SCREENING TRENDS IN NORTH CAROLINA: BREAST AND CERVICAL CANCERS

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By
Chandrika Jayathirtha
Carol Dickinson

North Carolina Central Cancer Registry
Background - Breast Cancer

- Breast cancer mortality is second only to lung cancer among women.

- Breast cancer is the most commonly diagnosed cancer among American women.

- If detected early, the 5-year survival rate for localized breast cancer is 97%.

Breast Cancer Screening
Mammography

- Best available method to detect breast cancer in its earliest, most treatable stage

- Women aged 40 years or older should have a mammogram screening every 1 to 2 years.

- Timely mammography screening could prevent approximately 16% of all deaths from breast cancer.

Cervical cancer is one of the most preventable cancers that affect women.

The incidence of invasive cervical cancer has decreased significantly over the last 40 years.

Continued screening not only facilitates early detection and diagnosis but also prevents unnecessary deaths.

Cervical Cancer Screening
Pap Test

- Detects cervical cancer at an early stage
- Women should begin getting a Pap test within three years of onset of sexual activity or age 21, whichever comes first.
- Screening at least every three years

Goals

- Compare screening across racial groups
- Identify differences in screening across regions of the state
- Determine whether recent incidence and mortality rate trends reflect improved diagnosis of breast and cervical cancers
Presentation Overview

Statewide screening trends from 1993-2005

Screening by
- Year
- Age
- Race
- Region

Demographic and regional differences in stage at diagnosis
Data Sources

- Results from the Behavioral Risk Factor Surveillance System (BRFSS)

- Statewide screening data from Breast and Cervical Cancer Control Program (BCCCP)

- Stage at diagnosis, incidence and mortality data from NC CCR
  - All rates are age-adjusted unless otherwise indicated
The Behavioral Risk Factor Surveillance System (BRFSS)

- Random telephone survey of residents age 18 and over

- Developed by CDC in collaboration with state health departments

- Data collected routinely on health behaviors and preventive health practices.

- Data collection focuses on leading causes of death and disability (cardiovascular disease, cancer, diabetes, injuries).
The NC Breast and Cervical Cancer Early Detection Program (BCCCP)

- Funded and administered by the Centers for Disease Control and Prevention (CDC)

- Helps low-income, uninsured, and underserved women gain access to lifesaving screening programs for early detection of breast and cervical cancers

http://www.cdc.gov/CANCER/nbccedp/about.htm
Total Number of Women Who Received a NCBCCCP Funded Mammogram, 1993-2005 (N=67,287)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Women</th>
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<tbody>
<tr>
<td>FY93</td>
<td>2,095</td>
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<tr>
<td>FY94</td>
<td>6,791</td>
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<td>10,228</td>
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<td>FY96</td>
<td>12,936</td>
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<td>FY97</td>
<td>14,631</td>
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<td>FY98</td>
<td>14,055</td>
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<td>9,371</td>
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<td>FY01</td>
<td>7,625</td>
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<td>8,429</td>
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<td>FY03</td>
<td>9,227</td>
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<tr>
<td>FY04</td>
<td>10,600</td>
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<tr>
<td>FY05</td>
<td>10,806</td>
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</tbody>
</table>
Percent Distribution of Women Who Received NCBCCC Funded Mammograms by Race, 1993-2005 (N=67,287)

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>White</td>
<td>53.5%</td>
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<tr>
<td>Black</td>
<td>37.3%</td>
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<td>* Others</td>
<td>9.2%</td>
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</table>

Others include: Asian/Pacific, Pacific Islander, American Indian, Multiracial, Hispanic, Unknown
Percent Distribution of Women Who Received NCBCCCP Funded Mammograms by Age Groups, 1993-2005 (N=67,287)

- <40: 6.0%
- 40-49: 32.6%
- 50-64: 47.8%
- 65-74: 9.1%
- 75+: 4.6%
Percentage with Mammogram Within Past 2 Years & Clinical Breast Exam Within a Year

61% White
63% Black
49% Others

Others include Asians, Native Americans & other Minorities

(Women >=40 years old) BRFSS Survey Results (2004)
Female Breast Cancer Incidence/ Mortality - NC CCR

Cases/Deaths Per 100,000

- Wh-Inc
- Bl-Inc
- Wh-Mort
- Bl-Mort

Years:
90-92
91-93
92-94
93-95
94-96
95-97
96-98
97-99
98-00
99-01
00-02
01-03
Female Breast Cancer Stage at Diagnosis (1999-2003) NC CCR

White
- In situ: 3%
- Local: 17%
- Regional: 24%
- Distant: 53%
- Unknown: 2%

Black
- In situ: 6%
- Local: 16%
- Regional: 31%
- Distant: 43%
- Unknown: 4%
### NC Stage at Diagnosis by Region


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<tr>
<th>Region</th>
<th>White</th>
<th>Black</th>
<th>Eastern</th>
<th>White</th>
<th>Black</th>
<th>Central</th>
<th>White</th>
<th>Black</th>
<th>Western</th>
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<td>Local</td>
<td>54%</td>
<td>42%</td>
<td>53%</td>
<td>44%</td>
<td>30%</td>
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Legend:
- **InSitu**: Stage in situ
- **Local**: Stage local
- **Regional**: Stage regional
- **Distant**: Stage distant
- **Unknown**: Stage unknown
Summary - Breast Cancer

- Whites have higher incidence and are diagnosed at an earlier stage, even across regions.

