

# Examining Spatial Access to Opioid Treatment Programs in New Hampshire and Vermont

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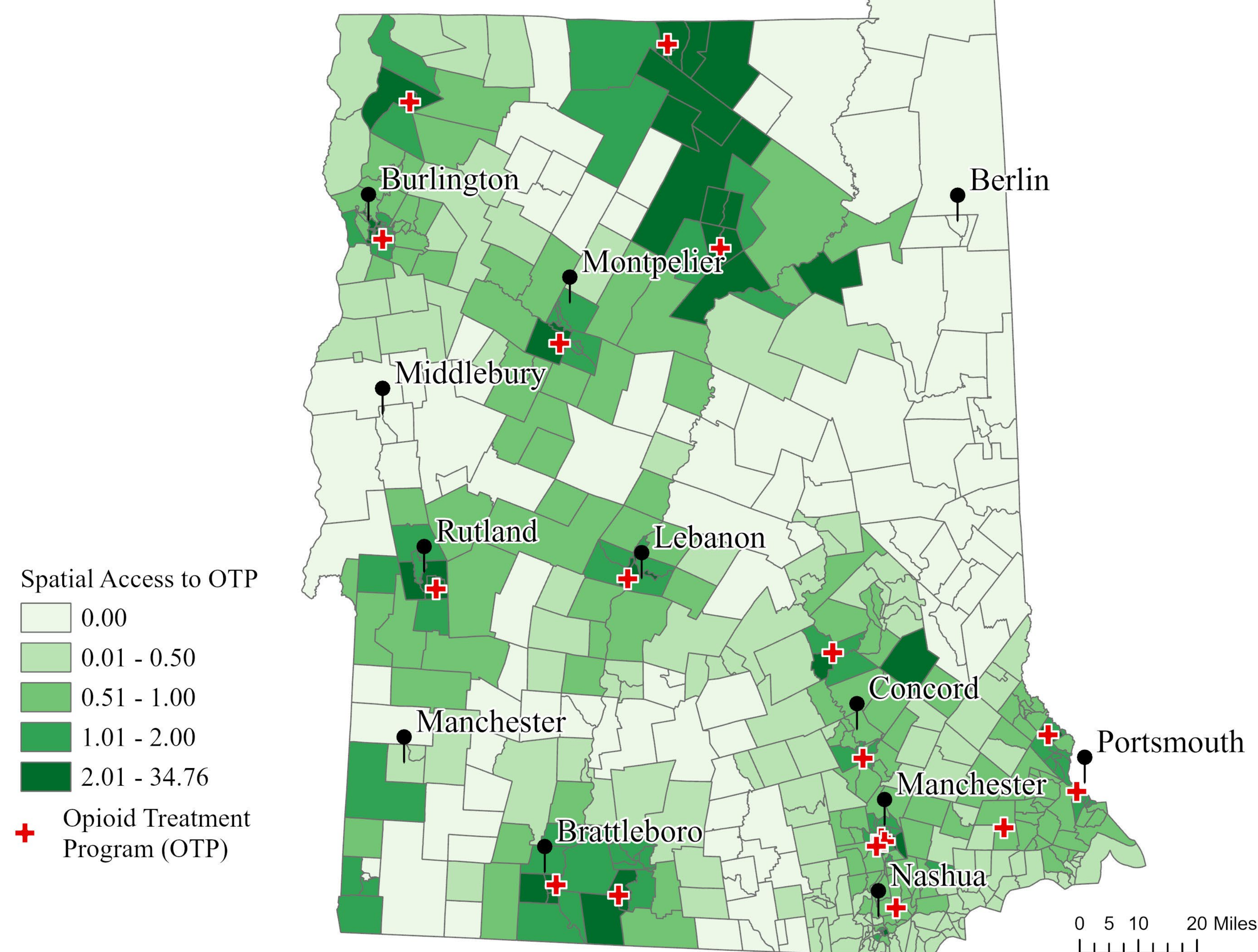
## INTRODUCTION

- Opioid use disorder describes the chronic use of opioids leading to serious distress or impairment (Dydyk 2022)
  - Currently, 2.4 million Americans suffer from opioid use disorder (Shulman 2019)
- Medications such as methadone and buprenorphine can be used to treat opioid use disorders
- Opioid treatment programs (OTPs) facilitate medication-assisted treatment for people with opioid use disorder
  - Most individuals receiving medication-assisted treatment visit an OTP daily to receive medication (Frank 2021)
- Longer drive times to OTPs are associated with a significant reduction in the odds of completing a medication-assisted treatment program (Alibrahim 2022)
- There are 18 OTPs in New Hampshire and Vermont
- In this project, I examined spatial access to OTPs in New Hampshire and Vermont

## RESULTS

### Spatial Access to Opioid Treatment Programs in New Hampshire and Vermont

Based on 2SFCA Analysis



## ANALYSIS

- I used two-step floating catchment area (2SFCA) analysis to quantify total access to currently operating OTPs for each census tract in New Hampshire and Vermont
- OTP locations were obtained using the Substance Abuse and Mental Health Administration (SAMHSA) treatment locator
- Census tract data (population, polygon, population-weighted centroid) and road network data were obtained from census.gov
- In my analysis, I assumed that all people reside at the population-weighted centroid of their respective census tract

**Step 1:** I generated an Origin-Destination Cost Matrix to determine drive time from each census tract to each OTP

- Origins = census-tract centroids; Destinations = opioid treatment programs
- Set cutoff time to 30 minutes

**Step 2:** For each OTP, I calculated each person's share of the facility

- Share of OTP =  $\frac{1}{\text{total population within 30-minute drive time of OTP}}$

**Step 3:** For each census tract, I summed up each person's shares of each facility within 30-minute drive time → quantify total access to OTPs

- Adjust each person's share of each facility based on distance decay (weighted distance value =  $\frac{1}{\text{Drive Time}}$ )
- Total access to OTPs = share of OTP x weighted distance value

## FINDINGS

- Much disparity exists in spatial access to OTPs in New Hampshire and Vermont
- Of the 479 census tracts in New Hampshire and Vermont, 101 are considered to have no access to opioid treatment programs
- Overall, access to opioid treatment programs appears to be greater in Vermont than in New Hampshire
- Spatial access is greatest in the northeast corner of Vermont (near Newport)

## LIMITATIONS & FUTURE RESEARCH

- Limitation: My analysis does not consider access to OTPs in border states (Maine, Massachusetts, New York)
- Limitation: All OTPs were considered to have the same capacity (improvement: use provider count or clinic size to specify capacity)
- Future Research: Examine the association between spatial access to OTPs and unintentional overdose rates

## WORKS CITED

- Alibrahim, Abdullah, et al. "Disparities in Expected Driving Time to Opioid Treatment and Treatment Completion: Findings from an Exploratory Study." *BMC Health Services Research*, vol. 22, no. 1, 2022, <https://doi.org/10.1186/s12913-022-07886-7>.
- Dydyk, Alexander, et al. *Opioid Use Disorder*. StatPearls Publishing, 2023.
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- Shulman, Matisyahu, et al. "Buprenorphine Treatment for Opioid Use Disorder: An Overview." *CNS Drugs*, vol. 33, no. 6, 2019, pp. 567–580, <https://doi.org/10.1007/s40263-019-00637-z>.