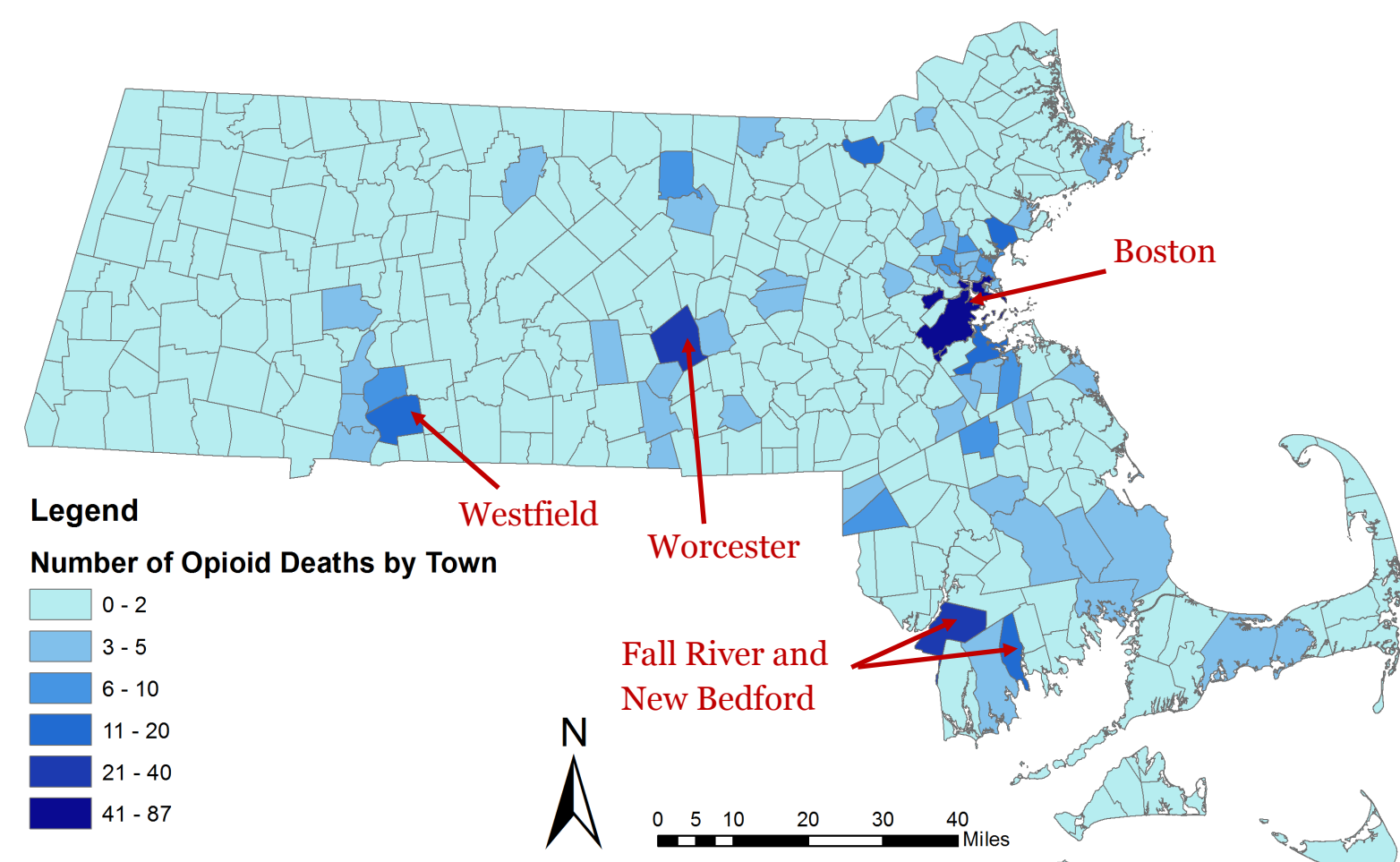


Introduction

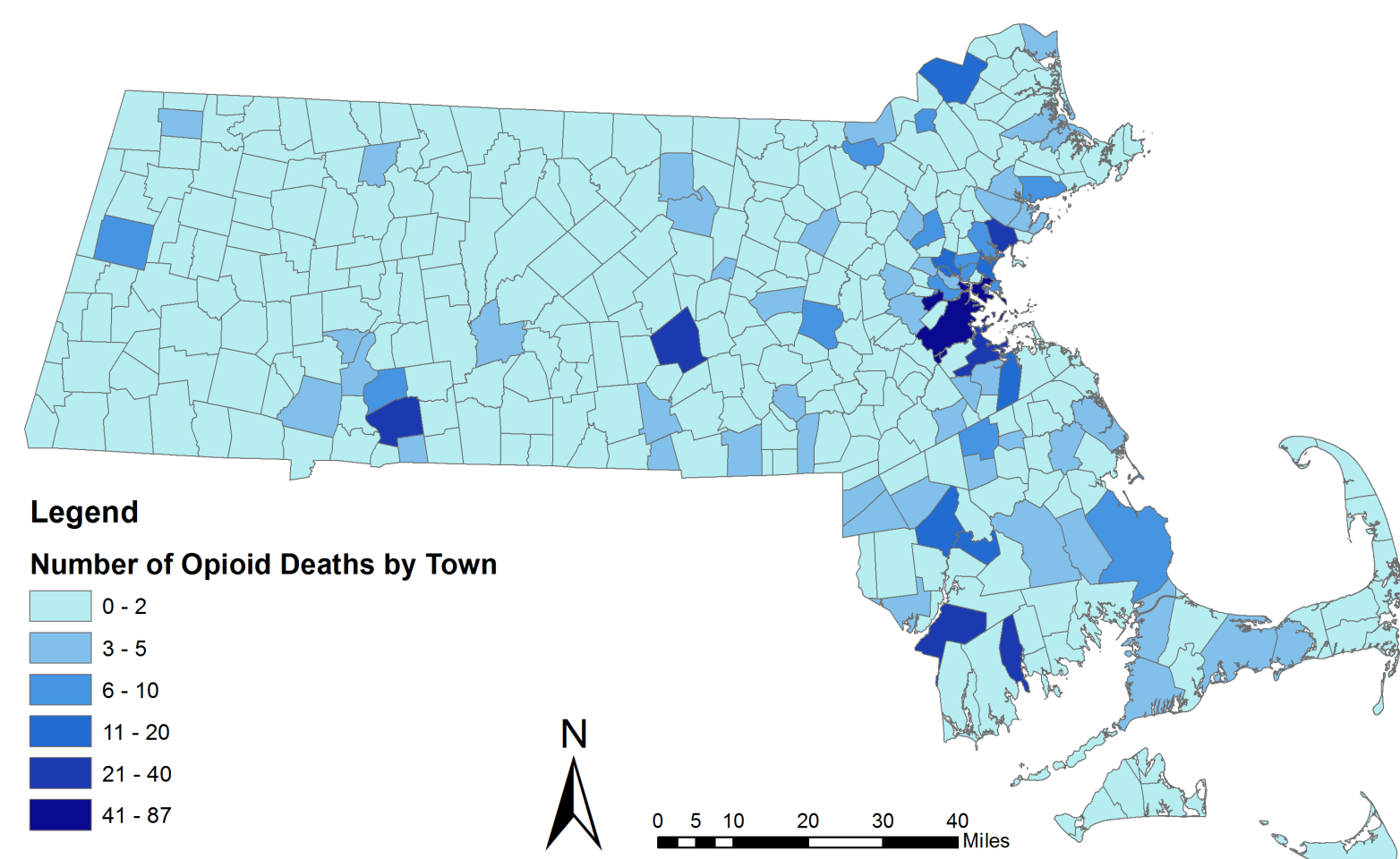
Massachusetts is facing an opioid epidemic, with the number of opioid overdoses nearly doubling from 2000 to 2012. In 2014, the Massachusetts governor declared a public health emergency, mobilizing state funding and resources to combat the problem. Nationally, this most recent opioid epidemic is notable for being a predominantly white problem, who make up nearly 90% of new heroin users in the past decade. This has led to widespread ramifications, from greater attention on the federal level on the subject, to an increasingly vocal white population looking to soften the War on Drugs and penalties for drug possession and use, an unpopular opinion only a decade or two before. Given all this, I ask, how is the timing of the Massachusetts response to the opioid epidemic related to, if at all, any changes in the racial or financial demographics of the opioid overdose victims?

