



**MISSOURI'S COVID-19 RESPONSE:
A CLINICAL AND OPERATIONAL
REFLECTION FOR MISSOURI HOSPITALS**

AUGUST 2021

MHA
MISSOURI HOSPITAL ASSOCIATION

COVID-19 IN MISSOURI

as of August 16, 2021

Cases:

PCR: 602,835 (6,330,496 tests)

Antigen (Probable): 119,564 (2,217,414 tests)

Deaths: 10,161

Variants Present In Missouri

Alpha, Beta, Gamma and Delta

Vaccines:

Total doses administered: 4,711,900

Number of people initiating vaccination: 2,632,802 (42.9%)

Number of people who have completed vaccination: (36.4%)

Source: Missouri Department of Health and Senior Services, [COVID-19 Dashboard](#) (2021).

This report summarizes the clinical and operational response to the COVID-19 pandemic from early 2020 through June 2021. Although data are presented through August 16, 2021, the unique effect of the Delta variant will be captured in future reports.

EXECUTIVE SUMMARY

Amid the current Delta variant surge, the COVID-19 pandemic has posed unprecedented challenges for health care organizations. No level of planning or preparation could fully inform the scale, longevity or level of impact the virus would have on our organizations, communities and nation. During the last 18 months, hospitals have demonstrated agility and resiliency as new challenges arose throughout the response. As case levels stabilized in spring 2021, hospital operations shifted to monitoring and managing COVID-19 in the long term, to include outbreaks. The Missouri Hospital Association compiled this summative report to share best practices, assist member organizations with assessment and improvement activities, and memorialize all that the state's hospitals have accomplished during this historic response.

Building on the [mid-response assessment](#) published in September 2020, this report follows the chronological progression of the COVID-19 pandemic in Missouri, highlighting key clinical and operational areas of incident management, data collection and analytics, disease surveillance, clinical treatment, health care system surge, vaccine administration, the emergence of variants, and reopening, despite continued outbreaks.

Within each section is a timeline highlighting key events, along with a member hospital spotlight to illustrate varied perspectives and approaches to a given issue. Data insights published throughout the response by MHA and the Hospital Industry Data Institute are included to memorialize key “moments in time” through the surge, vaccination and recovery phases. Finally, the report includes aggregate data from MHA's annual safety and preparedness program assessment. This assessment, completed in April 2021 by 112 member hospitals, helps inform this publication, future statewide programming and member technical assistance.

“COVID-19, while an immense challenge, continues to demonstrate the flexibility and agility built into our organizations, and is prompting many of us to forge stronger and tighter relations with others who serve our communities. With a crisis that is reaching across multiple domains — health care providers, public health and government at all levels — I am proud to note that hospitals' local leadership remains paramount in response and recovery. I believe that many of us are excited to be ‘better together’ as we leverage those strengthened community and regional relationships to move forward and address future challenges.”

— Jon D. Doolittle, Regional President,
Mosaic Medical Center – Albany
Chair of the MHA Board of Trustees

As hospitals continue to navigate the pandemic, it is important to reflect on all that has been accomplished in Missouri's hospitals thus far. Doing so will provide a shared sense of achievement, create opportunities to identify areas for improvement and allow for an appropriate strategic vision as organizations move forward through this response.

“The stage for COVID-19 is global, but all response continues to be local. This certainly includes health care providers and public health, but it extends well beyond. Nontraditional partnerships are necessary — including engagement with chambers of commerce from the local to the state level — to first help reduce transmission of the virus and now encourage vaccination. Within the state's hospitals — through countless acts of compassion and care — every team member continues to play an essential role. The reflections shared here inform our continued response to COVID-19 and future emergencies. However, they also remind us that, despite the difficulty, our mission matters.”

– Herb B. Kuhn, President and CEO,
Missouri Hospital Association

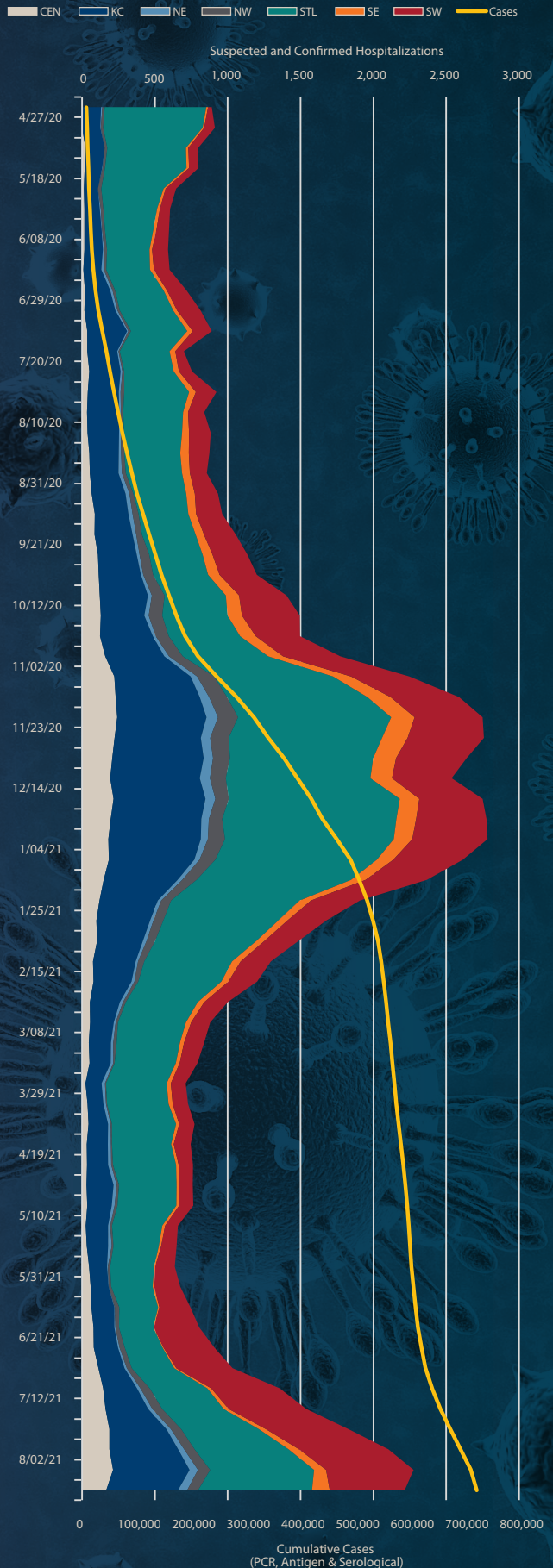
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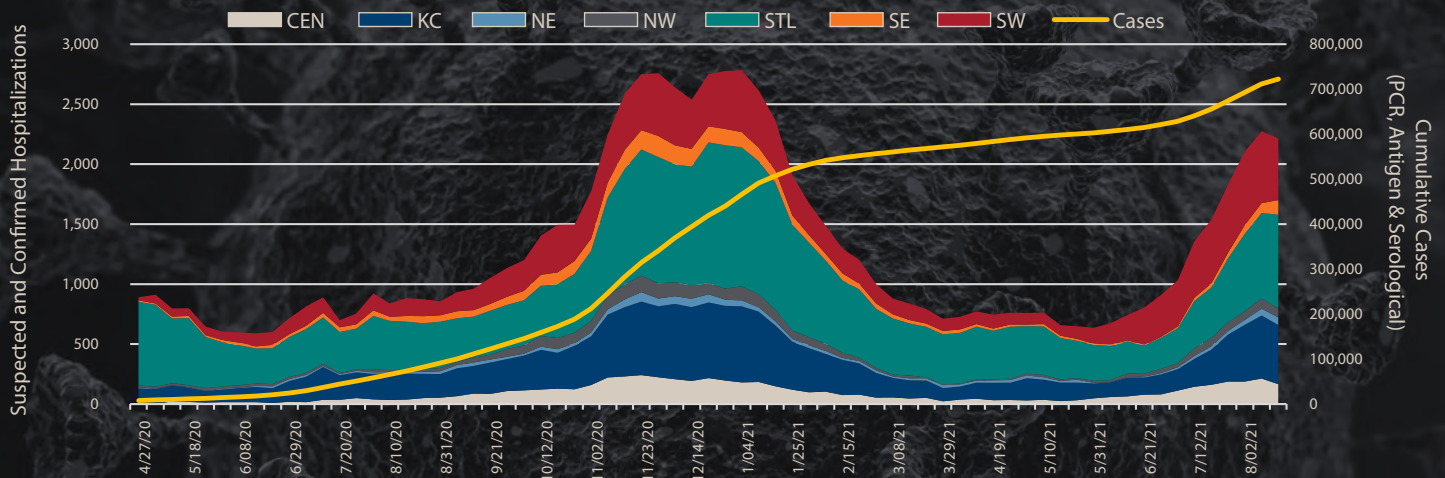
Missouri COVID-19 Cases and Hospitalizations by Region
(April 27, 2020 - Aug. 15, 2021)

Jan. 21, 2020 First coronavirus case identified in the U.S.
DATA & ANALYTICS
Feb. 3, 2020 MHA releases first EMResource situational awareness query
DISEASE SURVEILLANCE
March 7, 2020 First Missouri case identified (St. Louis)
March 11, 2020 The World Health Organization declares COVID-19 a pandemic
INCIDENT MANAGEMENT
March 13, 2020 Under the Stafford Act, U.S. declares a national emergency for COVID-19; Missouri declares state of emergency
March 27, 2020 MHA establishes daily situational awareness COVID-19 hospital dashboard
CLINICAL TREATMENT
Oct. 22, 2020 U.S. Food and Drug Administration approves remdesivir as first drug to treat COVID-19
Nov. 14, 2020 Missouri reports a single-day record of 6,346 COVID-19 cases
SURGE MANAGEMENT
Dec. 26, 2020 Missouri reports a single-day record of 2,862 COVID-19 patients hospitalized statewide
VACCINE ADMINISTRATION
April 9, 2021 All Missourians eligible to receive COVID-19 vaccine
REOPENING, EVALUATION & NEXT STEPS
May 16, 2021 CDC issues guidance for fully vaccinated individuals
VARIANTS
June 23, 2021 Missouri Department of Health and Senior Services issues Health Advisory on Delta variant



INCIDENT MANAGEMENT

Missouri COVID-19 Cases and Hospitalizations by Region
(April 27, 2020 - Aug. 15, 2021)



Jan. 30, 2020
WHO issues PHE of International Concern declaration

Feb. 27, 2020
MHA activates eICS/EMResource status

March 13, 2020
Under the Stafford Act, U.S. declares a national emergency for COVID-19; Missouri declares state of emergency

March 26, 2020
Missouri declares disaster due to COVID-19

April 7, 2020
State of Missouri initiates Fusion Cell

Nov. 23, 2020
Gov. Parson extends a state of emergency order through March 31, 2021

March 26, 2021
Gov. Parson extends state of emergency order through Aug. 31, 2021

May 24, 2021
State of Missouri deactivates Fusion Cell and maintains established incident command structure

SECTION SUMMARY

Hospitals activated their emergency operations plan and incident management structures early in the COVID-19 response to identify and effectively communicate response initiatives, monitor resources, and proactively plan for future priorities. In July 2020, 91% of survey respondents reported activating their EOP at the onset of the COVID-19 response. At the time of the survey, 84% still were activated. In April 2021, 63% of respondents reported active incident command structures.

In addition to incident management coordination, EOP activation documents a hospital's incident response timeline, and supports the application and use of many waivers that were implemented to streamline health care operations and allow for expanded patient care capacity during the pandemic.

As demobilization and evaluation of incident management began, early lessons learned reinforced the need for breadth and depth among executive, clinical and operational leaders to be engaged in emergency preparedness and continuity of operations planning. This ensures a comprehensive “bench” is available to address future incidents that require an organizationwide response.



MEMBER SPOTLIGHT



MISSOURI DELTA
FOCUSED ON THE FUTURE OF HEALTHCARE

COVID-19 Task Force

While significant pandemic response preparations began in January 2020, and our leadership team began meeting internally on March 9, 2020, our organization did not officially activate our incident command structure until March 26, 2020, when active COVID-19 cases had not only been reported in our state, but also within our Southeast region.

