



Health Department

2400 Troost Avenue, Suite 4000
Kansas City, Missouri 64108
Office (816) 513-6252 Fax (816) 513-6293

Director's Office



Date: December 1st, 2021

To: Mayor Quinton Lucas

Cc: City Council Members

Brian Platt, City Manager

From: Frank E. Thompson, Interim Director

Re: Report Supporting Order for Mask Wearing in Public Places

This report is submitted to provide the data and research necessary to make an evidence-based decision on ordering the wearing of masks in places of public accommodation. By providing this report, the Kansas City Health Department seeks to inform the Mayor and City Council of the impact that continuing the current mask order could have on reducing the spread of the COVID-19 Delta variant in our community.

Please note: Studies cited reflect the prevailing scientific research at the time of writing. Data cited is provisional and is subject to change (increase) as many indicators have a data-lag in reporting. In short, due to the exponential stressors placed upon the public health systems at this time, data is likely to show an increase as more reporting institutions are able to report.

The predominate variant active in Kansas City is the Delta variant, studies that reference earlier variants, earlier time periods of the pandemic and/or the parent COVID-19 virus may not address the issues present with the Delta or future variants.

- **How COVID Spreads And Why Masking Helps Decrease Spread**
 - a. CDC STATEMENT ON MASK WEARING BASED ON AVAILABLE RESEARCH - SARS-CoV-2 infection is transmitted predominately by inhalation of respiratory droplets generated when people cough, sneeze, sing, talk, or breathe. CDC recommends community use of [masks](#), specifically non-valved multi-layer cloth masks, to prevent transmission of SARS-CoV-2. Masks are primarily intended to reduce the emission of virus-laden droplets (“source control”), which is especially relevant for asymptomatic or presymptomatic infected wearers who feel well and may be unaware of their infectiousness to others, and who are estimated to account for more than 50% of transmissions. Masks also help reduce inhalation of these droplets by the wearer (“filtration for wearer protection”). The community benefit of masking for SARS-CoV-2 control is due to the combination of these effects; individual prevention benefit increases with increasing numbers of people using masks *consistently and correctly*. Adopting universal masking policies can help avert future lockdowns, especially if combined with other non-pharmaceutical interventions such as *social distancing, hand hygiene, and adequate ventilation*. [emphasis added]
 - “...wearing a face covering decreased the number of projected droplets by >1000-fold. We estimated that a person standing 2m from someone coughing without a mask is exposed to over 1000 times more respiratory droplets than from someone standing 5 cm away wearing a basic single layer mask. Our results indicate that face coverings show consistent efficacy at blocking respiratory droplets.”

Bandiera L., Pavar G., Pisetta G., et al. Face coverings and respiratory tract droplet dispersion. medRxiv. 2020;doi:10.1101/2020.08.11.20145086
<https://www.medrxiv.org/content/10.1101/2020.08.11.20145086v1.full.pdf>

b. RANDOMIZED TRIALS SUPPORT MASKING EFFICACY TO REDUCE INFECTION:

- New large-scale research with more than adequate observations (N=806,547) has illustrated direct evidence that mask use can reduce transmission of COVID-19 specifically. Authors state that “adjusting for baseline covariates, the intervention reduced symptomatic seroprevalence by 9.3%” (Abaluck et al., 2021)

