



Center for the Urban Child
and Healthy Family

2018

Patient Mapping

PRIMARY CARE PATIENT MAPPING

CENTER FOR THE URBAN CHILD AND HEALTHY FAMILY

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Purpose

The vision of the BMC Pediatrics Center for the Urban Child and Healthy Family is that all children have an equal opportunity to be healthy, ready to learn, and to achieve their full potential. We will achieve health equity by building the Pediatric Practice of the Future. Building the Pediatric Practice of the Future will require fundamental systems change-- creating & scaling novel health delivery approaches, and working with families, inter-disciplinary colleagues, communities, and other family-serving sectors. As a first step in practice innovation and re-design, the Center is conducting a comprehensive landscape analysis, including understanding the families that we serve.

Geographical mapping allows us to understand the neighborhoods in which our families are living. By knowing where our pediatric patients reside, we are able to think about challenges and opportunities in these neighborhoods. We also can identify meaningful, accessible community partnerships and begin to develop relationships with these partners.

Source

Data for our patient mapping came from patients included in the pediatrics Patient Centered Medical Home (PCMH) registry. The dataset contained information from 12,304 patients who attended BMC pediatrics primary care at least once between January 2017 and June 2018. The information provided by the registry included Primary Care Provider (PCP) name, PCP department name, age, gender, medical record number, patient name, birth date, full address (including number or house/apartment, street name, city, state and zip code), home phone number, primary language and primary insurance carrier. (Note: all data were stored on a secure BMC drive and de-identified as much as possible)

Process

All data were cleaned including eliminating duplicate entries for patients, adult patients, patients who lived out of state and those with extensive missing data, and making sure the zip codes were captured in a uniform manner (all 00000, rather than postal code 00000-0000) to match the MASSGIS census maps. We also verified that zip codes matched the city listed in the address. In total, we excluded 110 pediatric patients (44 due to living outside of Massachusetts, 19 due to age greater than 26, and 47 due to missing or erroneous data). After making these exclusions, we ended up with a total of 12,194 patients to map.

Data were mapped using ArcGIS software. MASSGIS, an online resource that contains census tract information and other geographical data for the state of Massachusetts, was used during the process of patient mapping.

