



# Cardiovascular Disease on the North Shore of Staten Island in Low Income Families:



## Solving the Problem Starts With “A Heart Healthy You”

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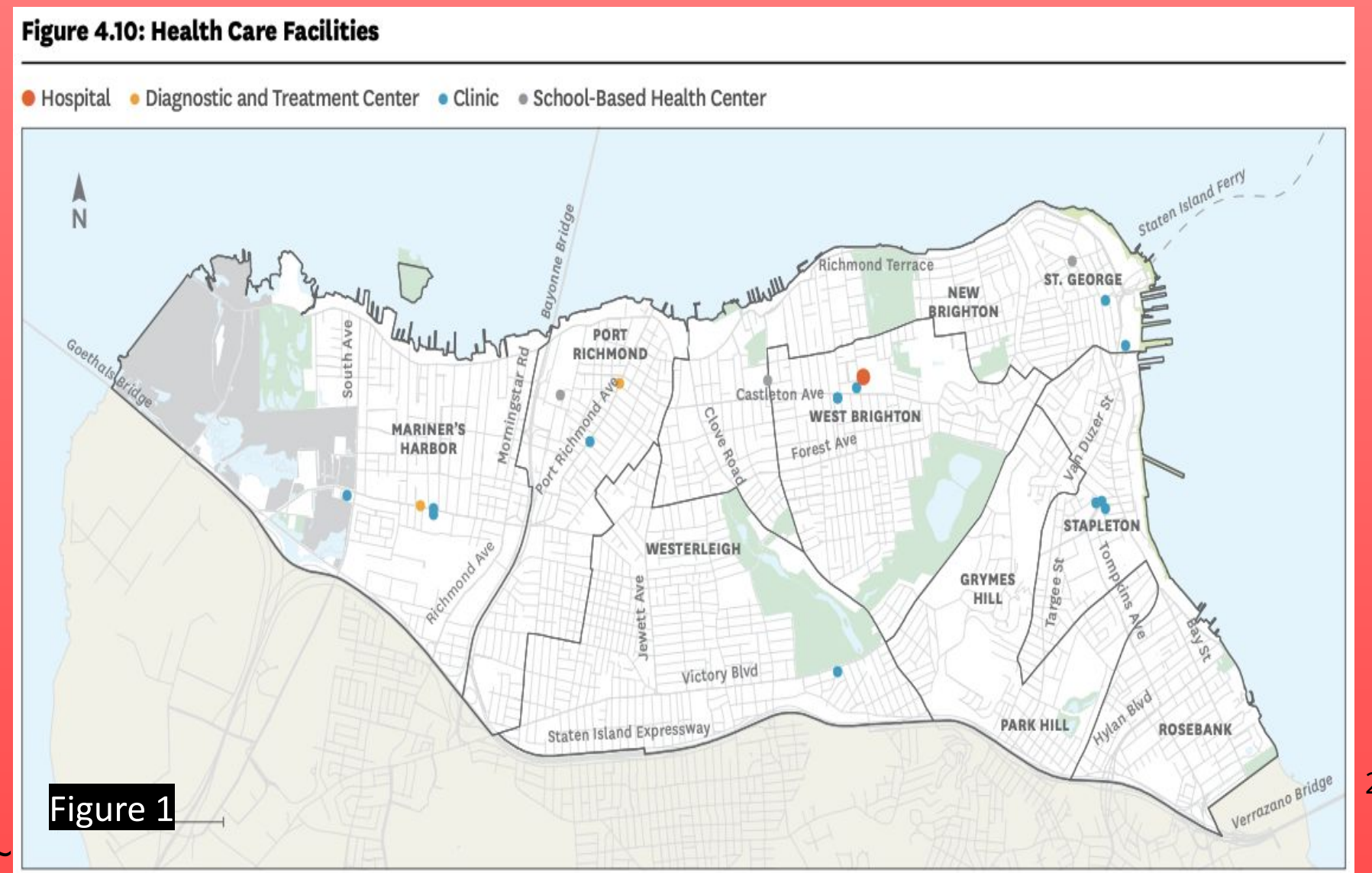