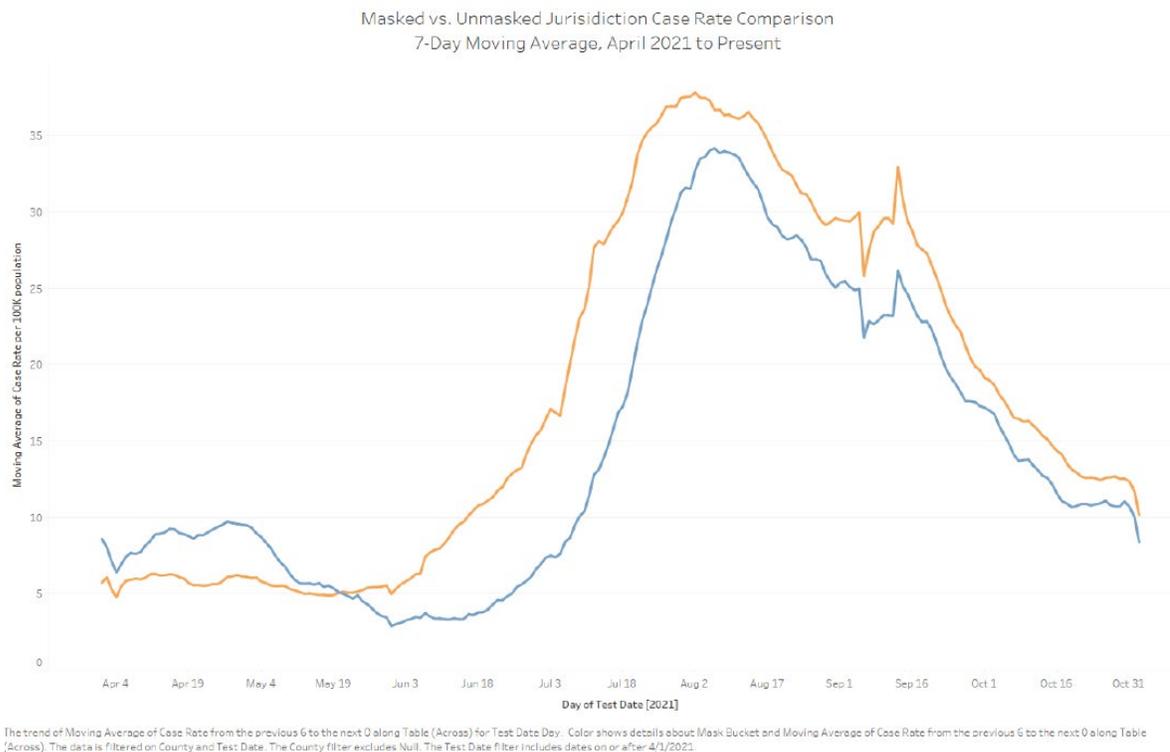
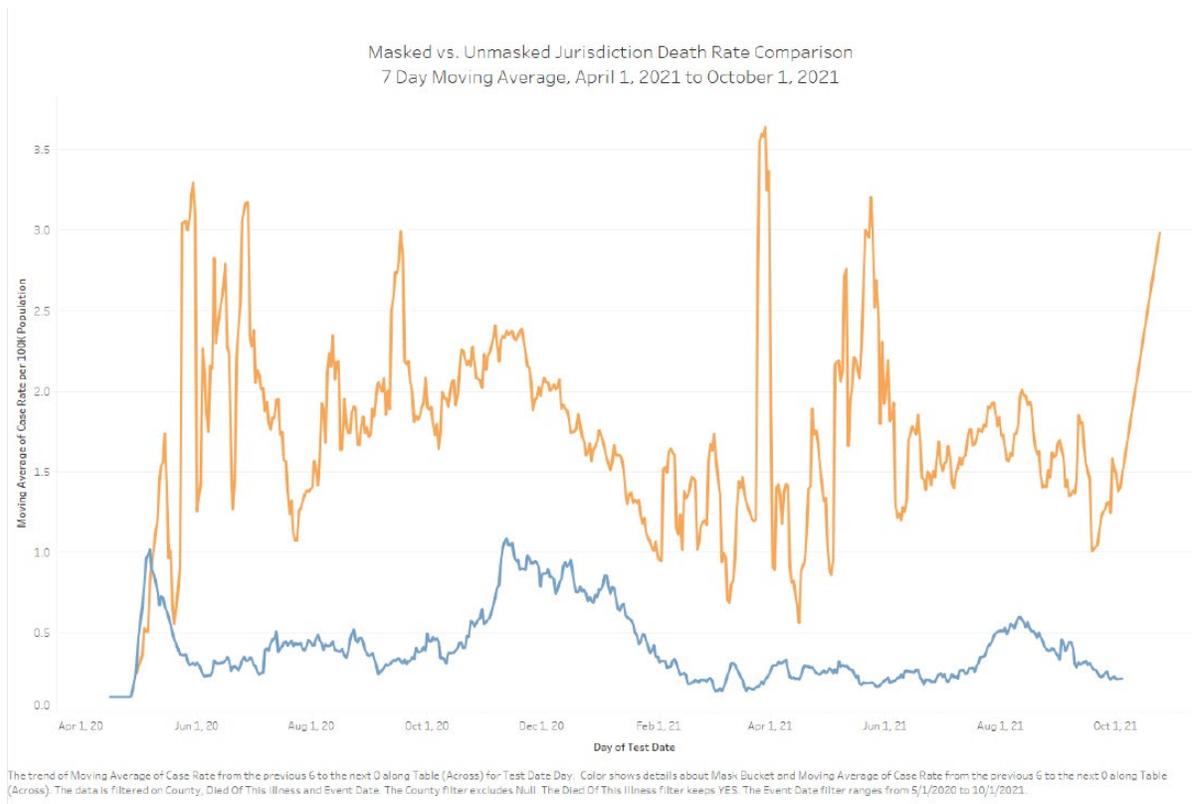
Abaluck, Jason; Kwong, Laura H.; Styczynski, Ashley; Haque, Ashraful; Kabir, Md. Alamgir; Bates-Jeffries, Ellen; Crawford, Emily; Benjamin-Chung, Jade; Benhachmi, Salim; Raihan, Shabib; Rahman, Shadman; Zaman, Neeti; Winch, Peter J.; Hossain, Md. Maqsood; Reza, Hasan Mahmud; Luby, Stephen P.; Mobarak, Ahmed Mushfiq; All Jaber, Abdulla; Gulshan Momen, Shawke; Laz Bani, Faika; Rahman, Aura; and Saiha Huq, Tahrima, "The Impact of Community Masking on COVID-19: A Cluster-Randomized Trial in Bangladesh" (2021). Discussion Papers. 1086. <https://elischolar.library.yale.edu/egcenter-discussion-paper-series/1086>

