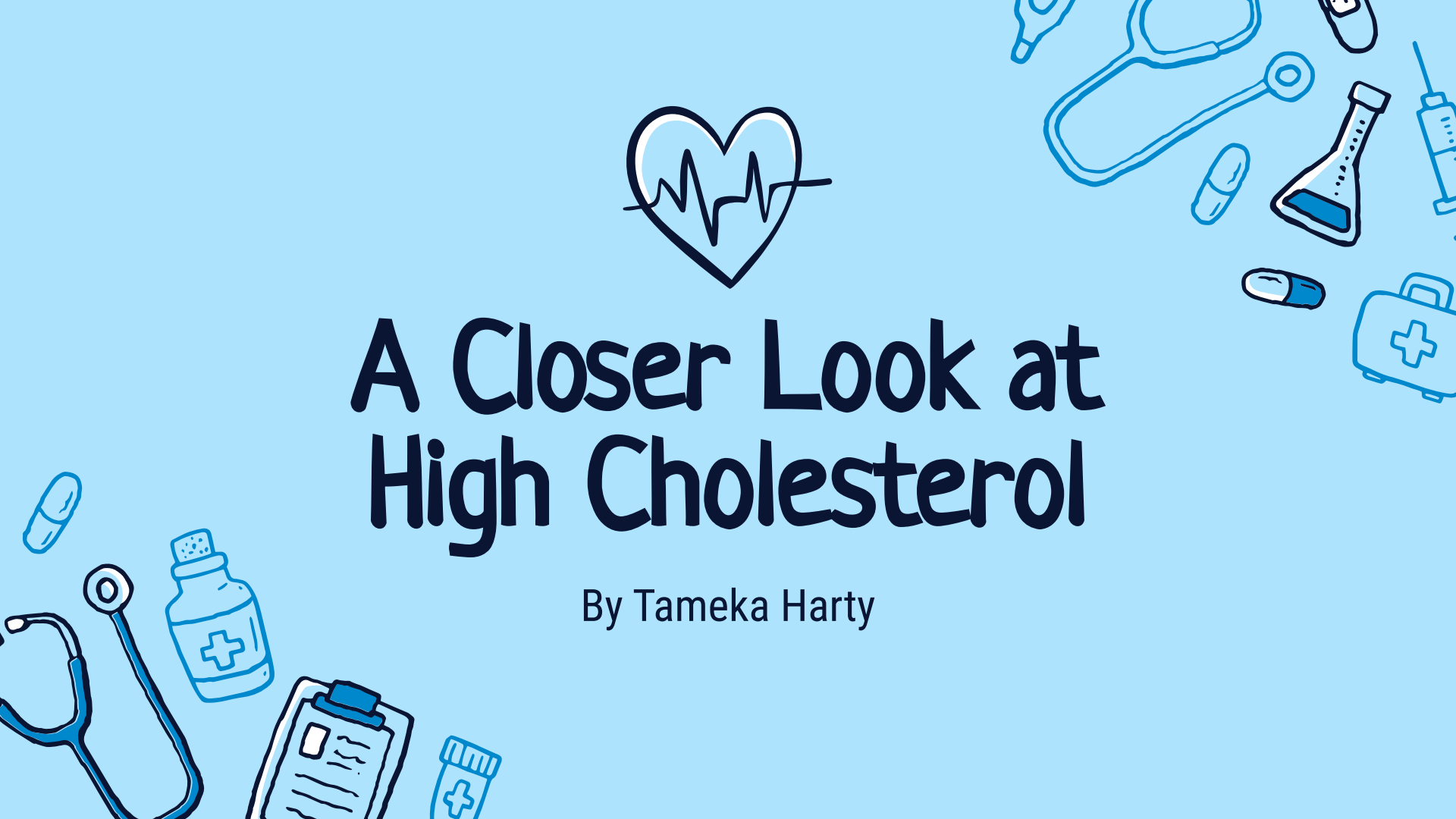




# A Closer Look at High Cholesterol

By Tameka Harty





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# Research Objectives



- Understand how cholesterol affects our bodies
- Learn which demographics of people high cholesterol affects
- Learn the causes/symptoms
- Learn how to lower and maintain healthy cholesterol levels
- Understand participants pain points, goals/motivations and behaviors while dealing with high cholesterol

# Hypothesis Statement



I believe if I were able to provide family health history to people 45 and older, they would be more aware and knowledgeable about their health. They would be able to test for and prevent or eradicate illnesses before they progress. I will know this is true when the number of high cholesterol cases decreases by 30% in the next year.

