COVID-19 Prevention: Options to Enhance Use of Face Coverings

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Executive Director
Tri-County Health Department

Board of Health Meeting
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Overview

• Data summary
• Rationale for using face masks
• Considerations for TCHD Area
National Increases
COVID-19 Cases in Colorado, 7/7/20
COVID-19 Cases TCHD Area, 7/7/20

Positive COVID-19 Cases: 11,121
COVID-19 Deaths: 553

COVID-19 Cases by County:
- Adams: 4,478
- Arapahoe: 5,508
- Douglas: 1,135

Daily COVID-19 Cases by County
COVID-19 Hospitalizations TCHD Area, 7/7/20

Total Hospitalizations by County

- Adams: 603
- Arapahoe: 479
- Douglas: 54

Daily Hospitalizations by County

Average Age of Hospitalized Cases, by County

- Adams: 54
- Arapahoe: 59
- Douglas: 64

Percentage of Hospitalizations by Age, by County
COVID-19 Deaths TCHD Area, 7/7/20
COVID-19 Weekly Incidence Rates per 100,000 by County

Adams weekly IR 0.20 0.98 2.54 19.75 46.54 49.50 55.79 67.18 92.51 94.75 80.90 55.02 72.36 59.82 33.86 38.01 48.67 42.97
Arapahoe weekly IR 0.31 1.54 5.07 33.47 54.06 69.31 71.20 80.02 96.10 94.96 68.20 57.44 55.16 40.19 24.74 25.99 30.95 30.03
Douglas weekly IR 0.88 0.29 10.79 19.54 34.43 21.31 19.85 18.69 45.56 27.76 13.44 11.11 12.57 9.65 16.37 16.38 21.64 22.53
COVID-19 Cases Aurora, 7/7/20

Epi Curve of Daily Confirmed COVID-19 Cases (Aurora)
**This trend is updated daily. The number represented by the last data point may be incomplete**

Weekly Rate of Infection per 100K
(6/17 - 6/23) 36.16

Weekly Rate of Infection per 100K
(6/24 - 6/30) 41.52

Weekly Rate of Infection per 100K
(7/1 - 7/7) 39.37
COVID-19 New Case Rates, Denver Metro Area, 7/7/20
Incidences Rates TCHD Area: Cumulative and Two-Weekly

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<thead>
<tr>
<th></th>
<th>Adams Incidence</th>
<th>Arapahoe Incidence</th>
<th>Douglas Incidence</th>
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</thead>
<tbody>
<tr>
<td>Cumulative Incidence Rates</td>
<td>869.8</td>
<td>840.9</td>
<td>327.6</td>
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<thead>
<tr>
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<th>Adams 14-Day Incidence</th>
<th>Arapahoe 14-Day Incidence</th>
<th>Douglas 14-Day Incidence</th>
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<tbody>
<tr>
<td>14-Day Incidence Rates</td>
<td>92.02</td>
<td>58.03</td>
<td>43.29</td>
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<tr>
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<th>Adams 14-day No outbreak</th>
<th>Arapahoe 14-day No outbreak</th>
<th>Douglas 14-day No outbreak</th>
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</thead>
<tbody>
<tr>
<td>14-Day Incidence Rates</td>
<td>63.62</td>
<td>39.42</td>
<td>29.24</td>
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*Excluding Cases Related to Outbreaks*
COVID-19 Incidence Thresholds: CDPHE Orders

### Qualifications

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<th>Criteria</th>
<th>How It's Measured</th>
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<tr>
<td>Sufficient hospital bed capacity</td>
<td>Hospitals in the county or region (as defined by LPHA) have sufficient bed capacity to manage a 20% surge in hospital admissions or patient transfers (hospital affiliation of patient transfer agreements required. Please include affiliations in the Protect Our Neighbors form).</td>
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<tr>
<td>Sufficient PPE Supply</td>
<td>Local hospitals must have two weeks of PPE available based on current PPE use standards</td>
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<tr>
<td>Transmission (Criteria 3 &amp; 4)</td>
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- **Sufficient new cases / hospitalizations**
  - Stable or Declining COVID-19 hospitalizations in the county's referral hospitals (LPHA defines) in the last 14 days compared to previous 14 day period OR no more than two new hospital admissions of county residents with confirmed COVID-19 in any single day in the last 14 days.

