State of Missouri COVID-19 Response
St. Louis FQHC Deep Dive
May 26, 2021
## Agenda

1. Introduction & Executive Summary
2. Statewide Analysis
3. Region C (St. Louis) 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.

<table>
<thead>
<tr>
<th>Data</th>
<th>Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>230M+ U.S. Adults</td>
<td>20+ Disease State Models</td>
</tr>
<tr>
<td>50 States with data down to household-level</td>
<td>150+ Advanced predictive algorithms</td>
</tr>
<tr>
<td>1,700+ SDoH Variables</td>
<td>100+ Behavioral Personas</td>
</tr>
</tbody>
</table>

Data is refreshed every month

7+ years of history

Reporting options from households to census blocks to States

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**
- Regions C, A, and D continue to have the largest vaccination gaps due to large urban centers
- Region C experienced the largest percentage point increase in percent vaccinated population (0.8) for the second week in a row
- Region I is now the only region across the State with less than 30% of its 18+ population vaccinated

**REGION C ANALYSIS**
- All 10 most vulnerable Census Tracts in Region C exist in the St. Louis Focal Region
- Progress can be observed in vaccinating some communities within the Focal Region, however, some communities along the river and I-70 are falling behind

**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.
Statewide Analysis

Region & County Level
### Regional Overview

**VACCINATION GAP (#)**

<table>
<thead>
<tr>
<th></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**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<th>G</th>
<th>H</th>
<th>I</th>
<th>Statewide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>59.66%</td>
<td>66.65%</td>
<td>56.57%</td>
<td>64.8%</td>
<td>65.0%</td>
<td>52.88%</td>
<td>71.8%</td>
<td>68.62%</td>
<td>71.21%</td>
<td>59.98%</td>
</tr>
</tbody>
</table>

**SHARE OF ELIGIBLE STATEWIDE POPULATION**

<table>
<thead>
<tr>
<th></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>22.8%</td>
<td>2.9%</td>
<td>39.2%</td>
<td>14.3%</td>
<td>4.9%</td>
<td>7.7%</td>
<td>1.9%</td>
<td>3.6%</td>
<td>2.6%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**SHARE OF STATEWIDE VACCINATIONS**

<table>
<thead>
<tr>
<th></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>23.0%</td>
<td>2.4%</td>
<td>42.6%</td>
<td>12.6%</td>
<td>4.3%</td>
<td>9.1%</td>
<td>1.3%</td>
<td>2.9%</td>
<td>1.9%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**SHARE OF STATEWIDE REMAINING UNVACCINATED**

<table>
<thead>
<tr>
<th></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>22.6%</td>
<td>3.2%</td>
<td>37%</td>
<td>15.5%</td>
<td>5.3%</td>
<td>6.8%</td>
<td>2.3%</td>
<td>4.2%</td>
<td>3.1%</td>
<td>100%</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 05/18/21. Methodology, data sources, and limitations are available in the Appendix.
Regional Vaccination Rates Over Time

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)

![Graph showing weekly change in vaccinated percentage]

- **Region A**: 40.1% with a change of 0.7% (max 3.5%)
- **Region B**: 33.3% with a change of 0.4% (max 2.8%)
- **Region C**: 43.0% with a change of 0.8% (max 4.1%)
- **Region D**: 35.0% with a change of 0.5% (max 3.6%)
- **Region E**: 34.8% with a change of 0.5% (max 3.1%)
- **Region F**: 46.3% with a change of 0.6% (max 4.0%)
- **Region G**: 28.2% with a change of 0.6% (max 2.0%)
- **Region H**: 31.4% with a change of 0.5% (max 2.8%)
- **Region I**: 28.6% with a change of 0.5% (max 2.1%)

**KEY OBSERVATIONS**

- Percent difference (slope) has **decreased substantially** for each region, including Region C, 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.
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).

**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.

**STATE WIDE**

3.01M [−43k] unvaccinated (of 18+ population)

60.0% [−0.9%] unvaccinated (of 18+ population)

**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.
Change in Percent Vaccinated This Week

Darker shades indicate a larger, more positive delta between a county’s percent vaccinated last week and this week.

KEY OBSERVATIONS

- All counties increased their percent vaccinated by less than 2 percentage points.
- 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 C: St. Louis

*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 C / St. Louis

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

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.
### Region C | Percent Unvaccinated

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 C / St. Louis

<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>29189210200</td>
<td>St. Louis County</td>
<td>4,234</td>
<td>78.436</td>
</tr>
<tr>
<td>2</td>
<td>29189212102</td>
<td>St. Louis County</td>
<td>2,286</td>
<td>78.390</td>
</tr>
<tr>
<td>3</td>
<td>29189211500</td>
<td>St. Louis County</td>
<td>3,097</td>
<td>77.430</td>
</tr>
<tr>
<td>4</td>
<td>29189213900</td>
<td>St. Louis County</td>
<td>1,389</td>
<td>77.106</td>
</tr>
<tr>
<td>5</td>
<td>29189212101</td>
<td>St. Louis County</td>
<td>3,295</td>
<td>76.753</td>
</tr>
<tr>
<td>6</td>
<td>29510107500</td>
<td>St. Louis City</td>
<td>2,287</td>
<td>76.257</td>
</tr>
<tr>
<td>7</td>
<td>29510107400</td>
<td>St. Louis City</td>
<td>2,188</td>
<td>76.188</td>
</tr>
<tr>
<td>8</td>
<td>29510106200</td>
<td>St. Louis City</td>
<td>980</td>
<td>76.020</td>
</tr>
<tr>
<td>9</td>
<td>29510107200</td>
<td>St. Louis City</td>
<td>984</td>
<td>75.000</td>
</tr>
<tr>
<td>10</td>
<td>29510107300</td>
<td>St. Louis City</td>
<td>4,462</td>
<td>74.854</td>
</tr>
</tbody>
</table>

