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*Wayne Health*



# ACHIEVE GREATER

Addressing **C**ardiometabolic **H**ealth **I**nequities  
by **E**arly **P**re**V**ention in the **G**REAT **L**ak**E**s **R**egion

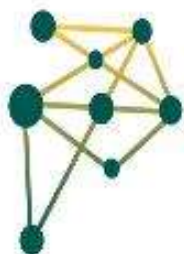
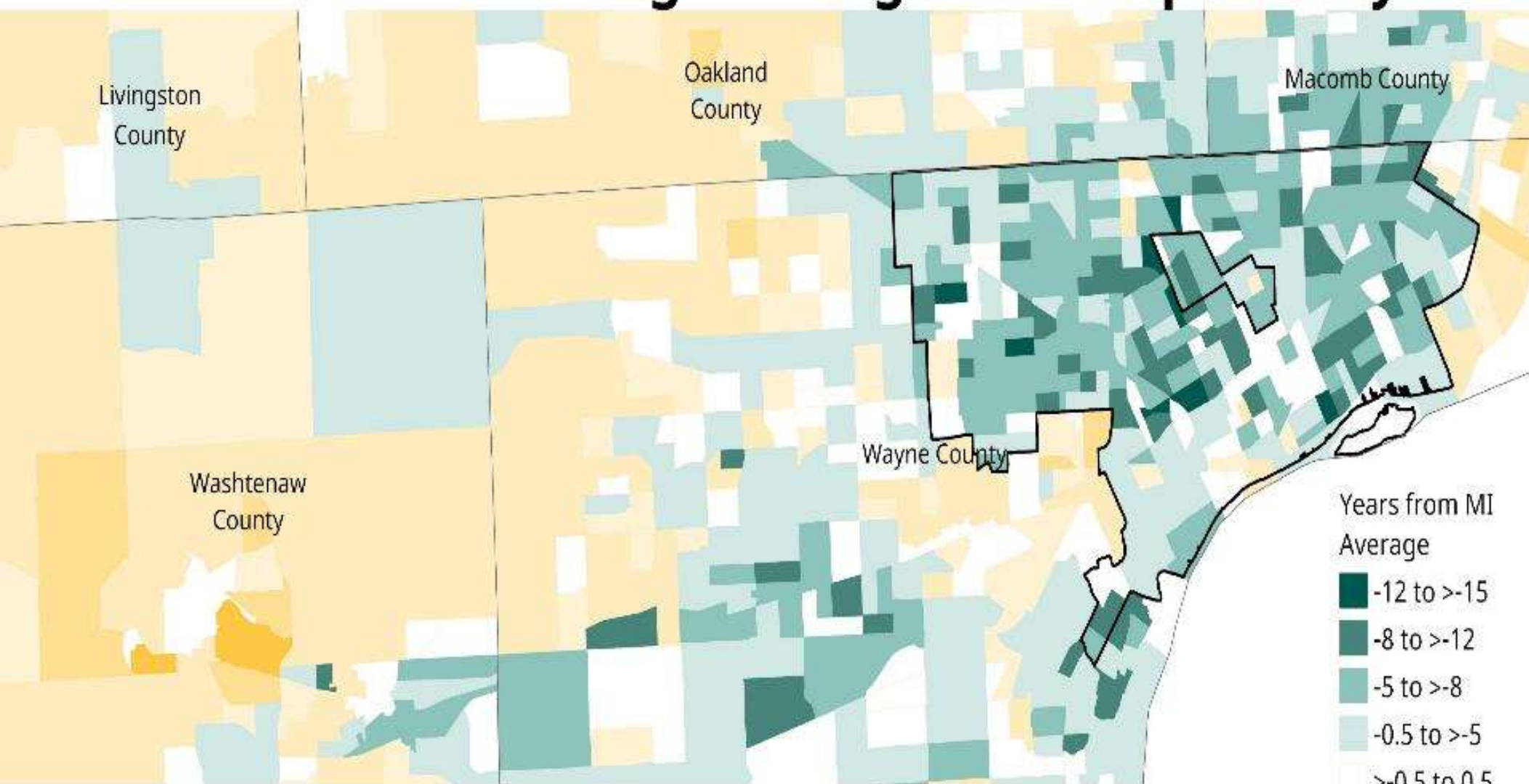
# WHY?



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# Years from Average Michigan Life Expectancy

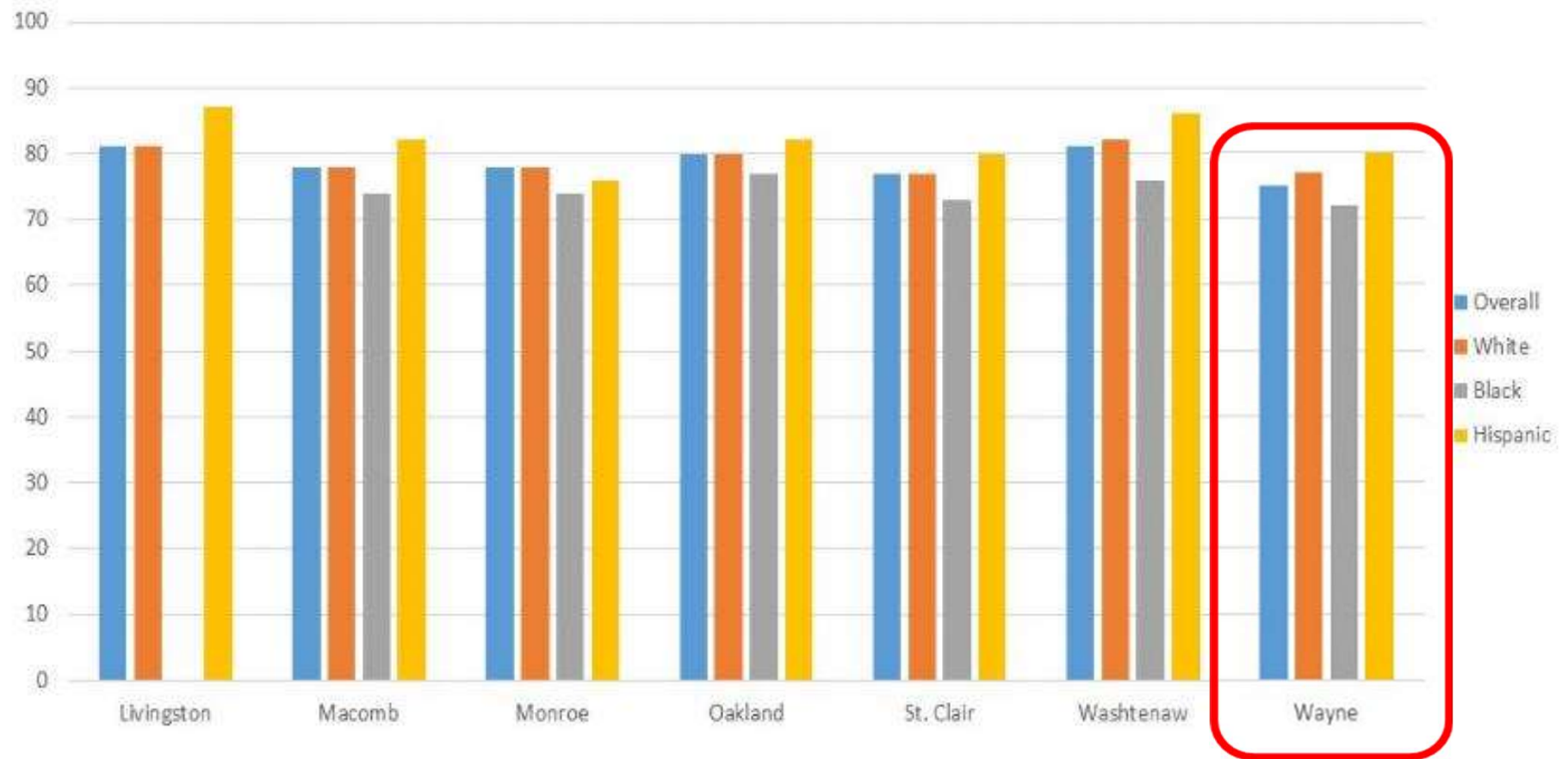


**PHOENIX**

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.

