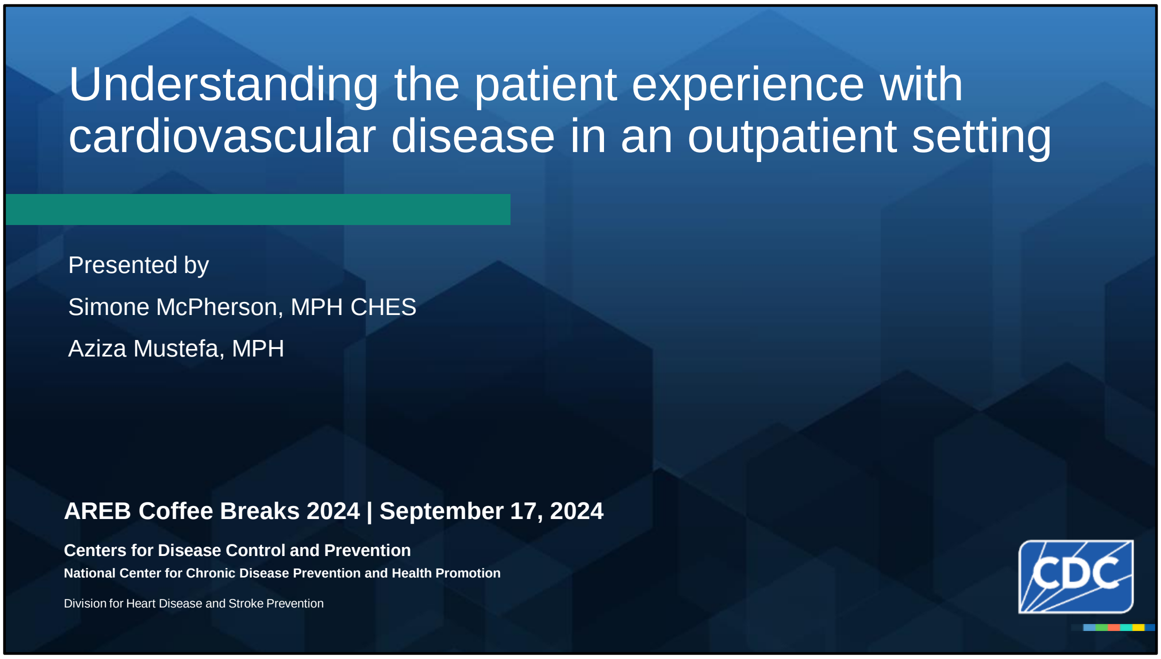


Understanding the patient experience with cardiovascular disease in an outpatient setting

Presented by

Simone McPherson, MPH CHES

Aziza Mustefa, MPH

AREB Coffee Breaks 2024 | September 17, 2024

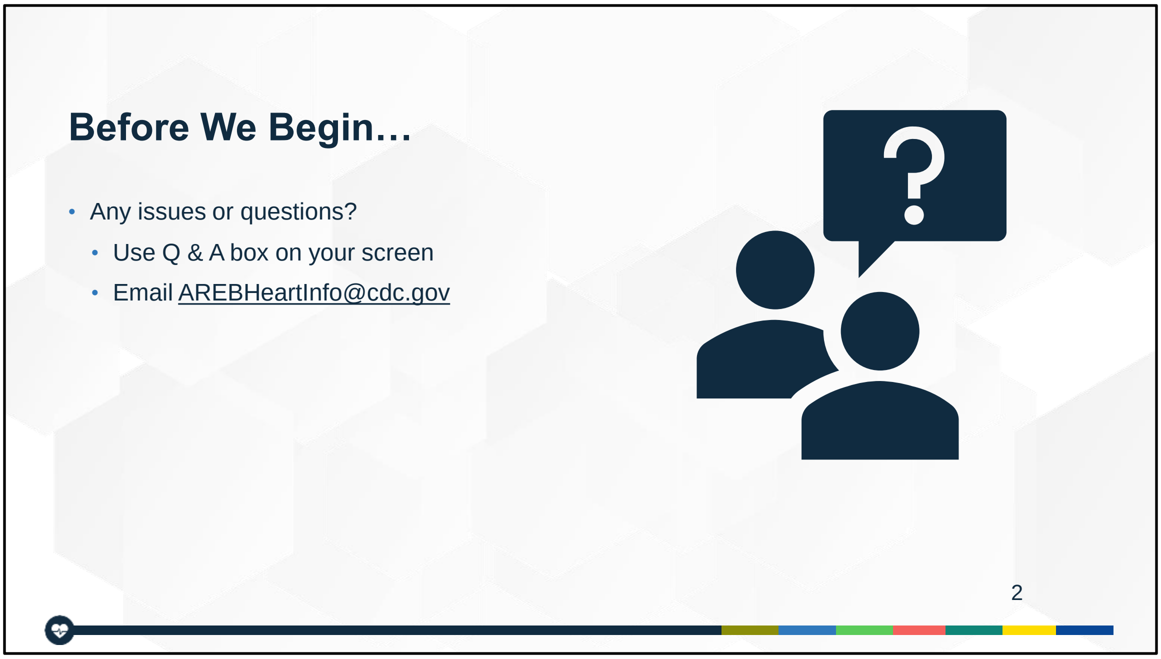
Centers for Disease Control and Prevention

National Center for Chronic Disease Prevention and Health Promotion

Division for Heart Disease and Stroke Prevention

Hello and welcome to today’s Coffee Break presented by the Applied Research and Evaluation Branch in the Division for Heart Disease and Stroke Prevention at the Centers for Disease Control and Prevention.
My name is Yu-Jan Huang, and I am an ORISE fellow with the branch. I will be acting as today’s moderator.

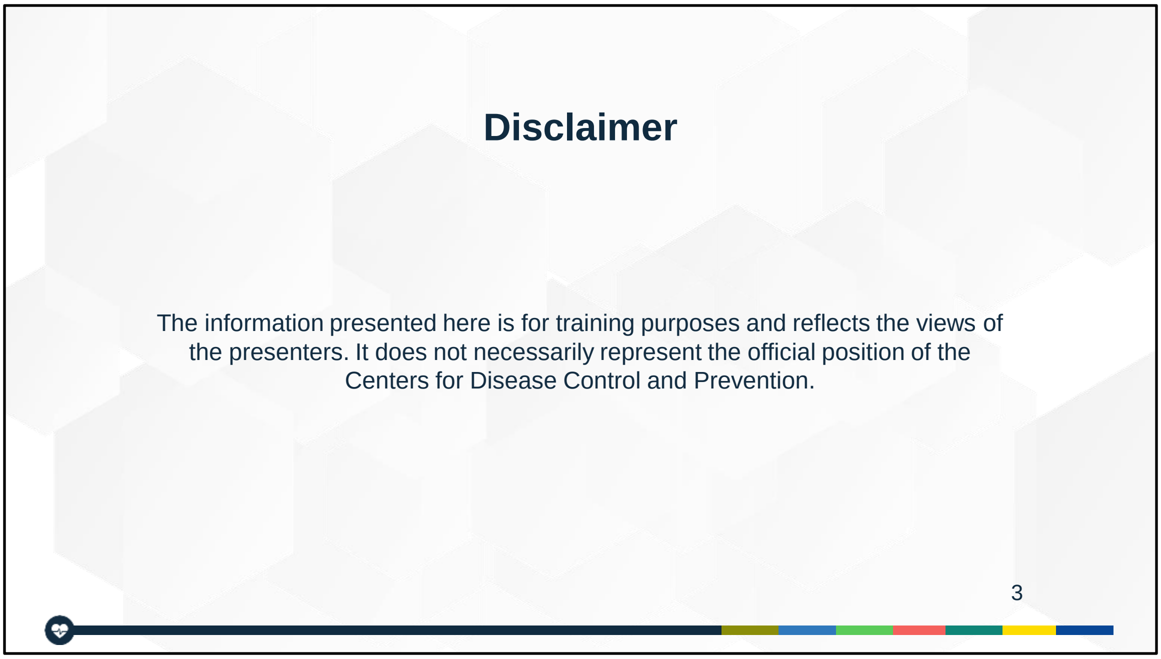
Our presenters today are Simone McPherson, a technical evaluator contracting with Cherokee Federal, and Aziza Mustefa, a health scientist contracting with ASRT on the Evaluation and Program Effectiveness Team within the Division for Heart Disease and Stroke Prevention’s Applied Research and Evaluation Branch. They will be presenting on understanding the patient experience with cardiovascular disease in an outpatient setting.



Before We Begin…

- Any issues or questions?
  - Use Q & A box on your screen
  - Email AREBHeartInfo@cdc.gov

Before we begin, there are some housekeeping items. If you are having issues with audio or seeing the presentation, please message us using the Q&A or send us an email at AREBheartinfo@cdc.gov. Please submit any questions for the presenters using the Q&A as well. Since this is a training series on applied research and evaluation, we hope you will complete the poll at the end of the presentation and provide us with your feedback.

