

# Reversing the Diabetes and Obesity Epidemics in New York City

A call to action to confront a public health, economic and moral threat to New York City's future

City University of New York Campaign against Diabetes • Public Health Association of New York City • September 2007



## Table of Contents

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What is diabetes?.....	2
Introduction.....	2
Why is diabetes such a serious health problem?.....	3
What causes diabetes?.....	3
<b>Scope of the Problem:</b>	
Diabetes as a public health problem.....	5
Diabetes as a health care problem.....	7
Diabetes as an economic problem.....	7
Diabetes as a moral problem and social justice issue.....	8
<b>Good News: Diabetes prevention and management work.....</b>	<b>10</b>
<b>More Good News: NYC is taking steps in the right direction.....</b>	<b>11</b>
<b>Bad News: Current NYC response to diabetes is mostly fragmented and uncoordinated.....</b>	<b>14</b>
<b>Next steps: Policies and programs to prevent and manage diabetes.....</b>	<b>15</b>
<b>What can we do?.....</b>	<b>18</b>
<b>Resources &amp; References.....</b>	<b>19</b>
<b>Executive Summary.....</b>	<b>23</b>

## Who is this report for?

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New York City policy makers, advocates, health providers, parents, tax payers and citizens who care about New York's future.

## Who We Are

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This report was prepared by the City University of New York Campaign Against Diabetes and the Public Health Association of New York City. The authors are Kimberly Libman and Nicholas Freudenberg. Our goal is to raise awareness of the threat posed by diabetes and to encourage action to reverse the diabetes and obesity epidemics in New York City.



## What is Diabetes?

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Diabetes is the condition of having too much sugar in the blood. People are diagnosed after having two consecutive blood tests that both show high levels of sugar in the blood. Normally, the food we eat is broken down into a sugar called glucose. Insulin, a hormone our body produces, helps get this sugar into our cells so we can use it as energy. When our bodies don't make enough insulin or can't use the insulin that is made, the sugar from our food can't get into our cells and so it stays in our blood. In the blood, sugar damages cells. There are different types of diabetes. In this report when we refer to diabetes we are usually talking about Type 2 diabetes.



### Types of Diabetes

**Type 2 diabetes** accounts for 90-95% of diabetes cases. In the past, it was called adult onset diabetes because people did not develop it until later in life. Today as obesity is becoming more prevalent among children and adolescents we see more youth developing Type 2 diabetes. With Type 2 diabetes people whose bodies could once produce and use insulin to manage their blood sugar develop insulin resistance so that their bodies can't use the insulin that they produce.

**Type 1 diabetes** was previously called juvenile-onset diabetes because people have it for their whole lives. Type 1 is much less common than Type 2 and the number of people who have Type 1 has not increased recently.

**Gestational diabetes** develops in women who are pregnant. While it usually goes away after women give birth, those with gestational diabetes are at greater risk of later developing Type 2 diabetes. Children of women who have had gestational diabetes are also at increased risk of developing Type 2 diabetes.

## Introduction: Why NYC needs to act now to control diabetes

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In the last 10 years, the number of New Yorkers who have been diagnosed with diabetes has increased by 250% and the death rate has nearly doubled<sup>1</sup>. If these trends continue, medical researchers warn, our children and grandchildren will have shorter life spans than we do<sup>2</sup>. In this report, we describe the alarming rise in diabetes in New York City and assess its causes, consequences, and costs. We examine the relationship between the rise in obesity and diabetes and we consider the moral and social dimensions of the diabetes epidemic. Our goal is to encourage New York policy makers, health professionals and residents to respond to diabetes more forcefully and effectively.

Fortunately, much of the medical knowledge needed to control diabetes is already known<sup>3,4</sup>. Unfortunately, too often individuals, institutions and our society as a whole fail to act on the knowledge we have. Sometimes, this failure is a result of lack of knowledge or interest, but often it is a result of individuals who sincerely want to affect change but are trapped in a system in which obstacles thwart best intentions. In our view, only a broad mobilization of concerned citizens, health professionals, and activists can convince policy makers and elected officials to act now to prevent the deaths and suffering that diabetes will inevitably cause. Such a mobilization in New York City could save tens of thousands of lives and billions of dollars. This report makes the case for such an effort and identifies some of the specific steps that we can take to reverse the diabetes epidemic.

For the most part, our society has viewed diabetes as an *individual* problem, requiring people at risk to eat less, move more, and follow their doctors advice more consistently. In our view, this simplistic perspective ignores the

major role that our social and physical environments play in shaping the choices individuals make. To reverse the rise of diabetes in New York City will require identifying and changing the conditions that created the epidemic over the last two decades. While no one believes that such changes will be easy, the fact that it was individual, government and corporate decisions about food, physical activity, and health care that led to the rise in diabetes suggests that these people and institutions can act to reverse these trends.

## Why is diabetes such a serious health problem?

It's a problem both in its own right and in its links to other major health problems such as heart disease, kidney disease, depression and impaired vision. Its symptoms - frequent urination, excessive thirst, weight loss, extreme hunger, changes in vision, tingling or numbness in hands and feet, feeling tired a lot of the time, dry skin, sores that heal slowly, increased infections, and nausea or stomach pain - may indicate other conditions. Some people with diabetes don't experience any of these symptoms, making it that much more difficult for them to get treatment. Even without symptoms, the high levels of sugar in the blood that define the condition slowly damage other parts of their body, eventually causing serious and sometimes irreversible damage. These include amputations, blindness, sexual dysfunction, and kidney failure.

To say that genes are responsible for obesity is generally no more nor any less correct than to say that genes are responsible for drowning when it occurs. *Homo sapiens* are not genetically disposed to do well under water for extended periods; we are not well disposed to soaking in a sea of constant calories and labor saving technology, either.

Ultimately, all drowning is genetic in origin. You can't drown a fish; fish are genetically immune to that particular fate. But to focus on genes rather than lifeguards, fences around pools, and swimming lessons when it comes to curtailing the harms of our own vulnerability in this regard would be sheer genomic folly.

David L. Katz, MD, MPH, FACP, FACP Director,  
Prevention Research Center, Yale University School  
of Medicine

## What causes diabetes?

Scientists believe that diabetes is caused by a combination of genetic and environmental factors. The two major individual level risk factors for diabetes are physical inactivity and overweight. Other factors that increase the risk of developing diabetes include having a family history of diabetes among parents or siblings, and older age. Low levels of good cholesterol and high blood pressure are also risk factors. Diabetes develops more often in people who are Black, Latino, Native American, Asian American, or Pacific Islander. Poor people are more likely to have diabetes than better off people, demonstrating the strong connection with overall living conditions.

Type 2 diabetes has increased rapidly in the past few decades paralleling increases in obesity. Given that obesity significantly increases the risk for diabetes (Figure 1), reversing the rise in obesity is an important step for reducing diabetes. In New York City 54% of adults are overweight or obese and adults who have diabetes are 40% more likely to be overweight than those who do not<sup>1</sup>. Because these two epidemics have increased globally in a relatively short time, researchers believe that the main causes of the current epidemics are changes in the world's food and physical activity environments. While diabetes does have a genetic component, it is impossible that genetic changes could account for the rapid increase around the world.

