State of Missouri COVID-19 Response Vaccine Distribution Analysis

May 10, 2021
This document includes data on COVID-19 vaccinations for Missouri's total population over the age of 18 to support the State of Missouri's vaccine ordering and distribution process.

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Executive Summary | Key Insights

VACCINATION GAP & PERCENT UNVACCINATED
- 48k people initiated vaccination this week – less than half of last week’s total
- The top 10 counties with the largest vaccination gap – all urban except for 1 – account for 56% of the State’s unvaccinated 18+ population
- The top 10 counties with the highest percent unvaccinated – all rural except for 1 – account for 5% of the State’s unvaccinated 18+ population

REGIONAL TRENDS
- By % vaccinated, Regions F, C, and A continue to lead the group – all over 35% vaccinated
- No region increased their % vaccinated this past week by more than 1 percentage point

CHANGE OVER TIME
- Dose 2 administration totals have exceeded dose 1 totals since early April
- Since its peak in calendar week 12, dose 1 administration has decreased by 75%
- Since its peak in calendar week 15, dose 2 administration has decreased by 31%

HOTSPOT ANALYSIS
- Kansas City is falling behind St. Louis in vaccinating its most vulnerable communities
- The Columbia-Jefferson City metro region is continuing to vaccinate a much higher than State average percentage of residents

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 05/04/21. Methodology, data sources, and limitations are available in the Appendix. Full data set provided in corresponding Excel file.
<table>
<thead>
<tr>
<th>Regions</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>702K</td>
<td>98K</td>
<td>1,159K</td>
<td>475K</td>
<td>163K</td>
<td>210K</td>
<td>69K</td>
<td>127K</td>
<td>96K</td>
<td>3,100K</td>
</tr>
<tr>
<td><strong>% Unvaccinated Within Region</strong></td>
<td>61.5%</td>
<td>67.7%</td>
<td>58.8%</td>
<td>66.1%</td>
<td>66.3%</td>
<td>54.4%</td>
<td>73%</td>
<td>69.6%</td>
<td>72.5%</td>
<td>61.8%</td>
</tr>
<tr>
<td><strong>Share of Eligible Statewide Population</strong></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>
<tr>
<td><strong>Share of Statewide Vaccinations</strong></td>
<td>23.0%</td>
<td>2.4%</td>
<td>42.2%</td>
<td>12.7%</td>
<td>4.3%</td>
<td>9.2%</td>
<td>1.3%</td>
<td>2.9%</td>
<td>1.9%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Share of Statewide Remaining Unvaccinated</strong></td>
<td>22.7%</td>
<td>3.2%</td>
<td>37.4%</td>
<td>15.3%</td>
<td>5.3%</td>
<td>6.8%</td>
<td>2.2%</td>
<td>4.1%</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 05/04/21. Methodology, data sources, and limitations are available in the Appendix.
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**: 476,300 ▶️ -9.5k
2. **Jackson**: 345,600 ▶️ -5.4k
3. **St. Charles**: 188,000 ▶️ -4.0k
4. **St. Louis City**: 169,500 ▶️ -5.1k
5. **Jefferson**: 138,300 ▶️ -2.1k

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

1. **Pulaski**: 82.4% ▶️ -0.5%
2. **Newton**: 81.4% ▶️ -0.4%
3. **McDonald**: 81.3% ▶️ -0.6%
4. **Reynolds**: 79.5% ▶️ -0.3%
5. **Howell**: 77.7% ▶️ -0.5%

*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 05/04/2021. Methodology, data sources, definitions, and assumptions 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.
Vaccination Gap & Percent Unvaccinated
Cumulative Vaccination Gap and Percent Unvaccinated for Eligible Populations

Darker shades on the first map indicate counties with larger vaccination gaps and higher percentages unvaccinated on the right.

- Counties with the largest vaccination gaps continue to be within Missouri’s most populous, urban areas (only 1 county within the top 10 is rural – Franklin County).
- Counties with the highest percent unvaccinated are relatively distributed across the State, with some concentration in border counties, which could be attributable to out-of-state vaccinations.

