SPRINGFIELD - GREENE COUNTY HEALTH

MEMO

To: Mayor Ken McClure and City Council

CC: Jason Gage, Collin Quigley, Maurice Jones

From: Jon Mooney, Katie Towns

Date: July 7, 2020

Re: COVID-19 Update

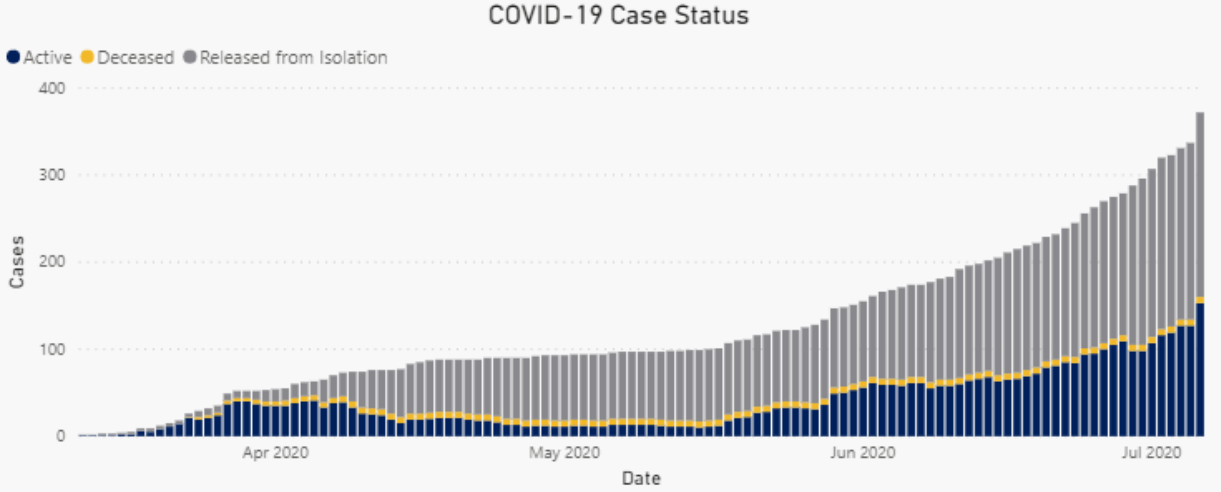
Keeping our community healthy and safe is always a key element in directing the work of the Springfield-Greene County Health Department (SGCHD). This has become increasingly focused throughout the public health response to COVID-19 through the use of proven public health practices to prevent negative impact of this disease on our community. Protecting the community and controlling spread has required the use of tools like distancing, contact tracing, and quarantine monitoring. The capability of SGCHD to respond has been dependent upon the ability to deploy staff resources to implement these tools. The initial response to control the spread of COVID-19 in the Springfield community was successful. We are now experiencing a gradual reopening and spread of the disease is increasing, which has created increasing stress on our department's ability to respond.

Maintaining public health capabilities throughout the response to COVID-19 is essential. Public health is the frontline defense to actively stop the spread of the disease through the community by utilizing epidemiological processes and other evidence-based methods that are proven to control spread of the disease. When public health has the capacity to conduct interviews with infected people and their contacts and isolate them, disease spread can be controlled. As there is more movement through the community, this work becomes more difficult. Interviews identifying where an individual with COVID-19 has been and who the individual has had close contact with becomes more challenging and takes additional resources. When the spread of COVID-19 increases to a point the public health system can no longer keep up with epidemiological processes, the disease becomes exponentially more difficult to contain, resulting in drastic increases in the spread of the disease. In a recent meeting between of local infectious disease physicians and public health officials, maintaining public health capability was identified as a priority for the community along with an exploration of additional tools, such as face masks, were discussed to reduce spread while keeping the community on a path toward continuing to reopening. Healthcare reports having experienced significant increases in the rates of positive cases, as well as positivity rates of testing. Additionally, while there is currently sufficient PPE for healthcare personnel and beds available, there are limited supplies of

