HealthPrism™

State of Missouri COVID-19 Response Region A (Kansas City) Deep-Dive

May 25, 2021
Agenda

1. Introduction & Executive Summary
2. Statewide Analysis
3. Region A (Kansas City) Analysis
Our Proprietary Data Provides Unique and Compelling Insights

HealthPrism™ is a predictive population health analytics platform that uses millions of social determinants of health (SDoH) data points and hundreds of predictive risk models.

**Data**
- 230M+ U.S. Adults
- 50 States with data down to household-level
- 1,700+ SDoH Variables

Data is refreshed every month

7+ years of history

Reporting options from households to census blocks to States

**Models**
- 20+ Disease State Models
- 150+ Advanced predictive algorithms
- 100+ Behavioral Personas

Sample HealthPrism™ predictive models:
- COVID-19
- Opioid Use Disorder
- Unemployment
- Behavioral Nudging
- Housing & Food Insecurity
- Obesity/BMI/Diabetes
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?
   - 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)?
Executive Summary | Key Insights

STATEWIDE UPTAKE
- Consistent with week-over-week trends, ~43k individuals initiated vaccination – 3k fewer than last week
- The slowing of vaccine initiations in recent weeks is manifesting in lower dose 2 administrations, which decreased from 112k in Week 19 to 70k in Week 20

REGIONAL & COUNTY TRENDS
- 78 of the top 100 counties by percent unvaccinated are rural, compared to 52 of the top 100 counties by raw vaccination gap
- Regions C, A, and D continue to have the largest vaccination gaps due to large urban centers
- Region A experienced the second largest percentage point increase in percent vaccinated population (0.7)
- Region I is now the only region across the State with less than 30% of its 18+ population vaccinated

REGION A ANALYSIS
- Vulnerable Census Tracts within Region A’s I-435 corridor are consistently within vaccine uptake and vaccine network deserts
- Resources for COVID-19 vaccination and community outreach remain limited in the Region A Focal Area

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 05/18/2021. Methodology, data sources, and limitations are available in the Appendix. Full data set provided in corresponding Excel file.

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Statewide Analysis

Region & County Level
## Regional Overview

**Vaccination Gap (#)**

<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></td>
<td>682K</td>
<td>97K</td>
<td>1,114K</td>
<td>466K</td>
<td>160K</td>
<td>204K</td>
<td>68K</td>
<td>125K</td>
<td>94K</td>
<td>3,011K</td>
</tr>
</tbody>
</table>

| % Unvaccinated Within Region | 59.66% | 66.65% | 56.57% | 64.8% | 65.0% | 52.88% | 71.8% | 68.62% | 71.21% | 59.98% |

| Share of Eligible Statewide Population | 22.8% | 2.9% | 39.2% | 14.3% | 4.9% | 7.7% | 1.9% | 3.6% | 2.6% | 100% |

| Share of Statewide Vaccinations | 23.0% | 2.4% | 42.6% | 12.6% | 4.3% | 9.1% | 1.3% | 2.9% | 1.9% | 100% |

| Share of Statewide Remaining Unvaccinated | 22.6% | 3.2% | 37% | 15.5% | 5.3% | 6.8% | 2.3% | 4.2% | 3.1% | 100% |

**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 05/18/21. Methodology, data sources, and limitations are available in the Appendix. Cells outlined in **green** indicate a greater than 1 percentage point discrepancy between share of eligible statewide population and share of statewide vaccinations.
This visualization displays the weekly change in percent vaccinated in each Region over the last 10 weeks (all weeks are calendar weeks, defined by ShowMeVax, where Week 20 is 5/9 – 5/15)

**Weekly Change in Vaccination Last Ten Weeks (SMV Week 11 to Week 20)**

<table>
<thead>
<tr>
<th>Region</th>
<th>% Vaccinated (Cumulative)</th>
<th>Week 19 to 20 Change</th>
<th>Weekly Change Max (Week 11 to Week 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>40.1%</td>
<td>0.7%</td>
<td>3.5%</td>
</tr>
<tr>
<td>B</td>
<td>33.3%</td>
<td>0.4%</td>
<td>2.8%</td>
</tr>
<tr>
<td>C</td>
<td>43.0%</td>
<td>0.8%</td>
<td>4.1%</td>
</tr>
<tr>
<td>D</td>
<td>35.0%</td>
<td>0.5%</td>
<td>3.6%</td>
</tr>
<tr>
<td>E</td>
<td>34.8%</td>
<td>0.5%</td>
<td>3.1%</td>
</tr>
<tr>
<td>F</td>
<td>46.3%</td>
<td>0.6%</td>
<td>4.0%</td>
</tr>
<tr>
<td>G</td>
<td>28.2%</td>
<td>0.6%</td>
<td>2.0%</td>
</tr>
<tr>
<td>H</td>
<td>31.4%</td>
<td>0.5%</td>
<td>2.8%</td>
</tr>
<tr>
<td>I</td>
<td>28.6%</td>
<td>0.5%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