**"Diabetes follows obesity like night follows day and higher rates of obesity tightly correlate with poverty in this country and in New York City." *NYC Health Commissioner Thomas Frieden***

Figure 1

### Lifetime diabetes risk of 18 year old man:

Normal weight = 20%

Overweight = 30%

Obese = 57%

Very obese = 70%

Source<sup>5</sup>

Like other chronic diseases, diabetes is caused by multiple factors. A socio-ecological perspective that seeks to understand how changes in individuals, families, neighborhoods, cities, countries and the global system influence health can help to identify promising opportunities for diabetes prevention. This model also emphasizes that changes at multiple levels are necessary for preventing disease and promoting health. Figure 2 shows some of the changes that have been associated with the rise in diabetes both in New York City and elsewhere.

Figure 2: New York City trends contributing to diabetes and obesity

#### CHANGES IN FOOD

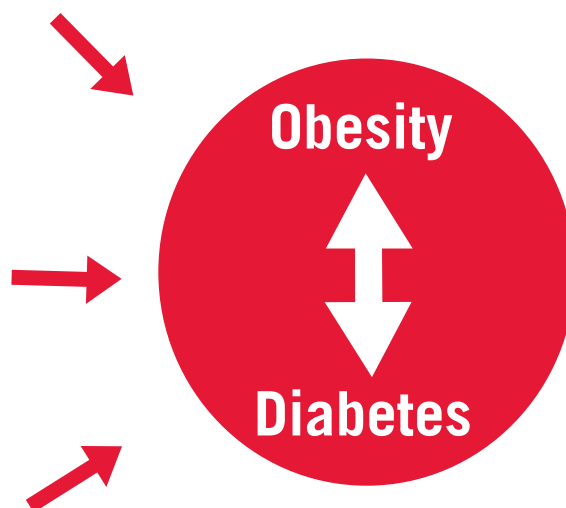
- More food consumed out of home
- More high fat, low nutrient foods available in supermarkets
- More fast food outlets
- More television food advertising, especially aimed at children
- More use of fat promoting high fructose corn syrup in processed foods
- More junk food sold in public schools
- Bigger portion sizes
- Changes in global trade agreements make cheap unhealthy food more available

#### CHANGES IN PHYSICAL ACTIVITY

- Less physical activity in schools
- Parks not adequately maintained
- Some neighborhoods not conducive to walking or physical activity
- Fear of crime deters some from using recreational facilities
- More TV, computer and elevator use
- Fitness centers and sports programs less available in some neighborhoods
- More people use cars to travel; fewer walk

#### CHANGES IN HEALTH CARE

- More low-wage workers with no health insurance
- Many New Yorkers lack a regular doctor
- Insurance companies reimburse expensive treatment for diabetes but not less expensive prevention measures
- Few doctors follow recent guidelines for diabetes prevention
- More pressure on providers to see many patients and reduce time on counseling



## Diabetes as a public health problem

Several recent reports provide a comprehensive and alarming picture of the extent of diabetes in New York City<sup>1,6,7</sup>. Someone once defined public health statistics as human lives with the emotions washed away by tears. Keep in mind that each case of diabetes represents a person's life and each person with diabetes is connected to a family, friends and a wider community who are also affected by the illness and suffering a person with diabetes experiences.

In New York City the proportion of the adult population that has been diagnosed with diabetes has increased by 250% in the past ten years. Diabetes has become the fourth leading cause of death in our city<sup>1</sup>. The New York City Department of Health and Mental Hygiene estimates that 12.5% of adult New Yorkers – approximately 700,000 people – have diabetes. Of these, about 500,000 have already been diagnosed with the disease and 200,000 do not yet know their condition, making it even harder for them to lose weight, quit smoking, and work with health professionals to create a plan for monitoring and managing their blood sugar. People who have *undiagnosed diabetes* are at much greater risk of suffering from diabetes.

Prediabetes is defined by levels of sugar in the blood that are higher than normal but not high enough for a diagnosis of diabetes. While medical experts debate the significance of prediabetes, research shows that changes in diet and regular moderate physical activity can prevent prediabetes from developing into diabetes. If prediabetes is ignored, it usually develops into diabetes.

In NYC, 23.5% of adults are estimated to have prediabetes<sup>1</sup>. In sum, more than a third of the adult population of NYC (12.5% with diabetes and 23.5% with prediabetes) either has or is at imminent risk of diabetes – an impending threat to the city's future and an opportunity for intervention. Rarely does an illness that poses such a public health threat also present the opportunity for early intervention and reversal that we have with pre-diabetes and diabetes.

While diabetes is an equal opportunity disease that can affect any New Yorker, it also targets the city's most vulnerable residents. How can this contradictory statement be true? On the one hand, every age and population group is affected by diabetes -- death rates are rising for Blacks, whites, Asians and Latinos. Because whites live longer than other groups, they experience the greatest burden of diabetes in old age. South and Central Asian New Yorkers have the highest rates of gestational diabetes<sup>6</sup> and while older adults are hardest hit by diabetes, a growing number of children are now being diagnosed with Type 2 diabetes<sup>8</sup>. Latino children have the highest rates of obesity<sup>9</sup>, suggesting they are likely to experience the most significant increase in diabetes in the decades to come. Thus, every group in New York would benefit from reversing the diabetes epidemic. Understanding the specific factors that contribute to obesity and diabetes among different population groups is an important prevention priority.

But while every group is affected by diabetes, it strikes hardest at older people, Blacks and Latinos, and poor people. New Yorkers older than 60 have more than twice the rate of diabetes than those between the ages of 40 and

Gestational diabetes. Between 1990 and 2003, the prevalence of diabetes during pregnancy in NYC grew 47%, affecting more than 4% of all pregnancies by 2003. Maternal obesity increases the risk of gestational diabetes as does giving birth at later ages. Both these risk factors are increasing.

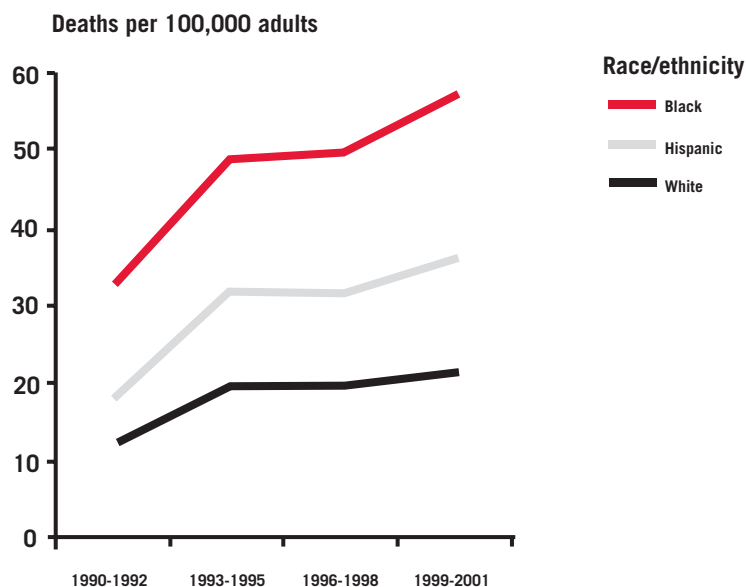
59. Blacks and Latinos have more than twice the rates than whites and Asians. The poorest New Yorkers have rates of diabetes more than three times higher than those making more than \$52,000 a year<sup>10</sup>. Diabetes disparities also reflect educational disparities; those with a limited education or lacking in literacy have more trouble managing the disease and are more likely to experience complications<sup>11</sup>. Since housing segregation in NYC concentrates each of these vulnerable populations, in neighborhoods like East Harlem and the South Bronx, almost 20% of the adult population has diabetes while better-off neighborhoods have rates six times lower. People in East Harlem die of diabetes at twice the rate of people in the city as

