

ABSTRACT

Purpose Statement:

The current study examines the spatial pattern of mental health related 911 calls (MH 911 calls) in New York City (NYC) and whether mental health services and provider shortage areas have a higher MH 911 call rates than non-shortage areas.

Key Findings:

Mental Health Professional Shortage Areas (MH HPSAs) had the higher MH 911 call rates than non-shortage areas in NYC.

MH 911 calls were concentrated in MH HPSAs in Upper Manhattan and the Bronx.

On the other hand, Chelsea-Clinton, a non-MH HPSA area, was found to have the highest MH 911 call rates.

Conclusions:

MH 911 call rates represent not only to what extent mental health issues are prevalent in communities but also the lack of community resources to respond to a situation where a person is having a mental health crisis.

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INTRODUCTION

Mental-Health Related 911 Calls (MH 911 Calls)

- Recent studies have shown that MH 911 calls tend to be concentrated in specific areas
- Prevalence of mental health issues may not be the sole factor for high rates of MH 911 calls in some areas
- The more important factor could be the absence of other public or private agencies that people can use for mental health-related issues

Mental Health Professional Shortage Areas (MH HPSAs)

- The Health Resources and Services Administration (HRSA) designates MH HPSAs in areas that have a shortage of mental health care providers
- In New York City (NYC), 18 of 42 United Hospital Fund (UHF) neighborhoods are currently designated as MH HPSAs

MH 911 Calls and MH HPSAs in NYC

- The current study examines the spatial pattern of MH 911 calls in NYC and whether mental health services and provider shortage areas have a higher prevalence of MH 911 calls than non-shortage areas

DATA & METHODS

- Outcome variables of this study are annual MH 911 calls per 1,000 population (MH 911 call rates)
- New York Police Department (NYPD)'s 911 data for January 2018–December 2021 were used for the analysis
- One radio signal code, 54E-EDP (emotionally disturbed person), was used to identify mental health related 911 calls
- Independent t-test was used to compare MH 911 call rates between MH HPSAs and non-MH HPSAs
- Local Moran's I statistic was used to identify high-high clusters—neighborhoods with a high prevalence of MH 911 calls surrounded by other neighborhoods with a high prevalence of MH 911 calls

RESULTS

- About 5% of total 911 calls were mental health related calls (Table 1)

Table 1. Proportion of MH 911 Calls in Total 911 Calls in NYC

Year	MH 911 Calls	Total 911 Calls	%
2018	348,326	6,447,122	5.40%
2019	333,079	6,640,911	5.02%
2020	312,597	6,421,740	4.87%
2021	323,968	6,707,027	4.83%
Total	1,317,970	26,216,800	5.03%

- MH HPSAs had higher MH 911 calls rates than non-shortage areas ($t=-2.02, P=.03$) (Figure 1)
 - MH HPSAs in Upper Manhattan and the Bronx had higher MH 911 call rates than other areas
 - However, Chelsea-Clinton, a non-shortage area, had the highest MH 911 call rates