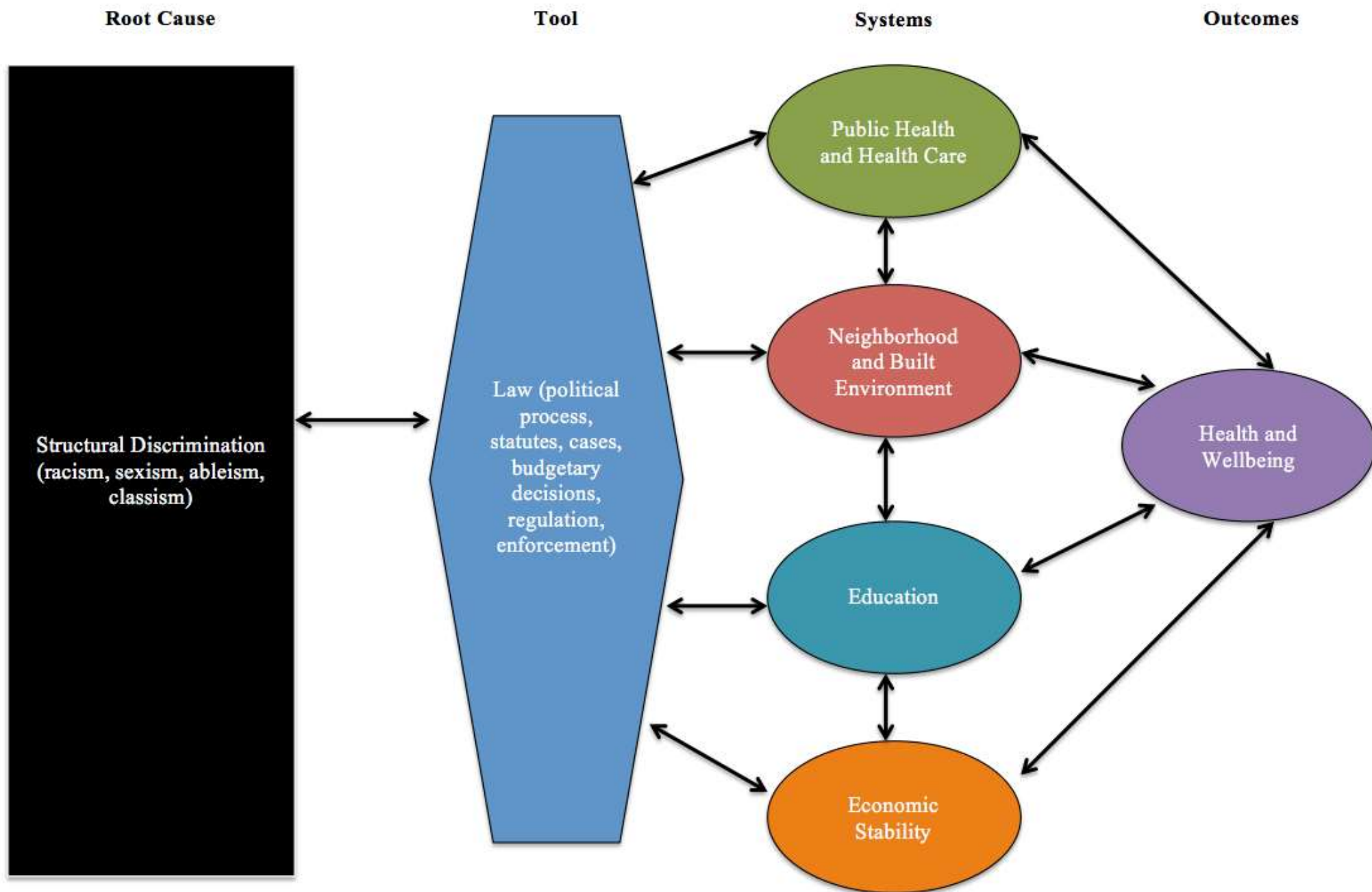
# Overall Life Expectancy in Southeastern Michigan 2019



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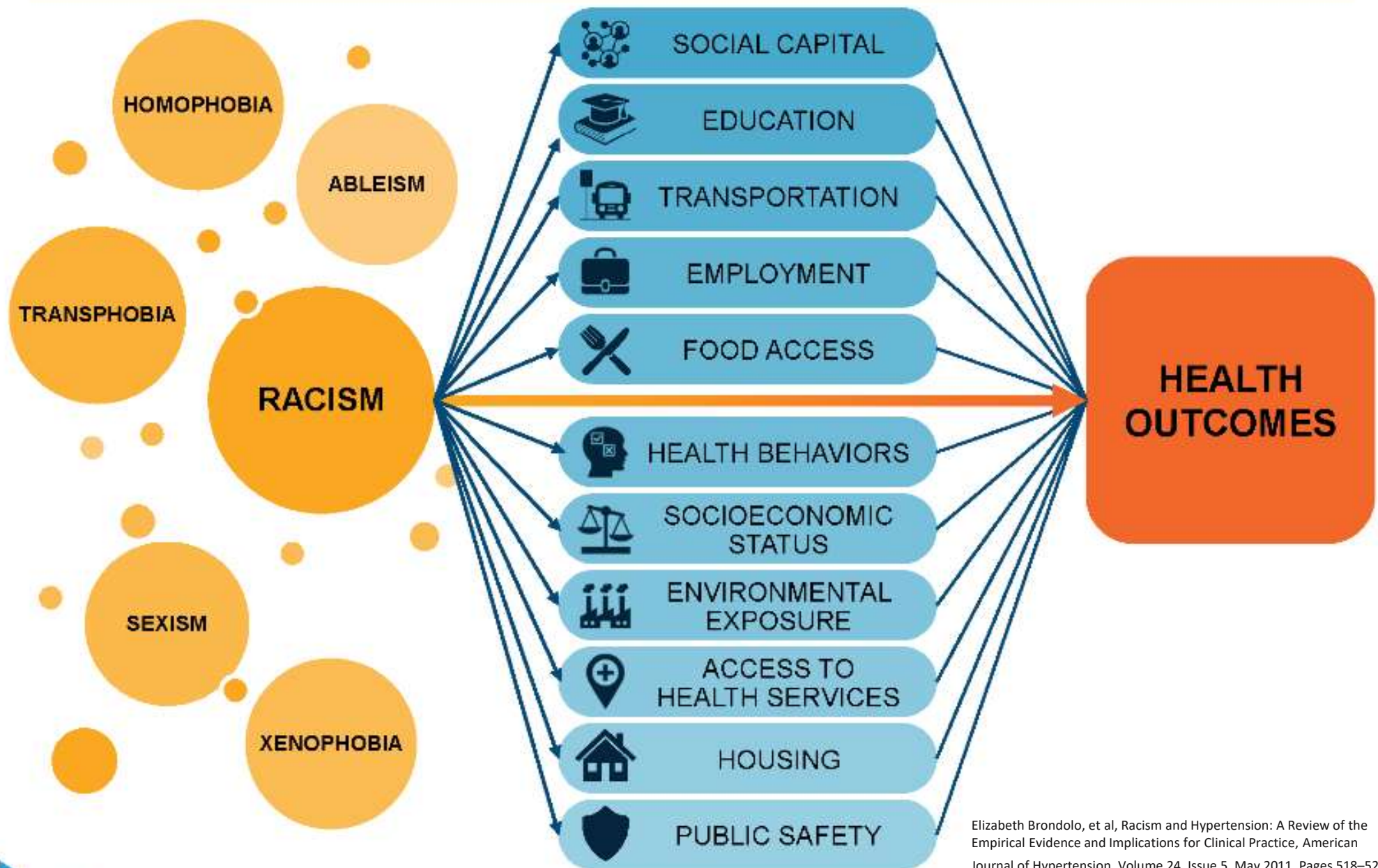
**Black Detroiters are put at risk of dying  
prematurely.  
Preventable.  
Urgent.**