#### DISTRIBUTION OF 484 CENSUS TRACTS

- 160 Census Tracts: 0.8% – 47.6%
- 117 Census Tracts: 47.7% - 57.5%
- 82 Census Tracts: 57.6% - 63.8%
- 65 Census Tracts: 63.8% - 69.6%
- 60 Census Tracts: 69.7% - 94.9%

#### Unvaccinated Quintiles

1. **0.8% – 47.6%**
2. **47.7% - 57.5%**
3. **57.6% - 63.8%**
4. **63.8% - 69.6%**
5. **69.7% - 94.9%**

28 of 43 (65%) Census Tracts in the highest unvaccinated quintile reside in Jackson 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 05/18/2021. Methodology, data sources, and limitations are available in the Appendix. For internal use only by State of Missouri. Output based on available data.
Vaccination uptake deserts are displayed in blue for Week 19, indicating Census Tracts where vaccination uptake is significantly lower than State averages.

**KEY OBSERVATIONS**

- **Recent efforts to focus on highly vulnerable communities are evident** in the NW focal region of North St Louis and North St Louis County.

- A stretch of **census tracts along the Mississippi River and the I-70 corridor** are still showing **slower vaccination uptake**.

**Note:** Data sources include Missouri Health Senior Services (DHSS), Missouri ShowMeVax, Tiberius, US Census Bureau, Basemap (ESRI).

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For internal use only by State of Missouri. Output based on available data.
St. Louis | Geospatial Visualization of COVID-19 Vulnerable Populations

The 10 most vulnerable Census Tracts in Region C exist in the North St Louis Focal Region

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

- 9 of 10 of the most vulnerable census tracts across Missouri are within St. Louis County or St. Louis City
- The most vulnerable populations in Region C are primarily under 138% FPL and/or communities of color
  - Most with low levels of internet access
- 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

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. More information on methodology can be found in the Appendix.
Below are the top 10 Census Tracts in Region C 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>Variables Included in the CVI</th>
<th>Additional Demographic Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>COVID-19 Burden (Case Rate per 100k)</td>
<td>1+ Medical Comorbidities (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Statewide Census Tract Average</td>
<td>8,261</td>
</tr>
<tr>
<td>1</td>
<td>29510106200</td>
<td>St. Louis City</td>
<td>980</td>
<td>7,005</td>
<td>38.98%</td>
</tr>
<tr>
<td>2</td>
<td>29189212002</td>
<td>St. Louis County</td>
<td>2,196</td>
<td>15,792</td>
<td>39.71%</td>
</tr>
<tr>
<td>3</td>
<td>29189212200</td>
<td>St. Louis County</td>
<td>5,797</td>
<td>5,111</td>
<td>62.69%</td>
</tr>
<tr>
<td>4</td>
<td>29189213900</td>
<td>St. Louis County</td>
<td>1,389</td>
<td>7,127</td>
<td>34.05%</td>
</tr>
<tr>
<td>5</td>
<td>29189212102</td>
<td>St. Louis County</td>
<td>2,286</td>
<td>5,000</td>
<td>42.26%</td>
</tr>
<tr>
<td>6</td>
<td>29189213800</td>
<td>St. Louis County</td>
<td>4,763</td>
<td>7,121</td>
<td>58.56%</td>
</tr>
<tr>
<td>7</td>
<td>29510125700</td>
<td>St. Louis City</td>
<td>1,929</td>
<td>3,134</td>
<td>20.79%</td>
</tr>
<tr>
<td>8</td>
<td>29189213600</td>
<td>St. Louis County</td>
<td>2,877</td>
<td>6,702</td>
<td>50.78%</td>
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<tr>
<td>9</td>
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<td>St. Louis City</td>
<td>1,886</td>
<td>7,335</td>
<td>29.32%</td>
</tr>
<tr>
<td>10</td>
<td>29510107500</td>
<td>St. Louis City</td>
<td>2,287</td>
<td>6,341</td>
<td>38.22%</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 05/18/2021. More information on methodology can be found in the Appendix.
Resources for **COVID-19 vaccination and community outreach remain limited** in the Region C Focal Area

**Region C Focal Area - 13 May 2021**

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**KEY OBSERVATIONS**

- The St. Louis focal area contains upwards of **122 Census Tracts** and approximately **387k people**
- Public health **resource locations diminish** going **further into the NW portion of the focal region**
  - **Public schools are abundant** to serve as hubs for community outreach

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**How we identified this Focal Area:**

Focal area was determined as appearing consistently in the Vaccine Network and Uptake Desert Analyses, and the COVID-19 Vulnerability Index.
HealthPrism™ can identify the **demographic characteristics** of all Census Tracts in Missouri, providing the opportunity to create strategies **tailored to specific populations**.

**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
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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.

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