

Reimagining Public Health: Dearborn's Innovative Dual Approach to Community Health Needs Assessments

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Dearborn Public Health

Est 2022

Purpose: We will promote and protect the health of Dearborn residents and the communities where they live, learn, work, and play.

Mission: To work so that each Dearborn resident has the opportunity to attain their full health potential, and no one is disadvantaged from this potential due to social position or other socially determined circumstances.

Vision: DPH will work collectively with residents, city agencies and departments, community stakeholders, and community sectors to assume the conditions for residents to lead healthy and dignified lives.



WAYNE

Dearborn brings back health department with focus on equity, environmental justice



Niraj Warikoo
Detroit Free Press

Published 6:34 p.m. ET April 6, 2022 | Updated 7:50 p.m. ET April 6, 2022



Dearborn announced Wednesday it's bringing back a revamped health department and appointing a director, making it what officials say is probably the only city in southeastern Michigan outside of Detroit to have its own health department.

Mayor Abdullah Hammoud, elected in November, said Ali Abazeed, 31, who previously worked for the National Institutes of Health and advised Detroit's health department, will lead the newly established Department of Public Health.

Dearborn once had its own health department with a medical staff of five that offered patient services such as immunizations, but that shuttered in 2011 for budgetary reasons. The new department will be different, working across city departments and focusing more on disease prevention and societal factors that influence health outcomes, Hammoud said. Officials say it's a pioneering strategy that hasn't been widely implemented before, but is backed by public health experts.

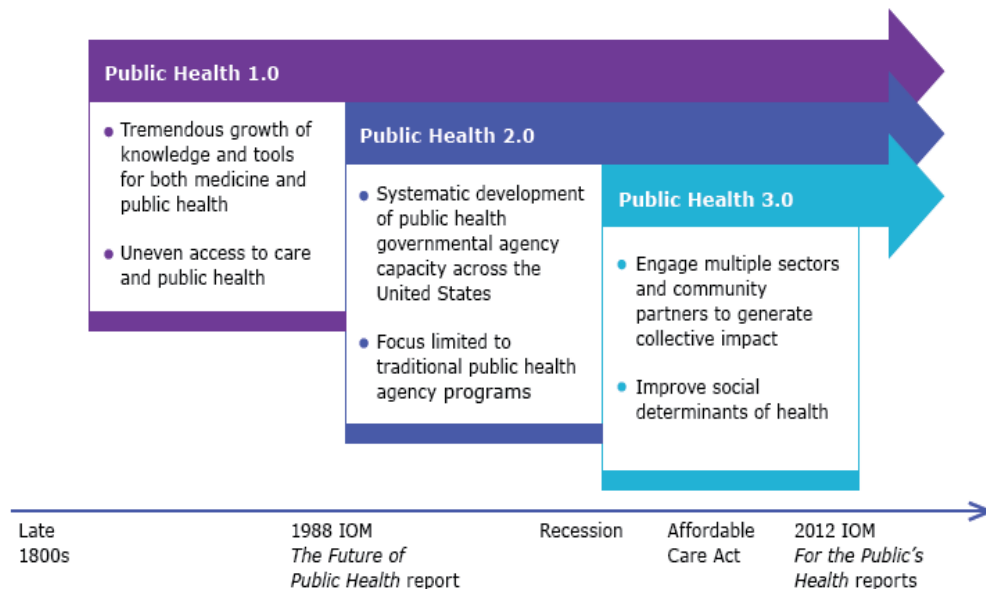
Smokestacks and forgotten residents: Dearborn opens new health department



The industry that helped build this region marks the skyline for residents of Dearborn. (Bridge photo by Valaurian Waller)

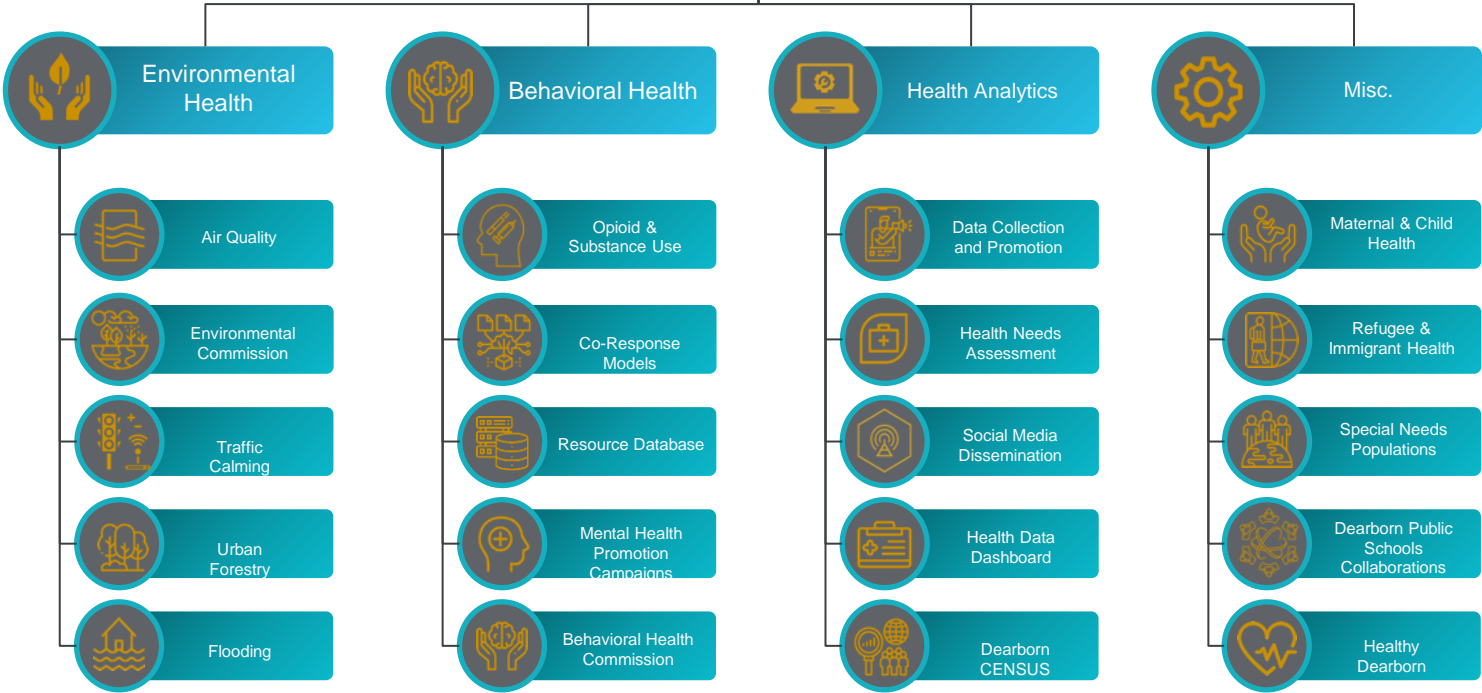
Public Health 4.0: Health in All Policies

- Medical care accounts for only 10-20% of overall health
- The other 80-90% are social determinants of health:
 - Health-related behaviors
 - Socioeconomic factors
 - Environmental factors



[DeSalvo et al., 2017](#)

 **Department of
Public Health**



Emergent Needs

DEARBORN PUBLIC HEALTH

BABY FORMULA DISTRIBUTION

WHEN: Friday May 27th, 2022

WHERE: Ford Community and Performing Arts Center
Theatre Entrance Circle Drive
15801 Michigan Ave
Dearborn, MI, 48126

TIME: 11:00 AM-2:00 PM

First come, first serve while supplies last

5 units per household

للقرءاءة باللغة العربية اضغط لجهة اليمين



DEARBORN PUBLIC HEALTH

EXTREME HEAT WARNING!

TEMPERATURE WILL FEEL LIKE 164°F ON WEDNESDAY, JUNE 15TH

للقرءاءة باللغة العربية اضغط لجهة اليمين

DEARBORN PUBLIC HEALTH

تحذير من الحرارة الشديدة!