**VACCINATION GAP (#)**

**PERCENT UNVACCINATED (%)**

- **Vaccination Gap Quintiles (#)**
  - 149 – 4,692
  - 4,729 – 7,889
  - 8,100 – 13,048
  - 14,024 – 25,428
  - 26,340 – 476,257

- **Unvaccinated Quintiles (%)**
  - 5.81% - 60.71%
  - 61.2% - 64.65%
  - 64.93% - 69.69%
  - 69.83% - 74.43%
  - 74.65% - 82.41%

**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 05/04/21. Methodology, data sources, and limitations are available in the Appendix. Full data set provided in corresponding Excel file.
KEY OBSERVATIONS

- On average, counties increased their % vaccinated by 0.7 percentage points this week – the smallest amount thus far.
- Areas with the greatest increase in % vaccinated appear to be slightly concentrated within Regions F and C (both leading the State in % vaccinated).
- On average, Region H experienced the lowest increase in % vaccinated this week (0.56 percentage points), and Region C had the highest (0.92 percentage points).

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 05/04/21. 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.
Evolution of Vaccination Percentages

This visualization displays a cumulative percentage of eligible populations receiving vaccines in each Region over time – from 12/19/20 until 05/04/21. All Weeks are calendar weeks defined by SMV where Week 18 is 4/25 – 5/1

Percent of Eligible Population Vaccinated Over Time and from Previous Week (17 to 18) by RIT

KEY OBSERVATIONS

- Regions F, C, and A continue to lead the group – all are over 35% vaccinated
- The downward trend of vaccine initiations continued this week – Week 18 experienced the fewest vaccines administered since Week 7 (156k between dose 1 and dose 2)
  - 26k fewer doses were administered compared to last week and approximately half of Week 13 doses
  - Week 18 had the lowest share of Dose 1 administrations (27%) down from 50% in Week 15 and 34% the week prior
- Only 2 counties vaccinated >2% of their eligible population; only 1 Region vaccinated >1% of their eligible 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 05/04/21. 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.
This visualization displays the number of dose 1 and dose 2 vaccines administered in-state to Missouri residents where resident county is known. All weeks are calendar weeks defined by ShowMeVax where Week 18 is 4/25 – 5/1.

Dose 1 and Dose 2 Administered Totals Previous Six Weeks (Week 12 to 18)

- **Top 5 by # Change**
  1. Dade (D): -95%
  2. Moniteau (F): -95%
  3. Lewis (B): -94%
  4. Carroll (A): -94%
  5. Holt (H): -93%

- **Top 5 by % Change**
  1. St. Louis County (C): -24.9k
  2. Jackson (A): -16.7k
  3. St. Charles (C): -10.4k
  4. Greene (D): -8.3k
  5. Clay (A): -5.1k

**KEY OBSERVATIONS**

- On average, the State experienced a **75% drop in dose 1 vaccines administered** when comparing calendar Week 12 to Week 18.
- That dip was consistent across counties, with all but one county experiencing a dip of **at least 50%**.
- As expected, the larger, more **urban** counties saw the largest **numeric drop** in dose 1 vaccines administered.

**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 05/04/21. J&J doses count for both Dose 1 and Dose 2 vaccines; weekly totals are subject to change if there is a lag in administrations from providers or data updates in SMV. 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.
Statewide Hotspot Analysis
Using Census Tract level analysis, it is clear **suburban communities** are **driving county level hotspots** throughout Missouri.

Vaccine uptake hotspots **do not exist** in the **urban core** of the Kansas City and St. Louis metro regions, but the Columbia-Jefferson City Complex is continuing to drive vaccination hotspots.

**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 04/27/21. Methodology, data sources, and limitations are available in the Appendix.
Residents Receiving Vaccination Hotspots and Significance | Week 17-18

Using Census Tract level analysis, it is clear **suburban communities** are driving **county level hotspots** throughout Missouri.

**Vaccine Uptake Desert Analysis by MO Census Tract**

As shown in the regional uptake summary, Kansas City is now **falling further behind** St. Louis in vaccinating its most vulnerable communities.

*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 04/27/21. Methodology, data sources, and limitations are available in the Appendix.
Appendix
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