakeholder from the health care sector said, "*You were getting this disparity between those who had access through the hospitals and could get to the hospitals on such and such day, such and such a time [and] those who we were serving, which was people who would never be able to do that.*" A local board of health member reported, "*I still think there are people living in trailers in the woods who can't get where they need to go in terms of vaccines.*"

Although poverty was widely seen as the most significant factor contributing to health inequities in the region, stakeholders said that in many counties, addressing poverty was not treated as a priority. One stakeholder working in a social services organization mentioned a study conducted in the area that showed over a third of participants felt that people lived in poverty "*because they*

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41 United States Census Bureau. Quick facts. (2020). https://www.census.gov/quickfacts/fact/table/US/PST045219

42 Root, B., Simet, L. United States: pandemic impact on people in poverty. (2021, March 2). https://www.hrw.org/news/2021/03/02/united-states-pandemic-impact-people-poverty#

> "You were getting this disparity between those who had access through the hospitals and could get to the hospitals on such and such day, such and such a time [and] those who we were serving, which was people who would never be able to do that."
> – Health care stakeholder

major way. It's like it's holding us hostage." Stakeholders serving populations with housing instability expressed the belief that certain housing policies were not enacted during the pandemic because of the concern that they could not be discontinued post-pandemic.

A few residents in the focus groups acknowledged the increased risk and burden that people with lower incomes faced during the pandemic. These residents felt similarly to stakeholders that the issue was marginalized by many in the community, including those in decision-making positions. Some discussed a perceived sentiment in the community that people with lower incomes, "*especially communities in poverty, are over-exaggerating their health risk, and that everything is just being blown out of proportion,*" making it harder to direct resources to those communities. Others felt the pandemic response ignored those vulnerable to the virus due to low socio-economic status or transience: "*I don't think that our leaders took it seriously enough, especially in more poverty areas… The homeless community was kind of shoved back further. That also happened in poverty neighborhoods because [officials] didn't take their health in consideration, and the schooling in consideration when we did online learning and stuff. They didn't help provide… tutors, nothing. And so I don't think that our officials really cared too much about our smaller communities or our more poverty areas. Even the homeless included.*"

made bad choices, and it's under their control." The lack of public support for anti-poverty measures was believed to have made it difficult to prioritize assistance for people experiencing poverty during the pandemic in some areas, with one city government interviewee explaining, "*There are some things that we can do but the issue for us is going to still be the poverty issue. It is something that is not talked about as much, and it's unfortunate because it is the one thing that's holding this region back in a*

H. The Pandemic Response Inadequately Served the Needs of Latino, Black, and Immigrant Communities

> " I'm disappointed that our response has not included a response based on diversity and access. That's my biggest disappointment. "
>
> — **LOCAL COMMUNITY ORGANIZATION STAKEHOLDER**

Several stakeholders reported that many LPHAs, educational institutions, health care organizations, business leaders, policymakers and others did not adequately engage with people identifying as racial and ethnic minorities, immigrants, and non-English speakers. Many individuals identifying as Black and Latino, in particular, experienced higher rates of infection and deaths in Missouri. Despite being 11% of Missouri's population, Black people made up 35% of COVID-19 cases and 14% of deaths.[43, 44] Latino people are 4% of the population and made up 13% of COVID-19 cases and 3% of deaths.[45,46] Several Southwest counties have a significant Hispanic/Latino presence, as well as immigrants from countries such as Somalia, Jamaica, and Micronesia (*Table C*). Even for

those LPHAs that aimed to address the needs of Latino, Black, and immigrant communities, they could not scale up staffing or partner with other organizations to provide services equitably. Often, community and faith-based organizations were relied on for outreach because they were viewed as trusted entities.

Focus group residents identifying as Black, Hispanic, Latino, and/or other racial or ethnic backgrounds keenly felt the inequities of the pandemic response. Many residents noted that people who are Black, Hispanic/Latino, or originally from other countries were more likely to be essential workers employed in high-risk exposure occupations and environments like construction, meat packing factories, and services industries, increasing

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43 Kaiser Family Foundation. COVID-19 cases by race/ethnicity. (2021). https://www.kff.org/other/state-indicator/covid-19-cases-by-race-ethnicity/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

44 The COVID Tracking Project. Missouri: all race and ethnicity data. (2021). https://covidtracking.com/data/state/missouri/race-ethnicity

45 Kaiser Family Foundation. COVID-19 cases by race/ethnicity. (2021). https://www.kff.org/other/state-indicator/covid-19-cases-by-race-ethnicity/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

