

Controlling BP in an underserved population in Cincinnati

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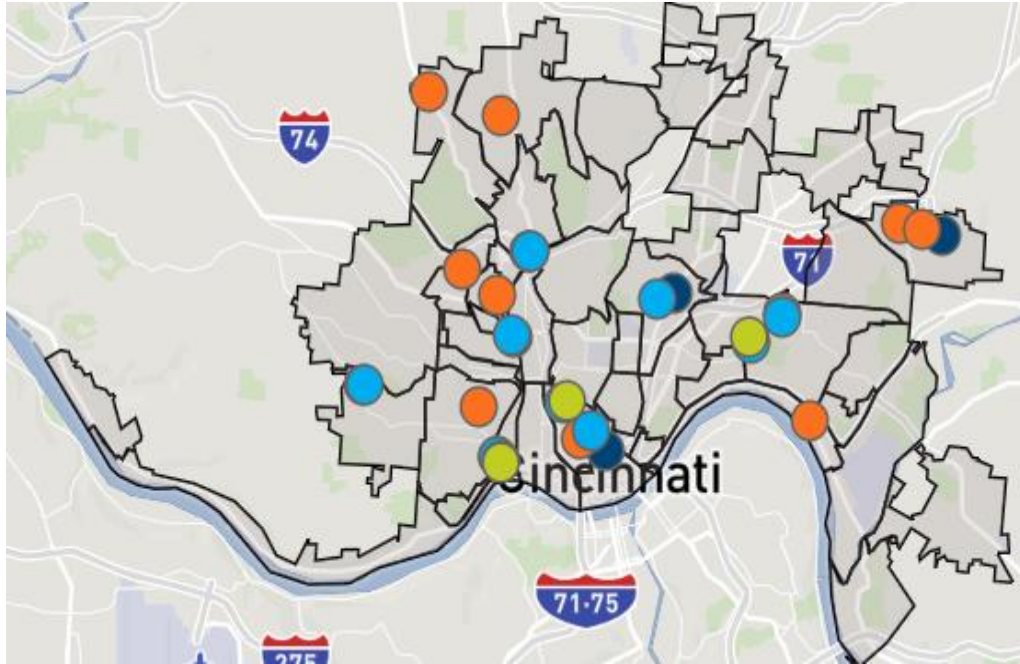
Janie Hils, MPH

QI Project Start Date: February 2021

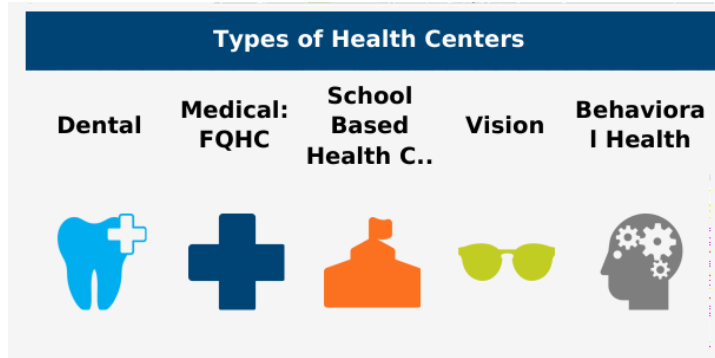
City of Cincinnati Health Committee Meeting

March 19, 2024

Setting: Cincinnati Health Department



- Federally Qualified Health Center
- City of Cincinnati Primary Care
- Division of the Cincinnati Health Department
 - 6 Primary Care Centers
 - 6 Pharmacy Locations
 - 13 School Based Health Centers
 - 5 Dental Centers



Magnitude of the Hypertension Problem

- Nearly half of adults (47% or 116 million) in the United States have hypertension¹.
- Most adults with hypertension in the United States (92.1 million) do not have their hypertension under control².
- Hypertension is more prevalent in non-Hispanic black adults (56%) when compared to non-Hispanic white adults (48%), non-Hispanic Asian adults (46%), or Hispanic adults (39%)³.

1. "Facts about Hypertension." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 27 Sept. 2021, <https://www.cdc.gov/bloodpressure/facts.htm>.