### Introduction

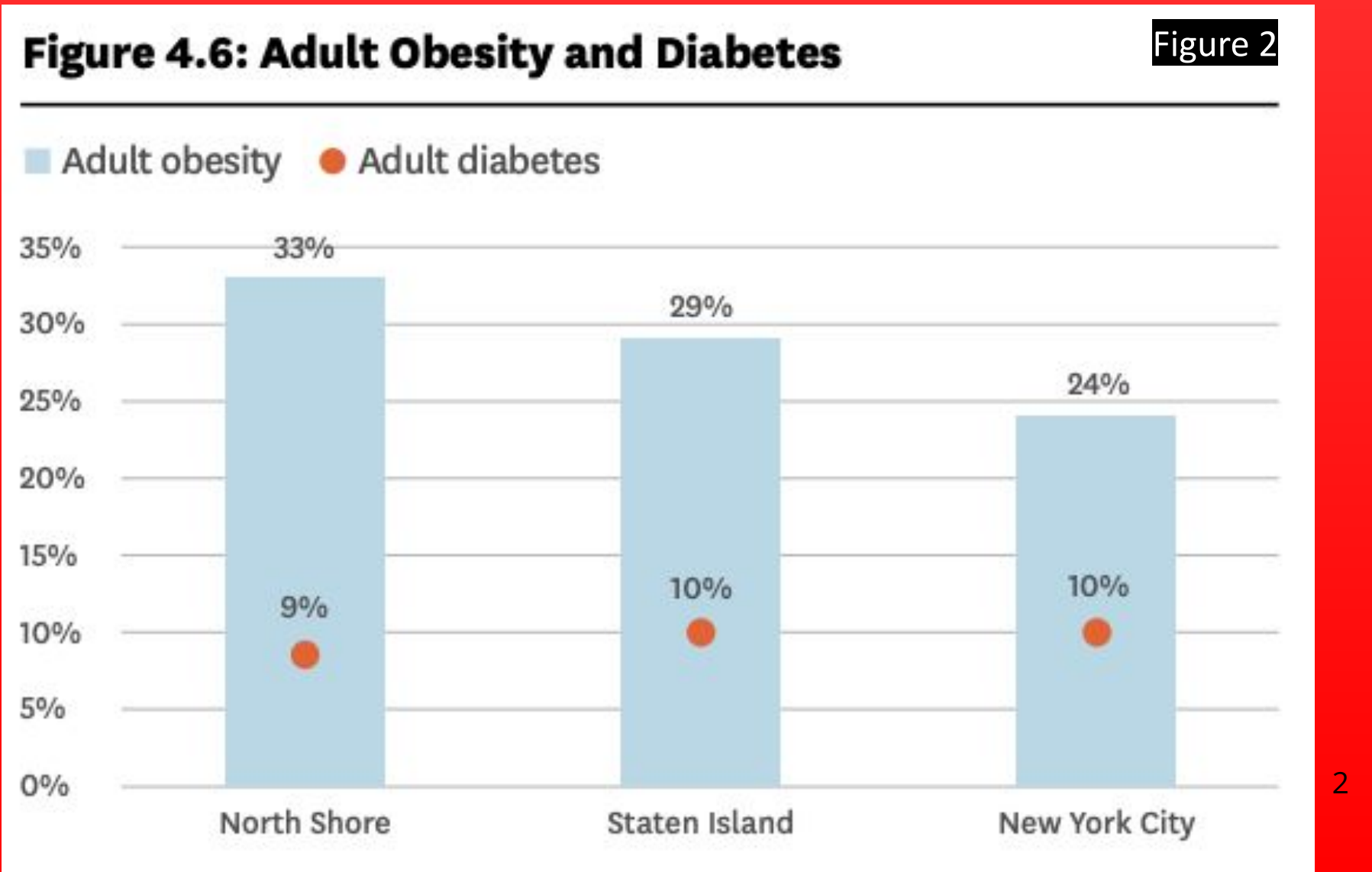
Cardiovascular disease is a problem faced worldwide among various groups. The prevalence of cardiovascular disease is particularly high in Staten Island Community District 1. The population being discussed is specifically low-income families that reside in this chosen community. How does education and health promotion improve cardiovascular health in lower income populations? The lack of resources for proper nutrition, exercise and healthcare are increasing the mortality rate in this community. The purpose of this study was to find out the direct, or indirect, correlations of a low income to cardiovascular disease. Wagner College is included in this community—what better way to make a difference than to start close to home? The proposed solution is teaching the community the importance of a proper heart healthy diet, proper heart healthy exercise programs and the importance

### Community Assessment and Analysis

- Mariner’s Harbor; Port Richmond; Westerleigh; West Brighton; New Brighton; Saint George; Stapleton; Grymes Hill; Park Hill; and Rosebank.<sup>1</sup>
- Current population: 181,484.



