2019 COMMUNITY HEALTH NEEDS ASSESSMENT

IMPLEMENTATION STRATEGY

Building Healthier Lives and Communities

Beaumont, Troy

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Executive summary

Beaumont Health understands the importance of serving the health needs of its communities. To do that successfully, we must first take a comprehensive look at the issues our patients, their families and neighbors face when making healthy life choices and health care decisions.

Beginning in January 2019, Beaumont began the process of assessing the health needs of the communities served by the eight Beaumont hospital facilities for an updated community health needs assessment. IBM Watson Health was engaged to help collect and analyze the data for this process and to compile a final report made publicly available by Tuesday, Dec. 31, 2019.

TROY

The community served by Beaumont includes Macomb, Oakland and Wayne counties. These counties comprise the majority of the geography covered by the combined primary service areas of each of the eight hospitals and contains 3.9 million people. Each hospital's primary service area is defined by the contiguous ZIP codes where 80% of the hospital's admitted patients live.

IBM Watson Health performed a quantitative and qualitative assessment. More than 200 public health indicators were examined, and a benchmark analysis of the data was conducted. The analysis compared community values to the overall state of Michigan and United States values. For a qualitative analysis and to get input from the community, focus groups, key informant interviews and a survey were conducted. The focus groups solicited feedback from leaders and representatives who served the community and had insight into community needs. The interviews were conducted with public health and community leaders along with key Beaumont leaders to gain their perspective on the community needs. Participants in these sessions included state, local or regional governmental public health departments (or an equivalent department or agency) with knowledge, information or expertise relevant to the health needs of the community, as well as individuals or organizations serving and/or representing the interests of medically underserved, low-income and minority populations in the community. Additionally, a community survey was fielded to solicit input directly from community members regarding their perception of community health needs.

Needs were first identified when an indicator for a hospital community was worse than the state benchmark. A need differential analysis conducted on all the low performing indicators determined the relative severity by using the percent difference from benchmark. The outcome of this quantitative analysis aligned with the qualitative findings of the community input sessions to create a list of health needs in the community. Each health need received assignment into one of four quadrants in a health needs matrix. The matrix shows the convergence of needs identified in the qualitative data (interview and focus group feedback) and quantitative data (health indicators) and identifies the top health needs for each community.

The results were aggregated across the eight hospital communities to identify the predominant health needs for the overall Beaumont community. Needs were identified for the overall Beaumont community if they were common across at least five of the eight Beaumont hospital communities.

In June 2019, the Beaumont CHNA Prioritization Workgroup met to review the health needs matrix and prioritize significant community health needs for Beaumont. The meeting was moderated by IBM Watson Health and included an overview of the CHNA process for the Beaumont community, the methodology for determining the top health needs and the selection and prioritization of significant health needs for the community Beaumont serves.

The group reviewed the Beaumont Health needs matrix and identified the significant community health needs to prioritize. They next used criteria selected by the Beaumont CHNA Steering Committee to score the community's significant health needs. The list of significant health needs was then prioritized based on the overall scores. The session participants subsequently reviewed the prioritized health needs for each community and chose the four community health needs with the highest prioritization scores as those to be addressed by Beaumont through subsequent implementation strategies. The health needs to be addressed by Beaumont include:

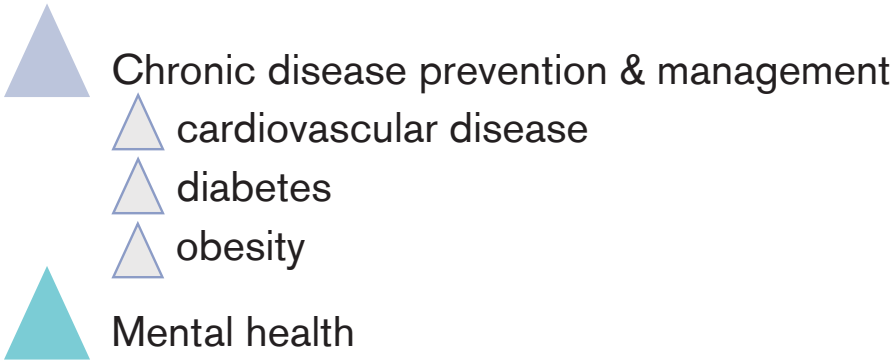
- Chronic disease prevention and management (cardiovascular disease, diabetes, obesity)
- Mental health

A description of these needs is included in the body of the full report. The hospital facilities will each develop implementation strategies with specific initiatives to address the chosen health needs, to be completed and adopted by Beaumont by April 15, 2020.

The Community Health Needs Assessment for Beaumont has been presented and approved by the Beaumont Health board of directors, and the full assessment is available to the public at no cost for download and comment on our website at beaumont.org/chna.

This assessment and corresponding implementation strategies are intended to meet the requirements for community benefit planning and reporting as set forth in federal law, including but not limited to the Internal Revenue Code Section 501(r).

The health needs to be addressed by Beaumont include:



TROY

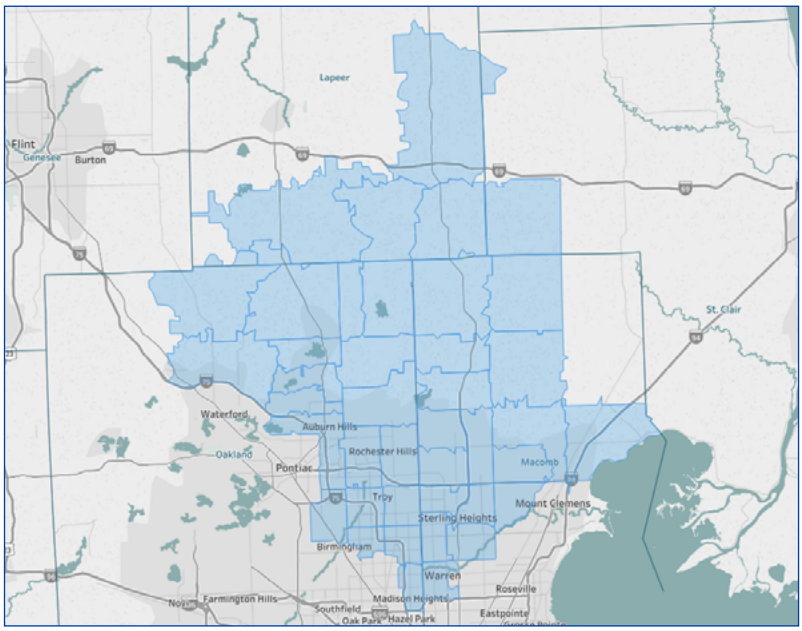
Beaumont, Troy

Beaumont, Troy offers a comprehensive array of health care services that continue to develop to meet the needs of the growing communities it serves.