Spread of Opioid use over time

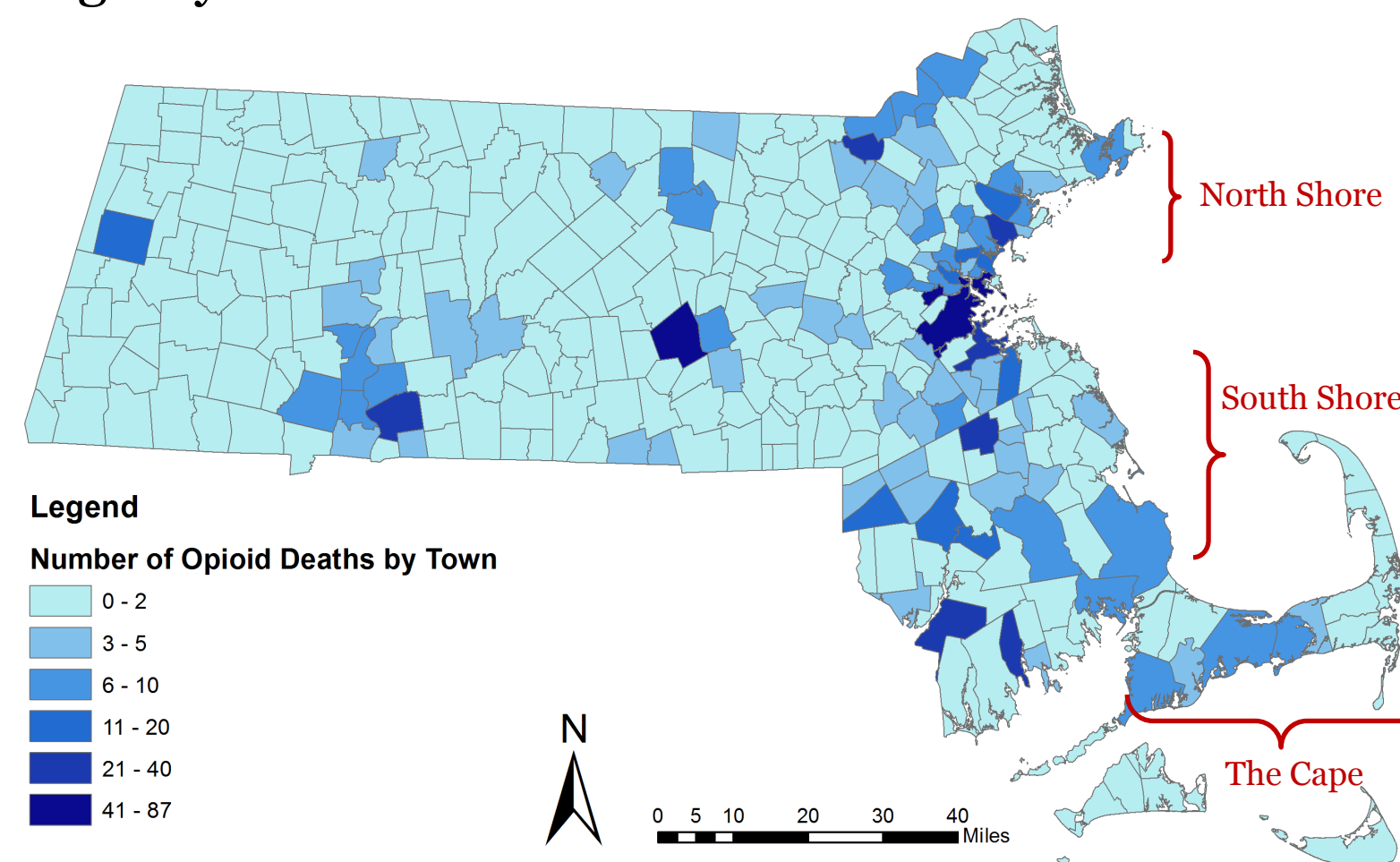
2011 Opioid Deaths by Town, indicative of past years