- Claves Lark Park in Westerleigh and Silver Lake Park in West Brighton being the largest of these community assets.<sup>2</sup>
- A large area covering southern parts of Mariner’s Harbor, Port Richmond, and Westerleigh— do not have a park within walking distance.<sup>2</sup>
- Richmond University Medical Center, located in West Brighton.<sup>2</sup>
- There are 13 clinics, 2 diagnostic and treatment centers, and 3 school-based health centers on the North Shore.<sup>2</sup>
- 10 large grocery (1 store for every 17,400 residents.)<sup>2</sup>
- 1:5 residents on the North Shore (21%) live in poverty.<sup>2</sup>
- 33% of adults in Staten Island Community District 1 are obese.<sup>2</sup>



### Problem in the Community

- Cardiovascular disease can be attributed to a multitude of factors including, but not limited to; a congenital defect, obesity, smoking, poor diet, insufficient exercise, hypercholesterolemia, hypertension, diabetes, etc.<sup>3</sup>
- Cardiovascular disease occurs when plaque builds in the arteries. Over time the arteries will narrow and reduce blood flow to the heart, potentially leading to myocardial infarctions.
- CVD is the leading cause of admissions or discharges from acute hospital visits and nursing homes.<sup>4</sup>
- Citywide rate - one out of five children in grades K through 8 in this community are obese.<sup>1</sup>
- 16% of the population are smokers and 27% of the population report having one or more 12-ounce sugary drinks per day. Consumption of these drinks can increase the risk of type 2 diabetes, cardiovascular disease, cavities, weight gain, and obesity.<sup>1</sup>

**OBESITY, DIABETES AND HYPERTENSION (percent of adults)**

	St. George and Stapleton	Staten Island	NYC	Lowest %
<b>Obesity</b>	24%	25%	24%	4% Financial District, Greenwich Village-Soho
<b>Diabetes</b>	9%	8%	11%	3% Financial District, Greenwich Village-Soho
<b>Hypertension</b>	26%	25%	28%	15% Financial District, Greenwich Village-Soho

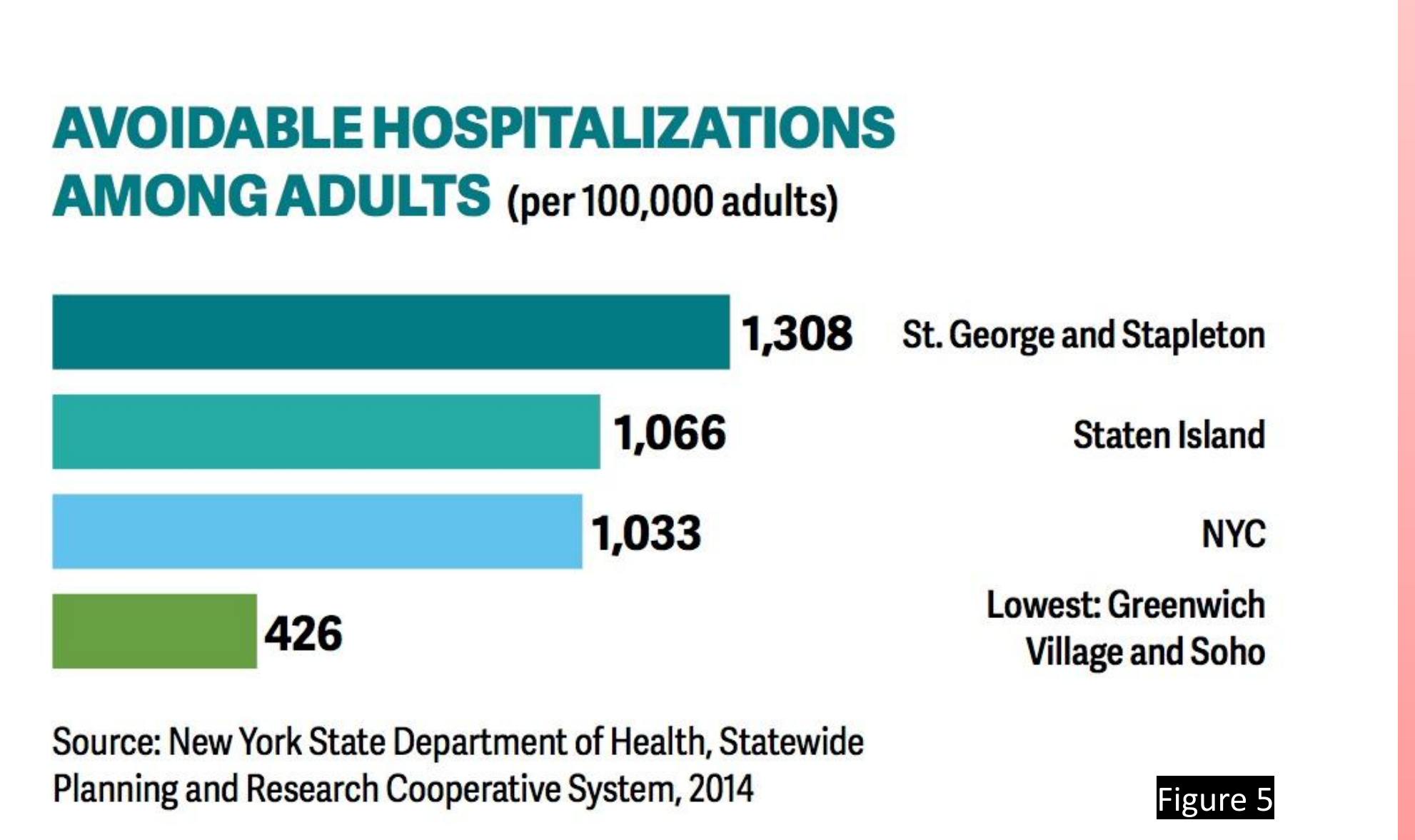
Source: NYC DOHMH, Community Health Survey, 2015-2016