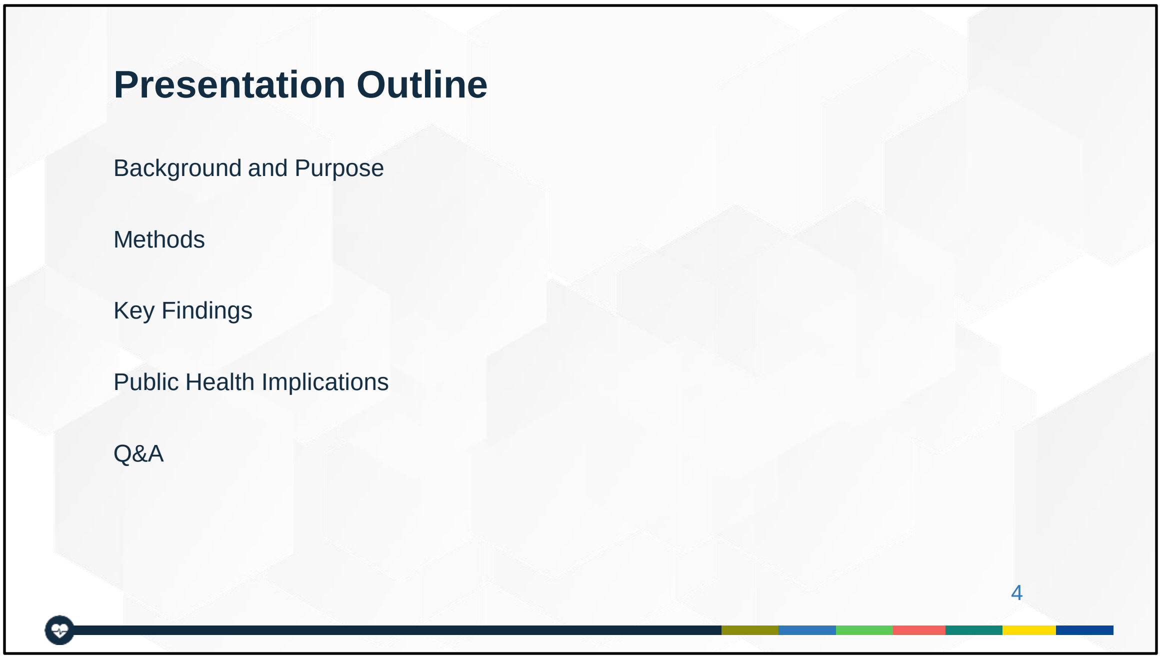


Disclaimer

The information presented here is for training purposes and reflects the views of the presenters. It does not necessarily represent the official position of the Centers for Disease Control and Prevention.

As a disclaimer, the information presented here is for training purposes and reflects the views of the presenters. It does not necessarily represent the official position of the Centers for Disease Control and Prevention.

So, without further delay. Let’s get started. Simone and Aziza, the floor is yours.



Presentation Outline

Background and Purpose

Methods

Key Findings

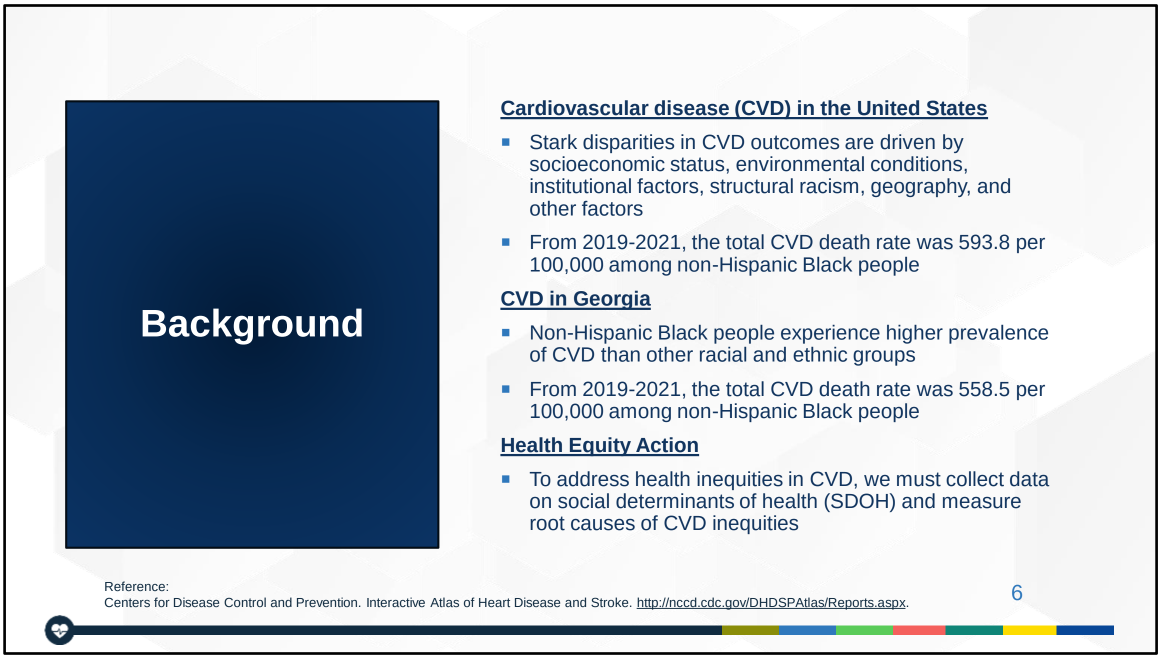
Public Health Implications

Q&A

Thank you, Yu-Jan. Hello everyone, my name is Simone and it is a pleasure to be speaking to you all. Today’s presentation will cover the project background and purpose, the methods we used, then we will share some key findings, and then discuss public health implications. Finally, we’ll end with a Q&A session.

BACKGROUND AND PURPOSE

To start, I will provide an overview of the project background and purpose.



Background

Cardiovascular disease (CVD) in the United States

- Stark disparities in CVD outcomes are driven by socioeconomic status, environmental conditions, institutional factors, structural racism, geography, and other factors
- From 2019-2021, the total CVD death rate was 593.8 per 100,000 among non-Hispanic Black people

CVD in Georgia

- Non-Hispanic Black people experience higher prevalence of CVD than other racial and ethnic groups
- From 2019-2021, the total CVD death rate was 558.5 per 100,000 among non-Hispanic Black people

Health Equity Action

- To address health inequities in CVD, we must collect data on social determinants of health (SDOH) and measure root causes of CVD inequities

Reference:
Centers for Disease Control and Prevention. Interactive Atlas of Heart Disease and Stroke. http://nccd.cdc.gov/DHDSPAtlas/Reports.aspx.

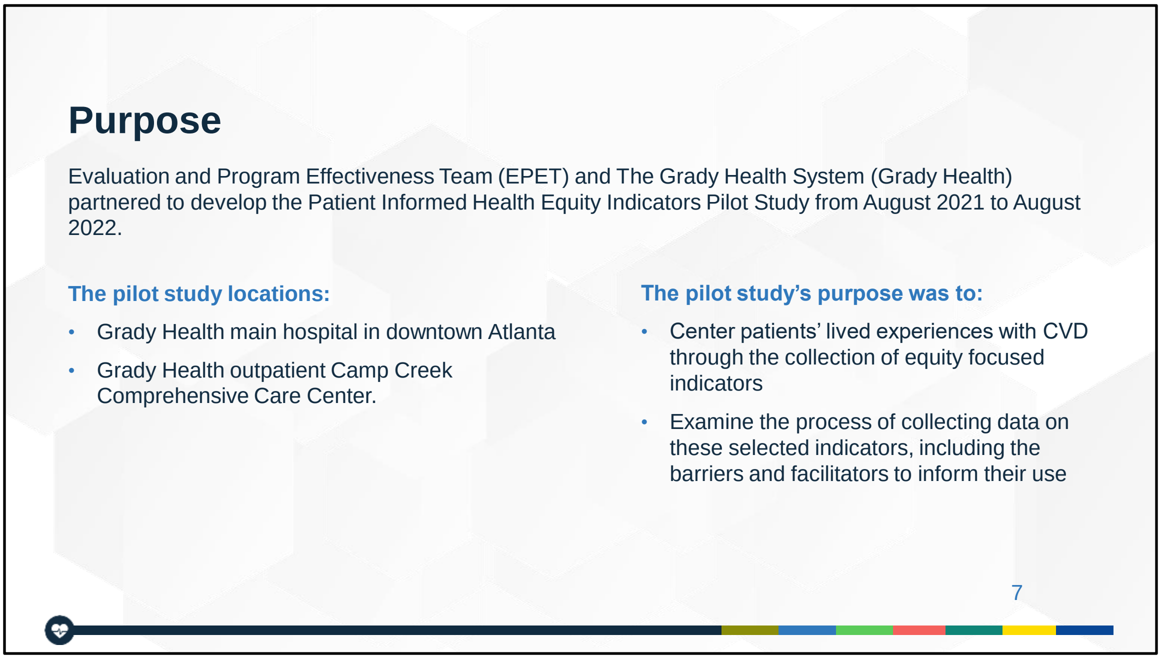
The disparities in Cardiovascular Disease or CVD outcomes are driven by socioeconomic status, environmental conditions, institutional factors, structural racism, geography, and other factors. **National statistics report** that from 2019-2021, the total CVD death rate was 593.8 per 100,000 among non-Hispanic Black people.

In Georgia, non-Hispanic Black people experience higher prevalence of CVD than other racial and ethnic groups. Specifically, from 2019-2021 the total CVD death rate was 558.5 per 100,000 among non-Hispanic Black people.

CDC Division for Heart Disease and Stroke Prevention is committed to improving health equity for all populations by focusing on populations at higher risk of experiencing CVD and working with key partners to advance and improve health equity. In addition, the division is committed to improving the capacity to collect data, monitor, and use metrics on potential drivers of health disparities related to CVD. This includes collecting data on social determinants of health or SDOH and measuring root causes of CVD inequities.

Reference:

Centers for Disease Control and Prevention. Interactive Atlas of Heart Disease and Stroke. http://nccd.cdc.gov/DHDSPAtlas/Reports.aspx.



Purpose

Evaluation and Program Effectiveness Team (EPET) and The Grady Health System (Grady Health) partnered to develop the Patient Informed Health Equity Indicators Pilot Study from August 2021 to August 2022.

The pilot study locations:

- Grady Health main hospital in downtown Atlanta
- Grady Health outpatient Camp Creek Comprehensive Care Center.