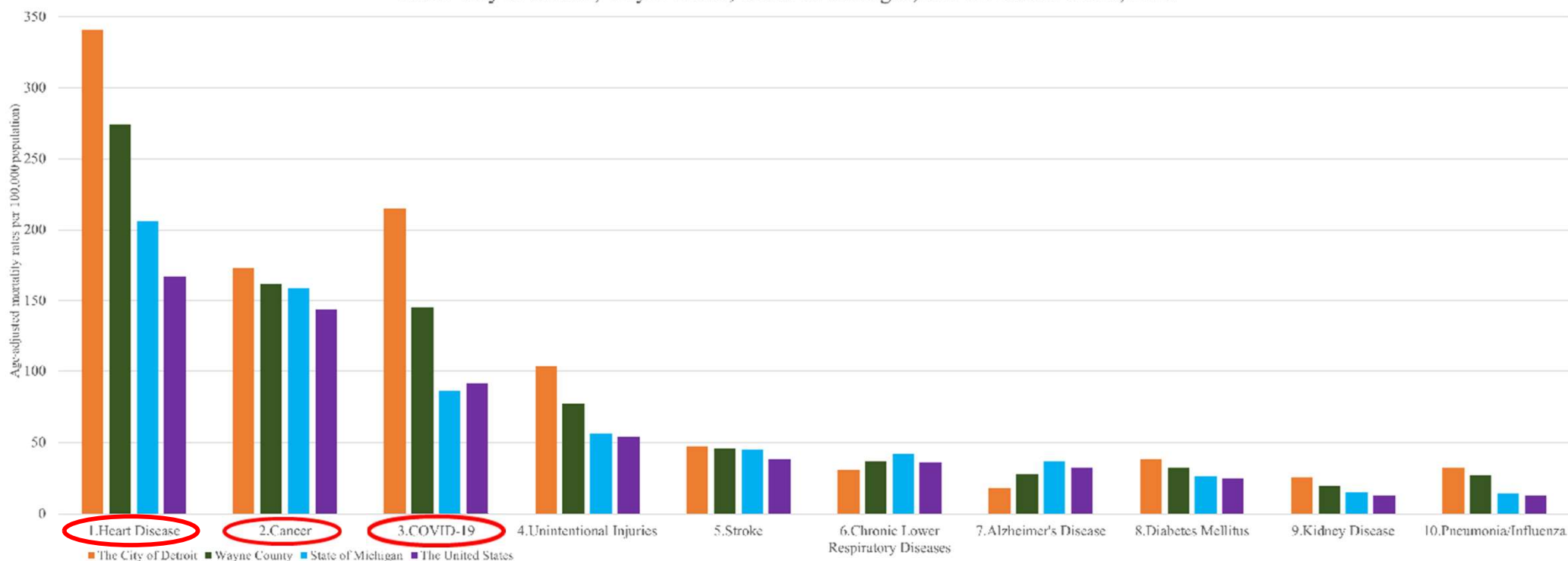
Revised SDOH Framework created by Ruqaiijah Yearby (2020)

# Racism, Among Many Structural Inequities, Negatively Impacts Health Outcomes and Other Social Determinants of Health



Elizabeth Brondolo, et al, Racism and Hypertension: A Review of the Empirical Evidence and Implications for Clinical Practice, American Journal of Hypertension, Volume 24, Issue 5, May 2011, Pages 518–529,

Age-adjusted Mortality Rates per 100,000 Population for the Ten Leading Causes of Death  
in the City of Detroit, Wayne County, State of Michigan, and the United States, 2020



Source: Michigan Department of Health & Human Services, Alameda D, et al. Perinatal Mortality Data United States 2020. MMWR. 2021;70(11):319-322. Alameda D, Andaya RN. The leading causes of death in the US for 2020. JAMA. 2021;325(18):1627-1630.