Upon activation of our Incident Command System, traditional roles were assigned and delegated by our Incident Commander and CEO Jason Schrupf, as we had planned in our organization's EOP. As the infection prevention nurse, as well as the emergency preparedness coordinator for our facility, Eric Slaughter, BSN, R.N., naturally took a prominent role in the command structure. With almost constant updates from both the infection prevention and emergency preparedness aspects, he was able to keep our ICS team extremely up to date, and honestly, it could not have been a more perfect job role for a pandemic response. We met twice daily in our incident command center to brief and debrief on the rapidly evolving situation.

We quickly determined in that first week of ICS activation that this event brought several challenges that our traditional ICS structure and internal response would not address. This event would last much longer than traditional emergency response events and require daily engagement with external partners.

“The pandemic had wide-ranging implications that required communication, collaboration and coordination across local, regional, state and federal entities. We saw immediate impacts on our personal protective equipment supply chain, and started planning for spikes in patient census, surges in testing capacity, workforce availability and acquisition of additional equipment for our critical care patients.”

— Jason Schrupf, CEO of Missouri Delta

This event had the potential to not only push our facility's capacity to the limits, but every facility in the region and throughout the country. The decision was made to establish and utilize a multidisciplinary COVID Task Force under the leadership of Missouri Delta Medical Center to respond to these challenges.

Our COVID Task Force began meeting daily on March 30, 2020. Our team structure was in many ways very similar to our organizational chart that we employ using our ICS. Jason Schrupf remained our Task Force Leader, and much like the incident commander role, had the ultimate decision-making authority. Eric Slaughter continued to serve a prominent leadership role, with both the infection prevention and emergency preparedness aspects of the response. We included hospital administration, nursing, medical staff, infection prevention, facility operations, environmental services, clinic operations, laboratory, respiratory therapy, radiology, nutritional services and other key department leadership.

Our Task Force quickly decided that some of the factors that determined the impact of this pandemic on our facility extended beyond the four walls of our hospital. We would need to engage representatives from our local, county and regional partners to help with the success of our pandemic planning and response efforts. Fortunately, our organization had been very active with MHA and our nonurban regional health care coalition and emergency response partners. Because of our longstanding involvement, we already had strong, established working relationships with many organizations. We first invited each of the area emergency medical services and each of the county health departments. The partnership and collaboration flourished immediately. We used various means of communication to share information, trends and resources. With Eric's unique job role managing infection control, safety and emergency preparedness, he was able to serve as an excellent resource to assist and advise our Task Force partners. By May 2020, the Task Force had been expanded to include area Air Evac leadership, city and county law enforcement, city and county court representatives, city and county leaders, health care clinics and facilities, and management from major industries in the region. By August 2020, local school leadership and a representative from the MU Outreach Program, who coordinates with area nursing homes, joined the task force to better prevent and manage outbreaks.

In January 2021, as vaccination efforts in our area and at our facility were being implemented, we asked the other vaccinators in our local service counties to join the Task Force, as well. This partnership was very valuable, as we were able to share and plan for limited vaccine supply very efficiently. At one point early in the vaccination effort, we managed to have several counties ranked near the best in the state for vaccination percentages, thanks to this collaboration.

While our COVID Task Force was scaled down as cases decreased, it was fully reactivated in mid-July as we began to see COVID-19 cases increase again in the region due to the Delta surge. We continue to hold biweekly calls with our partners and monitor the situation closely. Our COVID Task Force has been extremely effective, and our organization has met every challenge head on, and our collaboration has only further strengthened our region's ability to respond to the next emergency event.



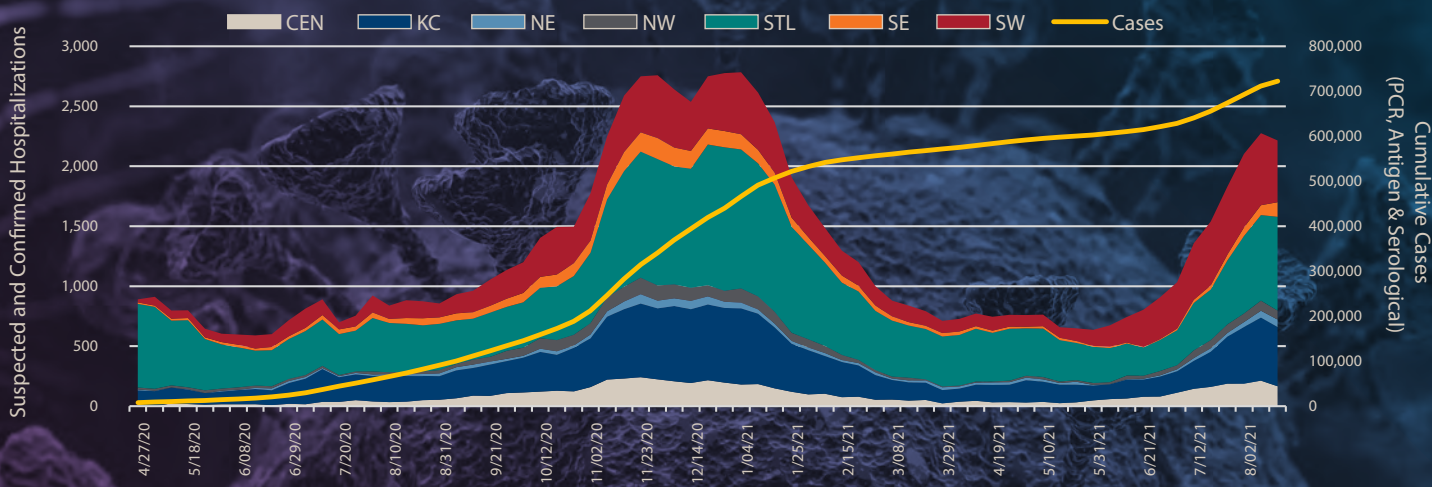
State of Missouri COVID-19 Fusion Cell

In April 2020, the State of Missouri implemented a whole-of-government structure — [the Fusion Cell](#) — which incorporated both public and private partners to address the COVID-19 pandemic response. These daily briefings were structured to facilitate information-sharing across key sectors, forge the alignment of individuals with specific skillsets into topic-specific microcells, conduct real-time problem solving, and establish accountability for results through week-over-week goal setting. MHA staff engaged in the Fusion Cell through its tenure of the COVID-19 response to articulate the clinical and operational impacts of COVID-19 on the hospital community, provide insight into the hospital-specific challenges facing our membership, and glean critical detail to inform hospital decision-making.

DATA & ANALYTICS

Missouri COVID-19 Cases and Hospitalizations by Region

(April 27, 2020 - Aug. 15, 2021)



Feb. 3, 2020
MHA releases first EMResource situational awareness dashboard

Feb. 27, 2020
MHA activates eICS/EMResource status

March 27, 2020
MHA establishes daily situational awareness COVID-19 hospital dashboard (1.0)

March 28, 2020
HIDI executes Business Associates Agreement with Washington University Institute for Public Health to assist in development of LEMMA

April 6, 2020
MHA General Counsel requests waivers of Sections 192.067 and 192.667, RSMo., and 19 CSR 10-33.010 and 19 CSR 20-20.020

April 8, 2020
DHSS waives state statutes and regulations allowing access to syndromic case data

April 9, 2020
HIDI executes Business Associates Agreement with DHSS to access COVID-19 data

April 10, 2020
U.S. Department of Health and Human Services requires data reporting; Missouri adopts National Healthcare Safety Network platform for COVID-19 data submission

May 13, 2020
HIDI begins ingesting daily EpiTrax and ESSENCE data feeds from DHSS

June 17, 2020
MHA adds regional data to the daily situational awareness COVID-19 hospital dashboard

July 15, 2020
HHS requires TeleTracking reporting, discontinues NHSN

July 16, 2020
MHA and HIDI gain access to TeleTracking data through Palantir's HHS Protect Platform

Sept. 2, 2020
MHA enhances the daily situational awareness COVID-19 hospital dashboard with interactivity

Sept. 8, 2020
The Missouri Department of Elementary and Secondary Education launches a school dashboard on ShowMeStrong Recovery site

Sept. 28, 2020
MHA launches seasonal influenza impact status in EMResource

Nov. 10, 2020
HIDI releases hospital-specific dashboards

Dec. 14, 2020
Missouri administers first COVID-19 vaccines

Dec. 28, 2020
HIDI begins ingesting daily ShowMeVax feeds from DHSS

Feb. 12, 2021
HIDI adds health equity-focused vaccine coverage module to hospital-specific dashboards

March 4, 2021
MHA launches Vaccine Booster Deficit tool in EMResource

May 4, 2021
MHA develops Excess Vaccine Supply for Redistribution tool in EMResource

June 1, 2021
MHA and HIDI suspend COVID-19 dashboards

June 2, 2021
The DHSS COVID-19 Public Health Dashboard is maintained for ongoing data tracking

June 21, 2021
MHA relaunches EMResource Bed Availability query

July 21, 2021
MHA expands EMResource query to capture high volume

Aug. 6, 2021
National Disaster Medical System launches EMResource query in Kansas City and St. Louis

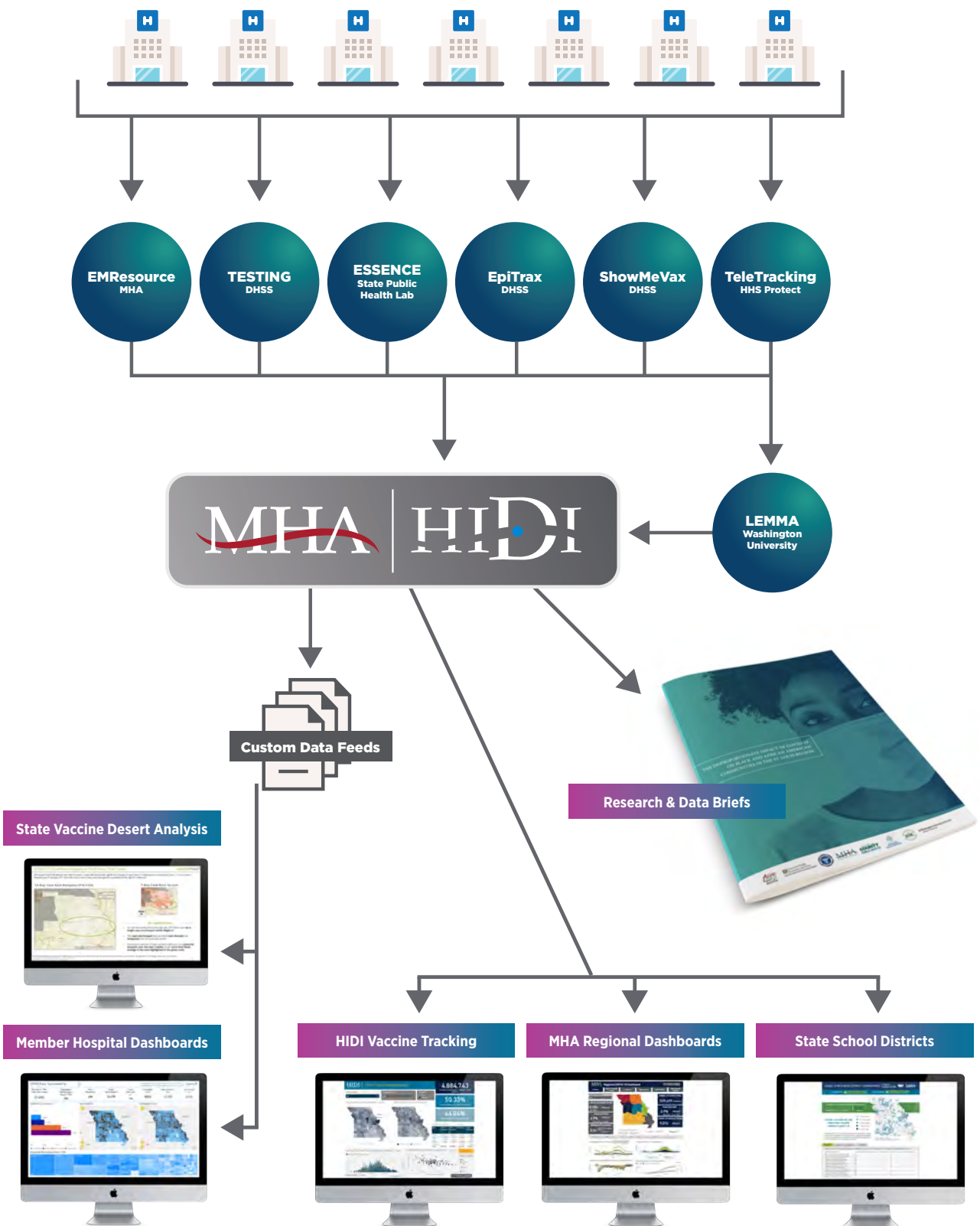
SECTION SUMMARY

COVID-19 has proven to be a data-driven response. Beginning in January 2020 as the virus began to spread across Asia and Europe, public health and health care leaders monitored the doubling rate of the then-named novel Coronavirus, as well as the associated ventilated patient and death rates, to project global impact and potential patient surge into the health care delivery system. A key success of Missouri's response was the collaboration fostered among public and private partners to collect, analyze and deploy data to decision-makers and the public.

