

# ***Where are our patients?***

## **Bread of Healing Data Dream Project 2018**

The Bread of Healing Clinic was one of two agencies to be awarded a “Data Dream” project at Data Day 2018. When making his pitch, Rich Cesar spoke enthusiastically about the needs of people who use the agency's three locations in Milwaukee. He discussed the rich data set Bread of Healing staff have developed regarding patients, and lamented that the clinic lacks the capacity to harness the data and explore ways to better serve their clients.

In the original Data Dream application, Bread of Healing staff acknowledged that their biggest data challenge is the “need to better understand the connections between trauma, social determinants and medical outcomes and... how neighborhood location factors into these connections.” Over the summer and fall of 2018, Data You Can Use staff met with Bread of Healing staff five times to discuss how they could address these questions, what audiences would be interested in which pieces, and how to make connections to other available data sets.

The top priority for Bread of Healing staff was to explore the “where” of their clientele, both as a whole, and for those patients who have diabetes. In order to address these priorities, the following maps were produced. These include:

### **Map 1: Bread of Healing Patient Addresses, State of Wisconsin (N=1,200)**

The first map shows the distribution of Bread of Healing clients across the state of Wisconsin, with one additional patient who traveled from Illinois. Bread of Healing clinics saw clients from over 20 municipalities in Wisconsin.

### **Map 2: Bread of Healing Patient Addresses, Milwaukee County, Density (n=1,160)**

This map shows the density of home addresses of those patients living within Milwaukee County. Nearly all of Bread of Healing's patients (96.7%) live within Milwaukee County boundaries, and most (88.9%) live within the City of Milwaukee.

### **Map 3: Bread of Healing Patients with Diabetes in Milwaukee County, Density (n=275)**

This map shows the distribution of Bread of Healing clients who have been diagnosed with diabetes. This group represents nearly a quarter (23.3%) of Bread of Healing patients and is of special interest to clinic staff. In discussions with Bread of Healing staff, they referenced the clinic's expertise in working with clients who have diagnoses of chronic ailments, including diabetes. Clients who suffer from chronic ailments can require more appointments and a more intensive relationship with healthcare staff than other populations who use safety net clinics. The areas of moderate-high clusters of patients with diabetes were similar to the previous map of all clients.

#### **Map 4: Bread of Healing Patients with Diabetes in Milwaukee County, Thematic Map by ZIP Code (n=275)**

This map is based on the same data as the previous map, but presented as a thematic map with counts of patients with diabetes by ZIP Codes. Bread of Healing staff requested this presentation of the data for communicating patient ZIP codes to funders. This map only aggregates those patients within each ZIP Code. Patients outside Milwaukee County are not included (n=5).

**Observations:** Naturally, the team from Bread of Healing had a sense of where their patients live, and could even recognize some of the patients by their address. However, the process of geocoding and looking at maps gave evidence to common knowledge and suppositions about patient location. An example is the cluster on the near south side, best seen on Map #2- Bread of Healing Patient Addresses, Milwaukee County (N=1,160). While the staff knew they had a group of patients living on the south side, which is slightly removed from all three clinics (located on the north side), they did not define this area as being in their top three population areas before seeing it on the map.

The area in the county with the highest concentration of patients is just to the south-west of Cross Lutheran Church in the Concordia neighborhood. This area is at the intersection of the 53205, 53208 and 53233 ZIP Codes. There are also highly dense areas directly south of Cross Lutheran Church, within the 53204 ZIP Code, and in the area between the three clinics; primarily in the 53206 and 53210 ZIP Codes.

It is noteworthy that the concentrations of patients are similar in the density maps of home addresses of patients with and without diabetes. The most concentrated area on both maps is at the intersection of the 53205, 53208 and 53233 ZIP Codes. The cluster on the southside, in ZIP code 53204 is somewhat smaller in the map of patients with diabetes, and there is an additional point of concentration on the boundary between ZIP codes 53210 and 53216.

#### **Regarding Lindsay Heights:**

The boundaries for Lindsay Heights are: 20<sup>th</sup> Street to the west, Locust Street to the north, 1-43 Highway to the east and Walnut Street to the south.