Community served

The Beaumont, Troy community is defined as the contiguous ZIP codes that comprise 80% of inpatient discharges. Below is a map that highlights the community served (in blue) as a portion of the overall Beaumont community.

Beaumont, Troy: Map of community served



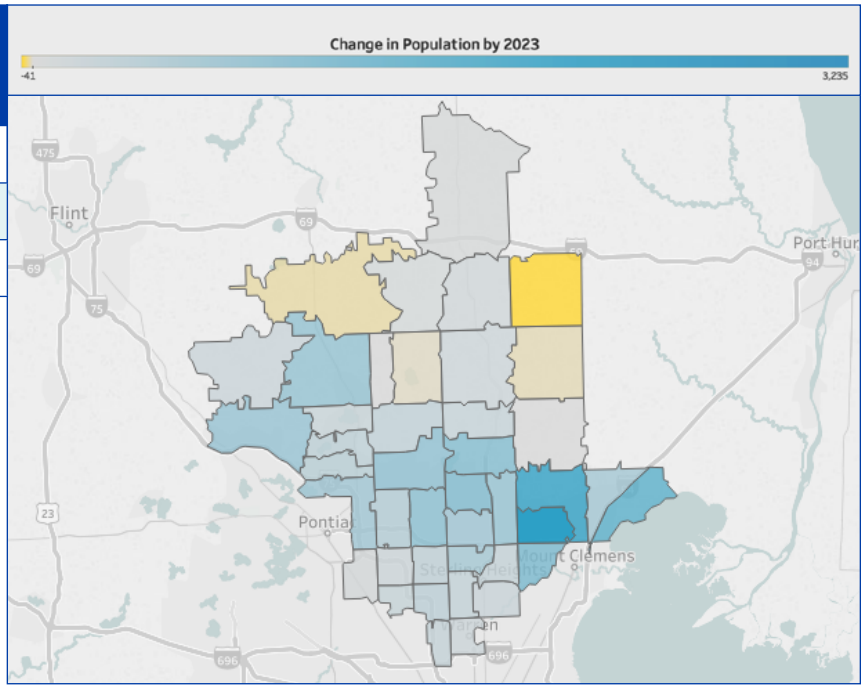
Source: Beaumont Health, 2019

Demographic and socioeconomic summary

The population of the community served is expected to increase 2.8% by 2023, adding more than 24,000 people. The community's growth in population surpasses Michigan's slow projected growth rate (0.6%) and is less than the national projected growth rate (3.5%). The three (3) ZIP codes expected to experience the highest growth in the next five years are:

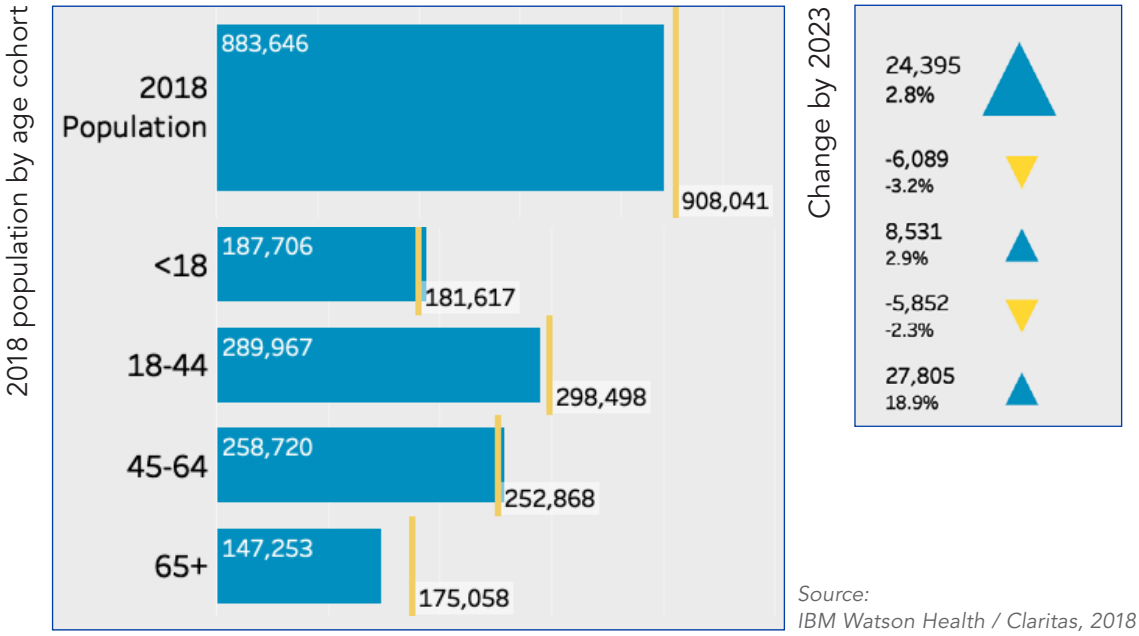
2018 - 2023 Total population projected change by ZIP code

Zip Codes	Growth in five years (# of people)
48044 Macomb	**3,235**
48042 Macomb	**2,419**
48047 New Baltimore	**1,777**



Source: IBM Watson Health / Claritas, 2018

The community's population skews slightly younger with 32.8% of the population ages 18-44 and 21.2% under age 18. The largest cohort (18-44) is expected to increase by 8,531 people (2.9%) by 2023. The age 65-plus cohort, the smallest cohort at 16.7% of the population, is the only other age group expected to grow (18.9% increase) over the next five years, adding almost 28,000 seniors to the community. Growth in the senior population will likely contribute to increased utilization of services as the population continues to age.

