Diabetes and Heart Disease

April 11, 2014
Community Forum
Reibold Building, Multipurpose Room

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Data Sources

- Centers for Disease Control and Prevention (CDC)
- United States Department of Agriculture (USDA)
- American Diabetes Association (ADA)
- Montgomery County, Ohio Resident Death Certificate Data 2010-2012
**Type 1 diabetes** – Condition characterized by high blood glucose levels caused by a total lack of insulin; most often in young people, but can appear in adults.

**Type 2 diabetes** – Condition characterized by high blood glucose levels caused by either a lack of insulin or the body’s inability to use insulin efficiently; most often in middle-aged and older adults, but can appear in young people.

**Gestational diabetes** – A type of diabetes that develops only during pregnancy and usually disappears upon delivery, but increases the risk that the mother will develop diabetes later.
Number (in Millions) of Civilian, Noninstitutionalized Persons with Diagnosed Diabetes, United States, 1980-2011

5.6 million to 20.9 million

Source: CDC
Age-Specific Percentage of Civilian, Noninstitutionalized Population with Diagnosed Diabetes by Race, and Sex, United States, 1980-2011

By 2011, the highest percentage was among:
- Black males (9.9%)
- Black females (9.0%)
- Asian males (7.8%)

Percent Increase
- White Males: 160%
- White females: 108%
- Black males: 148%
- Black females: 84%
- Asian males: 81%
- Asian females: 49%

Highest percentage was among Black females until 2009

Source: CDC
13.0% of adults have been diagnosed with diabetes

Compare this to:
10.8% in Ohio
11.6% in Lucas County
9.0% in Summit County
Who is most likely to be diagnosed with diabetes?

- 13.5%
- 15.8%
- 12.4%
- 12.3%
The average age of those 18 years and older diagnosed with diabetes was 52.7 years of age.

Highest
$15,000 to $24,999 (19.7%)

Lowest
$50,000 or more (7.8%)
Adults in Montgomery County:
- 34.9% Overweight
- 30.4% Obese

13.8% of overweight adults and 22% of obese adults have been diagnosed with diabetes.

During the past month, other than your regular job, did you participate in any physical activities or exercise?

- **Diabetics:** 53.2%
- **Non-Diabetics:** 77.7%
4.0%  2.1%

All Diabetics

Men

Women

Percent of Diabetics Who Are Current Smokers

17.3%  18.3%  16.4%

All Diabetics

Men

Women

Percent of Diabetics Who Are Heavy Drinkers*

4.0%  6.0%  2.1%

All Diabetics

Men

Women

*Men having two or more drinks per day. Women having more than one drink per day.
Prediabetes
When comparing the demographics of those diagnosed with diabetes to those diagnosed with prediabetes:

- More males than females had been diagnosed with both diabetes and prediabetes.
- A higher percentage of White, Non-Hispanics had been diagnosed with prediabetes than Black, Non-Hispanics. The opposite was true for a diagnosis of diabetes.
- The highest percentage of prediabetics had a household income between $35,000 and $49,999; it was $15,000 to $24,999 for diabetics.
Diabetes was the 7th leading cause of death in 2011-2012
Age-adjusted Death Rate & Percent of Population Deaths, 2010-2011

- 2.9% of deaths, 21.0 per 100,000
- 6.1% of deaths, 48.2 per 100,000
- 3.7% of deaths, 39.2 per 100,000
- 6.2% of deaths, 74.7 per 100,000
Percent of Deaths caused by Diabetes, Montgomery County, OH 2010-2011

Diabetes Deaths
- 0% - 1.1%
- 1.2% - 2.4%
- 2.5% - 3.4%
- 3.5% - 6.1%
- 6.2% - 8.6%
- Less than 10 deaths

Prepared by: Public Health - Dayton & Montgomery County Epidemiology Department
Why is Diabetes A Public Health Concern?

- Nearly 10% of the entire US population has diabetes.
- As many as 1 in 3 American adults will have diabetes in 2050 if present trends continue.
- 3,600 youth are newly diagnosed with type 2 diabetes annually.
- 1 in 10 health care dollars is spent treating diabetes and its complications.
- Diabetes is the leading cause of kidney failure and blindness.
- Heart disease death rates are about 2 to 4 times higher among adults with diabetes.

Source: ADA, 2013
What is Heart Disease?