ستصل درجة الحرارة التي ما يعايرها 164° فوم الأربعاء 15 حزيران القادم

DURING EXTREME HEAT

- STAY IN SHADDED AREAS AND AVOID EXPOSURE TO THE SUN
- DRINK PLENTY OF FLUIDS
- MONITOR WEATHER FOR UPDATES
- WEAR LIGHTWEIGHT, BREATHABLE, AND LOOSE-FITTING CLOTHING
- SPEND TIME IN AIR CONDITIONED PLACES
- CHECK ON FAMILY, FRIENDS, AND NEIGHBORS
- NEVER LEAVE CHILDREN OR PETS ALONE IN A CAR
- AVOID STRENUOUS WORK
- EAT LIGHT AND WELL-BALANCED MEALS
- AVOID USING SALT TABLETS

أثناء اشتداد الحرارة يجب:

- البقاء في الأماكن المظللة وتجنب التعرض لأشعة الشمس المباشرة
- شرب الكثير من السوائل
- مراقبة التنبؤات الجوية والتحديثات
- ارتداء ملابس خفيفة، مناسبة، فضفاضة
- التحقق من أفراد العائلة والأصدقاء والأقارب
- عدم ترك الأطفال أو الحيوانات الأليفة في السيارة
- تجنب العمل الشاق
- تناول وجبات خفيفة ومتوازنة
- تجنب استخدام الملح

City of Dearborn files lawsuit against scrap yard over hazardous air pollution violations

DEARBORN, Mich. (CBS DETROIT) - If you drive down Wyoming Avenue in Dearborn's south end, you'll find dirty roads and dusty sidewalks.

 Detroit Free Press

Dearborn creates new public health department with director

Dearborn announced Wednesday it's bringing back a revamped health department and appointing a director, making it what officials say is...

 Detroit Free Press

Dearborn high schools to get free menstrual products this fall

The Dearborn Department of Public Health announced Wednesday that it would supply free menstrual products to all Dearborn high schools...

 WDET


Detroit Today: How Dearborn is growing its population, opposite of state trends

Dearborn's mayor explains why his city is growing, and what the state needs to do to achieve similar results.

 WDET

Dearborn fighting rise in overdoses with NARCAN vending machine

The city's Department of Public Health has put a vending machine containing the overdose-reversal drug inside the train station.

 Press and Guide

Dearborn's Health Department unveils Narcan vending machine

To demonstrate that Dearborn is more proactive than reactive when it comes to opioid abuse and overdoses, Mayor Abdullah Hammoud and...



 WDET

Dearborn Health Department receives \$100,000 grant focusing on Arab American communities

The Dearborn Health Department has announced a \$100,000 grant from the DMC Foundation to conduct its first community health needs assessment...

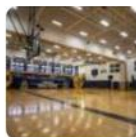
 University of Michigan School of Public Health



A passion for Dearborn: Michigan Public Health alumni lead with a public health perspective

University of Michigan School of Public Health alumni Abdullah Hammoud and Ali Abazeed are leading their hometown of Dearborn, Michigan,...

 The Detroit News



Dearborn settles with scrap yard over 'fugitive' dust

The city of Dearborn has reached a settlement with a local scrapyard over excessive air pollution concerns, prompting the company to invest...

 WDET



Dearborn's health department wants to make access to services easier

Dearborn's public health department is focusing on environmental and behavioral health and data analytics.

 Press and Guide



Dearborn Public Health partners with the National League of Cities to advance health equity

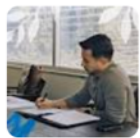
Through this collaboration, DPH is leading an effort to institute partnerships across the city government, and among the community,...

 The Arab American News



Dearborn testing speed humps to combat speeding, reckless driving in neighborhoods

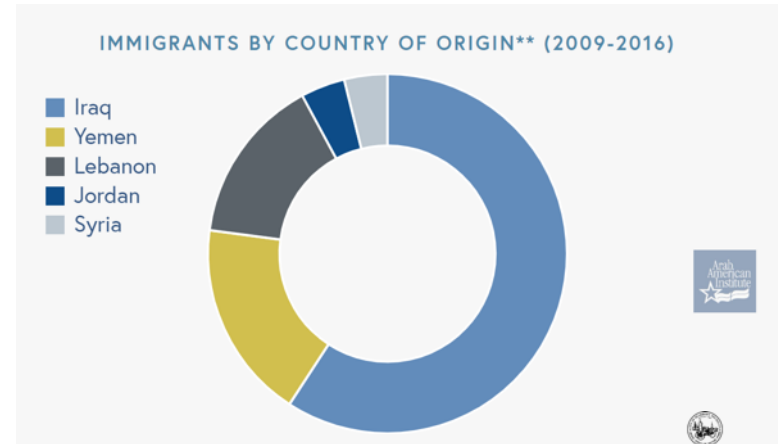
Dearborn announced that the city will install speed humps in three high-traffic areas as part of an effort to curb speeding and reckless...





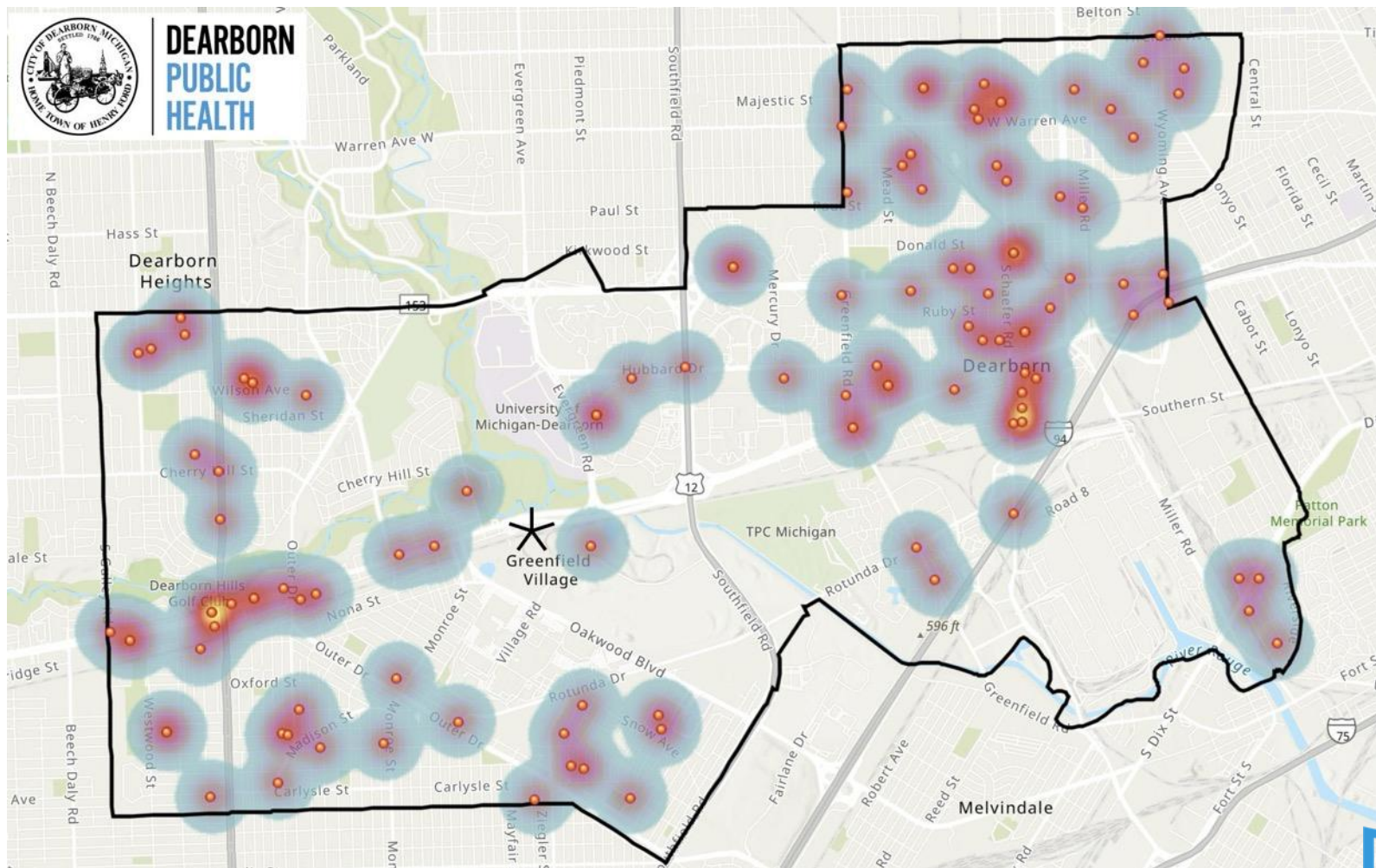
Dearborn Demographics

- Dearborn is the 7th largest and amongst the most diverse city across the state
- **Population: 108,420 (2021)**
 - 89.9% White (including Arab-Americans)
 - ~55% of Dearborn's population is Arab American: Arabs are not counted on the census *(Renders them invisible in health disparities research and limits access to resources)
- Median household income: \$56,302
- 29% of population was born outside the USA