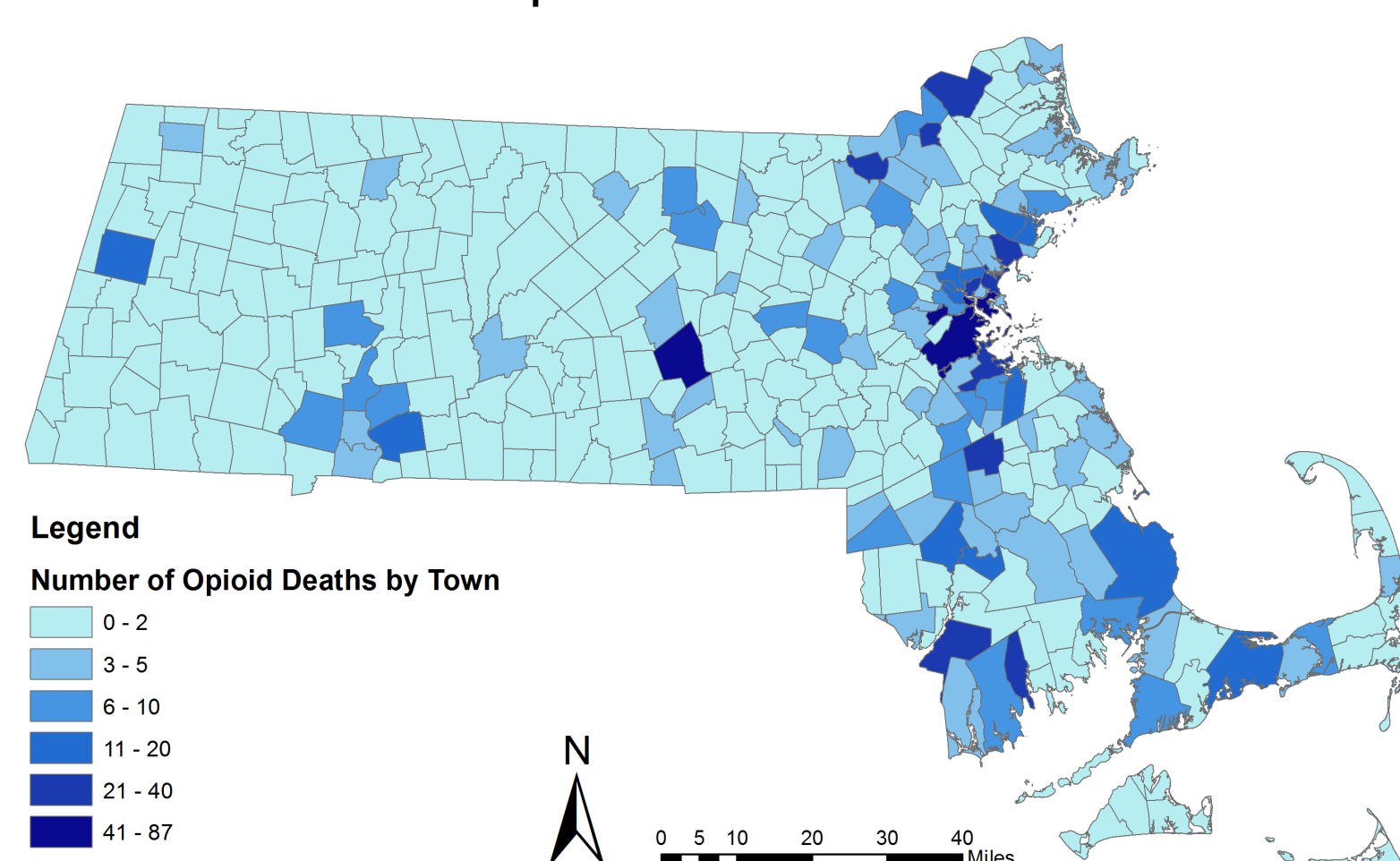
2012 Opioid Deaths by Town



2013 Opioid Deaths by Town, year before public health emergency declared



2014 Opioid Deaths by Town, public health emergency declared in March 2014



Data Description

- Opioid death data by town was taken from the Massachusetts Department of Public Health.
- Household income data was obtained from the American Community Survey's 2014 5-year estimates for median household data.
- Race data was taken from the 2010 U.S. Census, and the nonwhite proportion of the total town population was calculated.
- News articles from early 2014 was analyzed for key actors in the governmental response.