46 The COVID Tracking Project. Missouri: all race and ethnicity data. (2021). https://covidtracking.com/data/state/missouri/race-ethnicity

their chances of infection.[47, 48, 49] These residents felt that mitigation strategies in these industries did not always prioritize the safety of workers over the economics of staying open. One Hispanic/Latino participant explained, "*Although in some places we can keep distance or cover our mouths, in other groups it was difficult. And when most White groups did not wear a mask, then, yes, it was difficult…We were at risk.*"

Discrimination, misunderstanding, and racism seriously impacted people's experiences with the pandemic. One Hispanic/Latino resident explained, "*Many White people don't even know us…I don't think it's caught people's attention because, politically, we don't have representation, and the health departments haven't made a big or major effort*" to reach out to minority groups. Longstanding distrust of government and medical establishments due to historic injustices was exacerbated by the pandemic. This distrust was especially evident with the vaccine, as one Black resident explained, referring to his wife, who is White: "*I'm not sure if I could walk in that same facility and get the same thing she got and that's huge and that's where the mistrust comes in.*" Focus group residents identifying as Hispanic Latino also said people in their community feel fear and distrust of government officials when they ask for personal information, which impeded some testing and contact tracing efforts, as well as registration for the vaccine.

Notably, the first year of the pandemic coincided with the murder of George Floyd and a wave of Black Lives Matter protests across the country. The intersection of these events with the pandemic intensified racial tensions in many communities in the Southwest. Some stakeholders stated that, in some places, the attitudes of the community and of elected officials impeded anti-racist efforts, both prior to and during the pandemic. One elected official "*got death threats over encouraging equity, diversity, and inclusion.*"

> "In much of the Latino population…the truth is that many of them do not want to get vaccinated, for fear of what [the authorities] are going to ask."
> – Focus group participant

Cultural and Language Barriers Were Not Adequately Bridged

Throughout the state, the COVID-19 pandemic exacerbated linguistic and cultural barriers that hindered access to health-related needs for people with limited English proficiency and those with literacy challenges. In Southwest Missouri, very little information was available in languages other than English. Some health departments were unable to hire interpreters and translators, especially for less frequently spoken languages like Arabic and Somali. Even when it came to Spanish—which is spoken by a significant number of Hispanic/Latino residents in the region—focus group residents said they struggled to find Spanish translations of information. One resident described choosing to personally fill in the gaps: "*I had to translate things to post, to inform people, [because] there was almost nothing for Hispanic people here.*"

Further, public health campaigns did not target non-English-speaking communities with culturally sensitive messages and often did not disseminate information

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47 Hawkins D. Differential occupational risk for COVID‑19 and other infection exposure according to race and ethnicity. *American journal of industrial medicine*. 2020;63(9):817-820. doi:10.1002/ajim.23145

48 U.S. Bureau of Labor Statistics. Labor force characteristics by race and ethnicity, 2018. (2019). https://www.bls.gov/opub/reports/race-and-ethnicity/2018/home.htm

49 McNicholas, C., Paydock, M. Who are essential workers? A comprehensive look at their wages, demographics and unionization rates. (2020, May 19). https://www.epi.org/blog/who-are-essential-workers-a-comprehensive-look-at-their-wages-demographics-and-unionization-rates/

in forums that these groups frequented. LPHA guidance on isolation/quarantine procedures, for instance, did not adequately reflect that many immigrant families resided in small dwellings with multi-generational households where the ability to isolate was limited and transmission thus was more likely. As one stakeholder from a community organization said about their LPHA, "*They do a lot of [translations] but you're talking volume here. We're a tiny little county. For them to [engage] on that level … it's got to be overwhelming. And so I'm not faulting them as much as seeing the extraordinary need here.*" These linguistic barriers limited the effectiveness and impact of public health messaging, doctor-patient communication, and data collection.[50] They also delayed implementation of mitigation measures, which led to a higher rate of infection among people with limited English proficiency.

"If you don't speak the language, there's no contact or someone the city has here for Hispanics… When I got vaccinated, it was my co-worker who told me, 'There are going to be vaccines, here's where it is,' and that's how I was able to get vaccinated, because he shared it with me."