DEARBORN PUBLIC HEALTH





COMMUNITY HEALTH IMPROVEMENT



MPHI's Community Health Improvement Approach

- Community Health Improvement (CHI): A strategic process for assessing community health needs, prioritizing them, and identifying resources to address them (NACCHO).
- Community-Based Participatory Approach
 - Partnership between community members, organizations, academic institutions etc. to improve health and reduce disparities.



Mobilizing for Action through Planning and Partnership 2.0 Framework

- Promotes collective exploration of social injustices like white supremacy, structural racism, class oppression, and gender oppression that sustain inequities.
- Engages community members, promoting inclusion, and eliminating barriers to community engagement, ensuring everyone, regardless of background or experience, can contribute to the process.
- Fosters connection and trust by respecting the knowledge, expertise, and perspectives of community members and stakeholders.
- Establishes priorities, strategies, and action plans that reflect the community's input and are based on primary and secondary qualitative and quantitative data highlighting community needs.

MAPP 2.0 Framework



**Build the Community Health
Improvement Foundation**



**Tell the Community Story
(Community Health Assessment)**

- Community Partner Assessment
- Community Status Assessment
- Community Context Assessment



**Continuously Improve the
Community
(Community Health
Improvement Planning)**



Modern Challenges to Community Health Improvement

- COVID-19 pandemic led to a major shift from in-person to virtual engagement methods.
 - Virtual engagement methods kept participants safe but required innovation in methods.
 - Virtual engagement has increased opportunities for some community members to inform CHI processes, but limited engagement for populations without reliable technology and broadband connectivity.



Modern Challenges to Community Health Improvement

- Authentic engagement from participants **who represent community, particularly those most impacted by systemic oppression**
 - Community-engaged methods such as online surveys and focus groups have to consider how to mitigate risks associated with AI-generated responses **that mask true voices.**
 - Survey bots are rapidly growing more sophisticated and require shifts in our approaches, **and they are outpacing CAPTCHAs built into survey software.**
 - Current best-practice engagement methods include incentivizing people for their time in participating in data collection, but this incentivizes false or bot-generated responses that are not authentic to the experiences of individuals in the communities we are working with.
 - These new technology-driven problems **are leading some organizations to return to in-person methods in order to ensure authentic engagement.**

Considerations for Potential Roles for AI in CHA/CHIP Process

- Can AI tools identify potential organizations/partners in the community that are not currently represented in the CHA/CHIP process?
- Can AI help synthesize large volumes of information about a community across sources and over time?
- Can AI broaden the types of data used as part of CHNA, helping partners incorporate important factors like community history?
- Can AI be used to ask questions of social media and help construct less accessible narratives around community health topics?
- Can AI compile an environmental scan about what others are doing or initiatives that could support CHA/CHIP efforts?

Modern Challenges to Community Health Improvement

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Considerations for Potential Challenges of Using AI in CHA/CHIP Processes

- Could there be algorithmic biases in the system that give rise to ethical concerns (algorithms making decisions that systematically disadvantage certain groups of people)? How and who are building and training the system?
- Would AI perpetuate biases in who is engaged, how they are engaged, and how we approach relationships?
- Might AI duplicate harmful narratives about communities?



Considerations for Potential Challenges of Using AI in CHA/CHIP Processes

- Might AI incorporate error into analysis and interpretation that leads to misinterpretation?
- Could CHA processes become overdependent on AI analysis and interpretation, reducing engagement and collaboration, which are broadly recognized as the essential ingredients of CHI?
- What capacities or partnerships do CHA leaders need to use AI ethically and appropriately?



Google



How can Google Cloud impact public health outcomes?