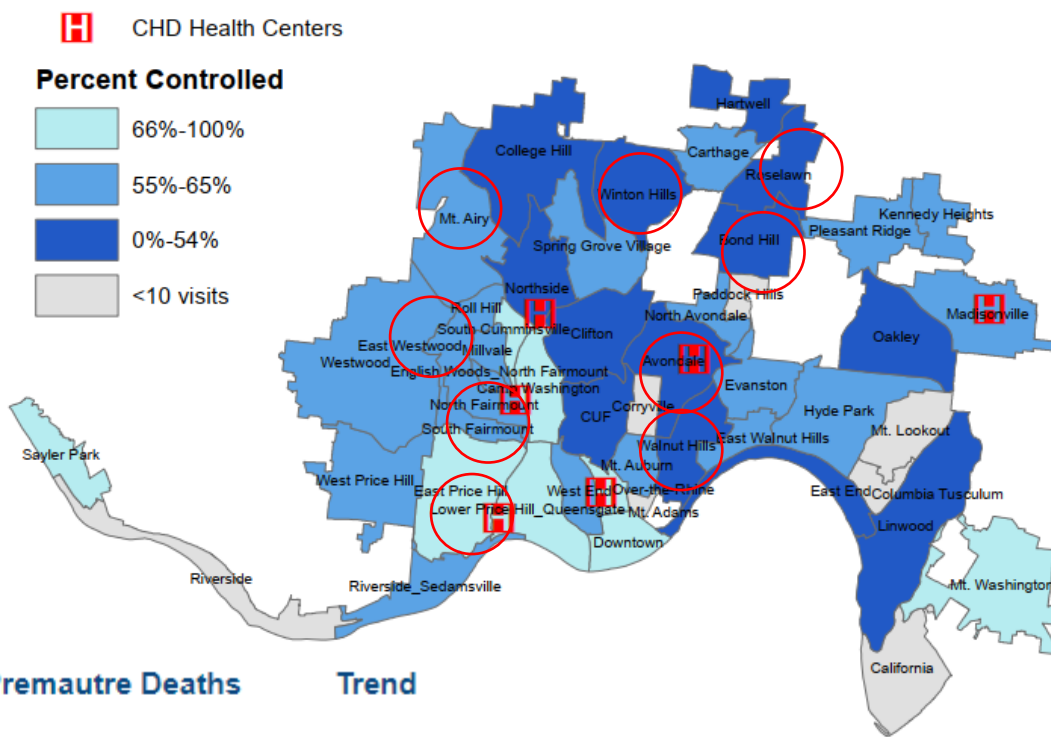
2. Rana J, Oldroyd J, Islam MM, Tarazona-Meza CE, Islam RM. Prevalence of hypertension and controlled hypertension among United States adults: Evidence from NHANES 2017-18 survey. *Int J Cardiol Hypertens*. 2020 Oct 26;7:100061. doi: 10.1016/j.ijchy.2020.100061. PMID: 33447782; PMCID: PMC7803033.

3. *Racial Differences in High Blood Pressure*. (2017). www.heart.org. Retrieved January 9, 2022, from <https://www.heart.org/en/news/2018/05/01/more-than-half-of-all-african-americans-have-high-blood-pressure-under-new-diagnostic-guidelines>.

How well controlled our patients were in 2020 by where they live

○ = Neighborhoods experiencing the most excess years of life lost from heart disease

Cincinnati Health Department Controlled Hypertension 2020

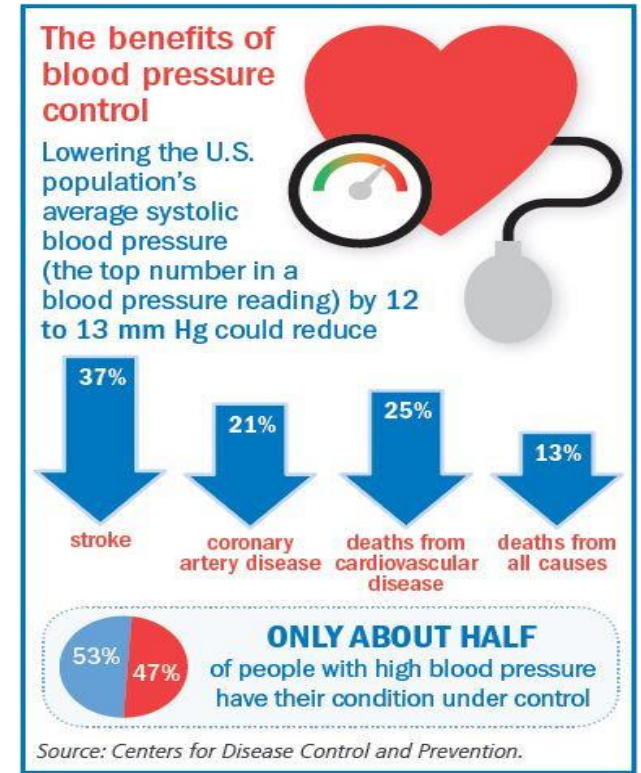
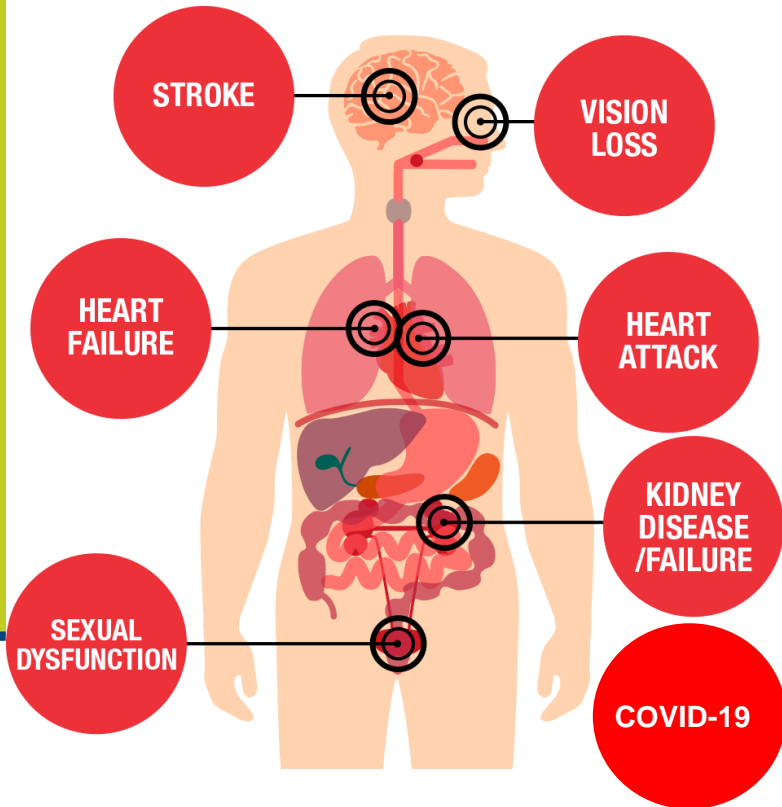