a whole and diabetes-related amputations are higher than in any other part of New York<sup>12</sup>. In the United States, Blacks with diabetes are 1.5 times as likely to lose a limb as a result of diabetes complications, twice as likely to go blind as a result of diabetes, and more than twice as likely to develop kidney disease than people of other races who have diabetes<sup>13</sup>. All of these complications are avoidable with diabetes education and management.

Deaths from diabetes, the one major cause of death that is now increasing in New York City, are driving the disparities in death rates between white, Black and Latino New Yorkers, providing yet another reason to address this epidemic at its roots.

Figure 3

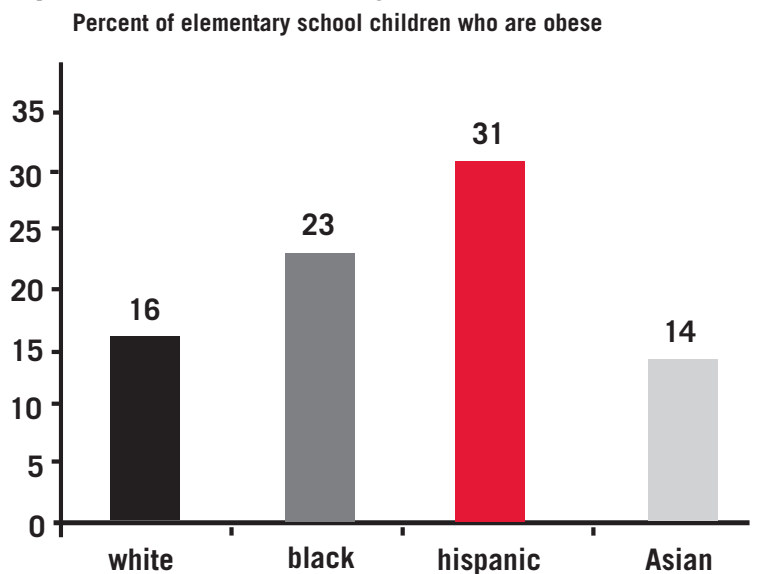
### Deaths due to diabetes - racial/ethnic disparities are widening



Rates are age-adjusted.  
Sources: Bureau of Vital Statistics, NYC DOHMH; U.S. Census 1990 and 2000/NYC Department of City Planning

Figure 4

### Obesity in NYC elementary schools is highest among Hispanic children - nearly 1 in 3



Source<sup>10</sup>

## Diabetes as a threat to NYC's health care system

Diabetes also threatens our health care system. Already people with diabetes fill half the beds in some hospitals. Hospitalizations for diabetes complications increased 23% between 1994 and 2003<sup>1</sup>. If the epidemic continues, some hospitals may be unable to meet other needs, leaving more people waiting for hours or days in hallways for a bed or in emergency rooms to see an overworked doctor. In the 1980s, New York City closed thousands of hospital beds to save money. When the HIV epidemic soon filled the remaining beds, some hospitals were unable to find beds for heart attack victims. As the city and state again look to close hospitals to reduce health care costs, an unchecked diabetes epidemic may again trigger a hospital bed crisis. Similarly, the expected rise in diabetes will worsen current New York City shortages in nurses, primary care doctors, home health care and long-term care workers.

“Begin on the sixth floor, third room from the end, swathed in fluorescence: a 60-year-old woman was having two toes sawed off. One floor up, corner room: a middle-aged man sprawled, recuperating from a kidney transplant. Next door: nerve damage. Eighth floor, first room to the left: stroke. Two doors down: more toes being removed. Next room: a flawed heart. As always, the beds at Montefiore Medical Center in the Bronx were filled with a universe of afflictions. In truth, these assorted burdens were all the work of a single illness: diabetes. Room after room, floor after floor, diabetes. On any given day, hospital officials say, nearly half the patients are there for some trouble precipitated by the disease.” *New York Times*, January 9, 2006<sup>14</sup>

## Diabetes as an economic problem

Not only is diabetes a health problem, it's also an economic problem. The American Diabetes Association (ADA) estimates that the direct and indirect costs of diabetes in the United States were \$132 billion in 2002<sup>15</sup> and that diabetes accounted for one out of every \$10 spent on health care. Another study found that 30% of the increase in United States health spending in the last two decades is due to the doubling rate of obesity<sup>16</sup>. At the same time, many common treatments for diabetes that have been found to be cost saving or cost-effective<sup>17</sup> are not routinely offered. Only 40% of those with diabetes in the United States are estimated to get the recommended care<sup>18</sup> and in NYC most people with diabetes are not meeting treatment goals on A1C tests, blood pressure or cholesterol<sup>1</sup>.

The health care costs attributed to diabetes and its complications are large and growing. The annual cost of hospitalizations with a principal diagnosis of diabetes – which reflects only a small portion of diabetes-related costs – doubled from 1990 to 2003<sup>1</sup>. According to the American Diabetes Association, the 2002 difference between the annual cost of health care for someone with diabetes and those without the condition was \$7,600<sup>15</sup>, suggesting that the total extra financial cost of health care for New York City's 700,000 people with diabetes is more than \$4.5 billion each year. Failing to take action now to prevent future cases of diabetes and to improve management for those already affected will impose a heavy financial burden on the people of New York City.

For the person or family with diabetes, the disease also entails costs. To measure blood sugar levels several times a day requires a blood sugar meter and disposable test strips. Most diabetics take several medications, some of them expensive. Following dietary guidelines may require additional expenses for more costly foods. Nutrition and dietary counseling can help people control their blood sugar and avoid complications yet most insurance companies do not cover the cost of these. It is estimated that without complications diabetes care costs about \$1,600 a year but with complications the cost can soar to more than \$40,000<sup>15</sup>. Remember that both diabetes and its complications are more common in poor communities thus imposing their heaviest burdens on those least able to afford them. As with many chronic health conditions, family members provide more care for people with



diabetes than doctors and nurses and caring for a sick relative can interfere with work and schooling<sup>19</sup>. But the harmful impact of diabetes is not confined to the people with diabetes and their families. A study of people with diabetes in Texas found that for every dollar of income lost by adults with diabetes there was a further income reduction of \$0.36 in the community<sup>20</sup>. When people with diabetes and their caregivers lose labor time and income, their communities lose out on their ability to participate in the local economy. Some of New York City's poorest neighborhoods already have fragile local economies, which will be further depleted if the diabetes epidemic is not reversed. And as shown in Figure 5, unless we succeed in controlling diabetes, the burden will grow even larger—total United States costs for diabetes care are expected to almost triple by 2025.

