State of Missouri COVID-19 Response
Region I Deep-Dive

June 16, 2021
1. Introduction & Executive Summary

2. Statewide Analysis Highlights

3. Region I Analysis
Throughout Today’s Discussion...

1. **Please ask questions** and **make comments** – live or in the chat box – throughout the presentation... We hope this is a conversation!

2. **Keep the following in mind:**

   - Is this information in line with **what you are seeing/hearing** within the region and/or across the State?
   - What are potential **use cases** of this information (e.g., resource allocation)?
   - How could this information be **more helpful** (e.g., more granular, complemented with other data sources or qualitative information)?
HealthPrism is a predictive population health analytics platform that uses millions of drivers of health (DoH) data points and hundreds of predictive risk models.
Executive Summary | Key Insights

STATEWIDE ANALYSIS

- Across all ages, total vaccine initiation largely remained consistent week over week
- Regions B and H – with counties experiencing case rate spikes – increased their percent vaccinated with at least 1 dose by 0.4% and 0.3% respectively, in line with State averages
- A wave of vaccination hotspots occurred between the Linn-Livingston County outbreak, the Kansas City metro region, and in other vulnerable and under-vaccinated regions across the State (e.g. Bootheel, Joplin, Springfield)
- There is a stark difference in vaccination between 12–17 year-olds in more populated urban counties in comparison to other counties – in the 8 counties where there are an estimated >100k 12-17 year olds, vaccination is 24.8% – in the remaining 106 counties the vaccination rate is 7.5%
- 12-17 initiations as a share of total initiations remained steady week over week at ~25%

REGION I ANALYSIS

- Region I has the 2nd lowest percent of its 18+ population vaccinated at 30.5%, in comparison to the other regions
- Although no CT in Region I falls within the State’s highest rank of COVID-19 vulnerability, the Lebanon area demonstrates higher levels of COVID-19 vulnerability and unvaccinated populations relative to surrounding areas
- Public health offerings are highly concentrated in select towns due to the low population density

Note: Data on vaccinated individuals are based on 1st round Moderna & Pfizer vaccinations and J&J vaccinations, based on the residence of the individual vaccinated, and as of 05/25/2021. Unless otherwise stated, vaccination metrics are based on 18+ populations. Full data set provided in corresponding Excel file.
Statewide Analysis

Region & County Level
This table provides vaccination progress metrics at the regional level to understand how the share of vaccinations varies across the State.

<table>
<thead>
<tr>
<th>REGION</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>Statewide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VACCINATION GAP (#)</strong></td>
<td>659k</td>
<td>95k</td>
<td>1,002k</td>
<td>449k</td>
<td>159k</td>
<td>199k</td>
<td>70k</td>
<td>108k</td>
<td>93k</td>
<td>2,833k</td>
</tr>
<tr>
<td><strong>% UNVACCINATED WITHIN REGION</strong></td>
<td>56.8%</td>
<td>64.5%</td>
<td>50.9%</td>
<td>62.1%</td>
<td>63.5%</td>
<td>51.0%</td>
<td>70.2%</td>
<td>58.0%</td>
<td>69.5%</td>
<td>56.0%</td>
</tr>
<tr>
<td><strong>SHARE OF ELIGIBLE STATEWIDE POPULATION</strong></td>
<td>22.9%</td>
<td>2.9%</td>
<td>38.9%</td>
<td>14.3%</td>
<td>4.9%</td>
<td>7.7%</td>
<td>1.9%</td>
<td>3.7%</td>
<td>2.6%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>SHARE OF STATEWIDE VACCINATIONS</strong></td>
<td>22.5%</td>
<td>2.4%</td>
<td>43.5%</td>
<td>12.3%</td>
<td>4.1%</td>
<td>8.6%</td>
<td>1.3%</td>
<td>3.5%</td>
<td>1.8%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>SHARE OF STATEWIDE REMAINING UNVACCINATED</strong></td>
<td>23.3%</td>
<td>3.3%</td>
<td>35.4%</td>
<td>15.9%</td>
<td>5.6%</td>
<td>7.0%</td>
<td>2.5%</td>
<td>3.8%</td>
<td>3.3%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Note:* Data on vaccinated individuals are based on 1st round Moderna, Pfizer, and J&J vaccinations, based on the residence of the individual (18+) vaccinated, and as of 06/08/21. Cells outlined in green indicate a greater than 1 percentage point discrepancy between share of eligible statewide population and share of statewide vaccinations. Statewide percent unvaccinated discrepancies between county and Census Tract level data being investigated.
Regional Vaccination Rates Over Time

This visualization displays the weekly change in percent vaccinated in each region over the last 10 weeks for the over 18 population.

18+ Additional Percent of Population Vaccinated by Region (SMV Week 14 to Week 23)

**KEY OBSERVATIONS**

- All regions experienced a **decrease in vaccinations week over week** – apart from Region F (which remained flat).
- Both Dose 2 and Dose 1 vaccinations fell approximately **7k week over week**.
- Despite this decrease, 5 counties administered >1,000 dose 1 vaccines while 33 counties administered >100 dose 1 vaccines.
- Demand continued to fall in the urban areas with St. Louis County (-1,243), Jackson County (-1,240), and St. Charles (-662) experiencing the **largest numeric decreases**.