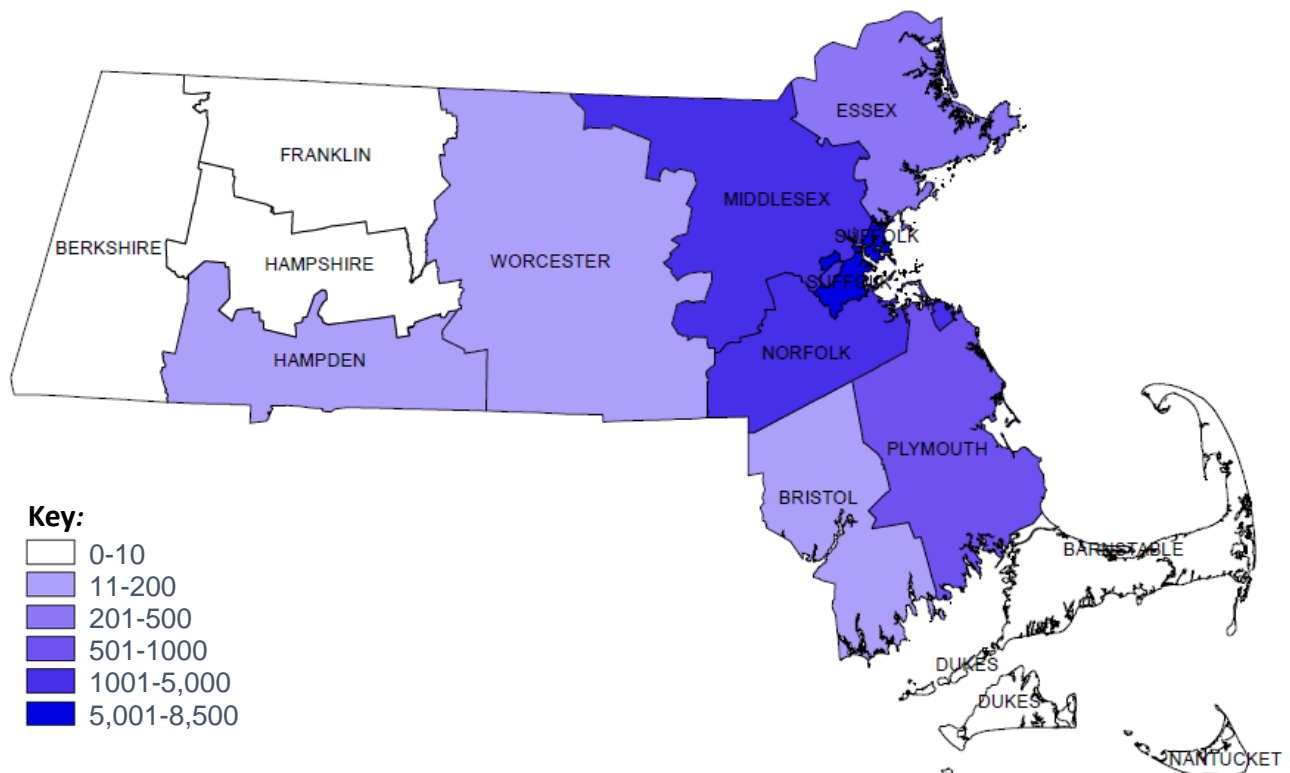


Figure 1. Pediatric Primary Care Population Ages Birth through 26 Years seen at least once between January 2017 and June 2018 by Massachusetts County [N= 12, 194]