– Focus group participant

50 Ortega P, Martínez G, Diamond L. Language and Health Equity during COVID-19: Lessons and Opportunities. *Journal of health care for the poor and underserved.* 2020;31(4):1530-1535. doi:10.1353/hpu.2020.0114

III. Key Recommendations: Strengthening the Public Health Response to COVID-19 and Future Crises in Southwest Missouri

The infusion of new federal dollars into Missouri has the potential to bring more money to the state's public health infrastructure than ever before. Our hope is that these findings will be leveraged for the purpose of strengthening the public health system's ability to continue to respond to the COVID-19 pandemic and face future crises with greater resources coordination, equitable strategies, modernized infrastructure, and public trust. Specific recommendations for advancing this vision are detailed in our report *Missouri's Public Health Response to COVID-19: Key Findings and Recommendations for State Action and Investment.*[51]

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51 Levi, J., Regenstein, M., Hughes, D., Trott, J., Markus, A., Seyoum, S., Acosta, A., Benoit, M., Van Bronkhorst, H., Conway, C. "Missouri's Public Health Response to COVID-19: Key Findings and Recommendations for State Action and Investment". (September 2021). Health Policy and Management Issue Briefs. Paper 61. https://hsrc.himmelfarb.gwu.edu/sphhs_policy_briefs/61

TABLE 1. MISSOURI'S PUBLIC HEALTH RESPONSE TO COVID-19: KEY RECOMMENDATIONS FOR STRENGTHENING PUBLIC HEALTH INFRASTRUCTURE IN MISSOURI

	Recommendation	The State of Missouri Should:
1	Provide financial support and technical assistance for public health accreditation.	Create a special fund to provide technical assistance for LPHAs to assess readiness for accreditation via the Public Health Accreditation Board, identify costs to close gaps, and cover fees associated with the accreditation application process.
2	Prioritize equity.	Expand funding, staff, and other supports to help LPHAs integrate equity principles into data collection and reporting and community engagement (i.e., trust building, links to social services). Increase workforce and funding for the Office of Minority Health.
3	Build a modernized surveillance system.	Build a modernized system and provide LPHAs or regional bodies with hardware and software to manage the system, consistent with federal standards.
4	Create regional coordinating bodies.	Incentivize and support greater formal sharing of staffing and services among smaller LPHAs, with a lead public health agency designated to convene and coordinate, designed to develop and strengthen all foundational public health capabilities.
5	Bolster the public health workforce.	Support workforce development through equitable recruiting, hiring, and promotion practices; new training programs; enhanced salaries for LPHA leaders with advanced training; and deploy skilled staff within regions.
6	Ensure equitable public health funding across the state.	Provide a minimum level of funding for LPHAs, linked to delivery of foundational public health services and an equity analysis incorporating social vulnerability, and ensure that public health money flows directly to LPHAs.
7	Clarify LPHA governance structure and authorities.	Commission legal analysis to create greater consistency in decision making and oversight across LPHA governance and financing.
8	Harmonize policy development.	Ensure consistent policies across jurisdictions for public health prevention and mitigation measures. DHSS should establish and adhere to protocols for consultation with LPHAs on new policies during emergencies.

Appendix A: Methods and Data Sources

Stakeholder Interviews

This project employed a mixed-methods, qualitative comparative case study approach to conduct an evaluation of the public health response to COVID-19 in Missouri. The findings in this report come principally from interviews with stakeholders: A total of 131 stakeholders from state and local public health departments, elected and other government officials, health care organizations, educational institutions, the business community, faith-based organizations, membership associations, and a variety of social support services and other non-profits were interviewed virtually from October 2020 to May 2021. Thirty of these interviews were conducted in the Southwest region (*Table A*). Interviews were supplemented by media accounts and other publicly available data sources, as well as focus groups with 78 residents in Missouri (*Table B*).

A purposeful sample of stakeholders was recruited in a mix of counties throughout Southwest Missouri (*Table A*) to reflect variation in experiences with public health practice, local governmental processes and structures, and potential opportunities for strengthening public health statewide. Participants were recruited through snowball sampling, reviews of media reports, and general research techniques. All interviewees were promised confidentiality. Interview questions came from guides developed by GW for this study and customized to the sector represented by the interviewee. In the vast majority of cases, each interview consisted of one individual stakeholder and two GW study members. Interviewees did not receive compensation for their participation

Interviews were audio-recorded with permission and then transcribed. Alternatively, careful note-taking was used when interviewees did not consent to audio-recording. All of the transcripts and notes were coded using the Dedoose qualitative software platform and following standard protocols for building a codebook and applying the codes to transcripts. Each interview transcript was coded by two or more GW study team members. Coded interview excerpts were reviewed for common themes, both within and across geographic regions. Themes were identified based on a variety of rationales, including the frequency with which they were mentioned in different transcripts and regions, the emphasis with which they were presented, and consensus amongst different GW study team members.