## Methodology

My research methods include secondary research to better understand the problem space and primary research by means of interviews, to understand the participants' pain points, goals and motivations as well as current behaviors.

# Problem Space

**About 38% of American adults** have high cholesterol (total blood cholesterol  $\geq 200$  mg/dL). If left unchecked or unmanaged, high cholesterol can lead to heart disease, which is the **highest cause of death** for both men and women and people of most racial and ethnic groups in the United States.

Source 1

Source 2



A collection of blue line-art medical icons in the top-left corner, including a syringe, a beaker with blue liquid, a stethoscope, a pill, and a first aid kit with a cross.

# 659,000

People (estimated) die every year in  
the United States due to heart disease.

Source



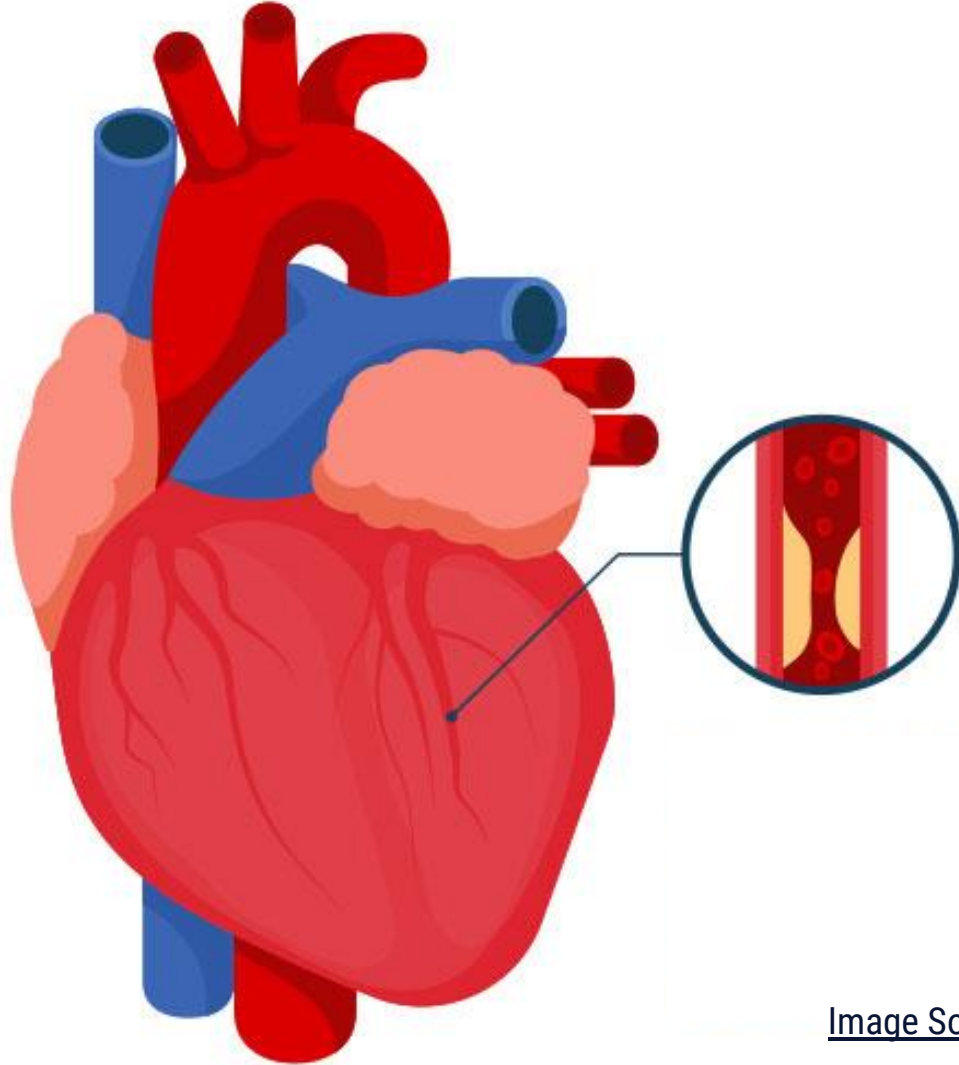


Image Source



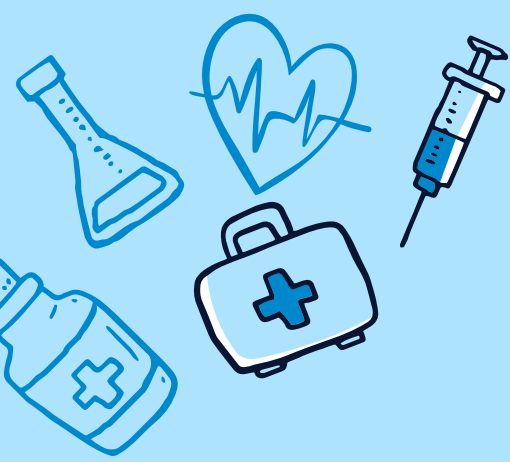
Too much cholesterol in the blood can create blockages leading to heart and circulatory diseases.