On April 6, 2020, MHA formally submitted a request to the DHSS Office of General Counsel to consider waiving state statutes and regulations (sections 192.067 and 192.667, RSMo., and 19 CSR 10-33.010 and 19 CSR 20-20.020), to permit the sharing of critical pandemic response and syndromic surveillance data under the public health emergency declaration issued by Gov. Parson. With these requested waivers executed and appropriate legal agreements signed, HIDI began receiving daily syndromic surveillance and case reporting feeds directly from the state. These data and the integration of MHA and HIDI staff into the COVID-19 Analytics Cell led to the immediate task of helping develop what would become the Local Epidemiological Modeling for Management and Action, or LEMMA model, that the state would use to estimate regional effective reproductive rates and forecasted demand for hospital-level care across the state. After 16 months and 700,000 cases, HIDI has ingested and synthesized nearly 700 gigabytes of near real-time data from DHSS, HHS and Washington University on cases, hospitalizations, testing, deaths, chief emergency room complaints, effective reproductive rates and vaccine administration into 432 consecutive days of refreshed intelligence on the state of COVID-19 in Missouri between March 2020 and June 2021.

As we look forward, opportunities remain to strengthen data interoperability within Missouri and across the nation. Limitations in the various data sources used to guide the state and federal response, and the lack of interoperability underlying these systems, became apparent early on and have persisted throughout the response. Strengthening the interoperability between hospital electronic medical record systems (including staffing and inventory modules) and public health systems would prevent data generation burden during public health emergencies and bolster the validity of reported information to inform accurately targeted responses.

MHA and HIDI Pandemic Response Data Flow Diagram



[Click here for detailed descriptions of the data flow and outputs](#)





ST. LOUIS METROPOLITAN PANDEMIC TASK FORCE



Case Study: Data-Driven Decision-Making

It began with a two-sentence email between colleagues at Mercy, BJC HealthCare and SSM Health on March 20, 2020 — less than two weeks after the state and the St. Louis Region experienced the first confirmed COVID-19 case in a young student from St. Louis County returning from study abroad in Italy.

“I wish I was reaching out under better circumstances. I was emailing to see if our respective analytic teams would be interested in scheduling some time to discuss ideas and possible collaborations around advanced analytics for COVID-19. Let me know your thoughts.”

— Kerry Bommarito, Ph.D., MPH,
Mercy Executive Director of Enterprise Data Science

Shortly after, a unique partnership was struck between the St. Louis Region’s four major health systems — BJC HealthCare, Mercy, SSM Health and St. Luke’s — in what would become the St. Louis Metropolitan Pandemic Task Force that eventually would grow to involve and inform all sectors of the region’s governments, media, and academic and public health communities.

Led by Incident Commander Alexander Garza, M.D., MPH, and SSM Health’s Chief Community Health Officer, the STL-PTF centered around advanced analytics and data science, clear translation, and consistent dissemination of critical insights to residents, media and policymakers to ensure a regionally coordinated response that was steeped in empirics and grounded in epidemiological science.

Fig. Early Susceptible/Infected/Recovered Compartmental Pandemic Modeling from the STL-PTF

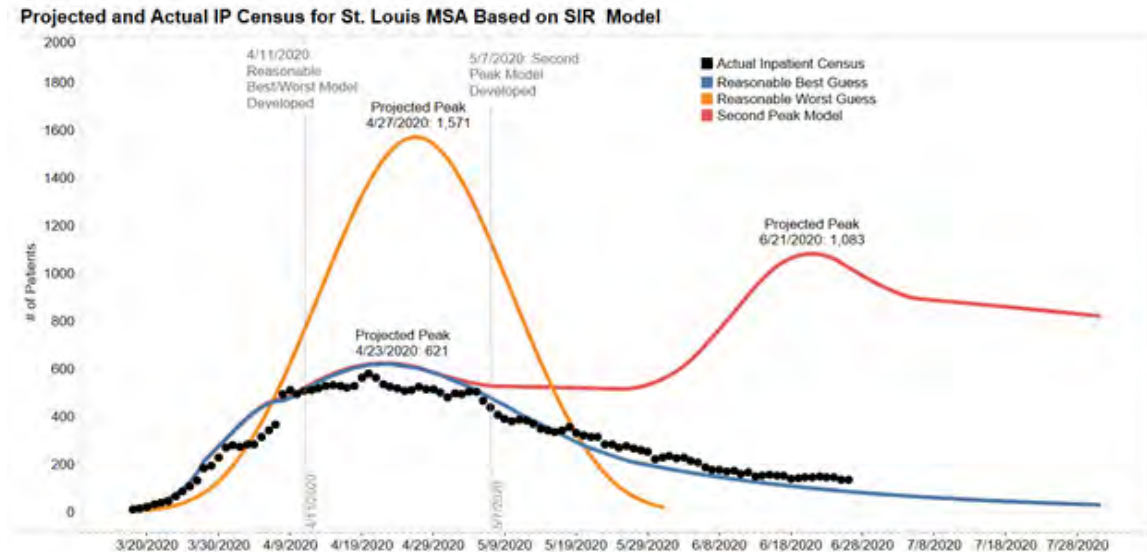
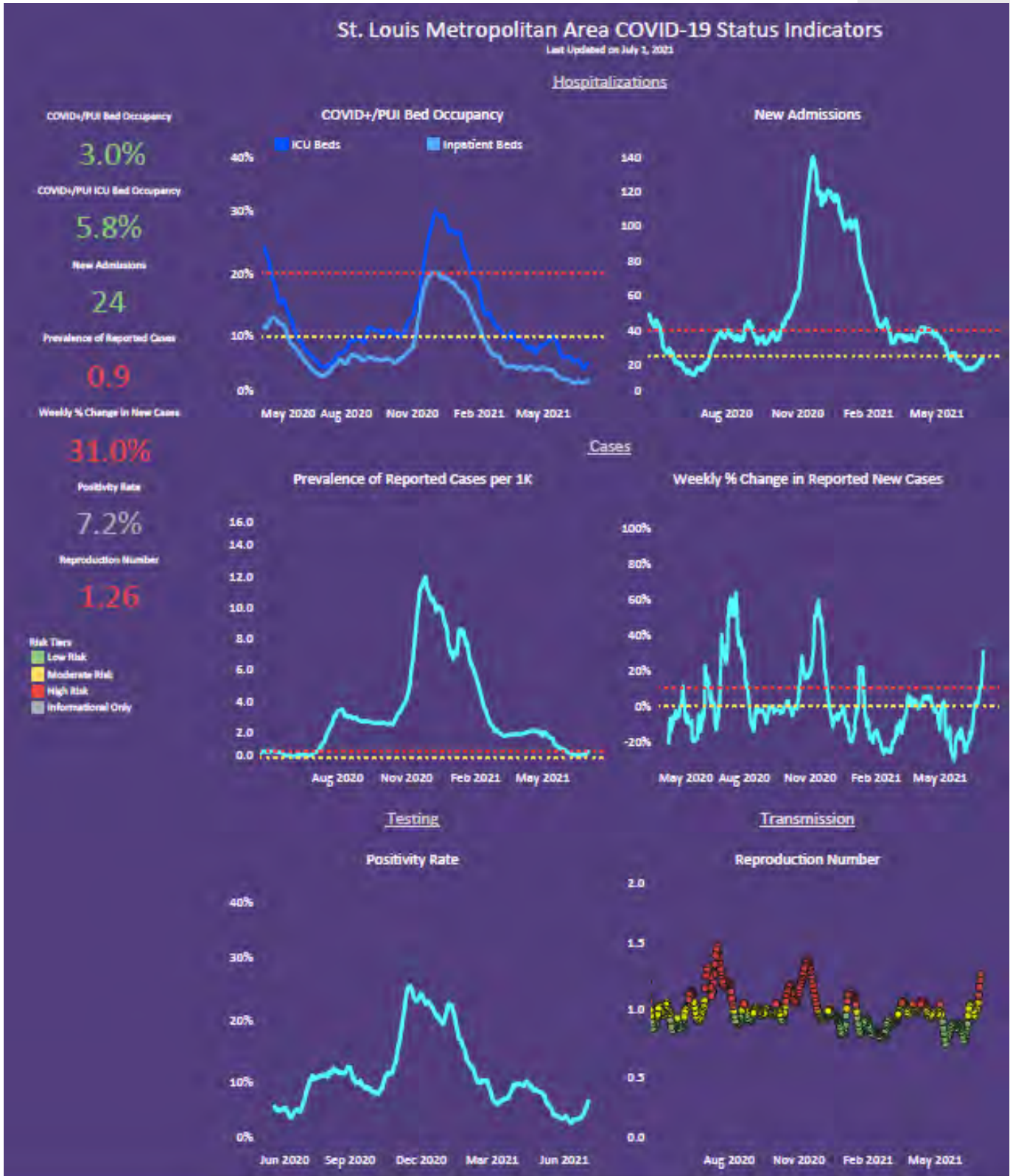


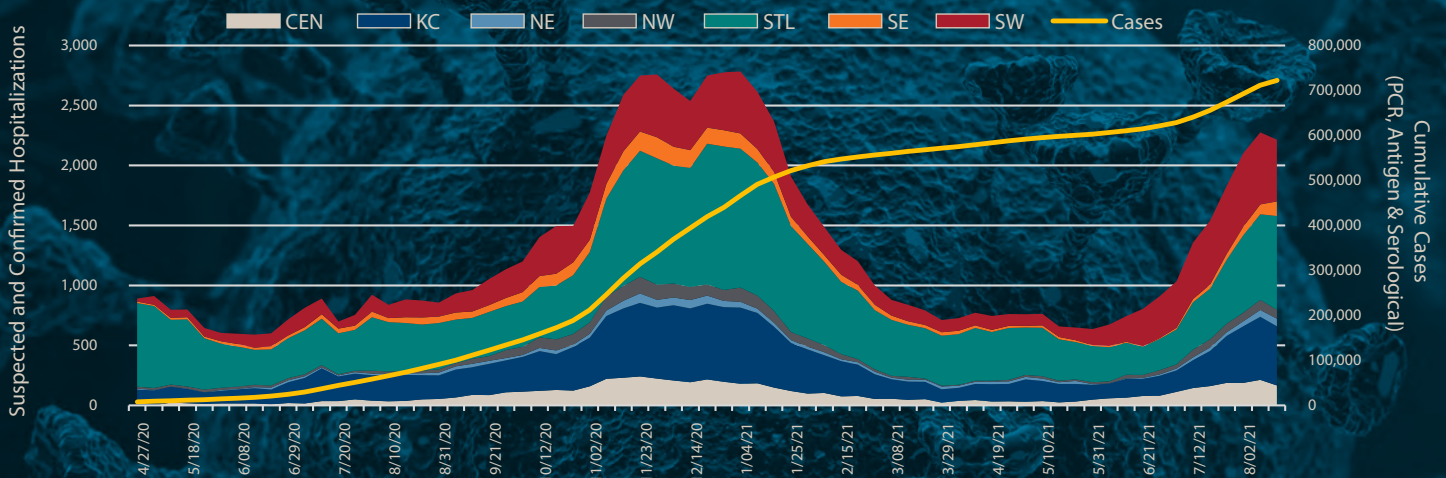
Fig. Daily STL-PTF COVID-19 Scorecard



DISEASE SURVEILLANCE

(Cases and Tests)