- Black women have higher mortality.

- Similar screening among White & Black women (BRFSS), but different pattern among those served by BCCCP.
### Total Number of Women Who Received a NCBCCCCP Funded Pap Test, 1993-2005 (N=66,612)

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<tr>
<td>FY93</td>
<td>2,100</td>
<td>6,381</td>
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<td>9,571</td>
<td>12,838</td>
<td>15,700</td>
<td>15,521</td>
<td>8,950</td>
<td>7,887</td>
<td>6,787</td>
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**FY99** - 8,950
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**FY01** - 6,787
**FY02** - 7,444
**FY03** - 7,991
**FY04** - 8,906
**FY05** - 8,929
Percent Distribution of Women Who Received NCBCCCP Funded Pap Test by Race, 1993-2005 (N=66,612)

- White: 53.2%
- Black: 35.7%
- * Other: 11.1%

Others include: Asian/Pacific, Pacific Islander, American Indian, Multiracial, Hispanic, Unknown
Percent Distribution of Women Who Received NCBCCCP Funded Pap Test, 1993-2005 by Age Group (N=66,612)

- <30: 4.9%
- 30-39: 10.1%
- 40-49: 28.9%
- 50-64: 42.3%
- 65+: 13.8%
Percentage of Women Ages 21+ Who Had Pap Smear in Last 3 Years

BRFSS Survey Results (2004)

<table>
<thead>
<tr>
<th>Race</th>
<th>% Yes</th>
</tr>
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<tbody>
<tr>
<td>White</td>
<td>89%</td>
</tr>
<tr>
<td>Black</td>
<td>90%</td>
</tr>
<tr>
<td>Others</td>
<td>87%</td>
</tr>
</tbody>
</table>

Others include Asians, Native Americans & Other Minorities
Cervical Cancer
Incidence/ Mortality - NC CCR

Cases/Deaths Per 100,000

- Wh-Inc
- Bl-Inc
- Wh-Mort
- Bl-Mort

Graph showing trends in cervical cancer incidence and mortality rates from 1990-92 to 2000-02.
Stage at Diagnosis
Invasive Cervical Cancer
(1999-2003) NC CCR

<table>
<thead>
<tr>
<th>Stage</th>
<th>White</th>
<th>Black</th>
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<tbody>
<tr>
<td>Unknown</td>
<td>4%</td>
<td>7%</td>
</tr>
<tr>
<td>Distant</td>
<td>28%</td>
<td>33%</td>
</tr>
<tr>
<td>Regional</td>
<td>60%</td>
<td>50%</td>
</tr>
<tr>
<td>Local</td>
<td>8%</td>
<td>10%</td>
</tr>
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</table>
Stage at Diagnosis by Region Cervical Cancer (1999-2003) NC CCR

<table>
<thead>
<tr>
<th>Region</th>
<th>Local</th>
<th>Regional</th>
<th>Distant</th>
<th>Unknown</th>
</tr>
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<tbody>
<tr>
<td>White</td>
<td>59%</td>
<td>30%</td>
<td>8%</td>
<td>4%</td>
</tr>
<tr>
<td>Black</td>
<td>47%</td>
<td>11%</td>
<td>11%</td>
<td>7%</td>
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<tr>
<td>Eastern</td>
<td>60%</td>
<td>26%</td>
<td>4%</td>
<td>10%</td>
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<tr>
<td>Central</td>
<td>61%</td>
<td>27%</td>
<td>4%</td>
<td>9%</td>
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<td>Western</td>
<td>51%</td>
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Summary - Cervical Cancer

- Racial gap narrowing in incidence and mortality
- Mortality rates leveling off
- Racial disparity still exists in stage at diagnosis across all regions
Recommendations
Breast Cancer

- Increase cancer education for Black women
- Increase frequency of screening for Black women
- Increase participation in early detection program in Eastern counties of NC
Recommendations
Cervical Cancer

- Screening works!!
- Needs to be more comprehensive
- Continue screening
Acknowledgements

- North Carolina Breast and Cervical Cancer Control Program
  - The breast and cervical cancer screening data were collected by the NC BCCCP which participates in the National Breast and Cervical Cancer Early Detection Program (NBCEDP) of the Centers for Disease Control and Prevention (CDC).

- North Carolina Central Cancer Registry (NC CCR)
  - The CCR data were collected by the North Carolina Central Cancer Registry, which participates in the National Program of Cancer Registries (NPCR) of the Centers for Disease Control and Prevention (CDC).


- http://www.schs.state.nc.us/SCHS/brfss/