c. TRANSMISSION BY PERSONS WHO DON'T KNOW (OR DON'T ACCEPT) THAT THEY ARE INFECTED IS A FACTOR IN INCREASED CASES – The issue of asymptomatic spreaders has been of concern for most of the pandemic:

- “We found that the majority of incidences may be attributable to silent transmission from a combination of the presymptomatic stage and asymptomatic infections.”
Moghadas SM, Fitzpatrick MC, Sah P, et al. The implications of silent transmission for the control of COVID-19 outbreaks. Proc Natl Acad Sci U S A. Jul 28 2020;117(30):17513-17515. doi:10.1073/pnas.2008373117
<https://www.pnas.org/content/pnas/117/30/17513.full.pdf>
- “...the identification and isolation of persons with symptomatic COVID-19 alone will not control the ongoing spread of SARS-CoV-2.”
Johansson MA, Quandelacy TM, Kada S, et al. SARS-CoV-2 Transmission From People Without COVID-19 Symptoms. JAMA Netw Open. Jan 4 2021;4(1):e2035057. doi:10.1001/jamanetworkopen.2020.35057

The Delta variant has different symptoms than the original COVID virus and previous variants. This plus the fact that a vaccinated person who becomes infected with COVID can have very mild or no symptoms at all means the potential number of asymptomatic spreaders is larger than previous case spikes.

d. MODHSS STUDY SHOWS CASE AND DEATH RATES SIGNIFICANTLY LOWER IN MISSOURI JURISDICTIONS WITH MASK MANDATES. A study conducted through MODHSS and revealed through a sunshine request via the Missouri Independent and Documenting COVID-19 project at The Brown Institute for Media Innovation illustrate that the mask mandates implemented in Kansas City and other Missouri jurisdictions had a clear effect in reducing both case rate and deaths during the surge of the Delta variant this summer. This internal study was not shared with the local health departments responsible for enacting mask mandates, but clearly illustrates their effectiveness in reducing the spread and severity of COVID-19:



e. ADDITIONAL STUDIES ON EFFECTIVENESS AND PROPER WEARING OF MASKS

- Moghadas SM, Fitzpatrick MC, Sah P, et al. The implications of silent transmission for the control of COVID-19 outbreaks. Proc Natl Acad Sci U S A. Jul 28 2020;117(30):17513-17515. doi:10.1073/pnas.2008373117

