Results of
the Third Observational Surveys of Mask Use
in Indoor Public Areas
in Jefferson County, KY,
during January 25–31, 2021

February 8, 2021
Key Takeaways

• The Mask-wearing rate has decreased in the county.

• Correct use of masks has increased in the county.

• The rate of the unmasked (among both visitors and staff) has significantly increased in the South & South West district.

• Incorrect mask-wearing has remained prevalent among visitors and staff of public areas located in western districts.

• Not using a facial mask has become more prevalent in smaller than 5000 square feet public areas.

• The majority of the unmasked are males.
Summary of Results

- 254 indoor public areas were observed in the third wave of the observational survey of mask use in Jefferson County, Kentucky.
- Public areas were stratified by county district (7), retail trade type (4), and size (2).

Unmasked Visitors

6% of Jefferson County public areas visitors did not wear a mask, a 2% increase from December 2020.

- By District:
  The highest rate of the unmasked among public areas visitors was observed in the South & South West district, 17%; it was 8% or less in other districts.
  In December 2020, the highest rate of the unmasked among public areas visitors was observed in the same district, 8%; it was 6% or less in other districts.

- By Retail Trade Type:
  Visitor unmasked rate was
  - 10% in furniture, equipment, building material, garden supply stores
  - 7% in general merchandise stores and apparel and accessory stores
  - 6% in food and grocery stores
  - 3% in miscellaneous retail stores
  In December 2020, the observed rate of unmasked visitors was 2% in furniture, equipment, building material, garden supply stores.

- By Public Area Size:
  The unmasked rate was 15% in medium-size (2,500–5,000 sq ft) public areas, 3% in large (5,000-plus sq ft) public areas.
  In comparison to December 2020, the unmasked rate in large public areas did not change but significantly increased in medium-size areas (from 3% to 15%).
• *Incorrectly Masked Visitors*

10% of Jefferson County public areas visitors wore a facial mask incorrectly (i.e., either mouth or nose was not covered), a 4% decrease from December 2020.

  o **By District:**
  The highest rates of the incorrectly masked among visitors were observed in western districts:
  - 20% in North West
  - 15% in West Center
  - 12% in South & South West
  
  The same districts had the highest rate of incorrect mask-wearing in December 2020 as well:
  - 20% in North West
  - 17% in West Center
  - 19% in South & South West

  o **By Retail Trade Type:**
  The highest rate of the incorrectly masked among visitors was observed in food and grocery stores, 13%.

  In December 2020, the rate was 18% in food and grocery stores.

  o **By Public Area Size:**
  The incorrectly masked rate was 9% in medium-size (2,500–5,000 sq ft) public areas, 11% in large (5,000-plus sq ft) public areas.
  
  Compared to December 2020, the rate of incorrect mask-wearing in both medium-size and large public areas decreased.
**Unmasked Staff**

9% of Jefferson County public areas staff did not wear a mask, a 1% increase from December 2020.

- **By District:**
  The highest rates of the unmasked among staff were observed in the following districts:
  - 20% in South & South West
  - 16% in West Center
  - 16% in Central

  In December 2020, the no-mask rate in these districts was:
  - 6% in South & South West
  - 11% in West Center
  - 8% in Central

  No unmasked staff was observed in the North Center district.

- **By Retail Trade Type:**
  Staff unmasked rate was
  - 13% in food and grocery stores
  - 8% in furniture, equipment, building material, garden supply stores
  - 8% in miscellaneous retail stores
  - 6% in general merchandise stores and apparel and accessory stores

  In December 2020, the observed rate of unmasked staff was 7% in food and grocery stores.

- **By Public Area Size:**
  The unmasked rate was 21% in medium-size (2,500–5,000 sq ft) public areas, 2% in large (5,000-plus sq ft) public areas.

  In December 2020, the unmasked rate in large public areas was 1% but 13% in medium-size areas.
• **Incorrectly Masked Staff**

11% of Jefferson County public areas staff wore a facial mask incorrectly, a 2% decrease from December 2020.

- **By District:**
  The highest rate of the incorrectly masked among staff was observed in the following districts:
  - 25% in North West
  - 19% in West Center
  - 19% in Central

In December 2020, the rates in the above districts were:
  - 12% in North West
  - 20% in West Center
  - 9% in Central

No incorrectly masked staff was observed in the North Center district.

- **By Retail Trade Type:**
  The highest rate of incorrectly masked staff was observed in food and grocery stores, 16%. The rate in food and grocery stores was 16% in December 2020 as well.

- **By Public Area Size:**
  The incorrectly masked rate was 13% in medium-size (2,500–5,000 sq ft) public areas, 10% in large (5,000-plus sq ft) public areas.

  In December 2020, the incorrectly masked rate in medium-size and large public areas was almost the same (14% and 10%).
Figure 1: Constructed city districts in Jefferson County, Kentucky
Figure 2: Number of Observed Indoor Public Areas by District
Figure 3: Number of Observed Indoor Public Areas by Retail Group

- Home Furniture, Furnishing, Building Materials, Hardware: 72
- General Merchandise Stores, Apparel and Accessory Stores: 70
- Food and Grocery Stores: 44
- Miscellaneous Retail Stores: 68
Figure 4: Number of Observed Indoor Public Areas by Size

- Large (5000+ sq ft)
- Medium Large (2500–5000 sq ft)
**Figure 5:** The Average Rate of the Unmasked and Incorrectly Masked among Visitors and Staff of Jefferson County Public Areas by District, Jan. 25–31, 2021