Missouri COVID-19 Cases and Hospitalizations by Region
(April 27, 2020 - Aug. 15, 2021)



- March 7, 2020**
Missouri identifies first COVID-19 case
- March 7, 2020**
DHSS establishes initial COVID-19 testing criteria
- March 12, 2020**
DHSS releases Missouri COVID-19 person under investigation definition and testing algorithm
- March 24, 2020**
DHSS updates criteria to guide evaluation and laboratory testing for COVID-19
- April 30, 2020**
DHSS updates COVID-19 testing expansion and serology reporting
- May 12, 2020**
DHSS deploys box-in strategy to address congregate care COVID-19 spread
- June 3, 2020**
DHSS launches antigen testing for COVID-19
- July 16, 2020**
U.S. reports new record of daily COVID-19 cases
- July 23, 2020**
State of Missouri launches sewershed surveillance project
- July 29, 2020**
FDA grants Truvian emergency use authorization for rapid antibody test
- Aug. 15, 2020**
FDA approves saliva test
- Nov. 14, 2020**
Missouri reports a single-day record of 6,346 COVID-19 cases
- Nov. 17, 2020**
FDA authorizes first at-home COVID-19 test
- Dec. 4, 2020**
FDA authorizes first COVID-19 and flu combination test for use with home-collected samples
- Dec. 9, 2020**
FDA authorizes first direct-to-consumer COVID-19 test system
- Feb. 21, 2021**
DHSS implements sewershed surveillance to monitor variants
- March 5, 2021**
FDA issues EUA for first molecular non-prescription, at-home test



SECTION SUMMARY

Testing for COVID-19 was an essential and cornerstone component of the pandemic response to identify, mitigate and control the spread of the virus. Early in 2020, access to testing supplies and laboratory equipment was one of the most commonly identified challenges throughout Missouri and the nation. As the testing supply chain opened and health care providers secured localized laboratory capability, COVID-19 testing became routinized — much in part due to the cross-functional teams that health care providers deployed to identify solutions. Successful testing strategies required engagement of hospital laboratories to update or acquire appropriate tools and equipment, materials and supply chain management to secure adequate supplies such as swabs and viral transport media, clinical and operational leads to develop and deploy testing sites, and data analysts to aggregate and distribute test results in a timely manner. These activities occurred concurrent to PPE shortages, preparation for COVID-19 patient surge and managing normal health care operations.

In June 2021, the FDA [reported](#) that 384 COVID-19 tests and sample collection devices were available for use under EUA. Testing types and collection methods have expanded to include nasal pharyngeal, saliva and blood tests, and at-home kits that can be submitted by mail.



[READ MHA's Dashboard Spotlight for the Week of Dec. 22, 2020.](#)

MHA Member Hospital Responses

2021 Safety and Preparedness Program Survey, n=112

Did you perform community-based COVID-19 testing?

Answer Choices	Number of Respondents
Yes, at an alternate community location	25
Yes, at a separate clinic on-site	54
Conducted testing through established providers, no stand-alone effort	17
Did not conduct COVID-19 testing	16

Do you plan to incorporate the logistics and operations of this testing strategy into your established response plans for other community outreach needs?

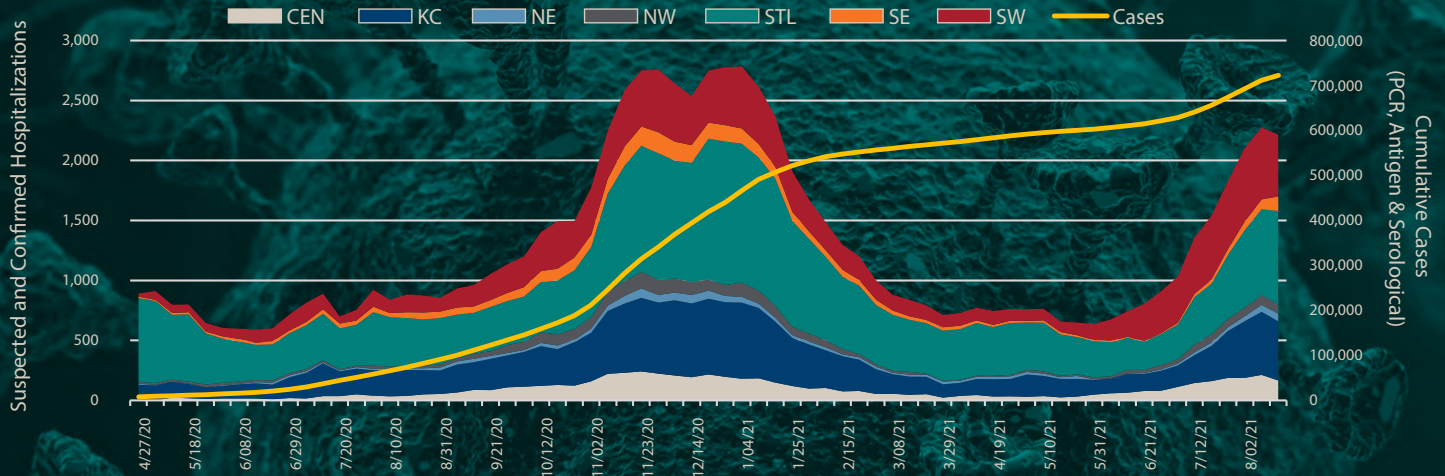
Answer Choices	Number of Respondents
Yes	47
No	3
Not yet determined	50
N/A	12

Do you require infectious disease testing prior to hospital inpatient admission or prior to scheduled outpatient surgical procedures?

Answer Choices	Number of Respondents
Yes, we maintain a requirement for testing prior to admission or procedure (COVID-19, influenza, RSV, etc.)	31
Yes, we continue to require a COVID-19 test prior to admission or procedure	63
Not at this time – we did previously, but have suspended the requirement	7
Did not/Do not require testing	11

CLINICAL TREATMENT

Missouri COVID-19 Cases and Hospitalizations by Region
(April 27, 2020 - Aug. 15, 2021)



- Jan. 12, 2020**
SARS-CoV-2 genome is available
- March 28, 2020**
FDA issues EUA for chloroquine and hydroxychloroquine from the Strategic National Stockpile
- April 21, 2020**
National Institutes of Health issues initial treatment guidelines
- May 1, 2020**
FDA grants remdesivir EUA
- June 15, 2020**
FDA revokes EUA for chloroquine and hydroxychloroquine
- June 25, 2020**
NIH issues guidelines for dexamethazone use in COVID-19 patients
- Aug. 14, 2020**
First evidence available of neutralizing antibodies as a correlate of immune protection from SARS-CoV-2 in humans
- Aug. 17, 2020**
CDC announces that COVID-19 is the third-leading cause of death in the U.S.
- Aug. 23, 2020**
FDA issues EUA for convalescent plasma in hospitalized patients in the U.S.
- Aug. 28, 2020**
U.S. reports first known case of COVID-19 reinfection
- Sept. 3, 2020**
Studies report that steroids reduce mortality in severe cases of COVID-19
- Nov. 9, 2020**
FDA issues EUA for Eli Lilly's bamlanivimab antibody treatment
- Nov. 21, 2020**
FDA issues EUA for regeneron monoclonal antibody cocktail (casirivimab and imdevimab)
- Nov. 24, 2020**
MHA initiates monoclonal antibody query in EMResource for statewide allocation
- Feb. 9, 2021**
FDA issues EUA for bamlanivimab and etesevimab administered together
- April 16, 2021**
FDA revokes EUA for bamlanivimab administered alone
- May 26, 2021**
FDA issues EUA for sotrovimab
- June 24, 2021**
FDA issues EUA for use of Actemra (tocilizumab) for certain COVID-19 inpatients

SECTION SUMMARY

When COVID-19 emerged and spread in early 2020, little was known about specific patient treatments. Clinicians had to quickly learn about the disease's impact on the body, as well as evolving treatment options. Clinical guidelines quickly changed as the medical community and researchers learned more about the underlying pathology and clinical presentation of COVID-19. Many early treatments built upon clinical knowledge, treatments and research of other novel coronavirus outbreaks, such as SARS and MERS. In May 2020, remdesivir received EUA approval for the treatment of hospitalized COVID-19 patients. In November 2020, the first monoclonal antibody treatment, bamlanivimab, was approved for nonhospitalized patients. Both therapies initially were limited in supply, and federal allocation was controlled by the state. As a result, not only did hospitals have to keep up with changing clinical guidelines and treatments, but they also had to navigate the allocation process and determine which patients would benefit the most from the treatment options. Many hospitals in Missouri developed innovative strategies and redesigned spaces to deliver outpatient intravenous monoclonal antibody treatments. Additional treatments were approved under EUA, and science is being conducted at an unprecedented speed with frequent emerging data and updated guidance.

Clinicians also have been faced with the emergence of "COVID-19 long-haul patients." These patients recover from the acute phase of the disease and no longer test positive for infection, but they continue to experience chronic symptoms for weeks or months following original infection. Going forward, clinicians are faced with determining best practices and treatments for long-haul patients and those with acute COVID-19 infections as the medical community continues to learn more about the impacts from COVID-19.

MHA Member Hospital Responses

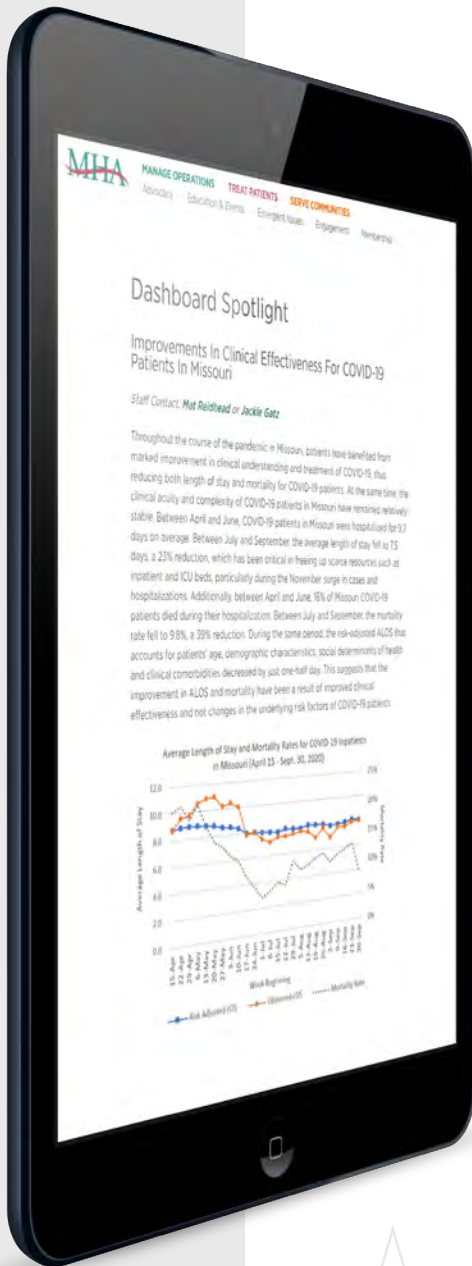
2021 Safety and Preparedness Program Survey, n=112

Did you provide therapeutic treatment options for COVID-19 patients?

Answer Choices	Number of Respondents
bamlanivimab and etesevimab	22
bamlanivimab	62
casirivimab and imdevimab	26
remdesivir	80
Did not provide therapeutics	21

If you administered monoclonal antibody therapeutics, did you provide this treatment through:

Answer Choices	Number of Respondents
Emergency Department	27
Outpatient clinic, such as an infusion center	53
Community Outreach, such as on-site at a local long-term care facility	1
Establishment of an alternate care space	24



[READ MHA's Dashboard Spotlight for the Week of Jan. 12, 2021.](#)



Missouri's COVID-19 ECHO

The COVID-19 ECHO (Extension for Community Healthcare Outcomes) uses videoconferencing to connect interdisciplinary teams of experts with health care providers and stakeholders, and provide updated clinical and public health information on COVID-19. They collaborate in interactive case-based learning to develop advanced skills and best practices, and provide up-to-date information and support for health care stakeholders across Missouri, which improves patient care access, quality and efficiency. A multidisciplinary expert team shares latest developments, answers questions and discusses patient care scenarios as appropriate.