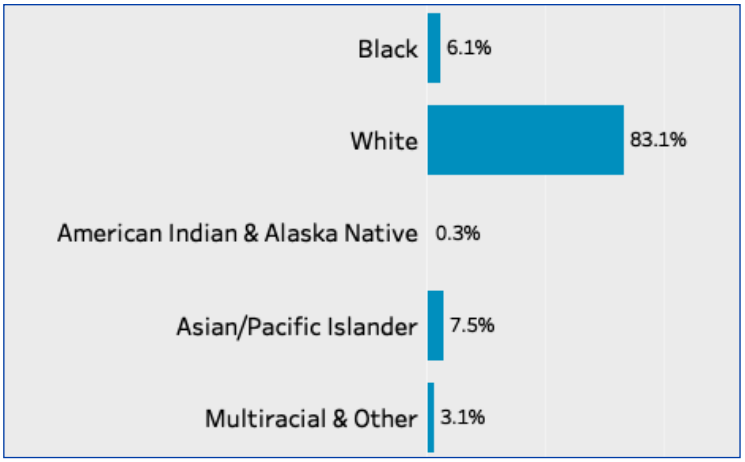


Population distribution by age

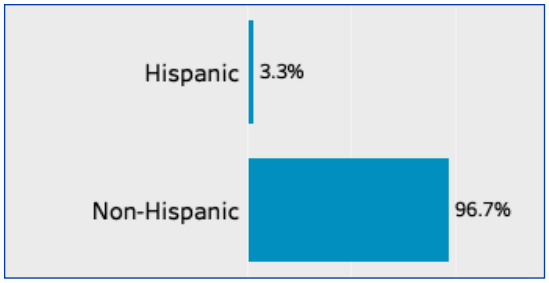
Source:
IBM Watson Health / Claritas, 2018

Population statistics are analyzed by race and by Hispanic ethnicity. The largest racial groups in the community are white (83.1%), followed by Asian/Pacific Islander (7.5%). The black population (6.1%) is projected to experience the greatest growth (20.5%), adding more than 11,000 people to the community. The Hispanic population (all races) is expected to grow by 13.3% or 4,000 people by 2023, while the non-Hispanic population (all races) is expected to increase by more than 20,000 people (2.4%) by 2023..

2018 Population by race

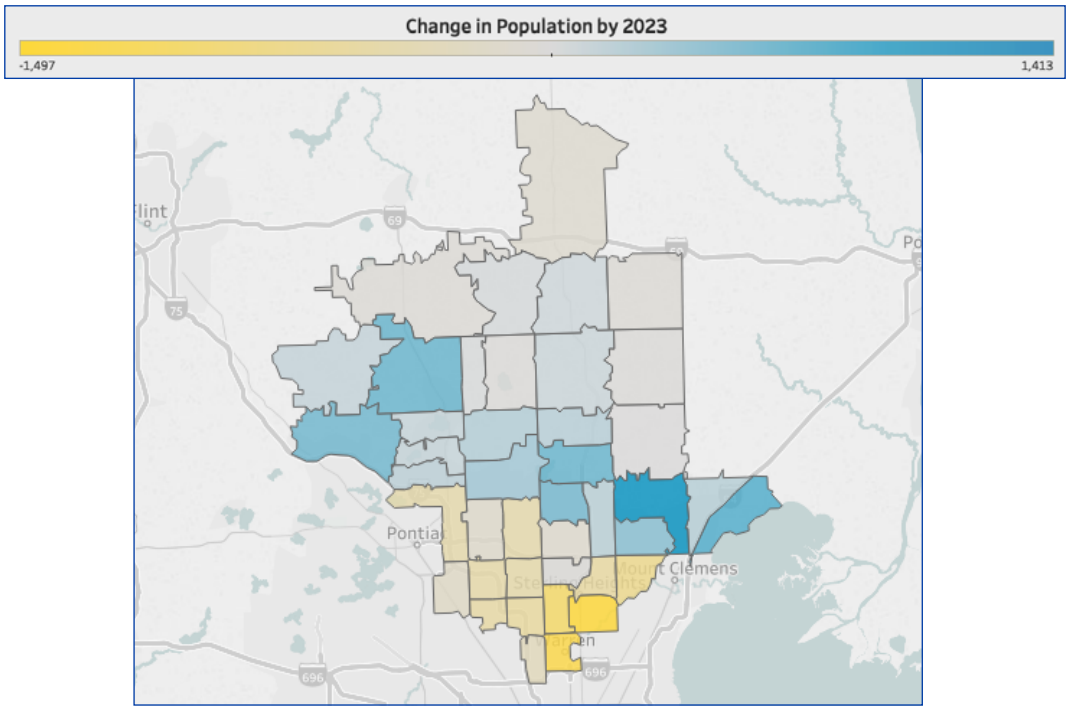


2018 Population by ethnicity



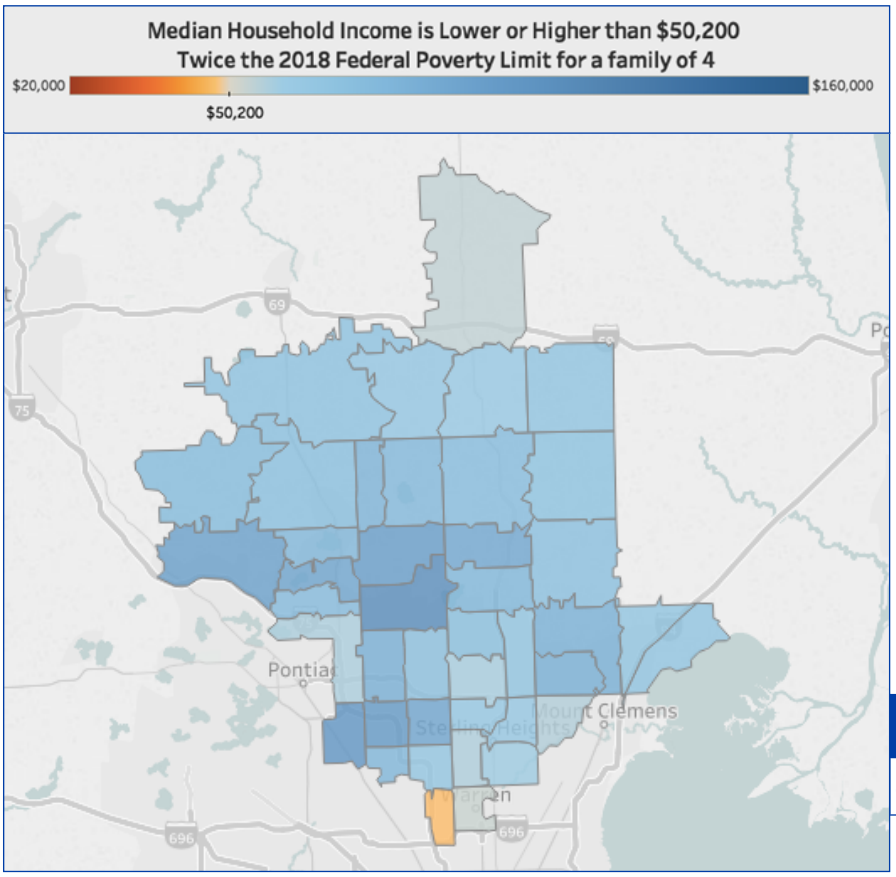
Source: IBM Watson Health / Claritas, 2018