- Lindsley WG, Blachere FM, Law BF, Beezhold DH, Noti JD. Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-generated aerosols. *Aerosol Sci Technol.* 2020; in press
- Leung NHL, Chu DKW, Shiu EYC, et al. Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nature medicine.* Apr 03 2020;26(5):676-680. doi:<https://dx.doi.org/10.1038/s41591-020-0843-2>
- Ueki H, Furusawa Y, Iwatsuki-Horimoto K, et al. Effectiveness of Face Masks in Preventing Airborne Transmission of SARS-CoV-2. *mSphere.* Oct 21 2020;5(5)doi:10.1128/mSphere.00637-20
- Brooks JT, Beezhold DH, Noti JD, et al. Maximizing Fit for Cloth and Medical Procedure Masks to Improve Performance and Reduce SARS-CoV-2 Transmission and Exposure. *MMWR Morb Mortal Wkly Rep.* 2021
- Hendrix MJ, Walde C, Findley K, Trotman R. Absence of Apparent Transmission of SARS-CoV-2 from Two Stylists After Exposure at a Hair Salon with a Universal Face Covering Policy – Springfield, Missouri, May 2020. *MMWR Morb Mortal Wkly Rep.* Jul 17 2020;69(28):930-932. doi:10.15585/mmwr.mm6928e2
- Van Dyke ME, Rogers TM, Pevzner E, et al. Trends in County-Level COVID-19 Incidence in Counties With and Without a Mask Mandate – Kansas, June 1-August 23, 2020. *MMWR Morb Mortal Wkly Rep.* Nov 27 2020;69(47):1777-1781. doi:10.15585/mmwr.mm6947e2
- **Current KCMO Numbers**
 - a. TOTAL CASES AND DEATHS FOR KC REGION - on December 1st, 2021, the Kansas City Health Department confirmed 236,927 total cases of COVID-19 in Kansas City metro-wide and 3,249 deaths from COVID-19 in Kansas City metro-wide.
 - KC Region data source: MARC KC Region COVID-19 Data Hub <https://marc2.org/covidhub/>
 - b. INCREASED CASES IN KC REGION AND KCMO – In the KC Region, average weekly cases went from 58 new cases per day in early June to 470 cases per day in late November.
 - KC Region data source: MARC KC Region COVID-19 Data Hub <https://marc2.org/covidhub/>
 - Weekly new cases for KCMO are still up since the first week in June, from 96 (6/5/21) to 725 (11/24/21). KCMO is currently averaging about 106 new cases per day, up from 62 at the end of October 2021.
 - KCMO Data source: MODHSS (epitrax) internal report of confirmed cases, data accurate through November 29th, 2021
 - On June 6 hospitalizations due to COVID-19 were at a pandemic low, averaging 7 per day. As of Monday November 29th, the average daily hospitalizations have increased to 29 resulting in 25% of all ICU beds being taken by COVID patients and only 14% of ICU beds being available.
 - KC Region data source: MARC KC Region COVID-19 Data Hub <https://marc2.org/covidhub/>
 - The Public Health Systems continue to experience challenges with staffing critical roles, such as investigators (including our contract for contact tracing), nurses and call center staff. This increases the need for masking as the mitigation efforts of vaccinations, social distancing, and surveillance efforts stall and genomic testing is low.

- The mitigation efforts of contact tracing are severely compromised by affected individuals not cooperating with investigations leading to the need for a mask mandate. When individuals who are COVID positive will not talk to investigators, choose to go to work sick or not take appropriate measures in workplace environments, the rate of infection increases and places additional burdens on an already compromised medical and public health system.
- Due to volume of cases and insufficient staffing, the health department has prioritized investigating cases that are between the ages of 15 years old and 40 years old and those who are hospitalized. This decision was made as that is where there are the lowest vaccination rates, and the bulk of new cases occur.