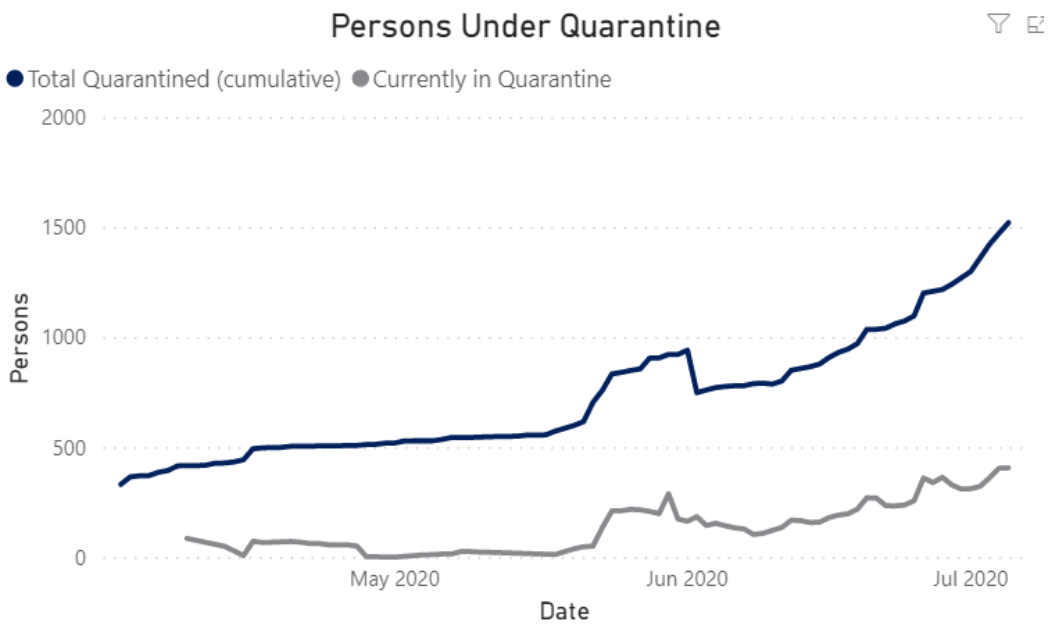
pharmaceutical therapies for COVID-19. Hospital capacity to the west of Springfield has been significantly impacted by the rapid growth of COVID-19.

There are several key data points to illustrate our department's ability to maintain a capability to respond: cases of COVID-19, contacts to cases who are in quarantine, and public exposures. Over the past month, the disease has significantly increased in Greene County, creating greater pressures on the department's capabilities.

Currently, there are 155 active cases, with 133 new cases reported in the last two weeks. Both of these represent the highest rates of disease our community has experienced. In the previous week, we had 84 new cases reported, and increase of 71%, and more cases than were reported in the first 30 days of the pandemic. The infectiousness of the disease results in exponential growth, if individuals and communities do not take measures to slow this spread. There has also been an increase in the positivity rate of testing at the community's mobile test site, which has tested 6,000 people. During the first month of testing the positivity rate was 1.62%. In the last month, that just climbed to 3.62%, an increase of 123%. Other testing sites have experienced even greater increases in the positivity rate.



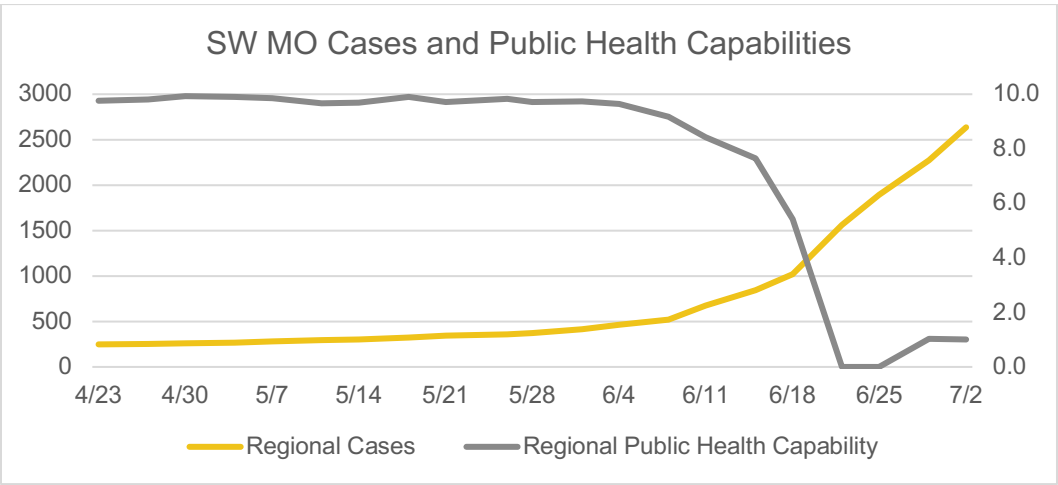
Currently, there are 395 people who are in quarantine due to being a close contact to a case of COVID-19, which includes 111 new people from the weekend. This number is down from 410 yesterday. With an active day yesterday, we expect this number to grow. These are the individuals we are concerned about because they are possibly incubating the disease. This is the most people we have had in quarantine at any given time and represents an almost month-long steady increase.