2018 - 2023 White race population projected change by ZIP code



Source: IBM Watson Health / Claritas, 2018

2018 Median household income by ZIP code



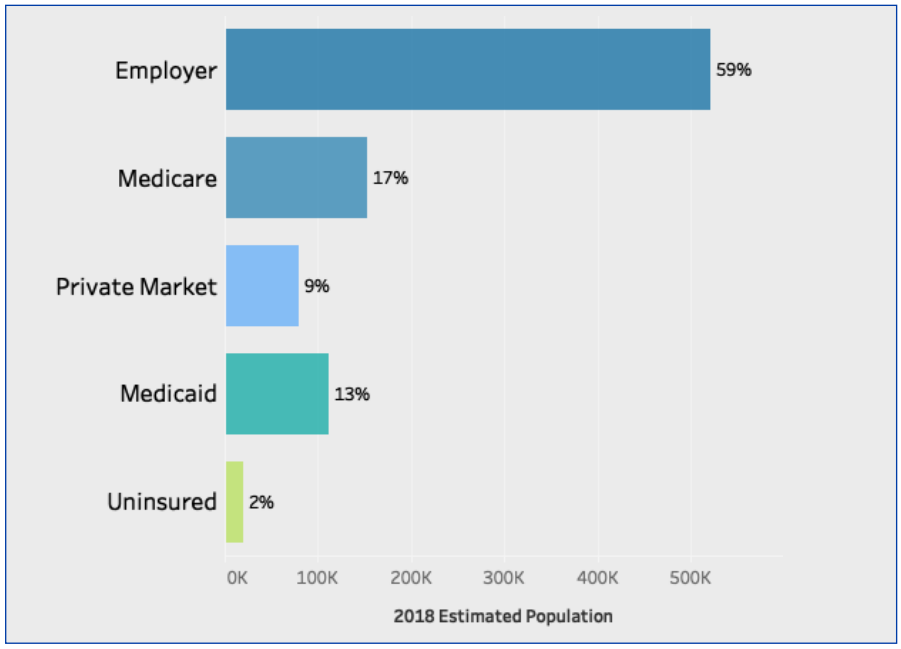
The 2018 median household income for the United States is $62,175 and $55,727 for the state of Michigan. The median household income for the ZIP codes within this community range from $45,854 for ZIP code 48071 - Madison Heightsto $137,733 for ZIP code 48306 - Rochester. There is one ZIP code with a median household income of less than $50,200, twice the 2018 federal poverty limit for a family of four:

Zip Codes	Income
48071 Madison Heights	**$45,854**

Source: IBM Watson Health / Claritas, 2018

A majority of the population (59%) are insured through employer sponsored health coverage, followed by those with Medicare (17%) and Medicaid (13%). The remainder of the population is divided between the 2% uninsured and 9% private market (the purchasers of coverage directly or through the health insurance marketplace).

2018 Estimated distribution of covered lives by insurance category



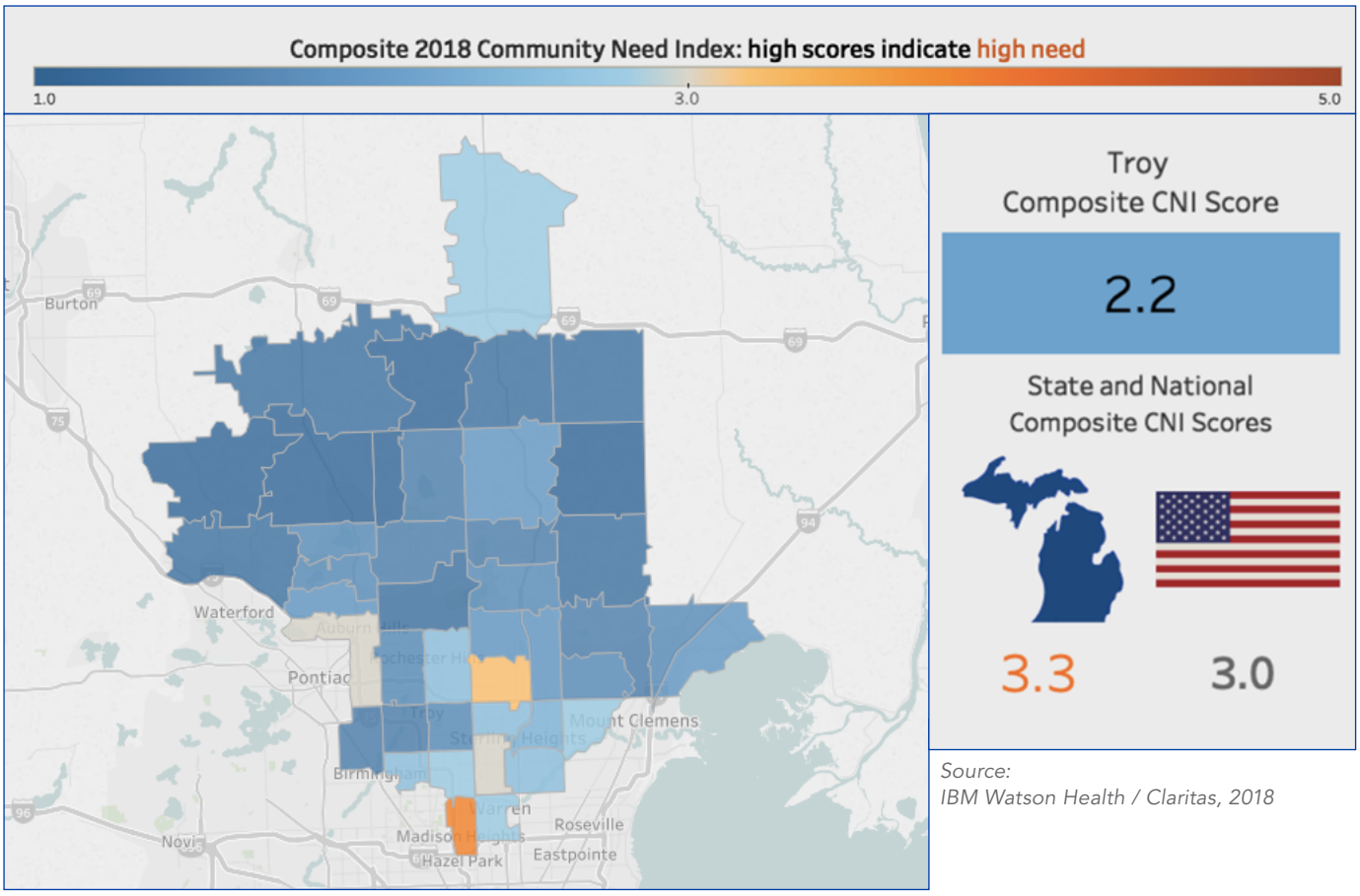
Source: IBM Watson Health / Claritas, 2018

Beaumont, Troy

The IBM Watson Health community need Index is a statistical approach to identifying areas within a community where health disparities may exist. The CNI takes into account vital socioeconomic factors (income, cultural, education, insurance and housing) about a community to generate a CNI score for every populated ZIP code in the United States. The CNI strongly links to variations in community health care needs and is an indicator of a community's demand for various health care services. The CNI score by ZIP code identifies specific areas within a community where health care needs may be greater.