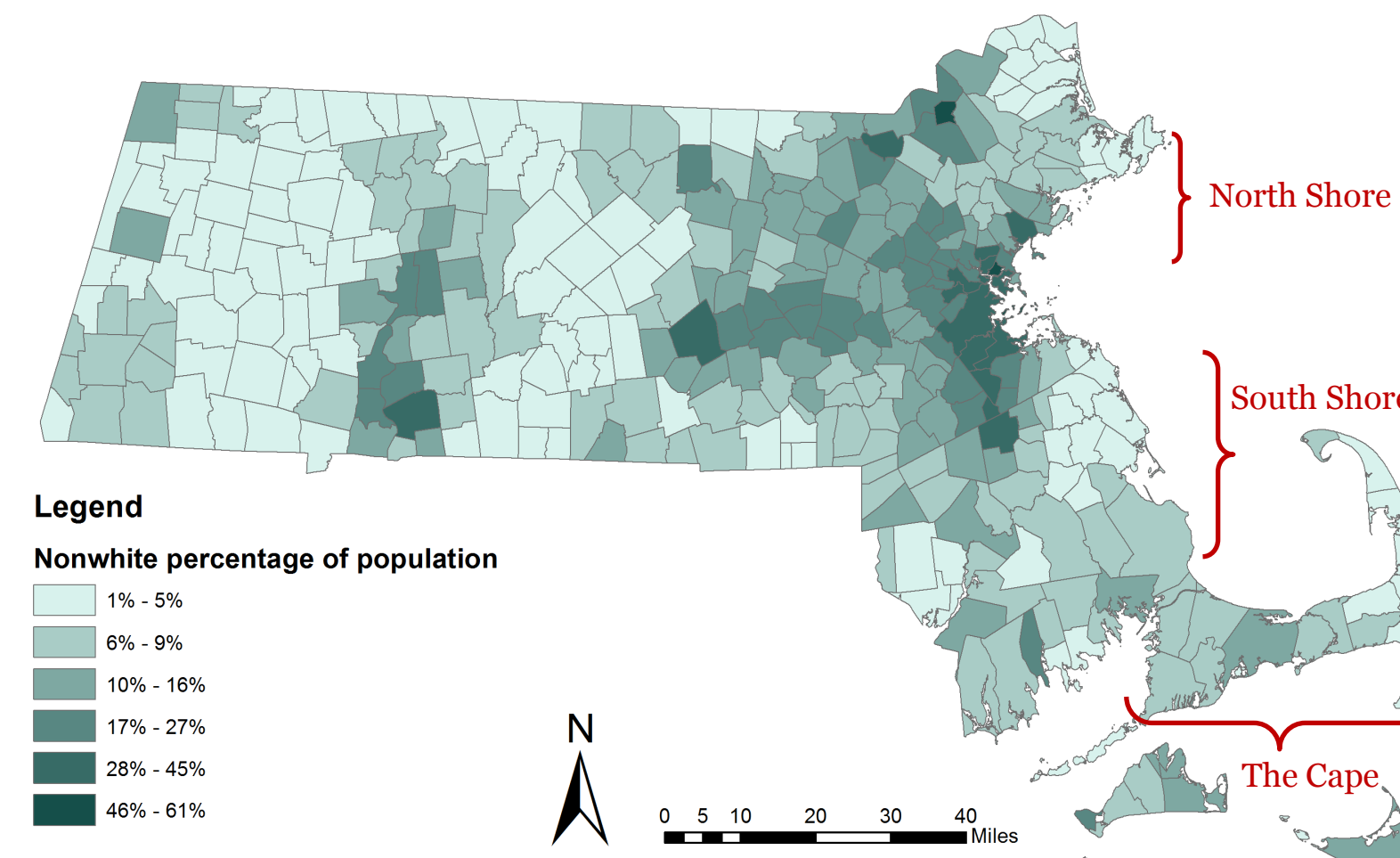
Methods

- The number of opioid deaths by town were plotted for every year from 2004-2014 and visually examined for patterns or trends. Local Moran's I calculations (not included on poster) were performed and mapped in order to better visualize clusters to focus on.
- The maps of opioid deaths by town were then visually compared to maps of median household income and minority population by town, with special focus on areas with clusters of overdoses.

Results

- Issues with opioids and heroin have been endemic in the state for a while—towns like Fall River and New Bedford in the south, Westfield and Worcester in the west and center respectively, and Boston have had high levels of narcotic deaths for years.
- The towns mentioned above are often towns with higher populations of minorities and lower median household income than their neighbors.
- Leading up to the 2014 declaration of emergency, the epidemic was beginning to spread to the Cape, the North Shore, and the South Shore, areas with lower proportions of minorities and higher median household incomes. By 2014, when the emergency was declared, the epidemic had not only spread to more economically and racially distinct towns, but also had gotten worse in towns where opioid overdoses were endemic.