**Visitors**

<table>
<thead>
<tr>
<th>District</th>
<th>% of Unmasked (Visitors)</th>
<th>% of Incorrectly Masked (Visitors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Districts</td>
<td>6%</td>
<td>10%</td>
</tr>
<tr>
<td>South &amp; South West</td>
<td>12%</td>
<td>17%</td>
</tr>
<tr>
<td>West Center</td>
<td>3%</td>
<td>15%</td>
</tr>
<tr>
<td>North West</td>
<td>20%</td>
<td>7%</td>
</tr>
<tr>
<td>North Center</td>
<td>1%</td>
<td>7%</td>
</tr>
<tr>
<td>Central</td>
<td>8%</td>
<td>11%</td>
</tr>
<tr>
<td>South East</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>East &amp; North East</td>
<td>4%</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Staff**

<table>
<thead>
<tr>
<th>District</th>
<th>% of Unmasked (Staff)</th>
<th>% of Incorrectly Masked (Staff)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Districts</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>South &amp; South West</td>
<td>8%</td>
<td>20%</td>
</tr>
<tr>
<td>West Center</td>
<td>10%</td>
<td>19%</td>
</tr>
<tr>
<td>North West</td>
<td>25%</td>
<td>16%</td>
</tr>
<tr>
<td>North Center</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Central</td>
<td>16%</td>
<td>19%</td>
</tr>
<tr>
<td>South East</td>
<td>1%</td>
<td>9%</td>
</tr>
<tr>
<td>East &amp; North East</td>
<td>2%</td>
<td>4%</td>
</tr>
</tbody>
</table>
Figure 6: The Average Rate of the Unmasked and Incorrectly Masked among Visitors and Staff of Jefferson County Public Areas by Retail Group, Jan. 25–31, 2021

**Visitors**

<table>
<thead>
<tr>
<th>Retail Group</th>
<th>% of Unmasked (Visitors)</th>
<th>% of Incorrectly Masked (Visitors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>6%</td>
<td>10%</td>
</tr>
<tr>
<td>Furniture, Equipment, or Home Improvement Stores</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>General Merchandise Apparel Stores</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Food and Grocery Stores</td>
<td>6%</td>
<td>13%</td>
</tr>
<tr>
<td>Miscellaneous Retail Stores</td>
<td>3%</td>
<td>7%</td>
</tr>
</tbody>
</table>

**Staff**

<table>
<thead>
<tr>
<th>Retail Group</th>
<th>% of Unmasked (Staff)</th>
<th>% of Incorrectly Masked (Staff)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>Furniture, Equipment, or Home Improvement Stores</td>
<td>8%</td>
<td>4%</td>
</tr>
<tr>
<td>General Merchandise Apparel Stores</td>
<td>6%</td>
<td>13%</td>
</tr>
<tr>
<td>Food and Grocery Stores</td>
<td>16%</td>
<td>10%</td>
</tr>
<tr>
<td>Miscellaneous Retail Stores</td>
<td>13%</td>
<td>10%</td>
</tr>
</tbody>
</table>
Figure 7: The Average Rate of the Unmasked and Incorrectly Masked among Visitors and Staff of Jefferson County Public Areas by Size, Jan. 25–31, 2021

Visitors

<table>
<thead>
<tr>
<th>Size</th>
<th>% of Unmasked (Visitors)</th>
<th>% of Incorrectly Masked (Visitors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>Large</td>
<td>11%</td>
<td>3%</td>
</tr>
<tr>
<td>Medium Large</td>
<td>15%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Staff

<table>
<thead>
<tr>
<th>Size</th>
<th>% of Unmasked (Staff)</th>
<th>% of Incorrectly Masked (Staff)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>9%</td>
<td>2%</td>
</tr>
<tr>
<td>Large</td>
<td>10%</td>
<td>2%</td>
</tr>
<tr>
<td>Medium Large</td>
<td>21%</td>
<td>13%</td>
</tr>
</tbody>
</table>
**Figure 8:** The Percentage of Males among the Unmasked and Incorrectly Masked, Jan. 25–31, 2021

![Bar chart showing percentage of males among different groups]

**Figure 9:** The Age Distribution of the Unmasked and Incorrectly Masked, Jan. 25–31, 2021

![Bar chart showing age distribution among different groups]
The Research Team

Project Manager:  
Seyed M. Karimi<sup>ab</sup>

Scientific Committee:  
YuTing Chen<sup>b</sup>, Natalie C. DuPre<sup>a</sup>, Bert B. Little<sup>a</sup>, Seyed M. Karimi<sup>ab</sup>, W. Paul McKinney<sup>a</sup>, Riten Mitra<sup>a</sup>, Shaminul H. Shakib<sup>a</sup>, Sonali S. Salunkhe<sup>a</sup>, Kelsey B. White<sup>a</sup>

Organization Committee:  
Rebecca Hollenbach<sup>b</sup>, David A. Johnson<sup>a</sup>, Seyed M. Karimi<sup>ab</sup>, Sarah Moyer<sup>b</sup>, Sonali S. Salunkhe<sup>a</sup>, Kelsey B. White<sup>a</sup>

Surveyors:  
Emily R. Adkins<sup>a</sup>, Ahmed A. Alobaydullah<sup>a</sup>, Julia A. Barclay<sup>a</sup>, Emmanuel Ezekewu<sup>a</sup>, Dylan M. Hurst<sup>a</sup>, Aravind R. Kothagadi<sup>a</sup>, Martha M. Popescu<sup>a</sup>, Sonali S. Salunkhe<sup>a</sup>, Devin N Swinney<sup>a</sup>, Kelsey B. White<sup>a</sup>

<sup>a</sup> University of Louisville  
<sup>b</sup> Louisville Metro Department of Public Health and Wellness (LMPHW)