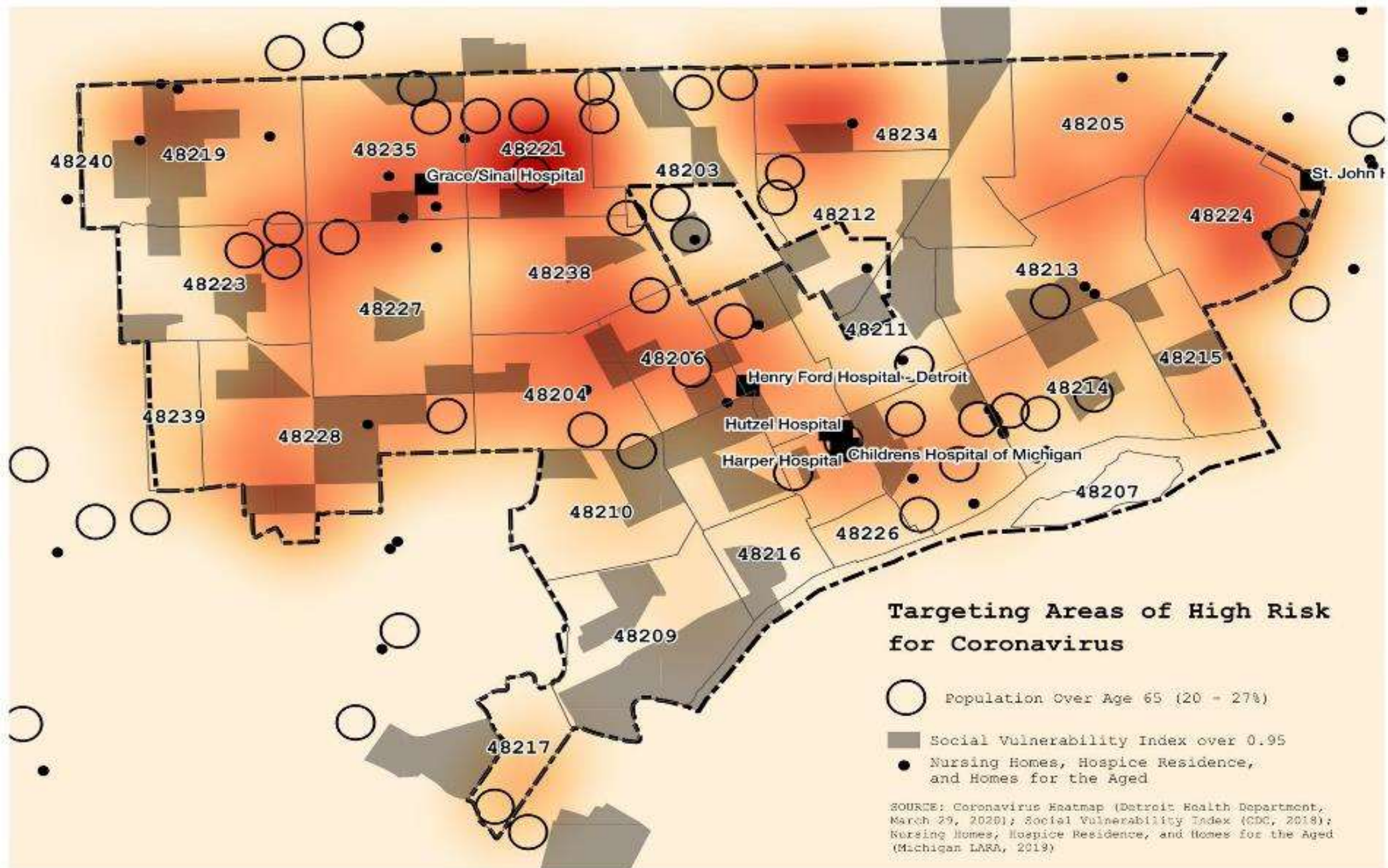




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# Patient Visits

74,661

# Unique Patients

52,268

# Covid Tests

48,113

# Negative Results

43,931

# Positive Results

4,182

# Covid Vaccines

14,709

# First Dose

6,966

# Second Dose

5,340

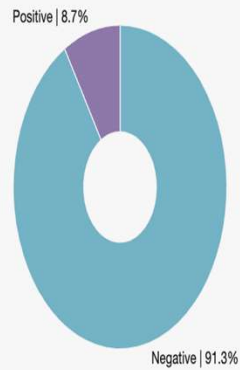
# Third Dose/Booster

2,297

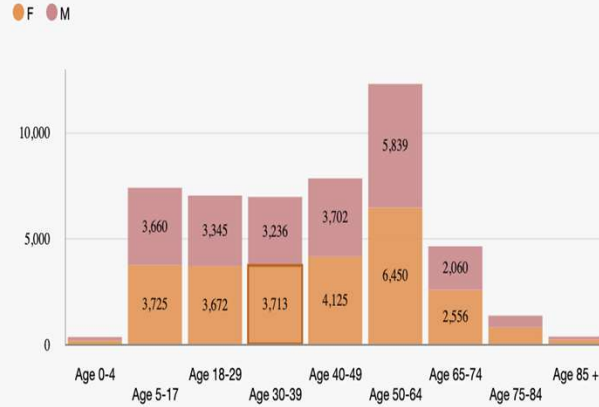
Patients Seen by Month



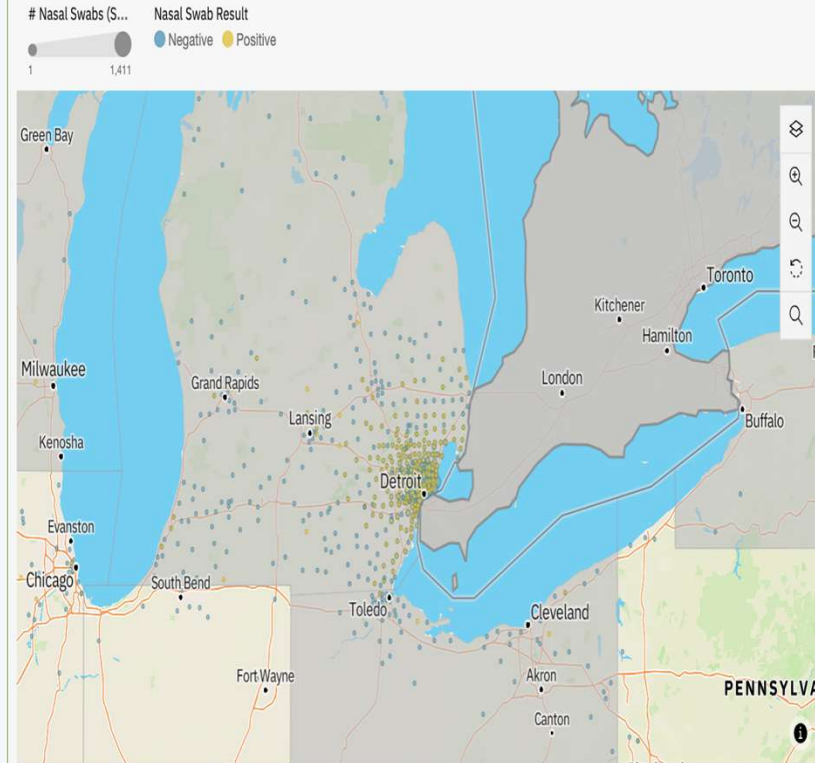
Covid Test Results %



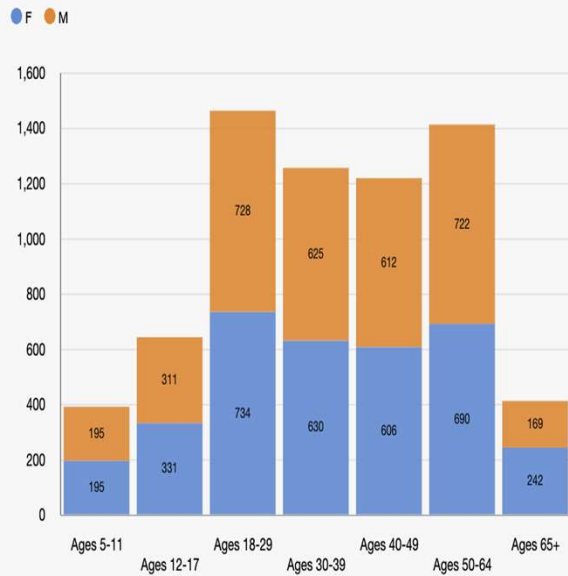
Covid Tests by Age and Sex



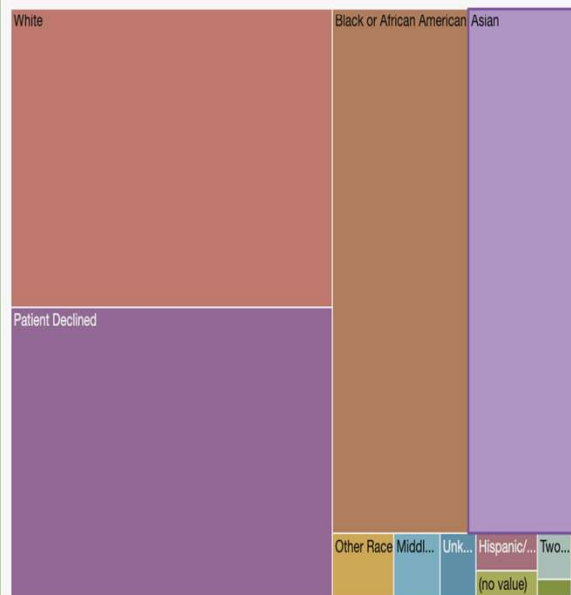
Covid Tests by Zip Code



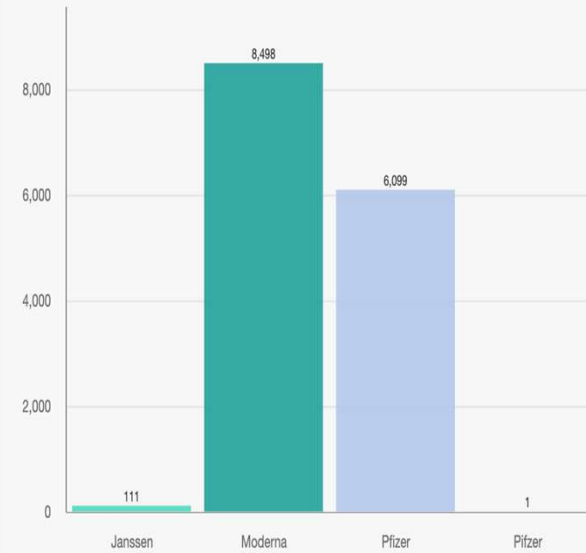
Covid Vaccines by Age and Sex



Covid Vaccines by Race



Covid Vaccines by Manufacturer





RESEARCH ARTICLE

# From pandemic response to portable population health: A formative evaluation of the Detroit mobile health unit program

Phillip Levy<sup>1</sup>, Erin McGlynn<sup>1\*</sup>, Alex B. Hill<sup>1</sup>, Liying Zhang<sup>2</sup>, Steven J. Korzeniewski<sup>2</sup>, Bethany Foster<sup>1</sup>, Jasmine Criswell<sup>3</sup>, Caitlin O'Brien<sup>3</sup>, Katee Dawood<sup>3</sup>, Lauren Baird<sup>3</sup>, Charles J. Shanley<sup>4</sup>

