This KU COVID-19 Executive Digest is authored and updated by Reem A. Mustafa and Tami Gurley-Calvez (lead authors), Daniel Parente, Mark Meyer, Joseph LeMaster, Erin Corriveau, Robert Moser, David Wild, Edward Ellerbeck, Laura Mussulman, Caitlin Smith, Christian Dodge, Jack Beal, Ian Thompson and Akinlolu Ojo.

Weekly Overview

- This digest updates every Tuesday to inform healthcare providers, hospitals leadership, policymakers and the public on issues related to the coronavirus pandemic.
- The Daily COVID-19 Digest includes information about:
  (A) Pandemic Status
  (B) Face Masks
  (C) Tracking, Anticipating Spread and Hospitalizations
  (D) Pharmacologic Treatment of COVID-19
  (E) Vaccine development
  (F) Relevant Government Actions
  (G) Other Relevant Developments
Key Highlights

- As of March 29, 2021, vaccine eligibility is open to every Kansan age 16 and older.
- Reported new cases showed up slightly in most locations. The current 7-day average for Kansas new hospital admissions increased to 19 per day (from 13 per day).
- New Kansas hospital admissions provide some evidence that the proportion of admissions among the oldest age group is lower.
- There are 1,455 new cases in Kansas from April 20-26, 2021. 1,697 new cases in the Kansas City metro. 367 new cases in the Wichita metro. 444 new cases from widespread reporting across Kansas locations outside of the Kansas City and Wichita metro areas. There were 15 newly reported deaths in Kansas. Average new cases continue to be stable across locations with a small upward trend in the Kansas City metro area.
- The CDC’s Advisory Committee on Immunization Practices (ACIP) announced that a review of all available data at this time shows that the J&J/Janssen COVID-19 Vaccine’s known and potential benefits outweigh its known and potential risks. Details about the evidence summary are here.
- Vaccine availability varies by county. Details about vaccine distribution can be found here.

A. Pandemic Status

Pandemic Status* (as of April 25, 2021)

<table>
<thead>
<tr>
<th>Location</th>
<th>Confirmed cases</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>The University of Kansas Health System**</td>
<td>14,824</td>
<td>279</td>
</tr>
<tr>
<td>Johnson county</td>
<td>57,435</td>
<td>746</td>
</tr>
<tr>
<td>Sedgwick county</td>
<td>55,775</td>
<td>738</td>
</tr>
<tr>
<td>Wyandotte county</td>
<td>20,096</td>
<td>290</td>
</tr>
<tr>
<td>Shawnee county</td>
<td>17,293</td>
<td>358</td>
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<tr>
<td>Douglas county</td>
<td>9,152</td>
<td>87</td>
</tr>
<tr>
<td>Reno county</td>
<td>8,449</td>
<td>139</td>
</tr>
<tr>
<td>Butler county</td>
<td>7,466</td>
<td>86</td>
</tr>
<tr>
<td>Leavenworth county</td>
<td>7,153</td>
<td>91</td>
</tr>
<tr>
<td>Riley county</td>
<td>6,387</td>
<td>42</td>
</tr>
<tr>
<td>Saline county</td>
<td>6,175</td>
<td>135</td>
</tr>
<tr>
<td>Finney county</td>
<td>6,040</td>
<td>72</td>
</tr>
<tr>
<td>Ford county</td>
<td>5,731</td>
<td>74</td>
</tr>
<tr>
<td>KS State</td>
<td>309,590</td>
<td>5,036</td>
</tr>
<tr>
<td>MO State</td>
<td>517,601</td>
<td>9,203</td>
</tr>
<tr>
<td>USA</td>
<td>32,523,253</td>
<td>580,474</td>
</tr>
<tr>
<td>Global</td>
<td>147,189,618</td>
<td>3,109,247</td>
</tr>
</tbody>
</table>

*KS counties with > 5000 cases, **TUKHS had a total of 2,901 hospital admissions

B. Face Masks and Physical distancing and vaccine update

- New mask guidelines for vaccinated people: The CDC issued recommendations detailing activities that vaccinated people can resume without wearing a mask or staying 6 feet apart. The activities include gathering indoors with fully vaccinated people, or unvaccinated people who all live in one household, as
well as gathering or conducting outdoor activities except in certain crowded settings or venues. The link to the CDC’s recent recommendations can be found here.