- **New CDC Guidance**

- a. SUMMARY OF LATEST CDC GUIDANCE -

- Updated information for fully vaccinated people given new evidence on the B.1.617.2 (Delta) variant currently circulating in the United States.
- Added a recommendation for fully vaccinated people to wear a mask in public indoor settings in areas of substantial or high transmission.
- Added information that fully vaccinated people might choose to wear a mask regardless of the level of transmission, particularly if they are immunocompromised or at increased risk for severe disease from COVID-19, or if they have someone in their household who is immunocompromised, at increased risk of severe disease or not fully vaccinated.
- Added a recommendation for fully vaccinated people who have a known exposure to someone with suspected or confirmed COVID-19 to be tested 3-5 days after exposure, and to wear a mask in public indoor settings for 14 days or until they receive a negative test result.
- CDC recommends universal indoor masking for all teachers, staff, students, and visitors to schools, regardless of vaccination status.
- Infections happen in only a small proportion of people who are fully vaccinated, even with the Delta variant. However, preliminary evidence suggests that fully vaccinated people who do become infected with the Delta variant can spread the virus to others. To reduce their risk of becoming infected with the Delta variant and potentially spreading it to others, CDC recommends that fully vaccinated people:
 - Wear a mask in public indoor settings if they are in an area of substantial or high transmission.
 - Fully vaccinated people might choose to mask regardless of the level of transmission, particularly if they or someone in their household is immunocompromised or at increased risk for severe disease, or if someone in their household is unvaccinated. People who are at increased risk for severe disease include older adults and those who have certain medical conditions, such as diabetes, overweight or obesity, and heart conditions.
 - Get tested if experiencing COVID-19 symptoms.
 - Get tested 3-5 days following a known exposure to someone with suspected or confirmed COVID-19 and wear a mask in public indoor settings for 14 days after exposure or until a negative test result.
 - Isolate if they have tested positive for COVID-19 in the prior 10 days or are experiencing COVID-19 symptoms.
- General prevention of COVID-19: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html> (for anyone)
 - Wear a mask
 - Stay 6 ft away from others
 - GET VACCINATED
 - Avoid crowds and poorly ventilated spaces
 - Wash your hands often
 - Cover coughs and sneezes

- Clean and disinfect high touch surfaces
 - Monitor your health daily
- b. DEFINITIONS – A high transmission area is a jurisdiction (city, county or state) with a COVID case rate higher than 100 per 100,000 population over the past seven days and a test positivity rate of greater than 10% over the over the past seven days. A substantial transmission area is a jurisdiction (city, county or state) with a COVID case rate between 50-99 per 100,000 population over the past seven days and a test positivity rate of between 8-9.99% over the past seven days.
 - c. WHY KC MEETS THE DEFINITION OF HIGH AND/OR SUBSTANTIAL TRANSMISSION AREA – our case rate is 150 per 100k from November 18th to November 24th

Source – MODHSS Confirmed Cases Database (accurate through November 29th, 2021)

- **Regional Guidance On Masking And Vaccinations**

- a. REGIONAL NEWS RELEASE FOR PUBLIC HEALTH ADVISORY - Multiple Kansas City area health departments (including Kansas City along with Cass, Clay, Jackson, Kansas City and Platte Counties in Missouri) issued a Public Health Advisory through a Regional News Release on November 5, 2021 asking “residents to continue the fight against COVID-19 by vaccinating eligible children and wearing a mask while in public and in school settings”. This advisory was a result of discussions and a review of regional data during a joint meeting of local health directors.

This Advisory was based on the CDC’s Morbidity and Mortality Weekly Report from July 27, 2021 that stated: “Based on emerging evidence on the Delta variant (2), CDC also recommends that fully vaccinated persons wear masks in public indoor settings in areas of substantial or high transmission.” (2)CDC. Science brief: COVID-19 vaccines and vaccination. Atlanta, GA: US Department of Health and Human Services, CDC; 2021. <https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/fully-vaccinated-people.html>

- b. Further guidance was issued following CDC guidance on administration of booster shots and third doses on November 29th, where all individuals ages 18 and older should get a booster shot either when they are 6 months after their initial Pfizer or Moderna series or 2 months after their initial J&J vaccine.

- **Kids And Masking:**

- a. KIDS ARE GETTING INFECTED - The monthly case rate in those under 18 increased from 91 per 100k in June to 555 per 100k in November 2021, up from 433 in October 2021.

Source – MODHSS Confirmed Cases Database (accurate through Nov 8th, 2021)

- b. MASKS NEED TO MAINTAIN IN PERSON LEARNING – Cases in children 18 and under have increased as a proportion of the total case count in a drastic fashion. In September and October 2020, children 18 and under accounted for just 9% of all cases. In September 2021 children 18 and under, represented 27% of all new confirmed cases, by far the highest of the pandemic, and in November 2021 still account for 26% of all cases. In September, for the first time in the pandemic, the monthly new case rate in this age group (926 per 100k) exceeded the case rate of the 18+ population (698 per 100k). For the third month in a row, the case rate in this population exceeds that of the 18+ population in the city (555 per 100k to 478 per 100k).
- c. Studies have clearly illustrated the added benefits of masking in schools to reduce the spread of COVID-19:

“These findings add to evidence that in-person elementary schools can be opened safely with minimal in-school transmission when critical prevention strategies including mask use are implemented, even though maintaining ≥ 6 ft between students’ seats might not be possible.”