The Lindsay Heights neighborhood boundaries are included in Maps 2 and 3, because it is a neighborhood of interest for the Bread of Healing Clinic. There is a recognized partnership between Bread of Healing and Walnut Way, the Lindsay Heights neighborhood anchor organization which promotes Health and Wellness as one of the pillars in community development. One of the clinic sites, located at the Cross Lutheran Church is located within the neighborhood. Bread of Healing staff do work in the Lindsay Heights neighborhood, outside of the clinic, related to wellness, gardening, and health outreach.

There were 33 patients who visited Bread of Healing and reside within the Lindsay Heights neighborhood, which represents 3% of the total Bread of Healing patient population within

Milwaukee County. Nine, or just over a quarter of these patients have diabetes, which is about 3% of the people with diabetes who visited Bread of Healing in Milwaukee County.

The [Lindsay Heights Neighborhood Portrait](#) is a document with demographic information developed for Walnut Way Conservation Corp by Data You Can Use, with support from the Zilber Family Foundation. Data of possible interest in this report includes the following:

- The neighborhood has approximately 8,600 residents, compared to a citywide 598,078.
- About 90% of the residents are African American, compared to a citywide 40%.
- Nearly half of the residents in Lindsay Heights (47%) lived below the poverty level, compared to 29% citywide.
- Households headed by a female make up nearly half (45%) of all households in Lindsay heights; twice the city percentage (22%).
- Households in Lindsay Heights are more likely to be family households compared to households citywide (68% compared to 56%).<sup>i</sup>

## Next steps:

Before deciding to focus on patients with diabetes for the Data Dream project, the group discussed a variety of questions that Bread of Healing staff wanted to answer regarding their patient population. Additional questions to explore in the future included:

- Overlaying the patients with diabetes maps with population health data. Possibilities discussed from [the 500 Cities Project](#), included binge drinking among adults, obesity among adults, mental health, and diagnosed diabetes among adults.
- Taking a closer look at trauma in clientele of Bread of Healing patients. ACE scores are created for clients during intake, and could be mapped with factors known to be associated with trauma, ex: Part 1 crimes.

Bread of Healing staff have been awarded a grant that would support the further exploration of their patient data set. Of particular interest is how exposure to factors associated with trauma contrasts with ACE scores as a measure of trauma within the client population of Bread of Healing clinics. Leveraging funding and identifying these further avenues of inquiry would not have been likely if not for the Data Dream funding.

## Methodology:

Bread of Healing clinics provided data for clients who visited the three clinic sites from August 2017 to July 2018, which marks their 2018 fiscal year. Home addresses of patients were mapped to better understand the geographic reach of the Bread of Healing clinics.

Staff from both agencies worked together to clean the data set, which contributed to 98% of the data being successfully geocoded.<sup>ii</sup> Unmapped points included clients who submitted PO Boxes for addresses and nonexistent addresses.

In order to identify areas with high clustering of patient addresses, a Kernel Density tool was applied.<sup>iii</sup> Both density maps show areas with low to high concentrations of patient addresses. There were several prominent areas with high levels of patient clustering. Although the color scheme used for the density maps was similar for the sake of consistency, they reflect a different total. For example, the highest density of patient addresses in Map #2 represents approximately 45 patients, while the area with the same color in Map #3 only represents approximately 16 patients.

## Acknowledgements:

Thanks are extended to:

**Rick Cesar** for his pitch on behalf of Bread of Healing Clinics at Data Day 2018.

The team from Bread of Healing Clinics who guided the work: **Dr. Barbara Horner-Ibler, Dr. Tom Jackson, and Beth Thorson.**

The **Siebert Lutheran Foundation** for supporting this data dream.

The Data Day celebrity judges who saw potential in this work: **Erin Frederick**, Zilber Family Foundation; **Joyce Mallory**, Nonprofit Center; **Darlene Russell**, Greater Milwaukee Foundation; and **LaQuondra Shaw**, Northwestern Mutual Foundation.

The Data You Can Use team included: Gerardo Mares, Carrie Koss Vallejo and Katie Pritchard.

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<sup>i</sup> The Census Bureau defines a family as “any two or more people... residing together, and related by birth, marriage, or adoption.” A household is “all of the people who occupy a housing unit.”

