Memphis and Shelby County Behavioral Risk Factors Survey, 2004

Marion Hare\textsuperscript{2}, David R. Forde\textsuperscript{1}, James Bailey\textsuperscript{2}, Deborah Gibson\textsuperscript{2}, and See’Trail Mackey\textsuperscript{1}

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\textsuperscript{1}University of Memphis
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and

\textsuperscript{2}University of Tennessee Health Science Center
Healthy Memphis Data Center

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EXECUTIVE SUMMARY

Since being branded as one of the unhealthiest cities in America, Memphis has decided to do something about it. The Healthy Memphis Common Table, Memphis’ health and healthcare improvement collaborative, is beginning its work to combat the growing epidemics of obesity and diabetes by seeking a better understanding of what is actually happening in Shelby County. This annual survey should help Memphis and Shelby County to track public awareness of the epidemic, the impact of prevention, screening and disease management efforts, and the success of employers in supporting lifestyle changes needed by their employees.

Key findings:

- **Most Shelby County Residents are Overweight or Obese**
  - About 2 out of every 3 adults in Memphis & Shelby County are overweight or obese, whether black, white, male, female, young or old
    - Men more likely to be overweight, and women more likely to be extremely obese
    - Middle-aged Memphians more likely to be obese or extremely obese
    - Blacks more likely than whites to have a higher BMI.

- **Many Memphis Adults already have Serious Weight-Related Diseases**
  - Almost 1 in 10 Memphians have diabetes, higher than the national average
  - 1 in 3 adults have high blood pressure, higher than the national average

- **Most Memphis Adults do not know their Body Mass Index (BMI)**
  - 84.7% of do not know their BMI
  - 69.3% say they have never had their BMI checked
  - Only 3% of those who thought they knew their BMI, actually knew their BMI

- **Most Overweight and Obese Memphians are Trying to Lose Weight**
  - 35-49 year-olds, women, and those with higher BMIs are more likely to be trying to lose weight
  - Blacks in Memphis are just as likely as whites to be trying to lose weight
  - The most common barriers to exercising were:
    - Lack of a convenient place to exercise (42.5%)
    - Personal health reasons (29.8%)
    - Safety concerns (17%), lack of time (16.6%) and lack of money (16.1%)
Introduction

The developed world is experiencing a new epidemic, and the Memphis community is at ground zero. This new epidemic is called the metabolic syndrome and it already affects more than 47 million U.S. citizens. Metabolic syndrome isn't a disease, but a cluster of disorders of your body’s metabolism. Key components include insulin resistance, excess body weight, high blood pressure, and abnormal cholesterol levels. Each of these disorders, individually, is a risk factor for other diseases. In combination, they dramatically boost one’s chances of developing diabetes, heart disease or stroke. Although genetic makeup does play a role, development of the metabolic syndrome is largely lifestyle induced, with major risk factors being an unhealthy diet and lack of physical activity.

Currently, Memphians have some of the highest rates in the country of diabetes, heart disease and stroke, all diseases resulting from metabolic syndrome. This is not surprising given that, in 2003, the Memphis “lifestyle” lead Men’s Health magazine to rate Memphis the unhealthiest big city for men in the U.S., echoing the results of a survey by Self magazine that rated Memphis as the unhealthiest big city for women in 2002. We are literally losing our families, friends and even children to these largely preventable diseases.

Metabolic syndrome affects not only our community's health. It also impacts our pocketbook. Our lifestyle and the diseases it causes have significant monetary costs to our community in terms of lost productivity, higher insurance premiums, and increased health care costs.

Over the past several years, many programs to promote healthier lifestyles in Memphis have been undertaken. Unfortunately, this task is so daunting that it would be very difficult for any individual organization to make major changes throughout the community. This realization led to the creation of the Healthy Memphis Common Table (HMCT), a community-wide initiative to bring people and organizations together to work towards a healthier community.

In an effort to assist the HMCT and other interested organizations, the Memphis and Shelby County Behavioral Risk Factor Surveillance Survey was created. This annual survey is designed to provide reliable information about current local disease prevalence, lifestyle behaviors, information about healthcare, and barriers to a healthy lifestyle that contribute to diabetes, hypertension and obesity.