Neighborhood	Excess Years of Life Lost	#Premature Deaths
Roselawn	390	62
East Price Hill	343	91
Avondale	299	66
Walnut Hills	270	44
Westwood	245	154
Over-the-Rhine	219	29
Bond Hill	215	50
Winton Hills	209	28
West End	193	43
Mt. Airy	183	44
South Fairmount	157	19
West Price Hill	143	91
Camp Washington	142	10
East Westwood	142	24
English Woods_North Fairmount	120	<10
South Cumminsville	102	<10
Northside	90	30
Riverside_Sedamsville	89	11
Riverside	78	<10
North Avondale	77	13
Spring Grove Village	59	10
Corryville	56	<10
North Fairmount	56	11
Millvale	49	<10
Evanston	45	35
Downtown	43	12
East End	42	<10
Kennedy Heights	37	20
Linwood	34	<10
Hartwell	27	26
Mt. Adams	21	<10
California	21	<10
Lower Price Hill_Queensgate	20	<10
College Hill	19	74
Carthage	17	<10
Mt. Auburn	15	18

Cincinnati top causes of life expectancy disparity 2020-2023

Cause of Death	Excess Years of Life Lost	#Premature Deaths	Trend
Drug overdose	7,004	752	—
Infant mortality	5,225	162	—
Assault (homicide)	4,649	262	—
Diseases of heart	4,309	1,332	—

Why should we care about improving HTN Control?



Health threats from High Blood Pressure.(2016) www.heart.org. Retrieved January 9, 2022, from <https://www.heart.org/en/health-topics/high-blood-pressure/health-threats-from-high-blood-pressure>.

Controlling Blood Pressure with Fewer Side Effects (2020) health.harvard.edu. Retrieved January 9, 2022, from <https://www.health.harvard.edu/heart-health/controlling-blood-pressure-with-fewer-side-effects>

How does this work support public Health in Cincinnati?

- CCPC patients are an underserved population with many barriers in social determinants of health
- Improving rates of hypertension control among CCPC patients reduces our patients' risk for heart disease and stroke, two leading causes of death for Americans.
- Improving rates of hypertension control among CCPC patients directly addresses the #4 cause of neighborhood life expectancy disparities in Cincinnati

AIM of the QI Project

- To increase the percentage of patients age 18-85 with controlled hypertension (BP lower than 140/90) from a median of 58% to 72% across all CHD health centers.
 - Exclusions: ESRD, dialysis, renal transplant and hospice care

AMA M.A.P Quality Improvement Framework

Measure accurately

Act rapidly

Partner with patients

M

Increase BP measurement accuracy

- ✓ Incorporate standardized patient positioning
- ✓ Use upper arm BP automated measurement devices validated for clinical accuracy and calibrated regularly
- ✓ Implement standardized measurement protocol (screen and confirm approach)

A

Adopt standardized, evidence-based protocols for treating hypertension

- ✓ Use an evidence-based treatment protocol
- ✓ Frequent, follow-up visits until blood pressure is controlled
- ✓ Single-pill combination therapy to treat when possible

P

Promote patient self-management

- ✓ Incorporate self-measured blood pressure (SMBP) education, tools and resources for patients
- ✓ Encourage healthy lifestyle changes to improve BP control
- ✓ Assess and address medication and treatment non-adherence
- ✓ Use collaborative communication

Gaps in Hypertension Control



■ Environmental/Societal Factors

- Limited access to healthcare
- Limited access to nutritious foods and recreation
- Lack of transportation
- Inadequate community resources
- Poor living and working conditions
- Housing instability
- Segregation and discrimination
- Limited access to quality education
- Limited media and technology access