**1** Department of Emergency Medicine, Wayne State University School of Medicine, Detroit, Michigan, United States of America, **2** Department of Family Medicine and Public Health Sciences, Wayne State University School of Medicine, Detroit, Michigan, United States of America, **3** Wayne Health, Wayne State University, Detroit, Michigan, United States of America, **4** Department of Surgery, Wayne State University School of Medicine, Detroit, Michigan, United States of America



Hypertension

## RESEARCH LETTER

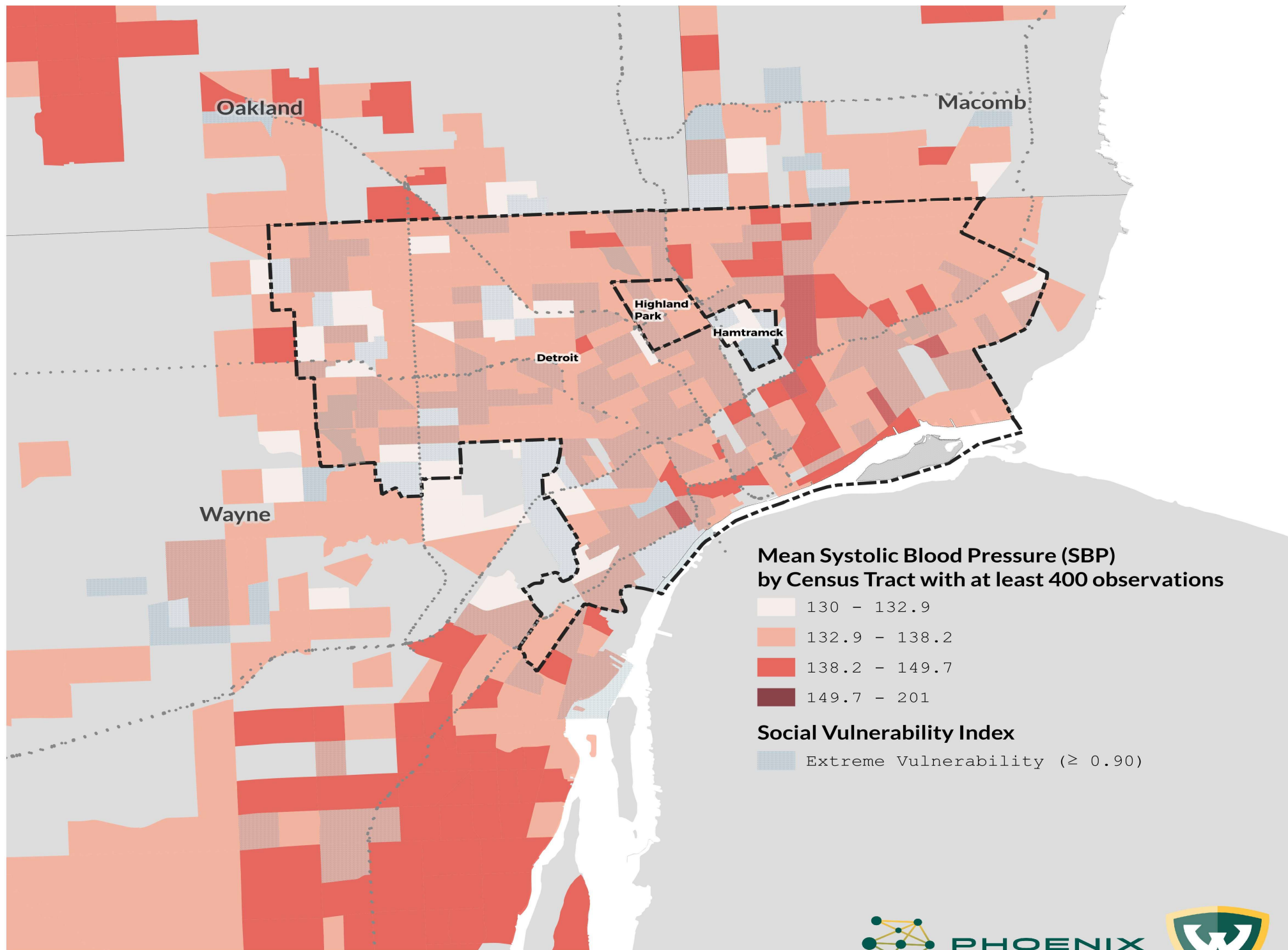
# Utilizing Mobile Health Units for Mass Hypertension Screening in Socially Vulnerable Communities Across Detroit

Robert D. Brook<sup>1</sup>, Katee Dawood, Bethany Foster, Randi M. Foust, Catherine Gaughan, Paul Kurian, Brian Reed, Andrea L. Jones, Barbara Vernon<sup>1</sup>, Phillip D. Levy<sup>1</sup>





Categories	Number (%)	BP* (mm Hg)
All patients	3,039	126.9 ± 23.1 / 76.8 ± 14.7
Normal BP Systolic BP <120 and diastolic BP <80 mm Hg	1136 (37%)	105.5 ± 9.28 / 65.0 ± 8.34
High BP Categories**		
Elevated BP Systolic BP 120-129 and diastolic BP <80 mm Hg	306 (10%)	124.2 ± 2.8 / 70.1 ± 6.44
Hypertension categories*** Systolic BP ≥130 and/or diastolic BP ≥80 mm Hg	1597 (53%)	142.7 ± 19.39 / 86.4 ± 12.43
Stage I Systolic BP 130-139 and/or diastolic BP 80-89 mm Hg	629 (21%)	127.7 ± 8.73 / 80.3 ± 6.84
Stage II Systolic BP ≥140 and/or diastolic BP ≥90 mm Hg	968 (32%)	152.4 ± 18.15 / 90.4 ± 13.6



SOURCE: Emergency Department Surveillance data from HFHS and DMC (n=979,965); CDC Social Vulnerability Index (SVI), 2018