**KEY OBSERVATIONS**

- Percent difference (slope) has **decreased substantially** for each region, including Region A, the last ten weeks – with all regions under **1% additional percent vaccinated** this week
- Regions G and I, the lowest cumulative percent vaccinated regions, had a **lower peak of % change** than the other regions
- Regions F and C, the highest cumulative percent vaccinated regions, have experienced the **sharpest decline** from their peak

**Note:** Partial Week 21 data is tabulated due to data receipt timing. 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 05/18/2021. Methodology, data sources, and limitations are available in the Appendix. Negative vaccination changes were set to zero due to identified data quality issue that is being investigated.
Priority Counties by Vaccination Gap & Percent Unvaccinated

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)

**STATE WIDE**

3.01M unvaccinated (of 18+ population)

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

1. St. Louis: 455,600 ▶ -10.8k
2. Jackson: 334,400 ▶ -5.2k
3. St. Charles: 180,800 ▶ -3.2k
4. St. Louis City: 162,000 ▶ -3.0k
5. Jefferson: 134,500 ▶ -1.8k

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

1. Pulaski*: 81.3% ▶ -0.7%
2. Newton: 80.7% ▶ -0.4%
3. McDonald: 80.2% ▶ -0.5%
4. Reynolds: 78.0% ▶ -1.0%
5. Clark: 76.8% ▶ -0.3%

*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 vaccinations and J&J vaccinations, based on the residence of the individual vaccinated, and as of 05/18/21. Methodology, data sources, and limitations are available in the Appendix. Full data set provided in corresponding Excel file. 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.

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KEY OBSERVATIONS

- All counties increased their percent vaccinated by less than 2 percentage points

- Region A experienced the second largest increase in percent vaccinated from last week to this week

- Regions B, D, and H had smaller changes week to week compared to the rest of the state

- The largest changes occurred in Douglas (1.72%), Dunklin (1.32%) and St. Louis (1.25%) counties, whereas the smallest changes were in Putnam (.19%), Buchanan (0.23%), and Shelby (0.25%) counties

**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 05/18/21. Methodology, data sources, and limitations are available in the Appendix. Negative vaccination changes were set to zero due to identified data quality issue that is being investigated.
Region A: Kansas City

Census Tract Level
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 A / Kansas City**

The top 10 Census Tracts by vaccination gap are all **more than double the Region's average** largely driven by higher 18+ population.

### Distribution of 340 Census Tracts

- 82
- 64
- 67
- 60
- 67

### Vaccination Gap Quintiles (#)

- 0 - 1,208
- 1,210 - 1,707
- 1,708 - 2,280
- 2,282 - 3,012
- 3,013 - 7,391

### Vaccination Gap: Region A / Kansas City

<table>
<thead>
<tr>
<th>Rank</th>
<th>Census Tract</th>
<th>County</th>
<th>Adult Population</th>
<th>Vaccination Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29101960100</td>
<td>Johnson County</td>
<td>8,320</td>
<td>6,014</td>
</tr>
<tr>
<td>2</td>
<td>29101960300</td>
<td>Johnson County</td>
<td>7,742</td>
<td>5,472</td>
</tr>
<tr>
<td>3</td>
<td>29095011401</td>
<td>Jackson County</td>
<td>7,628</td>
<td>4,979</td>
</tr>
<tr>
<td>4</td>
<td>29037060301</td>
<td>Cass County</td>
<td>9,260</td>
<td>4,949</td>
</tr>
<tr>
<td>5</td>
<td>29095014105</td>
<td>Jackson County</td>
<td>7,580</td>
<td>4,906</td>
</tr>
<tr>
<td>6</td>
<td>29037060302</td>
<td>Cass County</td>
<td>7,888</td>
<td>4,771</td>
</tr>
<tr>
<td>7</td>
<td>29047021805</td>
<td>Clay County</td>
<td>7,764</td>
<td>4,516</td>
</tr>
<tr>
<td>8</td>
<td>29177080000</td>
<td>Ray County</td>
<td>6,433</td>
<td>4,395</td>
</tr>
<tr>
<td>9</td>
<td>29165030600</td>
<td>Platte County</td>
<td>6,995</td>
<td>4,373</td>
</tr>
<tr>
<td>10</td>
<td>29047021600</td>
<td>Clay County</td>
<td>7,043</td>
<td>4,222</td>
</tr>
</tbody>
</table>

