

### Introduction

Diabetes Mellitus was the 7<sup>th</sup> leading cause of death in the U.S in 2019. it had been around for thousands of years now and almost everyone is aware about it. It is mostly a socially and environmentally determined condition and is preventable and this prevention will require interventions at multiple levels ranging from public policy to health sector and individual level counselling.

I want to focus mainly on primary prevention of diabetes and early intervention for prediabetes.

### Background

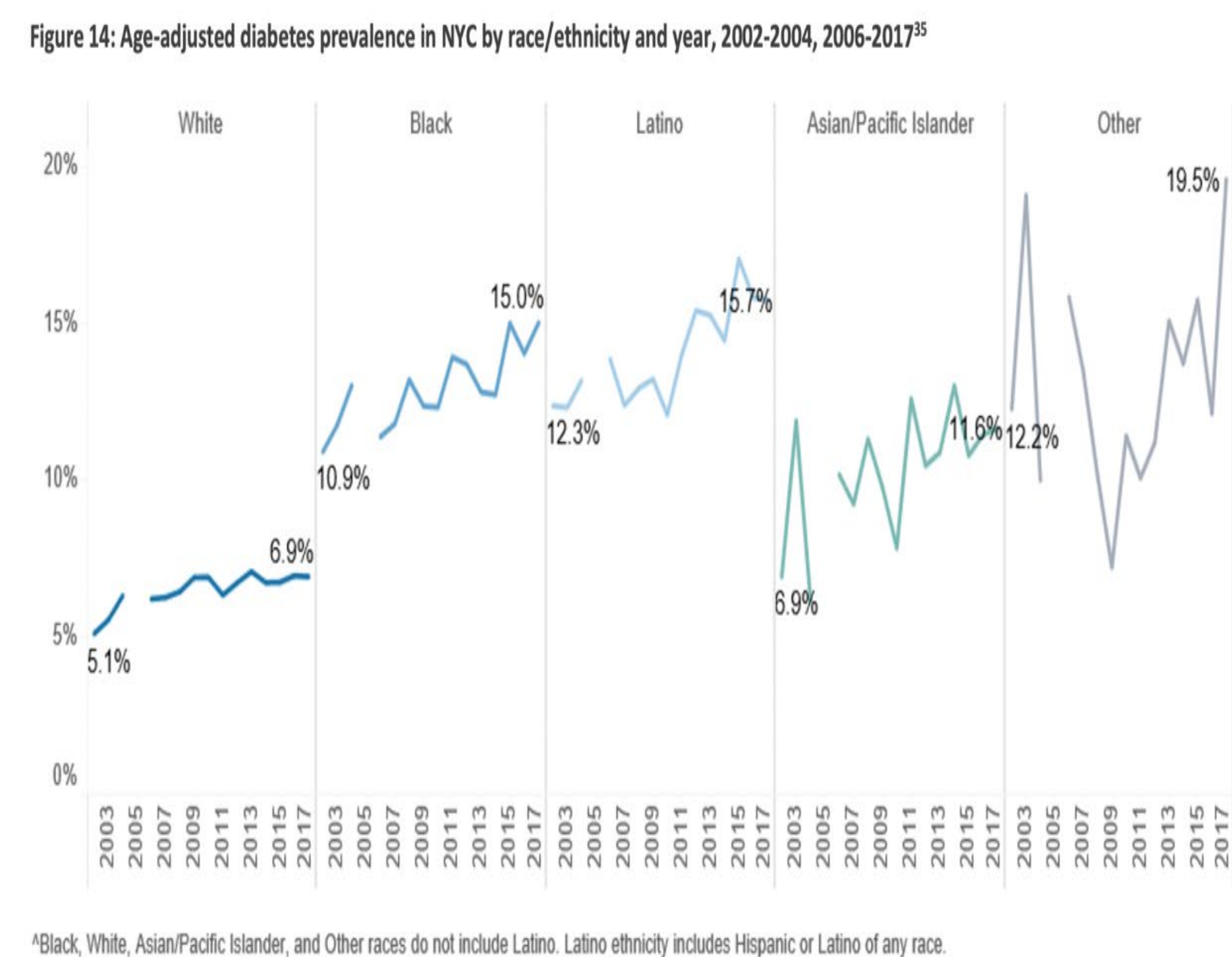
#### What is Diabetes?

It is a chronic disorder, a disease in which the body's ability to produce or respond to the hormone called insulin is impaired, resulting in abnormal metabolism of carbohydrates and elevated levels of glucose in the blood and urine. Type 2 diabetes is the most common one out of few different types and is preventable to much extent in many individuals.

#### Objective

It is the one of the oldest diseases known to humanity. The United States Diabetes Prevention Program (DPP) research study in 2002 demonstrated the clear benefit of lifestyle modification in reducing the incidence of diabetes in high-risk individuals. Currently 9 in 10 Americans with prediabetes are unaware of their high-risk status. There are around 88 million individuals in the U.S, who are considered high-risk because they fall in the category of prediabetes. Our goal is to take measures to prevent these high-risk individuals, to progress towards diabetes mellitus type 2. Diabetes is among the top ten chronic diseases in the U.S.