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**Note:** All weeks are calendar weeks, defined by ShowMeVax (SMV), where Week 23 is 5/30 – 6/5. Data on vaccinated individuals are based on 1st round Moderna, Pfizer, and J&J vaccinations, based on the residence of the individual (18+) vaccinated, and as of 06/08/21. Negative vaccination changes were set to zero due to identified data quality issue that is being investigated.

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For internal use only by State of Missouri. Output based on available data.
Missouri counties were ranked by vaccination gap (how many residents are unvaccinated and estimated to be eligible) and percent unvaccinated (estimate of eligible residents that have not been vaccinated) for the over 18 population.

**TOP 5 COUNTIES BY VACCINATION GAP (#)**

1. St. Louis: 435,200 ▲ -5.5k
2. Jackson: 321,100 ▲ -3.7k
3. St. Charles: 172,400 ▲ -2.2k
4. St. Louis City: 154,900 ▲ -2.0k
5. Jefferson: 129,800 ▲ -1.0k

**TOP 5 COUNTIES BY UNVACCINATED (%)**

1. Pulaski*: 79.7% ▲ -0.4%
2. Newton: 79.6% ▲ -0.4%
3. McDonald: 78.9% ▲ -0.4%
4. Reynolds: 76.5% ▲ -0.4%
5. Clark: 75.6% ▲ -0.2%

*Pulaski has the highest percent unvaccinated, likely due to the large military presence and missing federal vaccination data.

**Note:** Data on vaccinated individuals are based on 1st round Moderna, Pfizer, and J&J vaccinations, based on the residence of the individual (18+) vaccinated, and as of 06/08/21. Magnitude of change is a numerical difference between the 2 weeks for vaccination gap and a percentage point difference for percent unvaccinated. Blue indicates a county new to the list in comparison to last week. ▲ indicates no change in rank since last week. ▲ △ ▽ indicates increase and decrease in rank since last week, respectively. Statewide percent unvaccinated discrepancies between county and Census Tract level data being investigated.
Region I

Census Tract Level
Region I | 18+ Vaccination Gap

Darker shades indicate Census Tracts with larger vaccination gaps – vaccination gap is defined as total Missouri 18+ population from HealthPrism™ minus vaccinated individuals from ShowMeVax

Vaccination Gap: Region I

The Census Tract with the largest vaccination gap is also one of the region’s most populous tracts

Note: Data on vaccinated individuals are based on 1st round Moderna & Pfizer vaccinations and J&J vaccinations, based on the residence of the individual vaccinated, and as of 06/08/2021. Unless otherwise stated, vaccination metrics are based on 18+ populations.
Darker shades indicate Census Tracts with a larger percent unvaccinated - defined as total Missouri 18+ population from HealthPrism™, minus vaccinated individuals from ShowMeVax, divided by total Missouri adult population from HealthPrism™.

% Unvaccinated: Region I

Unvaccinated Quintiles (%): 38 CTS
- 0% - 45.42%: 2 CTS
- 45.43% - 55.30%: 4 CTS
- 55.31% - 61.58%: 3 CTS
- 61.59% - 67.67%: 3 CTS
- 67.68% - 93.83%: 26 CTS

The top 6 Census Tracts by percent unvaccinated are in Pulaski County.

Note: Data on vaccinated individuals are based on 1st round Moderna & Pfizer vaccinations and J&J vaccinations, based on the residence of the individual vaccinated, and as of 06/08/2021. Unless otherwise stated, vaccination metrics are based on 18+ populations.
The St. Robert region just outside Ft. Leonard Wood has served as the *de facto* hub for Region I vaccination efforts.

The towns of Lebanon and Rolla have hosted multiple vaccination events that the immediately adjacent Census Tracts are within State average of vaccination uptake.
Region I is vulnerable to COVID-19, primarily due to a large percentage of the population that remains unvaccinated.

**FACTORS CONTRIBUTING TO VULNERABILITY**
- COVID-19 Case Burden
- Living below 138% of the Federal Poverty Level
- 1 or more medical comorbidity
- Minority populations
- Percent Unvaccinated

**KEY OBSERVATIONS**
- Overall, Region I does not meet the criteria for high vulnerability based on the COVID-19 Vulnerability Index – no Census Tracts fall within the most vulnerable percentile.
- The Top 10 most vulnerable Census Tracts in Region I all portray a different type of vulnerability.

Note: Statewide average is taken across all census tracts in Missouri. Data on vaccinated individuals are based on 1st round Moderna & Pfizer vaccinations and J&J vaccinations, based on the residence of the individual vaccinated, and as of 06/01/2021. COVID-19 case burden as of 06/04/2021.