Our first report focuses on responses to questions about diabetes, hypertension, weight, diet and physical activity. It is our hope that this survey will to raise public awareness about the metabolic syndrome and its components and promote a healthier Memphis community.
Diabetes & Hypertension

U.S. rates of diabetes have increased substantially from around 0.4% in 1935 to about 4.4% in 2000 (National Health Interview Survey). The Behavioral Risk Factor Surveillance Survey, conducted nationally in 2001, shows that Tennessee is among the 13 States with the highest rates of diabetes (University of Tennessee Health Center, 2003).

Our survey demonstrates that the prevalence of diabetes in Memphis and Shelby County in 2004 is 8.4%. This is statistically higher than the national average of 6.7%. It is statistically the same as the Tennessee average.

Females are significantly more likely than males to report that they have been told by a doctor that they have diabetes. However, if diabetes during pregnancy is factored out, the differences between men and women are no longer significant. The results of this study suggest there are also no significant differences in diabetes by race.

Hypertension, or high blood pressure, is one of the most common chronic diseases in the United States, affecting about 1 in 5 adults. The Memphis and Shelby County BRFSS finds that almost a third (31%) of residents has been told that they have high blood pressure. This strongly indicates that rates of hypertension in Memphs and Shelby County are much higher than the national average. As noted earlier, diabetes and hypertension are both part of the metabolic syndrome caused by overweight and low levels of physical activity.

Women are more likely than men to report they have been told that they have high blood pressure. This finding, however, disappears once cases involving pregnancy are removed.
The survey shows that black persons are somewhat more likely to have high blood pressure than white persons.

### Body Mass Index

Doctors and other health experts use the body mass index (BMI) to tell if you are overweight. The BMI is usually the best way to determine your risk of developing illnesses related to being overweight or obese, like diabetes. The National Institutes of Health classifies a BMI of less than 19 as underweight; 19-24 as normal; 25-29 as overweight; 30-39 as obese; 40 or more as morbidly obese. While these numbers can vary for different sources, the National Institutes of Health suggests they may be used a guide on health risks. The respondent’s body mass index is calculated using the body mass index table from the National Institutes of Health, using the respondent’s self-reported weight and height.
The survey reveals that about two in three adults are overweight, obese, or extremely obese. Note also that about one in twenty persons refused to give either their height or weight (usually their weight).

<table>
<thead>
<tr>
<th>BMI based on self-reported height and weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight &lt; 19</td>
</tr>
<tr>
<td>Normal weight 19-24</td>
</tr>
<tr>
<td>Overweight 25-29</td>
</tr>
<tr>
<td>Obese 30-39</td>
</tr>
<tr>
<td>Extremely obese 40+</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Refused height or weight</td>
</tr>
</tbody>
</table>

The following figure compares the BMIs for men and women in Memphis and Shelby County. Our survey finds that although men are more likely to be overweight (BMI 25-29), women are more likely to be extremely obese (BMI 40 or more).
BMI scores in Memphis and Shelby County also vary by race of the respondent. Blacks in Memphis/Shelby County are significantly more likely to be overweight or obese (73.3%), than whites (52.5%). Of note, the BMIs for both whites and blacks in Memphis and Shelby County were generally much higher than is recommended. The survey shows that the majority of Memphians have BMIs that put their health at serious risk.

BMI scores also vary by age of the respondent. Memphians who are between the ages of 50-64 were more likely to report that they were obese to extremely obese than were persons in other age groups.
In summary, the majority of Shelby County adults, whether black, white, male, female, young or old, are overweight or obese. This means that most Memphis and Shelby County residents are at increased risk for weight-related diseases, premature death and disability because of overweight and obesity.

Because many people do not know that they are overweight, and that they are at increased risk for serious weight-related diseases, public health experts recommend that everyone know their BMI to help them know if they are at increased risk.