Overall, the composite CNI score for the community served is 2.2, lower than the CNI national average of 3.0 and state average of 3.3. Thirty-eight of the 42 ZIP codes in this community have a CNI score lower than 3.0, potentially indicating fewer health needs among the population.

2018 Community need index by ZIP code



Source:
IBM Watson Health / Claritas, 2018

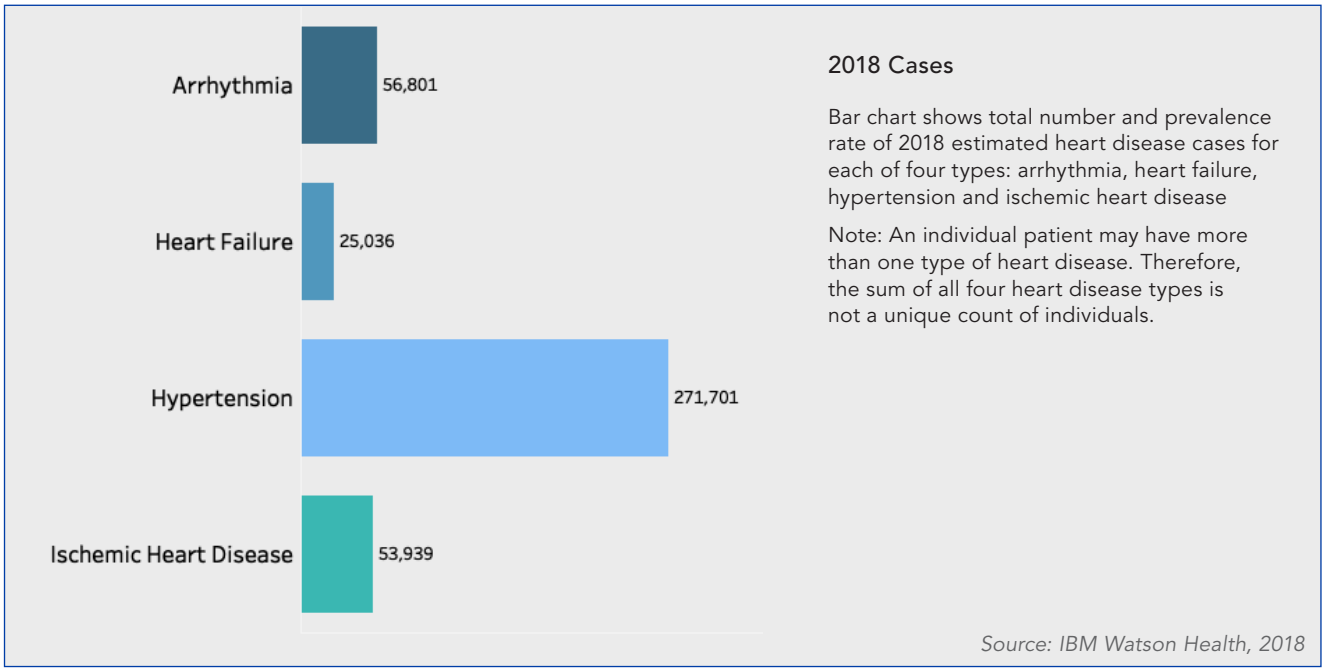
ZIP Map where color shows the community need index on a scale of 0 to 5. Orange color indicates high need areas (CNI = 4 or 5); blue color indicates low need (CNI = 1 or 2). Gray colors have needs at the national average (CNI = 3).

IBM Watson Health community data

IBM Watson Health supplemented the publicly available data and population statistics with estimates of localized disease prevalence of heart disease and cancer as well as Emergency Department visit estimates.

IBM Watson Health heart disease estimates identified hypertension as the most prevalent heart disease diagnoses; there are more than 271,000 estimated cases in the community overall. The 48038 ZIP code of Clinton Township has the most estimated cases of arrhythmia, heart failure and ischemic heart disease, while the 48044 ZIP code of Macomb has the highest number of cases of hypertension. The 48304 ZIP code of Bloomfield Hills has the highest estimated prevalence rates for arrhythmia (96 cases per 1,000 population), heart failure (40 cases per 1,000 population), hypertension (378 cases per 1,000 population) and ischemic heart disease (97 cases per 1,000 population).