The pilot study's purpose was to:

- Center patients' lived experiences with CVD through the collection of equity focused indicators
- Examine the process of collecting data on these selected indicators, including the barriers and facilitators to inform their use

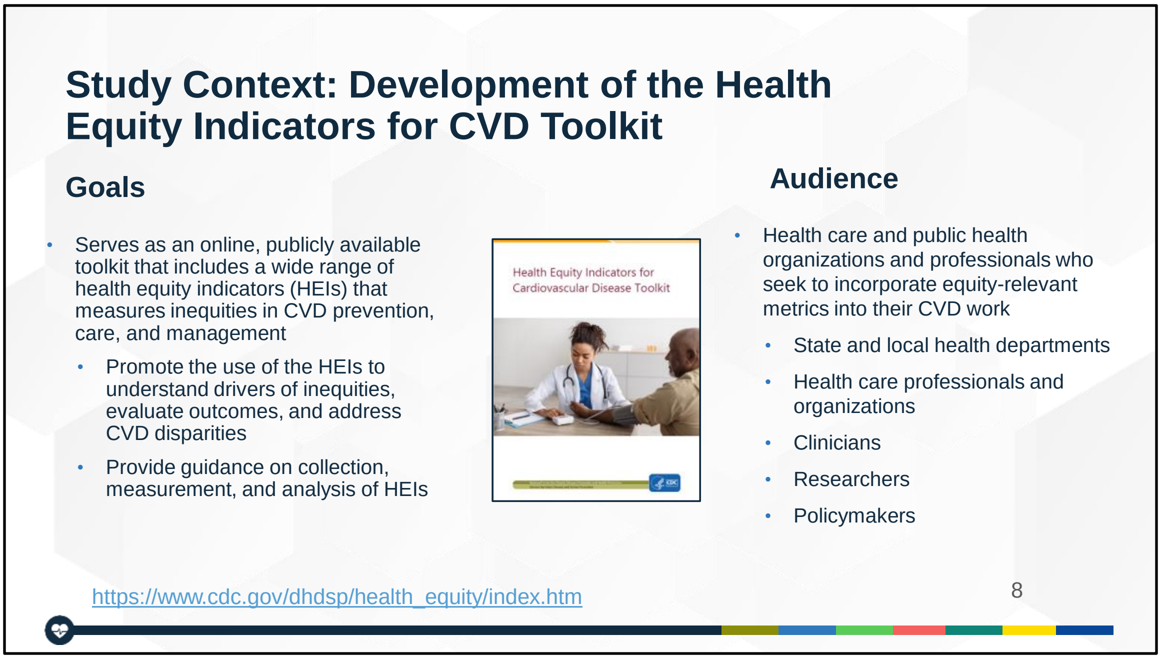
The Evaluation and Program Effectiveness Team, also known as EPET, partnered with The Grady Health System or Grady Health to develop the Patient Informed Health Equity Indicators Pilot Study from August 2021 to August 2022. Grady Health is a public safety-net hospital located in downtown Atlanta, GA and serves a population that is over 90% non-Hispanic Black. Grady Health and EPET decided to conduct the pilot and recruit patients at the following two locations:

1. Grady Health main hospital in downtown Atlanta
2. Grady Health outpatient Camp Creek Comprehensive Care Center.

The Camp Creek Comprehensive Care Center is located 14 miles southwest of the main Grady Health Hospital. It is the largest family and specialty medicine center for patients to receive primary care services and a higher level of care to manage a chronic condition like CVD. The Grady Health main hospital and outpatient Comprehensive Care Center were selected to better understand if there were any significant differences or themes between the patient populations at each campus.

This pilot study's purpose was to:

1. Center patients’ lived experiences with CVD through the collection of equity focused indicators.
2. Examine the process of collecting data on these selected indicators, including the barriers and facilitators to inform their use.



Study Context: Development of the Health Equity Indicators for CVD Toolkit

Goals

- Serves as an online, publicly available toolkit that includes a wide range of health equity indicators (HEIs) that measures inequities in CVD prevention, care, and management
  - Promote the use of the HEIs to understand drivers of inequities, evaluate outcomes, and address CVD disparities
  - Provide guidance on collection, measurement, and analysis of HEIs

Audience

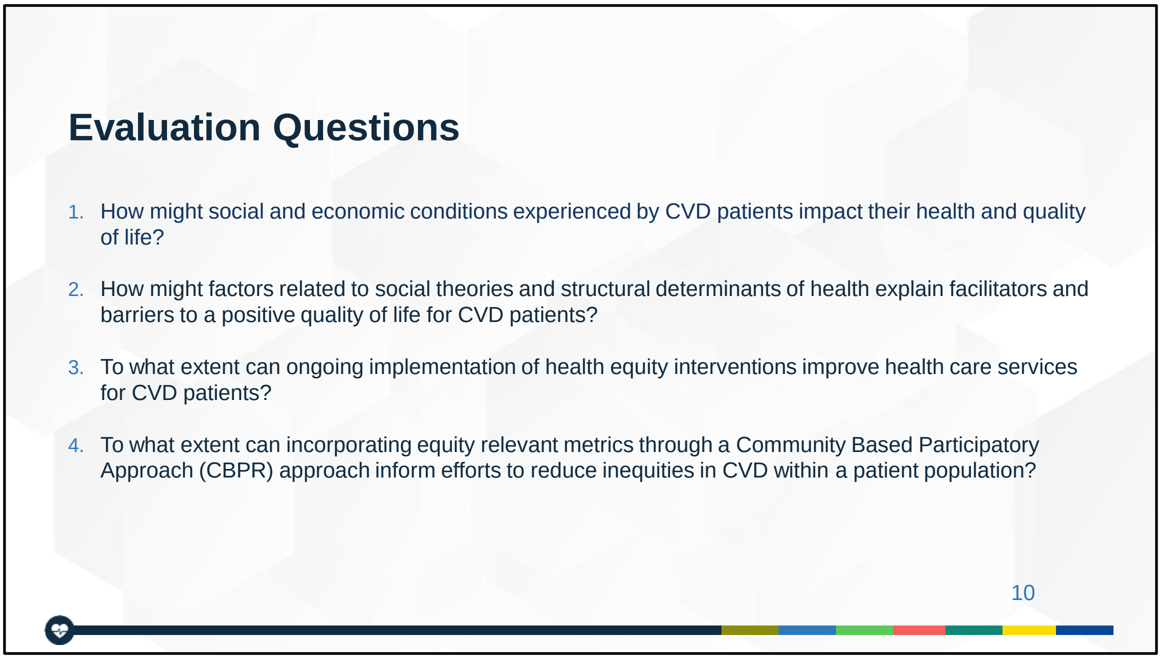
- Health care and public health organizations and professionals who seek to incorporate equity-relevant metrics into their CVD work
  - State and local health departments
  - Health care professionals and organizations
  - Clinicians
  - Researchers
  - Policymakers

https://www.cdc.gov/dhdsp/health_equity/index.htm

The pilot we will discuss today was part of the development process of the Health Equity Indicator for Cardiovascular Disease Toolkit that was launched in September 2023 to provide potential measures and resources to health care and public health professionals to support measurement of health equity indicators relevant to their CVD work. These indicators can help users understand drivers of inequities in their patient populations, guide actions to address CVD disparities, assess the progress, and evaluate outcomes of interventions. For more information on the overall development of the toolkit, please refer to the executive summary that we are now placing in the chat. Please also see the Health Equity Indicators for CVD Toolkit Coffee Break that was held last November that covers information on the features and application of the toolkit.

METHODS

Now that we understand the background of this project, I will now discuss the methods used for this pilot study.



Evaluation Questions

1. How might social and economic conditions experienced by CVD patients impact their health and quality of life?
2. How might factors related to social theories and structural determinants of health explain facilitators and barriers to a positive quality of life for CVD patients?
3. To what extent can ongoing implementation of health equity interventions improve health care services for CVD patients?
4. To what extent can incorporating equity relevant metrics through a Community Based Participatory Approach (CBPR) approach inform efforts to reduce inequities in CVD within a patient population?

One of the purpose of this pilot study was to center patient voices and to increase evidence-based research on how health inequities shaped the lived experiences of CVD patients at Grady Health. The following are the evaluation questions that helped framed the pilot study approach and methods:

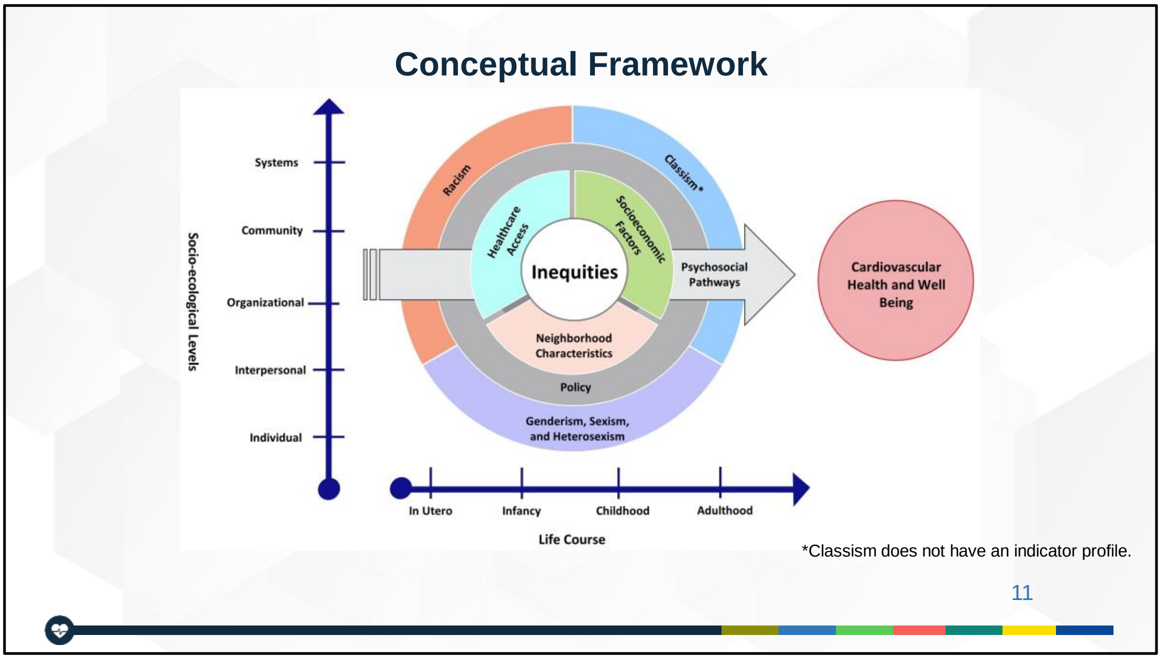
1. How might social and economic conditions experienced by CVD patients impact their health and quality of life?