“Current Population Survey: Subject Definitions.” *United States Census Bureau*, 2015. Retrieved from: <https://www.census.gov/programs-surveys/cps/technical-documentation/subject-definitions.html#family>

<sup>ii</sup> Geocode- The process of transforming input information (e.g. address) and placing it on the map.

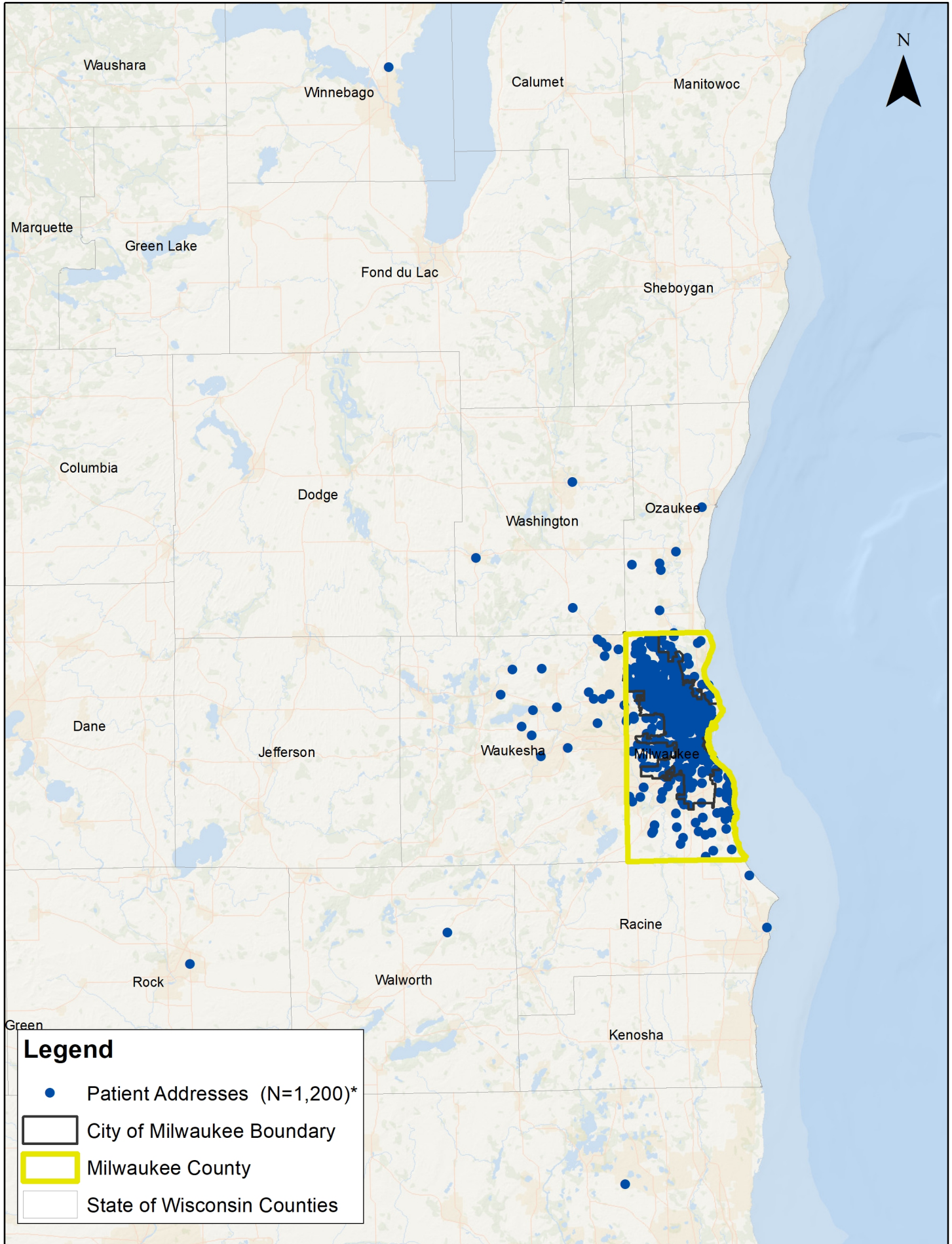
<sup>iii</sup> Kernel Density- A tool used to identify geographic areas with low-high concentrations of a given input (e.g. addresses) per unit area (e.g. meters, square miles, etc.).