Hershow RB, Wu K, Lewis NM, et al. Low SARS-CoV-2 Transmission in Elementary Schools — Salt Lake County, Utah, December 3, 2020–January 31, 2021. *MMWR Morb Mortal Wkly Rep* 2021;70:442–448. DOI: <http://dx.doi.org/10.15585/mmwr.mm7012e3>

“Proper masking is the most effective mitigation strategy to prevent secondary transmission in schools when COVID-19 is circulating and when vaccination is unavailable, or there is insufficient uptake [of vaccine].”

Benjamin, DK and Zimmerman, K. Final Report for North Carolina School Districts and Charters in Plan A. June 30, 2021. The ABC Science Collaborative: absciencecollaborative.org_ABCs-Final-Report-June-2021.06

“Schools implementing strategies including mask mandates, physical distancing, and increased ventilation had much lower SARS-CoV-2 transmission than in the community. K–12 schools should continue implementing these measures and following CDC isolation and quarantine guidance to minimize secondary transmission in schools” (Dawson et al., 2021)

Dawson P, Worrell MC, Malone S, et al. Pilot Investigation of SARS-CoV-2 Secondary Transmission in Kindergarten Through Grade 12 Schools Implementing Mitigation Strategies — St. Louis County and City of Springfield, Missouri, December 2020. *MMWR Morb Mortal Wkly Rep* 2021;70:449–455. DOI: <http://dx.doi.org/10.15585/mmwr.mm7012e4>

- d. **KIDS CAN SPREAD IT** - Studies that have systematically tested children and adolescents, irrespective of symptoms, for acute SARS-CoV-2 infection (using antigen or RT-PCR assays) or prior infection (through antibody testing) have found their rates of infection can be comparable, and in some settings higher, than in adults. Outbreaks among children attending camps and sports events have demonstrated that children can transmit SARS-CoV-2 to others. This includes previous and current outbreaks in youth camps and sporting events in the Kansas City region.

Source - Szablewski CM, Chang KT, Brown MM, et al. SARS-CoV-2 Transmission and Infection Among Attendees of an Overnight Camp – Georgia, June 2020. *MMWR Morb Mortal Wkly Rep* 2020;69(31):1023-1025. doi:10.15585/mmwr.mm6931e1

Atherstone C, Siegel M, Schmitt-Matzen E, et al. SARS-CoV-2 Transmission Associated with High School Wrestling Tournaments – Florida, December 2020-January 2021. *MMWR Morb Mortal Wkly Rep* 2021;70(4):141-143. doi:10.15585/mmwr.mm7004e4

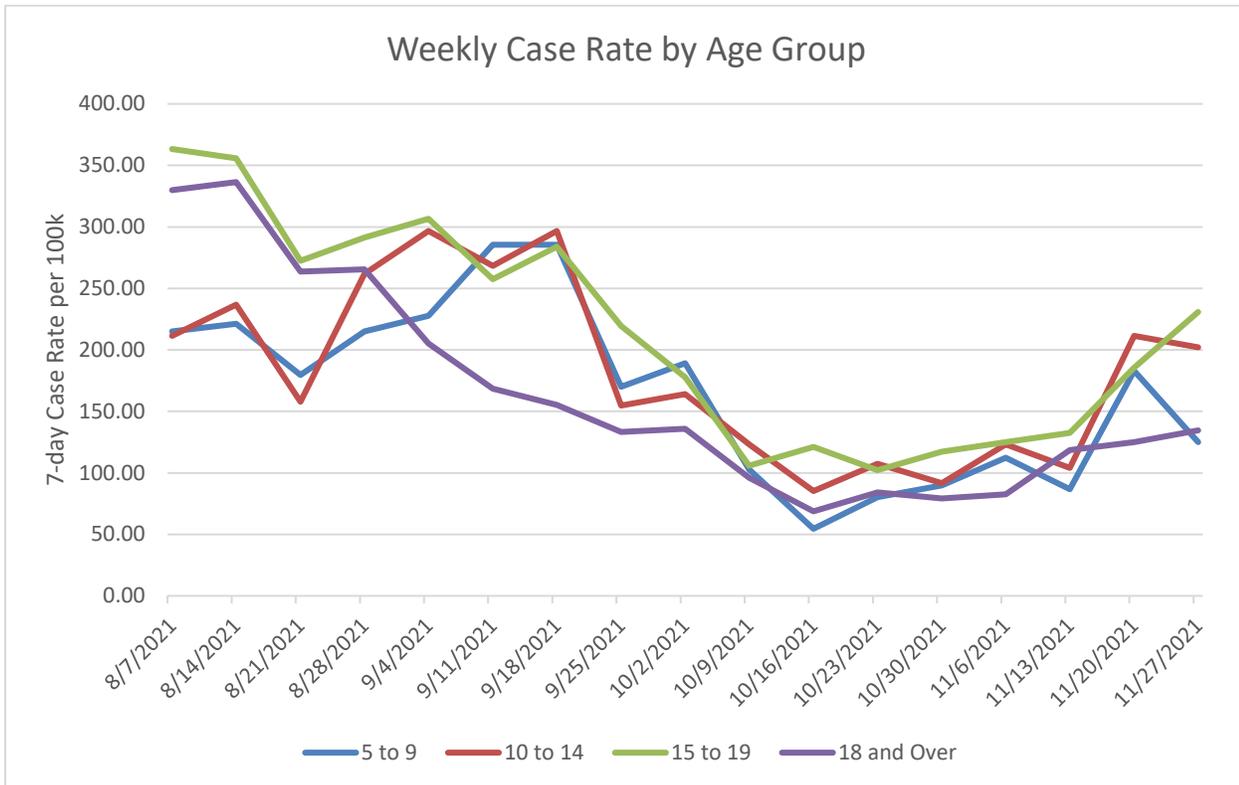
- e. **KIDS CAN GET SICK** – From January to November 29th, 2021, there have been 3,266 children in Kansas City hospitals due to COVID-19
Source – HHS Protect/TeleTracking/MARC

