Week 19 Newsletter Prepared by:

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The number of COVID-19 confirmed cases, related deaths, and total tests reported for State and County

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Last Updated</th>
<th>COVID-19 cases in Texas</th>
<th>COVID-19 cases in Harris County</th>
<th>COVID-19 related deaths in Texas</th>
<th>COVID-19 related deaths in Harris County</th>
<th>Total tests performed a</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Texas DSHS a</td>
<td>Aug 3, 2020, 3:20 PM</td>
<td>442,014 (Active cases: 137,576)</td>
<td>76,642 (Active cases: 28,874)</td>
<td>7,015</td>
<td>1,318</td>
<td>3,834,586 Texas</td>
</tr>
<tr>
<td>2. Johns Hopkins b</td>
<td>Aug 3, 2020, 3:34 PM</td>
<td>448,145 (Active cases: 165,541)</td>
<td>76,639</td>
<td>6,878</td>
<td>N/A</td>
<td>3,747,779 Texas</td>
</tr>
</tbody>
</table>

a Texas DSHS daily case count now includes all cases reported publicly by local health departments around the state
b Data sources from WHO, CDC, ECDC, NHC, DXY, 1point3acres, Worldometers.info, BNO, state and national government health departments, and local media reports.

Data represents total viral tests performed (positive and negative) at private and public labs in Texas. N/A = not available

COVID-19 diagnoses per day in the greater Houston area

Source: County health authorities, Texas DSHS
In the News:

1. **Phase III COVACTA Trial (Published July 28th):**
   a. Randomized, double-blind, placebo-controlled trial investigating tocilizumab in hospitalized adult patients with severe COVID-19 associated pneumonia
   b. Did not meet primary endpoint of improved clinical status in patients with COVID-19 associated pneumonia or the key secondary endpoint of reduce patient mortality

Articles:

   https://jamanetwork.com/journals/jamapediatrics/fullarticle/2768952

**Background:**
- Data on children as primary transmission sources of SARS-CoV-2 in the community are lacking
- This information may help guide recommendations on school re-openings

**Methods:**
- **Population:** 145 patients seen in inpatient, outpatient, ER, and drive-through testing sites from March 23-April 27 in Chicago, IL
  - **Three age groups:** <5 yrs (N = 46), 5-17 yrs (N = 51), >18 yrs (N = 48)
  - **Excluded:** patients on supplemental oxygen, patient with unknown symptom duration, patients with symptoms >1 week, **asymptomatic** patients
- **Measurement:** Reverse-transcriptase-polymerase chain reaction conducted on nasopharyngeal specimens: PCR amplification cycle threshold (CT) values obtained
  - Lower CT = higher amounts of viral nucleic acid in sample

**Results:** Lower SARS-CoV-2 RT-PCR CT in children <5 yrs compared to children 5-17 yrs and adults >18 yrs:
Conclusions:
- Viral detection was similar between older children (>5 yrs) and adults
- Children <5 yrs had higher amounts of viral nucleic acid detected compared to adults
- Limitations:
  - This article did not study the impact of the increased viral loads in NP samples of young children on infectivity rates to household or non-household contacts.
  - Small sample size
  - Did not study viral loads among asymptomatic individuals

   https://www.cdc.gov/mmwr/volumes/69/wr/mm6931e1.htm

Background
- Limited data regarding SARS-CoV-2 transmission in children

Methods
- Camp A (Georgia):
  - Timeline:
    - June 17th-20th: orientation for 138 trainees and 120 staff members
    - June 21st-27th: 363 campers attended camp, 3 additional senior staff members
    - June 23rd: teenage staff member developed symptoms and left camp
    - June 24th: teenage staff member tested positive for SARS-CoV-2 by PCR
    - June 24th-27th: campers were sent home and the camp was closed
  - Prevention measures used: cloth masks for staff, cohorted cabins, documented PCR negative test < 12 days prior to arriving at camp
  - Prevention measures not used: cloth masks for campers, opening windows and doors for increased ventilation in buildings
  - Activities were indoor and outdoor, included daily singing and cheering

Results
- 597 Georgia residents attended camp
  - Camper: median age 12 years, 53% female
  - Staff: median age 17 years, 59% female
Test results through Georgia Department of Public Health were available for 344 (58%) of attendees
  - 260 (76%) tested positive

Overall attack rate: 44%
  - Attack rate increased with time spent at the camp, staff members having the highest attack rate 56%

136 cases had available symptom data: 26% no symptoms, those with symptoms commonly had fever (65%), headache (61%) and sore throat (46%)

Conclusions/Limitations:
  - SARS-CoV-2 can infect children and may be able to spread efficiently in children in overnight/close contact settings like camps
  - Limitations: only 58% of the data on attendees was available through DPH, unclear how many cases occurred prior to attending camp vs direct camp transmission making it still unknown if children can transmit efficiently to adults or to other children, unclear adherence to prevention measures by attendees


Background:
  - Obesity is a risk factor for pneumonia and acute respiratory distress syndrome.
  - Early reports suggest that diabetes, hypertension, and cardiovascular disease are associated with invasive mechanical ventilation and death in COVID-19. Whether comorbid conditions and age confound or modify the association between BMI and COVID-19 outcomes is unknown.
  - The authors determined whether obesity is associated with intubation or death, inflammation, cardiac injury, or fibrinolysis in COVID-19 patients.

Methods:
  - Retrospective Cohort study involving 2466 adults hospitalized with laboratory-confirmed severe acute respiratory syndrome coronavirus 2 infection over a 45-day period with at least 47 days of in-hospital observation in a quaternary academic medical center and community hospital in New York City.
  - Body mass index (BMI), admission biomarkers of inflammation (C-reactive protein [CRP] level and erythrocyte sedimentation rate [ESR]), cardiac injury (troponin level), and fibrinolysis (D-dimer level).
  - The primary end point was a composite of intubation or death in time-to-event analysis.

Results:
  - Over a median hospital length of stay of 7 days (interquartile range, 3 to 14) days, 533 patients (22%) were intubated, 627 (25%) died, and 59 (2%) remained hospitalized.
  - Compared with overweight patients, patients with obesity had higher risk for intubation or death, with the highest risk among those with class 3 obesity (hazard ratio, 1.6 [95% CI, 1.1 to 2.1]). This association was primarily observed among patients younger than 65 years and not in older patients (P for interaction by age = 0.042).
  - In stratified analyses, the association of BMI with intubation or death varied by age (P value for interaction, 0.042), but not by sex, diabetes, or hypertension.
  - Body mass index was not associated with admission levels of biomarkers of inflammation, cardiac injury, or fibrinolysis.
Conclusion:
- In a large multiethnic cohort study of adults hospitalized with COVID-19, obesity is associated with an increased risk for death or intubation independent of age, sex, race/ethnicity, and comorbid conditions.
- Obesity is associated with increased risk for intubation or death from COVID-19 in adults younger than 65 years, but not in adults aged 65 years or older.

Limitations: Admission BMI was either missing or implausible for 28% of the cohort; a short-term follow-up study; comorbid conditions were identified from the electronic medical record which may be incomplete because health care workers had to care for an overwhelming number of patients during the study period; some subgroup sizes in stratified analyses were small and may have limited the authors ability to detect other potentially clinically meaningful associations; study only included patients hospitalized with COVID-19.