

# Geospatial Disparities in Federal COVID-19 Test-to-Treat Program

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## Background

- Ritonavir-Boosted Nirmatrelvir (Paxlovid) is an antiviral drug indicated to treat COVID-19.
- When administered within 5 days of symptom onset, Paxlovid reduced the risk of hospitalization or death by 88% among high-risk, unvaccinated adults in initial clinical trials.<sup>1,2</sup>
- Data collected through May 2022 showed that antiviral prescriptions lagged in areas of high-social-vulnerability.<sup>3</sup>
- In May 2022, the Biden-Harris administration expanded Test-to-Treat programs that provide testing, prescriptions, and medication in one visit, with the goal of speeding up access to Paxlovid within the short window of time required.<sup>4</sup>

## Objectives

The objectives of this study were to:

- map the location of Test-to-Treat programs in the U.S. in summer 2022 (following program expansion) and
- identify disparities in access to Test-to-Treat programs at the zip code level by poverty status, race/ethnicity, and urban-rural status.

## Methodology

### Data Sources

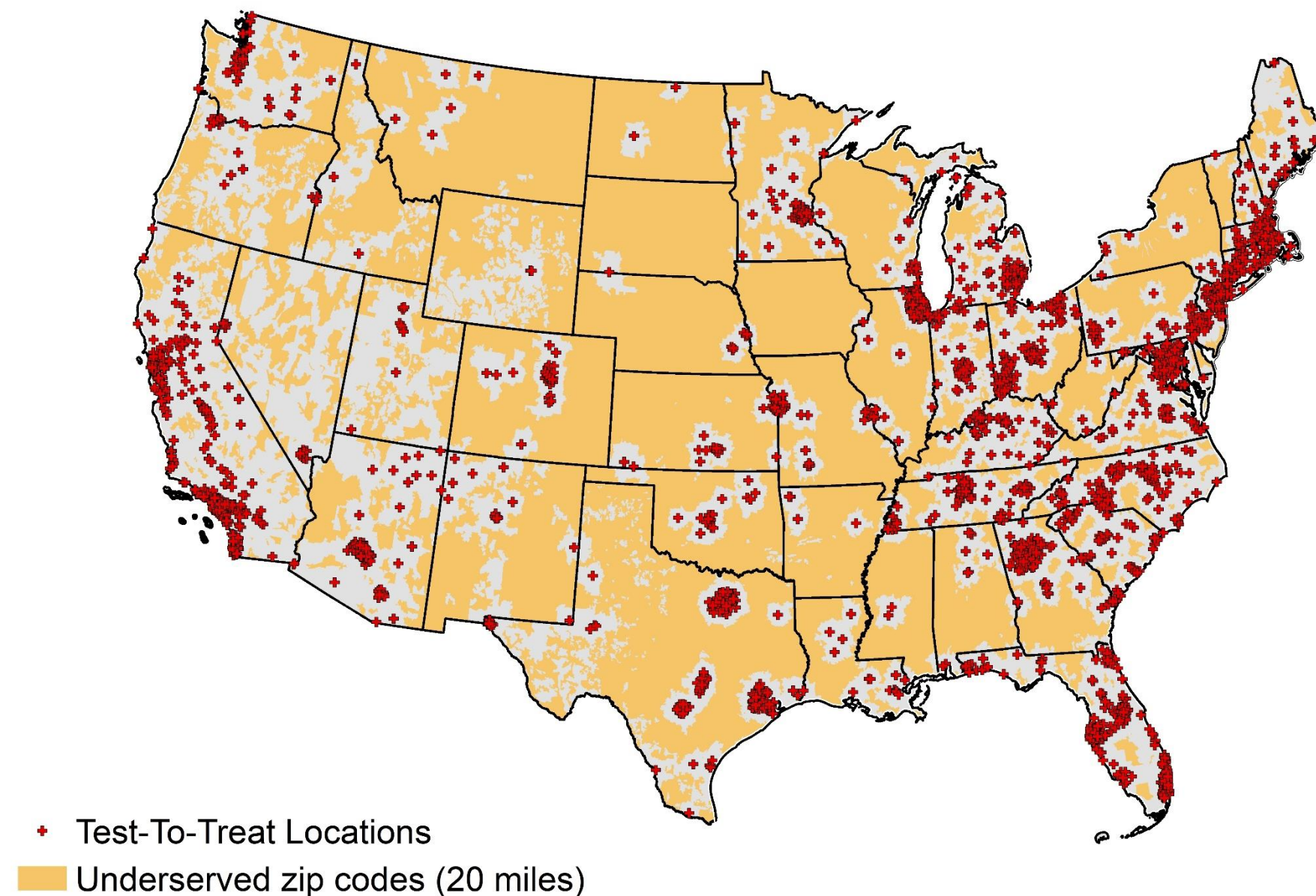
- Location data for Test-to-Treat programs in the contiguous U.S. were obtained from HHS on July 18, 2022.<sup>5</sup>
- Data on population, race and ethnicity, and poverty for each zip code are drawn from the American Community Survey (2020 5-year estimates).
- Data on urbanicity for each zip code are drawn from USDA dataset on rural-urban commuting areas.
- Zip codes were then stratified into categories by poverty, urbanicity, and race/ethnicity based on cutoffs from the CDC Covid Data Tracker.<sup>6</sup>