**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 05/18/2021. Methodology, data sources, and limitations are available in the Appendix.
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 A / Kansas City

<table>
<thead>
<tr>
<th>Rank</th>
<th>Census Tract</th>
<th>County</th>
<th>Adult Population</th>
<th>% Unvaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2910198000</td>
<td>Johnson County</td>
<td>1,205</td>
<td>91.12%</td>
</tr>
<tr>
<td>2</td>
<td>29101960700</td>
<td>Johnson County</td>
<td>3,917</td>
<td>77.74%</td>
</tr>
<tr>
<td>3</td>
<td>29083950100</td>
<td>Henry County</td>
<td>2,508</td>
<td>76.79%</td>
</tr>
<tr>
<td>4</td>
<td>29095009500</td>
<td>Jackson County</td>
<td>2,362</td>
<td>76.76%</td>
</tr>
<tr>
<td>5</td>
<td>29013070200</td>
<td>Bates County</td>
<td>3,169</td>
<td>76.74%</td>
</tr>
<tr>
<td>6</td>
<td>29095013203</td>
<td>Johnson County</td>
<td>2,837</td>
<td>75.68%</td>
</tr>
<tr>
<td>7</td>
<td>29101960200</td>
<td>Johnson County</td>
<td>4,523</td>
<td>75.21%</td>
</tr>
<tr>
<td>8</td>
<td>29013070400</td>
<td>Bates County</td>
<td>2,407</td>
<td>75.03%</td>
</tr>
<tr>
<td>9</td>
<td>29101960900</td>
<td>Johnson County</td>
<td>4,184</td>
<td>74.93%</td>
</tr>
<tr>
<td>10</td>
<td>29095016500</td>
<td>Jackson County</td>
<td>1,576</td>
<td>74.11%</td>
</tr>
</tbody>
</table>

**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 05/18/2021. Methodology, data sources, and limitations are available in the Appendix.

4 of the top 10 Census Tracts in the highest unvaccinated quintile reside in Johnson County.
Recent efforts to focus on highly vulnerable communities are evident along the I-70 corridor.

The bulk of the most vulnerable Census Tracts still require additional vaccine access or confidence building.

**Note:** Data sources include Missouri Health Senior Services (DHSS), Missouri ShowMeVax, Tiberius, US Census Bureau, Basemap (ESRI).
While vulnerability exists across the Kansas City metro region, it is most heavily centered within the I-435 corridor.

**COVID-19 Vulnerability Index**

**Kansas City Metro - 05/13/21**

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**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

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**KEY OBSERVATIONS**

- **8 of the 10 most vulnerable Census Tracts** in the KC metro region are within the **I-435 corridor** of Jackson County:
  - 2 Census Tracts rank in the Top 10 in the State
- The most vulnerable populations in Jackson County are primarily under **138% FPL and/or communities of color**
- Given the demographic profile in these communities, walk-up vaccine registration combined with smaller **micro-targeted events** may be necessary to positively improve access to vaccination

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**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 05/13/2021. More information on methodology can be found in the Appendix.
Below are the top 10 Census Tracts in Region A with the highest COVID-19 vulnerable population scores – notably all are within Jackson County, Kansas City.