### Diabetes Prevalence by Race and Ethnicity



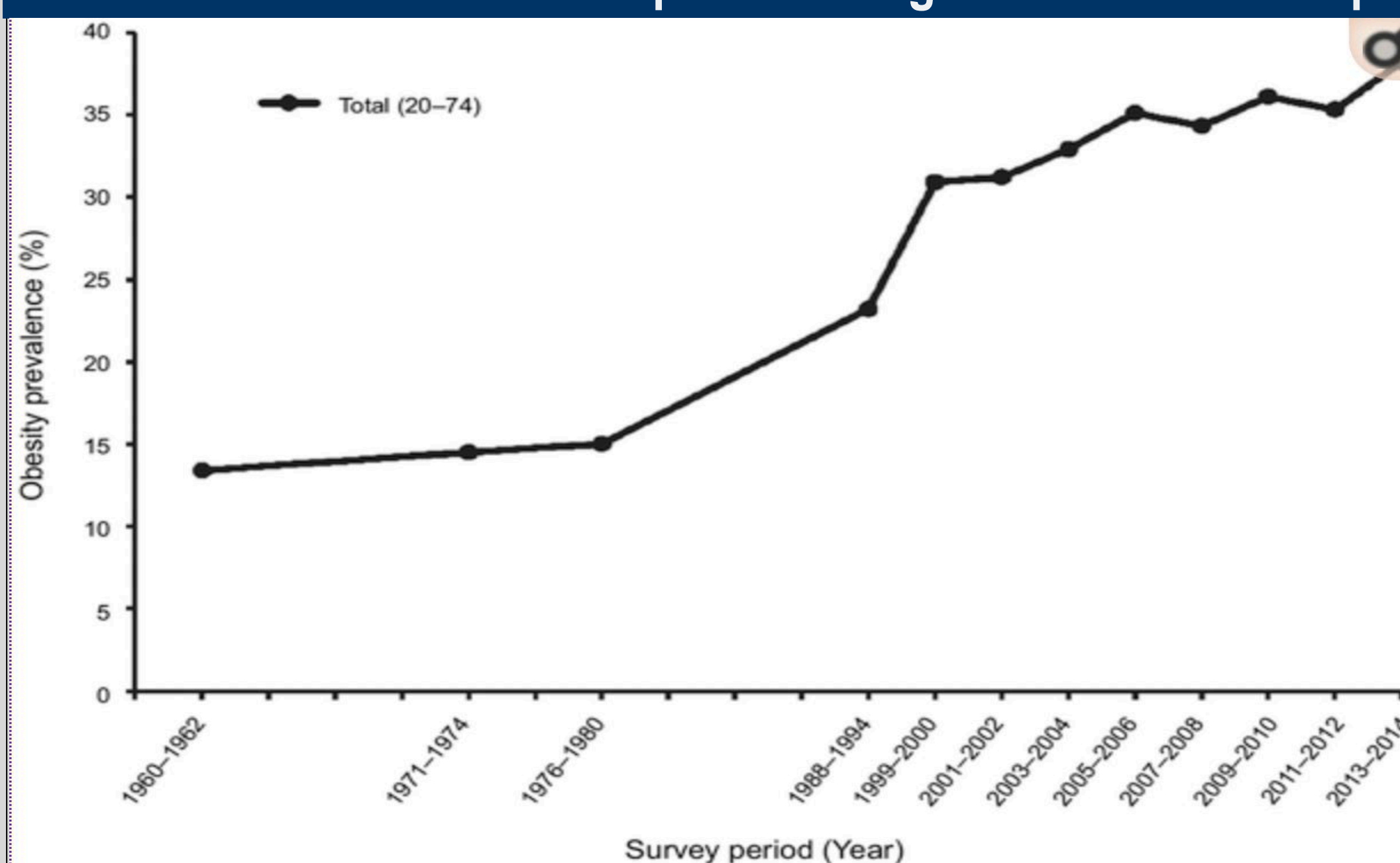
### Epidemiology of Diabetes and Prediabetes

1. A **total of 34.2 million** people has diabetes (10.5% of the US population) and 2 million in New York are diabetics (12.5%).
2. 88 million people aged 18 years or older have prediabetes (34.5% of the adult US population) and 5.4 million have prediabetes (36% of New York Population)