The selection of regions for in-depth analysis was informed by the Missouri State Emergency Management System (SEMA) division of the state into nine distinct regions (A-I), which are each affiliated with a Highway Patrol Troop. Highway Region D consists of 18 counties located in the Southwest corner of Missouri (Figure 2). These counties include: Barry, Barton, Cedar, Christian, Dade, Dallas, Greene, Hickory, Jasper, Lawrence, McDonald, Newton, Polk, St. Clair, Stone, Taney, Vernon and Webster.[52] Interviews were conducted with stakeholders from 6 different sectors in Southwest Missouri's Highway Region D (*Table A*).

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52 Missouri Department of Public Safety SEMA. State regional coordinators program. https://sema.dps.mo.gov/programs/area_coordinator.php

TABLE A. INTERVIEWS IN SOUTHWEST MISSOURI (OCTOBER 2020 – MAY 2021)

Sector	Who is Included?	Number of Interviews
Business	Chamber of commerce, business councils, economic groups	2
Community/Faith Organizations	Non-profits, for-profits, health networks, community partnerships, social services, churches, faith-based social service organizations	7
Education	K-12, higher education, and education-focused entities	3
Healthcare	Hospitals and health centers, health care associations, long-term care facilities, and behavioral health	6
Policy	Government entities (city, county)	5
Public Health	Emergency management, LPHAs, research, and other public health-focused organizations	7
Total		30

Quotes were selected from transcribed interviews in the region and were condensed, abbreviated, or minorly redacted to protect confidentiality and clarify phrases in the event that the transcription service made errors or if the interviewees repeated themselves or added filler words (e.g., "um") that distracted from their overall statements.

Focus Groups with Residents

We held 12 focus groups with a total of 78 participants, all of whom resided in the Southwest region. We also conducted three focus groups with people identifying as racial or ethnic minorities, including two groups with Hispanic/Latino individuals (with a total of 16 partic-ipants) and one group of Black individuals and their family members (a total of 12 participants; some family members identified as White or mixed race). Further, six residents in the general population focus groups also identified their race/ethnicity as mixed, Black, Hispanic/Latino, or American Indian/Alaska Native. We hired external, race- and language-concordant facilitators to moderate these groups. We recruited participants through community-based organizations and leaders, faith-based institutions, local public health forums, such as COVID-19-related Facebook groups, health care organizations, and other community coalitions with whom the Foundation put us in contact. We recruited people identifying as racial or ethnic minorities through multicultural centers and local churches.

Our focus group sample comprises self-selected participants who take the pandemic very seriously. In line with the convention of purposeful sampling in qualitative evaluations, this sample provides us with an intentionally well-informed group of participants, who have thoughtful and reasoned input on the public health response in Missouri. While we appreciate that participation from a more representative population of residents would have given us perspective on those with whom the public health response struggled to engage, we believe our sample provides a more useful and accurate assessment of how the public health response unfolded, how it was interpreted by those who understood its importance, and how the social and political context in the state impacted it.

We collected socio-demographic information from participants using a screening survey disseminated prior to the focus groups. Participants also provided information on COVID-19-related questions, including changes in employment and housing as a result of the pandemic, whether they worked in an essential job, whether they had school-age children, whether they had tested positive for COVID-19 and their vaccination status. During the focus groups, we also collected information from participants using Google polls. These polls focused on topics related to the public health response and asked participants to reflect on specific guidelines, including those recommended by the CDC, to identify sources of information they use to get updates on the pandemic, and to report their level of confidence in local public health officials.

All focus groups were conducted via Zoom and participants were invited to contribute through oral discussion or written comments using the chat function. Focus groups were recorded and transcribed for accuracy. Study members analyzed transcripts and chat records using NVivo software and examined key themes that emerged during the discussions. Themes were identified based on the frequency and intensity with which participants discussed an issue both across and within groups. Poll data were also analyzed to triangulate themes that emerged in the groups. Focus group participants received gift cards to Amazon or local stores in appreciation of their time.

