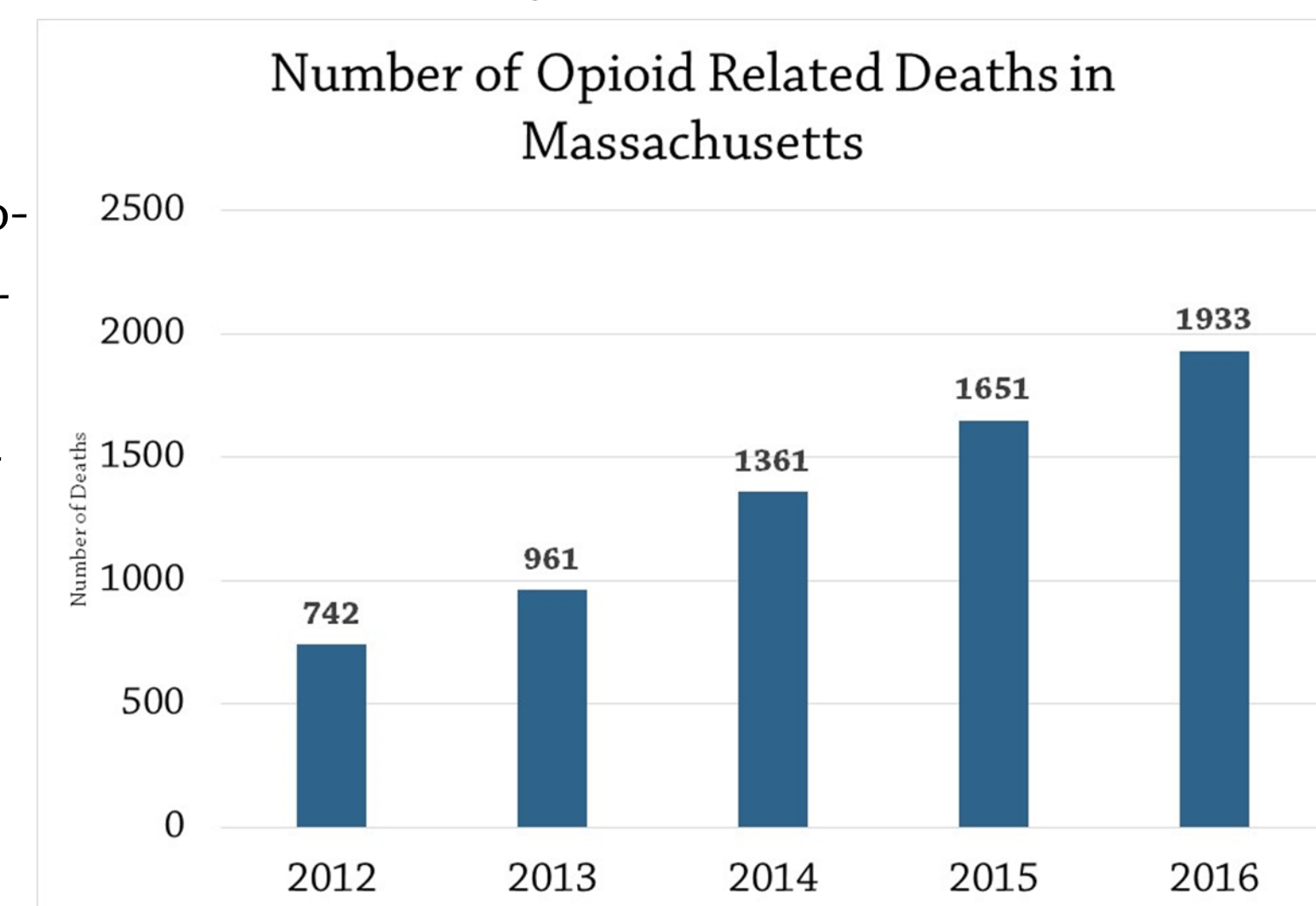


Unmet Need for Opioid Treatment Programs in Massachusetts

Introduction

Use of opioid pain relievers (OPRs) has increased drastically in the United States in recent years. OPRs are highly addictive and carry a high risk of overdose. 1997 to 2011, the number of individuals seeking treatment for opioid addiction in the US increased 900%, and opioid-related overdose death rate has nearly quadrupled (Kolodny et al., 2015). In 2016, there were 1,933 opioid-related deaths in Massachusetts, which is about 2.83 deaths per 10,000 residents. The Substance Abuse and Mental Health Administration (SAMHSA) oversees and certifies opioid treatment programs (OTPs) in the US, which provide medication assisted therapy as well as counseling and other behavioral therapy for individuals diagnosed with opioid-use disorders (SAMHSA).