Minority proportion of population by town 2010 Census data



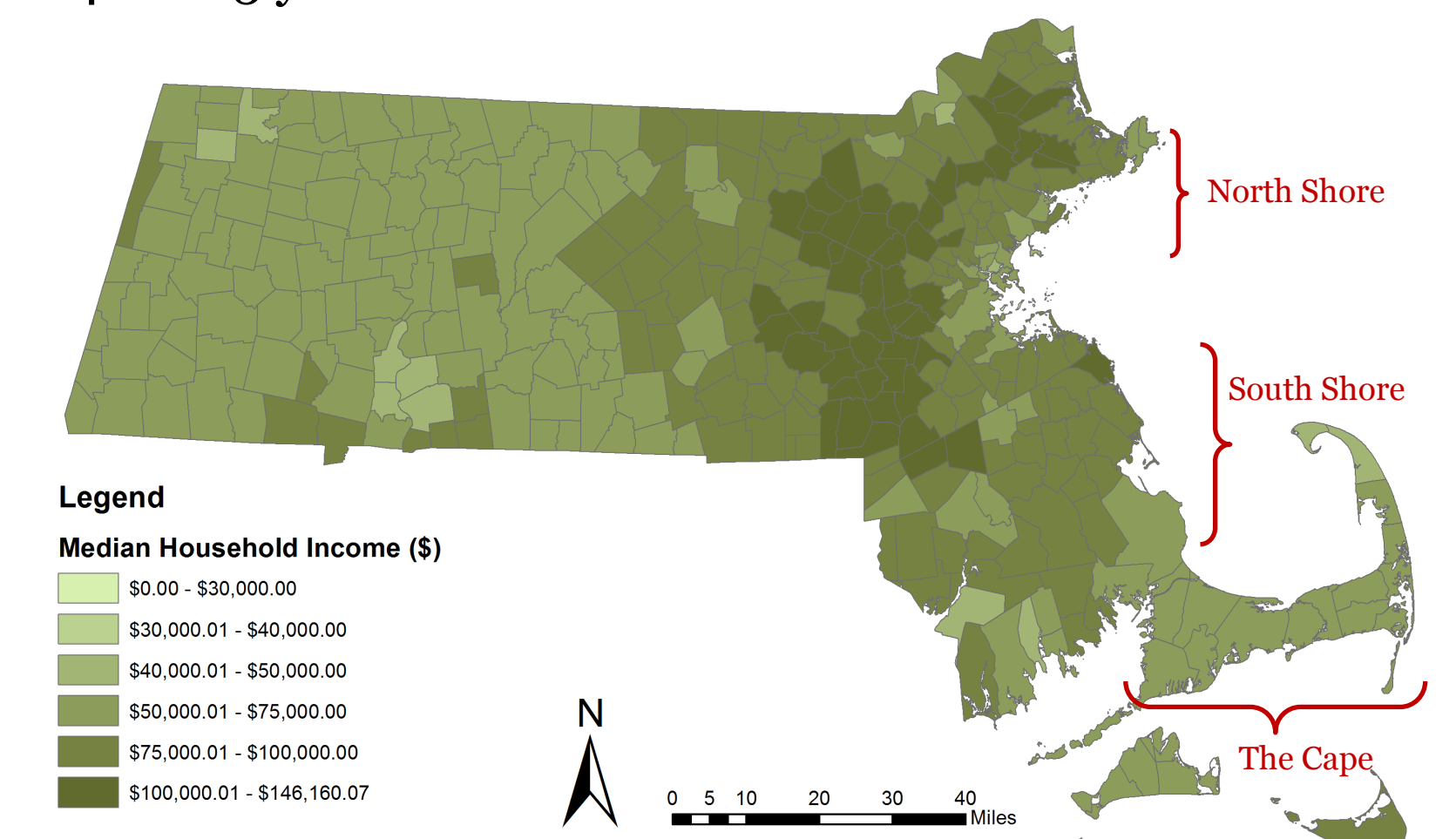
Discussion

- These new towns and regions being affected are, on the whole, wealthier and have fewer minorities than towns traditionally affected by overdoses.
- The declaration of a public health emergency came at the same time as not only a geographic increase in the spread of the overall epidemic, but also an increase in the absolute number of cases of opioid overdoses, including in towns where such overdoses were endemic for over a decade.
- The response in the state legislature was led by senators from both traditionally affected regions as well as from newly affected regions, with the effort spearheaded by Therese Murray representing Plymouth and Barnstable and John Keenan of Norfolk and Plymouth (newly affected), as well as Jennifer Flanagan of Worcester and Middlesex (traditionally affected).

Relevance to Policy and Research

- Issues of opioid overdose are not new for the state of Massachusetts. However, the towns experiencing troubles with this before the most recent surge in overdoses were overall poorer and had a higher proportion of minority populations than their neighbors. While these may have been important issues locally, there was no mobilization of state resources at the scale of the declaration of public health emergency in 2014.
- Future research could look more in depth at the specific demographics of overdose victims for any correlations, instead of relying on town demographics. This would also be an interesting study to perform on the national level, seeing how shifts in demographics of overdose victims affects political and media discussion around these issues.
- Both politicians and the general public must be aware of what voices and whose life experiences are being heard when discussing and enacting policy.

Median Household Income by town 2014 ACS 5 year estimate



References and Data Sources

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- Seelye, K. Q. (2015, October 30). In Heroin Crisis, White Families Seek Gentler War on Drugs. *New York Times*. Retrieved February 2, 2016, from <http://www.nytimes.com/2015/10/31/us/heroin-war-on-drugs-parents.html>

Data Sources: MassGIS, American Community Survey, U.S. Census, Massachusetts Department of Public Health Death Reports

Produced May 9th 2016.