## Diabetes as a moral and social justice problem

Figure 5

Diabetes in 2025		
	Today	2025
With Diabetes	\$20.8 m	\$50.0 m
Blindness	24,000	70,000
Renal Failure	44,000	119,000
Amputations	82,000	239,000
Deaths	259,000	622,000
Costs (2002 dollars)	\$132 b	\$351 b

Source<sup>5</sup>

Diabetes is a moral issue because it imposes suffering on the most vulnerable sectors of New York City's population, because it contributes to socioeconomic and racial/ethnic inequities in health, and because the current failure to control diabetes and obesity will require our children and grandchildren to pay for our inaction. It is a social justice issue because the health disparities imposed by diabetes are in part the result of unequal access to health promoting resources like fresh, nutritious, and affordable foods; safe affordable places to exercise; and quality health care.

If diabetes were mainly the result of individual decisions, some might argue that the inequitable burdens it imposes are unfortunate but “just desserts” for over eating, exercising too little and failing to seek appropriate health care. In our view, however, the current diabetes and obesity epidemics can best be explained by changes in the environment, not individual decisions. In fact, as shown in Figure 6, many in our society have profited by participating in the circumstances that contribute to diabetes. We call attention to those who have gained from the rise in diabetes not to point fingers but rather to fairly apportion responsibility for reversing the epidemic.

To expect individuals to take the main responsibility for stopping diabetes is both ineffective – it doesn't get at the roots of the problem – and unfair because it blames the victims.

**Figure 6**

## **Who Profits from Diabetes?**

### **Pharmaceutical and Medical Supply Companies**

For pharmaceutical companies diabetes is big business. Avandia is one of a number of medications available to treat diabetes. It has been prescribed nearly 60 million times and generates \$3 billion a year for its producer, GlaxoSmithKline<sup>21</sup>. Recently published evidence that Avandia increases the risk of heart attack has spurred debate over the drug's safety and the regulation of pharmaceutical drugs<sup>22</sup>. Similarly, Pfizer's diabetes drug Rezulin was pulled off the market because it was found to cause liver damage<sup>23</sup>. Drug industry opposition to legislation that would reduce the cost of prescription drugs has meant that many people with diabetes have been unable to afford their medications. Similarly, medical supply companies profit by selling their products to the growing ranks of people with diabetes. "Controlling my condition isn't that hard," an 82 year old man with diabetes told The New York Times. "The hard parts are the things outside my control, like getting the test strips and the medicines"<sup>14</sup>.

### **Insurance Companies**

A 2006 investigation by the New York Times points out that most insurance companies refuse to pay small fees for preventive care but do pay for major medical procedures. For example, seeing a podiatrist costs \$150 and could prevent a \$30,000 amputation. By limiting the diabetes related services they cover, insurance companies do their best not to attract patients with this and other chronic illnesses. By not paying for prevention, these companies are betting that patients with diabetes will have changed insurers by the time the costly complications kick in. Withholding preventive care saves the companies money and forces their competitors and taxpayers to pay for the long-term consequence of this practice<sup>14</sup>.

### **Hospitals**

Hospitals make money by providing expensive procedures that address diabetes complications but not from less expensive preventive services. By charging tens of thousand of dollars for amputations, dialysis, and coronary bypass surgery, hospitals generate income. According to the New York Times investigation of diabetes care in New York City<sup>14</sup>, some local hospitals have opened and subsequently closed diabetes centers because they were so effective at reducing complications they also reduced hospital income.

### **Food and Beverage Companies**

These businesses profit from selling the inexpensive, calorie dense and nutrient poor foods that contribute to growing rates of obesity and diabetes. By saturating our neighborhoods, schools, and workplaces with their products and advertisements, they promote and profit from the over consumption of their products<sup>24</sup>. In addition, our national agricultural policies subsidize the production of key ingredients for their products such as high fructose corn syrup. This helps make their products the cheapest and sweetest calories on the market<sup>25</sup>.

While individuals do of course need to make changes in their diet, physical activity and use of health care, the most effective strategy for reversing the diabetes epidemic is to change the policies and environments that encourage unhealthy behavior.

No one in our society has *planned* the diabetes epidemic and no one *wants* the suffering that the condition imposes. But some powerful organizations benefit from the status quo. Changing the beliefs and laws that allow some to profit by encouraging unhealthy behavior is an important step in reversing the diabetes epidemic. In the Next Steps section, we identify some specific policies that could move New York City in the right direction.

**As a city with a long tradition of fighting for fairness and justice, New York should not accept a situation where social policy—intentional or unintentional—encourages disease.**

Understanding diabetes as a moral issue invites others who care about social justice such as religious groups, immigrants' rights, advocacy and civil rights organizations, labor unions, and political leaders to join our efforts. Engaging new constituencies in diabetes prevention and management increases the pressure for effective action.

In sum, New York's diabetes and obesity epidemics pose a significant public health, economic and moral threat to our city's future. Fortunately, scientific evidence shows that it is possible to prevent diabetes and to manage the disease better<sup>21</sup>. Also, many individuals and organizations in New York and elsewhere have begun to act. Unfortunately, as we show, current efforts are not yet sufficient to reverse these epidemics.

## **The Good News: Diabetes prevention and management work**

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Strong scientific evidence supports the value of intensive intervention to prevent diabetes and to better manage the condition.

Several recent studies show that diabetes can be prevented through moderate changes in people's dietary and activity patterns<sup>3,4</sup>. In the long run, if most people were able to maintain healthy weight through exercise and good nutrition, while drinking alcohol moderately, and not smoking we could all but eliminate Type 2 diabetes<sup>4</sup>.

Interventions to prevent people with pre-diabetes from developing diabetes focus on weight loss, dietary change, and increasing physical activity. In one prominent study,

the Diabetes Prevention Program, participants with prediabetes who received a "life style intervention" worked one-on-one with an educator to learn about diet, exercise and how to change behavior. In addition, participants were given access to a dietician, exercise specialist, and counselor to support them in their efforts. The goal for these participants was to lose weight, maintain a low-calorie, low-fat diet, and get at least 150 minutes of moderate physical activity per week. After four years, this reduced the development of diabetes by 58% as compared to participants who did not receive such intervention<sup>26</sup>. Other studies have confirmed these findings. Researchers found that offering this program to 7 people with prediabetes prevented one case of diabetes, a very effective ratio compared to other preventive interventions<sup>26</sup>. In New York City, offering such a program to 100,000 of New York

City's 1.3 million people with prediabetes could prevent more than 14,000 cases of diabetes and all the human and financial costs these cases impose. Although this would be a costly intervention, it could save money in the long run by preventing new cases of diabetes and by providing those that develop the disease with the training they need to minimize its complications.