However, access to OTPs and other substance abuse services is limited. There is a large unmet need for treatment of substance use disorders in the United States, with only about 10% of adults with a substance use disorder receiving treatment (SAMHSA, 2017). As opioid related deaths are continuing to increase in Massachusetts and nationwide, it is likely that effective treatment for opioid use disorders is not available to many individuals who need it. This analysis will be analyzing how OTPs in Massachusetts are spatially distributed relative to areas with high opioid-related death rates. It will also examine the availability of general substance abuse treatment services in low socioeconomic status (SES) communities in the Boston area. Low SES is widely found to be associated with many negative health outcomes, so it is likely that these communities are most in need of substance abuse treatment services.



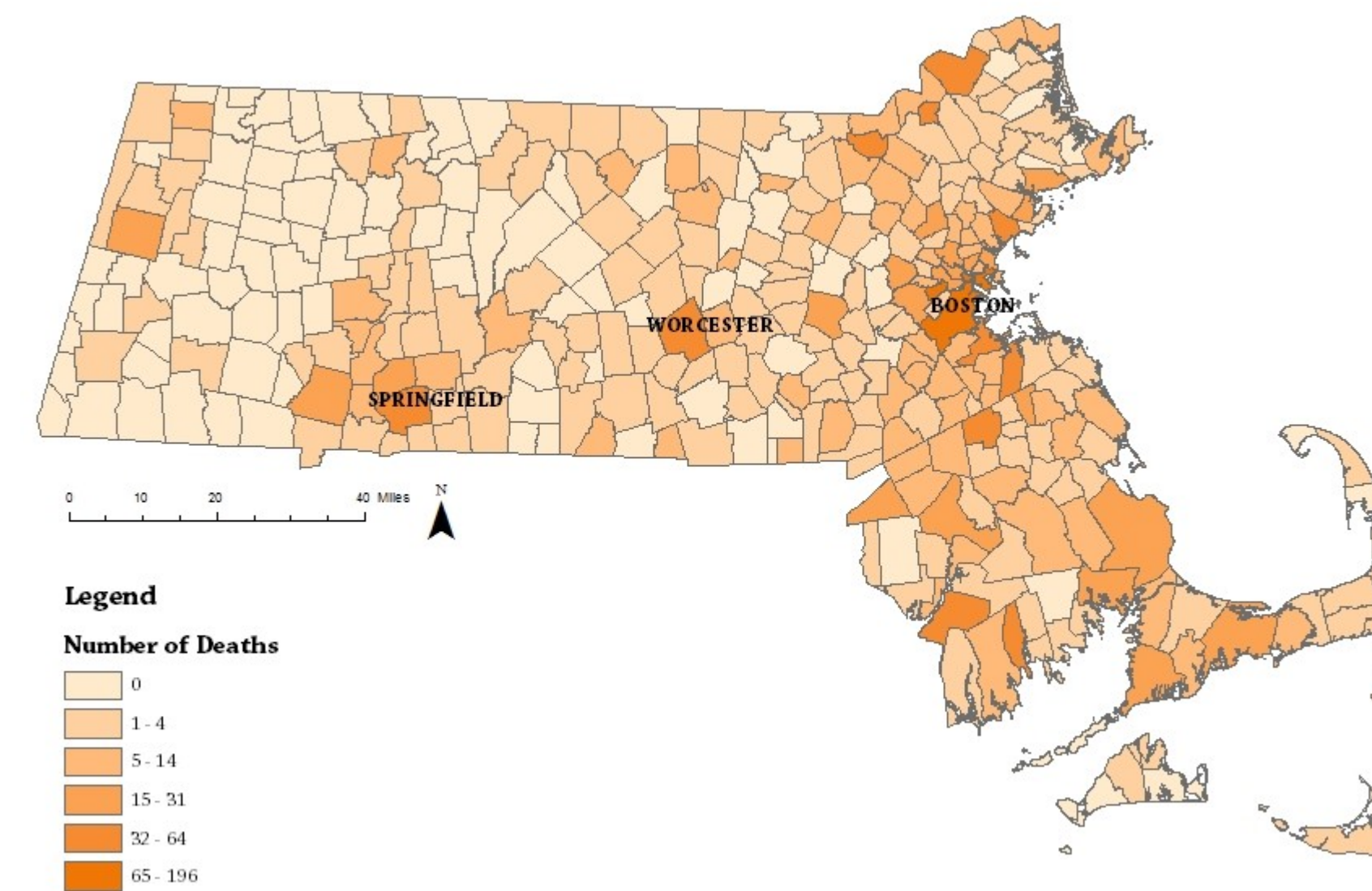
Methodology

Data on number of deaths per town were joined to town shape files. Total numbers of opioid-related deaths in each town were divided by population in order to obtain death rates per 10,000 residents. Locations of SAMHSA-certified opioid treatment centers were geocoded using latitude and longitude and joined to town shape files. An attribute query was used to identify towns with opioid death rates higher than the Massachusetts average and with no opioid treatment programs.

