Examining Spatial Access to Opioid Treatment Programs in New Hampshire and Vermont
Amalya Wilson ’23
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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

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