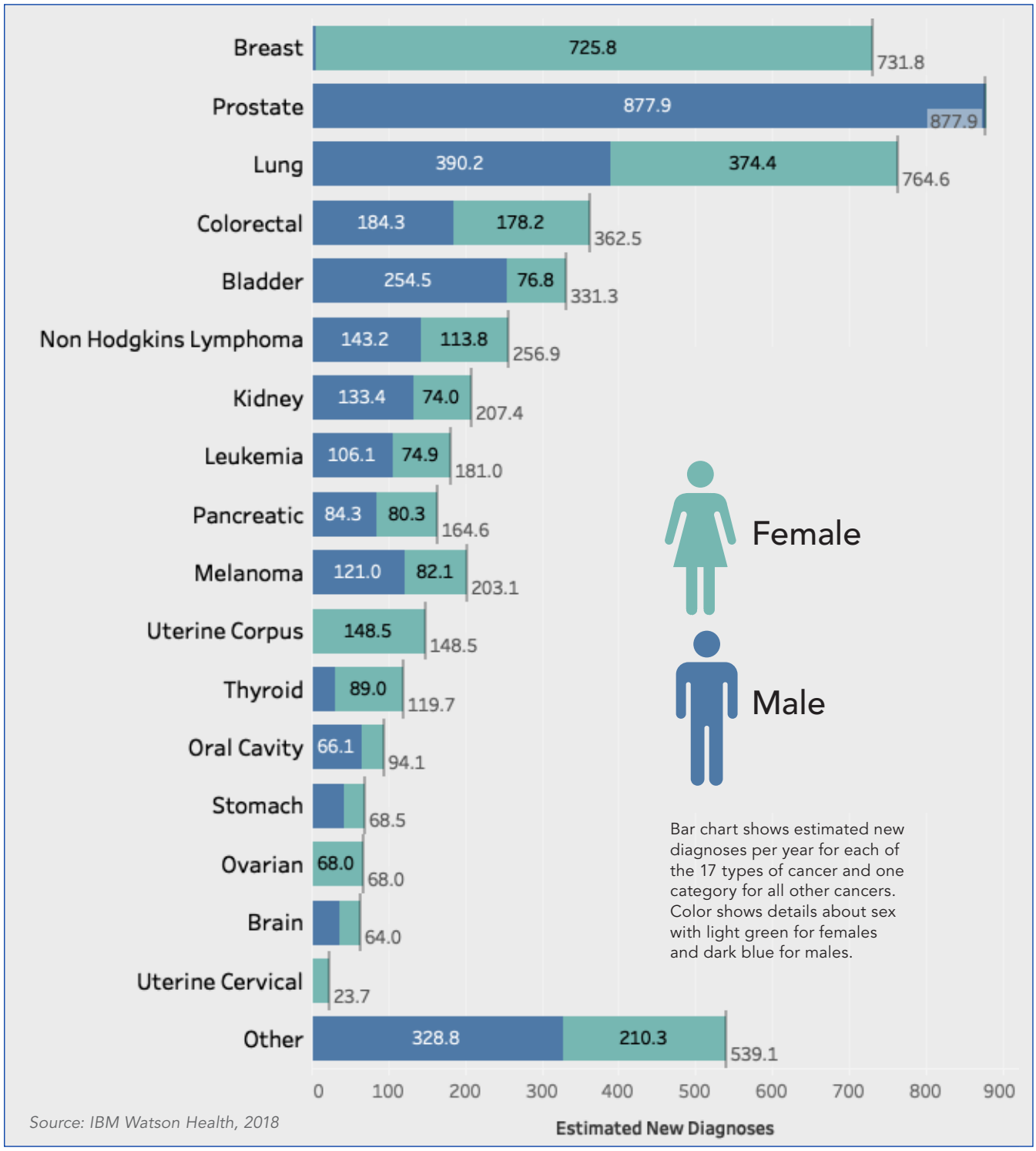
2018 Estimated heart disease cases



Source: IBM Watson Health, 2018

For this community, IBM Watson Health's 2018 cancer estimates revealed the cancers projected to have the greatest rate of growth in the next five years are pancreatic, bladder, melanoma and thyroid, based on both population changes and disease rates. The cancers estimated to have the greatest number of new cases in 2018 are prostate, lung and breast.

2018 Estimated new cancer cases



Estimated cancer cases and projected five-year change by type

Cancer type	2018 Estimated new cases	2023 Estimated new cases	5-year growth (%)
Bladder	331	375	13.1%
Brain	64	68	6.0%
Breast	732	791	8.1%
Colorectal	362	344	-5.0%
Kidney	207	230	10.9%
Leukemia	181	200	10.6%
Lung	765	833	9.0%
Melanoma	203	228	12.3%
Non-Hodgkin's lymphoma	257	284	10.6%
Oral cavity	94	104	10.3%
Ovarian	68	72	6.6%
Pancreatic	165	188	14.5%
Prostate	878	900	2.5%
Stomach	68	74	7.8%
Thyroid	120	134	12.2%
Uterine - cervical	24	24	1.4%
Uterine - corpus	149	163	9.6%
Other	539	600	11.3%
Grand total	**5,207**	**5,614**	**7.8%**

Note: Case numbers are rounded to the nearest integer, which may mask minor differences. *Source: IBM Watson Health, 2018*