# Bread of Healing Clinic

## FY 2018 Patient Addresses | State of Wisconsin

Map 1

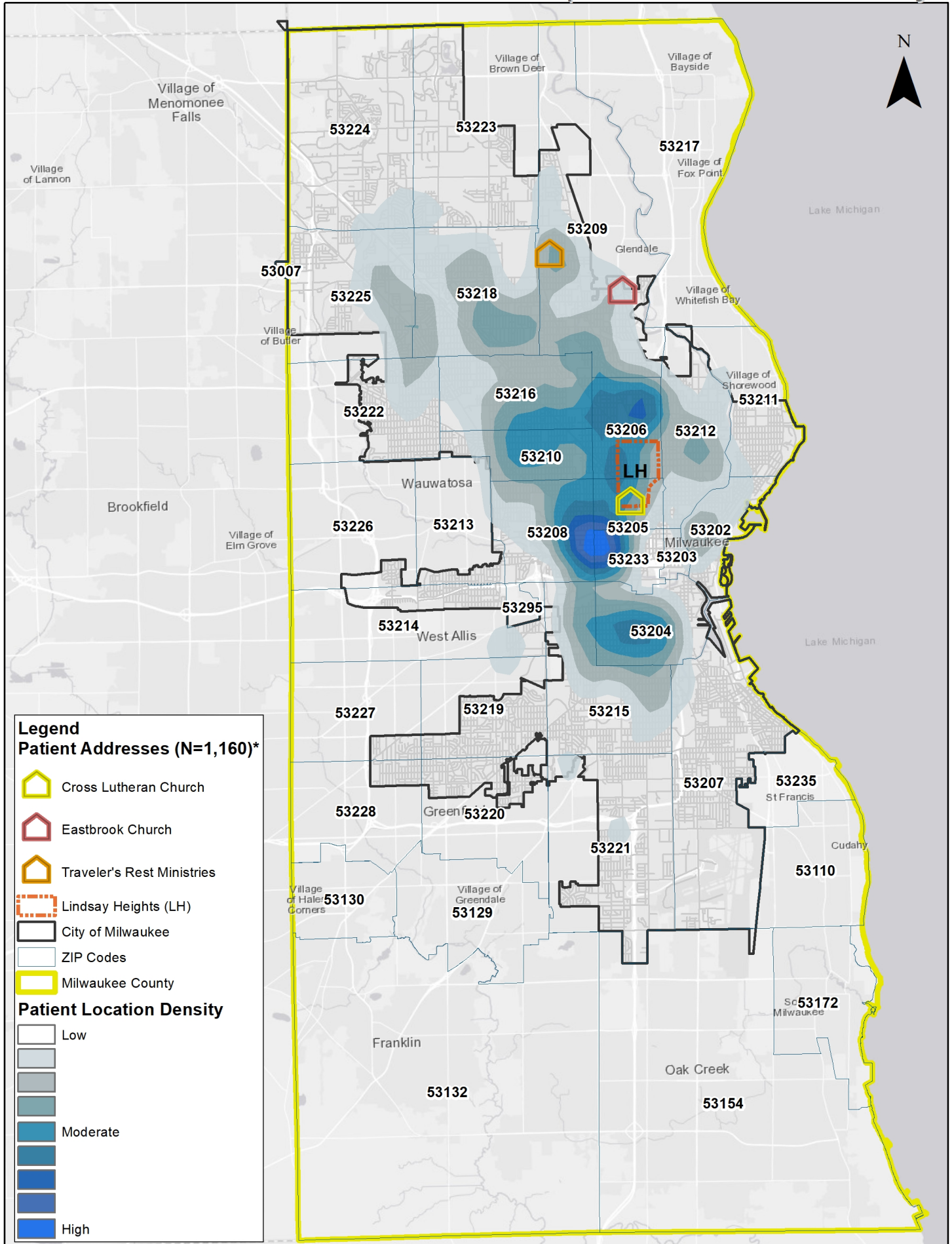


\*FY 2018 represents data from August 2017-July 2018.