■ Patient Factors

- Low health literacy
- Treatment non-adherence
- Unhealthy lifestyle choices
- Loss to follow up
- Mental illness
- Poor social support



■ Physician/Provider Factors

- Competing priorities/time
- Clinical inertia
- Not using evidence-based treatment protocols
- Knowledge gap
- Providing limited access to patients



■ Health System Factors

- Inaccurate BP Measurement protocols
- Practice resource constraints
- Lack of organizational priority

Change Package

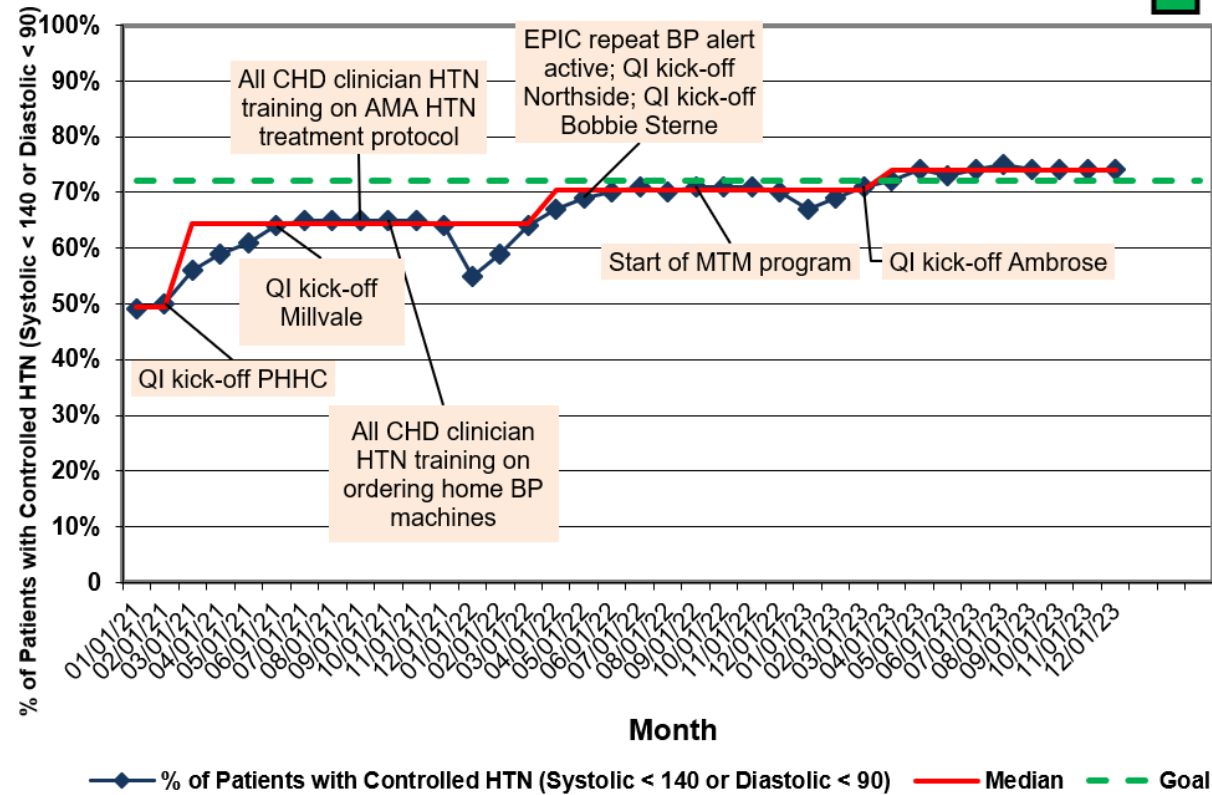
- 1. Repeat Elevated BP (Measure Accurately)
- 2. Address Uncontrolled HTN at each visit (Act Rapidly)
- 3. Frequent follow up within 6 weeks (Act Rapidly)
- 4. Incorporate self-measured blood pressure (SMBP) and healthy lifestyle changes to improve BP control (Partner with patients)



System Transformation Approach: HTN Control Across All CHD Clinics with Population Level Data