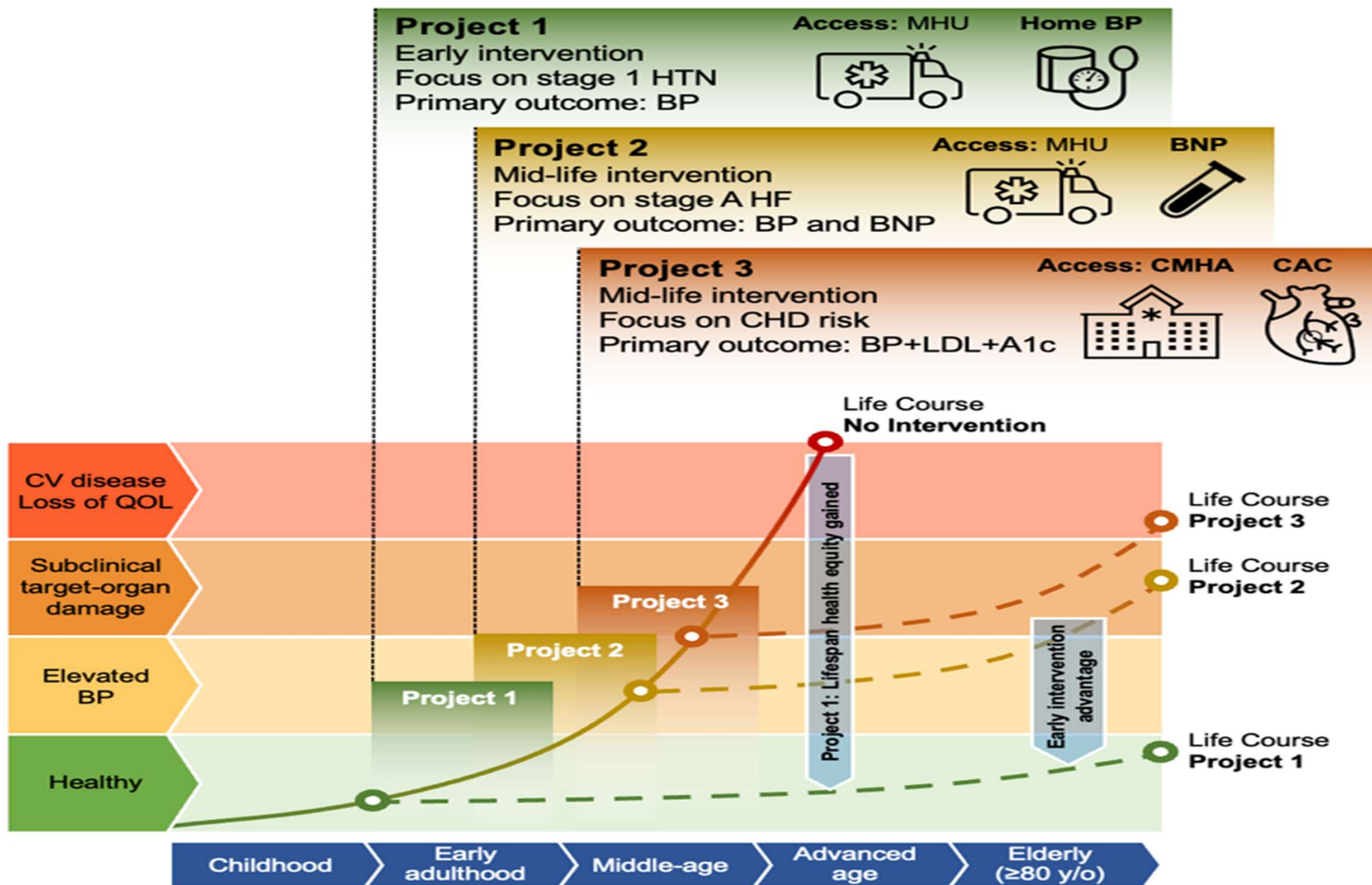


PHOENIX



# ACHIEVE GREATER

Addressing Cardiometabolic Health Inequities by Early PreVention in the GREAT LakEs Region





# PAL<sup>2</sup> Intervention

Education  
Indirect fostering

## Lifestyle therapies

Healthy diet



Exercise



Lowers BP



Blood Pressure

Very High!

High

Normal

RAISES BP



Allosteric Load

Obstacles

Mitigates

Improves



Social determinants  
of health

Poor access &  
linkage to care

**BARRIERS TO HTN CONTROL**



# PAL2

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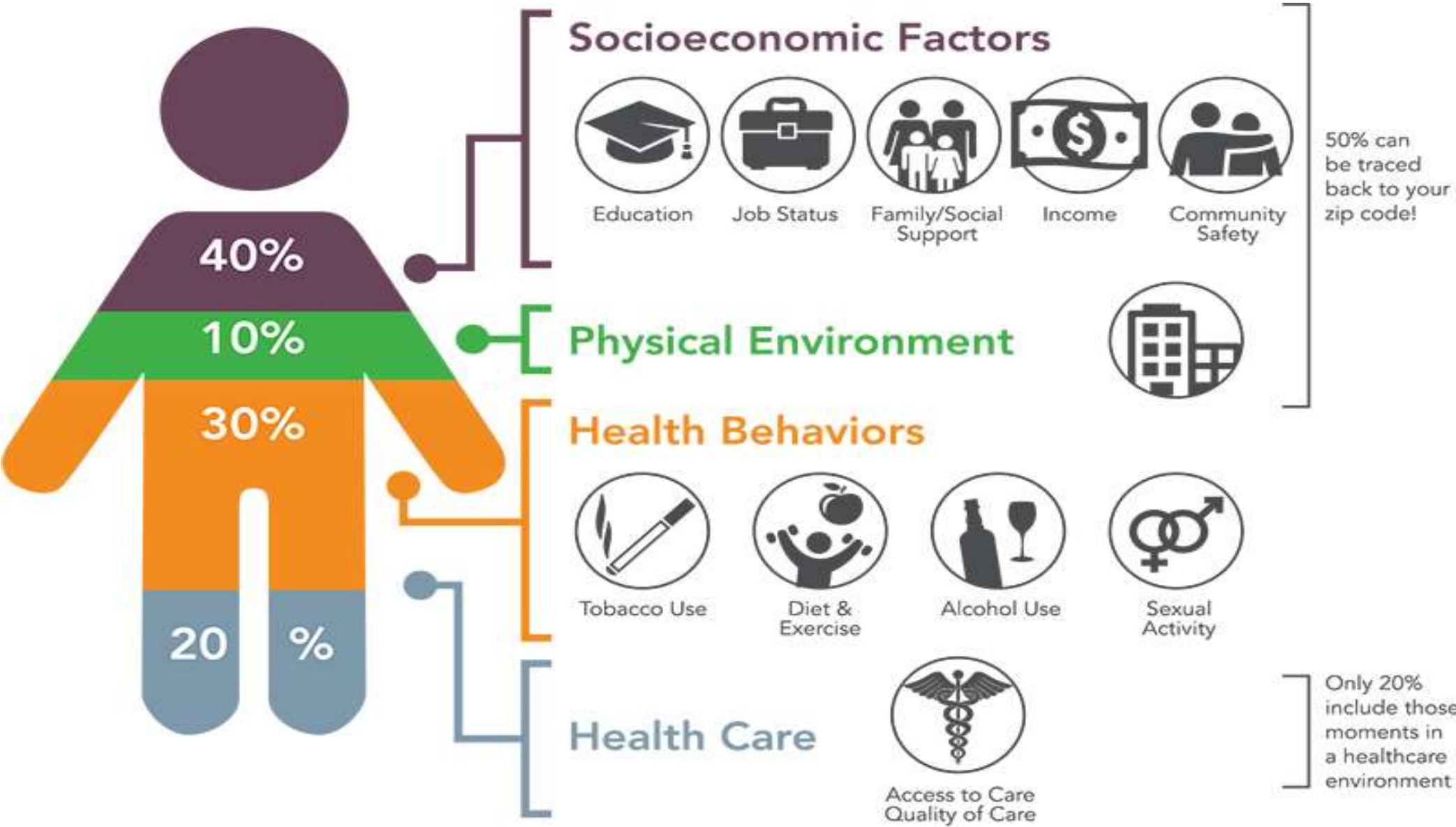
- **P** *PRAGMATIC*
- **P** *PERSONALIZED*
- **A** *ADAPTABLE*
- **A** *PPROACH to*
- **L** *LIFESTYLE &*
- **L** *IFE CIRCUMSTANCE*

**Engaging  
Focusing  
Evoking  
Planning**



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Source: Institute for Clinical Systems Improvement, Going Beyond Clinical Walls: Solving Complex Problems (October 2014)