Successful management of diabetes requires that people with the condition learn how to manage the disease. Diabetes self-management education (DSME) involves learning how to monitor blood sugar correctly, to eat in a way that helps control the disease, how to deal with medication side effects, medication adherence, and how to check properly for sores. Research shows that patients who do not get DSME are four times as likely to experience complications than those that do<sup>27</sup>. Another study showed that every one-point reduction in Hemoglobin A1c, a measure of the average blood sugar levels a person has had for the past three months, results in a 40% reduction in complications such as blindness, kidney disease, and nerve damage, saving on average about \$4,000 per person<sup>28</sup>. Below, we list some specific policies that can help to make such programs more accessible to New Yorkers who need them.

The evidence from research supporting the efficacy of individual level education and intervention also supports community level changes that share the goals of increasing access to health care, physical activity, and nutritious foods. In addition to making one-on-one and small group interventions more available, New York City also needs to consider community-based programs. Such programs bring benefits to the population as a whole and are usually more cost-effective than individually targeted activities.

Community-based obesity and diabetes prevention programs make healthy food and options for physical activity more available. Recent scientific reviews have found strong evidence to support the benefits of community-wide campaigns to increase physical activity; workplace and community prompts that encourage people to use stairs; school-based physical activity programs; community programs to support people who walk or exercise regularly and promising evidence to support programs to increase access to healthy ready-to-eat foods; reduce prices of healthy food and increase prices of unhealthy food and provide accurate nutrition labeling<sup>4,28,29</sup>. Thus, health officials and policy makers can choose a variety of community interventions that have been shown to be effective in improving diet and increasing activity, two main contributors to obesity and diabetes.

By implementing proven interventions with sufficient intensity and duration, by developing comprehensive and coordinated policy and programmatic responses to diabetes, and by reducing poverty and lack of health care, New York City has the potential to prevent diabetes, help people with the condition to reduce its burden and save costs for current and future tax payers.

Losing weight and becoming more active are tough choices, as anyone who has tried knows. By creating the environmental conditions that support people to eat better and move more, we support their intentions with deeds rather than sermons.

### **More Good News: Steps in the right direction**

Around New York and elsewhere, many initiatives already underway show that it *is* possible to mobilize individuals, families, communities and cities to take on diabetes more forcefully. In fact, somewhere each component of a comprehensive approach to diabetes prevention and control has already been launched. While most of these programs have yet to be evaluated, they provide a strong foundation for both research and action. Here we highlight a few programs that are taking steps to reduce the impact of obesity, diabetes and other chronic diseases on our City.



## *Efforts toward equitable access to nutritious food*

**School Food Plus** brings together NYC schools and other city and state agencies to improve the eating habits and health of NYC's school children while strengthening the local agricultural economy in New York<sup>30</sup>. The New York City Department of Education's Office of School Food serves more than 860,000 meals each day. Increasing the use of plant-based foods and improving the nutritional standards in school meals is an important step in preventing obesity and diabetes.

**East New York Farms and the East New York Food Coop** are working to create sustainable environmental, social, and economic change in the local food environment. Through a combination of urban agriculture, farmer's markets and a volunteer food coop, these groups make fresh produce more available and more affordable to neighborhood residents<sup>31</sup>.

The **New York State Farmer's Market Nutrition Program** provides low-income seniors and Women, Infants, Children (WIC) recipients with checks redeemable for fruits and vegetables bought at farmer's markets. The program brings together the New York State Department of Health, the New York State Office of the Aging and Cornell's Cooperative Extension to improve the availability of locally grown fresh fruits and vegetables for low-income New Yorkers who need them most<sup>31,32</sup>.

**Health Bucks** are \$2 coupons distributed by the city health department to community members in the South Bronx, East and Central Harlem, and Central Brooklyn. These coupons can be redeemed for fruits and vegetables at farmers' markets in these neighborhoods. Health Bucks also may be used in conjunction with the Food Stamps electronic card, promoting healthier choices among recipients.

## *Efforts to increase physical activity*



The **Greater Southern Brooklyn Walk our Children Program** brings together school administrators, parents, local police, businesses and residents to collaborate in creating safe routes for children to walk to school. By enabling children to walk safely to school, the program hopes to increase young people's physical activity and combat childhood obesity and type 2 diabetes<sup>33</sup>.

**New York City's Greenway Plan** seeks to create a 350-mile network of routes for car free transportation and physical activity<sup>34,35</sup>. Greenways would bring green space into city neighborhoods that currently have limited access to open outdoor areas. The plan is limited by modest funding but represents the kind of large-scale environmental change necessary to fight diabetes and other chronic diseases associated with physical inactivity.

In **Shape Up New York**, city departments of health and parks offer a free family fitness program open to the public. Fitness classes include step aerobics, fitness walking, light weights, yoga, stretching and toning exercises. Recently Shape Up has expanded to new sites including public housing buildings, schools, and community centers. The program logged over 40,000 visits last year.

## *Improving quality and availability of health care*

The **New York A1C Registry (NYCAR)** was created in 2006 by the New York City Department of Health and Mental Hygiene to collect and track data from A1C lab test results for people who have diabetes. The Registry will help the city develop programs that better serve people with diabetes and better understand our diabetes epidemic as it continues to unfold<sup>36</sup>. The Registry also provides doctors and health care institutions with feedback on how their patients with diabetes are faring.

**Bronx Health REACH** is a collaboration among community based organizations, churches and health care providers in the West Bronx that aims to identify and eliminate the causes of health disparities in this neighborhood<sup>37</sup>. In addition to advocating for policy changes to improve access to health care and reduce health care discrimination, the group also promotes disease prevention by working to improve opportunities for physical activity, the neighborhood nutritional environment, and school environments.

**Staten Island Health Access** is a program created to make health insurance and care available to low-income residents on Staten Island<sup>38</sup>. The program provides funding for outpatient doctor visits and prescription medications. Throughout the rest of NYC uninsured residents can turn to public hospitals for free or low-cost care, but Staten Island has no such facility.

**The East Harlem Diabetes Center of Excellence, Community Health Committee** raises awareness of diabetes in East Harlem by sponsoring campaigns created by local artists and cultural events that promote physical activity such as dancing. The group also conducts research about the community's knowledge of diabetes and the neighborhood food environment<sup>39</sup>.

**Healthy People** in Bronx has trained local diabetes peer educators who teach a five week course on family care for diabetics and their family members. Both the trained peer educators and the families they teach achieve measurable decreases in weight, blood sugar, blood pressure, and increase their physical activity.

**Visiting Nurse Service of New York's Maternity, Newborns and Pediatrics** program is collaborating with Montefiore Medical Center to provide home visits to mothers with gestational diabetes. The visits aim to improve health habits and prevent poor diabetes outcomes for mothers and their children.

## *Institutional and Policy Responses*

**The NYC Food Policy Task Force and Coordinator**, created by the Mayor and City Council Speaker, have been appointed this year with the charge of expanding the availability and affordability of nutritious food in the city's poor neighborhoods, reducing hunger and bringing together the many city agencies that address food. The Task Force is an important first step in thinking about food across systems.