HTN Control Across All CHD Clinics

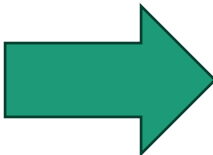
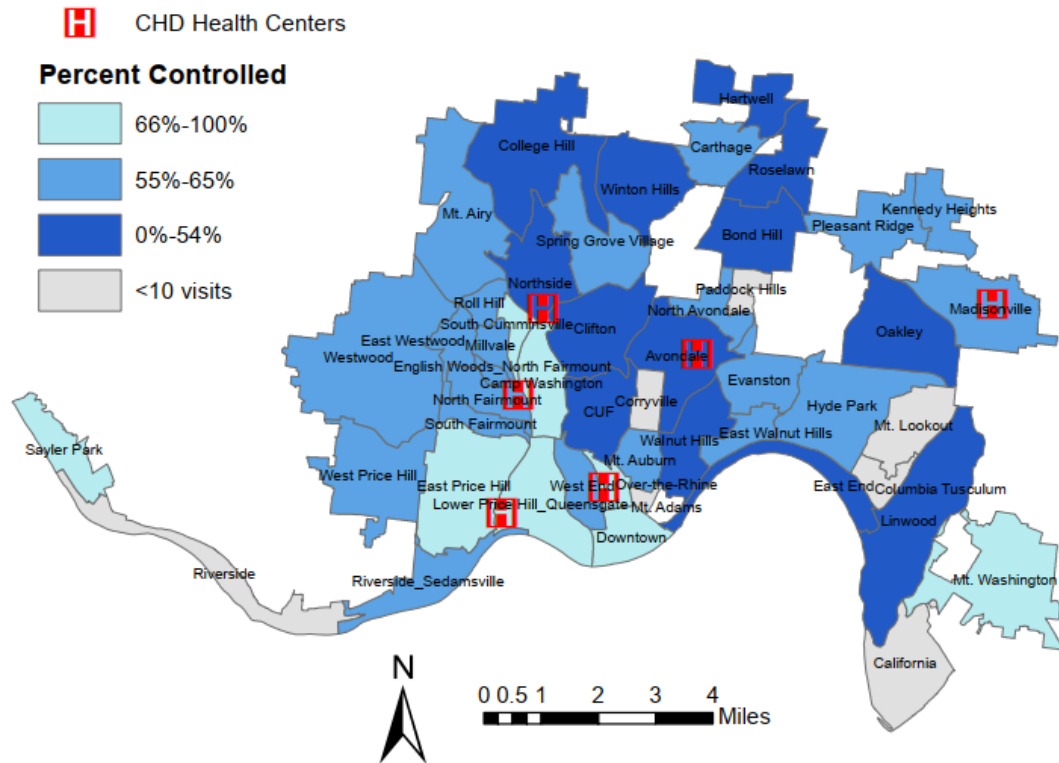


- Increased UDS Hypertension Control system wide from **58%** to **74%** in 3 year period.

CCPC SYSTEM LEVEL UDS PERFORMANCE 2023																	
Optimal Direction	2020	2021	2022	CCPC Goal	UDS Measure Monthly 2021	January	February	March	April	May	June	July	August	September	October	November	December
↑	58%	66%	70%	72%	Controlling High Blood Pressure	67%	69%	71%	72%	74%	73%	74%	75%	74%	74%	74%	74%

Change in Hypertension Control in CHD patients by Neighborhood, 2020 to 2023

Cincinnati Health Department Controlled Hypertension
2020




 = Neighborhoods experiencing the most excess years of life lost from heart disease

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Cincinnati Health Department Controlled Hypertension
2020

