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) Vaccines, face masks and physical distancing
  (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 seven-day average of Kansas new hospital was steady at about 13 per day.
- New Kansas hospital admissions provide some evidence that the proportion of admissions among the oldest age group is lower.
- There are 1,606 new cases in Kansas from April 12-18, 2021. 1,423 new cases in the Kansas City metro. 440 new cases in the Wichita metro. 490 new cases from widespread reporting across Kansas locations outside of the Kansas City and Wichita metro areas. There were 71 newly reported deaths in Kansas. Average new cases continue to be stable across locations.
- 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
- Vaccine availability varies by county. Details about vaccine distribution can be found [here](#).

A. Pandemic Status

<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>14,767</td>
<td>279</td>
</tr>
<tr>
<td>Johnson county</td>
<td>57,136</td>
<td>741</td>
</tr>
<tr>
<td>Sedgwick county</td>
<td>55,533</td>
<td>736</td>
</tr>
<tr>
<td>Wyandotte county</td>
<td>20,008</td>
<td>289</td>
</tr>
<tr>
<td>Shawnee county</td>
<td>17,243</td>
<td>356</td>
</tr>
<tr>
<td>Douglas county</td>
<td>9,104</td>
<td>87</td>
</tr>
<tr>
<td>Reno county</td>
<td>8,426</td>
<td>139</td>
</tr>
<tr>
<td>Butler county</td>
<td>7,456</td>
<td>85</td>
</tr>
<tr>
<td>Leavenworth county</td>
<td>7,141</td>
<td>91</td>
</tr>
<tr>
<td>Riley county</td>
<td>6,370</td>
<td>42</td>
</tr>
<tr>
<td>Saline county</td>
<td>6,155</td>
<td>135</td>
</tr>
<tr>
<td>Finney county</td>
<td>6,032</td>
<td>72</td>
</tr>
<tr>
<td>Ford county</td>
<td>5,724</td>
<td>74</td>
</tr>
<tr>
<td>KS State</td>
<td>305,498</td>
<td>4,957</td>
</tr>
<tr>
<td>MO State</td>
<td>516,102</td>
<td>9,153</td>
</tr>
<tr>
<td>USA</td>
<td>32,107,149</td>
<td>575,072</td>
</tr>
<tr>
<td>Global</td>
<td>141,404,998</td>
<td>3,019,330</td>
</tr>
</tbody>
</table>

*KS counties with > 5000 cases, **TUKHS had a total of 2,880 hospital admissions

B. Vaccines, Face Masks and Physical distancing

- Vaccine breakthrough cases: On April 15th, 2021, the [CDC](#) said it had received 5,814 reports of vaccine breakthrough infections out of nearly 77 million people in the US who are [fully vaccinated](#), the CDC defined a breakthrough case as "A person who has SARS-CoV-2 RNA or antigen detected on a respiratory specimen collected ≥14 days after completing the primary series of a U.S. Food and Drug Administration (FDA)-authorized COVID-19 vaccine". Only 7% of the patients with breakthrough infections required
hospitalization, and 74 (1%) people died. In addition, 45% of the reported cases were among people ≥60 years of age, 65% were female, and 29% of the patients had asymptomatic infections. The CDC has developed a national COVID-19 vaccine breakthrough REDCap database where state health department investigators can currently enter, store, and manage data for cases in their jurisdiction.

- On April 13th, 2021, the CDC released a health alert that provided recommendations for clinicians, public health officials, and the public regarding the adverse events reported with the Johnson & Johnson (J&J) vaccine:

  1. For clinicians: the CDC advised clinicians to pause the use of the J&J vaccine until further review is done by the CDC and the Advisory Committee on Immunization Practices (ACIP), and to maintain a high level of suspicion to symptoms of thrombotic events in patients who recently received the J&J vaccine. The CDC also issued recommendations regarding the current management guidelines of such patients.
  2. For public health: the CDC encouraged the public health to report all serious adverse events and deaths following the administration of COVID-19 vaccines, and to disseminate this health alert to health care providers.
  3. For the public: the CDC advised the public to seek medical care if they develop symptoms such as severe headache, abdominal or leg pain or shortness of breath within three weeks of receiving the J&J vaccine. In addition, the CDC advised the public to contact their health care provider if they were scheduled to receive a J&J vaccine.

C. Tracking, Anticipating Spread and Hospitalizations

Projected local spread: As of April 19, 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. Detailed notes about graphs: Data accessed April 19, 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

- 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 19, 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.\(^1\) 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.\(^2\) 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.\(^3,4\) 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.\(^5\) WHO has developed recommendations for PPE use.\(^5\) 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>
<tbody>
<tr>
<td>Surgical or medical masks</td>
<td>- Droplet precautions- block large particles (&gt;5 μm)</td>
<td>- Widely available&lt;br&gt;- Does not require fit testing&lt;br&gt;- Cannot be re-used</td>
</tr>
<tr>
<td>N95 mask respirator</td>
<td>- Filter at least 95% of aerosols (&lt;5 μm) and droplet-size (&gt;5μm) particles</td>
<td>- Requires fit testing&lt;br&gt;- Can be used for an extended period and re-sterilized</td>
</tr>
</tbody>
</table>
| 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 | |