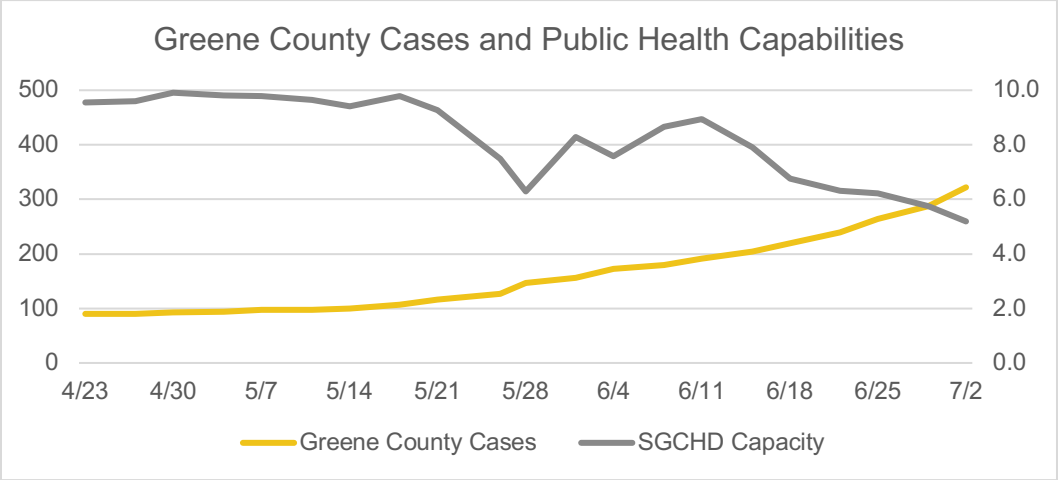
In the past two weeks, our department has notified the community of 67 public exposures. This represents the most active two-week period since the beginning of the pandemic. These three data elements represent some of the most important indicators from a public health perspective on the spread and impact of COVID-19 in the community.

Impact on Public Health Capabilities

Rural health departments lack the resources and staff needed to leverage a strong response to steady increases in cases. Once the rural public health system was overwhelmed, the spread of COVID-19 became even more widespread. The chart below demonstrates that rapid increases in cases across the region, led to a loss in public health capability (represented on the Recovery Dashboard).



Fortunately, in Springfield and Greene County, the public health system is more robust, which has allowed the Springfield-Greene County Health Department to leverage a response that has been able to successfully slow the spread of the disease. The department has reassigned nearly every division of the department to respond to COVID-19 and its impacts in the community. As a result, the spread of the disease has been slower in our community. But If additional cases continue to increase at the rate we have experienced in the past several weeks, the public health system at SGCHD will be overwhelmed in the coming weeks. The increase in cases has lowered our department's capability to a 5.2 (out of 10) on July 5th. This means that if the score continues to drop, the department's ability respond with the current tools diminishes. If public health capability is no longer able to keep up with the disease, COVID-19 will spread more rapidly, leave more people sick with the disease and potentially impede the economic recovery and lead to greater impacts on the healthcare system. Our department has continued to respond to the ever-changing situation with COVID-19. Recently, the department has focused on creating greater efficiencies in our process, leading to more capability to investigate and isolate cases and their contacts. As a result, the department has reduced the frequency of monitoring cases and contacts. These additional capabilities will help prevent our public health department from being overwhelmed by the disease.



As the department continues to evaluate the progress of COVID-19, there are three types of disease spread that are more concerning:

- community spread - when it is unknown where the individual acquired the disease;
- pre-symptomatic spread - when an individual acquires the disease from someone who is infectious, but not yet experiencing symptoms;
- asymptomatic spread - when an individual acquires the disease from someone who is infectious but never experiences symptoms.