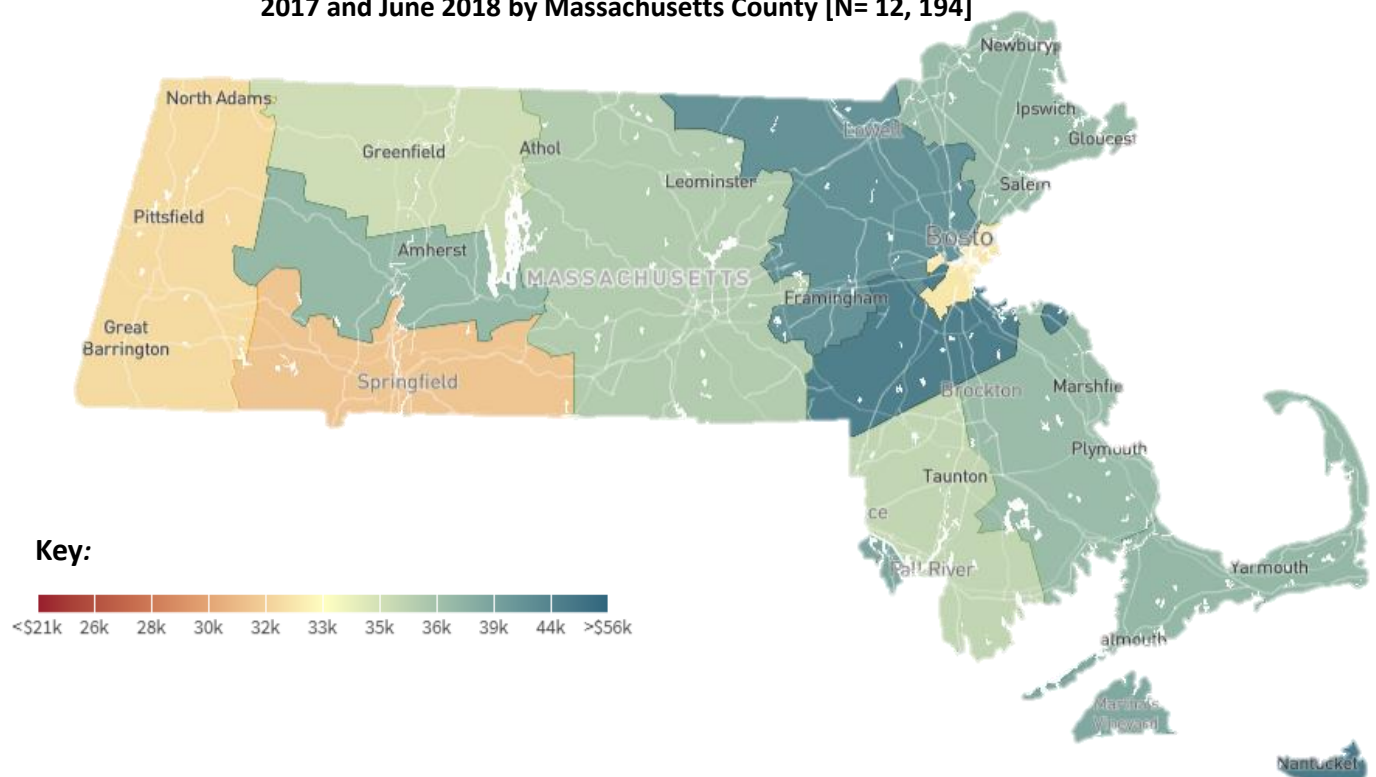


Figure 2. United States Census: Household Income for Children of Low Income Parents [N=20,000,000]