- **Test & Trace (Criteria 5 & 6)**
  - County or region has the capacity to test (collect samples and test, surge testing, partnerships) 15 people per 10,000 residents per day.
  - LPHA is able to implement Colorado’s case investigation and contact tracing protocol for at least 95% of assigned cases within 24 hours.

### Status of viral spread: Low

**Thresholds**
- 25 or fewer new cases per 100,000 people in the past two weeks.
- The testing of stable or declining cases excluding cases associated with outbreaks in residential facilities.
- Sufficient hospital bed capacity.

**Variance capacity upper limits**
- May be approved (pending full application) consideration for up to 100% of the posted occupancy code with people spaced 6 feet apart, ensuring a minimum of 25 square feet per person, and not to exceed more than 175 people gathered in a confirmed indoor space at any given time.

### Status of viral spread: Medium

**Thresholds**
- 50 or fewer new cases per 100,000 people in the past two weeks.
- The testing of stable or declining cases excluding cases associated with outbreaks in residential facilities.
- Sufficient hospital bed capacity.

**Variance capacity upper limits**
- May be approved (pending full application) consideration for up to 100% of the posted occupancy code with people spaced 6 feet apart, ensuring a minimum of 25 square feet per person, and not to exceed more than 175 people gathered in a confirmed indoor space at any given time.

### Status of viral spread: High

**Thresholds**
- 50-100 new cases per 100,000 people in the past two weeks.
- The testing of stable or declining cases excluding cases associated with outbreaks in residential facilities.
- Sufficient hospital bed capacity.

**Variance capacity upper limits**
- May be approved (pending full application) consideration for up to 100% of the posted occupancy code with people spaced 6 feet apart, ensuring a minimum of 25 square feet per person, and not to exceed more than 175 people gathered in a confirmed indoor space at any given time.

- Outdoors: Must ensure a minimum of 25 square feet per person, with rigorous prevention measures in place, up to 125 people.

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Trends in COVID-19 Test Positivity, TCHD Area

COVID-19 Testing Resource (through 07/07 8pm)
in Adams, Arapahoe, and Douglas County
*Tests excludes IgA, IgG, and IgM

Total COVID-19 Tests Administered
- Adams: 5,485
- Arapahoe: 7,009
- Douglas: 3,192

COVID-19 Tests Administered in the Past Two Weeks (14 Days)

- Adams:
  - Total Tests: 9,4806
  - Positive Tests: 9,558
  - Total % Positive: 10.1%

- Arapahoe:
  - Total Tests: 44,638
  - Positive Tests: 4,893
  - Total % Positive: 11.0%

- Douglas:
  - Total Tests: 16,160
  - Positive Tests: 853
  - Total % Positive: 5.3%

3-Day Rolling Average of % of Positive Tests

Past 7 days: Testing data may be incomplete due to testing delays.
Summary of Recent COVID-19 Trends in TCHD Area

• Incidence rates rising slowly in all 3 counties, similar to CO
  • Adams/Aurora > Arapahoe> Douglas

• Younger ages, relatively low test positivity, no increase in hospitalization and deaths so far

• Implications
  • Could impact capacities related to Variances and eligibility for Protect Our Neighbor
  • Rising rates could also impact school re-opening
  • Higher rates reduce plausibility of control by contact tracing
Rationale for Face Mask Public Health Order

• New infections continue to trend upward, particularly in Adams County and Aurora.
  • Although some due to increased testing, incidence rate and test positivity rates high enough that increased transmission is almost certainly playing a role.
  • Rates also rising to a lesser extent in Arapahoe and Douglas.
• Compliance with use of face coverings has not been increasing over the past several weeks despite educational messaging, actually declining in Adams County
• Growing evidence documenting the benefit of wearing masks, now widely recommended as one of the key prevention steps in the absence of a vaccine.
  • Recent policy analysis found mask mandates associated with declining cases of COVID.
• More jurisdictions mandating mask wearing (21 states as of July 2) as U.S. cases have dramatically increased
  • 300,000+ in the US in past week, potential for 100,000 cases/day per Senate testimony by Dr Fauci
  • More than the number that China has experienced in total since the start of the epidemic
• Strong reason to believe that increased compliance with masks can support re-opening of the economy
  • Capacity limits of businesses that are open and the opportunity to open additional businesses tied to transmission rates for both the CDPHE Variance process and new Protect Our Neighbor process,
  • Goldman Sachs analysis: masking mandates could increase national GDP 5% increase
Monitoring Use of Face Masks TCHD Area