Socio-Demographics of Focus Group Participants

While the majority of participants in the focus groups lived in Greene and Taney counties, we also had residents participate from Polk, Christian, Barry, Stone, Newton, Lawrence, Dade, Jasper, and McDonald counties. Most (76%) participants were female and a majority (60%) were below the age of 50. Most (76%) focus group participants were White, however two Hispanic/Latino focus groups and one Black focus group were conducted in the Southwest to address the unique challenges faced by minority populations in the region. Across both the racial and ethnic minority and general population groups, 10% identified as Black and 25% identified as Hispanic/Latino.

Over four-fifths (83%) of respondents had completed two or more years of higher education (college or graduate school), and most (82%) had a household income of less than $99,000. Those participating in focus groups had a variety of employment situations. Most (73%) reported they worked as paid employees, and a small percentage (10%) said they were retired. One in nine participants said they were not working at the time of the focus group. Many participants lived in rural communities, with 45% reporting they lived in a non-metro area with a population of less than 20,000 people. More information about the Southwest focus group participants can be found in Table B.

TABLE B. SOUTHWEST FOCUS GROUP PARTICIPANT DEMOGRAPHICS

Number of Respondents   78

Age	Respondents (% of total)
21-29	10 (13%)
30-39	14 (18%)
40-49	23 (29%)
50-59	13 (17%)
60-69	14 (18%)
70+	4 (5%)

Gender	Respondents (% of total)
N (%) female	59 (76%)

Race/Ethnicity	Respondents (% of total)
White	59 (76%)
Black	8 (10%)
Other	11 (14%)

Identify as Hispanic/Latino	Respondents (% of total)
N (%)	19 (25%)

Language	Respondents (% of total)
Speaking a language other than English at home, N (%)	19 (24%)

Highest Grade Level/School	Respondents (% of total)
Some high school, but did not graduate	2 (3%)
High school degree or GED	10 (13%)
Some college or 2-year degree	24 (31%)
4-year college graduate	22 (28%)
Graduate school degree	19 (24%)
Other/prefer not to answer	1 (1%)

Income	Respondents (% of total)
Less than $49,999	37 (47%)
Between $50,000-$99,999	26 (33%)
Between $100,000-$149,000	6 (8%)
Above $150,000	6 (8%)
Other/prefer not to answer	3 (4%)

TABLE B. SOUTHWEST FOCUS GROUP PARTICIPANT DEMOGRAPHICS (CONTINUED)

Number of Respondents   78

Employment Status	Respondents (% of total)
Working (as paid employee)	57 (73%)
Self-employed	5 (6%)
Retired	8 (10%)
Not working**	8 (10%)

Urban-Rural Makeup	Respondents (% of total)
City/Metro Area with a Population of 250,000 or more people	13 (17%)
City/Metro Area with a Population of 50,000 to 250,000 people	19 (24%)
City/Metro Area with a Population of 20,000 to 49,000 people	8 (10%)
Non-Metro Area (population of ≤ 20,000)	35 (45%)
Other/prefer not to answer	3 (4%)

**Category includes those that are unemployed, students, and those with disabilities which prevent them from working

Public Health Infrastructure and Demographics in Southwest Missouri

TABLE C.
PUBLIC HEALTH INFRASTRUCTURE AND DEMOGRAPHICS IN SOUTHWEST MISSOURI

County	Population[53]	Racial & Ethnic Composition[54]	Persons living below poverty (%)[55]	LPHA Governance[56]	Per Capita Public Health Revenue[57]
Barry County	34,534	White: 84.5%; Black: 0.7%; AI or AN: 1.3%; Asian or PI: 2.6%; Multiracial: 2.0%; Hispanic: 9.9%	18.6%	Board of Trustees	$28.27
Barton County	11,637	White: 92.4%; Black: 0.6%; AI or AN: 1.6%; Asian or PI: 0.7%; Multiracial: 2.7%; Hispanic: 2.9%	15.0%	Board of Trustees	$43.51
Cedar County	14,188	White: 94.2%; Black: 0.5%; AI or AN: 1.1%; Asian or PI: 0.6%; Multiracial: 2.0%; Hispanic: 2.5%	17.9%	County Commission / Cedar Co.Hospital	$19.76