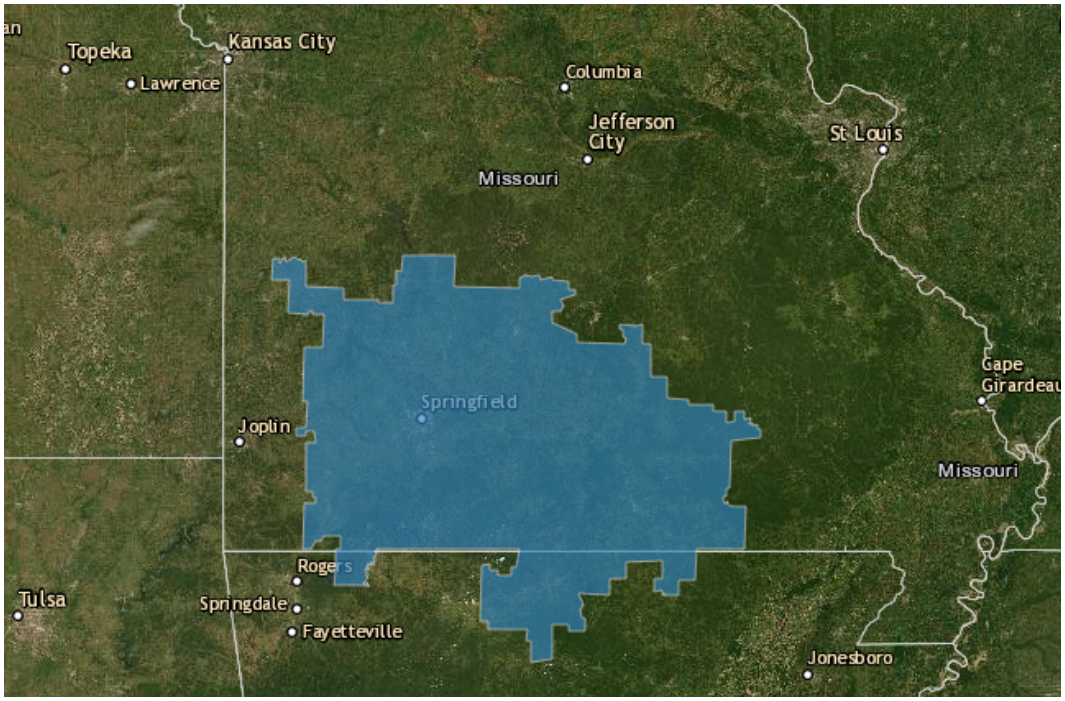
These three types of disease spread are more concerning because they limit public health's ability to know all the variables of exposure to limit the future spread of disease.

Cases of community spread have risen over the past month. In May there were 60 total cases, 3% of which were considered community spread. In June, these numbers jumped to 146 total cases, 18% of which were considered community spread. Asymptomatic spread is difficult to determine and track. The community has conducted multiple rounds of asymptomatic testing within specific populations throughout Springfield and Greene County. Fortunately, these have produced a very limited number of positive cases. Despite these ongoing efforts, detection of cases without symptoms are a challenge.

Regional Data/Spread

In addition to the increase in community spread, cases in the community and region are increasing, in comparison with the rest of the nation. Dartmouth University has had a long-standing data project that compares Hospital Referral Regions on a variety of metrics and has recently included COVID-19 measures.[1] The Springfield Region consists of a large swath area of southwest Missouri. It includes the Springfield and Branson communities, but does not include much of the counties around Joplin.

Springfield, MO Hospital Referral Region



[1] Dartmouth Atlas Project; Mapping COVID-19; https://www.dartmouthatlas.org/covid-19/hrr-mapping/.

On July 5th, the Springfield Region has a relatively low rate of disease but has been experiencing more growth associated with COVID-19.