2. How might factors related to social theories and structural determinants of health explain facilitators and barriers to a positive quality of life for CVD patients?

3. To what extent can ongoing implementation of health equity interventions improve health care services for CVD patients?

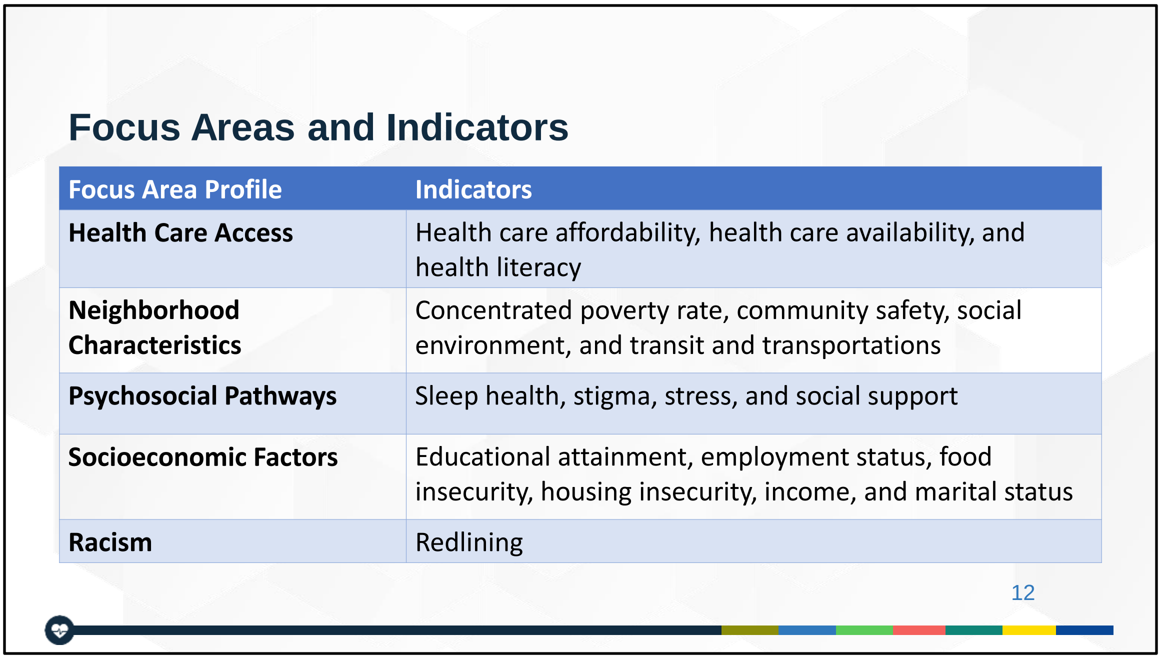
4. To what extent can incorporating equity relevant metrics through a Community Based Participatory Approach (CBPR) inform efforts to reduce inequities in CVD within a patient population?

Conceptual Framework



*Classism does not have an indicator profile.

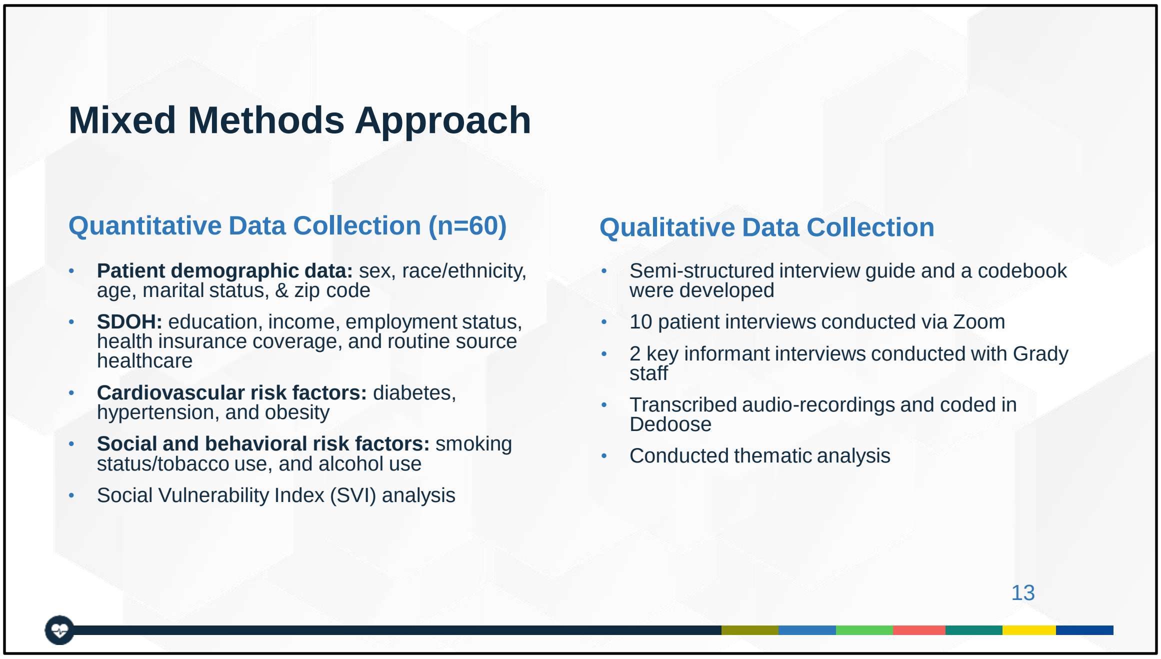
In this pilot, the Health Equity Indicators Conceptual Framework for CVD derived from the Toolkit was used as a foundation and guide. It was used to showcase how health equity indicators are interconnected and occur through structural and socioenvironmental drivers, across socio-ecological levels, and throughout the lifespan. For more information on the HEI Conceptual Framework for CVD please see previous resources shared in the chat.



Focus Areas and Indicators

Focus Area Profile	Indicators
Health Care Access	Health care affordability, health care availability, and health literacy
Neighborhood Characteristics	Concentrated poverty rate, community safety, social environment, and transit and transportations
Psychosocial Pathways	Sleep health, stigma, stress, and social support
Socioeconomic Factors	Educational attainment, employment status, food insecurity, housing insecurity, income, and marital status
Racism	Redlining

Using the Health Equity Indicators Conceptual Framework for CVD as a guide, the CDC worked with Grady Health's staff to identify, review, and discuss measures of SDOH and health equity and provided recommendations for additional measures to include. The following focus areas and indicators were selected from the Toolkit based on Grady staff's understanding of their patient population and its needs.



Mixed Methods Approach

Quantitative Data Collection (n=60)

- **Patient demographic data:** sex, race/ethnicity, age, marital status, & zip code
- **SDOH:** education, income, employment status, health insurance coverage, and routine source healthcare
- **Cardiovascular risk factors:** diabetes, hypertension, and obesity
- **Social and behavioral risk factors:** smoking status/tobacco use, and alcohol use
- Social Vulnerability Index (SVI) analysis

Qualitative Data Collection

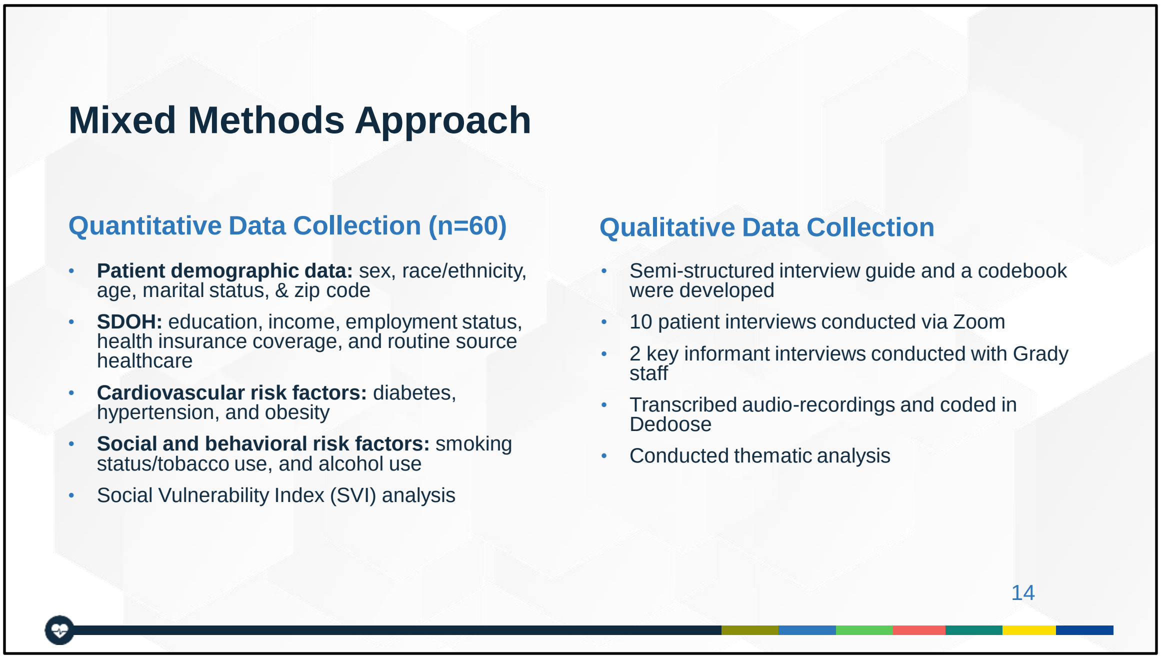
- Semi-structured interview guide and a codebook were developed
- 10 patient interviews conducted via Zoom
- 2 key informant interviews conducted with Grady staff
- Transcribed audio-recordings and coded in Dedoose
- Conducted thematic analysis

A mixed methods approach was used to collect data about the focus areas of interest. Secondary data came from a module of Grady Health's electronic medical record (EMR) system called EPIC. The module, known as Healthy Planet, is comprised of 150 questions related to self-reported health and social needs. Healthy Planet included a wide range of questions related to health equity barriers, such as housing, financial, transportation, and social support concerns. This module does not contain clinical outcomes data and is a means to systemically collect and report data on numerous variables related to health equity within Grady's EMR system.