- Johnson & Johnson’s COVID-19 vaccine resumption: On April 25, 2021, the CDC and the U.S. Food and Drug Administration (FDA) recommended the resumption of the use of the Johnson & Johnson’s / Janssen (J&J) COVID-19 Vaccine in the United States. The CDC’s Advisory Committee on Immunization Practices (ACIP) announced that a review of all available data at this time shows that the J&J/Janssen COVID-19 Vaccine’s known and potential benefits outweigh its known and potential risks. They reported an incidence of 1.9 cases/million people, and an incidence of 7 cases/million people in women younger than 50 years old.

The ACIP’s benefit risk analysis evaluated multiple assumptions of vaccine use in different age groups. The analysis showed that if resumed in adults 18 years and older, the J&J vaccine is expected to decrease the rates of COVID-19 related deaths and ICU admissions to 1,435, and 2,236 cases in 9.8 million individuals, respectively, with resulting 26 cases of thrombotic thrombocytopenic events in 9.8M vaccinations. The link to the Risk/Benefit assessment of thrombotic thrombocytopenic events after Janssen COVID-19 vaccines can be found here. The CDC and FDA will continue to monitor the safety of all COVID-19 vaccines and advised people to seek medical if they develop any alarming symptoms after receiving the J&J/Janssen vaccine.

- COVID-19 related deaths: recent CDC data showed that COVID-19 was the third leading cause of death, replacing unintentional injuries, and coming behind only heart disease and cancer. COVID-19 also led the U.S. death rate far above normal last year, with a 16% increase over 2019. The highest rates of death reported were at the beginning of the pandemic in April and in the middle of the holiday surge in late December.

C. Tracking, Anticipating Spread and Hospitalizations

Projected local spread: As of April 25, 2021 the updated predictions based on a variety of widely used models for COVID-19 pandemics suggest that:

- Surveillance of cases, hospitalizations, and deaths is essential to ensure accurate understanding of the current state of the pandemic and the effect of behavioral and policy effects on disease spread.
- COVID-19 related death is the most robustly reported data point but is a lagging indicator of about 4-6 weeks after any change in behavior. Hospitalizations are also lagging indicators of disease spread.
Green lines indicate actual events and blue lines indicate calculated events based on actual data of the number of cases. **Estimates of hospital admissions (Kansas City metro area, Wichita metro area, and Kansas locations outside of the Kansas City and Wichita metro areas) and hospitalizations (all locations) are excluded because they are based on assumptions from new case estimates instead of actual data. The link between new cases and new hospital admissions is increasingly unclear.** Detailed notes about graphs: Data accessed April 25, 2021 at https://github.com/nytimes/covid-19-data and at https://usafacts.org/visualizations/coronavirus-covid-19-spread-map/. The shape of the data driven prediction is determined by existing data from other states and locations that are ahead of KS in regard to the pandemic. A major limitation of using this model is that we cannot forecast the effects of events (e.g. Memorial Day) that happen concurrently across locations.

**D. Pharmacologic Treatment of COVID-19**

- On April 21, 2021, the National Institutes of Health (NIH) recently updated their COVID-19 Treatment Guidelines. The COVID-19 treatment guidelines update included new sections of the guidelines and key updates to previous guidelines. The three new sections included recommendations for Outpatient management of acute COVID-19, the use of colchicine in nonhospitalized patients with COVID-19, and the use of fluvoxamine for the treatment of COVID-19.

  In addition, updates on previous guidelines included therapeutic management of adults with COVID-19, overview of COVID-19 with a discussion on emerging information on SARS-CoV-2 variants, as well as guidelines on the use of anti-SARS-CoV-2 monoclonal antibodies, convalescent plasma, and interleukin-6 inhibitors.