**The NYC Partnership for Food and Fitness** is a partnership among community groups, foundations, the state Department of Agriculture, city government agencies, and local non-profits such as the Project for Public Spaces, and Transportation Alternatives. The partnership aims to increase the number of New Yorkers who eat well and exercise regularly by mobilizing communities, government and institutions to act. In June 2007, more than 100 groups attended its public launch.

**CUNY Campaign Against Diabetes** brings together students, faculty and staff from throughout the City University to develop prevention and disease management activities on all CUNY campuses. The Campaign also

educates CUNY students to provide diabetes information to their families, neighbors and co-workers. It demonstrates one way that large agencies can take on diabetes.

The **New York State Health Foundation**, a new foundation that seeks to improve health in New York, has made diabetes one of its top priorities, funds a number of innovative programs, and seeks to create a “frenzy” of activity to reduce the impact of diabetes on New York.

The **Consortium to Lower Obesity in Chicago (CLOCC)** has organized municipal government, researchers, public health professionals, corporations, policy makers, and residents to promote physical activity and health among Chicago’s youth. CLOCC shows how another city has created a multi-level multi-sector effort to reduce obesity and diabetes<sup>40</sup>.

## **The Bad News: New York’s response to diabetes is fragmented and uncoordinated**

Many individuals and organizations have begun to confront the epidemics of obesity and diabetes, and in the last two years, New York City has made good progress in tackling diabetes and obesity. In addition, many institutions share responsibility for allowing diabetes and obesity to rise uncontrollably. In this report, we focus on city government because we believe it is the institution most capable of launching a substantial and effective effort to reverse the two epidemics. Its actions will of course need support from the state and federal government and other organizations.

Like most other jurisdictions, New York City still lacks a coordinated and comprehensive approach to diabetes.

No single city official has the authority and resources to address the range of food, physical activity and health care issues that have created the epidemic. No city document outlines how the city will act to reverse the epidemic. While the NYC Department of Health and Mental Hygiene budget for diabetes control has tripled in the last four years (from less than \$1 million in FY 2005 to more than \$3 million in FY 2008), the resources allocated are still far below what is spent on other health problems that pose much lower risks to the city’s future. In 2004, for example, the United States Centers for Disease Control and Prevention provided the New York City Health Department with \$33 million for bioterrorism and \$20 million for tuberculosis control, conditions which caused no deaths, yet nothing for diabetes prevention, the fourth leading cause of deaths under the age of 65. Similarly, in 2004, the New York City Department of Health and Mental Hygiene spent \$150,000 on diabetes prevention and \$4 billion on diabetes care, thus missing an opportunity to prevent deaths and lower costs in the future.

Our greatest fear is that New York City will continue its piecemeal and uncoordinated approach to diabetes, hoping that this incremental and inexpensive approach will make a difference. Albert Einstein once defined insanity as doing the same thing over and over again and expecting different results. If New York City continues its uncoordinated, under-financed and modest approach to obesity and diabetes, the predictable result will be further increases in these epidemics, higher costs and an even bigger burden bequeathed to our children and grandchildren.

“Above all, we need to put aside our anti-government prejudices and realize that the history of government interventions on behalf of public health, from the construction of sewer systems to the campaign against smoking, is one of consistent life-enhancing success. Obesity is America’s fastest growing health problem; let’s do something about it.” Paul Krugman, New York Times, July 8, 2005

## Next steps: Policies and programs to prevent and manage diabetes

A basic principle of public health is that the most effective way to improve the health of a population is to improve their living conditions. Thus, in addition to offering the programs that have been demonstrated to be effective in preventing diabetes among those at highest risk and reducing complications for those with the condition, we also need to change the broader social and physical environment so that more people can more easily choose the behaviors that protect their health.

Only an aggressive coordinated, comprehensive and adequately funded campaign has the potential to reverse New York's obesity and diabetes epidemics. Since the conditions that led to our present predicament took several decades to develop, it will take years to undo the damage. But every day of delay increases the burden.



More specifically, to reverse its epidemics of obesity and diabetes, New York City needs to strengthen policies and programs that:

- Increase access to healthy foods and reduce the promotion of unhealthy foods especially to children and in neighborhoods that lack viable healthy food choices;
- Increase opportunities for safe, affordable physical activity in the city's schools, communities, parks, housing, fitness centers and workplaces;
- Improve access to health care and ensure that communities have health care providers who understand the communities they serve and can offer needed services including nutrition counseling and diabetes self-management education.

The most basic strategies for reducing diabetes and obesity, as well as other health conditions, is to increase employment opportunities, reduce poverty, and increase educational achievement for the city's most vulnerable populations. The fact that powerful political forces oppose public action on these changes does not diminish their prospects for improving health. Forceful advocacy by many constituencies can help put these reforms on New York's political agenda.

In our view, New York City needs to act on two fronts. First, the constituencies that can pressure the city and its institutions to act need to educate themselves, mobilize and articulate a vision and agenda for reversing the epidemics. This report seeks to spur that process. At the same time, however, city leaders, organizations and activists need to identify specific steps they can take now to bring obesity and diabetes under control. New York City's response to the HIV epidemic provides compelling guidance. As HIV spread rapidly in many New York City communities, activists, researchers, service providers, wealthy individuals, celebrities and affected individuals mobilized to force the city to act. After a painfully slow start, in time New York developed more comprehensive and better-funded programs and policies for HIV prevention and care. Simultaneously, these same constituencies immersed themselves in the day-to-day work of delivering care and medications, developing programs, and advocating for better policies and more adequate funding. As a result, deaths from AIDS declined dramatically.

What's the lesson for diabetes? We suggest that once again concerned New Yorkers must work both to create a mobilization that encourages a new health priority and identify specific policy changes that will move the city in the right direction. We list some of those specific changes next.



## Policies for Prevention

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At a recent policy conference convened by the City University of New York's Campaign Against Diabetes and the Public Health Association of New York City, public health professionals, researchers, advocates and policy makers worked together to develop the following policy recommendations for addressing the diabetes epidemic in New York City. We present these as a starting point for further developing a coordinated policy agenda to limit the spread and impact of diabetes in New York City.

### Food

- Pass city and state laws to help make healthy food more available through green markets, community-supported agriculture and incentives for supermarket siting.
- Tax high-calorie sweetened beverages and other low nutrient foods and use revenues to fund nutrition education.
- Protect children from food advertisements that promote unhealthy foods.
- Improve nutrition education and food services in NYC schools.
- Encourage and provide incentives for New York State farmers to make healthier foods more available.

### Physical Activity

- Provide incentives for employers to establish workplace physical activity programs.
- Fund local communities to establish physical activity programs.
- Enforce existing physical activity mandates in schools.
- Use city parks, recreational facilities, and schools; zoning laws and community development programs to make physical activity more available, safer, and more attractive.

### Health Care

- Establish a citywide program to identify, treat, and prevent gestational diabetes, a growing cause of maternal health problems.
- Conduct intensive media and community educational campaigns on diabetes preventions and diabetes management.

### Policies for improving education, care, and management

- Increase Medicaid funding for diabetes management programs.
- Expand health literacy programs so that all people with diabetes can understand and better follow medical advice.
- Require insurance companies to cover comprehensive diabetes management programs and other forms of diabetes care and supplies and reject plans that would permit insurance companies to drop some kinds of diabetes care.