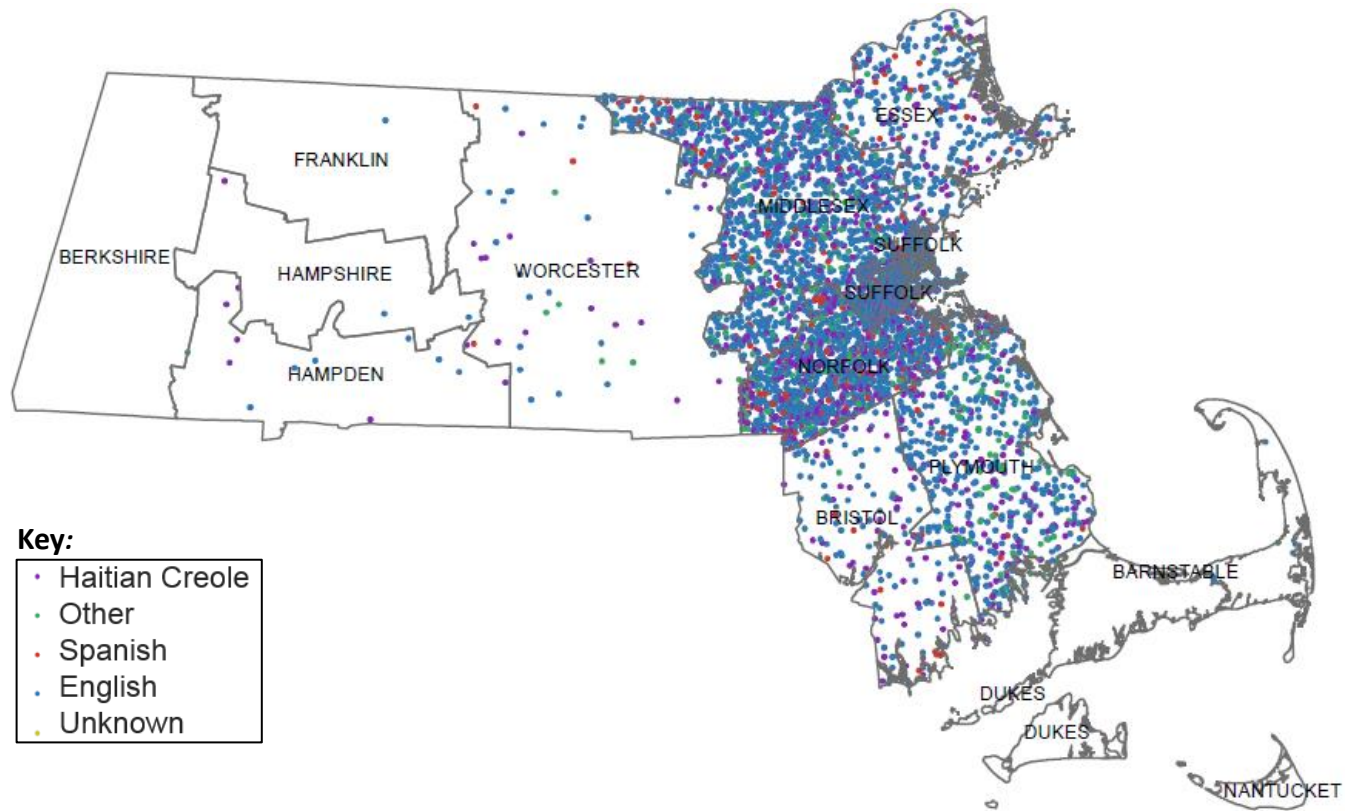


Figure 3. Total Pediatric Primary Care Population Ages Birth through 26 Years seen at least once between January 2017 and June 2018 by Primary Language [N= 12,194]