The composite risk score for the Boston area was calculated by converting census tract data on racial demographics, unemployment, education, and income to rasters. These rasters showed the percentage of residents in each census tract who were non-white, percentage unemployed, percentage with no high school degree, and percentage with income below 150% of the poverty line. Each of these four rasters was reclassified and combined using the raster calculator tool to show composite risk scores for each area. Substance abuse treatment locations were geocoded using latitude and longitude and projected on to the map.

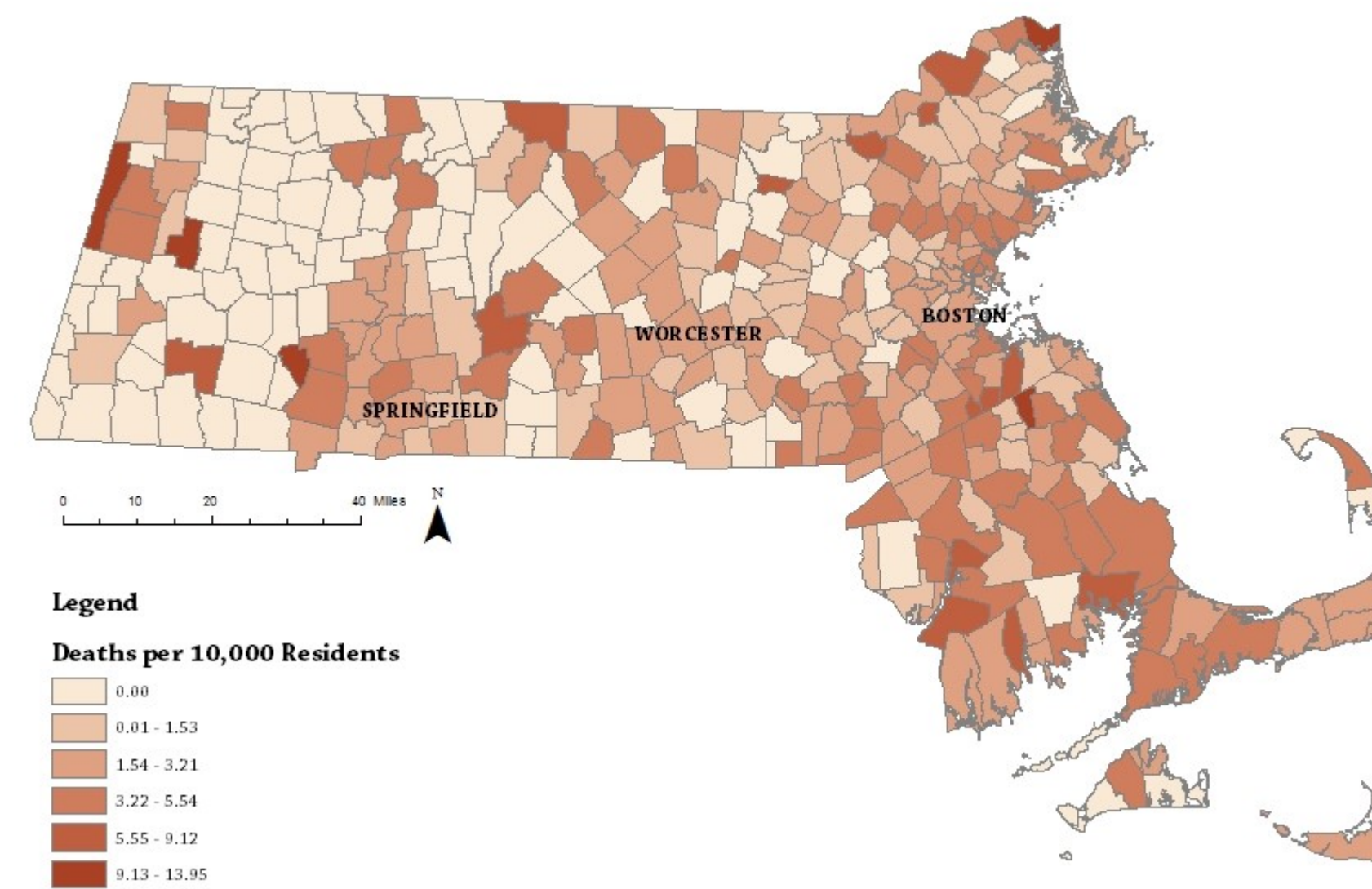
Results and Conclusions

Number of Opioid-Related Deaths by Town, 2016

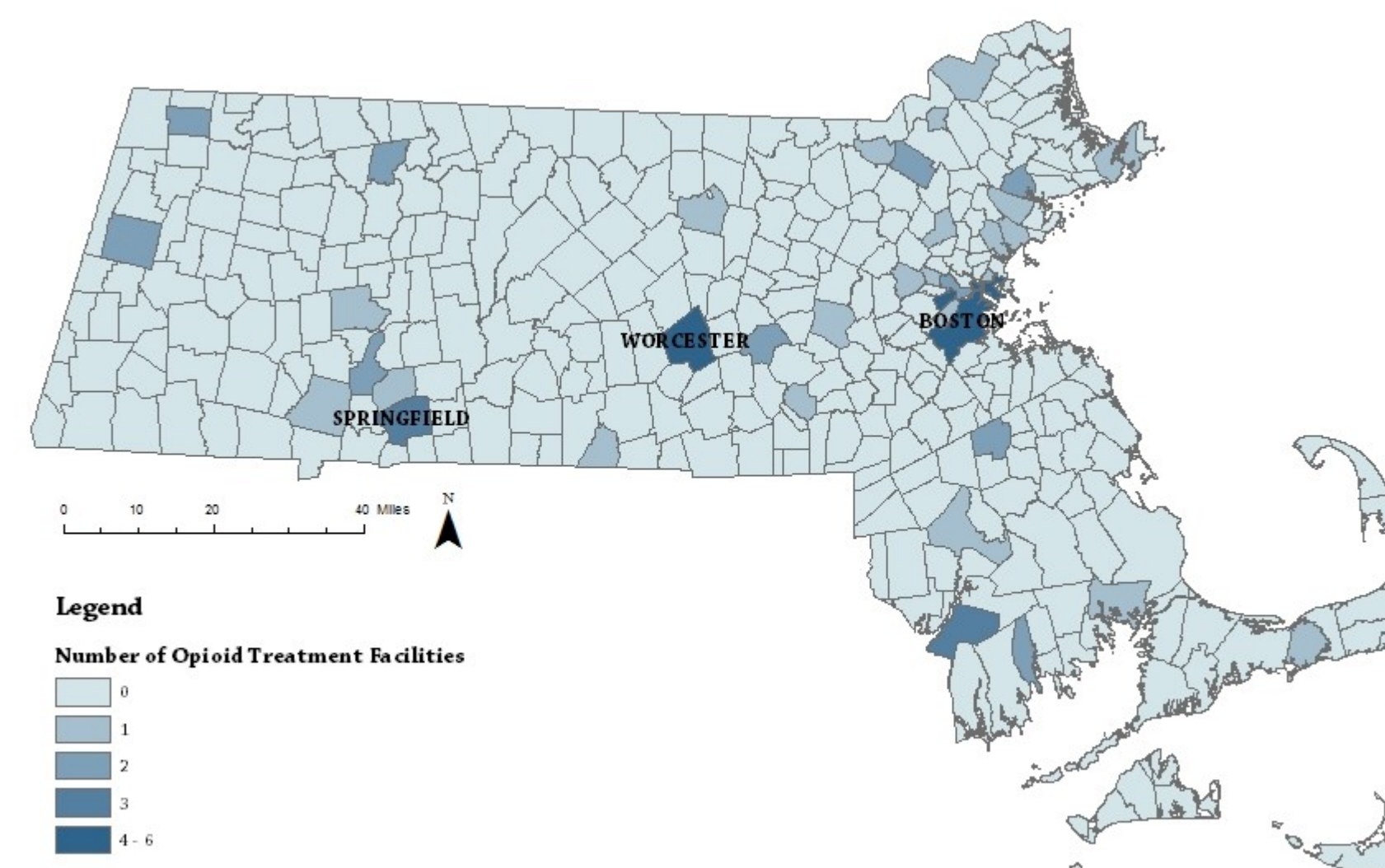


Normalized by Population

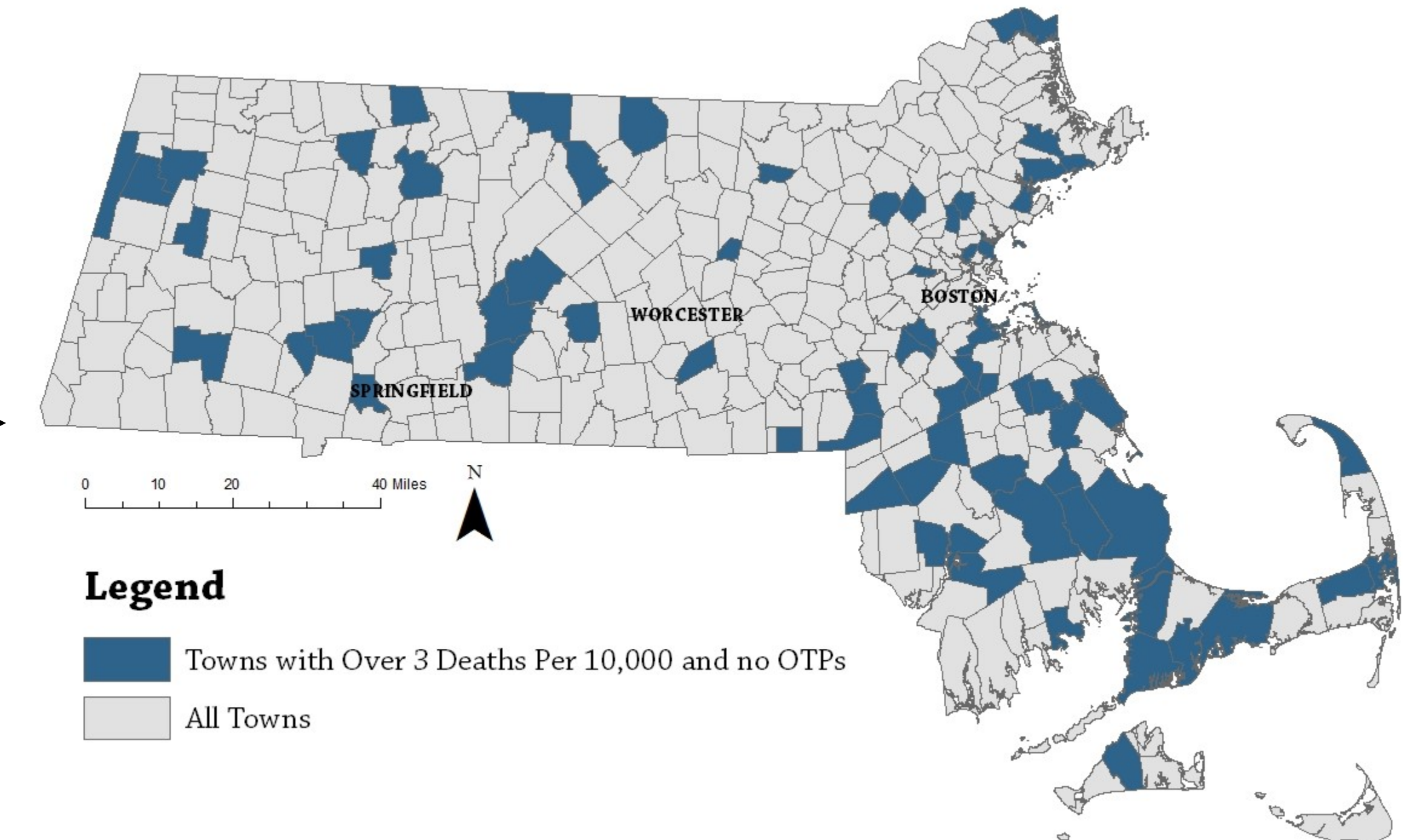
Opioid-Related Death Rates by Town, 2016



Number of Opioid Treatment Programs by Town



Towns with Large Unmet need for Opioid Treatment Programs



Mapping the total number of opioid deaths per town shows towns with especially large number of opioid-related deaths. However, the towns with high numbers of deaths are also towns with relatively large populations (for example Boston, Worcester, and Springfield). Normalizing the number of deaths in each town by the town's population gives a very different picture of the distribution of the burden of the opioid epidemic in Massachusetts.

This analysis identified 72 towns in Massachusetts with relatively high opioid-related death rates and no SAMHSA certified opioid treatment programs. Access to treatment facilities focused on opioids should be expanded in suburban and rural towns outside the main cities in Massachusetts. These towns carry a higher burden relative to their populations that may be currently unrecognized.

Low SES Communities and Substance Abuse Treatment in the Boston Area