Rate of COVID-19 Cases per 100,000

	Springfield Region	Joplin Region
Rate (cases per 100,000)	114	596
US Rank (out of 306)	293	166

Rate of New (Past 14 Days) COVID-19 Cases per 100,000

	Springfield Region	Joplin Region
Rate (cases per 100,000)	48	283
US Rank (out of 306)	252	67

Average Daily Growth Rate (Past 7 Days) of COVID-19 Cases

	Springfield Region	Joplin Region
Average Growth Rate (%)	4.2	3.9
US Rank (out of 306)	58	70

These data suggest several key things. Overall our rate of disease in southwest Missouri is favorable compared to the rest of the country, but Joplin has been severely impacted more recently. In comparison of our overall rate of disease, the growth of COVID-19 cases in the region is high. A stronger community response now, can slow the rate of spread of COVID-19 in our community.

As the community examines further action to slow the spread of COVID-19 through the community, masks are an element of community protection. They are not the sole solution but are a part of an effective comprehensive strategy to combat the disease. A strong health care and public health response and a variety of strategies implemented by individuals and organizations create a multi-faceted protection. As the pandemic progresses, our department will continue to adapt and work throughout the community to create a strong, sustained response to COVID-19.

SPRINGFIELD - GREENE COUNTY HEALTH

Masking Evidence & Ordinance Considerations

July 6, 2020

At the request of City Council, the Springfield-Greene County Health Department has compiled the scientific evidence as well as the policy and enforcement considerations of a universal community masking policy.

The Springfield-Greene County Health Department takes an evidence-based approach to protect and promote the health of our community. Evidence continues to underline the effectiveness of wearing face coverings to prevent the spread of COVID-19, and as such, is the recommendation of this department.

Although not comprehensive, this document is designed as a literature review and policy overview as City Council considers its next steps in our community's COVID-19 response. It is not a specific recommendation for any one particular approach to a universal masking ordinance, which should have the ultimate goal of reducing the spread of this virus.

Background on masking or face coverings

In the early days of this global pandemic, masking was not encouraged. This was for a variety of reasons, including concerns over shortages of personal protective equipment (PPE) in the health care setting, as well as a lack of evidence of the effectiveness of masking. In the proceeding months, alternatives to PPE like N95s and similar products have emerged. Additionally, as more widespread use of cloth face coverings and masks have become common, the science has caught up. To that point, the terms masking and face covering have become largely synonymous. They will be used interchangeably here.

The Centers for Disease Control and Prevention (CDC) formally recommended cloth face coverings in public settings on April 3. On June 5, the World Health Organization (WHO) amended its recommendation from encouraging masking for those experiencing symptoms or caring for the sick to wearing cloth face coverings in public spaces where physical distancing is impossible to maintain.

The advice of SGCHD has similarly evolved. Initially, we were concerned about potential contamination and a false sense of security. As the scholarship around the effectiveness of masking grew, our opinion changed. That guidance was cemented in May with the Great Clips exposure. We attribute masking as the main prevention effort that resulted in zero additional cases of COVID-19 from 140 clients directly exposed by two COVID-positive stylists.

How Masking Works

COVID-19 spreads mainly from person to person through respiratory droplets produced when an infected person coughs, sneezes, talks, or raises their voice (e.g., while shouting, chanting, or singing). These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

The general philosophy behind a cloth face covering is that while it does not directly protect the wearer, it likely keeps the wearer—symptomatic or not—from spreading the illness—whether or not they know they are infectious.

The cloth face coverings recommended here are not surgical masks or respirators. Currently, those are critical supplies that should be reserved for healthcare workers and other first responders. Cloth face coverings are not PPE.

Evidence of Masking Effectiveness

The CDC points to 19 studies which support the emerging evidence that cloth face coverings reduce the likelihood of spreading respiratory droplets when properly worn over the nose and mouth.

