The Increased Mortality Rate of Breast Cancer: A Health Disparity Among African American Women in Massachusetts as compared to the General Population

By: Alexia Achu, Catherine Phamduy, & Yen Phan
Female Breast Composition

- **Lobules**: milk producing glands
- **Ducts**: ducts that carry the milk from the lobules to the nipple
- **Stroma**: fatty tissue and connective tissue surrounding the ducts, lobules, blood vessels, and lymphatic vessels.

NIH: National Cancer Institute
Important Definitions

- **Cancer:** uncontrolled abnormal cell growth
- **Breast cancer:** arises from abnormal cell growth in the breast tissue

MRI of a healthy breast (left) versus MRI of a breast containing a tumor (right)
Genetic and Hormonal Factors

- Specific inherited mutations in BRCA\textsubscript{1} & BRCA\textsubscript{2}
  - genes that normally work to prevent cancer from developing

- Hormone testing
  - hormone (estrogen and progesterone) receptors and HER\textsubscript{2}/neu receptors
What are Health Disparities?

Health Disparities:

- preventable differences in the incidence, prevalence, mortality and burden of diseases and other adverse health conditions that exist among specific population in the United States

-N.I.H
Why is Breast Cancer Mortality a Health Disparity?

- African American women have a higher breast cancer mortality rate than the general population in the state of Massachusetts.
Breast Cancer Mortality Statistics in Massachusetts

Breast Cancer Deaths per 100,000 Women by Race/Ethnicity

Year 2011

Kff.org/state-category/womens-health/?state=MA
Contributing Factors to Breast Cancer Disparity

**Socioeconomic**
- Lack of Transportation
- Lack of Education
- Poor Health Insurance
- Cultural Barrier
- Income

**Access to Health Care**
- Delay of diagnosis
- Delivery of healthcare
- Treatment delay
- Lack of follow-up

**Lifestyle**
- Overweight & Obese
- Unhealthy Diet

**Genetic**
- Triple Negative Breast Cancer

Breast Cancer Disparity
Socioeconomic Status - Poverty Rate

Blacks are 5.5% of the total population, but make up 13.1% of the total poor. Conversely, whites are more than 76% of the total population, but only 51.8% of the poor.

Socioeconomic Status – Quality of Health Insurance

Medicaid Coverage Rates for the Nonelderly by Race/Ethnicity in 2013

<table>
<thead>
<tr>
<th>Location</th>
<th>White</th>
<th>Black</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts</td>
<td>15%</td>
<td>40%</td>
<td>21%</td>
</tr>
</tbody>
</table>

http://kff.org/medicaid/state-indicator/rate-by-raceethnicity-3/?state=MA
Quality of Health Care in Massachusetts

Percent of Women Age 40 and Older Who Report Having Had a Mammogram Within the Past Two Years by Race

- General Population: 84.6%
- African American: 85.2%

Percent of Women who Report Having No Personal Doctor/Health Care Provider by Race

- General Population: 8.1%
- African American: 9.4%

Kff.org/state-category/womens-health/?state=MA

Year 2013
Access to Health Care - Treatment

- Delay in diagnosis
- Treatment delay
- Lack of follow-up
- Poor treatment
## Lifestyle

### Obese Based on Body Mass Index by Race in Massachusetts

<table>
<thead>
<tr>
<th>Race</th>
<th>State 3-Year %</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Non-Hispanic</td>
<td>21.7 (21.1 - 22.4)</td>
</tr>
<tr>
<td>Black Non-Hispanic</td>
<td>30.6 (27.5 - 33.6)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>29.1 (26.3 - 31.8)</td>
</tr>
<tr>
<td>Asian Pacific Islander</td>
<td>8.1 (5.3 - 10.9)</td>
</tr>
</tbody>
</table>

Genetic Factors

- **Triple-negative-hormone/Hormone-negative tumors**
  - Triple Negative Breast Cancer: poorer prognosis due to a lack of a targeted treatment for triple negative cancers in comparison to other breast cancers.

A new method that predicts breast cancer risk specifically for African American women

Using this model expands the care for African American women at relative risk rather than absolute risk.
Undoing the Disparity
Summary

- Mortality rate of breast cancer in MA is higher in African American women

- Contributing factors

- Hopes for change
Questions?

http://health.clevelandclinic.org/2014/02/14-questions-about-your-breast-cancer-diagnosis/
References