This ECHO has been a vital mode of education and communication since it began in March 2020. **There has been a total of 1,239 unique learners tuning into the sessions. Learners from 99 Missouri counties participated in the COVID-19 ECHO.** All past sessions also are available online to view on-demand, and were viewed an average of 288 times. Each month, there is an average of 800 total learners participating in the sessions. Learners reported high satisfaction with the ECHO, with the majority of responses categorized as good to excellent. For this ECHO, a large percentage of the individuals that received session invitations also attended.

Show-Me ECHO learning sessions offer free continuing education and are provided at no cost to participating sites and individuals.



CLINICIAN SPOTLIGHT



COVID-19 in Children

Dr. Jennifer Watts

*Chief Medical Emergency Management Officer
Children's Mercy Hospital*

As COVID-19 cases began to rise across the region in spring 2020, a rare condition among pediatric COVID-19 patients brought new challenges to clinical management of the virus. Multisystem inflammatory syndrome — known by a more familiar abbreviation MIS-C — is defined by the CDC as a “condition where different body parts can become inflamed, including the heart, lungs, kidneys, brain, skin, eyes or gastrointestinal organs.”

At Children's Mercy Hospital, we collaborated with national groundbreaking research on MIS-C and focused on educating our providers on the symptoms. We developed algorithms and protocols for diagnosis and management, and update them continuously as new information is discovered. We share these broadly with our network of providers that care for children to extend our reach, and we also continue to communicate with our patients and community on the potential associated risks of COVID-19 — stressing the benefit of preventing COVID-19 spread and the importance of vaccination. Today, we continue to research MIS-C and update protocols. While rare, we recognize the severity of these symptoms and long-term side effects in children, and continue to research and update our protocols to remain ready.

U.S.	4,404 cases of MIS-C have been reported in the U.S.
Missouri	Less than 100 (pediatric COVID – 19 cases 85,554)
Kansas	Less than 25 (pediatric COVID – 19 cases 45,271)



MEMBER SPOTLIGHT



Implementing Monoclonal Antibody Infusion Workflow During COVID-19 Response

In November 2020 when the FDA issued an EUA for the infusion treatment of mild to moderate COVID-19 positive patients at high risk for progressing to hospitalization, Citizens Memorial Hospital developed a timely, patient-centered solution to safely infuse monoclonal antibodies to those at highest risk of disease progression. With limited staffing resources, we had to be efficient and adaptive with our implementation to provide equitable treatment across all communities in our service area, which includes 120,000 people in eight counties.

During the initial COVID-19 surge, transfer options and maintaining bed capacity for acutely ill non-COVID-19 patients in our community were of primary concern. The EUA of the monoclonal antibody, bamlanivimab, provided a promising outpatient treatment option in our historic battle against COVID-19.

Six days after receiving our first allocation of bamlanivimab, we developed a reporting tool to identify COVID-19 positive patients eligible for infusion, implemented an evidence-based scoring matrix to provide infusions to those at highest risk of hospitalization, and opened a dedicated space to safely infuse COVID-19 infected patients. Laboratory data within our electronic medical record were used to identify all COVID-19 positive patients over the age of 55. All patients were reviewed by a pharmacist for eligibility criteria and, if appropriate, a message was sent to their provider to request an order for infusion. If at all possible, accommodations were made to provide the antibody infusion within 72 hours of diagnosis.

Implementing our specialty infusion area as quickly as we did likely prevented 37-94 admissions to our rural hospital. At a time when we did not have another bed available — and could not get any more ventilators or staff to operate them — this was critical to our pandemic response.



COVID-19 Clinical Treatment Taskforce Drives Evidence-based Decisions

Saint Luke's COVID-19 Clinical Treatment Taskforce was a team established out of our physician quality organization to guide therapeutic decisions and options offered to patients with COVID-19. Subject matter experts from the following areas were involved in this multidisciplinary approach to efficiently ensure safe and effective care for our affected patients: infectious disease, medicine, emergency, critical care, primary care, pharmacy and IT analysts.

In a time of significant clinician stress and a dizzying number of COVID-19-related publications, the work of the COVID-19 Clinical Treatment Taskforce became a stabilizing source of continuity for providers. The specific objective of the taskforce was to facilitate quality inpatient and outpatient care of COVID-19 patients by empowering a multidisciplinary team of evidence-focused leaders to consistently evaluate the moving COVID-19 "treatment" target, while providing innovative EMR solutions and treatment support mechanisms.

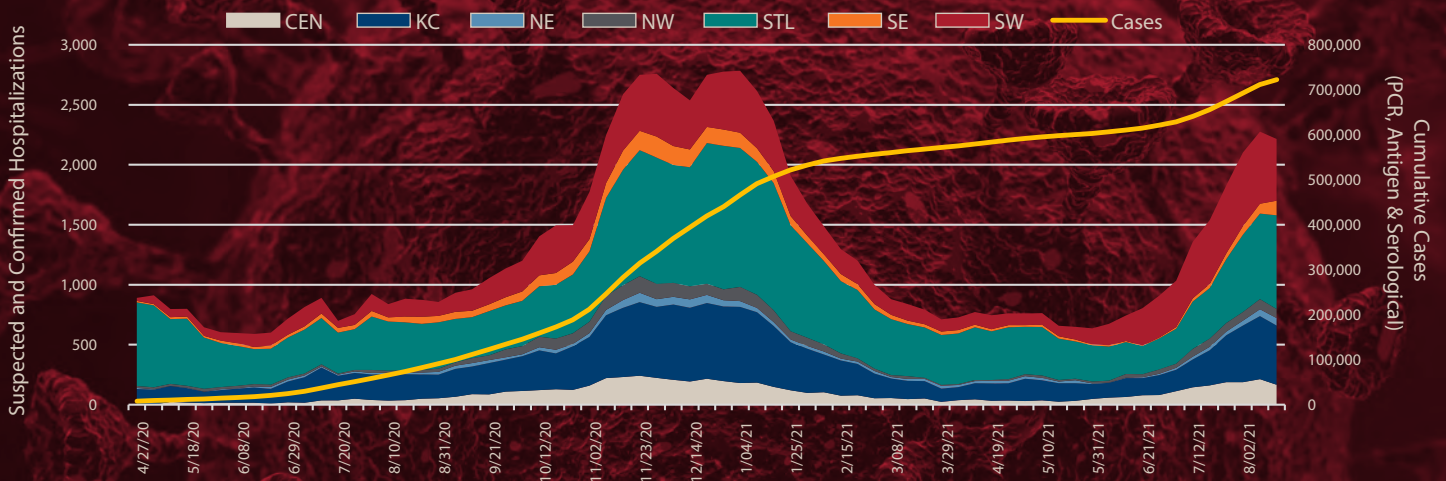
COVID-19 order sets, which directly reflect the detailed information provided in the Pharmacotherapy Recommendations document, underwent more than 12 major revisions in 12 months. Keeping these two tools aligned was key to our success with clinicians. Physicians treating COVID-19 patients had 24/7 direct access to our pharmacy leaders, and the advice given by our taskforce representatives made our providers feel confident in the treatment decisions made. This 1:1 communication strategy reflects the amount of dedication and clinical excellence demonstrated by the entire taskforce team.

As of May 1, the inpatient COVID-19 evaluation and treatment order set has been utilized over 9,000 times; emergency room-specific order set (for outpatients) was used over 1,400 times; convalescent plasma order set over 1,600 times; and prone order set over 350 times. The Pharmacotherapy Recommendations document is 16 pages long and contains four tiers of evidence-based recommendations, including stratified recommendations based on severity of illness and/or care setting, pregnancy considerations, appropriate use criteria for select drugs such as remdesivir or tocilizumab, and considerations for managing long-term COVID-19. Vizient data show that our mortality was below the mean at 9.5% while national averages were around 12.1%. Average ICU days were 8.9 nationally, but our system was much lower at 6.1 days. We believe that a pillar of our success and outcomes can be attributed to hard-wired, evidence-based processes being utilized.

The establishment of the COVID-19 Treatment Taskforce proved our health system's ability to be nimble and adapt to clinical challenges for COVID-19, which in turn, instilled significant confidence into our front-line staff in managing patients when confidence was low. As we navigated the pandemic, the combination of fair evidence vetting, clinician support in case-specific clinical scenarios, novel EMR solutions to ensure safe drug use, and developing safe and effective treatment suggestions allowed maximal system confidence in how we best support patients with COVID-19.

SURGE MANAGEMENT

Missouri COVID-19 Cases and Hospitalizations by Region
(April 27, 2020 - Aug. 15, 2021)



<p>Feb. 23, 2020 COVID-19 surges in Italy</p>	<p>April 10, 2020 MHA develops waiver tracking spreadsheet for member reference</p>	<p>Nov. 23, 2020 Gov. Parson extends the state of emergency order through March 31, 2021</p>
<p>March 13, 2020 Missouri declares state of emergency</p>	<p>April 14, 2020 Hotel to Healthcare Concept surge facility opens</p>	<p>Dec. 26, 2020 Missouri reports a single-day record of 2,862 COVID-19 patients hospitalized statewide</p>
<p>March 17, 2020 MHA releases guidance for cancellation of elective surgeries and other procedures</p>	<p>April 22, 2020 MHA releases guidance for resuming elective procedures</p>	<p>March 26, 2021 Gov. Parson extends state of emergency order extended through Aug. 31, 2021</p>
<p>March 17, 2020 CMS expands telehealth</p>	<p>May 31, 2020 H2HC demobilized</p>	
<p>March 27, 2020 Missouri mobilizes National Guard</p>		

SECTION SUMMARY

While a lagging indicator, COVID-19 hospitalizations provided critical insight into the severity of the disease, as well as the impact of transmission at the regional and state level. Monitoring and communicating COVID-19 impact to the health care system provided a necessary perspective to both patients and policymakers.

Locally, hospital leaders across organizations worked proactively, many before receiving their first COVID-19 patient, to expand their surge capacity. Hospitals reported the following capacity expansions to treat COVID-19 patients throughout the response.

Beds added, by type, during the COVID-19 response:

ED beds	156
Critical care/ICU beds	471
Inpatient/medical surge beds	657

Negative pressure rooms added during the COVID-19 response:

Within the ED	215
In non-ED settings	1,650

Negative pressure rooms added during the COVID-19 response that will be permanently converted:

Within the ED	101
In non-ED settings	569



Incident Command Team Leads Comprehensive Response

In health care, planning is usually done years or months in advance as we anticipate what our communities' needs will be. This typical frame of mind went out the window in early 2020 as we saw the COVID-19 pandemic rapidly rise to the world's forefront of concern. Instead of months or years in advance, we had a different way to serve by closely monitoring the situation and evolving our approach within days or hours to meet local needs before they arrived.

This comprehensive response was led by our Incident Command team, which began meeting several times each week before the first COVID-19 case was diagnosed at CoxHealth, or in Greene County. Even though hospitalizations for COVID-19 had not occurred locally at that point, we recognized that it was only a matter of time before they arrived. This augmented our focus for being prepared to care for those patients through three critical categories: "space, staff and stuff."

Protecting our employees was a paramount concern, which led us to critically evaluate what types and quantities of PPE we might need. These items were aggressively ordered and stockpiled to help ensure that we did not run out. We added space to our facilities, creating around 150 beds over the course of several months — many of which were used by COVID-19 patients. At one point (prior to the Delta surge), we had 170 COVID-19 patients in our hospitals at one time.