- Rothe C, Schunk M, Sothmann P, et al. Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. The New England journal of medicine. 2020;382(10):970-971. PMID: 32003551external icon
- Zou L, Ruan F, Huang M, et al. SARS-CoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients. The New England journal of medicine. 2020;382(12):1177-1179. PMID: 32074444external icon
- Pan X, Chen D, Xia Y, et al. Asymptomatic cases in a family cluster with SARS-CoV-2 infection. The Lancet Infectious diseases. 2020. PMID: 32087116external icon
- Bai Y, Yao L, Wei T, et al. Presumed Asymptomatic Carrier Transmission of COVID-19. Jama. 2020. PMID: 32083643external icon
- Kimball A HK, Arons M, et al. Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility — King County, Washington, March 2020. MMWR Morbidity and mortality weekly report. 2020; ePub: 27 March 2020. PMID: 32240128external icon
- Wei WE LZ, Chiew CJ, Yong SE, Toh MP, Lee VJ. Presymptomatic Transmission of SARS-CoV-2 — Singapore, January 23–March 16, 2020. MMWR Morbidity and Mortality Weekly Report. 2020;ePub: 1 April 2020. PMID: 32271722external icon
- Li R, Pei S, Chen B, et al. Substantial undocumented infection facilitates the rapid dissemination of novel coronavirus (SARS-CoV2). Science (New York, NY). 2020. PMID: 32179701external icon
- Furukawa NW, Brooks JT, Sobel J. Evidence Supporting Transmission of Severe Acute Respiratory Syndrome Coronavirus 2 While Presymptomatic or Asymptomatic [published online ahead of print, 2020 May 4]. Emerg Infect Dis. 2020;26(7):10.3201/eid2607.201595. Link

- Oran DP, Topol Prevalence of Asymptomatic SARS-CoV-2 Infection: A Narrative Review [published online ahead of print, 2020 Jun 3]. Ann Intern Med. 2020;M20-3012. PMID: 32491919external icon
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- Schwartz KL, Murti M, Finkelstein M, et al. Lack of COVID-19 transmission on an international flight. CMAJ. 2020;192(15):E410. PMID: 32392504external icon
- Anfinrud P, Stadnytskyi V, Bax CE, Bax A. Visualizing Speech-Generated Oral Fluid Droplets with Laser Light Scattering. N Engl J Med. 2020 Apr 15. doi:10.1056/NEJMc2007800. PMID: 32294341external icon
- Davies A, Thompson KA, Giri K, Kafatos G, Walker J, Bennett A**.** Testing the efficacy of homemade masks: would they protect in an influenza pandemic? Disaster Med Public Health Prep. 2013;7(4):413-8. PMID: 24229526external icon
- Konda A, Prakash A, Moss GA, Schmoldt M, Grant GD, Guha S. Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks. ACS Nano. 2020 Apr 24. PMID: 32329337external icon
- Aydin O, Emon B, Saif MTA. Performance of fabrics for home-made masks against spread of respiratory infection through droplets: a quantitative mechanistic study. medRxiv preprint doi: https://doi.org/10.1101/2020.04.19.20071779, posted April 24, 2020.
- Ma QX, Shan H, Zhang HL, Li GM, Yang RM, Chen JM. Potential utilities of mask-wearing and instant hand hygiene for fighting SARS-CoV-2. J Med Virol. 2020. PMID: 32232986external icon
- Leung, N.H.L., Chu, D.K.W., Shiu, E.Y.C. *et al.*Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nat Med*. 2020. PMID: 32371934external icon
- Johnson DF, Druce JD, Birch C, Grayson ML. A quantitative assessment of the efficacy of surgical and N95 masks to filter influenza virus in patients with acute influenza infection. Clin Infect Dis. 2009 Jul 15;49(2):275-7. PMID: 19522650external icon
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Universal Masking Policy Results

Health Affairs

The journal Health Affairs provides a thorough analysis of existing knowledge and data on masking from the June 16 issue. The authors acknowledge that the question of universal masking is controversial, but notes “it is critical to provide direct evidence on this question not only for public health authorities and governments but also for educating the public.”

The authors analyzed data from 15 states plus the District of Columbia that issued mandatory universal masking policies between April 8 and May 15. Those 15 states were:

- Connecticut
- Delaware
- Hawaii
- Illinois
- Kentucky
- Maine
- Maryland
- Massachusetts
- Michigan
- New Jersey
- New Mexico
- New York
- Pennsylvania
- Rhode Island
- Utah

The analysis found that statewide masking orders protected against what might have been an estimated 230,000-450,000 COVID-19 cases in that month timeframe.

Days after universal masking order is signed statewide	Daily case rate percentage declines (all statistically significant)
1-5	0.9
6-10	1.1
11-15	1.4
16-20	1.7
21+	2.0

They also looked at an additional 20 states with employee-only mandates. After analyzing those mandates, no evidence of declines in daily COVID-19 growth rates were found for employee-only policies.