Google's Mission

Organize the world's information
and make it universally
accessible and useful

Nine cloud products with
ONE BILLION
users each



Google at Scale



Billions
of searches
per day



500
Hours per **minute**



4 Billion
photos & videos
per day



500 Million
People using
Google Assistant



3B
devices



100% carbon neutral

Years of AI innovation

Our pioneering AI research has made recent advances possible



2017
Transformer

2018
BERT

2019
T5

2020
LaMDA

2021
AlphaFold

2022
PaLM

2023
Bard

Responsible AI at the foundation

Built & Tested
for Safety

Privacy in
design

Upholds
high scientific
standards

Accountable to
People

Socially
Beneficial

Avoid creating
unfair bias



How we help - better, faster easier

**Collecting and
Storing Large
Amounts of Data**

**Scalable Storage
Diverse Data
Ingestion
Data Security and
Compliance**

**Analyzing Public
Health Data to
Identify Trends
and Patterns**

**BigQuery for
Analysis
Machine Learning
with Vertex AI
Data Visualization**

**Deploying Public
Health
Applications**

**App Engine and
Kubernetes
APIs and
Microservices**

**Improving
Communication
and Collaboration**

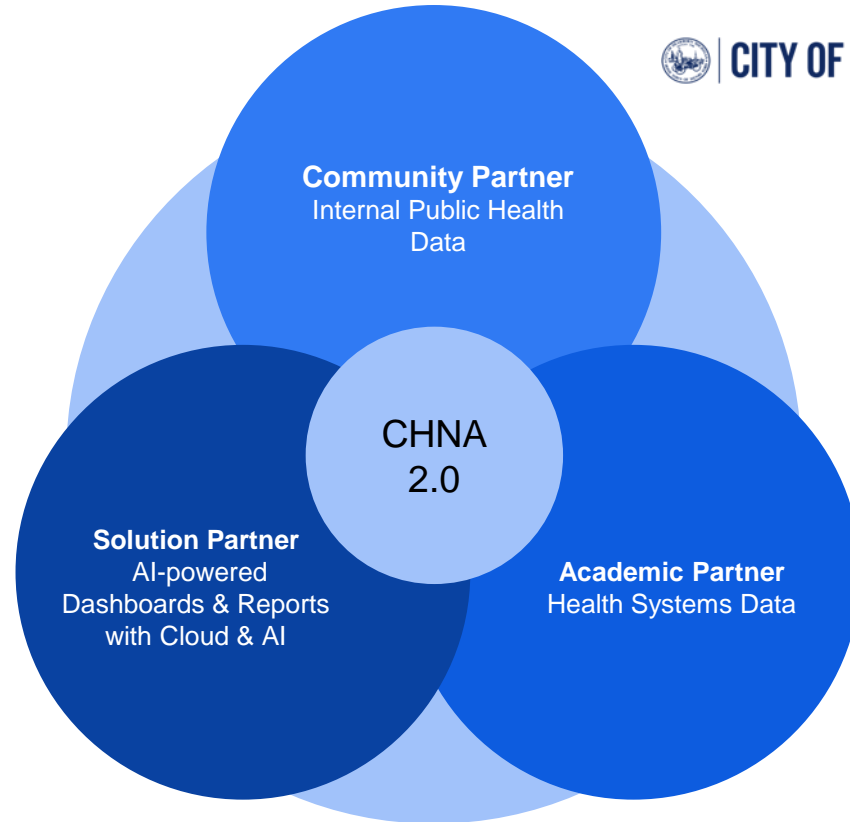
**Collaboration
Data Sharing**

**Artificial
Intelligence**

**Enhanced AI-
assisted insights
Curated AI-
assisted report
writing**

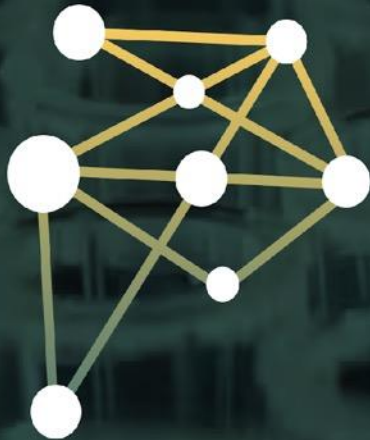


CITY OF DEARBORN



Google Cloud



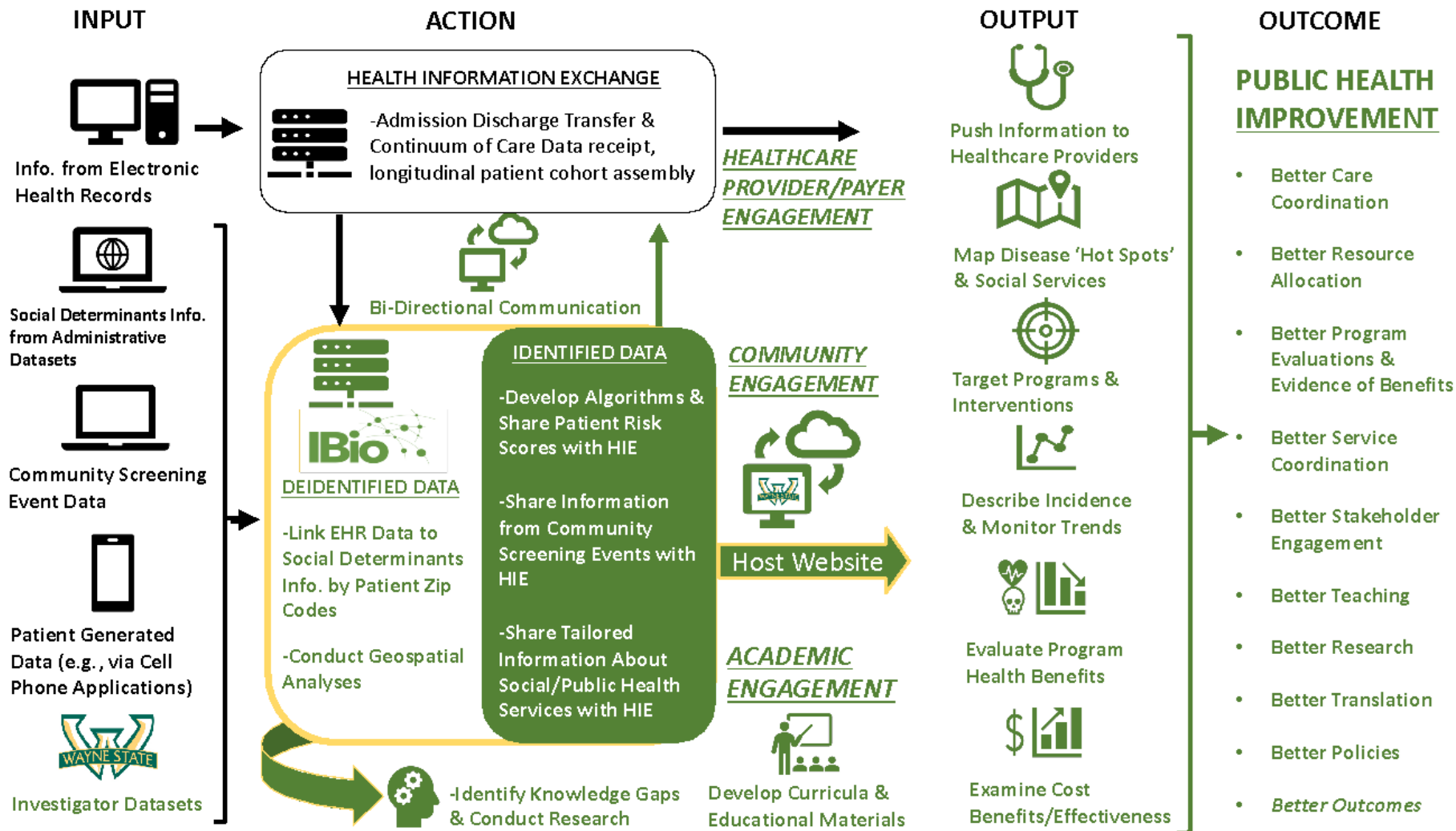


PHOENIX

The PHOENIX Project is an undertaking spearheaded by physicians and epidemiologists at Wayne State University. The **Prevalence Profiler** presents up-to-date data on health metrics, from vitals to social determinants, to provide policy makers with a better understanding of the health of our population, and to provide interventionalists with data that enables targeted health care interventions.

[Walk Through Tutorial](#)

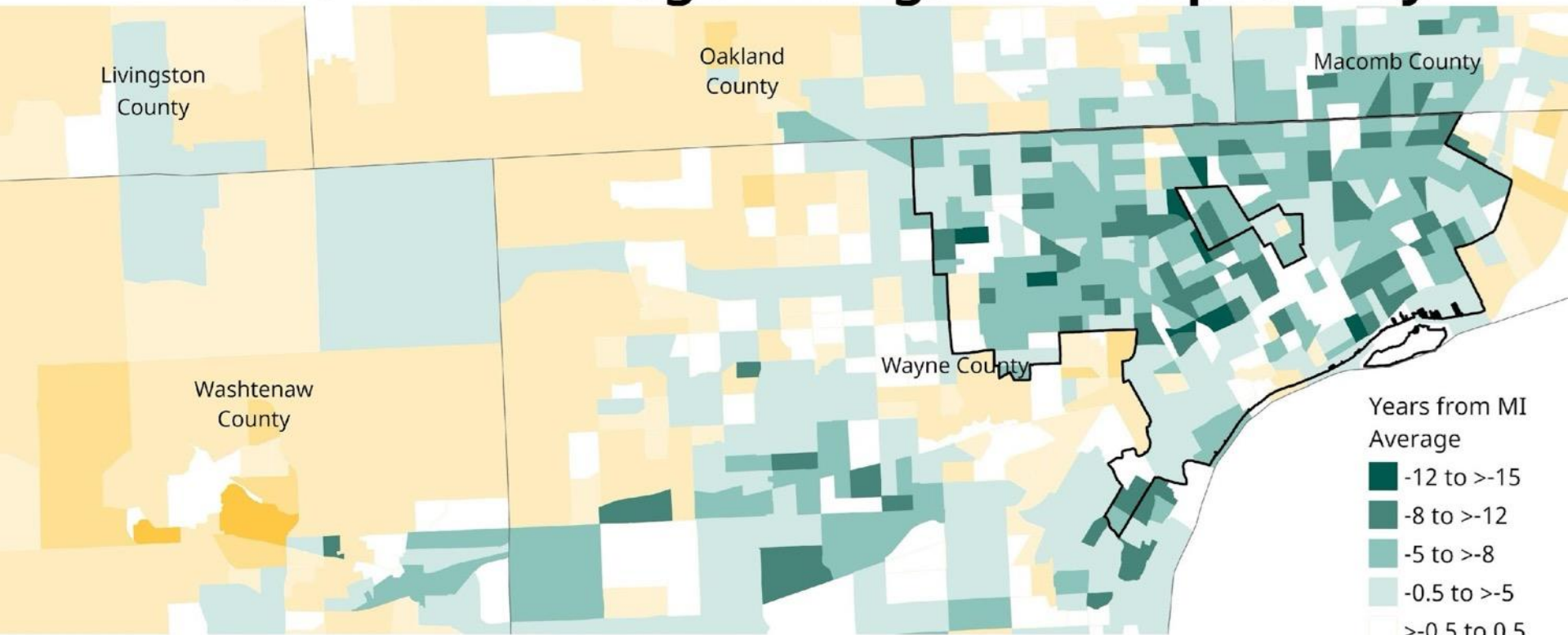
[Explore The Data](#)