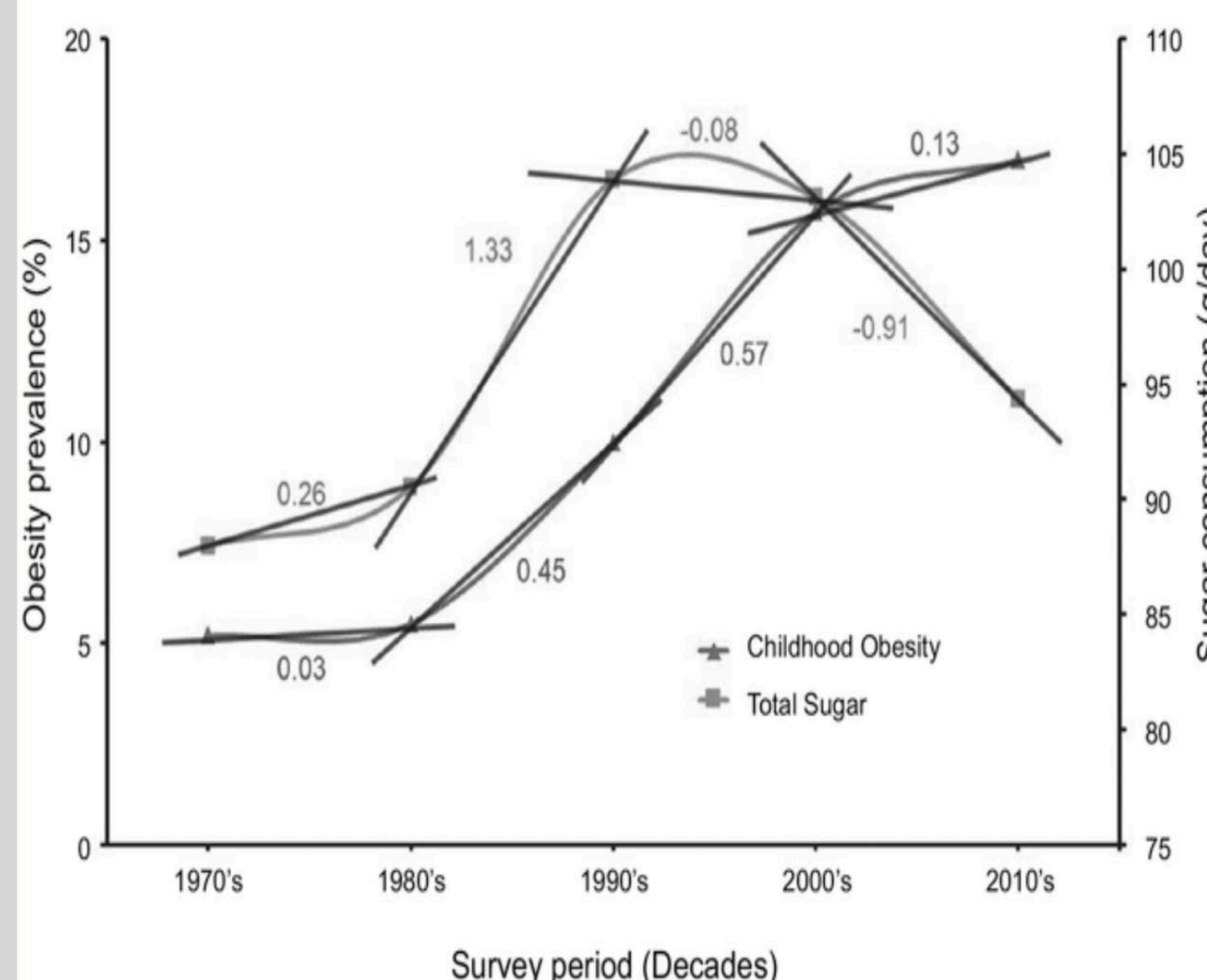
### Economic Burden of Diabetes

The total estimate cost of diagnosed diabetes in 2017 is 327 billion dollars. This includes \$237 billion in direct medical costs and \$90 billion in reduced productivity.

### Graphs showing Linear Relationship Between Obesity and Diabetes Prevalence



### Obesity Prevalence and Sugar Consumption.



### Discussion

By looking at the staggering numbers of prediabetics and increasing prevalence of diabetes we can very well interpret the it is high time to curb the silent epidemic. A great bulk of all this is preventable by lifestyle changes. Diet control an important factor of lifestyle change. but it will require interventions at multiple levels ranging from public policy to health sector and individual level counselling. Obesity is related to many medical, psychological and social conditions, the most devastating of which may be DMT2. As it is shown in the chart above, the increase in obesity paralleled with high sugar use over decades.

### Discussion

There is sufficient evidence to prove that sugar particularly High Fructose Corn Syrup, the most abundant one found in beverages and snacks, is one of the main contributors of obesity. According to American Heart Association, American adults consume an average of 77 grams of sugar/308 calories per day, more than 3 times the recommended amount for women. *American children consume 81 grams per day, equaling over 65 pounds of added sugar per year, equal to 118,000 added calories per year.*

### Policy Proposal

- I. Increased taxation of sugar products:  
By advocating for increasing taxes in NY, on these products, we can help discourage the use of added sugar in the form of beverages and snacks. It will immediately cut down a good number of extra calories consumed by the people.
- II. Incorporation of nutrition education and maintaining healthy nutrition standards in early childhood settings and in schools as a part of health education curriculum in Brooklyn. It can be achieved by promoting collaboration between medical and academic centers with local public health agencies.
- III. Screening for prediabetes and educating the patients about the options they have. If we can successfully convince half of the prediabetics to make lifestyle changes, we would be able to prevent thousands of new cases of DM in New York.

### Faculty Advisor

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