- People living in low-income urban areas or living in poverty have a higher likelihood of suffering from a CVD with a poor outcome due to

**ECONOMIC STRESS**

	St. George and Stapleton	Staten Island	NYC	Lowest %
<b>Poverty (percent of residents)</b>	21%	17%	20%	7% Upper East Side
<b>Unemployment (percent of people ages 16 and older)</b>	7%	6%	9%	4% Upper East Side
<b>Rent Burden (percent of renter-occupied homes)</b>	51%	49%	51%	37% Park Slope and Carroll Gardens

- “... health outcomes are affected by postal codes.”<sup>5</sup>
- Cardiovascular disease is the number one cause of mortality globally accounting for 31% of deaths worldwide.<sup>6</sup>
- Over 4/5 of premature deaths before age 70 from noncommunicable disease occurs in low-income and middle-income countries.<sup>6</sup>
- The life expectancy in this community is 2.2 years shorter than New York City overall.<sup>1</sup>
- Coronary heart disease hospitalization rates in Staten Island were above both the NYS average and the NYSPA0, but congestive heart failure hospitalization rates were below the NYS average and the NYSPA0.<sup>7</sup>
- Cardiovascular disease is the most common comorbidity in patients with Covid-19 and they are at a higher risk of becoming critically ill and/or possibly death.<sup>8</sup>