Figure 1. Choropleth Map of Annual MH 911 Calls Per 1,000 Population in NYC

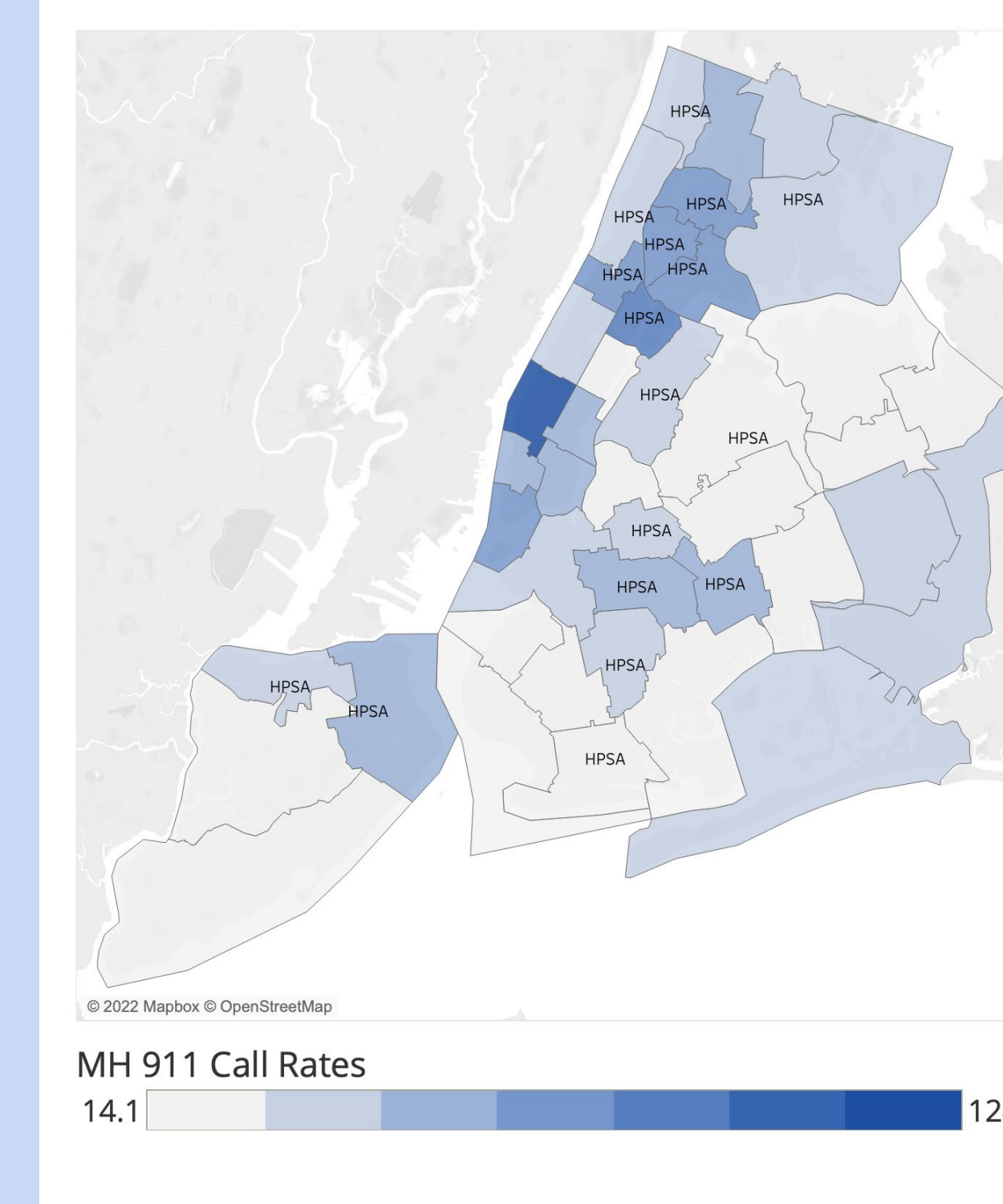
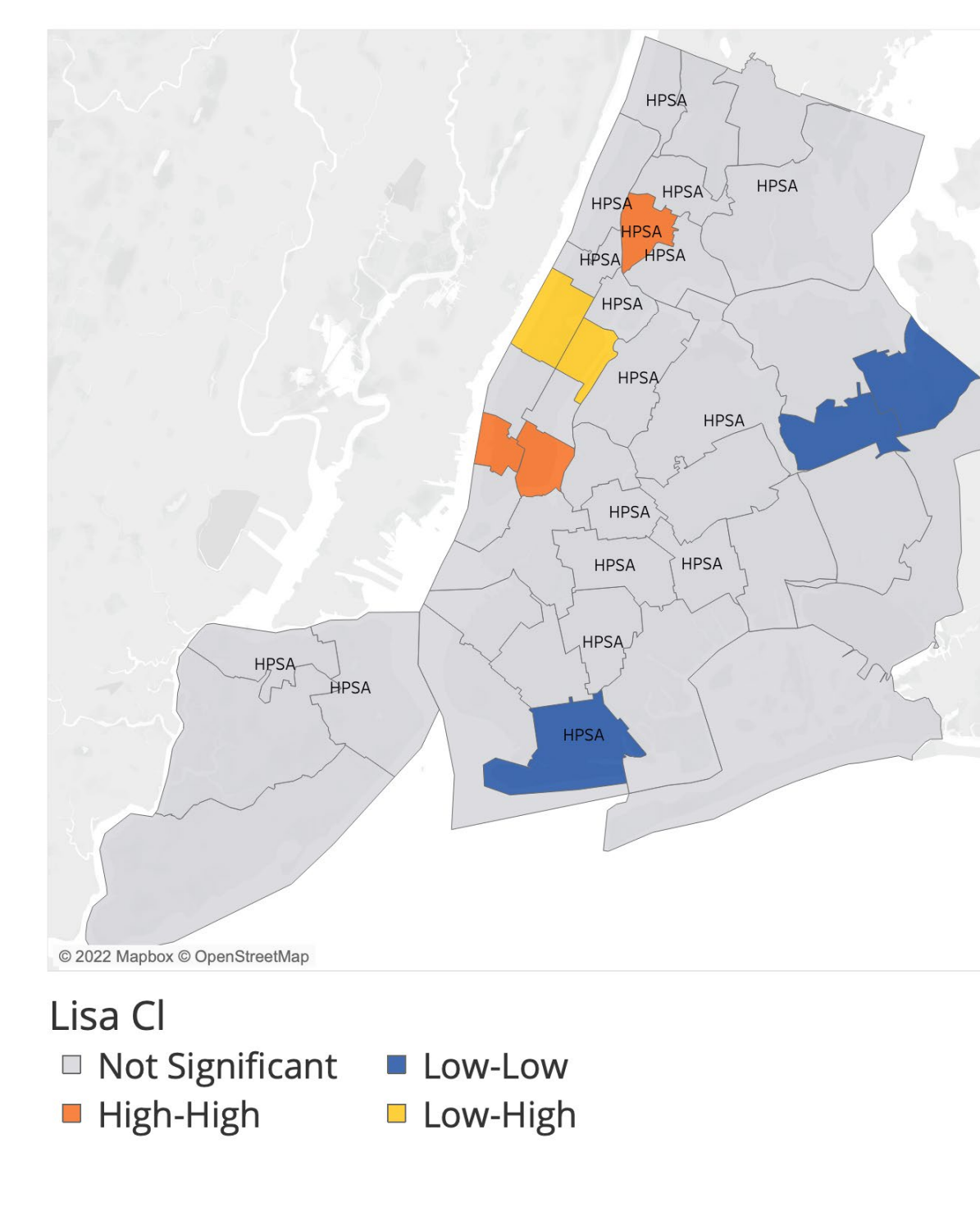