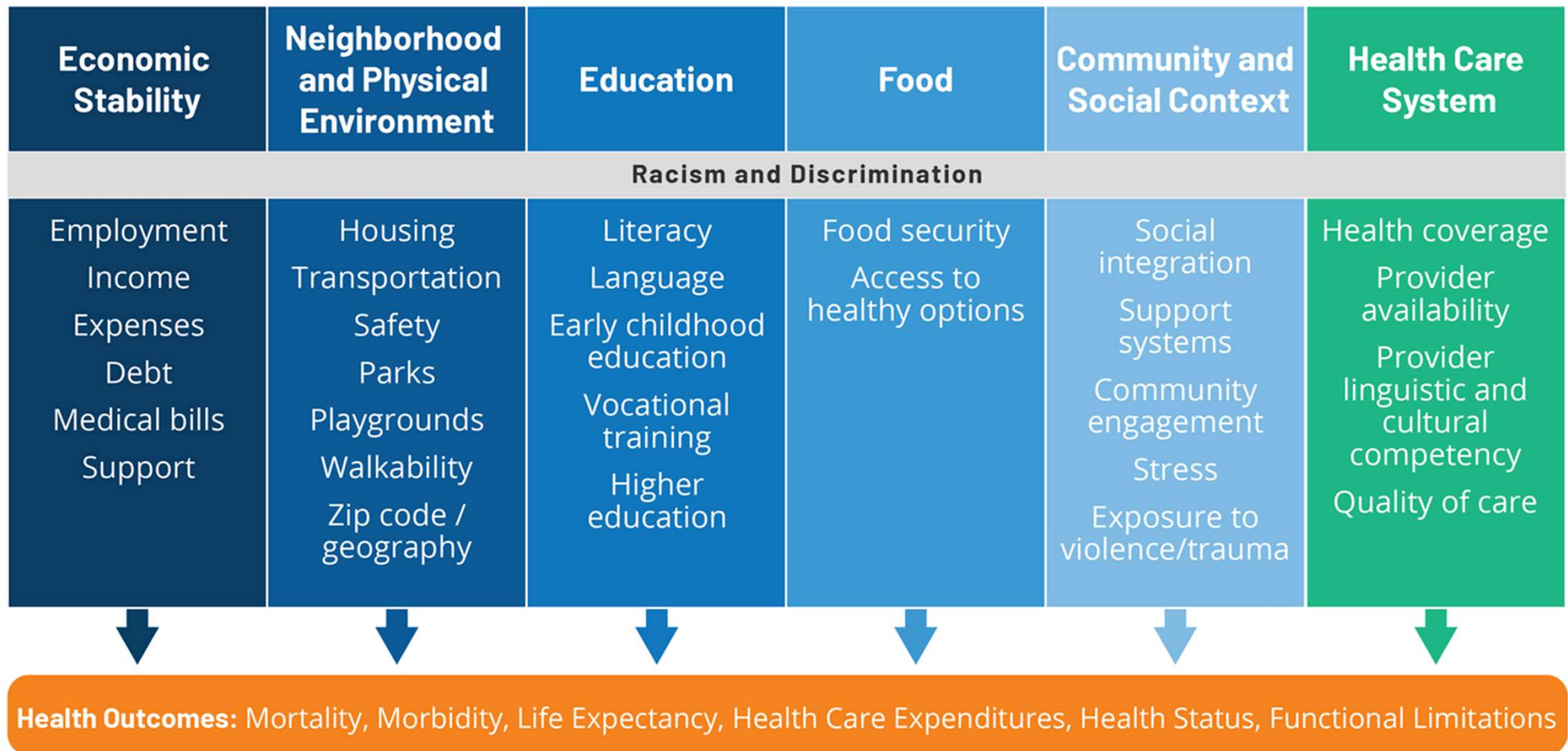


# COMMUNITY HEALTH WORKERS (CHWS)

- *Review SDoH screener*
- *Connect to community resources*
- *Follow up*
- **Healthcare team leader: clinicians, case managers, pharmacists, and administrators**
  - **Care delivery, Reimbursable\***

# POPULATION HEALTH

## Social and Economic Factors Drive Health Outcomes



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# Social Services Delivered

Referral Category	Program Totals	2021 Total	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Number of Follow ups attempted	Number of Followups Completed
<b>Number of individuals assisted with social service referrals onsite</b>	2525	1259	662	291	214	92	2018	1211
Food Assistance	862	436	258	77	68	33	628	371
Public Benefits Assistance	429	193	137	34	15	7	324	170
Unemployment Assistance	359	153	110	33	8	2	289	161
Navigator Services (Health Insurance Navigation)	242	108	52	22	27	7	166	96
Utility Assistance	136	90	10	18	47	15	60	50
Voter Registration	47	10	5	5	0	0	35	25
PCP Referral *	116	94	9	18	39	28	50	49
Transportation Assistance	39	10	0	0	10	0	29	13

# PAL2 Components

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- **Screen for SDOH needs and provide referrals**
- **Provide feedback on blood pressure from home blood pressure monitoring**
- **Provide and review educational handouts**
- **Make a “change plan” where goals and actions steps to accomplish them are set or review the success of a previous plan and update/revise**
  - **Motivational Interviewing**

# P1 PAL2

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- For people with **low risk, stage 1 hypertension and who are not on medication for HTN at the start of the study**

Lifestyle changes may be enough to control/ improve HTN

May start HTN medication during the study if BP does not improve

Medication will be managed by a study pharmacist

- Intervention lasts for 2 years
  - First twelve months= monthly sessions
  - Second twelve months= quarterly sessions (4 times per year)

# P2 PAL2

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- P2 study: for people with **Stage 2 HTN or Stage 1 HTN plus at least 1 risk for heart failure (diabetes or chronic kidney disease)**

**Will follow a standard protocol for managing HTN medications**

**Medication will be managed by a study pharmacist**

- **Intervention lasts for 2 years**
  - **First twelve months= monthly sessions**
  - **Second twelve months= quarterly sessions (4 times per year)**



**ANSWERS by heart** Lifestyle • Risk Reduction High Blood Pressure

## Why Should I Limit Sodium?

You may have been told by your health care professional to reduce the sodium, or salt, in your diet. Most people eat too much sodium, often without knowing it. Reducing the amount of sodium in your diet can help you lower or avoid high blood pressure.

Your body needs sodium to work properly. It's regulated in the body by your kidneys, and it helps control your body's fluid balance. It also plays a key role in nerve and muscle function.

But too much sodium in your system causes your body to retain (hold onto) water. This may cause puffiness, bloating and weight gain.



### How does too much sodium affect my heart health?

When there's extra sodium in your bloodstream, it pulls water into your blood vessels, increasing the amount of blood inside your blood vessels. With more blood flowing through your blood vessels, blood pressure increases. In some people, this may lead to or raise high blood pressure.

Having less sodium in your diet may help you lower or avoid high blood pressure, which is a major risk factor for heart disease and stroke.

### How much sodium do I need?

Most of 10 Americans consume too much sodium. The average American eats more than 3,400 milligrams (mg) of sodium a day.

- The American Heart Association recommends no more than 2,300 mg a day and an ideal level of less than 1,500 mg per day for most adults, especially for those with high blood pressure.
- Even cutting back by 1,000 mg a day can improve blood pressure and heart health.

### What are sources of sodium?

Many foods in their natural state contain some sodium. But the largest amount of sodium comes from processed, packaged and restaurant foods.

Pay attention to food labels, because they tell how much sodium is in food products. For example, foods with 140 mg or less sodium per serving are considered low in sodium. Sodium levels of the same type of food can vary widely. Compare the Nutrition Facts labels and select the product with the lowest amount of sodium per serving.

Some over-the-counter and prescription medicines also contain lots of sodium. Ask your health care professional or pharmacist about the sodium in your medicines. Make reading the labels of all over-the-counter drugs a habit, too.

### What foods should I limit?


The best way to reduce sodium is to avoid prepackaged, processed and prepared foods, which tend to be high in sodium.

*(continued)*

**ANSWERS by heart** Lifestyle • Risk Reduction

## How Can I Manage Stress?

It's important to learn how to recognize how stress affects you, learn how to deal with it, and develop healthy habits to ease your stress. What is stressful to one person may not be to another. Stress can come from happy events (a new marriage, job promotion, new home) as well as unhappy events (illness, overwork, family problems).



### What is stress?

Stress is your body's response to change. Your body reacts to it by releasing adrenaline (a hormone) that can cause your breathing and heart rate to speed up, and your blood pressure to rise. These reactions help you deal with the situation.

The link between stress and heart disease is not clear. But, over time, unhealthy responses to stress may lead to health problems. For instance, people under stress may overeat, drink too much alcohol or smoke. These unhealthy behaviors can increase your risk of heart disease.

Not all stress is bad. Speaking to a group or watching a close football game can be stressful, but they can be fun, too. The key is to manage your stress properly.

### How does stress make you feel?

Stress affects each of us in different ways. You may have physical signs, emotional signs or both.

- You may feel angry, afraid, excited or helpless.
- It may be hard to sleep.