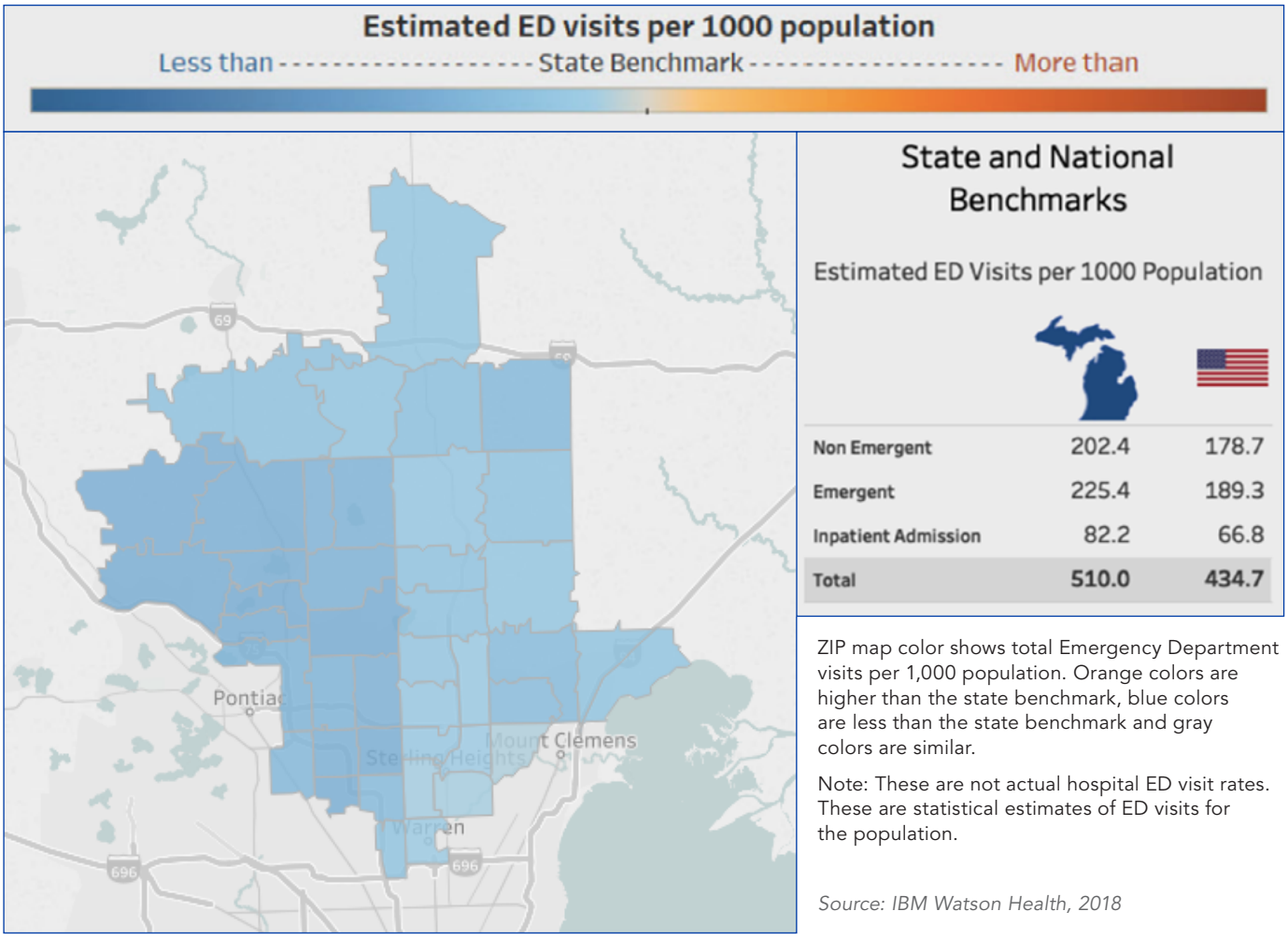
Beaumont, Troy

Based on population characteristics and regional utilization rates, IBM Watson Health projected all Emergency Department visits in this community will increase by 4.4% over the next five years. The highest estimated ED use rate is in the 48038 ZIP code of Clinton Township; 477.1 ED visits per 1,000 residents compared to the Michigan state benchmark of 510 visits and the U.S. benchmark of 435 visits per 1,000.

These ED visits consist of three main types: those resulting in an inpatient admission, emergent ED visits treated and released and non-emergent ED visits that are lower acuity. Non-emergent ED visits present to the ED but can potentially be treated in more appropriate and less intensive outpatient settings.

Non-emergent ED visits can be an indication of systematic issues within the community regarding access to primary care, managing chronic conditions or other access to care issues such as ability to pay. IBM Watson Health estimated non-emergent ED visits will decrease by an average of 1.1% over the next five years in this community.

Total estimated 2018 Emergency Department visit rate

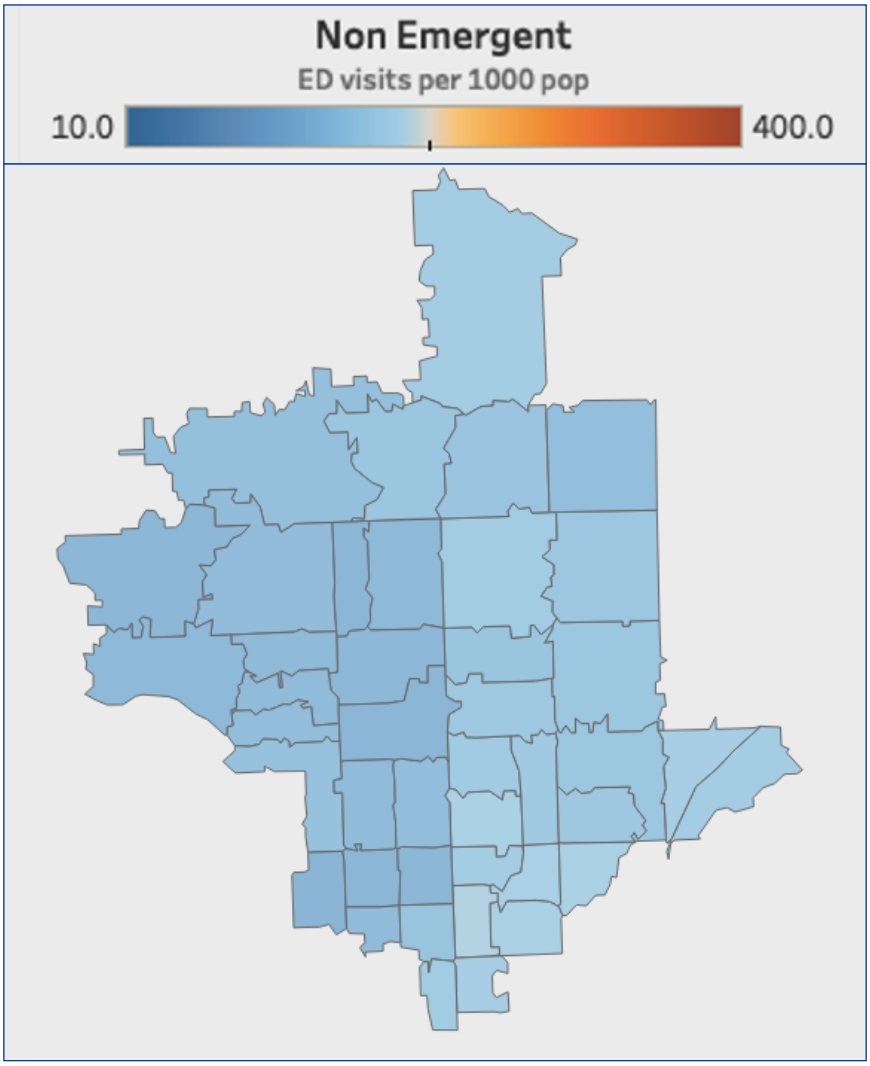


ZIP map color shows total Emergency Department visits per 1,000 population. Orange colors are higher than the state benchmark, blue colors are less than the state benchmark and gray colors are similar.

Note: These are not actual hospital ED visit rates. These are statistical estimates of ED visits for the population.

Source: IBM Watson Health, 2018

Non-emergent estimated 2018 Emergency Department visits by ZIP code



ZIP map color shows total Emergency Department visits per 1,000 population by non-emergent status. Orange colors are higher than the state benchmark, blue colors are less than the state benchmark and gray colors are similar. Color range is set for the entire study region. ED visits are defined by the presence of specific CPT® codes in claims.

Non-emergency visits to the ED do not necessarily require treatment in a hospital Emergency Department and can potentially be treated in a fast-track ED, an urgent care treatment center, or a clinical or physician's private office.

Source:
IBM Watson Health, 2018

Note: These are not actual hospital ED visit rates.
These are statistical estimates of ED visits for the population.

2019 CHNA implementation strategy

The implementation strategy for the chosen health needs of 1) chronic disease prevention and management (cardiovascular disease, diabetes, obesity) and 2) mental health are outlined in the following pages.

Over the next three years, each Beaumont Health hospital will execute its implementation strategies which will be evaluated and updated on an annual basis.