Figure 2. LISA Cluster Map of Annual MH 911 Calls Per 1,000 Population in NYC



RESULTS (cont.)

- MH 911 calls were not randomly distributed in NYC ($I=.25, P<.01$) (Figure 2)
 - High Bridge, one of the MH HPSAs, and neighboring MH HPSAs were identified as high-high clusters
 - Greenwich Village and Union Square, non-shortage areas, were also identified as high-high-clusters

DISCUSSION

- MH HPSAs had higher MH 911 call rates than non-shortage areas
 - Shortages and/or lack of mental health providers and services may lead citizens to rely more heavily on the police to handle mental health related issues
- Contrary to the prediction, a few non-shortage areas had high MH 911 call rates
 - One possible explanation is that these areas had a high prevalence of mental health issues due to other factors that have not been considered when identifying MH HPSAs (eg, high homeless population rates)

CONCLUSIONS

- Understanding potential causes of spatial concentration of MH 911 calls is important to address the mental health crisis in our communities
- High MH 911 call rates may occur from both high prevalence of mental health issues and a lack of resources for handling those issues
- The current study reveals that MH HPSAs had a higher prevalence of MH 911 calls than non-shortage areas
- Future studies are needed to investigate the relationship between the shortage of mental health services/providers and MH 911 call rates after controlling for other possible confounding factors