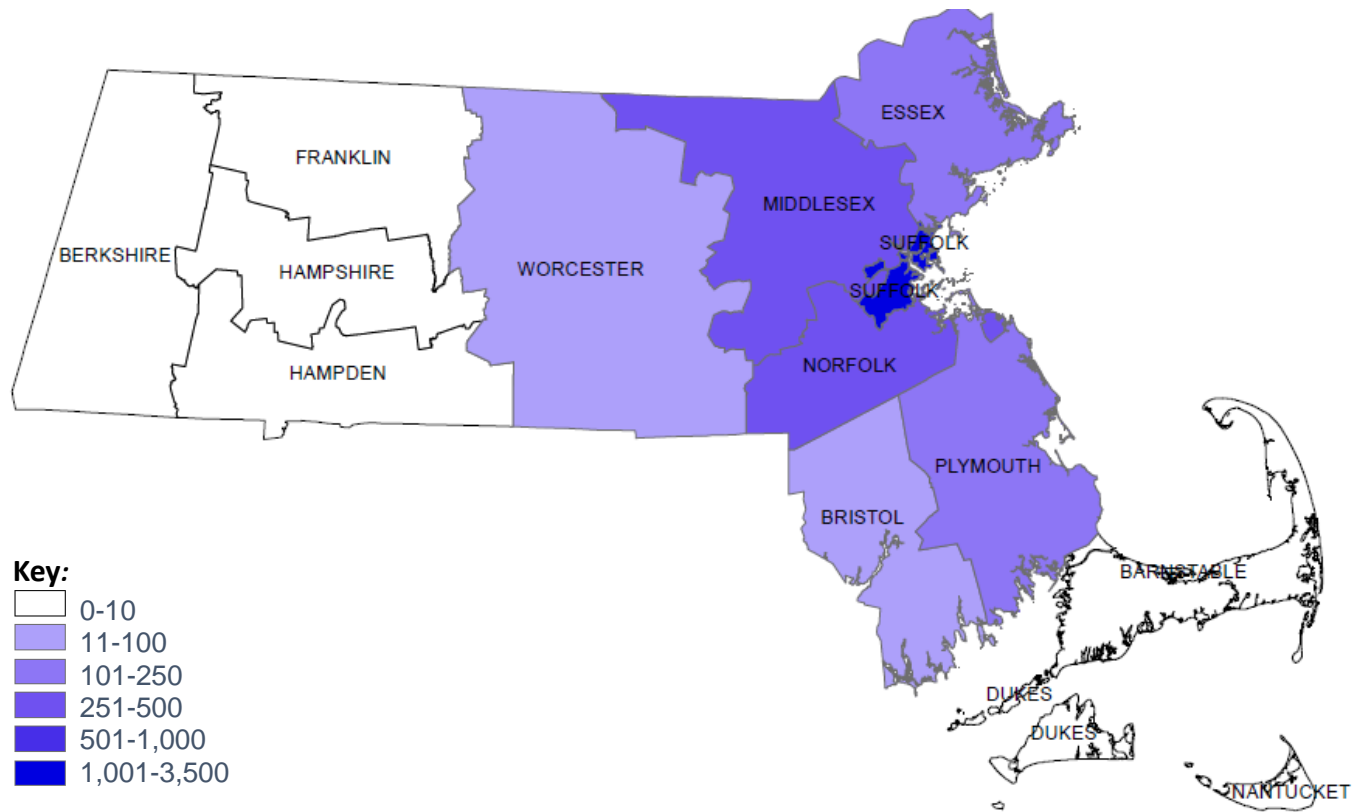


Figure 4. 0-5 Pediatric Primary Care Population Seen at Least Once between January 2017 and June 2018 by Massachusetts County [N= 3,238]

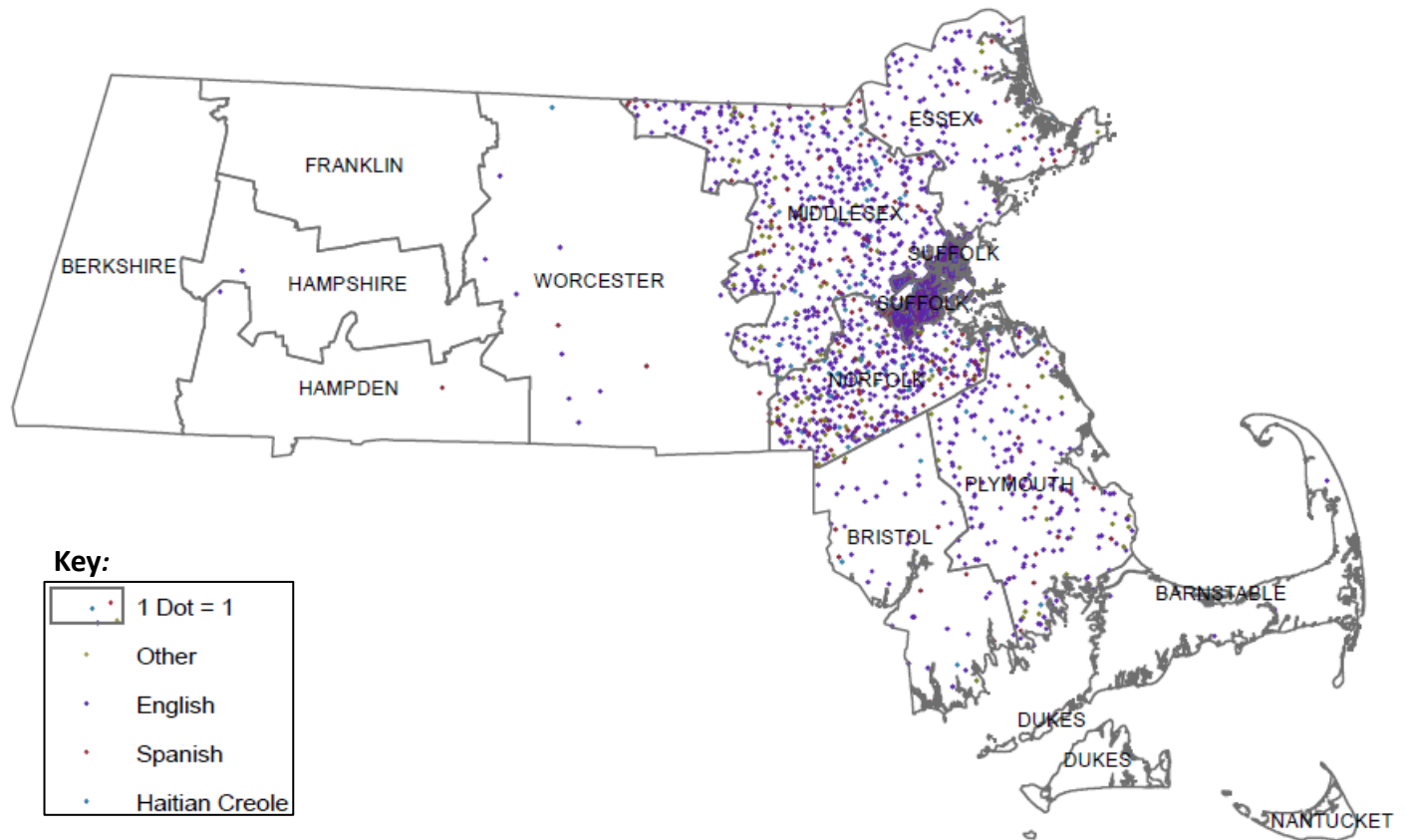


Figure 5. 0-5 Pediatric Primary Care Population Seen at least once between January 2017 and June 2018 by Primary Language Spoken [N= 3,238]