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# Bread of Healing Clinic FY 2018 Patient Addresses | Milwaukee County

Map 2



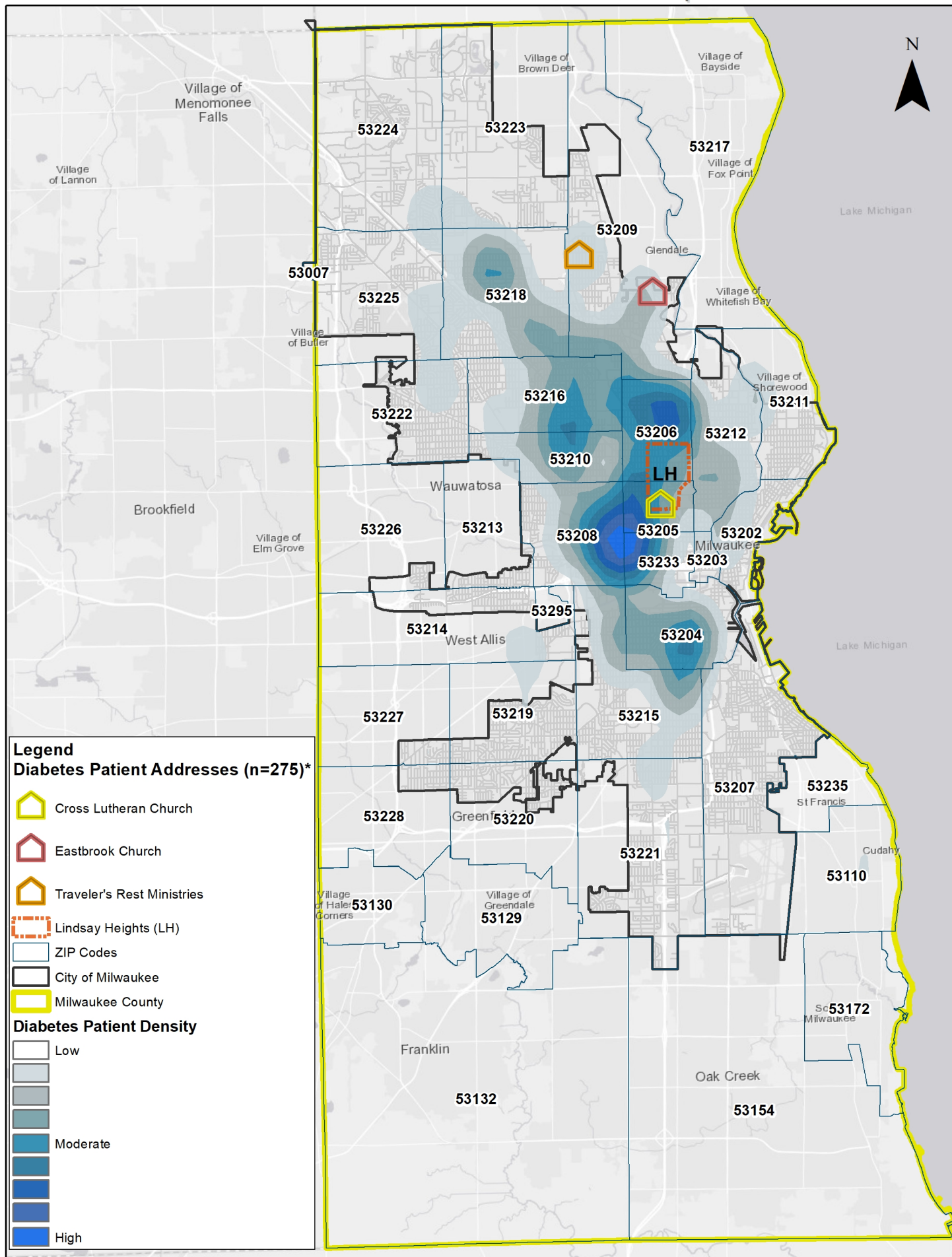
\*FY 2018 represents data from August 2017-July 2018 within Milwaukee County.