Not a simple answer!
arrhythmias, heart attack, cardiovascular disease, atherosclerosis, myocardial infarction, congenital heart defects, coronary artery disease, congestive heart failure, circulatory system, plaque, endocarditis, subacute, pericardium, sudden cardiac death, hypertension.
What is Heart Disease?

Broad term used to describe several problems related to plaque buildup in the walls of the arteries (atherosclerosis). Also known as cardiovascular disease or coronary heart disease.
Heart Disease was the 2\textsuperscript{nd} leading cause of death in 2011-2012.
Heart Disease Death Rate per 100,000, 35+, All Race, All Gender 2008-2010

Highest Death Rate
Scioto, OH 581.6

Lowest Death Rate
Union, OH 302.6

Death Rate
Montgomery, OH 354.9

Percent of Deaths caused by Heart Disease, Montgomery County, OH 2010-2011

Heart Disease Deaths
- 16.8% - 18.5%
- 18.6% - 20.9%
- 21% - 24.7%
- 24.8% - 27.8%
- 27.9% - 45.5%
- Less than 10 deaths

Prepared by: Public Health - Dayton & Montgomery County Epidemiology Department
Age-adjusted Death Rate & Percent of Population Deaths 2010-2011

- 121.5 per 100,000 (18.6%)
- 179.8 per 100,000 (22.0%)
- 230.8 per 100,000 (22.8%)
- 272.0 per 100,000 (22.6%)
Risk Factors
Tobacco and Alcohol Use

46.9% have smoked cigarettes
- 23.1% are current smokers
- 23.8% are former smokers

16.9% binge drinkers
7.3% heavy drinker
### Diet Within Montgomery County

<table>
<thead>
<tr>
<th>Store Type</th>
<th>Count (Year)</th>
<th>Insecurity per 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Food Restaurants</td>
<td>- 440 (2007)</td>
<td>0.82 per 1,000</td>
</tr>
<tr>
<td></td>
<td>- 458 (2011)</td>
<td>0.86 per 1,000</td>
</tr>
<tr>
<td>Grocery Stores</td>
<td>- 82 (2007)</td>
<td>0.16 per 1,000</td>
</tr>
<tr>
<td></td>
<td>- 73 (2011)</td>
<td>0.14 per 1,000</td>
</tr>
<tr>
<td>Convenience Stores</td>
<td>- 199 (2007)</td>
<td>0.37 per 1,000</td>
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<tr>
<td></td>
<td>- 219 (2011)</td>
<td>0.41 per 1,000</td>
</tr>
<tr>
<td>Farmers Markets</td>
<td>- 4 (2009)</td>
<td>0.01 per 1,000</td>
</tr>
<tr>
<td></td>
<td>- 9 (2012)</td>
<td>0.02 per 1,000</td>
</tr>
<tr>
<td>Household Food Insecurity</td>
<td>- 9.8% (2000-2002)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 14.8% (2007-2009)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 16.1% (2010-2012)</td>
<td></td>
</tr>
</tbody>
</table>

Source: USDA, Food Environment Atlas
Housing units with no vehicle access and low access to food (at least 1 mile) by census tract.

Source: USDA Food Atlas
BMI and Physical Inactivity

Obese or Overweight (BMI > 25) by Race
Montgomery County, OH 2011-2012

No Physical Activity
Montgomery County, OH 2011-2012
23.3% of Blacks report never having their cholesterol checked.
High Blood Pressure by Race
Montgomery County, OH 2011

Blood Pressure

35.4% 34.3% 42.5%
All White Black
Why is Heart Disease A Public Health Concern?

- High blood pressure, high LDL cholesterol, and smoking are key heart disease risk factors – about half of Americans (49%) have at least one of these risk factors.

- About 600,000 Americans die from heart disease every year - 1 in every 4 deaths.

- In the US, someone has a heart attack every 34 seconds.

- Coronary heart disease alone costs the US $108.9 billion each year.

- It is the leading cause of death for Blacks, Hispanics, and Whites; and the second leading cause for Asian Americans or Pacific Islanders and American Indians or Alaska Natives.

CDC, 2013
What do diabetes and heart disease have in common?

- Prevalence of both diseases has increased among all races and ethnicities.
- Highest death rate by gender and race for both diseases is among Black males.
- Changes in lifestyle choices can lower your risk of both heart disease and diabetes.

They are both public health concerns.
An ounce of prevention is worth a pound of cure.

- Benjamin Franklin