Source	Data Ingested													
		Clinical	Social	Built Env.	Natural Env.	Policy Env.	Index	Region	State	County	ZIP	Tract	Block	
Brookings Institute	Metro Recovery Index					x	x	x						
US Centers for Disease Control & Prevention	500 Cities & PLACES		x							x	x	x		
	Atlas of Heart Disease and Stroke	x								x				
	COVID-19 Surveillance	x							x	x				
	Drug Overdose Mortality	x							x					
	Drug Overdose Surveillance and Epidemiology (DOSF): Non-Fatal Overdose	x							x					
	Hospital Capacity	x		x						x				
	Life Expectancy	x											x	
	Modified Retail Food Environment Index		x	x										x
	Monkeypox Surveillance	x							x					
	National Environmental Public Health Tracking Network			x	x					x			x	
	National Health Interview Survey	x	x						x					
	Social Vulnerability Index	x	x	x			x			x			x	
	State Unintentional Drug Overdose Reporting System (SUDOR): Fatal Overdose	x	x							x				
	Tick Surveillance				x						x			
	US Chronic Disease Indicators	x								x				
	US Chronic Disease Indicators: Cardiovascular Disease	x								x				
US Chronic Disease Indicators: Diabetes	x								x					
US Chronic Disease Indicators: Reproductive Health	x								x					
WONDER: Natality	x									x				
City of Detroit Open Data Portal	COVID-19 Surveillance	x									x			
	Parcels			x						x	x	x		
Columbia University	Drinking Water Contaminants			x						x				
Electronic Health Records	Detroit Medical Center - Emergency Department Surveillance	x								x	x	x		
	Henry Ford Health- Emergency Department Surveillance	x								x	x	x		
Diversity Data Kids	Child Opportunity Index						x				x	x		
Environmental Protection Agency	Environmental Justice Screening		x	x	x								x	
	Facility Registry Service			x										x
	Walkability Index						x							x
Federal Housing Finance Agency	High Opportunity Areas		x	x			x						x	
	Underserved Areas		x	x			x							x
Global Burden of Disease	Police Violence US Subnational Collaborators		x						x					
Google	Mobility Reports			x			x	x		x		x		
Gun Violence Archive	Gun Violence		x	x						x		x		
Harvard Database	Presidential Election Returns					x				x				
Health Resources & Services Administration	Health Professional Shortage Areas	x		x							x		x	
	Medically Underserved Areas	x		x							x		x	

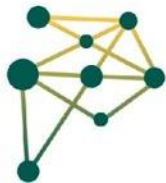
Source Data Ingested		Clinical	Social	Built Env.	Natural Env.	Policy Env.	Index	Region	State	County	ZIP	Tract	Block
Inter-university Consortium for Political and Social Research	Historic Redlining Scores		x	x		x						x	
	National Neighborhood Data Archive		x	x								x	
Internal Monetary Fund	Gross Domestic Product		x					x					
Landgrid	Wayne County Tax Delinquency & Foreclosures		x							x		x	
MDHHS	MITracking	x								x			
	Tick Surveillance				x					x			
MI School Data via Data Driven Detroit	MI School Data via Data Driven Detroit		x							x	x	x	
Opportunity Insights, Opportunity Atlas	Opportunity Insights, Opportunity Atlas		x									x	
Oxford COVID-19 Government Response Tracker	Oxford COVID-19 Government Response Tracker					x		x					
Robert Graham Center	Social Disadvantage Index		x				x			x			
SafeGraph	SafeGraph			x								x	
Social Security Agency	Names												
The Delphi Group at Carnegie Mellon University	U.S. COVID-19 Trends and Impact Survey	x									x		
The Eviction Lab at Princeton University	Eviction Estimates		x	x				x	x				
	Proprietary Eviction Estimates			x				x	x				
University of Pittsburgh	Project TYCHO							x					
University of Chicago	Energy Policy Institute: Air Quality Index				x	x		x	x				
University of South Carolina	Baseline Resilience Indicators for Communities		x	x					x				
University of Wisconsin Neighborhood Atlas	Area Deprivation Index		x	x									x
US Census Bureau	American Community Survey		x	x					x	x	x	x	
	Decennial Census		x	x					x		x	x	
US Department of Agriculture	Food Access Research Atlas		x	x								x	
	SNAP Enrollment		x						x				
US Department of Homeland Security	FE MA: Resilience Analysis and Planning Tool		x	x	x				x			x	
	National Risk Index						x			x		x	
US Department of Housing and Urban Development	Homelessness		x	x				x					
	Low-Income Housing Tax Credit		x	x							x		
	Subsidized Homes		x	x						x	x	x	
US Department of Treasury	Qualified Opportunity Zones						x		x				
Washington University Law	Supreme Court Disputes					x							
	Supreme Court Justice Votes					x							
Wayne County	Medical Examiner	x										x	
Wayne County Open Data Portal	Parcels from Open Data Portal			x						x	x	x	

Years from Average Michigan Life Expectancy



Years from MI Average

- 12 to >-15
- 8 to >-12
- 5 to >-8
- 0.5 to >-5
- >-0.5 to 0.5
- >0.5 to 2
- >2 to 6
- >6 to 9
- >9 to 13

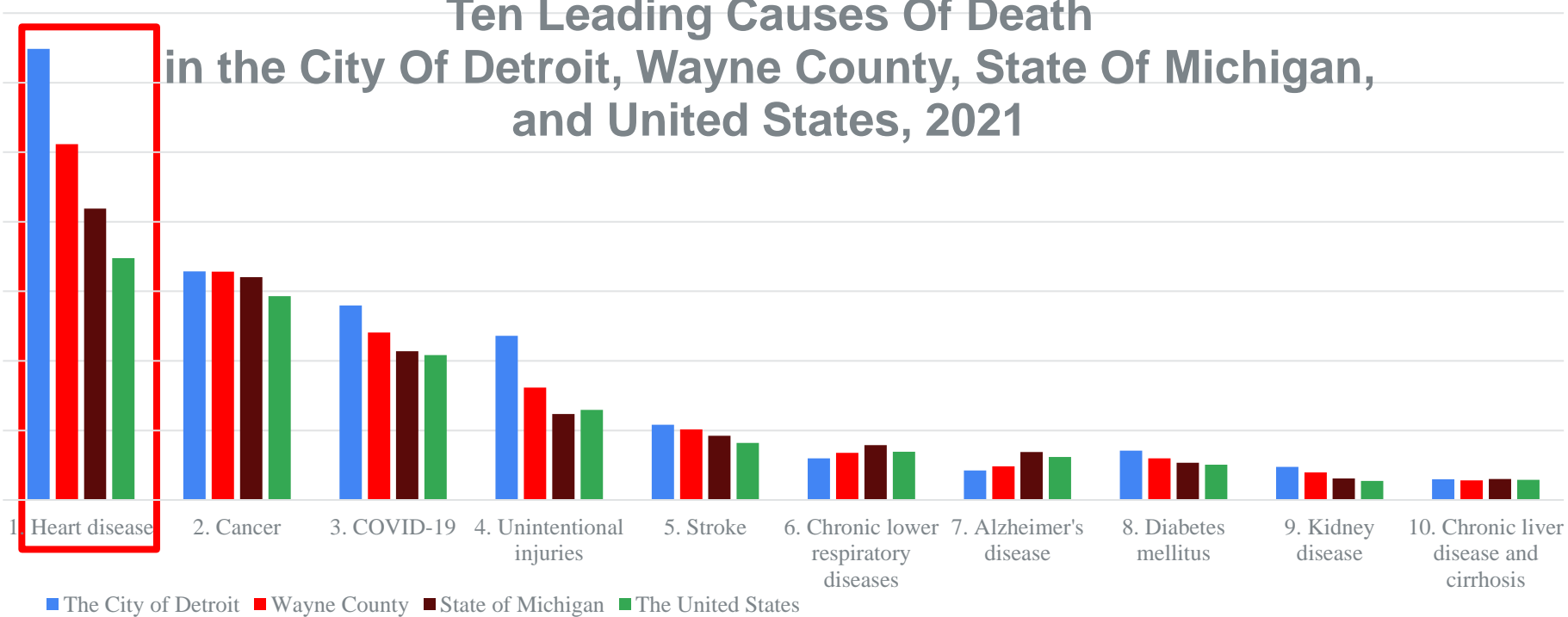


PHOENIX

Average Michigan life expectancy is 77.7 years (at birth).