# Assumptions



- High cholesterol only affects people with poor diets that don't exercise
- Unaware that high cholesterol could pose an issue, due to family history, even if individual leads a healthy lifestyle
- Unaware of “good” cholesterol





# Secondary Research



# The Facts



- Hyperlipidemia, more commonly known as high cholesterol, is a condition in which there are high levels of fat particles (lipids) in the blood.
- There are several types of lipids:
  - Triglycerides are a cholesterol that gets stored as fat in the body.
  - LDL or low-density lipoproteins are known as “bad cholesterol” and can build up along blood vessel walls.
  - HDL or high-density lipoproteins are known as “good cholesterol” because they carry bad cholesterol to the liver where it can be broken down.

# The Facts (continued)



- With high cholesterol, you can develop fatty deposits in your blood vessels. Eventually, these deposits grow, making it difficult for enough blood to flow through your arteries. Sometimes, those deposits can break suddenly and form a clot that causes a heart attack or stroke.
- High cholesterol can be inherited, but it's often the result of unhealthy lifestyle choices, which make it preventable and treatable. A healthy diet, regular exercise and sometimes medication can help reduce high cholesterol.

# A Closer Look

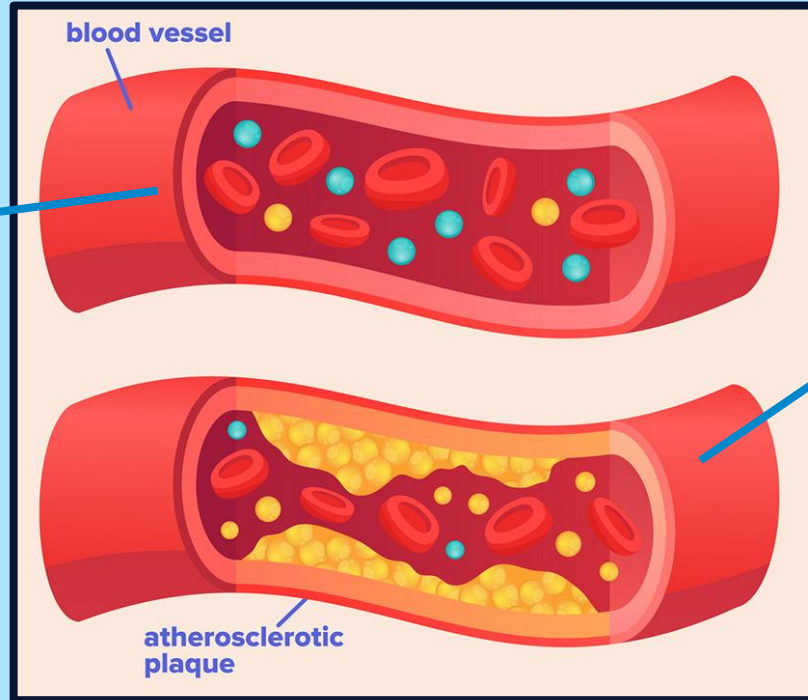
There are two types of cholesterol



1

**HDL (High-density lipoprotein)**

This shows the good cholesterol (in blue)



2

**LDL (Low-density lipoprotein)**

This shows the bad cholesterol (in yellow)



# Symptoms

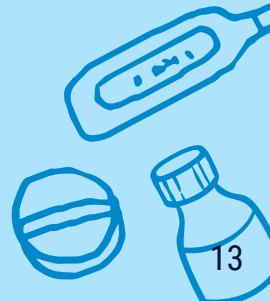
Hyperlipidemia (AKA high cholesterol) doesn't cause any symptoms. The condition is diagnosed by routine blood tests, recommended every five years for adults.

