COVID Epidemiology
Situation Update

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September 18, 2020
Summary

- Statewide case count (1281) is high compared to recent weeks. This number includes 466 cases reported before Sept 1, possibly from the state’s new inclusion of antigen testing, as well as back-corrected case removals. 955 cases were reported since Sept 1.
- The statewide 7-day trailing average has increased to 665. The epi curve continues to rise.
- Maricopa County made major adjustments to the epidemiological curve today, reporting 2226 case additions (1009 from Sept 14-16) and removing 1891, including 605 cases on July 30 alone.
- Percent positivity is significantly higher statewide today (15.9%), possibly related to back-reporting of positive antigen tests.
- Percent positivity in Maricopa County is 5%, indicating better testing volumes than statewide.
- ED utilization is stable at rates similar to mid-June.
- Hospital fatality rates continue to rise in the setting of stable inpatient hospital utilization (similar volumes to early April). Overall case fatality rates also continue to rise slowly.

<table>
<thead>
<tr>
<th>September 18, 2020</th>
<th>Statewide</th>
<th>Maricopa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reported Today</td>
<td>Cumulative</td>
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<tr>
<td>Cases</td>
<td>1,282</td>
<td>212,942</td>
</tr>
<tr>
<td>PCR Tests</td>
<td>8,038</td>
<td>1,358,154</td>
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<tr>
<td>% Positive</td>
<td>15.9%</td>
<td>16.9%</td>
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<tr>
<td>Hospitalizations</td>
<td>44</td>
<td>21,865</td>
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<tr>
<td>Deaths</td>
<td>42</td>
<td>5,451</td>
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</tbody>
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All data pulled from azdhs.gov. Numbers may not match Maricopa county data.
Antigen Testing in Arizona

- This week (9/17) ADHS announced that the state will begin including antigen testing in case counts. 577 antigen tests were added to the epidemiological curve on 9/17; ADHS reported that these were primarily from Pima County. ADHS stated there will be more additions in coming days.
- As the data become available, we will provide more detailed analysis of the impact of antigen testing on the epi curves for Arizona and Maricopa County.
- Currently, ADHS does not differentiate antigen testing from PCR testing in diagnostic case reporting. We are investigating whether we can access these differential data to provide a more complete picture.
- Antigen tests are rapid, point-of-care diagnostics. They are generally less sensitive than PCR testing (84.0%-97.6% compared to RT-PCR) with similar specificity to PCR testing, but return results much more quickly (i.e. 15-30 minutes).
- The first antigen tests received FDA emergency use authorization (EUA) in August. PCR is still considered the gold standard for COVID-19 diagnostic testing.
Case Addition Analysis
Maricopa County Analysis
Maricopa County Case Fatality and Hospitalization Rates

- \( P[\text{Hosp} | \text{Positive Confirmed}] \)
- \( P[\text{Death} | \text{Positive Confirmed}] \)
- \( P[\text{Death} | \text{Hosp}] \)

Percentages:
- \(22.5\%\)
- \(10.3\%\)
- \(2.3\%\)
Arizona Statewide Analysis
Epidemiology
Arizona Statewide Case Fatality and Hospitalization Rates

- **P[Hosp | Positive Confirmed]**
  - 15.0%
  - 10.3%
  - 2.6%

- **P[Death | Positive Confirmed]**
  - 5.0%

- **P[Death | Hosp]**
  - 24.9%
Hospital Usage
Where blue bars are below zero, COVID ED patients exceeded total reported ED bed usage