Data from National Center for Health Statistics. U.S. Small-Area Life Expectancy Estimates Project (USALEEP): Michigan [2010-2015]. Methodology by Escobedo et al., 2018.

Age-adjusted Mortality Rates/100,000 Population for the Ten Leading Causes Of Death in the City Of Detroit, Wayne County, State Of Michigan, and United States, 2021



Source: 2021 Geocoded Michigan Death Certificate Registry. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services. National Center for Health Statistics. NCHS Data Brief No. 456, 2022.

select a geography on the map to view summary data



View trends and determinants summary >>

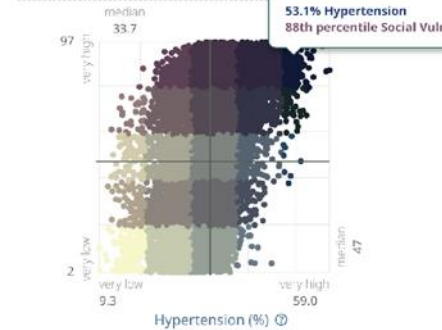
Advanced display: Metric by Metric Comparison

METRIC BY METRIC COMPARISON



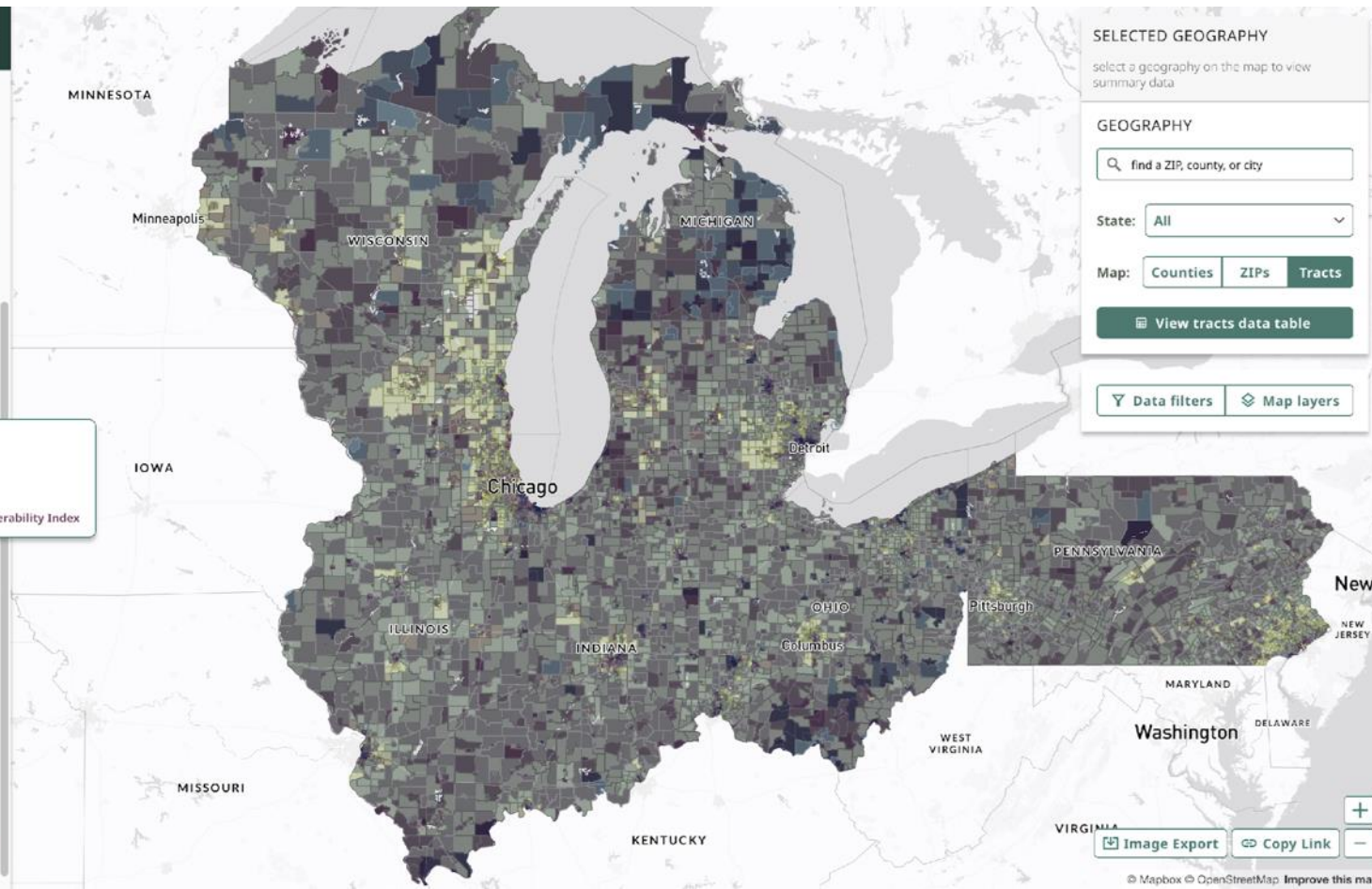
Click an axis to change plot

Social Vulnerability Index (National percentiles)



Swap axis metrics View other related metrics >>

select a geography on the map to view summary data



SELECTED GEOGRAPHY
select a geography on the map to view summary data

GEOGRAPHY
find a ZIP, county, or city

State: All

Map: Counties ZIPs Tracts

View tracts data table

Data filters Map layers

Tract 540400
Wayne County, MI
Jan 2021 - Mar 2021
53.1% Hypertension
88th percentile Social Vulnerability Index