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# Bread of Healing Clinic FY 2018 Patients with Diabetes Addresses | Milwaukee County

Map 3

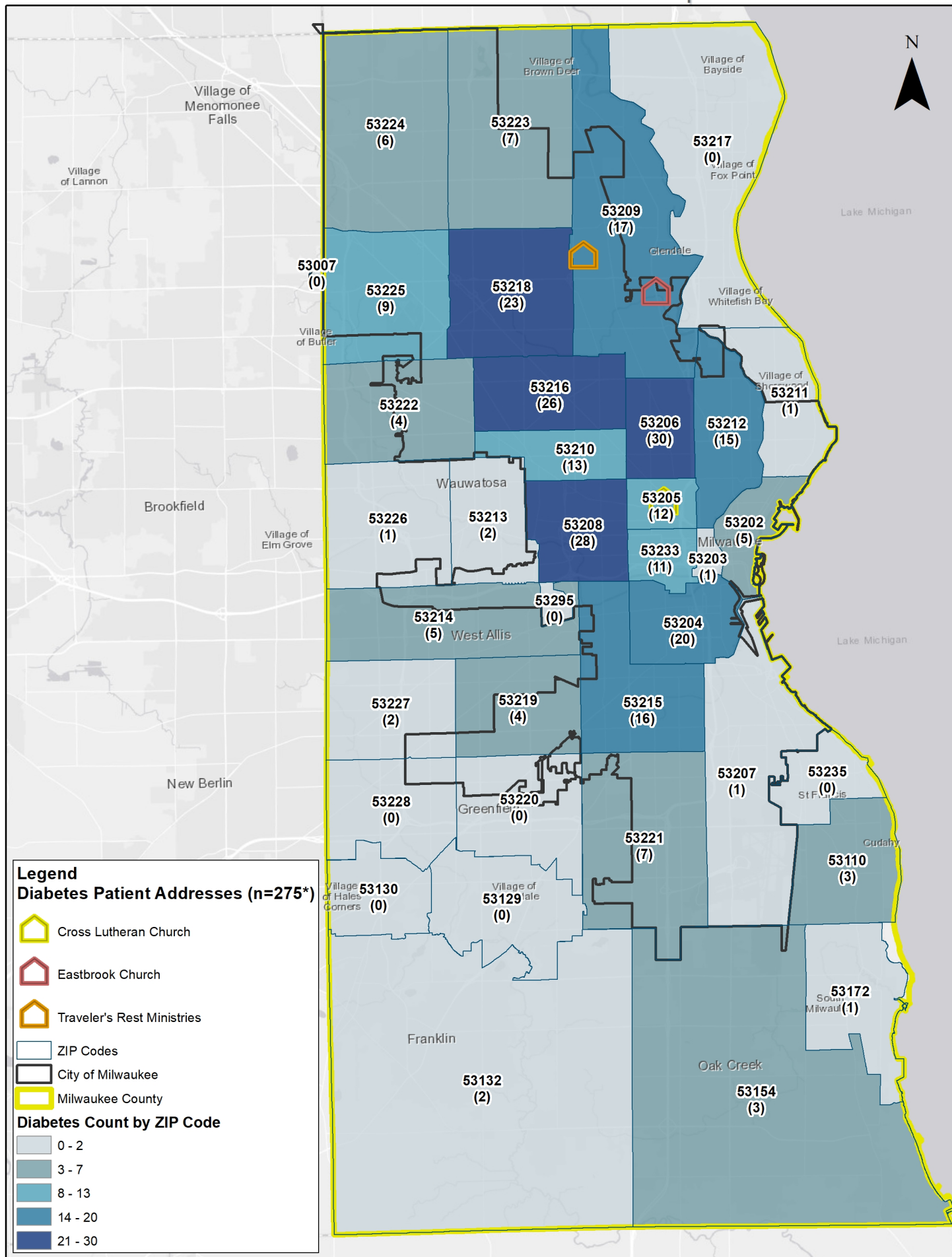


\*FY 2018 represents data from August 2017-July 2018 within Milwaukee County.

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# Bread of Healing Clinic FY 2018 Patients with Diabetes Addresses | Milwaukee County

Map 4



\*FY 2018 represents data from August 2017-July 2018 within Milwaukee County.

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