Geographic Analysis of the Outpatient Burn Population of an Urban Burn Center

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Introduction

Previous work has utilized geospatial mapping of pediatric burn inpatients at a major urban burn center to analyze the distribution of patients across the catchment area. Over the past several years, our center has seen a significant shift in the number of patients cared for inpatient to outpatient care.

Aim

The purpose of our study was to geographically identify and compare the incidence and location of burn inpatients versus outpatients within the catchment area

Methods

Demographic and clinical data from both inpatient and outpatients was collected from a single urban ABA verified burn center over a 3 year period between 1.2016 and 12.2018 with an age range from 1 month to 101 years old. Geriatric patients were defined as age 60 or greater to facilitate comparison with NBR data which breaks down age by decades. The patients were mapped by their home zip code.

Results

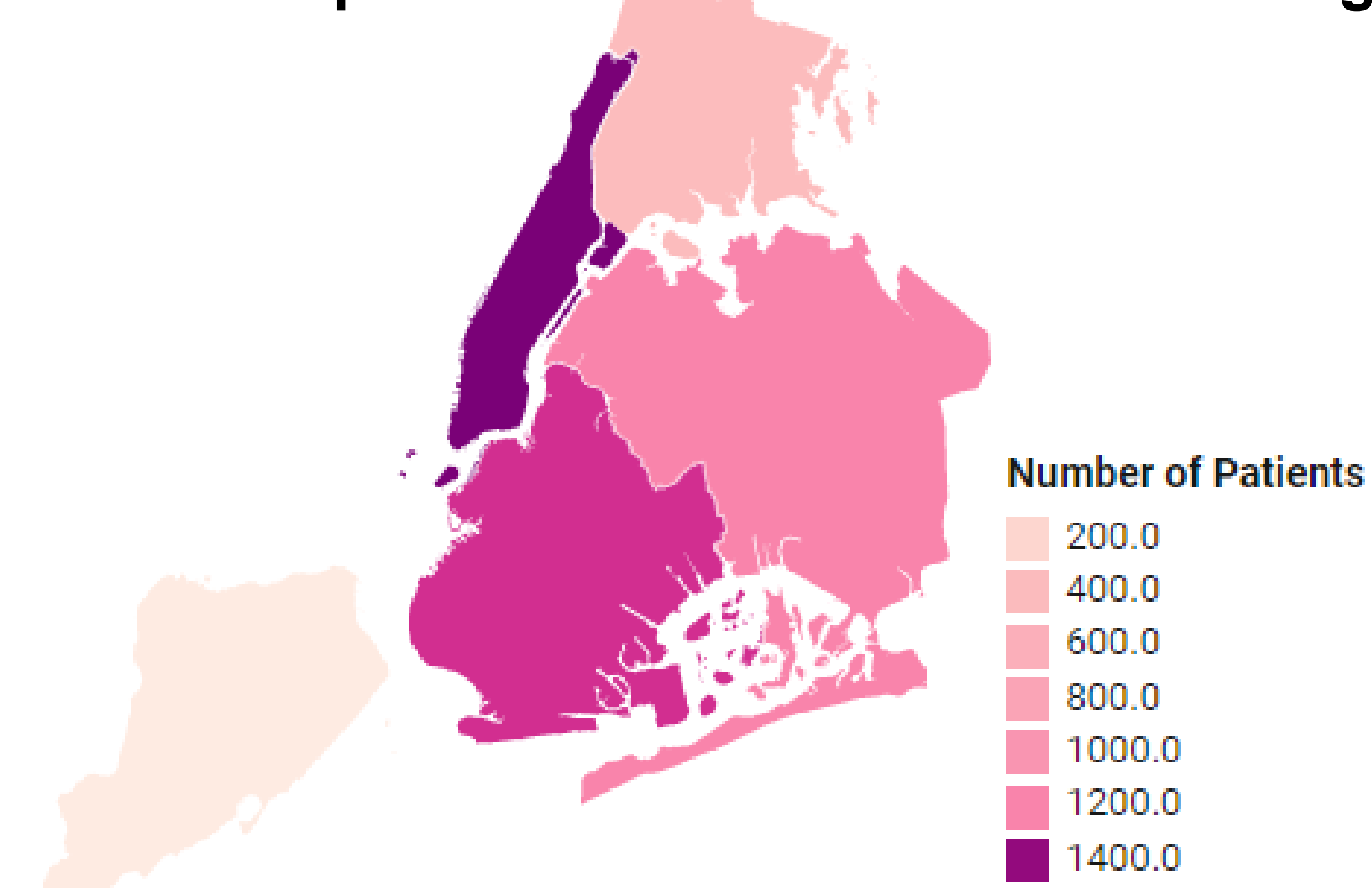Distribution of Inpatient Catchment Area Per Borough
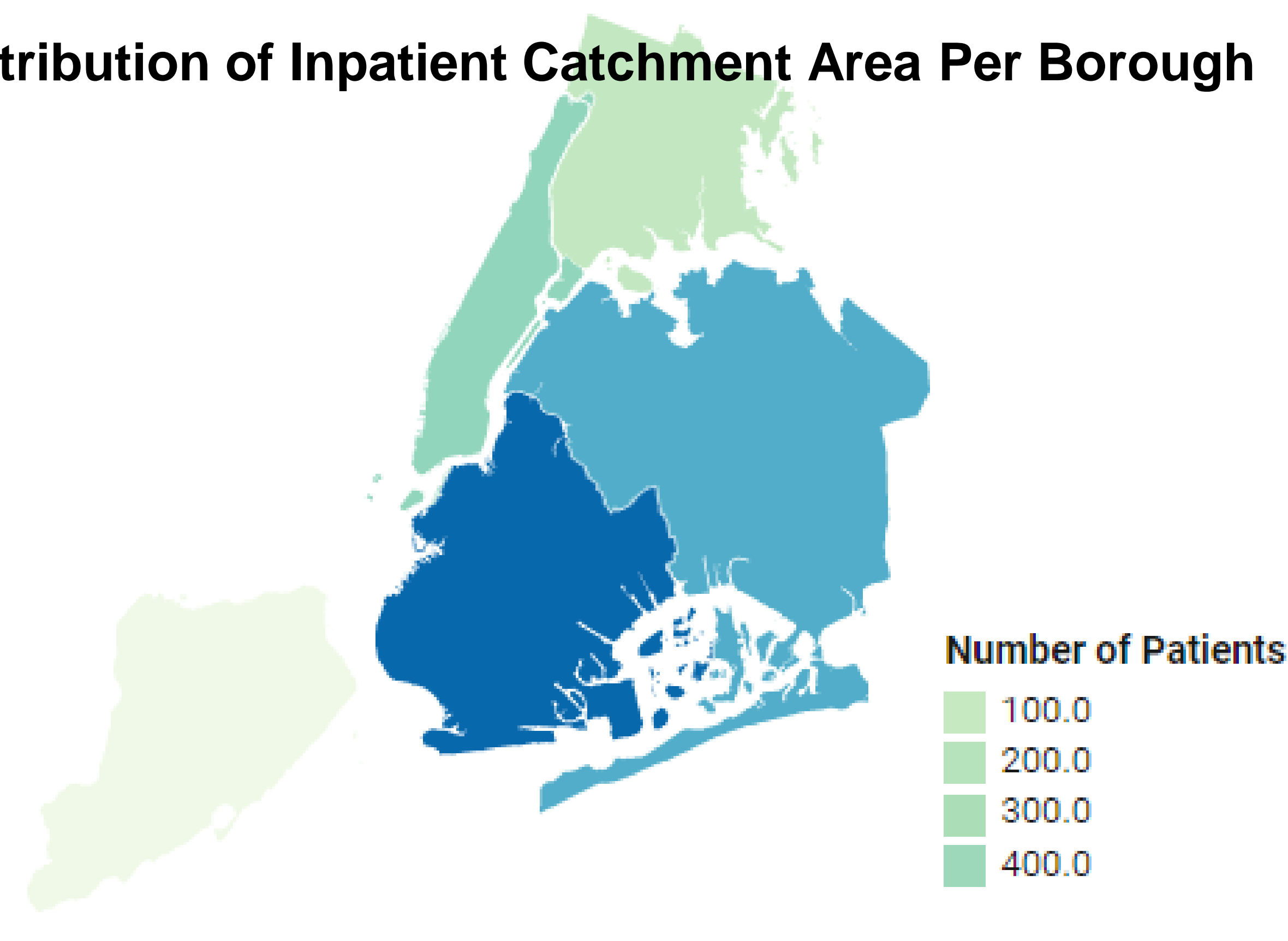
Distribution of Inpatient Catchment Area Per Zip Code
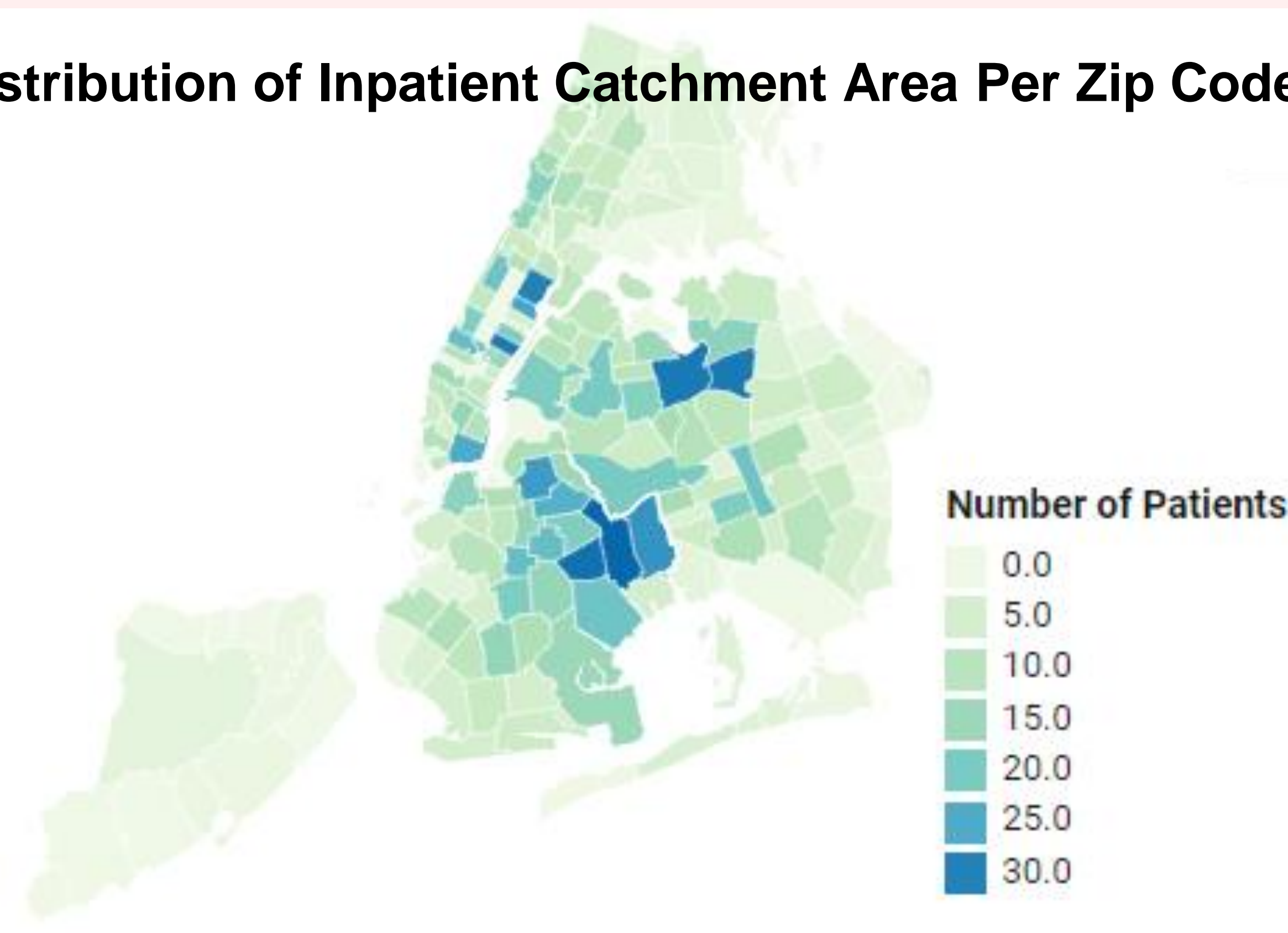
Results Continued