- Fund community health centers to strengthen chronic disease management programs and to support chronic disease teams that include a full range of needed services (e.g., podiatrists, nutritionists, kidney disease specialists, etc).
- Ensure that people with diabetes have access to the range of mental health services by guaranteeing parity of physical and mental health services. Mental health services have been shown to improve management of chronic diseases.
- Support faith-based organizations to establish diabetes and other chronic disease management programs.
- Provide incentives for health care providers to offer diabetes prevention and management services.
- Make city agencies models for workplace and consumer practices that support diabetes prevention and management.
- Develop an electronic medical records system that supports diabetes prevention and management.

Figure 7

## **WE CAN CHANGE THE FUTURE**

### Lifetime Risk of Getting Diabetes



52%

49%

31%

45%

40%

27%

## What Can We Do?

Reversing the obesity and diabetes epidemics and avoiding the risks shown above will require action by individuals, families, communities, institutions, employers and city, state and federal policy makers. Only a massive and concerted mobilization of many constituencies will force New York City to take on obesity and diabetes more seriously. This report seeks to encourage New Yorkers to act to advance the policy objectives outlined in this report. By acting in our homes, schools, neighborhoods, workplaces and in the political arena in some of the ways listed below, we can begin the steps needed to reverse the epidemics of obesity and diabetes.

Figure 7

### What can I do? Actions to Reduce Obesity and Diabetes in New York

Who	What
<b>Parents and teachers</b>	Help children to eat better and move more; Encourage schools to improve food, physical activity and health education programs.
<b>Voters and tax payers</b>	Tell politicians you want them to act to reduce the burdens diabetes and obesity are imposing on our families and communities; Support laws that will stop those who profit from disease; Encourage the Mayor and Governor to invest in diabetes prevention and control now to save money and lives later.
<b>Health providers</b>	Make sure your agency meets standards for diabetes prevention and care; Encourage your professional organizations to join the fight for better diabetes prevention and care; Provide your patients with the information and skills they need to prevent or manage diabetes.
<b>Workers and employers</b>	Initiate worksite health promotion programs that support people's efforts to improve their diets and exercise more; Also, identify and change institutional policies that encourage ill health.
<b>Family members</b>	Support people in your household who have diabetes by joining them in eating healthier meals, getting regular exercise, and quitting smoking; Encourage health promoting behavior with supportive actions rather than nagging; Use diabetes as an opportunity to teach children health promoting habits.
<b>Advocates</b>	Find ways to bring together campaigns for improved health care, healthier food and more opportunities for physical activity; Educate voters, residents and policy makers about the threat diabetes and obesity poses to NYC's future; Demand that city and state budgets and legislation make diabetes prevention and care a higher priority.
<b>Policy makers</b>	Educate yourselves about the threats obesity and diabetes pose to the future of New York City and State; Enact laws and budgets to achieve goals described in this report; Monitor and enforce existing laws that can prevent diabetes; Create new incentives and penalties to reduce profiting from the promotion of unhealthy activities.

Fortunately, taking action against diabetes and obesity will also confront many of New York's most serious public health and social justice problems. By using public will and public policy to make changes at multiple levels, we can reduce obesity and stop diabetes from causing more suffering and costing more money. Throughout this report we have argued that broad and coordinated changes are needed to make it easier to find healthy food, public space for physical activity, and quality health care. Acting now to bring about the environmental and systemic

changes that promote health and reduce diabetes will also prevent other chronic diseases such as cancer, heart disease, hypertension, stroke and depression. Addressing the root causes of these conditions will improve the well being of all New Yorkers and also help to shrink the socioeconomic and racial/ethnic inequities that continue to plague the wealthiest city in the world.

New York City has to make a choice. The city can continue business as usual, thus ensuring that obesity and diabetes will continue to rise, claiming ever more of our family members, future generations and dollars. Or New York can use this health crisis as an opportunity to overcome many of the city's most pressing social, moral and economic problems.

## Resources for Further Information

American Diabetes Association  
333 Seventh Avenue, 17th Floor  
New York, NY 10001  
Phone: (212) 725-4925.  
Phone: 1 (888) DIABETES  
[www.diabetes.org](http://www.diabetes.org)

Bronx Health Reach  
The Institute for Urban Family Health  
16 East 16th Street  
New York, NY 10003  
Phone: (212) 633-0800, ext. 232  
Email: [Bronxreach@institute2000.org](mailto:Bronxreach@institute2000.org)

Children and Diabetes  
Centers for Disease Control and Prevention  
National Center for Chronic Disease Prevention and Health Promotion  
Diabetes Public Health Resource  
[www.cdc.gov/diabetes/projects/diab\\_child.htm](http://www.cdc.gov/diabetes/projects/diab_child.htm)

CUNY Campaign Against Diabetes  
The Center for Human Environments  
365 Fifth Avenue  
New York, NY 10016  
Phone: (212) 817-1888  
<http://www.cuny.edu/academics/centers-and-institutes/urban-health/campaign-against-diabetes.html>

Health Care That Works  
The Opportunity Agenda  
Phone: (212) 334-5634  
Email: [contact@opportunityagenda.org](mailto:contact@opportunityagenda.org)  
<http://www.healthcarethatworks.org/aboutus>

Just Food  
208 East 51st Street, 4th Floor  
New York, NY 10022  
Phone: (212) 645-9880  
Email: [info@justfood.org](mailto:info@justfood.org)  
[www.justfood.org](http://www.justfood.org)

National Association of Chronic Disease Directors  
2872 Woodcock Blvd, Suite 220  
Atlanta, GA 30341  
Phone: (770) 458-7400  
[www.chronicdisease.org](http://www.chronicdisease.org)

National Diabetes Information Clearinghouse  
1 Information Way  
Bethesda, MD 20892-3560  
Phone: 1 (800) 860-8747  
Email: [ndic@info.niddk.nih.gov](mailto:ndic@info.niddk.nih.gov)  
<http://diabetes.niddk.nih.gov>

New York City Environmental Justice Alliance  
115 West 30th Street, Room 709  
New York, NY 10001  
Phone: (212) 239-8882  
Email: [nyceja@aol.com](mailto:nyceja@aol.com)

The New York City Department of Health and Mental Hygiene  
Diabetes Prevention and Control Program  
[www.nyc.gov/html/doh/html/diabetes/diabetes.shtml](http://www.nyc.gov/html/doh/html/diabetes/diabetes.shtml)

New York State Diabetes Prevention and Control Program  
Riverview Center 150 Broadway – 3rd Floor  
West Albany NY 12204  
Phone: (518) 474-1222  
[www.health.state.ny.us/diseases/conditions/diabetes/](http://www.health.state.ny.us/diseases/conditions/diabetes/)

Project for Public Spaces  
700 Broadway, 4th Floor  
New York, NY 10003  
Phone: (212) 620-5660  
Email: [pps@pps.org](mailto:pps@pps.org)  
[www.pps.org](http://www.pps.org)