Descriptive statistics were applied to de-identified Healthy Planet data from 60 patients. Data included the following elements:

•Patient demographic data
•SDOH
•Cardiovascular risk factors
•Social and behavioral risk factors

Patient zip codes were also entered in an interactive Social Vulnerability Index (SVI) map to categorize whether a patient lived in a high or low to moderate SVI area. Chi-square tests for independence were performed to test for statistical significance to better understand the association between social vulnerability (the potential adverse effects on communities that result from external stress on human health) and CVD risk.



Mixed Methods Approach

Quantitative Data Collection (n=60)

- **Patient demographic data:** sex, race/ethnicity, age, marital status, & zip code
- **SDOH:** education, income, employment status, health insurance coverage, and routine source healthcare
- **Cardiovascular risk factors:** diabetes, hypertension, and obesity
- **Social and behavioral risk factors:** smoking status/tobacco use, and alcohol use
- Social Vulnerability Index (SVI) analysis

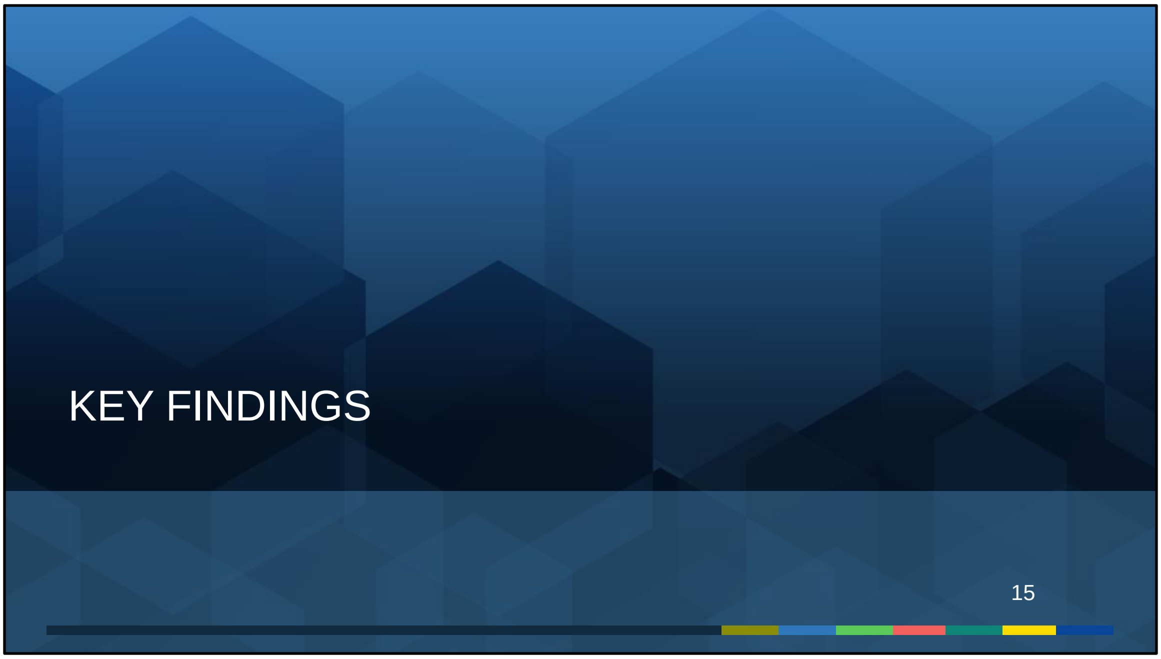
Qualitative Data Collection

- Semi-structured interview guide and a codebook were developed
- 10 patient interviews conducted via Zoom
- 2 key informant interviews conducted with Grady staff
- Transcribed audio-recordings and coded in Dedoose
- Conducted thematic analysis

Primary data was conducted in a form of interviews. The Grady Institutional Review Board (IRB) approved the protocol that included a patient consent form. Among the 60 patients, interviews were conducted with 10 patients to obtain narratives on patients’ lived experiences with CVD. Transcripts were coded using Dedoose analytic software and deductive content analysis was conducted.

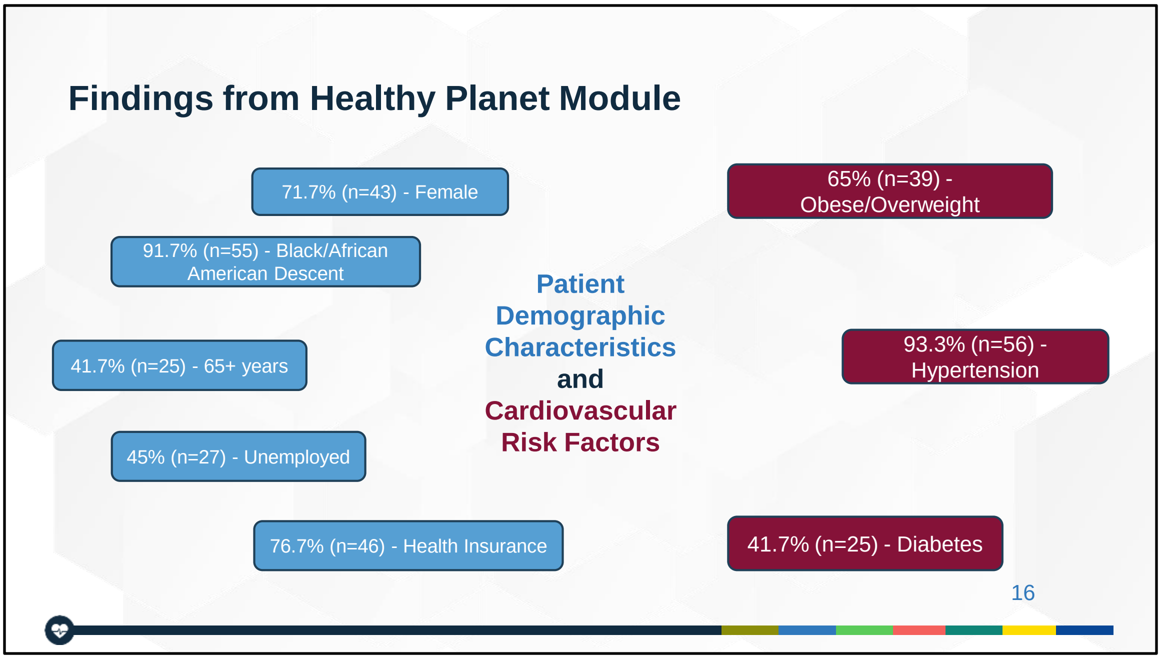
Lastly, interviews with 2 Grady clinicians examined facilitators and barriers to collecting the health equity indicators.

Now I will pass it over to Aziza to discuss the pilot’s key findings.



KEY FINDINGS

Thanks Simone! Next we will discuss key findings.



Findings from Healthy Planet Module

71.7% (n=43) - Female

91.7% (n=55) - Black/African American Descent

41.7% (n=25) - 65+ years

45% (n=27) - Unemployed

76.7% (n=46) - Health Insurance

Patient Demographic Characteristics and Cardiovascular Risk Factors

65% (n=39) - Obese/Overweight

93.3% (n=56) - Hypertension

41.7% (n=25) - Diabetes

A descriptive analysis was conducted to gain a report of the descriptive statistics for the patient population.

A total of 60 patients were included in this data collection 71.7% (n=43) were female
91.7% (n=55) of patients were of Black and African American descent
41.7% (n=25) were 65 years old and older
45.0% (n=27) were unemployed
Lastly, 76.7% (n=46) reported that the do have health insurance.

We also assessed information on cardiovascular risk factors.

65% (n=39) of patients reported that they were obese or overweight
93.3% (n= 56) reported that they do have hypertension
and 41.7% (n=25) have diabetes

Patient Interview Key Findings

Health Care Access

Neighborhood Characteristics

Psychosocial Pathways

Socioeconomic Factors

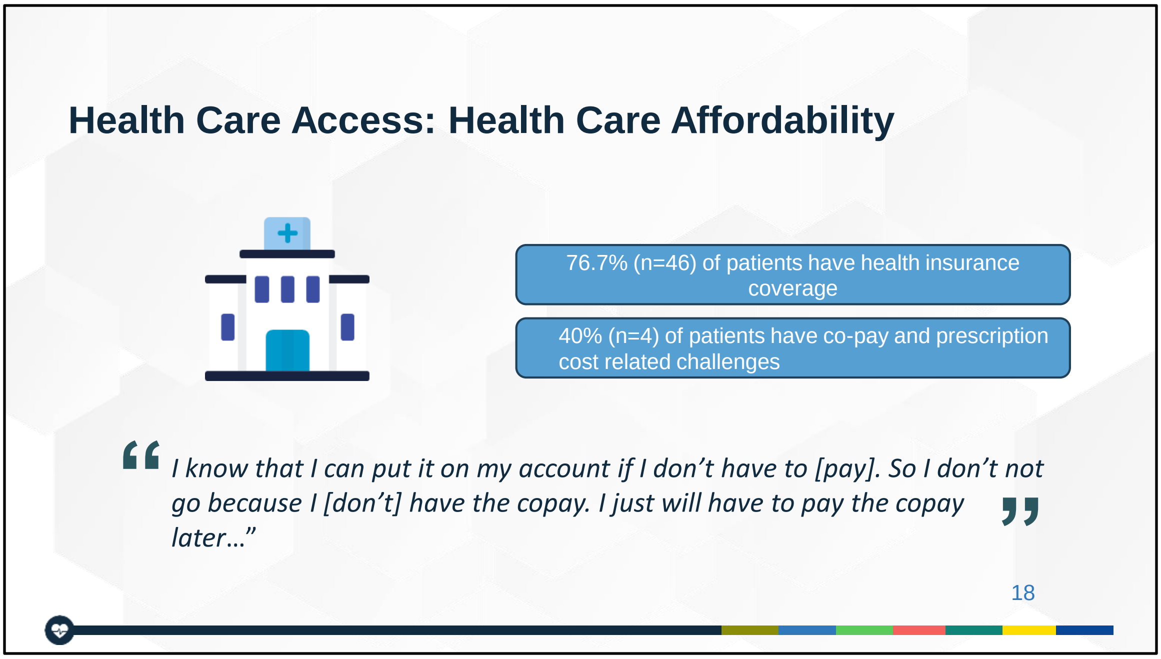
Racism

Patient interviews revealed what social and financial factors influenced the well-being of patients living with CVD. The following four health equity focus areas reflect the experiences of patients:

1. Health Care Access
2. Neighborhood Characteristics
3. Psychosocial Pathways
4. Socioeconomic Factors

It is important to note that findings around the focus area of racism revealed that the racist patient experiences shared were interconnected with psychosocial pathways. Therefore, these key findings are presented under the psychosocial pathway focus area.