<table>
<thead>
<tr>
<th>Vulnerability Index Rank</th>
<th>Census Tract</th>
<th>County</th>
<th>18+ Population</th>
<th>1+ Medical Comorbidities</th>
<th>Minority Populations</th>
<th>Living Below 138% FPL</th>
<th>Households without Internet Access</th>
<th>Crowded Households</th>
<th>Individuals with Education Level Below High School</th>
<th>Cumulative COVID-19 Case Burden as of 5/13/21</th>
<th>Unvaccinated as of 5/11/21</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>29095013203</td>
<td>Jackson</td>
<td>2,837</td>
<td>42.3%</td>
<td>92.1%</td>
<td>55.7%</td>
<td>18.7%</td>
<td>10.8%</td>
<td>12.7%</td>
<td>9,306</td>
<td>76.49%</td>
</tr>
<tr>
<td>2</td>
<td>29095005602</td>
<td>Jackson</td>
<td>1,321</td>
<td>49.4%</td>
<td>96.4%</td>
<td>47.1%</td>
<td>14.4%</td>
<td>3.6%</td>
<td>15.8%</td>
<td>7,935</td>
<td>73.28%</td>
</tr>
<tr>
<td>3</td>
<td>29095006000</td>
<td>Jackson</td>
<td>1,277</td>
<td>36.6%</td>
<td>97.0%</td>
<td>44.6%</td>
<td>33.2%</td>
<td>10.2%</td>
<td>17.5%</td>
<td>9,420</td>
<td>73.77%</td>
</tr>
<tr>
<td>4</td>
<td>29095005601</td>
<td>Jackson</td>
<td>1,228</td>
<td>37.1%</td>
<td>95.8%</td>
<td>52.4%</td>
<td>31.4%</td>
<td>1.5%</td>
<td>25.1%</td>
<td>7,025</td>
<td>66.53%</td>
</tr>
<tr>
<td>5</td>
<td>29095013210</td>
<td>Jackson</td>
<td>2,076</td>
<td>38.4%</td>
<td>92.1%</td>
<td>45.8%</td>
<td>31.7%</td>
<td>9.9%</td>
<td>8.1%</td>
<td>5,147</td>
<td>73.55%</td>
</tr>
<tr>
<td>6</td>
<td>29095009600</td>
<td>Jackson</td>
<td>1,014</td>
<td>24.9%</td>
<td>84.1%</td>
<td>62.8%</td>
<td>44.9%</td>
<td>12.0%</td>
<td>10.6%</td>
<td>3,981</td>
<td>74.36%</td>
</tr>
<tr>
<td>7</td>
<td>29095003700</td>
<td>Jackson</td>
<td>906</td>
<td>31.6%</td>
<td>97.2%</td>
<td>50.1%</td>
<td>44.0%</td>
<td>6.2%</td>
<td>19.5%</td>
<td>5,093</td>
<td>67.77%</td>
</tr>
<tr>
<td>8</td>
<td>29095003400</td>
<td>Jackson</td>
<td>2,128</td>
<td>21.1%</td>
<td>87.6%</td>
<td>56.0%</td>
<td>27.3%</td>
<td>10.5%</td>
<td>31.0%</td>
<td>10,776</td>
<td>74.01%</td>
</tr>
<tr>
<td>9</td>
<td>29095016400</td>
<td>Jackson</td>
<td>1,360</td>
<td>29.3%</td>
<td>87.0%</td>
<td>49.9%</td>
<td>40.9%</td>
<td>10.7%</td>
<td>21.3%</td>
<td>7,960</td>
<td>73.24%</td>
</tr>
<tr>
<td>10</td>
<td>29095005801</td>
<td>Jackson</td>
<td>1,596</td>
<td>39.0%</td>
<td>95.3%</td>
<td>40.1%</td>
<td>32.8%</td>
<td>10.6%</td>
<td>18.8%</td>
<td>6,479</td>
<td>66.60%</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 05/13/2021. More information on methodology can be found in the Appendix.
Region A | Focal Area

Region A Focal Area - 05/13/21

Resources for **COVID-19 vaccination and community outreach remain limited** in the Region A Focal Area.

### KEY OBSERVATIONS

- The Kansas City focal area contains upwards of 92 Census Tracts
- There are very few public health resource locations throughout the focal region, particularly further south in the region
  - Public schools are abundant to serve as hubs for community outreach

### How we identified this Focal Area:
Focal area was determined as showing up consistently in the Vaccine Network and Uptake Desert Analyses, and the COVID-19 Vulnerability Index

*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 05/13/2021. More information on methodology can be found in the Appendix.
HealthPrism™ can identify the demographic characteristics of all Census Tracts in Missouri, providing the opportunity to create strategies tailored to specific populations.

CENSUS TRACT 118.00
JACKSON COUNTY

Vaccination Gap (#) Quintiles | 198 CTs
- 9 - 1,208 | 47
- 1,210 - 1,707 | 37
- 1,708 - 2,280 | 40
- 2,282 - 3,012 | 45
- 3,013 - 7,391 | 28

How we identified this Census Tract:
Please note: the methodology of Census Tract identification can be adjusted based on client needs
- In proximity to I-435 corridor
- 80th percentile for CVI (including % unvaccinated)
- 80th percentile for vaccination gap

Demographic Characteristics:
- Majority (66%) without a household vehicle
- 17% have less than a high school level education
- 24% living below 138% FPL
- Majority (84%) White
- Majority (82%) have access to broadband
- 13% of households are multigenerational

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 05/18/2021. More information on methodology can be found in the Appendix.
Appendix
Disclaimers about HealthPrism™ Content

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.