

APPENDIX B – Background on Equity Goals and Social Vulnerability Index

As the Minnesota Department of Health (MDH) has prioritized equity in its COVID-19 vaccine strategy, it is imperative to have metrics to both guide strategy and demonstrate accountability. Persistent disparities in vaccination coverage by race and ethnicity necessitate strategic action toward health equity. To that end, congruent with the recommendations of scholars of vaccine ethics, MDH is addressing equity by using place-based strategies to allocate vaccine doses that incorporate a metric of community need [\(1\)](#)[\(2\)](#)[\(3\)](#)[\(4\)](#).

Social Vulnerability Index

The Center for Disease Control and Prevention's (CDC) Social Vulnerability Index (SVI) uses 15 indicators grouped into four themes that comprise an overall index measure. Communities with a high social vulnerability index generally have higher rates of poverty, crowded housing, racial/ethnic minorities, and lack of access to transportation when compared to communities with a low index [\(5\)](#). The index has been used by MDH and local public health agencies before and during the COVID-19 pandemic to calculate a weighted allocation of funding for pandemic/disaster preparedness and COVID-19 response efforts. The index is also recommended by the National Academies of Sciences, Engineering, and Medicine for prioritizing places in equitable vaccine distribution [\(6\)](#).

Additionally, counties with higher index scores have been shown to be at increased risk for COVID-19 outbreaks, particularly those with a higher percentage of racial and ethnic minority residents, high-density housing structures, and crowded housing units [\(7\)](#). Given the concerning rise of COVID-19 variant strands, focused allocation using this metric will: 1) help achieve more equitable distribution of COVID-19 vaccines, and 2) decrease the likelihood of future outbreaks among communities already hit the hardest.

Table 1. Minnesota COVID-19 burden by Social Vulnerability Index quartile, all ages, May 11, 2021

Using the ranked ZIP code areas of the state, MDH has determined the COVID-19 case rate, hospitalization, and death rates among Minnesotans from each quartile. It should be noted that because of how we have converted census tract data to ZIP codes, the percent of all Minnesotans in Quartile 1, or the "high" SVI quartile, using our methodology, is 29%. As of May 11, 2021, these 29% of Minnesotans have experienced 39% of all COVID-19 hospitalizations and 38% of deaths in Minnesota.

Indicator	Q1 SVI (high vulnerability)	Q2 SVI	Q3 SVI	Q4 SVI (low vulnerability)
COVID-19 Cases	32%	23%	21%	24%
COVID-19 Hospitalizations	39%	22%	19%	20%
COVID-19 Deaths	38%	23%	19%	19%
Total Population	29%	22%	22%	26%

Table 2. Minnesota COVID-19 burden by Social Vulnerability Index quartile, under 17 years of age, May 11, 2021

Indicator	Q1 SVI (high vulnerability)	Q2 SVI	Q3 SVI	Q4 SVI (low vulnerability)
COVID-19 cases	30%	21%	22%	28%
COVID-19 hospitalizations	45%	20%	16%	18%
COVID-19 deaths	*	*	*	*
Total population	29%	22%	22%	26%

Data as of May 11, 2021 - table should be interpreted as N of Y population (X% of Y population lives in respective vulnerability quartile). Data source: 2015-2019 American Community Survey estimate.

Table 3. Demographics of Social Vulnerability Index quartiles

MDH has also illustrated the demographic characteristics of Minnesotans who live in each quartile by race/ethnicity, limited English proficiency, disability status, and enrollment in a Minnesota health care program (MA/Medicaid or MinnesotaCare). These tables show the percentage of each category in each SVI quartile (e.g., 59% of Minnesotans with limited English proficiency live in Q1 SVI ZIP codes).

Race/ethnicity, all ages

Race/ethnicity	Q1 SVI (high)	Q2 SVI	Q3 SVI	Q4 SVI (low)
American Indian or Alaska Native	54%	17%	8%	7%
Black or African American	53%	20%	11%	9%
Hispanic or Latinx	47%	22%	17%	14%
Asian or Pacific Islander	24%	22%	22%	26%
White	24%	22%	22%	26%
Multiple	35%	23%	16%	20%
Other	39%	24%	14%	20%

Race/ethnicity, under 17 years of age

Race/ethnicity	Q1 SVI (high)	Q2 SVI	Q3 SVI	Q4 SVI (low)
American Indian or Alaska Native	58%	15%	7%	6%
Black or African American	57%	21%	11%	11%
Hispanic or Latinx	50%	20%	15%	15%
Asian or Pacific Islander	48%	17%	13%	22%
White	22%	21%	24%	33%
Multiple	36%	22%	17%	25%
Other	57%	20%	13%	9%

Other characteristics, all ages

Other characteristics	Q1 SVI (high)	Q2 SVI	Q3 SVI	Q4 SVI (low)
Limited English proficiency	59%	17%	9%	9%
Living with disabilities	34%	23%	19%	18%
MN Medicaid/MNCare enrollees	43%	23%	17%	17%
Total population	29%	22%	22%	26%

All data is based on Census Tracts. Totals may not add up due to some census tracts having a missing SVI Quartile value. Data Source: 2015-2019 American Community Survey estimate.

Equity allocation goal

To operationalize our equity metric, MDH has determined a specific allocation percentage prioritized for communities hit hardest by the COVID-19 pandemic using the Social Vulnerability Index ZIP code quartiles.

Our equity allocation goal for the state and our vaccinating partners is that 40% of all doses administered should be prioritized to the communities hit hardest by the COVID-19 pandemic.

MDH is tracking immunizations by vaccinator type and will be assessing the overall success of the state and our partners in **eliminating the current gap for adults and preventing a gap among children** as well as the performance of different vaccinators in reaching high SVI areas.

This equity metric and goals are one component of what is needed to truly operationalize equity in our COVID-19 vaccination efforts. Given what we know about the disparate impact COVID-19 has had on communities in Minnesota, the structural and societal barriers many children and families face in accessing even routine care and the disparities we have already seen in COVID-19 vaccine rates for adults, it is critical that pediatric providers take steps not only to mitigate further inequities in access, but to continue to build a more just and community-driven approach to health in response to the COVID-19 pandemic.

Refer to [Pediatric COVID-19 Vaccination: Reach the most disadvantaged adolescents](#) for suggested steps to meet this goal.

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