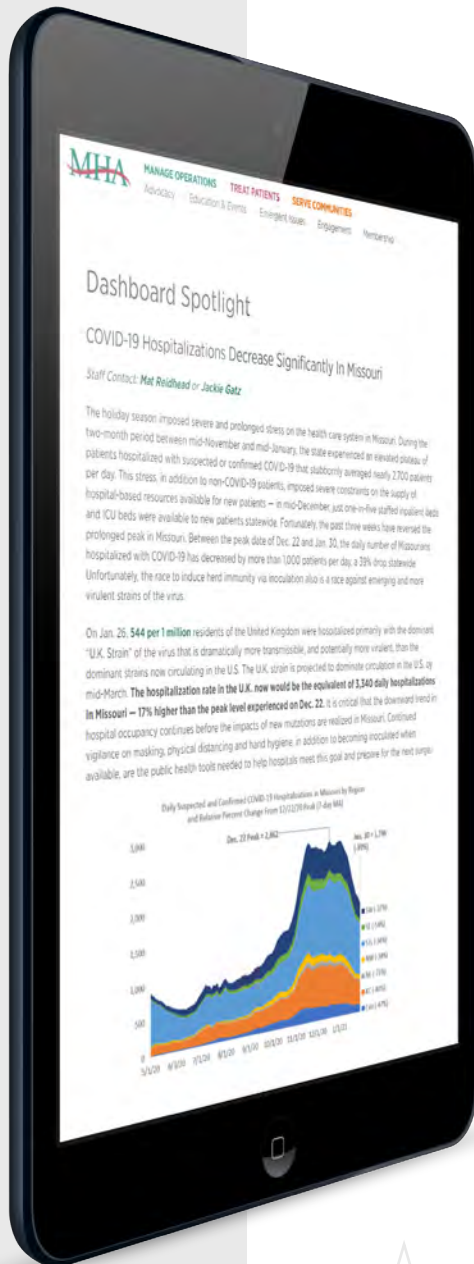
When we identified the necessity for additional surge capacity, work began on our dedicated COVID-19 unit and was completed in early April — about two weeks from start to finish. Initially, the unit was built with 51 critical care beds, but was expanded by 33 beds later in 2020. Proactive work in March became evident when the unit was activated in July 2020. The unit was closed temporarily in February 2021 when COVID-19 patients could be housed in other inpatient units, and then reopened in April of this year. The unit remains occupied to date.

We also felt very strongly about keeping employees at work, which led to many of them being redeployed through the system when their roles were altered due to COVID-19. Additionally, despite the financial challenges brought on by the pandemic, we made a commitment to no layoffs. We also began a School Care Program to care for employees' children who faced virtual learning.

A major moment in the course of the pandemic — and one I will remember forever — was Dec. 21, 2020. That was the day our first employee received a COVID-19 vaccine. These vaccines helped provide a way to feel that we had more than a defensive strategy to fight the virus. We are now at 100,000 doses, a moment for celebration in our community. However, the presence of variants makes the future uncertain, and fuels us to strongly advocate for vaccination.

“The COVID-19 pandemic has produced many moments that will stay with us forever, starting with sorrow in light of loss. However, we are grateful for the many people — at CoxHealth and throughout southwest Missouri — who came together to make a difference in their communities. As we see the progression of this virus, we stand ready to serve. It is inspiring to see the dedication of our staff and the willingness of so many to use their expertise and compassion for others. Their efforts will have lasting impacts far beyond the pandemic.”

— Steve Edwards, President and CEO of CoxHealth

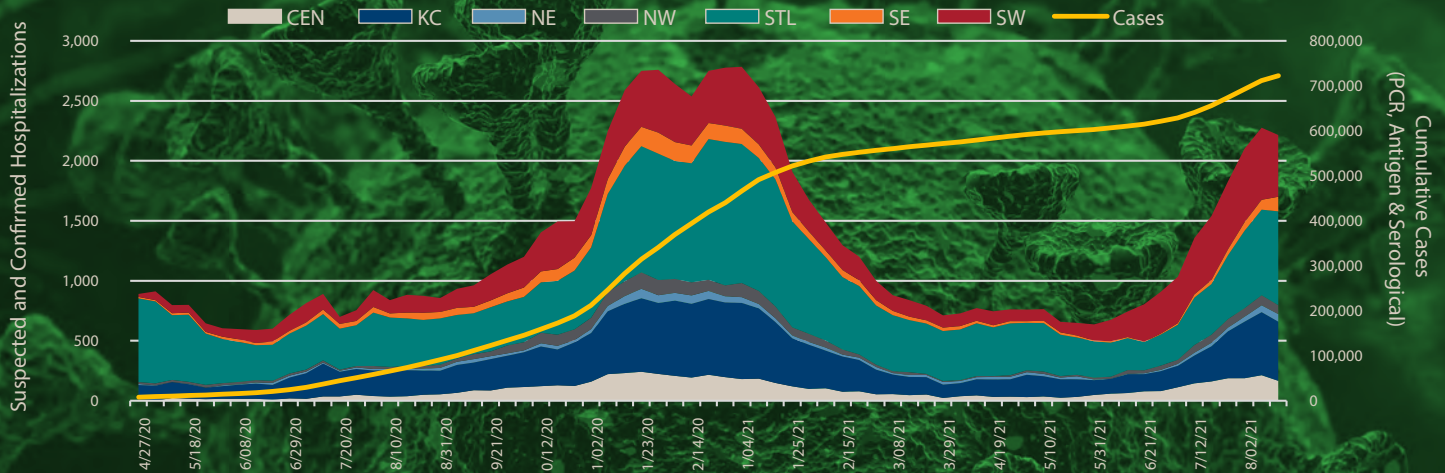


[READ MHA's Dashboard Spotlight for the Week of Feb. 2, 2021.](#)



VACCINE ADMINISTRATION

Missouri COVID-19 Cases and Hospitalizations by Region
(April 27, 2020 - Aug. 15, 2021)



July 22, 2020
HHS, U.S. Department of Defense announce vaccine distribution agreement with Pfizer and BioNTech

Sept. 16, 2020
Trump administration releases vaccine distribution plan

Oct. 16, 2020
Missouri submits a phased plan to the CDC for administering the COVID-19 vaccine

Nov. 9, 2020
Pfizer-BioNTech announce that the vaccine efficacy of BNT162b2 is greater than 90%

Nov. 16, 2020
Moderna reports that the vaccine efficacy of mRNA-1273 is 94%

Dec. 11, 2020
FDA approves first COVID-19 vaccine authorizing the Pfizer-BioNTech COVID-19 vaccine for emergency use after data show 95% efficacy

Dec. 14, 2020
Vaccinations begin in Missouri; 14 hospitals serve as preposition sites to receive the first vaccine shipments in Missouri

Dec. 18, 2020
FDA approves the Moderna vaccine for emergency use

Dec. 20, 2020
DHSS officially executes plan to administer Moderna's COVID-19 vaccine, two days after approval from the FDA; health leaders administer first doses over Christmas week, going primarily to patient-facing health care personnel, long-term care facilities, high-risk EMS workers and health care providers

Jan. 14, 2021
Missouri activates Phase 1B - Tier 1 of the COVID-19 vaccination plan, making first responders, emergency services workers, public workers and nonpatient-facing public health personnel eligible for the vaccine

Jan. 18, 2021
Missouri activates Phase 1B - Tier 2 of the COVID-19 vaccination plan, making anyone 65 years of age or older, or anyone at least 18 years old with high-risk health conditions, eligible for the vaccine

Feb. 27, 2021
FDA approves Johnson & Johnson Janssen one-dose vaccine

March 15, 2021
Missouri activates Phase 1B - Tier 3 of the COVID-19 vaccination plan, making those in critical infrastructure sectors eligible for the vaccine

March 29, 2021
Missouri activates Phase 2 of the COVID-19 vaccination plan, making those who have been disproportionately affected and those with positions that aid in accelerating economic recovery eligible for the vaccine

April 9, 2021
Missouri opens vaccination to all Missourians meeting EUA requirements

April 13, 2021
Missouri pauses J&J vaccine due to safety concerns

April 23, 2021
DHSS reinstates J&J vaccine standing order following FDA and CDC review

May 12, 2021
Missouri updates standing order for Pfizer to include adolescent vaccinations, expanding eligible recipients to include Missourians ages 12-15 years old

June 23, 2021
Advisory Committee on Immunization Practices convenes to review reports of myocarditis and pericarditis following mRNA vaccinations in young adults and adolescents; no changes to current vaccination recommendations resulted



SECTION SUMMARY

Missouri hospitals played an early and influential role in administering the COVID-19 vaccine, one of the most powerful tools in our fight against the disease. Before the approval of COVID-19 vaccines, hospitals engaged in vaccination plan development to ensure quick administration once vaccine was available in Missouri. Following approval of the first COVID-19 vaccine in December 2020, hospitals were among the first vaccinators in the state to receive vaccine and immediately began vaccinating the state's front-line health care workers.

Vaccine administration occurred simultaneously with hospitals continuing to provide essential services and managing the peak of hospitalized patients during the pandemic. As additional groups became eligible to receive vaccines, hospitals continued to play an integral part in vaccine administration, and many implemented strategies to identify the most vulnerable patients to ensure responsible use of a scarce resource. Hospitals deployed both in-house clinics and mass vaccination events. Additionally, hospitals provided ongoing medical staff and logistical support to the state's regional mass vaccination events.

As vaccine administration models shifted from mass vaccination efforts to offering convenience, hospitals continued to create vaccine opportunities for patients through administration during ED visits, before inpatient discharge, and in clinic settings. To date, Missouri hospitals have administered more than 2,093,742 doses of vaccine, which accounts for 37.6% of vaccines administered in Missouri. This highlights the role Missouri hospitals have played throughout this pandemic, as they represent the provider group with the largest number of vaccinations administered.



[READ MHA's Dashboard Spotlight for the Week of March 9, 2021.](#)

MHA Member Hospital Responses

2021 Safety and Preparedness Program Survey, n=112

How did your facility engage in COVID-19 vaccination efforts?

Facility-based clinics for your staff (Phase 1A)	106
Facility-based clinics for your patient population (Phase 1B - Tier 1 and 2)	82
Publicly available clinics at your facility open to all eligible persons	57
Support of local/county vaccination clinics	78
Support of large "mass or mega" vaccination clinics	59

Missouri Hospital/High Throughput Health Care Centers

- BJC Healthcare
- Bothwell Regional Health Center
- Capital Region Medical Center
- Cass Regional Medical Center
- CoxHealth (Springfield/Branson)
- Freeman Health System
- Fitzgibbon Hospital
- Golden Valley Memorial Healthcare
- Hannibal Regional Healthcare System
- HCA Midwest Health
- Liberty Hospital
- Mercy Health System (St. Louis/ Springfield/Joplin)
- Mosaic Life Care
- MU Healthcare
- North Kansas City Hospital
- Northeast Regional Medical Center
- Ozarks Healthcare
- Phelps Health
- Saint Francis Healthcare System
- Saint Luke's Health System
- Salem Memorial District Hospital
- Scotland County Hospital
- SoutheastHEALTH
- SSM Health (St. Louis/Jefferson City)
- St. Luke's Hospital
- Truman Medical Centers, Inc.

HTHC: Midsized

- Boone Hospital Center
- Children's Mercy Kansas City
- Citizens Memorial Hospital
- Community Hospital - Fairfax
- Iron County Medical Center
- Lake Regional Health System
- Pemiscot Memorial Health Systems
- St. Mary's Medical Center/St. Joseph Medical Center
- Western Missouri Medical Center



MEMBER SPOTLIGHT



COVID-19 Community Vaccine Coalition

When COVID-19 hit our community in November 2020, Bothwell Regional Health Center experienced its highest COVID-19 census. As a result, we developed a designated unit, and created staff and process changes to combat the pandemic. This also was during a time when stress was high and morale was low among hospital staff due to dealing with the virus in our community and our own staffing shortages. As the year ended and it appeared that a vaccine was on the horizon, our overall objective became to vaccinate as many eligible and willing individuals, as set forth by DHSS guidelines, when vaccines became available.

Shortly after it was announced that an FDA-approved vaccine was available, a community vaccine coalition was formed consisting of Bothwell Regional Health Center; the Pettis County Health Center; and Katy Trail Community Health, the local Federally Qualified Health Center, as well as private pharmacies and a local private urgent care facility. This effort brought together health care leaders and others in the community in a unique partnership, and a plan was efficiently organized to administer the vaccine to as many willing and eligible community members as possible at mass community vaccination clinics. Spearheaded by Lori Wightman, Bothwell's CEO, and Rose McMullin, Chief Nursing Officer, the implementation of the vaccine clinics was a team effort and included all Bothwell senior leadership members and other Bothwell employees working to make the events a success. Each member of the team had their hands in the planning, development and execution of the vaccine clinics.