### Analysis

- The distribution of Test-to-Treat programs was examined at the zip code tabulation area level (zip code).
- Zip codes were defined as underserved if there was no Test-to-Treat program located within 20 miles of its boundaries.
- Sensitivity analyses included 15-mile, 10-mile, and 5-mile radii.

## Results

**Figure 1. Distribution of Test-to-Treat Centers and Underserved Zip Codes in the Continental U.S., July 18, 2022**



**Table 1. Characteristics of Underserved Zip Codes (Compared to Served) in the Continental U.S.**

	Underserved Zip Codes (No Test-to-Treat program within 20 miles of zip code) (n=14,812)	Served Zip Codes (Test-to-Treat program(s) within 20 miles of zip code) (n=18,488)	Underserved Zip Codes (No Test-to-Treat program within 20 miles of zip code) (n=14,812)	Served Zip Codes (Test-to-Treat program(s) within 20 miles of zip code) (n=18,488)
<b>Urbanicity</b>			<b>Proportion of Black residents</b>	
<b>Metropolitan</b> (urban centers with 50,000+ population)	4,083 (22.89%)	13,751 (77.1%)	<b>High proportion</b> (>37% of pop.)	710 (35.1%)   1,310 (64.9%)
<b>Micropolitan</b> (urban clusters with 10,000-49,999 population)	3,046 (63.6%)	1,741 (36.4%)	<b>Medium proportion</b> (>2.5-37% of pop.)	2,690 (26.4%)   7,509 (73.6%)
<b>Small town</b> (urban clusters with 2,500-9,999 population)	2,492 (69.8%)	1,076 (30.2%)	<b>Low proportion</b> (≤2.5% of pop.)	10,900 (54.7%)   9,041 (45.3%)
<b>Rural</b> (clusters <2,500 population)	4,798 (76.6%)	1,469 (23.4%)	<b>Proportion of Hispanic residents</b>	
			<b>High proportion</b> (>45.5% of pop.)	449 (28.1%)   1,149 (71.9%)
			<b>Medium proportion</b> (>18.3-45.5% of pop.)	896 (27.6%)   2,349 (72.4%)
			<b>Low proportion</b> (≤18.3% of pop.)	12,955 (47.4%)   14,362 (52.6%)
<b>Poverty Status</b>			<b>Proportion of American Indian/Alaska Native residents</b>	
<b>High Poverty</b> (>17.3% of pop.)	3,974 (49.4%)	4,069 (50.6%)	<b>High proportion</b> (>30.1% of pop.)	255 (70.4%)   107 (29.6%)
<b>Medium Poverty</b> (>12.3-17.3% of pop.)	2,730 (49.3%)	2,806 (50.7%)	<b>Medium proportion</b> (>0.7-30.1% of pop.)	9,020 (61.2%)   5,725 (38.8%)
<b>Low Poverty</b> (≤12.3% pop.)	7,521 (40.9%)	10,872 (59.1%)	<b>Low proportion</b> (≤0.7% of pop.)	4,966 (29.3%)   12,003 (70.7%)

Note: Light blue cells indicate where a majority of zip codes in the strata (>50%) are either served or underserved.

### Findings

- People in rural locations had lower access to Test-to-Treat programs (23% of zip codes) compared to metropolitan areas (77%), paralleling trends in the cumulative COVID-19 death rate that is increasingly higher among people living in rural and micropolitan areas.<sup>6</sup>
- The majority of zip codes with the highest proportion of American Indian/Alaska Native residents were underserved had no nearby access to Test-to-Treat.
- Almost half of zip codes with a high poverty rate remained underserved in July 2022.

## Discussion

- Although the federal Test-to-Treat program was designed to reduce barriers to accessing treatment, some populations remain without access, especially rural populations and American Indian/Alaska Native populations.
- Because pharmacy deserts persist in the U.S., many communities will continue to have limited access to antivirals even if pharmacy-based programs like Test-to-Treat expand.<sup>7,8</sup>
- Limitations:** This analysis focuses on geographic access to Test-to-Treat programs, while successfully accessing care is a multifaceted challenge that can have multiple contributing factors beyond physical location.<sup>8,9</sup>
- Conclusions:** Achieving pharmaco-equity is an important goal, especially in the context of an ongoing pandemic with major disparities in health outcomes. Policy efforts, and transparent data, are key to addressing these disparities.

## References

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