The survey shows that the vast majority of people in Memphis and Shelby County do not know they BMI. Specifically, we asked people if they knew their current body mass index (BMI): 84.7% reported that they did not know what their body mass index was, and 69.3% reported they never had their body mass index checked. We also compared self-reported BMI with our estimate of their BMI. Only 3 percent of respondents came within 5 points of their self-reported BMI. This suggests that extremely few people actually know their BMI. Quite clearly, the BMI is an unknown quantity for most people. Health professionals will need to provide much education about the BMI statistic if they hope to use the BMI to help people to healthier living in Memphis and Shelby County.

**Dieting**

Respondents were asked whether they were trying to lose weight. Cross-tabulations were calculated to examine differences by gender, age, race, and body mass index. Of particular note, the majority of those who are obese or very obese are currently trying to lose weight. This suggests that a large portion of the Memphis and Shelby County residents at highest risk of weight-related disease would benefit from assistance with weight management efforts.

The results show that women are significantly more likely than men to say that they are trying to lose weight. There are no significant differences by race for this variable.
There also are significant differences in self-reported weight management by age. People in the 35-49 year age group are more likely to say that they are trying to lose weight.

![Age group-Are you now trying to lose weight](image)

Weight management strategies also differ by a person’s body mass index. Not surprisingly, people are significantly more likely to be attempting to lose weight if they have a higher body mass index.

<table>
<thead>
<tr>
<th>Body mass index</th>
<th>Underweight</th>
<th>Normal weight</th>
<th>Overweight</th>
<th>Obese</th>
<th>Extreme obese</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you now trying to lose weight?</td>
<td>Yes</td>
<td>Count</td>
<td>1</td>
<td>70</td>
<td>104</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>% within bmi</td>
<td>5.6%</td>
<td>26.0%</td>
<td>43.5%</td>
<td>67.4%</td>
<td>66.7%</td>
</tr>
<tr>
<td>No</td>
<td>Count</td>
<td>17</td>
<td>199</td>
<td>135</td>
<td>61</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>% within bmi</td>
<td>94.4%</td>
<td>74.0%</td>
<td>56.5%</td>
<td>32.6%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>18</td>
<td>269</td>
<td>239</td>
<td>187</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>% within bmi</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

**Barriers to Physical Exercise**

Research has shown that people who are physically active are healthier regardless of their weight status and it is easiest for people to lose weight when regular physical activity is a part of their weight loss program. Furthermore, becoming more physically active overall is also a key ingredient to keeping weight off, once it has been lost. Yet, for many people, finding ways to increase the amount of physical activity they get is a constant challenge, with barriers to overcome before they can make it a routine part of their daily lives.

When we asked people in Memphis and Shelby County about barriers to exercise, 69% identified at least one thing that stopped them from doing exercise. The most frequently
identified barriers to exercise included location (42.5%), health (29.8%), and safety (17%) concerns.

Implications

This survey of behavioral risk factors raises a number of questions about the health of people in Memphis and Shelby County. We suggest the following key points:

- There is a need for continued efforts to increase public awareness regarding the metabolic syndrome and its risk factors.
- It is important to increase public awareness that the metabolic syndrome and its risk factors are modifiable with lifestyle changes.
- Physicians and other health providers need to educate patients about BMI and its relationship to the risk of developing disease.
- More Memphians need to take charge of their health. Patients should ask their physicians to tell them their BMI and discuss what it means with them.
- Since many Memphians are trying to lose weight, easily accessible places for support and education need to be available (church, school, hospital, clinic, etc.).
- Memphians could use more opportunities for physical activity and/or instruction on how to be physically active where they live and work.

Survey Design

This Memphis and Shelby County Behavioral Risk Factors Survey is a joint project of the University of Memphis and the University of Tennessee at Memphis. A modified version of the National Institutes of Health Behavioral Risk Factors Surveillance Survey (BRFSS) was used for this survey. The Mid-South Social Survey program (MSSSP) at the University of Memphis collected the data. A random-digit-dialing sample was used to contact 852 persons in Memphis and Shelby County for a telephone interview during April 26 to May 5, 2004. Results of this survey will be accurate plus or minus about 3.2 percent 19 times in 20. Sampling error will be higher for subsets within this sample. A detailed sampling report is available from the MSSSP.

Acknowledgements

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