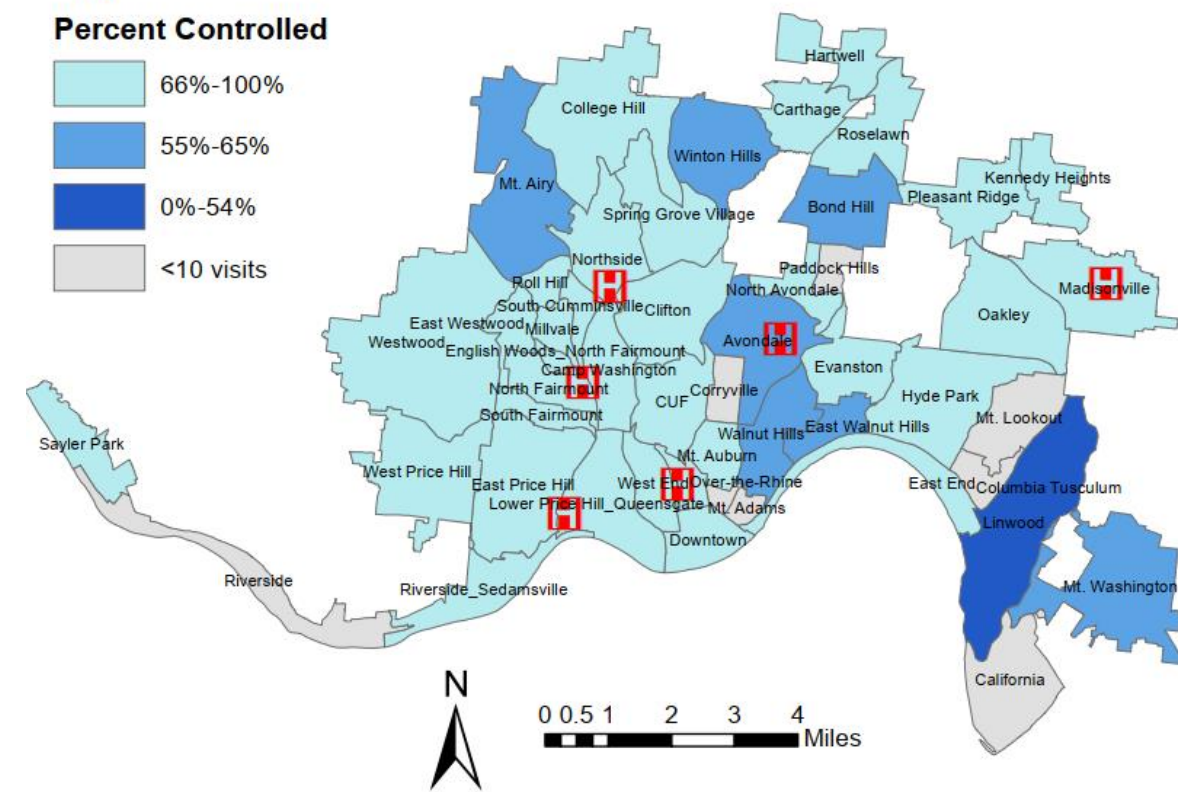
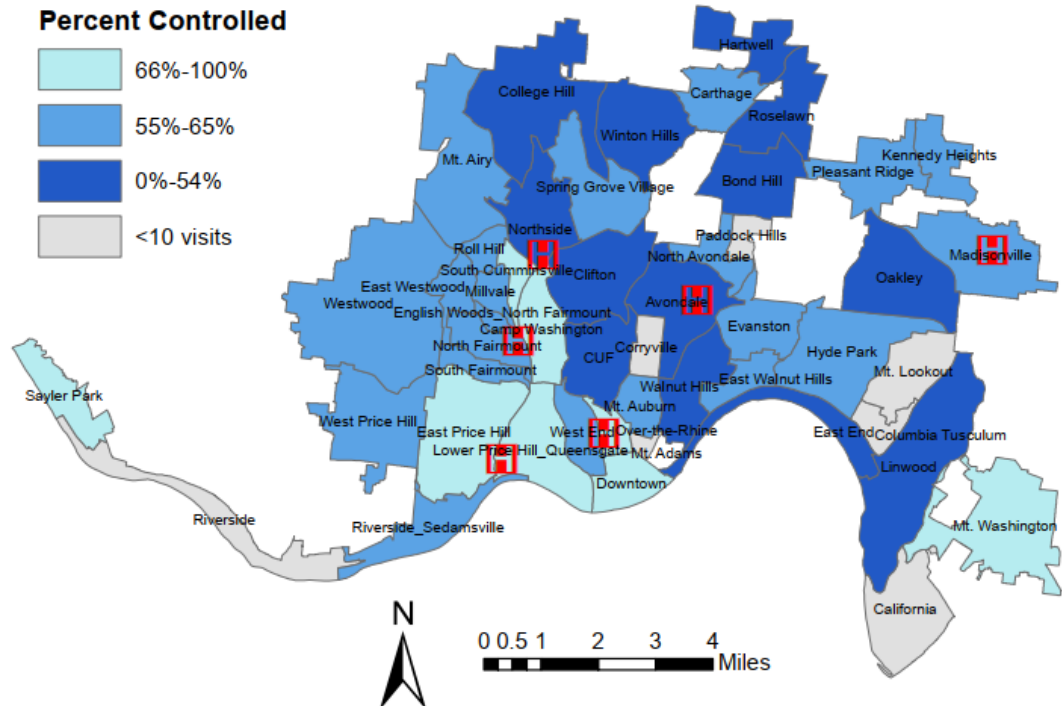
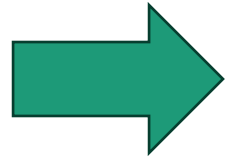
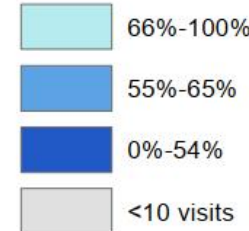
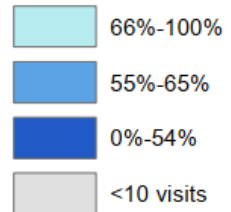
Cincinnati Health Department Controlled Hypertension
2023


 CHD Health Centers

 CHD Health Centers

Percent Controlled

Percent Controlled




 = Neighborhoods experiencing the most excess years of life lost from heart disease