### What can I cope with it?

Taking steps to manage stress will help you feel more in control of your life. Here are some good ways to cope:

- Try positive self-talk — turning negative thoughts into positive ones. For example, rather than thinking "I can't do this," say "I'll do the best I can."
- Take 15 to 20 minutes a day to sit quietly, relax, breathe deeply and think of something peaceful.
- Engage in physical activity regularly. Do what you enjoy — walk, swim, ride a bike or do yoga. Letting go of the tension in your body will help you feel a lot better.
- Try to do at least one thing every day that you enjoy, even if you only do it for 15 minutes.

*(continued)*

**ANSWERS by heart** Lifestyle • Risk Reduction Diet • Nutrition

## How much physical activity do you need?

Here are the American Heart Association recommendations for adults.



### Fit in 150+

Get at least 150 minutes per week of moderate-intensity aerobic activity or 75 minutes per week of vigorous, aerobic activity (or a combination of both), preferably spread throughout the week.

### Move More, Sit Less

Get up and move throughout the day. Any activity is better than none. Even light-intensity activity can offset the serious health risks of being sedentary.

### Add Intensity

Physical activity is one of the best ways to keep your body and brain healthy. It relieves stress, improves mood, gives you energy, helps with sleep and can lower your risk of chronic disease, including dementia and depression.

### Add Muscle

Include moderate- to high-intensity muscle-strengthening activity (like resistance or weight training) at least twice a week.

### Feel Better

Physical activity is one of the best ways to keep your body and brain healthy. It relieves stress, improves mood, gives you energy, helps with sleep and can lower your risk of chronic disease, including dementia and depression.

**Move more, with more intensity, and sit less.**

Find out how at [heart.org/movemore](http://heart.org/movemore).

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**ANSWERS by heart** Lifestyle • Risk Reduction

## How to Quit Tobacco

**1. EDUCATE YOURSELF**

The first step to quitting smoking, vaping and using tobacco is to understand the risks and health effects for you and your family.

- Smoking is the most preventable cause of death in the U.S. It's linked to about one third of all deaths from heart disease and 50% of lung cancers.
- Cigarettes, e-cigarettes and tobacco products contain many toxic chemicals, as do their smoke, vapor and liquids.
- About half of U.S. children ages 3-11 are exposed to secondhand smoke and vapor.
- Tobacco use and nicotine addiction is a growing crisis for teens and young adults.
- You can be one of the millions of people who successfully quit every year.
- Within 1 year after quitting, your risk of heart disease goes down by half.

**2. MAKE A PLAN TO QUIT**

You're more likely to quit tobacco for good if you prepare by creating a plan that fits your lifestyle.

**SET** a quit date within the next 7 days.

**CHOOSE** a method: cold turkey or gradually.

**DECIDE** if you need help from a health care provider, nicotine replacement or medicine.

**PREPARE** for your quit day by planning how to deal with cravings and urges.

**QUIT** on your quit day.

**3. TIPS FOR SUCCESS**

**DEAL WITH URGES**

Whether physical or emotional, learn your triggers and make a plan to address them. Avoid situations that make you want to smoke or use tobacco until you're confident that you can handle them.

**GET ACTIVE**

Physical activity can help you manage the stress and cravings when quitting. Try to feel better, too. [heart.org/quitnow](http://heart.org/quitnow)

**HANDLE STRESS**

Learn other healthy ways to manage the stress of quitting. [heart.org/quitnow](http://heart.org/quitnow)

**GET SUPPORT**

A healthy system or support program can help you with some of the common challenges of quitting.

**STICK WITH IT**

Quitting tobacco takes a lot of willpower. Reward yourself when you reach milestones and keep yourself motivated. If you take a day backward, get back on track as soon as possible. Stay on track and kick the habit for good.

**LEARN MORE AT [heart.org/mylifecheck](http://heart.org/mylifecheck) AND [heart.org/tobacco](http://heart.org/tobacco)**

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**ANSWERS by heart** Lifestyle • Risk Reduction Diet • Nutrition

## How Do I Follow a Healthy Diet Pattern?

The American Heart Association recommends a healthy eating pattern that emphasizes vegetables, fruits and whole grains. It includes skinless poultry, fish and legumes (beans, peas and lentils), nonfat or low-fat dairy products, and nuts and seeds. Limit your intake of sodium, sweets, sugar-sweetened beverages and red and processed meats. Everything you eat and drink is part of your diet pattern. Make healthy choices today and they'll add up to healthier tomorrow for you!



### Vegetables

- Eat a variety of colors and types, especially deeply colored vegetables, such as spinach, carrots and broccoli.
- All vegetables count, including fresh, frozen, canned or dried. Look for vegetables canned in water. For frozen vegetables, choose those without high-calorie sauces or added sodium or sugars.
- Examples of a portion per serving are: 2 cups raw leafy greens; 1 cup cut-up raw or cooked vegetables (about the size of a fist); or 1 cup 100% vegetable juice (not salted).

### Fruits

- Unsweetened fruits are best. Eat a variety of colors and types, especially deeply colored fruits, such as peaches and berries.
- Eat whole fruits to get all the nutrients (such as dietary fiber) that can be missing in some juices.
- Examples of a portion per serving are: 1 medium fruit (about the size of a baseball); 1/2 cup unsweetened dried fruit; 1 cup fresh, frozen or canned fruit (unsweetened, frozen or canned in its own juice or water); or 1/2 cup 100% fruit juice.
- For beverages, look for 100% fruit juice. Avoid sugar-sweetened beverages. They're high in calories and low in nutrients.

### Whole grains

- At least half of your servings should be high fiber whole grains. Select items like whole wheat bread, whole grain crackers and brown rice. Look at the ingredients list to see that the first ingredient is a whole grain.
- Aim for about 25 grams of fiber from foods each day. Check the Nutrition Facts label for dietary fiber content.
- Examples of a portion per serving are: 1 slice bread; 1/2 cup hot cereal; 1 cup cooked flakes; or 1/2 cup cooked rice or pasta (about the size of a baseball).

### Protein foods

- Mix up your protein sources. Beyond fish, poultry and lean or extra lean meats, try eggs and soy products, such as tofu.
- Eat at least 8 ounces of non-fat fish (particularly fatty fish) each week. Fatty fish, such as salmon, mackerel, herring, lake trout, sardines and albacore tuna, are high in omega-3 fatty acids.
- Remove skin from poultry before eating.
- Use oil-soluble fat-free meats before cooking.
- Limit processed red meats, such as bacon, salami, ham, hot dogs and sausage.
- Examples of a portion per serving are: 2 egg whites; 1/2 cup cooked, flaked fish; or half a chicken breast. A 3-ounce portion is about the size of a deck of playing cards.

*(continued)*



A young person wearing a dark blue beanie and a red shirt is holding a large white protest sign. The sign has the words "WE LOVE DETROIT WE LIVE DETROIT" written on it in black and red paint. The "LOVE" part is in red, with a red heart symbol inside the "O". The person is wearing black gloves. In the background, there is a large, ornate building with columns, likely a government building. Other people are visible in the background, some holding signs. A megaphone is also visible. A red banner with white text is partially visible in the upper right corner.

**Healthier  
Longevity  
Happier  
Prosperous**

**WE LOVE  
DETROIT  
WE LIVE  
DETROIT**



# ACHIEVE GREATER

Addressing **C**ardiometabolic **H**ealth **I**nequities  
by **E**arly **P**re**V**ention in the **G**REAT **L**ake**S** **R**egion

Phil Levy, MD

Robert Brooks, MD

Rhonda Dailey, MD

Deborah Ellis, PhD

Katee Dawood

Parada Jordan

Nakina Miller

Laura Schulz

Elizabeth Crenshaw

AG Team



A photograph of a modern building at night. The building features a large glass facade that is illuminated from within, reflecting the city lights. A prominent feature is a tall, narrow tower on the right side of the building, constructed from horizontal wooden slats, which is also illuminated. The sky is a deep blue with some clouds. In the foreground, there is a paved area and some landscaping with small trees and bushes.

[@innodim](mailto:innodim@wayne.edu)