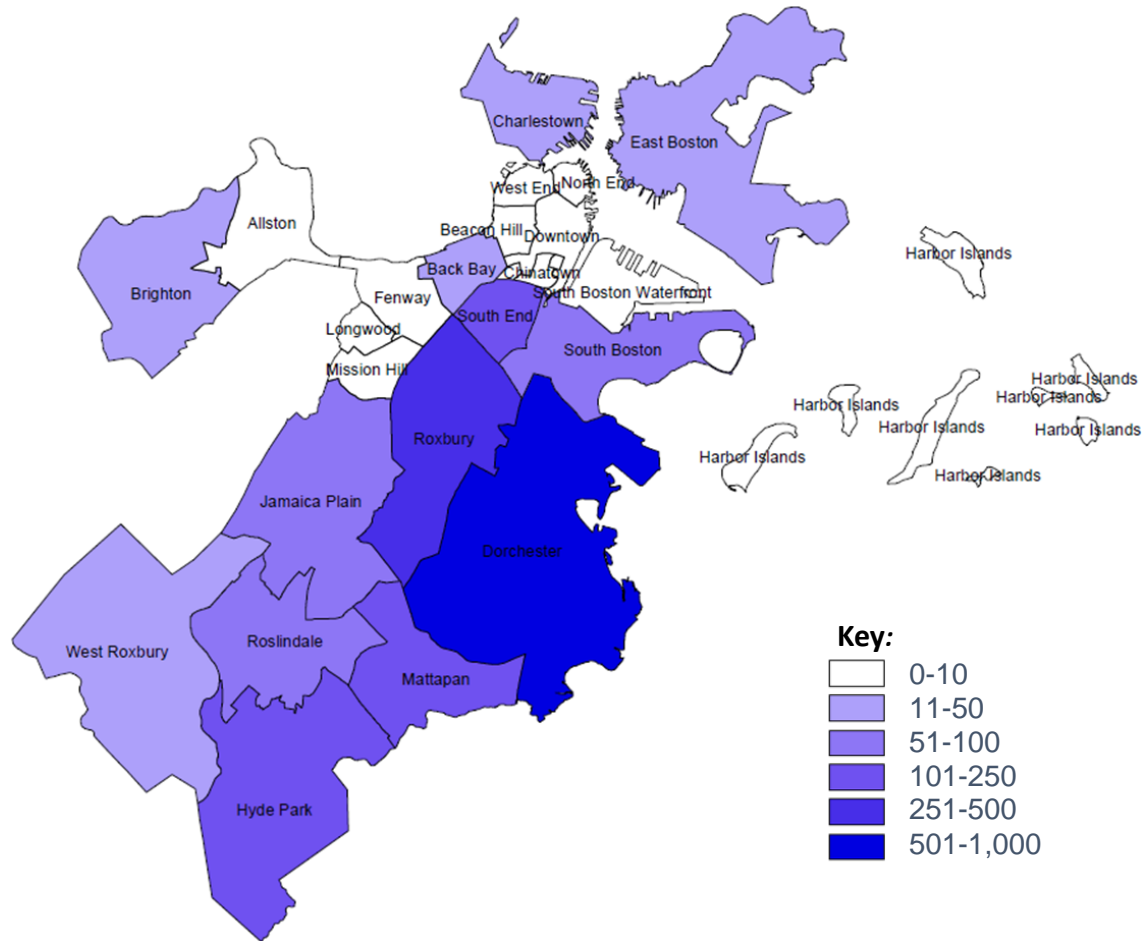


Figure 6. Pediatric Primary Care Population Ages Birth through 5 Years seen at least once between January 2017 and June 2018 by Boston Neighborhoods [N= 2,062]