I will now go through each key finding.



Health Care Access: Health Care Affordability

76.7% (n=46) of patients have health insurance coverage

40% (n=4) of patients have co-pay and prescription cost related challenges

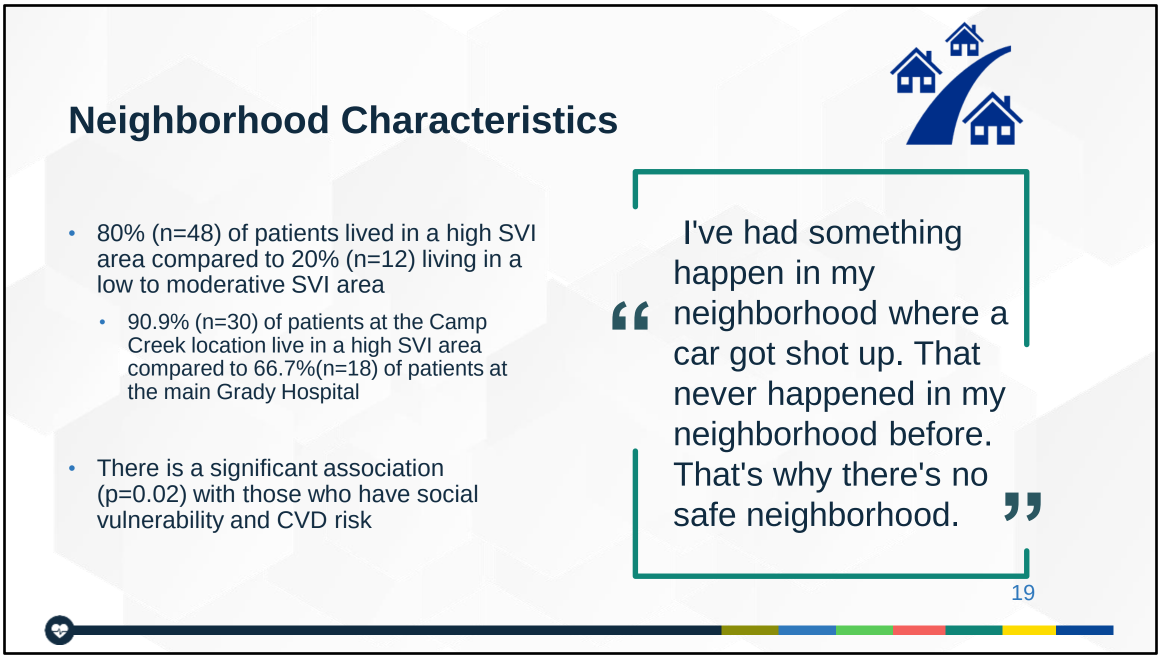
> “ *I know that I can put it on my account if I don’t have to [pay]. So I don’t not go because I [don’t] have the copay. I just will have to pay the copay later…”* ”

I’d like to start with the theme of health care access.
Research shows that by improving health care access, population-level CVD risk may be reduced. For example, having health insurance is associated with earlier CVD detection and reduced risk of major cardiac events. Also, health care affordability affects one’s ability to access health care.

Earlier I mentioned that 76.7% (n=46) of patients reported that they do have health insurance coverage.
From the 10 patient interviews, 40% (n=4) of patients said they did experience cost-related challenges like paying for copays and prescription costs.

One patient explained how difficulties with copays was not a deterrent to seeking treatment and services.
A patient shared the following statement when it came to paying for copays or prescriptions.

“I know that I can put it on my account if I don’t have to [pay]. So, I don’t not go because I [don’t] have the copay. I just will have to pay the copay later.”



Neighborhood Characteristics

- 80% (n=48) of patients lived in a high SVI area compared to 20% (n=12) living in a low to moderative SVI area
  - 90.9% (n=30) of patients at the Camp Creek location live in a high SVI area compared to 66.7%(n=18) of patients at the main Grady Hospital
- There is a significant association (p=0.02) with those who have social vulnerability and CVD risk

> “I've had something happen in my neighborhood where a car got shot up. That never happened in my neighborhood before. That's why there's no safe neighborhood.”

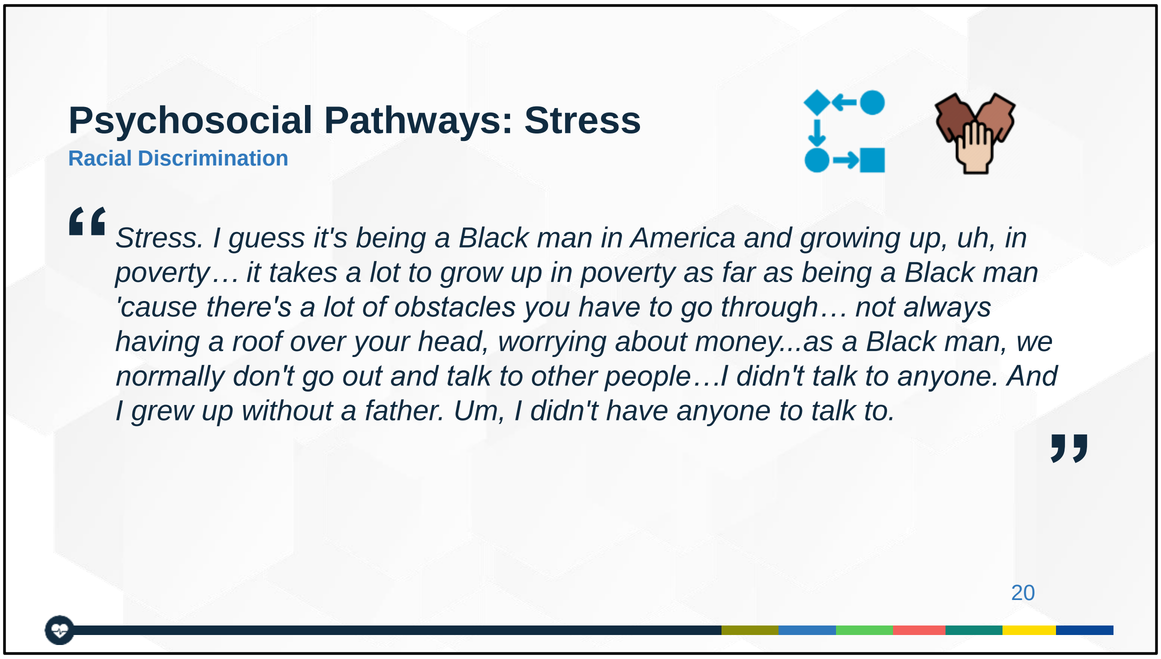
The next theme I would like to talk about is neighborhood characteristics. Neighborhood characteristics can affect CVD outcomes. Depending on where an individual lives, their health may be adversely affected by SDoHs.

The secondary data analysis found that 80% (n=48) of patients lived in areas with a high SVI while 20% (n=12) lived in low to moderate SVI areas. We did take a deeper dive with the data to see which location has patients that live in high SVI areas. There are more patients at the Camp Creek location living in a high SVI area. On your screen you can see that 90.9% of patients at the Camp Creek location live in a high SVI area compared to 66.7% of patients at the main Grady hospital.

Results from the chi-square test suggest that there is a statistically significant association (p=0.02) with those who have social vulnerability and CVD risk.

The findings show that the higher the SVI is in a neighborhood, the more neighborhood vulnerability there is for patients living in the area. This means that more resources are needed for these patients to address social factors that can in turn decrease neighborhood vulnerability and disadvantages in their area. Grady Health plans to continue utilizing SDOH information through Healthy Planet and findings from this pilot to refer patients to necessary resources and programs.

From the patient interviews, I would like to share an experience from an interview about their neighborhood safety, *“I've had something happen in my neighborhood where a car got shot up. That never happened in my neighborhood before. That's why there's no safe neighborhood.”*



Psychosocial Pathways: Stress

Racial Discrimination

> “*Stress. I guess it's being a Black man in America and growing up, uh, in poverty… it takes a lot to grow up in poverty as far as being a Black man 'cause there's a lot of obstacles you have to go through… not always having a roof over your head, worrying about money...as a Black man, we normally don't go out and talk to other people…I didn't talk to anyone. And I grew up without a father. Um, I didn't have anyone to talk to.*”