Snapshot of Percentage of People Wearing Mask, Adams County

Snapshot of Percentage of People Wearing Mask, Arapahoe County

Snapshot of Percentage of People Wearing Mask, Douglas County
Impact of State Face Mask Mandates on COVID-19

Community Use Of Face Masks And COVID-19: Evidence From A Natural Experiment Of State Mandates In The US

ABSTRACT: State policies mandating public or community use of face masks or covers in mitigating novel coronavirus disease (COVID-19) spread are hotly contested. This study provides evidence from a natural experiment on effects of state government mandates in the US for face mask use in public issued by 15 states plus DC between April 8 and May 15. The research design is an event study examining changes in the daily county-level COVID-19 growth rates between March 31, 2020 and May 22, 2020. Mandating face mask use in public is associated with a decline in the daily COVID-19 growth rate by 0.5, 1.1, 1.4, 1.7, and 2.0 percentage points in 1–5, 6–10, 11–15, 16–20, and 21+ days after signing, respectively. Estimates suggest as many as 230,000–450,000 COVID-19 cases possibly averted by May 22, 2020 by these mandates. The findings suggest that requiring face mask use in public might help in mitigating COVID-19 spread. [Editor’s Note: This Fast Track Ahead Of Print article is the accepted version of the peer-reviewed manuscript. The final edited version will appear in an upcoming issue of Health Affairs.]
Impact of Face Mask Mandates

Goldman Sachs has done the math and a national mask mandate to halt the spread of coronavirus would have a big impact on the U.S. economy. Mask wearing could save the domestic economy from a 5% hit to GDP, Goldman says.

Exhibit 5: Mask Mandates Are Associated with Large Declines in COVID-19 Case and Fatality Growth

Impact of States Mandating Mask Use in Public on Daily County-Level Growth Rate of COVID-19 Confirmed Cases

Impact of State Mandating Mask Use in Public on Daily County-Level Growth Rate of COVID-19 Fatalities

Source: YuCh, Goldman Sachs Global Investment Research
Goldman-Sachs: Impact of Mask Mandate on GDP

- Estimated impact of national face mask mandate: reduced daily COVID growth rate by 1.0 pp
- Similar reduction would require 16pp increase in Effective Lockdown Index (ELI)
- Cross-country panel analysis indicates 16 pp ELI results in 5% reduced GDP
- Even in absence of national mandate, state and local efforts to broaden mandates could partially mimic impact of a national mandate.
- Either way, analysis suggests economy could benefit significantly from such moves, especially when compared with the alternative of a return to broader lockdowns.
Face Masks: Where Does Colorado Stand?

Exhibit 3: The Share “Always” Wearing a Face Mask in Public Ranges from Around 40% in Minnesota and Arizona to 80% in Massachusetts

Source: YouGov, Goldman Sachs Global Investment Research
Mask Mandates in Effect—Colorado

**Counties:**
- Boulder County
- Clear Creek County
- Denver County
- Eagle County
- Larimer County
- Routt County
- Summit County

**Cities:**
- Aspen
- Fort Collins
- Glenwood Springs
- Northglenn
- Superior
- Westminster

**Other:**
- Denver International Airport
- Colorado Springs Airport
Considerations for TCHD Area: Possible Motion

• Move to direct and authorize the Executive Director of TCHD to issue a public health order for face coverings for one or more of the following:
  • Adams County and the City of Aurora: mandated
  • Arapahoe County: Opt-out or Opt-in by interested jurisdictions
  • Douglas County: Opt-in by interested jurisdictions
Pending Issues to be Finalized

- Initiation of order
  - As soon as order completed?
- Duration of order
  - Likely no defined ends date?
- Ages covered
  - Reviewing other examples (eg, Denver > 3, Boulder > 12, TC area--possibly 5+)
- Enforcement
  - Primarily education
  - Modest fine
  - Role of businesses?
  - Role of law enforcement?
Questions/Discussion