Image Export Copy Link

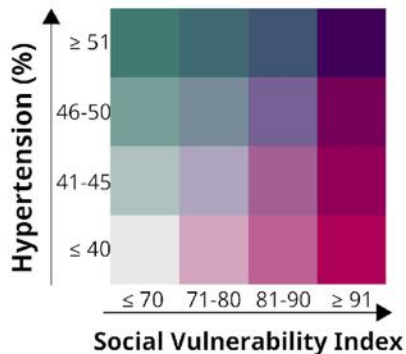


PHOENIX

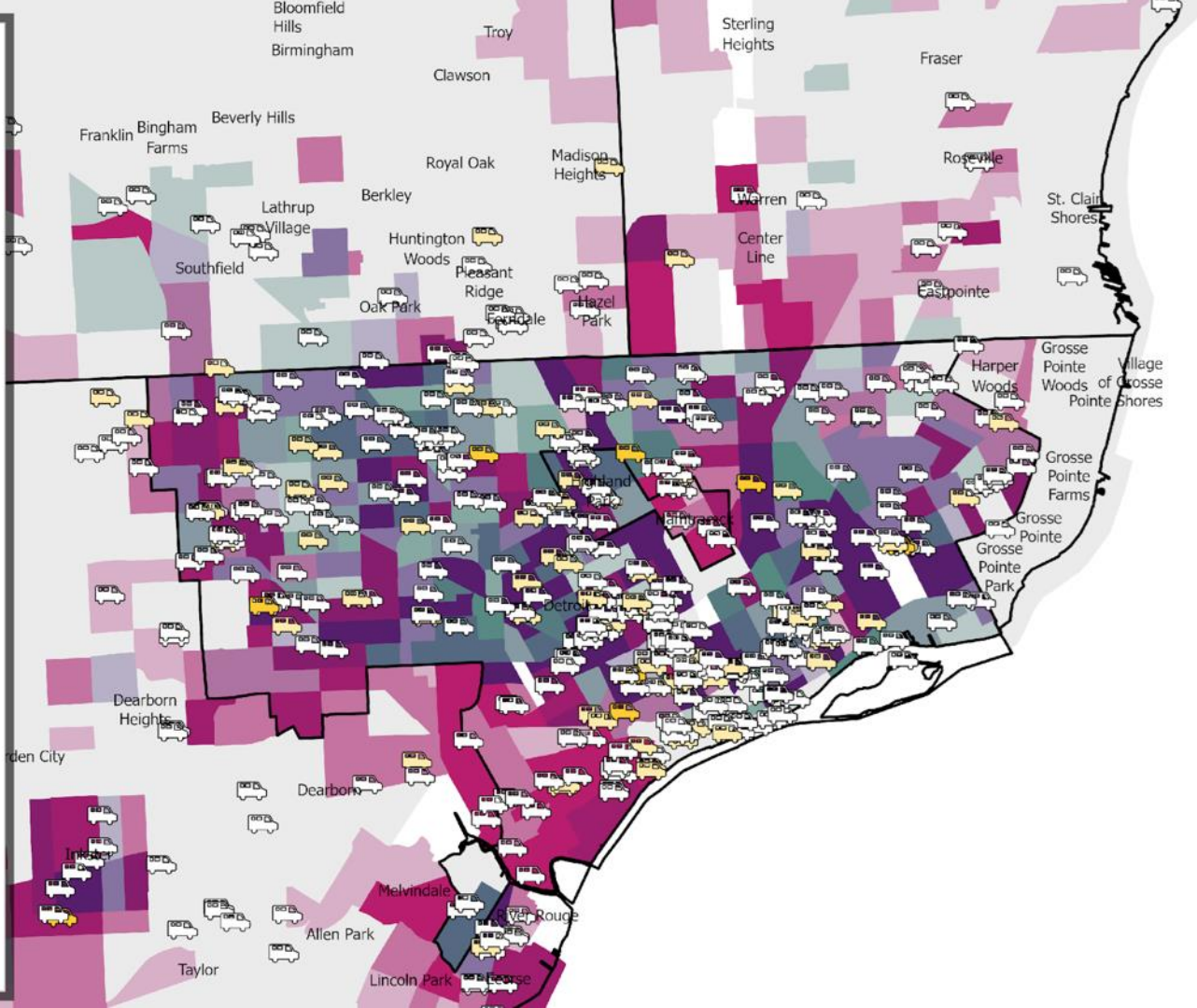
Hypertension Prevalence, Social Vulnerability Index, & Mobile Health Unit Outreach

Created by: Mallory A. Lund & Samantha J. Bauer, PhD
September 3, 2024

Individuals Screened for Hypertension (n=9,495)



Note: Mobile health unit data on screening for hypertension ranges from March 2020 to August 2024. Hypertension data from CDC PLACES, 2023 release. Social Vulnerability Index data from CDC, 2018.



CHNA 2.0

Project Kick-off

Optimization Assessment of CHNA

May 22, 2024



CITY OF DEARBORN



Google Cloud

SYNTASA

Syntasa

- Continue to work on solution design document
- Specify CHNA 2.0 dashboards

Dearborn & Wayne State

- Share Survey Data Schema & sample data
- Share Neighborhood names to census tracts

Google

- Help facilitate access to Google Health Trends

Summarizing the background and key objectives

CHNA

- CHNA process, involves assessing the health needs of a community and identifying priorities for action.
- Current process is highly manual and creates a point in time snapshot that is ineffective to drive meaningful change.
- There is a need to transform the process and build a live CHNA 2.0 solution



Partnership with Google and Syntasa

- Partnership objective is to transform the CHNA process
- Focus is on real-time statistical information to enable data-driven decision-making.
- Partners have a shared commitment to improving the health and well-being of communities



Timely Insights

- ✓ Empower public health
- ✓ Process active information
- ✓ Inform choices NOW



Faster Reports with Gen AI

- ✓ AI pruned dashboards
- ✓ Contextual Explanations
- ✓ Actions tied to Insights