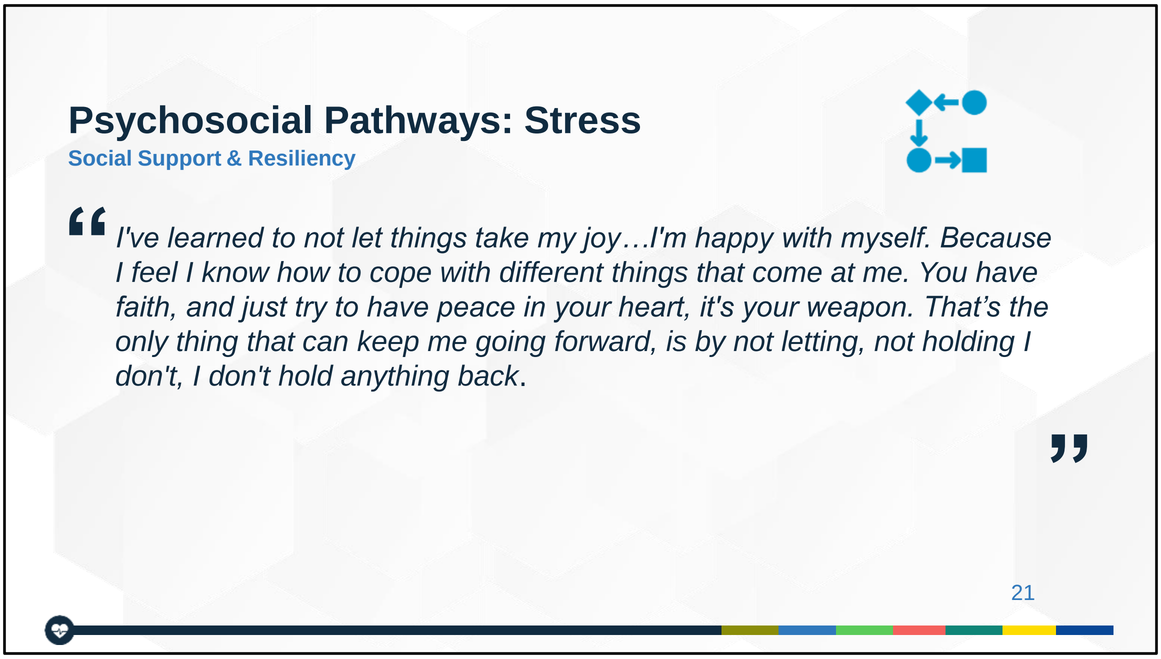
The next theme I will discuss is psychosocial pathways and specifically stress.

The primary data analysis revealed the intersection and interaction of individual-level factors such as racial discrimination and how these factors can influence stress levels among the patients.

I would like to quickly highlight a patient excerpt that speak to how their race impacted their life.

The quote reads:

Stress. I guess it's being a Black man in America and growing up, uh, in poverty… it takes a lot to grow up in poverty as far as being a Black man 'cause there's a lot of obstacles you have to go through… not always having a roof over your head, worrying about money...as a Black man, we normally don't go out and talk to other people…I didn't talk to anyone. And I grew up without a father. Um, I didn't have anyone to talk to.



Psychosocial Pathways: Stress

Social Support & Resiliency

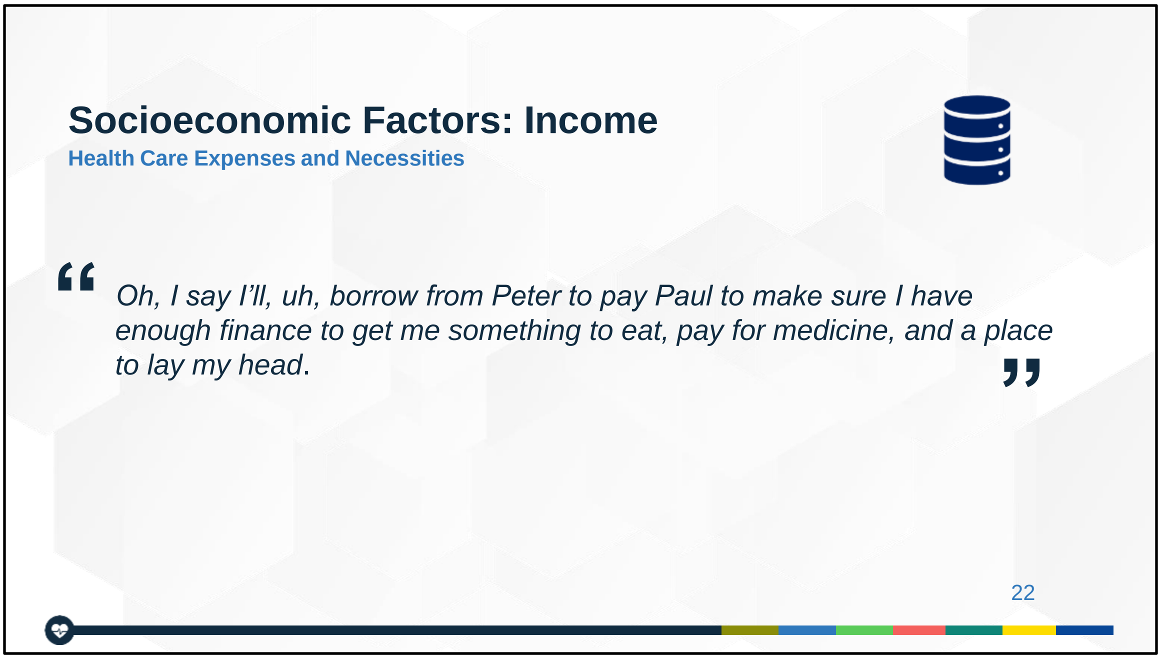
> “*I've learned to not let things take my joy…I'm happy with myself. Because I feel I know how to cope with different things that come at me. You have faith, and just try to have peace in your heart, it's your weapon. That's the only thing that can keep me going forward, is by not letting, not holding I don't, I don't hold anything back*.”

Continuing with the psychosocial pathways focus area, the second patient excerpt I would like to share is about social support and resiliency.

Patients' resiliency was reflected on the various ranges of social support provided through family, friends, faith and spiritual groups.

This experience shared from a patient reads:

“I've learned to not let things take my joy… I'm happy with myself. Because I feel I know how to cope with different things that come at me. You have faith, and just try to have peace in your heart, it's your weapon. That's, the only thing that can keep me going forward, is by not letting, not holding, I don't hold anything back.”



Socioeconomic Factors: Income

Health Care Expenses and Necessities

> *Oh, I say I'll, uh, borrow from Peter to pay Paul to make sure I have enough finance to get me something to eat, pay for medicine, and a place to lay my head.*

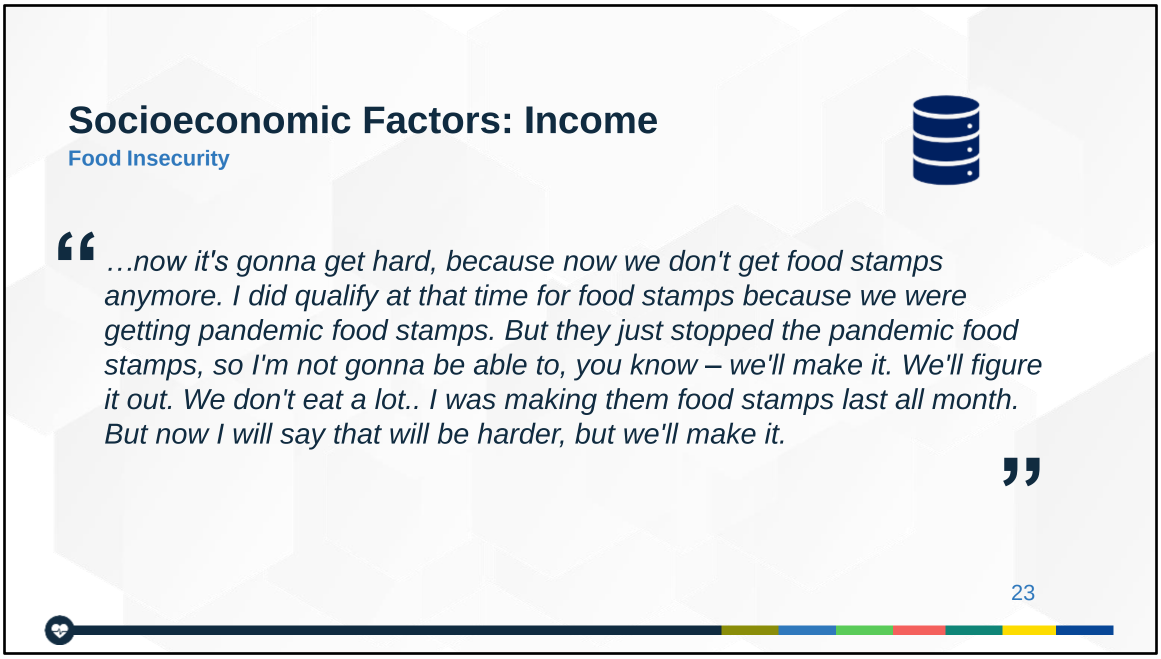
The last focus area I will discuss today is socioeconomic factors.

Patients shared how socioeconomic factors such as financial strain & income affected their ability to afford health care expenses and necessities.

During a patient interview, this patient shared the following:

"Oh, I say I'll, uh, borrow from Peter to pay Paul to make sure I have enough finance to get me something to eat, pay for medicine, and a place to lay my head."

Through the patient interviews the topic of financial strain was discussed on how it impacted ability to afford co-pays for medical appointments and prescriptions. Patients indicated that it can be stressful finding ways to afford these expenses. However, patients are aware of options to cover out-of-pocket health-related costs. Patients have options such as payment plans and the Grady card to cover health care expenses.