County	Population[53]	Racial & Ethnic Composition[54]	Persons living below poverty (%)[55]	LPHA Governance[56]	Per Capita Public Health Revenue[57]
Christian County	88,842	White: 92.9%; Black: 0.9%; AI or AN: 0.7%; Asian or PI: 0.8%; Multiracial: 2.0%; Hispanic: 3.1%	10.4%	Board of Trustees	$14.30
Dade County	7,569	White: 93.2%; Black: 0.5 %; AI or AN: 1.0%; Asian or PI: 0.7%; Multiracial: 2.8%; Hispanic: 2.3%	15.9%	Board of Trustees	$68.47
Dallas County	17,071	White: 94.2%; Black: 0.4%; AI or AN: 1.0%; Asian or PI: 0.5%; Multiracial: 1.9%; Hispanic: 2.2%	17.8%	Board of Trustees	$28.44
Greene County+	298,915	White: 87.0%; Black: 3.5%; AI or AN: 0.8%; Asian or PI: 2.4%; Multiracial: 3.0%; Hispanic: 3.9%	14.4%	City Council & County Commission	$33.52
Hickory County	8,279	White: 94.2%; Black: 0.6%; AI or AN: 1.1%; Asian or PI: 0.4%; Multiracial: 1.9%; Hispanic: 2.0%	18.2%	Board of Trustees	$59.30
Jasper County	122,761	White: 83.6%; Black: 2.3%; AI or AN: 1.9%; Asian or PI: 1.8%; Multiracial: 3.3%; Hispanic: 8.5%	18.8%	County Commission	$13.30
Lawrence County	38,001	White: 88.4%; Black: 0.7%; AI or AN: 1.2%; Asian or PI: 0.7%; Multiracial: 2.1%; Hispanic: 7.9%	16.1%	County Commission	$17.07
McDonald County	23,303	White: 76.8%; Black: 2.0%; AI or AN: 3.2%; Asian or PI: 4.4%; Multiracial: 3.8%; Hispanic: 11.4%	18.5%	County Commission	$21.33
Newton County	58,648	White: 85.7%; Black: 1.0%; AI or AN: 2.6%; Asian or PI: 2.6%; Multiracial: 3.3%; Hispanic: 5.6%	13.2%	Board of Trustees	$19.73
Polk County*	31,519	White: 93.4%; Black: 1.0%; AI or AN: 0.8%; Asian or PI: 0.9%; Multiracial: 1.8%; Hispanic: 2.5%	19.6%	Board of Trustees	$40.45

County	Population[53]	Racial & Ethnic Composition[54]	Persons living below poverty (%)[55]	LPHA Governance[56]	Per Capita Public Health Revenue[57]
St. Clair County	9,284	White: 94.4%; Black: 0.7%; AI or AN: 0.9%; Asian or PI: 0.4%; Multiracial: 1.7%; Hispanic: 2.3%	19.3%	Board of Trustees	$47.68
Stone County	31,076	White: 94.6%; Black: 0.4%; AI or AN: 0.9%; Asian or PI: 0.6%; Multiracial: 1.6%; Hispanic: 2.4%	15.4%	Board of Trustees	$32.99
Taney County*+	56,066	White: 88.2%; Black: 1.8%; AI or AN: 1.1%; Asian or PI: 1.3%; Multiracial: 2.3%; Hispanic: 6.2%	12.6%	Board of Trustees	$55.08
Vernon County	19,707	White: 93.6%; Black: 1.0%; AI or AN: 0.8%; Asian or PI: 0.8%; Multiracial: 1.9%; Hispanic: 2.3%	17.1%	Board of Trustees	$32.19
Webster County	39,085	White: 94.0%; Black: 1.2%; AI or AN: 0.8%; Asian or PI: 0.4%; Multiracial: 1.9%; Hispanic: 2.2%	16.2%	Board of Trustees	$27.13

*MICH Accreditation[58], +PHAB Accreditation[59]

53 United States Census Bureau. Quick facts. (2020). https://www.census.gov/quickfacts/fact/table/US/PST045219

54 United States Census Bureau. Quick facts. (2020). https://www.census.gov/quickfacts/fact/table/US/PST045219

55 United States Census Bureau. Quick facts. (2020). https://www.census.gov/quickfacts/fact/table/US/PST045219

56 Missouri Department of Health and Senior Services. Public Health Works. (March 2019). https://health.mo.gov/living/lpha/phworks/publichealthworks.pdf

57 Missouri Department of Health and Senior Services. Revenue Sources for Local Public Health Agencies. (2018). https://health.mo.gov/living/lpha/review18/Table_Contents.php

58 Missouri Institute for Community Health. Accredited Agencies in Missouri. https://michweb.org/accredited-agencies-in-missouri/

59 Public Health Accreditation Board. Complete List of Nationally Accredited Health Departments, Missouri. (2021, August 24). https://phaboard.org/who-is-accredited/