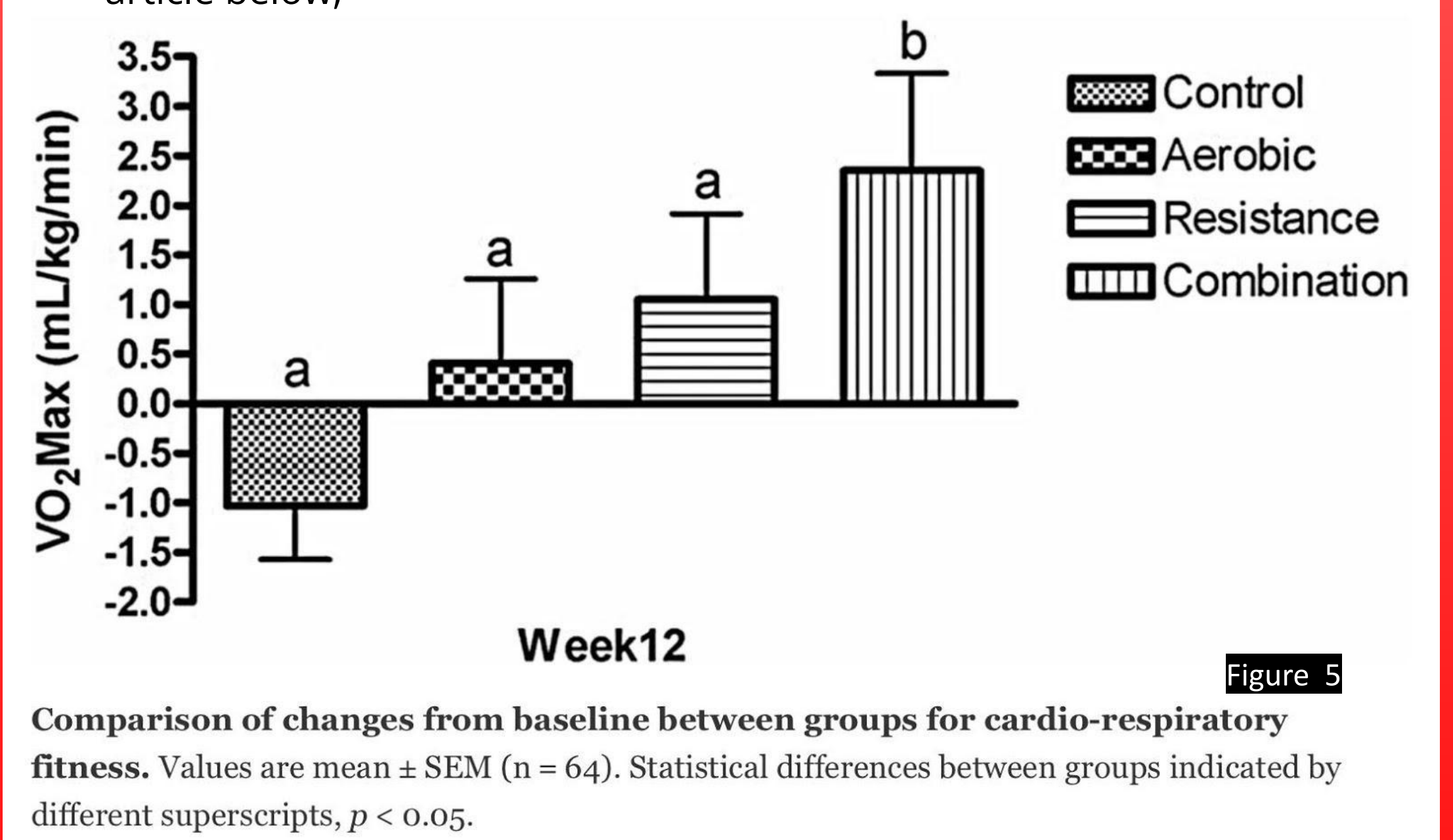


### Proposed Solution

According to the American Heart Association, the article states to “Eat a variety of fresh, frozen and canned vegetables and fruits without high-calorie sauces or added salt and sugars. Replace high-calorie foods with fruits and vegetables.”<sup>9</sup> Within the health promotion app that is being created through this solution process, there will be a tab where people can learn where they can go to purchase nutritional foods in their neighborhood, and even sync up with a friend if they are unable to get to the destination to pick up the food that they need or even have a home delivery plan in place.<sup>9</sup>

An example of this being put to the test is a trial named The effect of 12 weeks of aerobic, resistance or combination exercise training on cardiovascular risk factors in the overweight and obese in a randomized trial.<sup>10</sup>

- The trial chose twelve people at random who all house different medical ailments and tested different health parameters such as; a fasting measure of a lipid panel, blood glucose level, and even insulin changes in the body.<sup>10</sup>
- A fasting measure of a lipid panel, blood glucose level, and even insulin changes in the body. They also tested changes in body weight, fat mass, and dietary intake.<sup>10</sup> Each group was randomly assigned a group of either a control group, only aerobic exercise, only resistance training, or a combination of aerobic and resistance training. The results showed, as demonstrated by the graph from the article below;



- The innovative health program will consist of an app that will be created to promote heart healthy activities and exercises along with nutritious meals and recipes included. Within the app which will be titled A Heart Healthy You, there will also be tips and tricks included for smoking cessation and the importance of it for cardiovascular health. For those within the community who do not have access to a smart device for an app, a pamphlet will be available at the local community center listing a clear workout week plan, and including new heart healthy recipe items for the week. The app will be supported by a website as well for those who don't have access to a smart device or the community center for access to all the information needed. Within the app and inside the pamphlet there will be a reference page where people can go to check out a suggested weekly schedule. They will include suggestions of;
  - Meatless Monday (With emphasis on veggies replacing meat)
  - Turn up Tuesday (Aerobic day)
  - Wake Up Wednesday (Morning resistance workout)
  - Therapeutic Thursday (Nature walk/rest day)
  - Fit Friday (Weigh in/check in.)

### Conclusion

It is noticeable that there is an association among cardiovascular disease and the lack of adequate exercise, improper diet, and smoking. Studies have shown through supported evidence that there is a relationship between utilizing an adequate and effective exercise regimen, eating nutritious meals, and smoking cessation for preventing cardiovascular disease. Our goal is to help the community to focus on giving people the tools needed to understand prevention and health promotion.

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