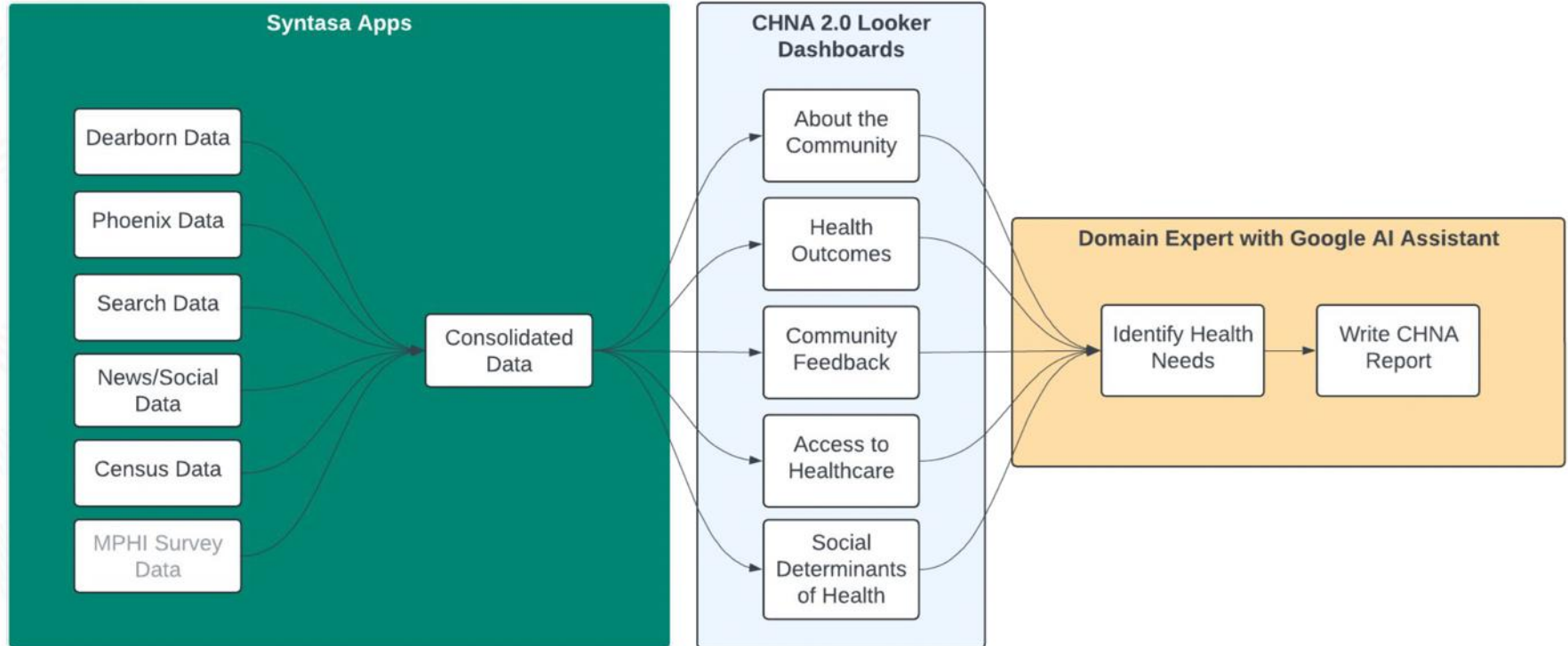
Data and AI Pipelines

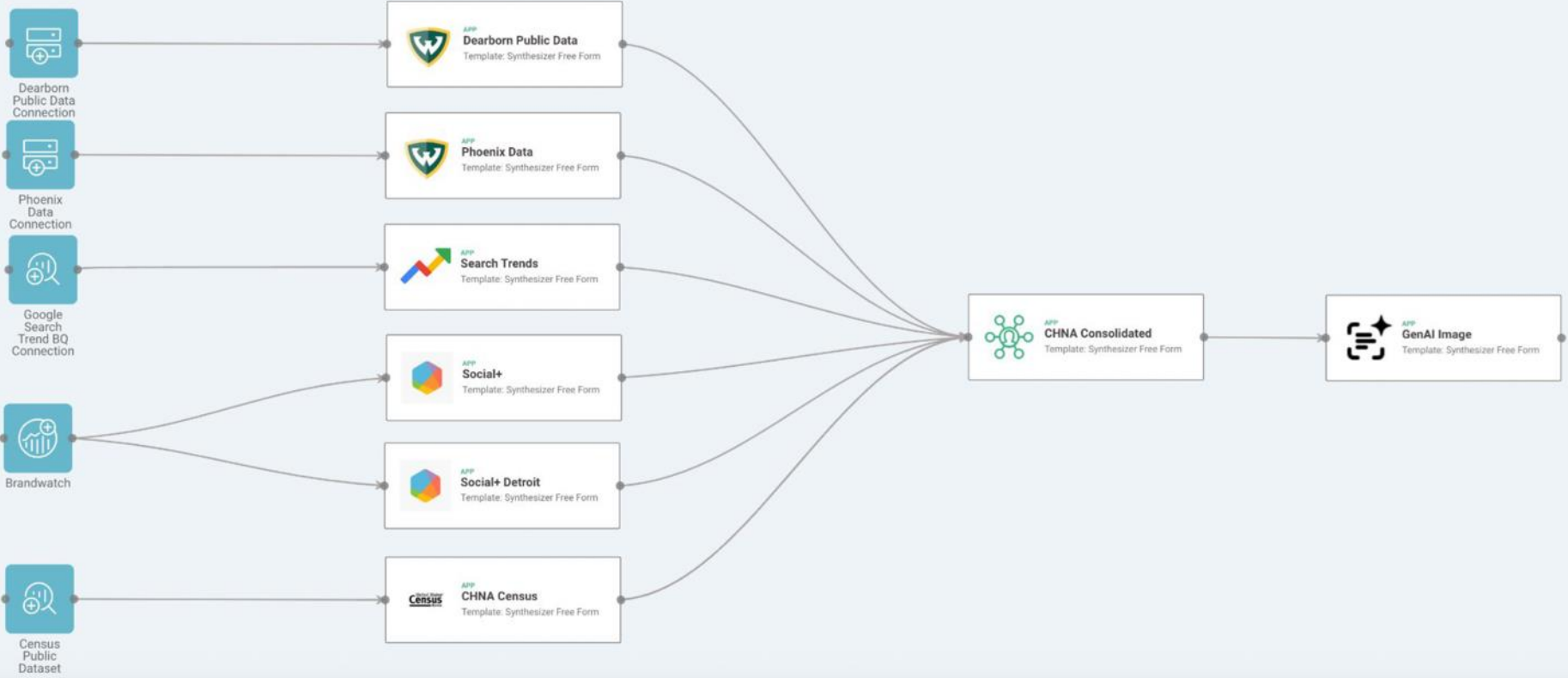
+

Dashboards

+

AI Assisted Report



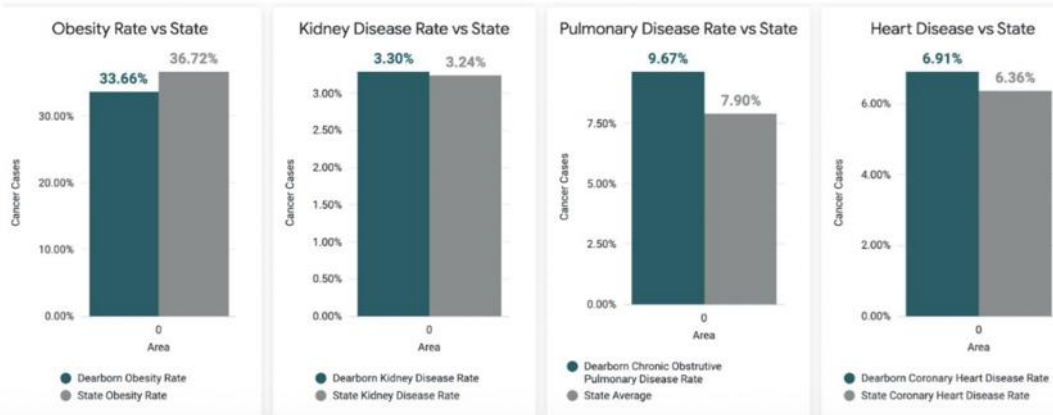


CHNA 2.0 Report - Preview

A key component of understanding the health needs of the Dearborn community is comparing the health status of Dearborn residents to the broader Michigan population. This allows for the identification of areas where Dearborn residents may experience unique health challenges or opportunities. To assess these differences, chronic illness rates were analyzed and compared between Dearborn and the state of Michigan. [AI-Generated Summarization](#)

Figure 4 compares chronic illness rates in Dearborn to statewide rates in Michigan. Overall, Dearborn's average chronic illness rate (10.84%) is slightly lower than the Michigan state average (10.90%). However, Dearborn exhibits higher rates for Chronic Obstructive Pulmonary Disease (9.67% vs. 7.90%), Heart Disease (6.91% vs. 6.36%), and Asthma (12.19% vs. 11.55%) when compared to the statewide averages. These findings suggest that Dearborn residents may experience higher rates of these specific chronic conditions compared to the general Michigan population. [AI-Generated Text](#)

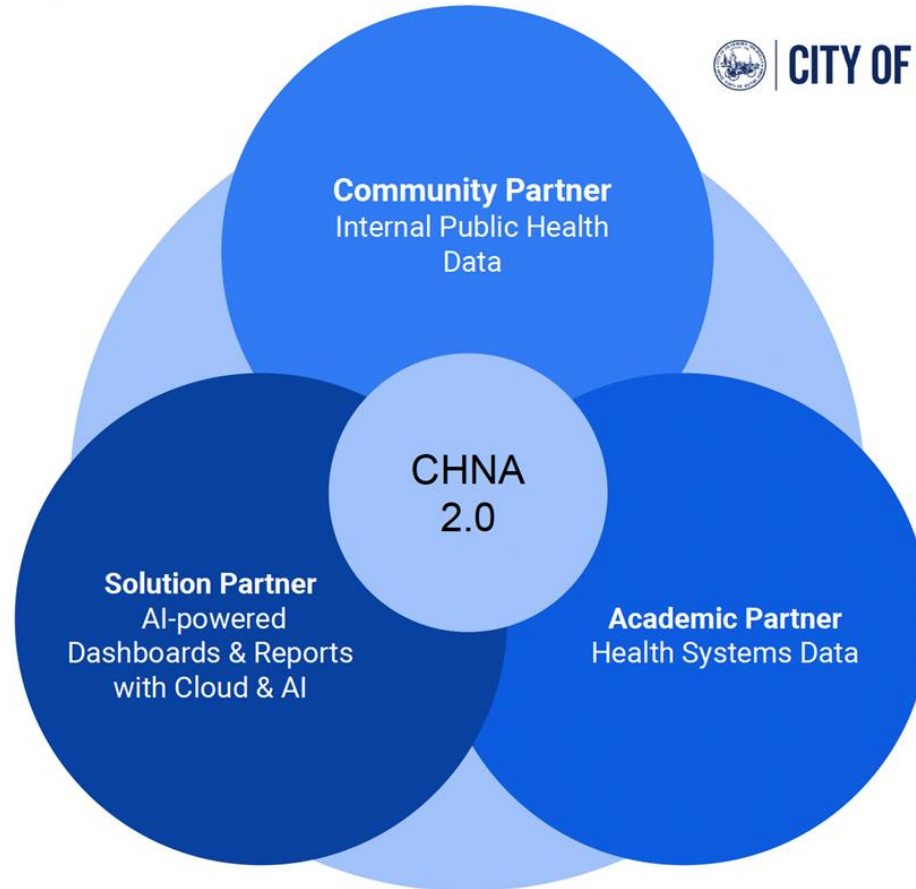
Figure 4: Chronic Illness Rate (Dearborn vs Michigan State)



Partnering to improve community health



CITY OF DEARBORN



SYNTASA[®]

Google Cloud