- KU researchers are collaborating with leaders in guideline development around the world to summarize existing recommendations in a living recommendation map for COVID-19. Check the eCOVID19 RecMap

**E. Vaccine development and distribution**

- Vaccine availability varies in different counties. Details about vaccine distribution can be found [here](#). Vaccine distribution per KDHE data as of April 25, 2021 are shown below
F. Relevant legislative actions

G. Other Relevant Developments

Testing

- The CDC has released guidance on the use of antigen testing, with revisions made December 5, 2020 (see Graphic, below).

Update
This is a living document. Information in this document will need to be revised and updated in the near future. We will conduct ongoing reviews of the available evidence and continuously monitor the data to determine if information require modification. Based on the rapidly evolving nature of this pandemic, information will likely need to be updated daily. This document is not intended to establish clinical practice guidelines or the standard of care. Physicians should exercise their own clinical judgement in the care of individual patients.

References
Appendix 1
SARS-CoV-2 is spread via respiratory droplets from talking, coughing, sneezing, and close contact with symptomatic individuals. Procedures like surgery, endoscopy or bronchoscopy can also lead to aerosolization and subsequent airborne transmission. Human-to-human transmission can occur from unknown infected persons (e.g. asymptomatic carriers or individuals with mild symptoms) as well as individuals with virus shedding during the pre-incubation period before symptoms develop. Data related to the spread of SARS-CoV-2 in the early phase of the pandemic have confirmed that healthcare personnel are at higher risk of infection than the general population. Several types of PPE are available and summarized below. The WHO has issued guidance on the use of PPE, following a three-pronged strategy: (1) minimize the need for PPE, (2) ensure PPE use is rational and appropriate, and (3) coordinate PPE supply chain management mechanisms. WHO has developed recommendations for PPE use. KUHS Infection Prevention has developed similar, parallel, recommendations.

Personal protective equipment (PPE) for health care personal and patients in the hospital

PPE for healthcare personnel is needed to protect both individual providers and the healthcare system itself. Inadequate PPE supply may result in shortage of healthcare personnel due to infection and/or quarantine. Infected healthcare personnel may also act as a vector for transmission to patients. Hospitals and healthcare systems, including the University of Kansas Health System, face challenges in projecting PPE requirements and availability. Projections of future health system PPE use follow projections for total number of persons under investigation (PUIs) or contracts hospitalized, and ICU patients, emphasizing the urgency of reliable projections.

Information needed to make informed projections about the required PPE during the pandemic

- Reports of number of patients hospitalized, admitted to the ICU and requiring mechanical ventilation (available from data about hospitalized patients)
- Estimates of forecast of number of patients hospitalized, admitted to the ICU and requiring mechanical ventilation with best- and worst-estimate of when the peak will occur (best and worst-case scenarios)
- Historic utilization of PPE per isolated patient (available from data about hospitalized patients)
- PPE required per COVID-19 positive/suspected patient (available from data about hospitalized patients)
- Historical hospital market share, and projections of whether this is expected to remain stable throughout the course of COVID-19 surge
- Expected number and severity of cases in a specific hospital (both total and per week)
- Period of time that social distancing/community mitigation strategies must remain in place to manage the outbreak

Types of PPE

<table>
<thead>
<tr>
<th>PPE</th>
<th>Use</th>
<th>Pros and Cons</th>
</tr>
</thead>
</table>
| Surgical or medical masks | - Droplet precautions- block large particles (>5 μm) | - Widely available  
- Does not require fit testing  
- Cannot be re-used |
| N95 mask respirator  | - Filter at least 95% of aerosols (<5 μm) and droplet-size (>5μm) particles | - Requires fit testing  
- Can be used for an extended period and re-sterilized |
| **powered air-purifying Respirator (PAPRs)** | - Provide high level protection from common airborne viruses that exceed N95 face masks | - Does not require fit testing  
- Provides head and neck protection  
- Can be re-used by the same healthcare provider |
|---|---|---|
| **Gloves** | - Does not require fit testing  
- cannot be reused | |
| **Gowns** | - Does not require fit testing | |