- f. **KIDS AGED 5-11 HAVE NOT HAD ADEQUATE TIME TO BECOME FULLY VACCINATED AND ARE HIGHLY VULNERABLE** – Emergency Use Authorization for 5-11-year-old children was recently granted, however the full vaccination process for those who choose to initiate immediately takes a minimum of five weeks to confer full benefits of immunization.

Because this age group has only been recently approved for vaccination, the age group specific case rate continues to exceed that of the age groups where vaccination has been available for a long period of time. The 7-day case rate for those 5 to 11 is 185 per 100k, and those 12 to 18 is 177 per 100k; both are significantly higher when compared to 135 per 100k for those over 18. As a result, this population, which is currently in school and in close proximity to their peers on a daily basis, needs further protection from community spread of COVID-19. Mitigation factors like frequent handwashing, social distancing, and

universal masking in school settings are necessary measures to reduce the spread of COVID-19 in school settings.

- g. **THE CURRENT MASK ORDER HAS FLATTENED THE CURVE:** Following a two-week delay, the mask mandate has flattened what was previously illustrated to be exponential growth in the number of new cases. The mask order preceded a drop in the overall case rate in the following month, illustrated below: However, the decline was at first only taking place in those over 18, as cases in children continued to rise. In fact, the week of September 12 to September 19 was the highest single week on record for new cases in kids 18 and under (276 new cases). Cases in these age groups initially decreased yet remain higher than the rest of the population. Removal of mask mandates in schools and in public places would likely lead to a further increase in cases for this population, which has not yet had the time necessary to be fully vaccinated:



- h. **UNKNOWN VARIABLES ARISING FROMOMICRON VARIANT.** On November 26, 2021, the World Health Organization officially classified a new variant, B.1.1.529, as a Variant of Concern named Omicron. The 1st case of Omicron has been detected in California, US, Omicron has already been confirmed to have spread through South Africa and into parts of Asia, Europe and the United Kingdom. Until more is known about the potential for changes in transmissibility and prognosis, the CDC has reiterated the need for masking in areas of high transmission, such as Kansas City.

Source: CDC Statement on B.1.1.529 (Omicron variant)

<https://www.cdc.gov/media/releases/2021/s1126-B11-529-omicron.html>

Based on the information included in this report, as Interim Director of the Kansas City Health Department, I strongly support the issuance of an Order from the City Council ensuring the requirement of masks in school settings within

Kansas City, MO, for at least another 30 days. Such an order is needed to provide relief to local hospitals, to continue efforts to “turn the curve” of Kansas City’s latest COVID-19 surge, and to protect the public health of Kansas Citians.