For internal use only by State of Missouri. Output based on available data.
Region I | Top 10 COVID-19 Vulnerable Census Tracts

Below are the top 10 Census Tracts in Region I with the highest COVID-19 vulnerable population scores

<table>
<thead>
<tr>
<th>Vulnerability Index Rank</th>
<th>Census Tract</th>
<th>County</th>
<th>18+ Population</th>
<th>Variables Included in the CVI</th>
<th>Additional Demographic Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>18+ Unvaccinated as of 6/2/21 (%)</td>
<td>Cumulative COVID-19 Case Burden as of 6/4/21 (# per 100k)</td>
</tr>
<tr>
<td>Statewide Census Tract Average</td>
<td></td>
<td></td>
<td></td>
<td>55.83%</td>
<td>8,361</td>
</tr>
<tr>
<td>Region I Census Tract Average</td>
<td></td>
<td></td>
<td></td>
<td>69.57%</td>
<td>7,344</td>
</tr>
<tr>
<td>1</td>
<td>29169470390</td>
<td>Pulaski</td>
<td>883</td>
<td>93.32%</td>
<td>589</td>
</tr>
<tr>
<td>2</td>
<td>29169470389</td>
<td>Pulaski</td>
<td>1,540</td>
<td>94.29%</td>
<td>6,301</td>
</tr>
<tr>
<td>3</td>
<td>29055450302</td>
<td>Crawford</td>
<td>3,778</td>
<td>71.33%</td>
<td>15,085</td>
</tr>
<tr>
<td>4</td>
<td>29065960400</td>
<td>Dent</td>
<td>2,443</td>
<td>77.86%</td>
<td>3,816</td>
</tr>
<tr>
<td>5</td>
<td>29055450400</td>
<td>Crawford</td>
<td>3,570</td>
<td>67.39%</td>
<td>11,938</td>
</tr>
<tr>
<td>6</td>
<td>29105960500</td>
<td>Laclede</td>
<td>4,778</td>
<td>68.90%</td>
<td>24,374</td>
</tr>
<tr>
<td>7</td>
<td>29169470287</td>
<td>Pulaski</td>
<td>6,153</td>
<td>86.62%</td>
<td>1,589</td>
</tr>
<tr>
<td>8</td>
<td>29105960600</td>
<td>Laclede</td>
<td>3,625</td>
<td>77.99%</td>
<td>4,192</td>
</tr>
<tr>
<td>9</td>
<td>29161890800</td>
<td>Phelps</td>
<td>2,705</td>
<td>69.46%</td>
<td>7,452</td>
</tr>
<tr>
<td>10</td>
<td>29065960300</td>
<td>Dent</td>
<td>1,760</td>
<td>60.57%</td>
<td>6,320</td>
</tr>
</tbody>
</table>

**Note:** Statewide average is taken across all census tracts in Missouri. Data on vaccinated individuals are based on 1st round Moderna & Pfizer vaccinations and J&J vaccinations, based on the residence of the individual vaccinated, and as of 06/02/2021. COVID-19 case burden as of 06/04/2021. Cells outlined in **green** indicate areas with characteristics particularly above or below state averages.
The Lebanon Focal Area of Region I demonstrates higher levels of COVID-19 vulnerability and % unvaccinated population.

**KEY OBSERVATIONS**

- Lack of population density has led to the aggregation of public health offerings to specific regional towns in this portion of Region I
  - Distribution of public school infrastructure is equally concentrated within their service regions
HealthPrism™ can identify the **demographic characteristics** of all Census Tracts in Missouri, providing the opportunity to create strategies tailored to specific populations.

**Region I | Priority Census Tract Characteristics**

HealthPrism™ can identify the **demographic characteristics** of all Census Tracts in Missouri, providing the opportunity to create strategies tailored to specific populations.

**CENSUS TRACT 9605**

**LACLEDE COUNTY**

**Total 18+ Population:**

4,778

**18+ Vaccination Gap:**

3,292

**18+ Percent Unvaccinated:**

68.9%

**How we identified this Census Tract:**

Methodology of Census Tract identification can be adjusted based on client needs

- Within Region I
- 70th percentile for CVI (including 18+ % unvaccinated)
- 80th percentile for 18+ vaccination gap

**Demographic Characteristics:**

- Limited public transport options
- 23% of adults have a disability
- 21% living below 138% FPL
- Majority (94%) White
- 23% have no broadband access
- 14% of households are multigenerational

**Note:** Data on vaccinated individuals are based on 1st round Moderna & Pfizer vaccinations and J&J vaccinations, based on the residence of the individual vaccinated, and as of 06/08/2021. Unless otherwise stated, vaccination metrics are based on 18+ populations.
Appendix
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- Content is meant to supplement knowledge and resources already available to you.
- Content may be used to complement local efforts already taking place in your State and to assist with providing a level of granularity and frequency of updates that are not available in public datasets.
- Information presented is illustrative of a sample of analyses and capabilities that may be available to you to support COVID-19 response and recovery efforts in Missouri.
- Insight(s) represent content generated as of a specific date – content and insights are subject to change given updated data.
- Content is populated by proprietary and publicly available sources, both of which are non-static and continuously updating.
- For privacy purposes, Personally Identifiable Information (PII) such as names, addresses, precise location of households are not shared in this report.