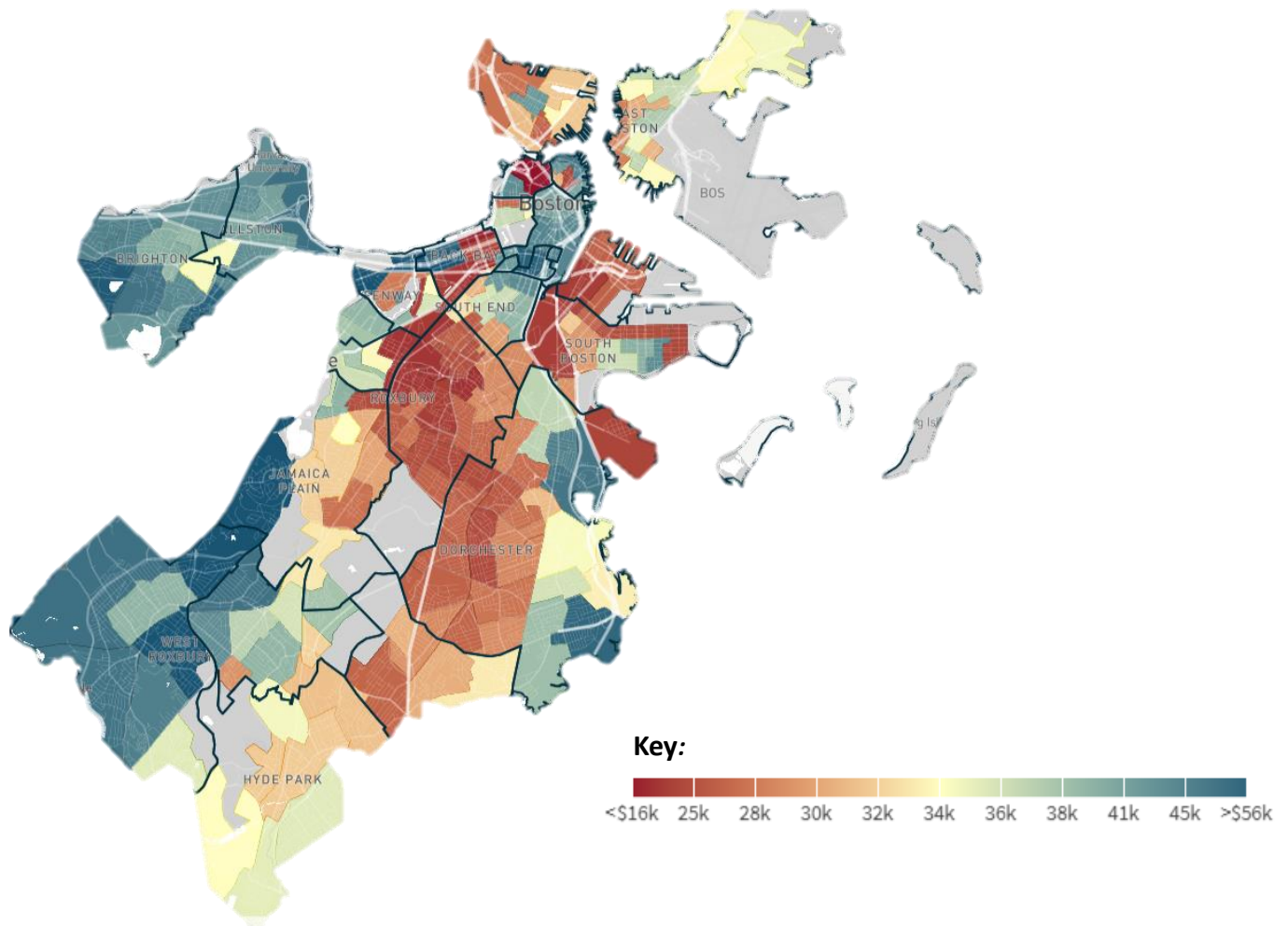


Figure 7. United States Census: Household Income for Children of Low Income Parents [N=20,000,000]