Based on ShowMeVax data cross-referenced with the Bothwell scheduling system, large-scale vaccine clinics took place from Jan. 28 through April 23, 2021, at the Missouri State Fairgrounds in Sedalia, where Bothwell is located. A total of 13 primary vaccine clinic days and 14 booster vaccine clinic days were scheduled, resulting in 7,518 grateful individuals being administered the COVID-19 vaccine. Through June 3, a total of 17,047 doses have been administered at the fairgrounds, the hospital or at Bothwell clinics.

By offering the vaccine to our community quickly and efficiently, it strengthened already-good relationships with our health care partners, created new relationships with private and public community organizations, and enhanced the general community perception of the hospital. The pandemic brought us closer together, opened new lines of communication, and taught all of us the importance of flexibility and collaboration in times of hardship.



[READ MHA's Dashboard Spotlight for the Week of June 29, 2021.](#)



TMC
TRUMAN MEDICAL CENTERS



Vaccine Emergency Department Pilot BRIDGING A GAP: Bringing the COVID-19 Vaccine to the Patient

As the pace of vaccination administration in Truman Medical Center/University Health's clinic started to slow in April, leadership looked for ways to offer vaccines to patients in more convenient ways. Offering patients the vaccine as they sought care at the hospital was identified as the most effective method, and the ED was quickly determined to be the appropriate venue to roll out the initiative.

At a time when supply was limited, the State of Missouri supplied us with 500 doses of the Janssen COVID-19 vaccine to gauge the success of administering vaccinations to patients in the ED. On April 12, a group of key stakeholders came together to develop an ED vaccination strategy. Unfortunately, on April 13, the FDA paused the use of the Janssen vaccine out of an abundance of caution due to the occurrence of adverse events. As we waited for guidance from the FDA and CDC, we began developing a process for using the Pfizer vaccine. On April 28, we administered a first dose of the Pfizer vaccine to six patients.

Upon arrival to the ED, patients are met with multiple signs encouraging them to get vaccinated. All ED staff have been encouraged and empowered to ask patients about getting vaccinated. To further support the ED staff, education and talking points have been disseminated to address vaccine hesitancy. Patient packets were created and include vaccine consents, vaccination cards and vaccine fact sheets. Once a patient consents to receiving a vaccine, an order is placed in the electronic medical record and prepared by inpatient pharmacy. The pharmacy then notifies the ED charge nurse and attending physicians of the beyond use time for all remaining doses. To minimize waste, a goal was established to use all doses from each vial by vaccinating one person per hour. When an order is placed for a Pfizer vaccine, the provider also orders a consult for their second dose. This order populates a queue in our call center to contact the patient and schedule their second dose. For patients without telephone access, a date is provided three weeks from their visit to receive their

second dose, with no appointment necessary. To further mitigate waste and improve compliance with receiving the second dose, a pop-up was added in the EMR to alert providers when a patient has an encounter anywhere in our system between the 21st and 42nd day after their first dose of Pfizer. We have been able to catch some patients for their second dose due to this alert. Some days were more successful than others, and some patients were more willing than others, but overall, the process has worked well. On May 22, we started offering the Janssen vaccine in addition to the Pfizer vaccine. While there were more logistics to manage with offering a second vaccine type, patients were interested in receiving both, and we recognized the benefit in reaching as many individuals as possible.

As of June 18, 154 people have received at least one dose of the vaccine with 84 being fully vaccinated against COVID-19 from the Health Science District Emergency Department (Pfizer-54 and Janssen-31). We are reaching out to the remaining 70 individuals to schedule their second dose and encouraging them to come back to the hospital to become fully vaccinated.

The biggest barrier to our efforts has been to convince people to get vaccinated. When patients want to get vaccinated, our process works well. When patients are hesitant, the ED providers spend time talking to the patient about the vaccine and why they should receive it. In a busy ED, we don't always have the time, but the upside for our patients is enormous. The ED has stepped up to fill a gap and provide vaccines to patients that haven't been able to make an appointment. This is a worthy cause and worth the effort for all hospitals to undertake.

Truman Medical Centers, Inc. recognizes the efforts of all the staff and providers within the ED that contributed to the success of this initiative, with special thanks to Kevin O'Rourke, M.D., Emergency Room Physician, who led the following team to execute the project.

Adam Aldgren, M.D.

Chair Emergency Medicine, TMC, Health Science District

Mathew Gratton, M.D.

Associate Chief Medical Officer and Emergency Room Physician, TMC, HSD

Katie Korte

Pharmacy Director

Gina Rosser, R.N.

ED Director

Cory Himes, R.N.

Care Connection Director

Jeffrey Hackman, M.D.

Medical Director for Quality, Backup COVID-19 leader



MEMBER SPOTLIGHT

Health Care

High Volume Health Care Vaccination Initiative

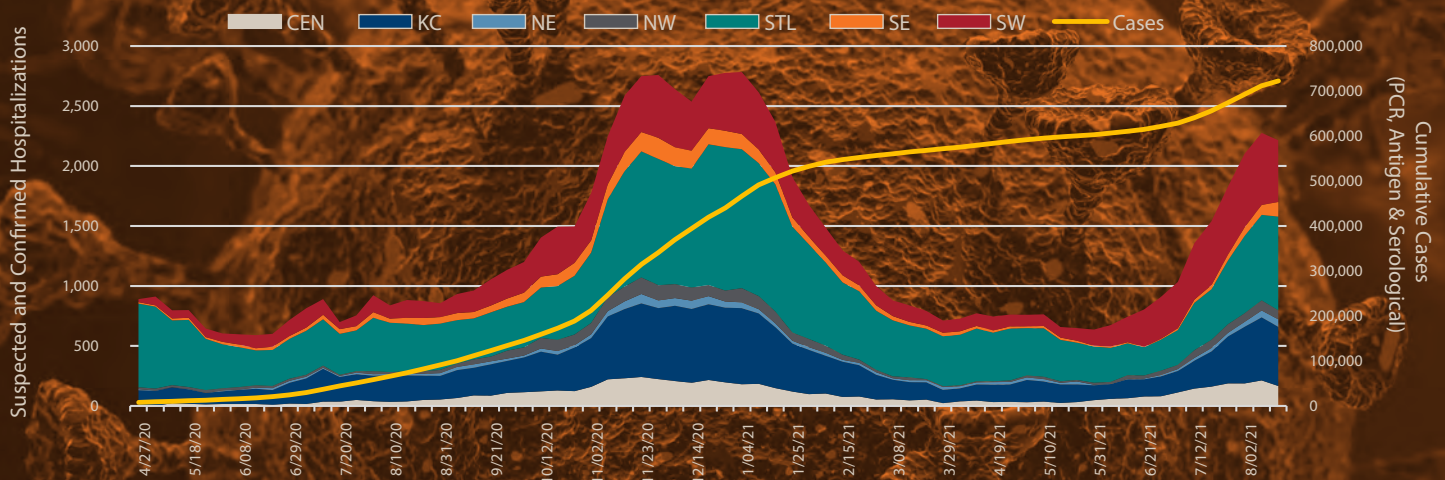
University of Missouri Health Care launched a high-throughput COVID-19 vaccine site at the Walsworth Family Columns Club at MU's football stadium in late January. Our multidisciplinary team developed a streamlined workflow to keep appointment times under 15 minutes, which enabled us to vaccinate up to 5,000 people a day, depending on vaccine availability. With more than 10,000 square feet of available space, we ensured social distancing and set up clearly identified stations to create a clear, efficient flow of traffic. MU Health Care administered more than 80,000 vaccine doses at Faurot Field since being designated as one of the region's high-throughput vaccination sites. In early June, we transitioned from offering large, centralized vaccination events and now provide the COVID-19 vaccine at select clinics and pharmacies.

“Our multidisciplinary COVID-19 vaccine team used its knowledge of running highly efficient flu shot clinics to quickly scale up to meet the needs of our community. At a time when we all needed hope, our team answered the call and overcame any logistical challenge that came its way to deliver that hope. Thanks in large part to their efforts, Boone County has the highest vaccination rate in the state.”

— Jonathan Curtright, CEO of MU Health Care

VARIANTS

Missouri COVID-19 Cases and Hospitalizations by Region
(April 27, 2020 - Aug. 15, 2021)



Dec. 2, 2020
U.K. announces new COVID-19 variant cases

Dec. 29, 2020
U.S. identifies first case of new COVID-19 variant in Colorado

Jan. 8, 2021
FDA issues alert regarding SARS-CoV-2 viral mutation to health care providers and clinical laboratory staff

Feb. 6, 2021
Missouri health leaders announce first case of COVID-19 variant (B.1.1.7) from a patient in Marion County

April 6, 2021
Missouri health leaders announce the first confirmed case of the Beta COVID-19 variant (B.1.351), first identified in South Africa, in Jackson County

June 1, 2021
Livingston County Health Center announces the first confirmed case of the COVID-19 Delta variant (B.1.617.2), first identified in India

June 23, 2021
DHSS issues Health Advisory on Delta variant

August 16, 2021
the Delta variant continues to surge throughout Missouri

This report summarizes the clinical and operational response to the COVID-19 pandemic from early 2020 through June 2021. Although data are presented through August 16, 2021, the unique effect of the Delta variant will be captured in future reports.

SECTION SUMMARY

The emergence of COVID-19 variants has a profound effect on a wide variety of COVID-19 response activities, from clinical treatment to vaccination efforts. Mutations to SARS-CoV-2, the virus that causes COVID-19, have the potential to create variants that are more contagious, cause more severe disease, and are more resistant to treatment or vaccination. The first variant of concern, Alpha (B.1.1.7), was detected in the U.S. in December 2020, and in Missouri in February 2021. Additional variants continue to be detected, including the Delta variant (B.1.617.2), which has been linked to recent outbreaks in all of Missouri's regions. Current and future variants pose the threat of new surges in cases and hospitalizations, especially among unvaccinated individuals.

As the response to the pandemic continues, hospitals continue to monitor the impact of, and response to, current and new variants.



[READ MHA's Dashboard Spotlight for the Week of June 15, 2021.](#)



Hannibal Regional

Monitoring for the Alpha Variant

In early 2021, as we monitored COVID-19 variants impacting European countries and on our coasts, we proactively communicated with our providers in anticipation of variants becoming present in our community. On a weekly basis, we reviewed and disseminated MHA's weekly dashboard snapshot and the Harvard Global Health Institute's COVID-19 tracker to assess risk within our service area. A key indicator for our response was increased prevalence of variants detected in [sewershed within](#) our region. This information was made available through a project with DHSS, the Missouri Department of Natural Resources and the University of Missouri - Columbia.

Communication was and continues to be a vital factor in working internally with our team and externally with our community.