Change in Hypertension Control in CHD patients by Neighborhood, 2020 to 2023

Cincinnati Health Department Controlled Hypertension
2020





Cincinnati Health Department Controlled Hypertension
2023





 CHD Health Centers

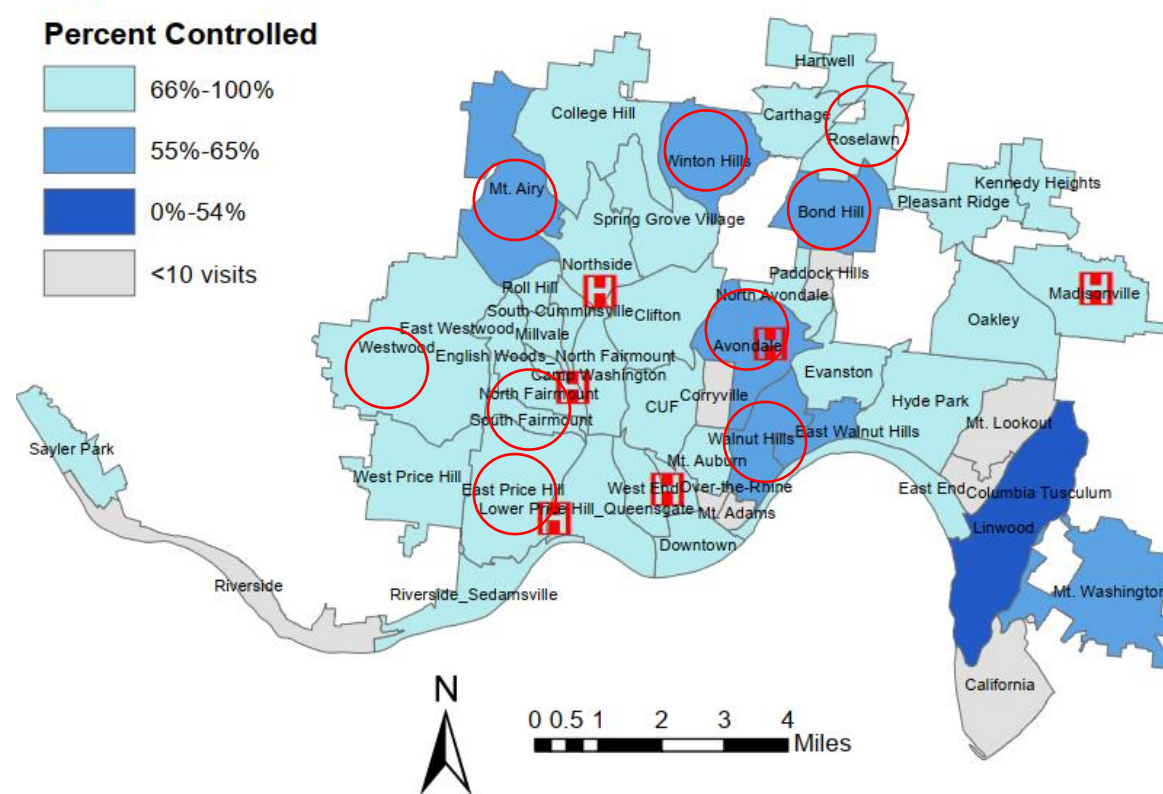
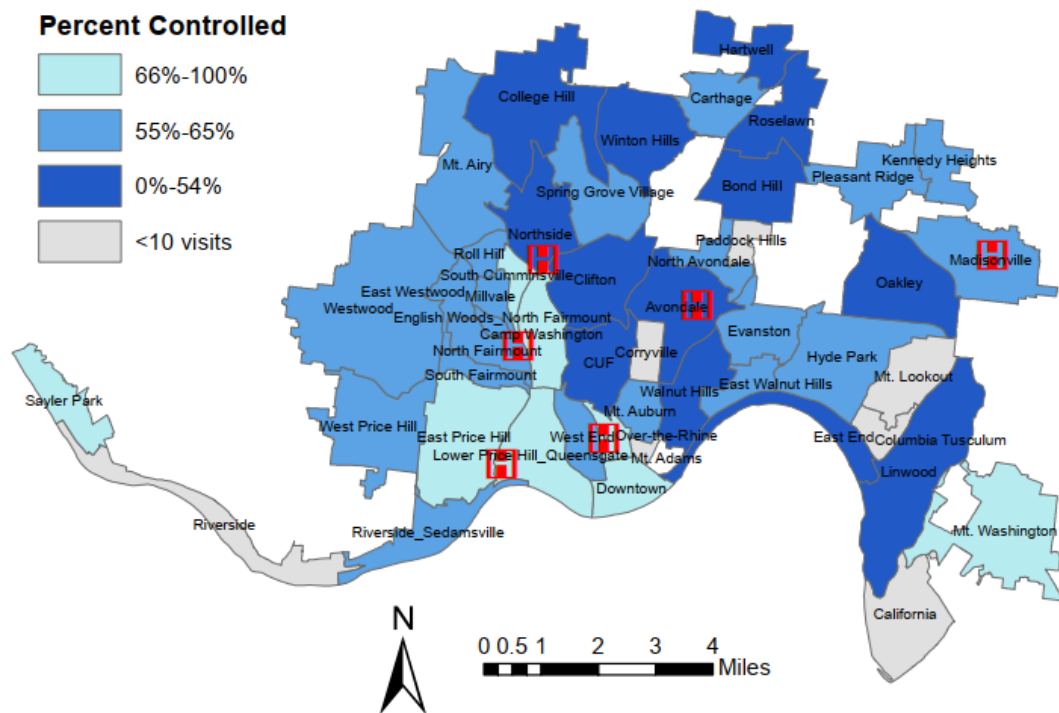
 CHD Health Centers