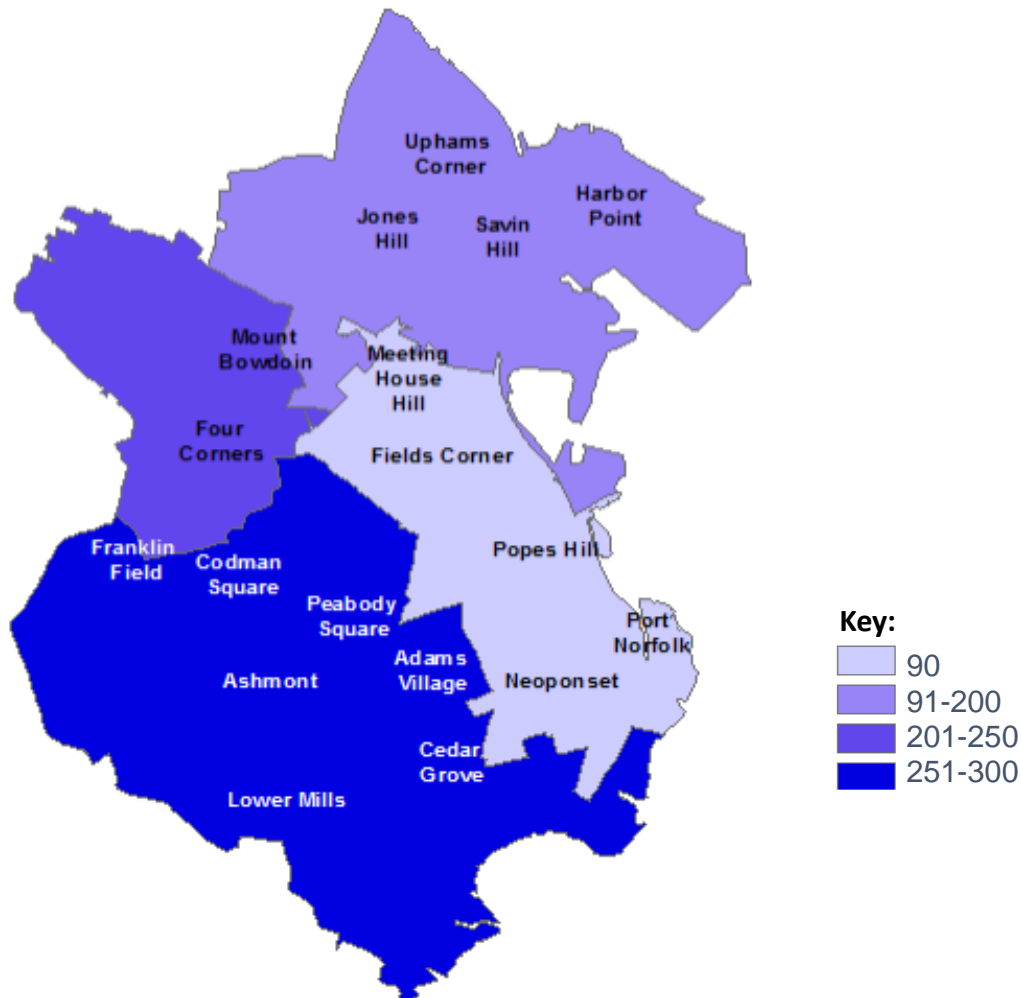


Figure 8. Pediatric Primary Care Population Ages Birth through 5 Years seen at least once between January 2017 and June 2018 by Dorchester Neighborhood [N= 809]

Next Steps

We now have the skills and capacity to map other patient groups, such as sub-specialty patients or BACO Pediatrics patients. We will use this information to think about challenges and opportunities in our families' neighborhoods. We also can identify meaningful, accessible community partnerships and begin to develop relationships with these partners.