The Philadelphia Inquirer

The Philadelphia Inquirer analyzed data for new daily coronavirus cases during the first and third weeks of June. The data showed dramatic differences between states with different levels of masking requirements versus recommendations.

States where mask use is ...	New cases, June 1-7	New cases, June 15-21	Change
Mandatory in public	61,064	45,950	-25%
Required by employees and patrons of certain businesses	24,860	21,796	-12%
Required by employees of certain businesses	28,321	48,062	+70%
Recommended, but not required	38,638	71,165	+84%
U.S. total	**152,883**	**186,973**	**+22%**

JOHN DUCHNESKIE / Staff Artist

SOURCES: National Governors Association; New York Times

Policy Considerations

CDC recommends that everyone 2 years old and older wear a cloth face covering in public settings and around people who don't live in the same household, especially when other social distancing measures are difficult to maintain. They do have caveats, however, advising against scenarios where difficult breathing would be exacerbated by a face covering. The considerations identified below are not meant to be comprehensive.

Age

Ordinances throughout the country vary on age requirements for minors.

Schools would likely be a group to consult for the impacts and compliance expectations of face coverings in particular school-age groups. Although there is a reduced morbidity in younger children, they can still be effect spreaders of the disease.

Exclusions

There are both common sense exclusions for wearing a mask, such as when alone, while eating or drinking, with members of the same household and while remaining distant while outdoors, as well as risk-based exclusions, such as for those under 2, medical or disability-based.

Common exclusions for masking requirements include:

- In private homes or vehicles
- In areas not open to the public

- If eating or drinking
- For a medical reason
- While outdoors
- During exercise

Individual jurisdictions have unique approaches as well.

From Fayetteville:

- Masks are not required for settings with 10 or fewer people (such as a small business office without normal public access) unless social distancing best practices cannot be maintained.

From San Francisco:

- Unless someone is actively putting food or drink into their month, their mask must remain on even in restaurants.

From St. Louis County

- Children between the ages of 3-9 are strongly encouraged, but not required, to wear a Face Covering, while under the direct supervision of an adult.

From Kansas City

- People who have been told by a medical, legal, or behavioral health professional not to wear face coverings.

From Jackson County

- When swimming or when engaging in an activity where the face-covering will get wet.

From Clay County

- Persons who are obtaining a service involving the nose or face for which temporary removal of the Face Covering is necessary to perform the service.

Provision of masks

The requirement to wear a mask places the burden on individuals and businesses to expend financial resources to remain in compliance. Unfortunately, not everyone has the resources to purchase masks.

Additionally, ordinances have also been implemented immediately or with very little lead time. This issue of time and supply can further limit availability—especially for economically disadvantaged individuals and families. For individuals who already have a sufficient supply of reusable masks, this burden is light. For individuals who have no masks or a limited supply of disposable masks, this can create a significant challenge.

Cloth face coverings can be a far more sustainable and economical solution but are likely to encounter a similar set of barriers, including limited supplies, higher initial price point, cleaning,

and durability over time. Many community members have stepped up to sew masks for others and we encourage the continuation of such civic engagement and cooperation.

Enforcement Considerations

True enforcement of the ordinance will be a challenge. Most of the communities examined focused on an education-based enforcement. The larger challenge will be what can individuals or businesses do to ensure compliance with the ordinance.

There are several options towards enforcement that businesses may take, which should be considered in the construction of an ordinance. Some ordinances do not include requirements for a business to ensure compliance. Other ordinances do, requiring businesses responsible for requiring compliance among employees and others associated with the business (e.g. vendors). This may include taking reasonable measures to ensure compliance among patrons but does not place the burden on business.

- Fayetteville's ordinance focuses enforcement on the business community, and only for those not making a good faith effort.
- In San Francisco, all businesses, including restaurants, are required to refuse service to anyone not wearing a face covering. Not wearing a mask in public can result in a fine between $50 to $1,000 and/or jail time.
- Not wearing a mask in St. Louis City or County can result in civil and criminal penalties.
- In Kansas City, violations of the order constitutes a violation of city ordinance which can include "fines, orders to suspend business operations, and other penalties"

There is precedence in Springfield for enforcement of a health-related ordinance with the Clean Indoor Air Act. That ordinance applies penalties for both individuals (fine not to exceed $50) and businesses found to be in violation (first violation $100; second violation $200; each additional violation $500).