However, these factors and conditions can cause unhealthy cholesterol levels:

- Poor diet/alcohol
- Obesity
- Lack of exercise
- Smoking
- Age
- Chronic kidney disease
- Diabetes
- HIV/AIDS
- Hypothyroidism
- Lupus

Source 1

Source 2



# Demographic Data

High Cholesterol - American Indian/Alaska Native



High Cholesterol - Asian



High Cholesterol - Black



High Cholesterol - Hawaiian/Pacific Islander



High Cholesterol - Hispanic



High Cholesterol - Multiracial



High Cholesterol - Other Race



High Cholesterol - White



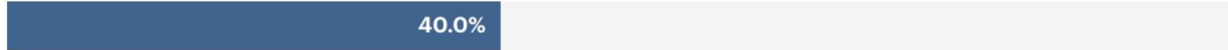
- White and American Indian/Alaskan Natives have the highest amount of people with high cholesterol
- Hawaiian and Pacific Islanders have the lowest amount

# Demographic Data (continued)

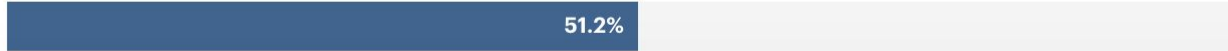
High Cholesterol - Ages 18-44



High Cholesterol - Ages 45-64

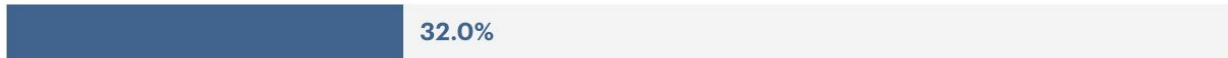


High Cholesterol - Ages 65+

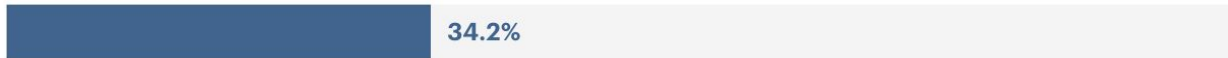


- High cholesterol tends to affect people 45 and older much more than other age groups

High Cholesterol - Female

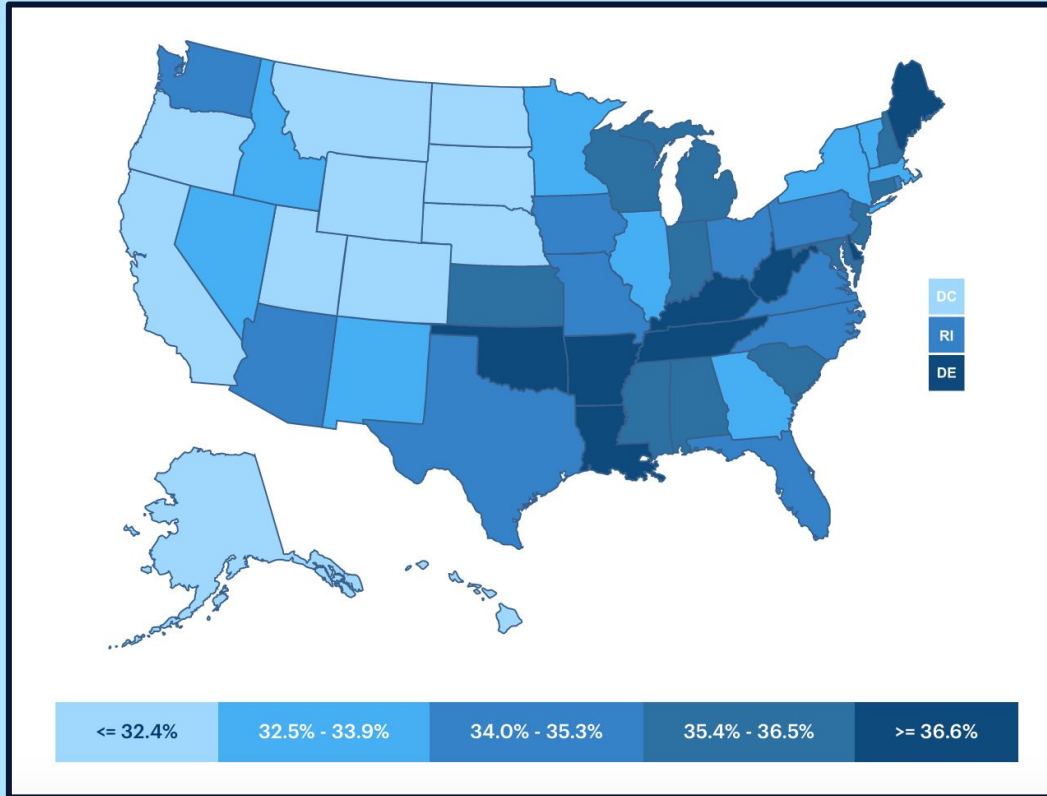


High Cholesterol - Male



- Men have slightly more cases of high cholesterol than women

# Prevalence in the U.S.



- Cholesterol rates show to be the highest in the south eastern portion of the country
- South Dakota and Wyoming have the lowest rate of high cholesterol