Public Health Association of New York City  
1710 First Avenue, Suite 282  
New York, NY 10128  
Phone: (212) 722-1063  
Email: [info@phanyc.org](mailto:info@phanyc.org)  
[www.phanyc.org](http://www.phanyc.org)



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top right, NYC Department of Parks

## The Take Home Messages

1. Diabetes and obesity pose a major public health, social, economic and moral threat to New York City's future.
2. Strong scientific evidence supports the value of helping people change their diets, exercise more and get appropriate health care in order to prevent diabetes and of providing those with diabetes with intensive disease management programs in order to reduce the complications, save health care costs and prolong life.
3. Although many individuals and organizations in New York City are acting to prevent and manage diabetes, no organization is coordinating these efforts, setting specific goals for reducing the burdens of obesity and diabetes, or monitoring our city's progress in reversing the epidemics.
4. A concerted and ongoing public mobilization will help convince New York's elected leaders, city and state agencies, health providers and public officials to make diabetes prevention and management a priority.
5. Failure to act now to reverse these epidemics will shorten the lifespan of our children and grandchildren, exacerbate the city's health and social inequalities, and impose crushing burdens on future tax payers.



## How to Use this Report

1. Send a copy to your Community Board and ask them to hold a meeting on diabetes and obesity in your community.
2. Send a copy to your city or state legislative representatives and ask to meet with them to encourage action on the recommendations.
3. Ask your organization to develop a diabetes prevention and management advocacy plan.
4. Teachers can assign their students to read this report and identify steps they can take to encourage action to reverse the epidemics of obesity and diabetes. (Visit [www.phancy.org](http://www.phancy.org) for high school and college teachers' guide to using this report in the classroom.)
5. Parents can use the report to ask their school's Parent Association to organize a forum on diabetes and obesity and develop an action plan for their school.
6. Employers and labor unions can use the report as a spur to develop a workplace diabetes prevention and management plan.
7. Churches, synagogues and mosques can organize social action and educational events to bring the messages of this report to their congregations and communities.

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The CUNY Campaign Against Diabetes is sponsored by the CUNY Chancellor's Office and the CUNY Urban Health Collaborative, a group of CUNY faculty, staff and students concerned about the health of cities. The CUNY Campaign seeks to strengthen the capacity of City University to respond effectively to diabetes. The views expressed in this report are those of the Campaign and do not necessarily reflect the position of City University of New York.

PHANYC is the largest and oldest independent organization of public health professionals in New York City and the local affiliate of the American Public Health Association (APHA). Its advocacy campaign, *Agenda for a Healthy New York*, identifies diabetes prevention and management as one of its policy priorities. In January 2007, PHANYC and the CUNY Campaign Against Diabetes sponsored "A Forum on Diabetes Policy for NYC: Comprehensive Approaches to Prevention and Management". This report summarizes some of those recommendations that emerged from that Forum. In addition, PHANYC recently published *Steps to Get New Yorkers Moving: Policy recommendations to improve opportunities for physical activity*. Visit [www.phancy.org](http://www.phancy.org) for information on the Forum and the *Agenda for a Healthy New York* and to download the *Steps to Get New Yorkers Moving* report.

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## Executive Summary

Diabetes poses an unprecedented public health, health care, economic and moral threat to New York City. In the last 10 years, the number of New Yorkers who have been diagnosed with diabetes has increased by 250% and the death rate has almost doubled. At the same time, obesity, a prime cause of diabetes, has also increased dramatically, here in New York City and elsewhere. If these trends continue, medical researchers warn, our children and grandchildren will have shorter life spans than we do. In this report, we describe the alarming rise in diabetes in New York City and assess its causes, consequences, and costs. We examine the relationship between the rise in obesity and diabetes and we consider the moral and social dimensions of the diabetes epidemic. Our goal is to encourage New York policy makers, health professionals and residents to respond to diabetes more forcefully and effectively.

Only an aggressive coordinated, comprehensive and adequately funded campaign has the potential to reverse New York's obesity and diabetes epidemics. Since it took decades to create the conditions that led to our present predicament, it will take years to undo the damage. But every day of delay increases the burden. Thus we call on all New Yorkers to support our ten-point plan to begin the effort needed to reverse these epidemics. These points were selected in collaboration with the diabetes and public health experts who participated in the review of this report.

### Actions to improve access to healthy food

1. Pass city and state laws to help make healthy food more available through green markets, community-supported agriculture and incentives for supermarket siting.
2. Tax high-calorie, low-nutrient sweetened beverages and other low nutrient foods and use revenues to fund nutrition education.
3. Improve nutrition education and food services in NYC schools.
4. Protect children from food advertisements that promote unhealthy foods.

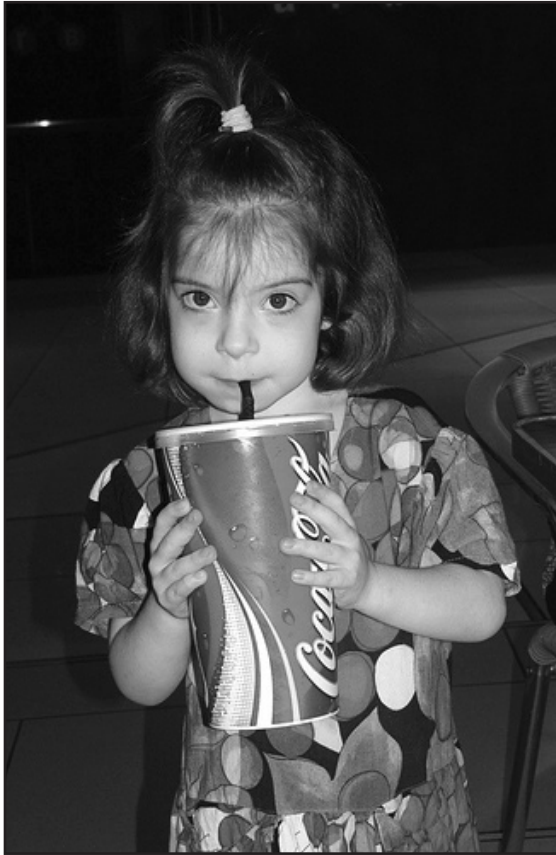
### Actions to increase opportunities for physical activity

5. Provide incentives for employers to establish workplace physical activity programs.
6. Enforce existing physical activity mandates in schools.
7. Use city parks, recreational facilities, and schools; zoning laws and community development programs to make physical activity more available, safer, and attractive.

### Actions to improve health care

8. Increase Medicaid funding for diabetes management including nutrition, health education and physical activity programs.
9. Require insurance companies to cover comprehensive diabetes management programs.
10. Create and fund an electronic medical records system that supports diabetes prevention and management.







Public Health Association of New York City  
1710 First Avenue, Suite 282  
New York, NY 10128  
(212) 722-1063 (t)  
(212) 722-0726 (f)  
info@phanyc.org  
www.phanyc.org



CUNY Campaign Against Diabetes  
c/o The Center for Human Environments  
CUNY Graduate Center, 365 Fifth Avenue  
New York, NY 10016  
(212) 817-1888  
hjones1@gc.cuny.edu