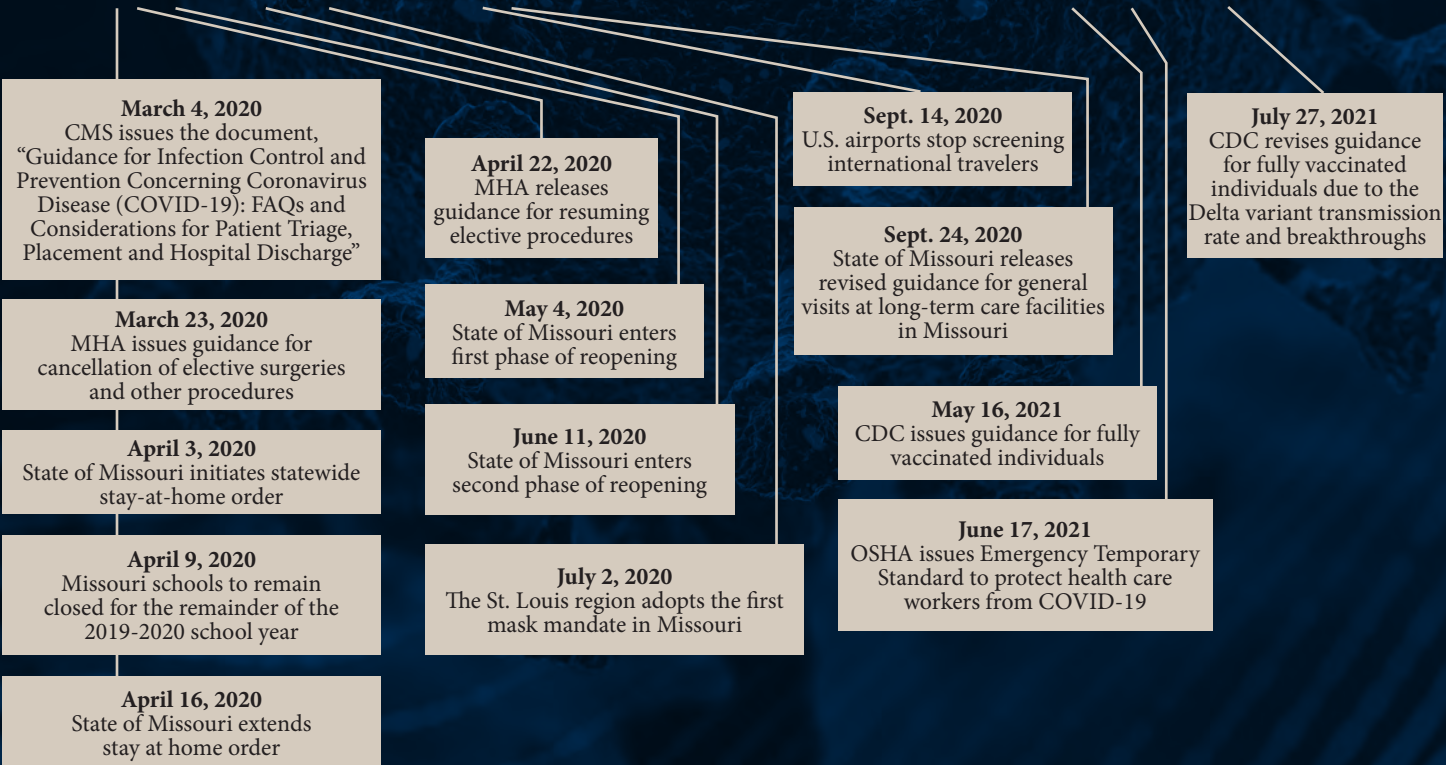
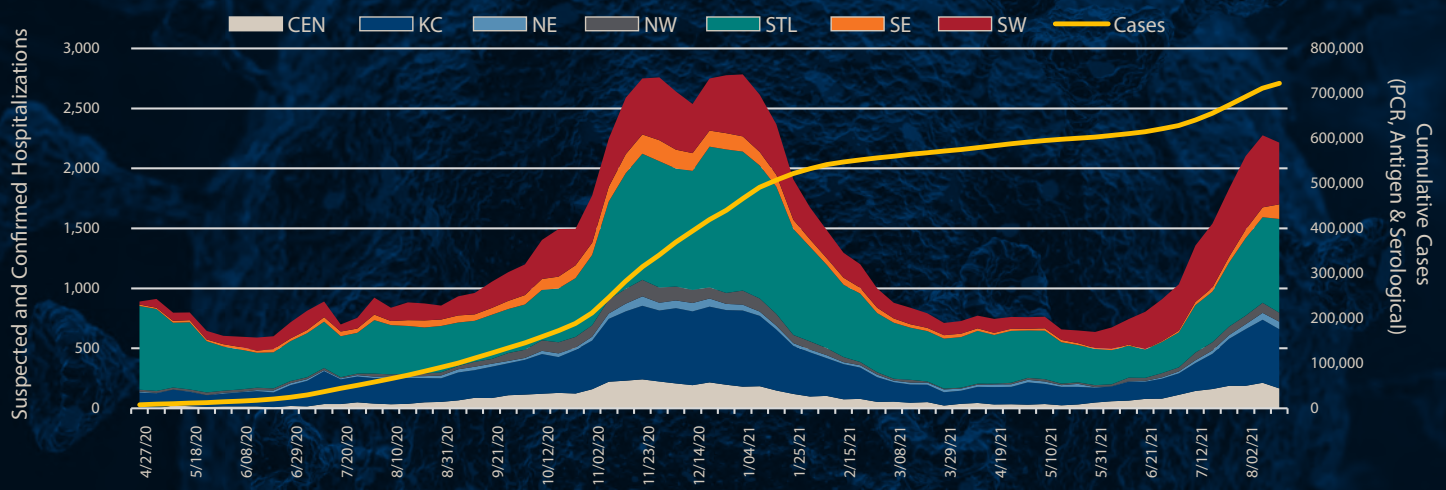
“Throughout the pandemic, the importance of communication and transparency proved to be vital in fighting this virus. A key stakeholder group from the community met weekly, and our ability to share dashboard reports and other important information helped us educate our community, as well as our team, to help them better understand the rapidly changing environment. We are so appreciative of our many community partners who worked with us to battle the virus.”

— Todd Ahrens, President and CEO of Hannibal Regional Healthcare System

In mid-January when the Alpha variant became prevalent in neighboring states and was reported in nearby sewershed surveillance sites, leadership proactively provided situational awareness with the executive team to keep providers informed of evolving guidance for appropriate testing when a variant case was suspected. These actions facilitated the quick identification and reporting of Missouri's first identified variant case when presenting to Hannibal Regional Healthcare System for care.

REOPENING, EVALUATION & NEXT STEPS

Missouri COVID-19 Cases and Hospitalizations by Region
(April 27, 2020 - Aug. 15, 2021)



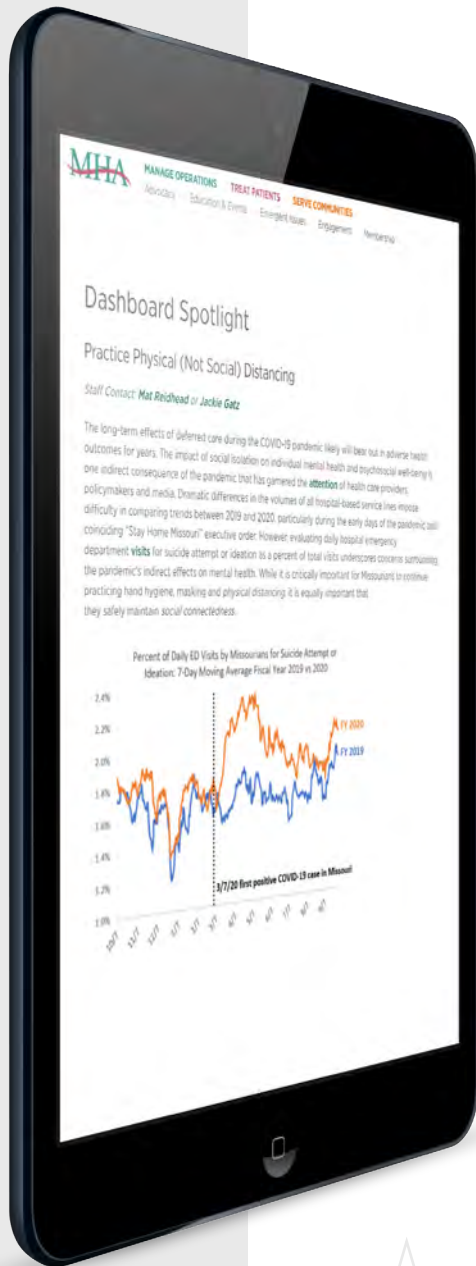
SECTION SUMMARY

Several indicators throughout spring 2021 demonstrated the state's early emergence from the acute COVID-19 response. Examples include expanding vaccination supply, eligibility and acceptance, declining case rates, suspension of the Fusion Cell, and the CDC's relaxed masking guidance for vaccinated individuals. Despite these positive signals, hospitals continue to manage a difficult return to "normal" operations given regional outbreaks of COVID-19 variants and resulting hospitalizations.

To aid hospitals with appropriate guidance and technical assistance to support the transition to a new, post-COVID-19 operations model, MHA staff conducted varying methods of member outreach to inform next steps. A listening session during the spring 2021 district council meetings identified key themes related to organizational agility, staff resiliency and stronger relationships with local public health agencies despite a fragile and underfunded infrastructure. Hospital clinical leaders identified the execution of new delivery models — such as testing, surge capacity expansion and the use of telehealth — as best practices to sustain moving forward. Rapidly changing guidance was the most common challenge among clinicians.

As reported by hospital safety and preparedness leaders, the overall operational successes, key learning opportunities and areas for improvement are as follows.

Success	Implementation of masking/screening policies, visitor restrictions	51%
Success	Community coordination	33%
Success	Testing operations	28%
Opportunity	Respiratory protection — inventory, fit testing, donning and doffing	33%
Opportunity	Supply chain integrity	32%
Opportunity	Incident management training depth	22%



[READ MHA's Dashboard Spotlight for the Week of Jan. 5, 2021.](#)

MITIGATION AND IMPROVEMENT SPOTLIGHT

There is inherent benefit in stabilizing Missouri’s health care supply chain. Expanding manufacturing of critical supplies within the state’s borders localizes the supply chain, creates opportunities to expand Missouri’s PPE reserves and supports economic growth within the communities that our hospitals serve.

In Kansas City, a local manufacturer, [PPE Mfg USA Corp.](#) was launched by a local gastroenterologist who had to stop elective procedures early in the pandemic due to the PPE shortage. The State of Missouri’s effort to award federal COVID-19 relief grant dollars to local companies engaging to produce PPE provided the necessary support to initiate production. Soon, the company will receive approvals and be able to produce different types of masks, surgical gowns, isolation gowns, shoe covers and hair covers for medical purposes. Once they are fully operational, this company will employ 50-60 individuals. They source their raw materials from the U.S. and have a 4,000 square-foot room to ensure all products are made in a sanitary environment.

MHA Member Hospital Responses

2021 Safety and Preparedness Program Survey, n=112

At this stage in the pandemic response, has the hospital emergency preparedness plan provided sufficient guidance for response?

Answer Choices	Number of Respondents
Very helpful in framing response	66
Somewhat helpful in framing response	43
The pandemic plan provided no guidance for response	3

Is your hospital planning to or currently developing a written COVID-19 after action report and improvement plan?

Answer Choices	Number of Respondents
Yes	100
No	12

Did your hospital incorporate community partners in the process?

Answer Choices	Number of Respondents
Yes	110
No	2



Conclusion

Despite the resurgence of COVID-19 cases with the Delta variant, hospital staff recognize the necessity of continued improvement to refine their current and ongoing response activities. Eighteen months into this pandemic, evaluation of hospital planning, response, and resiliency thus far demonstrates the commitment of health care workers to serve their communities. As the pandemic surges on, the following areas must guide future planning and advocacy.

- Changing regulatory landscape in response to COVID-19 lessons learned
- Strategies to enhance supply chain integrity
- Sustaining the demonstrated agility of clinical care teams
- Evaluate continuity of operations for the environment of care/physical environment
- Refine a statewide emergency response data strategy to align with federal directives
- Staff resiliency and mental health resources to support the health care workforce

Many of the effects of the COVID-19 pandemic are yet to be seen — from the impact on future health care operations to COVID-19 “long-haul patients” and long-term impacts on mental health due to prolonged social isolation and disruption to daily life. In the immediate, MHA remains positioned to continue navigating the current environment for Missouri hospitals to address continued case growth, hospitalization surges, ongoing regulatory expectations from CMS, and new proposed rules by the Occupational Health and Safety Administration.

ACKNOWLEDGMENTS

MHA would like to share our thoughtful appreciation to all Missouri hospital staff that have contributed countless hours and tremendous effort to address the COVID-19 pandemic, with special thanks to the clinical, operational and executive leaders who engaged routinely throughout the last 18 months with state public health officials to contribute to the development and execution of a variety of health care response initiatives across the state.

Additionally, special thanks to the many individuals that contributed to the collaborative data analytics initiatives throughout the COVID-19 response, to include the Hospital Industry Data Institute and the following external partners.

Christine Hoehner, Ph.D., MSPH	Manager, Research & Analysis	BJC Healthcare
Keith Woeltje, M.D.	Director, Clinical Advisory Group and Healthcare Informatics	BJC Healthcare
Byron W. Yount, Ph.D.	Vice President – Data Strategy & Governance	Mercy
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