1985 burn patients were admitted to this single tertiary burn center between 1/2016 and 12/2018 with an age range from 1 month-101 years of age. During the same time period, 11281 outpatient encounters occurred with an age range of 1 month to 101 years of age. 28.9% of the inpatients were 60 years or older while 17.4% of the outpatient encounters involved patients 60 years or older. For pediatrics (< age 16), 31.4% of the inpatients were 15 years and younger vs. 26% of the outpatient encounters. The top "hotspots" for inpatient burn zip codes vs. outpatient burn zip codes were different for 3 of the 6 zip codes compared.

Distribution of Outpatient Catchment Area Per Borough

Distribution of Outpatient Catchment Area Per Zip Code
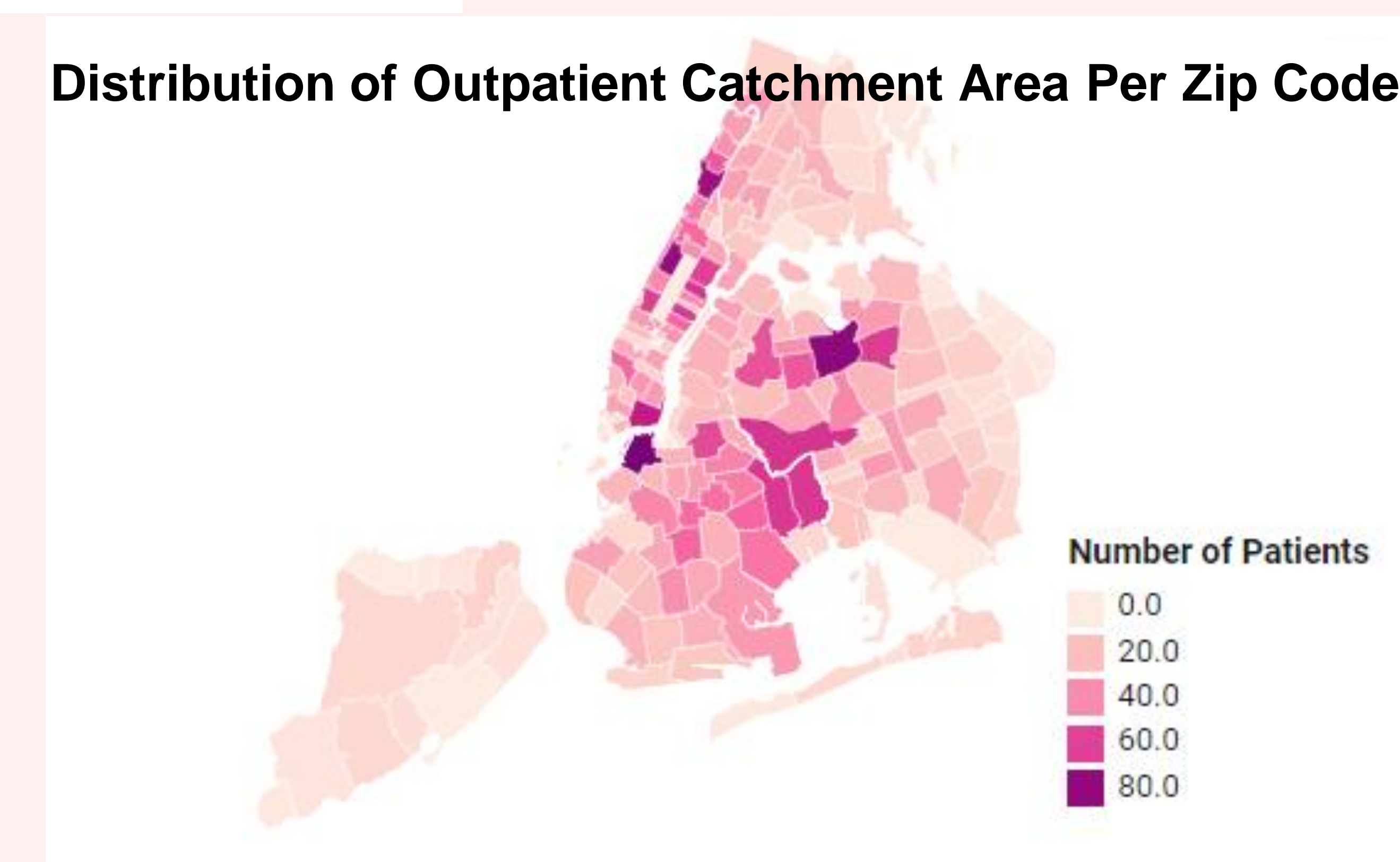
Conclusion

The inpatient and outpatient populations at this tertiary urban burn center appear to be different with the geographic distribution of the patient's domicile and the age distribution. Further analysis of the etiologies of burn injury and socioeconomic status of the patients will elucidate additional trends.

Applying geospatial mapping to a burn center's outpatient and inpatient populations may reveal differential patterns of injury that can better focus prevention and outreach efforts in the community better target etiologies and age groups.

References, Funding and Disclosure

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Goltsman D, Li Z, Bruce E, et al. Spatial analysis of pediatric burns shows geographical clustering of burns and 'hotspots' of risk factors in New South Wales, Australia. Burns. 2016;42(4):754-762.