Socioeconomic Factors: Income

Food Insecurity

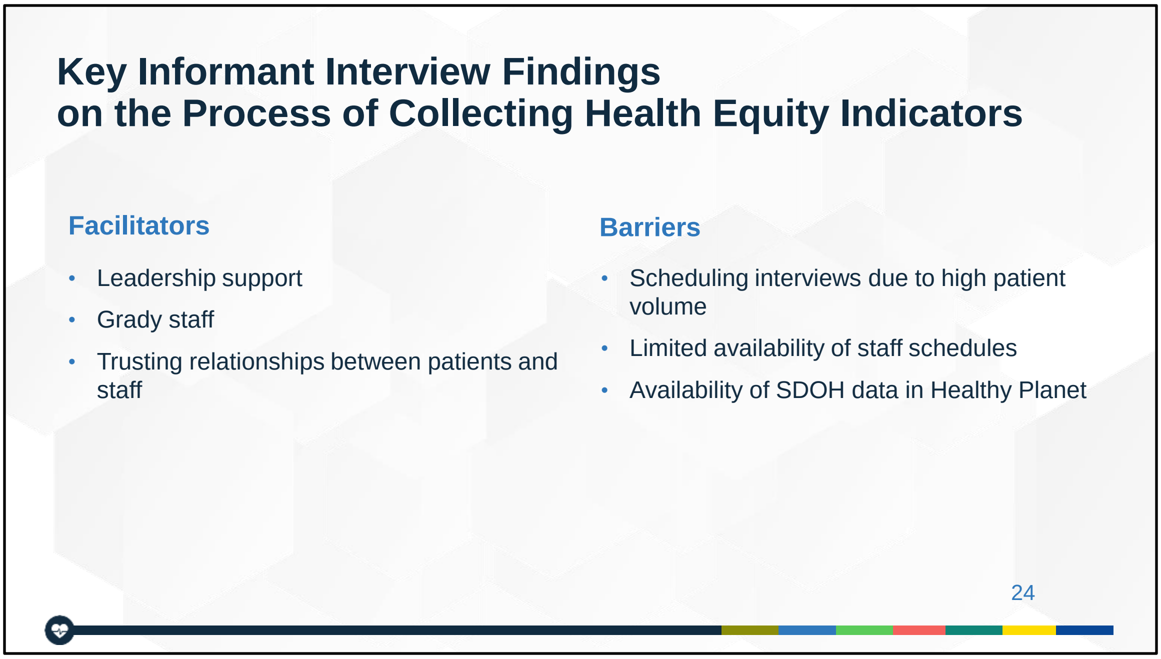
> “…now it's gonna get hard, because now we don't get food stamps anymore. I did qualify at that time for food stamps because we were getting pandemic food stamps. But they just stopped the pandemic food stamps, so I'm not gonna be able to, you know – we'll make it. We'll figure it out. We don't eat a lot.. I was making them food stamps last all month. But now I will say that will be harder, but we'll make it.”

23

Patients expressed their inability to afford necessities such as food.

The hardships they experienced because of simultaneously contending with the end of the COVID-19 pandemic assistance and increases in prices for necessities is highlighted in this quote.

“now it's gonna get hard, because now we don't get food stamps anymore. I did qualify at that time for food stamps because we were getting pandemic food stamps. But they just stopped the pandemic food stamps, so I'm not gonna be able to, you know – we'll make it. We'll figure it out. We don't eat a lot.. I was making them food stamps last all month. But now I will say that will be harder, but we'll make it.”



Key Informant Interview Findings on the Process of Collecting Health Equity Indicators

Facilitators

- Leadership support
- Grady staff
- Trusting relationships between patients and staff

Barriers

- Scheduling interviews due to high patient volume
- Limited availability of staff schedules
- Availability of SDOH data in Healthy Planet

The findings from the key informant interviews provided insight on the process of collecting data on the selected indicators, including the barriers and facilitators to inform their use.

The following are facilitators that helped this pilot be successful:

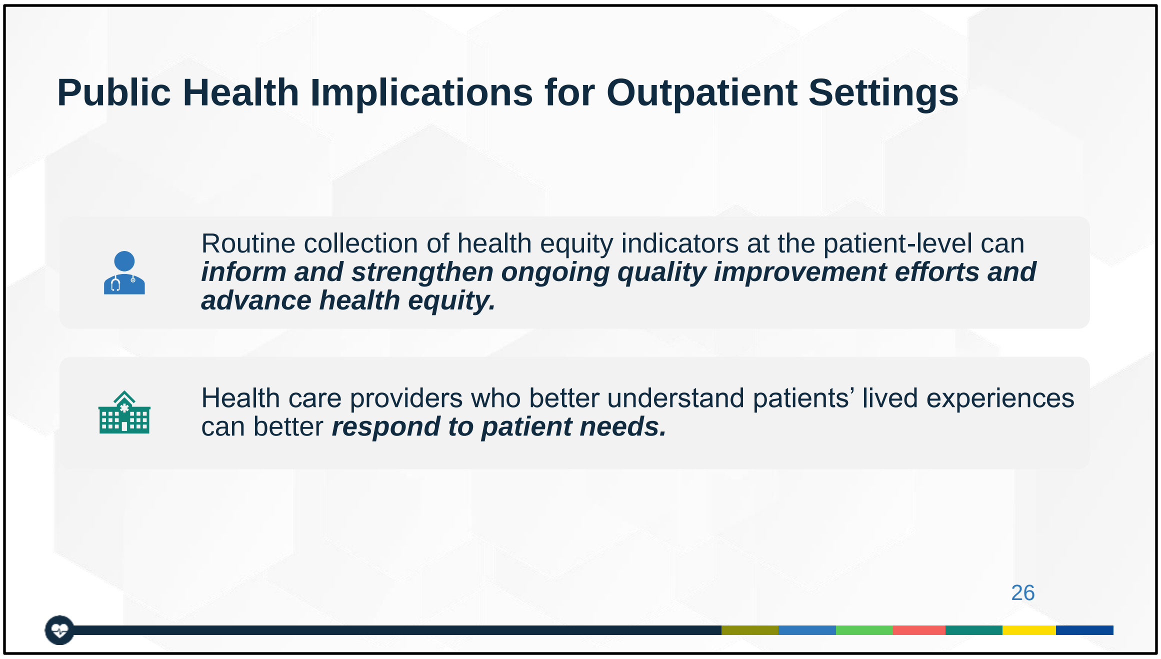
Leadership support from Grady’s team championed this pilot.
Grady team fully supported the collection of health equity indicators to strengthen their ongoing quality improvement initiatives.
Furthermore, Grady staff had deep knowledge about and trusting relationships with patients which fostered an open dialogue for data collection.

A few barriers included the following:

Scheduling interviews proved challenging because of high patient volume.
There was also limited availability of staff schedules.
Lastly, the availability of the SDOH data in Healthy Planet varied among patients with some data elements being incomplete such as employment status, educational attainment, and income.

PUBLIC HEALTH IMPLICATIONS

And now to public health implications.

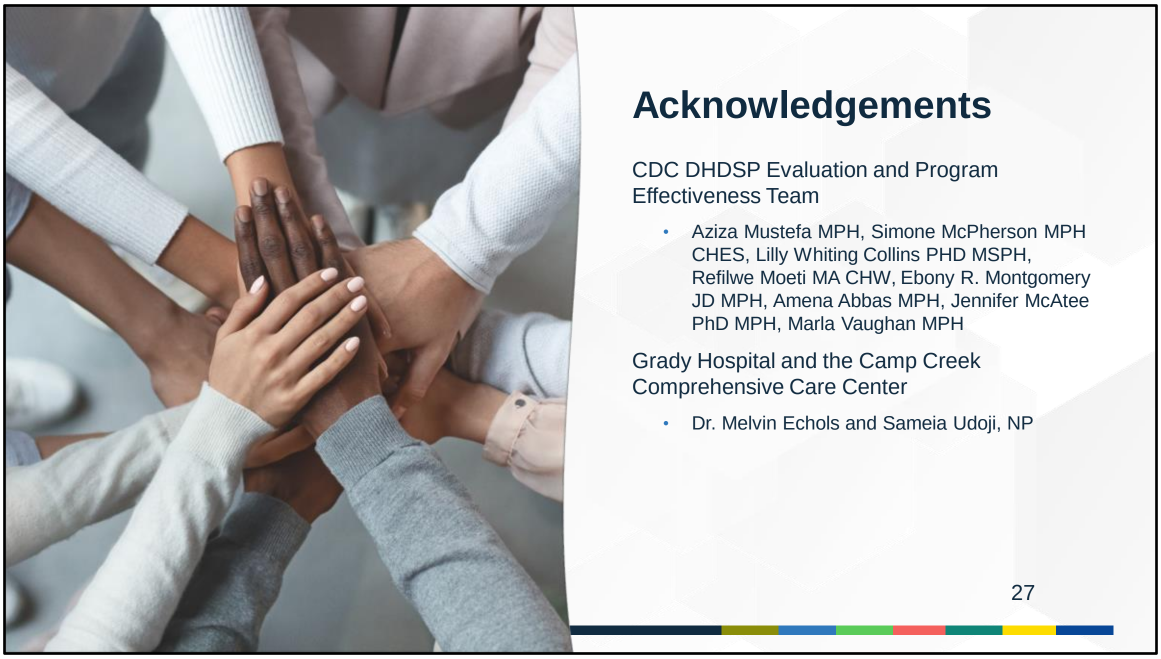


Public Health Implications for Outpatient Settings

- Routine collection of health equity indicators at the patient-level can ***inform and strengthen ongoing quality improvement efforts and advance health equity.***
- Health care providers who better understand patients' lived experiences can better ***respond to patient needs.***

Findings from this pilot study were used to inform and strengthen ongoing quality improvement to advance health equity. Grady plans to continue utilizing SDOH information through Healthy Planet and findings from this pilot to refer patients to necessary programs and resources.

The findings from this pilot study highlight the importance of collecting patient experiences and further studies on how SDOH influence CVD should continue. Collecting patient experiences can provide valuable insight on their unmet needs and barriers to care, ultimately leading to more patient centered care and improved health outcomes.



Acknowledgements

CDC DHDSP Evaluation and Program Effectiveness Team

- Aziza Mustefa MPH, Simone McPherson MPH CHES, Lilly Whiting Collins PHD MSPH, Refilwe Moeti MA CHW, Ebony R. Montgomery JD MPH, Amena Abbas MPH, Jennifer McAtee PhD MPH, Marla Vaughan MPH

Grady Hospital and the Camp Creek Comprehensive Care Center

- Dr. Melvin Echols and Sameia Udoji, NP

Finally, we want to highlight again that the patient informed project was a collaborative effort among CDC DHDSP Evaluation and Program Effectiveness Team, Dr. Melvin Echols, Sameia Udoji, Grady Hospital, and the Grady Camp Creek Comprehensive Care Center for their contributions. I also want to thank all the authors for this presentation.

Thank you!

We will now start the Q&A session.

Thank you, Simone and Aziza for the great presentation. At this time, we’ll take questions. First, we’ll check to see if any questions have come in through the Q&A box.