# Ways to Lower Cholesterol

**01**

**Quit smoking and  
reduce alcohol intake**

**02**

**Reach and maintain a  
healthy weight**

**03**

**Start making 30 minutes  
of exercise a daily routine**

**04**

**Choose poultry, fish, and  
plant-based foods instead  
of red meats**

**05**

**Focus on eating at least five  
servings of fruits and  
vegetables daily**



# Diet Do's and Don'ts



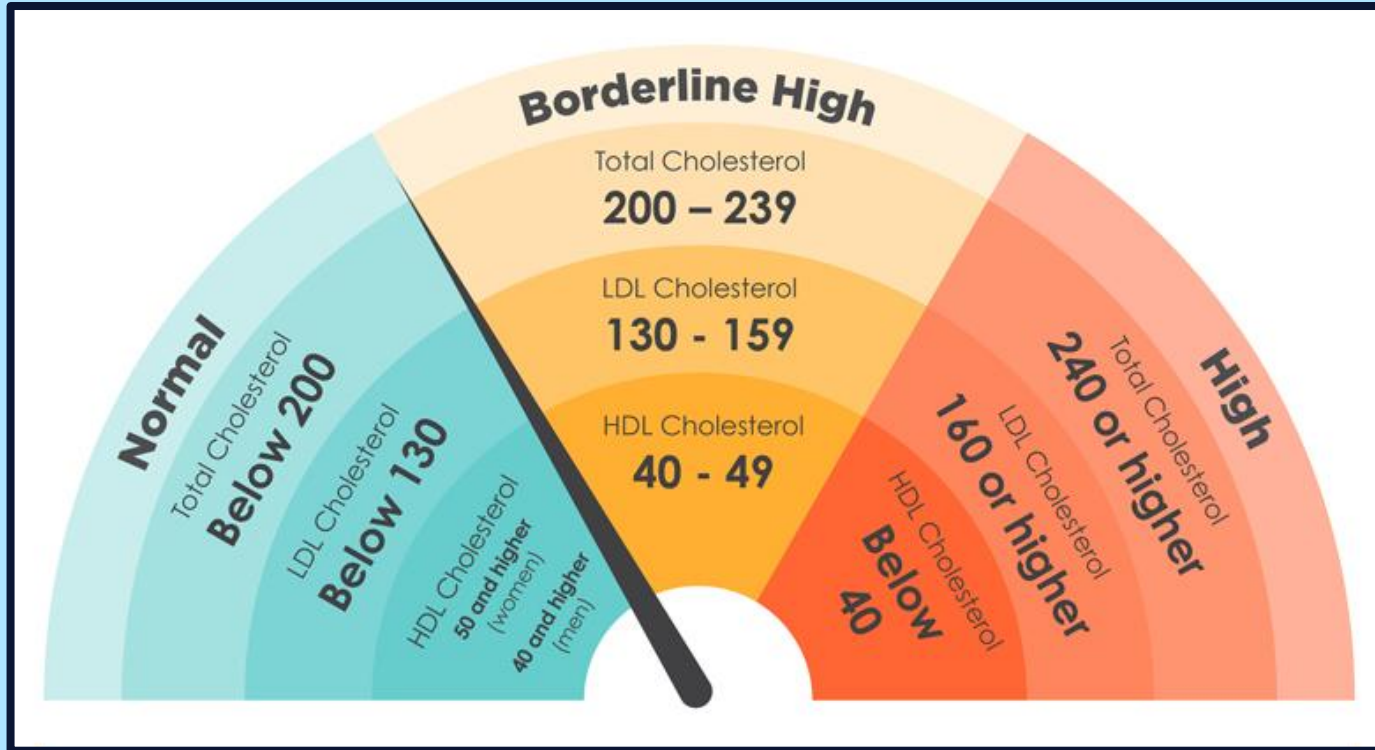
## Recommended:

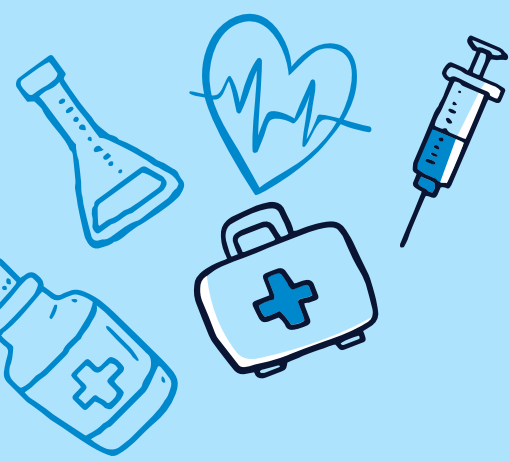
- Omega-3 fats in fish like salmon, tuna, and sardines
- Foods high in soluble fiber like fruits, vegetables, sprouted nuts, and seeds
- Cooking with olive oil, garlic, or onions
- Supplements like apple cider vinegar, basil, rosemary, and turmeric, fish oil

## Limit/Avoid:

- Sugar and refined grain products like white bread, pasta and baked goods
- Packaged/processed foods
- Hydrogenated and trans fats like vegetable oils
- Factory-farmed animal products like processed meat like hotdogs, sausage and bacon
- Excess caffeine and alcohol

# Know your number!





# Interviews

## (Primary Research)



# Interview Guide



**(Participant Criteria- 55 and older, male or female with high cholesterol)**

Hello (participant's name), thank you for joining me for this interview. My name is Tameka and I will be conducting this interview today. Before we begin, I just want to confirm this interview will take about 15-20 minutes. Does that work for you?

Also, I will be recording this interview for educational and note taking purposes. This recording will not be shared with anyone and your identity and relation to me will be anonymous. Is that okay?

## **Warm Up:**

To start, it would be nice if you could briefly tell us about yourself.

1. Can you provide your age?
2. What do you do for a living?
3. What does a typical day look like for you?

# Interview Guide (continued)



## Questions:

1. What does a typical breakfast, lunch, dinner look like for you?
2. Are you currently on any medication?
3. How many years in a row has your doctor said that you have high cholesterol?
4. How did you feel when you found out you had high cholesterol?
5. Do you know what factors contribute to your cholesterol level? If so, please explain.
6. Any current stressors that may contribute?
7. If you could change anything about your eating habits or lifestyle what would it be?
8. How often do you currently exercise or do physical activity? What kind of activity?
9. Do you have a family history of high cholesterol? Or any other illnesses?
10. Are there any apps or systems that you use to monitor your health levels?
11. Do you keep track of your levels each year you go to the doctor?
12. What is your plan to reduce your cholesterol?
13. What do you do to have fun or relax?

## Wrap Up:

Is there anything you would like to add that I missed? If not, thank you so much for your time. I really appreciate you sharing this information with me.

# Interview Insights



- Most participants were surprised to learn they had high cholesterol
- All lead fairly active lifestyles and are aware of the importance of staying active and eating healthy
- All have fairly healthy diets
- Most participants are not taking any medication
- Family history seems to play a big role in their diagnosis of high cholesterol

# Persona



"I lead a pretty healthy lifestyle, so I was shocked and disappointed to find that I had high cholesterol, but then again, there is a history of it on my mom's side of the family."

**Name:** Patricia

**Age:** 71

**Ethnicity:** African American

**Occupation:** High School  
Guidance Counselor

[Affinity Map Here](#)

[Full Persona Here](#)



# How Might We...



Find a way to provide family health history to users, so they are more aware and knowledgeable about their health and become proactive in their health journey.



# Key Learnings

**Men**

Tend to have higher cholesterol than women

**Highest**

Rate of high cholesterol would be White and American Indian/Alaskan Natives

**Two**

Main types of cholesterol.  
There is such thing as “good” cholesterol

**Testing**

The main way to check for high cholesterol, suggested every 5 years



# Appendix



- Image Source 1
- Image Source 2
- Image Source 3
- Interview Link
- Affinity Map Link
- Persona Link
- Research- Source 1
- Research- Source 2
- Research- Source 3
- Research- Source 4
- Research- Source 5
- Research- Source 6

A collection of hand-drawn medical icons in the top-left corner, including a syringe, a flask with blue liquid, a stethoscope, a pill, and a first aid kit with a cross.

**Thank you!**

A collection of hand-drawn medical icons in the bottom-right corner, including a pill bottle with a cross, a stethoscope, a clipboard, a pill, and a small container with a cross.