Priority #1

Chronic disease prevention and management (cardiovascular disease, diabetes, obesity)

Goal #1: Decrease rates of chronic disease in children and adults by promoting healthy eating and active living behaviors.	
Objective #1: Provide education and services that support healthy eating, active living and maintaining a healthy weight.	
OUTCOME MEASURES	• Decrease percent of adult obesity. • Decrease percent of students who are obese.
STRATEGIES AND TACTICS	• Implement Cooking Matters program, cooking classes for children, grocery store tours and food demonstrations to equip families with knowledge and skills to prepare healthy meals. • Establish multi-sector Healthy Troy community coalition to implement community strategies on healthy eating and active living. • Implement initiatives and partner collaborations to increase access to fresh fruits and vegetables and reduce food insecurity. • Provide education on chronic disease prevention and management through the Living Well education series, community events and Beaumont Speakers Bureau.
COMMITTED RESOURCES	Beaumont, Troy will commit both financial and in-kind resources, including staff time, charitable contributions and employee volunteerism.
PARTNERS	• Gleaners Community Food Bank of SE Michigan • City of Troy • Troy School District
EVALUATION	• Pre/post participant surveys • Partnership agreements • Participation surveys
Objective #2: Increase opportunities for physical activity.	
OUTCOME MEASURES	• Increase percent of physically active adults. • Increase education and opportunities for physical education.
STRATEGIES AND TACTICS	• Implement community-wide walking, wellness and fitness activities to increase physical activity and social interaction across the community. • Provide training for physical education teachers to implement the Coordinated Approach to Child Health (CATCH) PE nutrition and physical activity program. • Implement the program A Matter of Balance: Managing Concerns About Falls to support physical activity among older adults. • Provide individual assessments, education and fall risk reduction programs for seniors to maintain physically active lives.
COMMITTED RESOURCES	Beaumont, Troy will commit both financial and in-kind resources, including staff time, charitable contributions and employee volunteerism.
PARTNERS	• Sterling Heights and Troy Parks and Recreation • Waterford School District • Oakland Mall • Avondale School District • Healthy Troy coalition • Orion Township Community Center
EVALUATION	• Physical Education teacher evaluation surveys • Up and Go Test • Walking log metrics • Participant surveys • Participation rates

Goal #2: Decrease cardiovascular disease risk factors and prevent death from sudden cardiac arrest.	
Objective #1: Provide education programs and services.	
OUTCOME MEASURES	• Decrease percent of adult hypertension. • Decrease in cardiovascular disease risk factors. • Increase knowledge and awareness of self-monitoring practices.
STRATEGIES AND TACTICS	• Implement educational sessions on cholesterol, blood pressure and weight management. • Implement Blood Pressure Self-Monitoring Program in churches and community organizations. • Provide AED and Hands-Free CPR training across the community. • Mentor and assist schools in attaining the state Heart Safe School designation and provide AED equipment as needed. • Provide support programs, self-management and education on cardiovascular health, stroke prevention and recovery.
COMMITTED RESOURCES	Beaumont, Troy will commit both financial and in-kind resources, including staff time, charitable contributions and employee volunteerism.
PARTNERS	• Local churches • Schools • Community agencies
EVALUATION	• Attainment of Heart Safe School designation • Pre/post participant surveys • Participation rates
Objective #2: Provide early detection screenings.	
OUTCOME MEASURES	• Decrease in deaths from sudden cardiac arrest. • Decrease percent of adult hypertension. • Decrease in CVD risk factors.
STRATEGIES AND TACTICS	• Provide blood pressure, cholesterol, glucose, BMI, heart and vascular screenings across the community. • Implement the Student Heart Check Program to detect abnormal heart structure or abnormal rhythms and explore development of student support group for those currently diagnosed or affected by abnormal diagnoses.
COMMITTED RESOURCES	Beaumont, Troy will commit both financial and in-kind resources, including staff time, charitable contributions and employee volunteerism.
PARTNERS	• Local churches • Schools • Community agencies
EVALUATION	• Screening results • Participant survey

*Please see next page for Priority #1, **Goal #3:** Decrease rate of new diabetes cases and of diabetes complications.*

Priority #1 *cont.*

Chronic disease prevention and management (cardiovascular disease, diabetes, obesity)

Goal #3: Decrease rate of new diabetes cases and of diabetes complications.	
Objective #1: Provide early detection screenings, diabetes prevention programs and diabetes education services.	
OUTCOME MEASURES	• Decrease new incidences of diabetes.
STRATEGIES AND TACTICS	• Provide support groups for those with diabetes and their caregivers. • Provide the Diabetes PATH chronic disease self-management program. Explore implementation of online version. • Implement the National Diabetes Prevention Program for adults with pre-diabetes or at high risk for diabetes.
COMMITTED RESOURCES	Beaumont, Troy will commit both financial and in-kind resources, including staff time, charitable contributions and employee volunteerism.
PARTNERS	• National Kidney Foundation of Michigan • AAA 1-B • Local churches • Libraries • Senior centers • Community organizations
EVALUATION	• Participation rates/volumes • Outcome measures • Increase in physical activity • Screening results • Average weight loss • Pre/post participant surveys • Participation rates

Priority #2

Mental health

Goal #1: Decrease rate of mental health and substance use disorders.	
Objective #1: Improve access and coordination of services.	
OUTCOME MEASURES	• Increase referral linkages for mental health and opioid use disorders.
STRATEGIES AND TACTICS	• Support partnerships to improve integration of health care and community-based mental health services. • Improve access and coordination of services for substance abuse disorder through creating multidisciplinary care teams using community peer recovery coaches and linking individuals to community resources.
COMMITTED RESOURCES	Beaumont, Troy will commit both financial and in-kind resources, including staff time, charitable contributions and employee volunteerism.
PARTNERS	• Community mental health agencies • Universal Health Services • CARE of Southeast Michigan • Families Against Narcotics
EVALUATION	• Partnership agreements • Patients connected to community resources
Objective #2: Provide education program and services..	
OUTCOME MEASURES	• Increase knowledge and awareness of mental health.
STRATEGIES AND TACTICS	• Implement mindfulness classes to address anxiety, depression, stress and chronic pain. • Provide education on mental health through community events and Beaumont Speakers Bureau. • Provide regular postpartum depression, anxiety and parenting concerns support group.
COMMITTED RESOURCES	Beaumont, Troy will commit both financial and in-kind resources, including staff time, charitable contributions and employee volunteerism.
PARTNERS	• Community mental health agencies
EVALUATION	• Perceived Stress Scale • Self-Compassion Scale • Qualitative measures • Participant rates • Participation surveys

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