Percent Controlled

Percent Controlled

-  66%-100%
-  55%-65%
-  0%-54%
-  <10 visits

-  66%-100%
-  55%-65%
-  0%-54%
-  <10 visits



 = Neighborhoods experiencing the most excess years of life lost from heart disease

Summary

- Hypertension is widely prevalent in the United States and disproportionately affects non-Hispanic Blacks.
- Most adults in the United States have uncontrolled hypertension which has enormous medical, economic, and human costs.
- Hypertension control can be improved by adoption of QI strategies that focus on accurate blood pressure measurement, use of evidence-based treatment protocols and patient self-monitoring of blood pressure.

AMA & AHA Recognize CHD for HTN Control



TARGET:BP™

City of Cincinnati Primary Care
Cincinnati, OH

In recognition for your commitment to improving blood pressure control through accurate measurement among your adult patients.



TARGET:BP™

City of Cincinnati Primary Care
Cincinnati, Ohio

In recognition for achieving 70% or greater blood pressure control and committing to accurate measurement among your adult patients.



Key Next Steps:



Spread

- Spread work internally from 4 to all health centers.



- Disseminate findings: Apply lessons learned to future work to reduce life expectancy disparities due to cardiovascular disease in Cincinnati

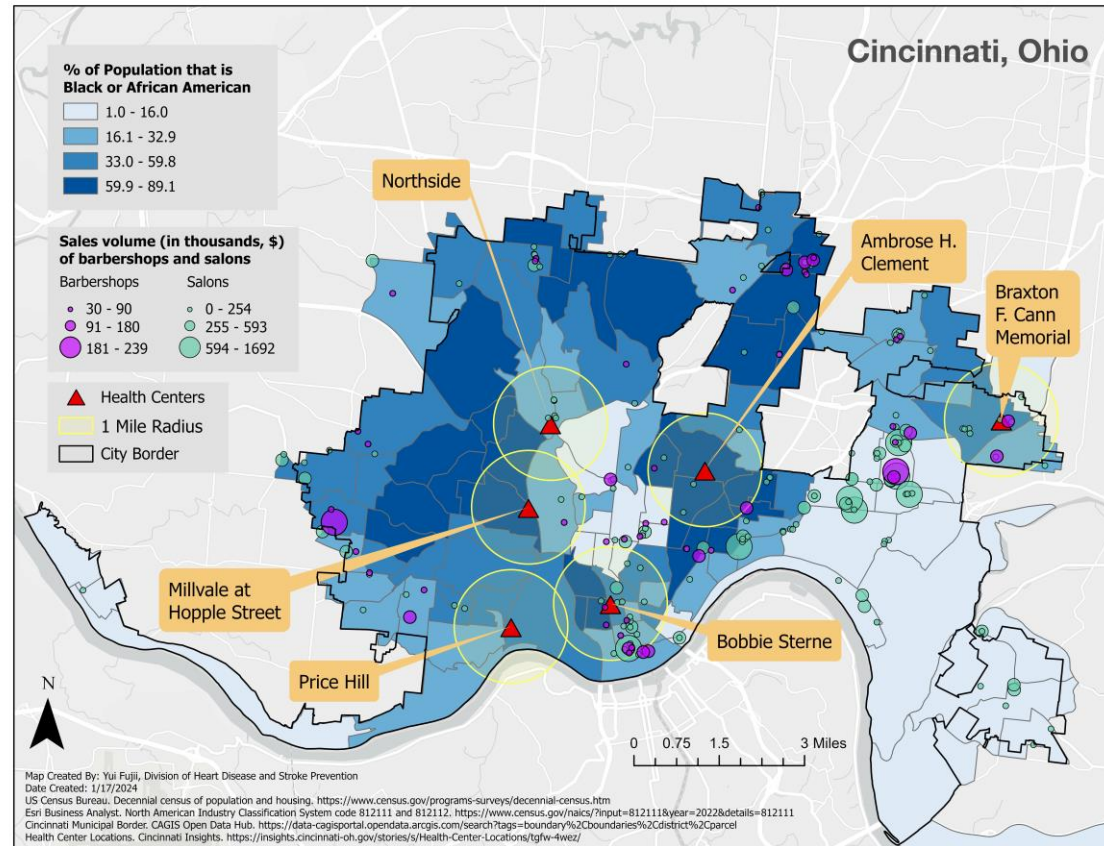


- Collaborate with Local Partners, including the University of Cincinnati and the Health Collaborative

Key Next Steps:



- Partnership with NACHC on Hypertension Medication Management (HMM) in Trusted Spaces for African American Adults with Hypertension (Barbershop HMM Project).



Questions?

