Tennessee Department of Health (TDH)  
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MAIN POINT(S) OF CONTACT:  
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DATA SOURCES USED IN REPORT: Behavioral Risk Factor Surveillance System; Tennessee Cancer Registry  
STAKEHOLDERS (list organization names): Matthew Walker Health Center; TN Department of Health; Carin & Sharin Support Group; Church Health Center; Amerigroup; Neighborhood Health; Susan G. Komen affiliates; Methodist Le Bonheur Healthcare; Shelby County Health Department; TennCare; Meharry Medical College; Vanderbilt Breast Center; Sister’s Network; Southside/Dodson Ave. CHCS; Cigna; Resurrection Health; Metro Nashville Public Health Department; BlueCross/BlueShield of TN;  
ABSTRACT/DESCRIPTION (300 WORDS OR LESS):  
During 2008-2012, female residents of TN experienced the 36th highest breast cancer incidence rate and the 19th highest mortality rate compared to women in all 50 US states and the District of Columbia. Female residents of TN experienced a disparate breast cancer burden compared to most other females in the US, which is partially supported by the fact that TN females experienced the 12th highest breast cancer mortality-to-incidence ratio compared to other females in all 50 US states and the District of Columbia.  
As a part of this ASTHO demonstration project, maps were created using ARC-GIS software. Maps included incidence and mortality data by county and TDH region demonstrating disparities in the Southwest and Northwest regions. Age-adjusted rates for regional and distant stage breast cancers were calculated and mapped by county and TDH region demonstrating elevated rates in the Southwest region. Spatial analysis confirmed the results of the incidence, mortality and stage data presented. Females located in the western part of the Mid-Cumberland region experienced the highest average number of days to treatment after diagnosis, but were generally not above 60 days based on data stratified by county and race. Commission-on-Cancer-accredited (CoC-accredited) hospitals were mapped statewide and 30-, 45-, and 60-minute driving time buffers indicated that most Tennesseans are located within 30 minutes of a mammography facility. Behavioral Risk Factor Surveillance System data demonstrates that females located in the Southwest, Northwest and East TN regions have the highest prevalence of individuals 40 and older who have NOT received a mammogram within the past 2 years from the survey date.  
LESSONS LEARNED:  
TDH staff have come away with a general consensus that we work well as a team and that state data sources are easily accessible, perhaps more so than for comparable states. TDH has a number of data sources that could be used to address breast cancer disparities in TN. Analysis of data confirmed previous analyses demonstrating significant breast cancer disparities in Southwest TN among black individuals that led to the planning and implementation of breast cancer focus groups specifically targeting black individuals. These focus groups were used to collect qualitative data in four rural, minority communities. The qualitative findings revealed major barriers and some myths to low utilization of mammography screenings and factors that could lead to poor outcomes. The groups yielded consistent results in identifying common barriers to screening such as fear, irregular doctor visits if any, lack of health insurance, transportation, and denial. The findings also indicated that lack of trust in the healthcare system, poverty, lack of knowledge regarding health status, access to services, and late stage diagnosis were factors that could potentially lead to poor outcomes. Compared to white women in TN, black women have similar age-adjusted breast cancer incidence rates; however, age-adjusted breast cancer mortality rates are about 60% higher in black women compared to white women. Women in TN experience a greater burden of breast cancer compared to women in other states and the
District of Columbia, particularly for breast cancer mortality. A significant number of TN women live at least 30 minutes from a CoC-accredited cancer treatment hospital suggesting that many TN women may experience negative impacts on their health due to poor healthcare access. The in-state stakeholder meeting held on March 3, 2016 was generally a success as measured by the post-meeting evaluation. Many stakeholders from diverse organizations were present. Stakeholders were generally very happy with the information on screening and time-to-treatment. Improvements could be made to recruit more providers to the stakeholder table and for providing media technology so stakeholders from more distant parts of the state would not have had to travel to Nashville for the meeting.

<table>
<thead>
<tr>
<th>NEXT STEPS:</th>
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<tbody>
<tr>
<td>No work on breast cancer treatment quality has been completed to date. It is suggested that some analyses be performed using measures of breast cancer treatment quality, such as some CP3R measures developed to assess cancer treatment quality at CoC-accredited hospitals. Also address stakeholder needs identified during the in-state stakeholder meeting, including dissemination of data to stakeholders. Five-Year relative survival statistics by county, TDH region or other demographic subdivision could also be analyzed.</td>
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AT THE TIME OF THIS REPORT, _95_ COUNTIES ARE REPRESENTED IN THE DATA SETS.
This represents all counties in TN

AT THE TIME OF THIS REPORT, THE FOLLOWING DATA SOURCES WERE INCLUDED IN THIS ANALYSIS:

<table>
<thead>
<tr>
<th>DATA SOURCE</th>
<th>DATA RANGE YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TN Cancer Registry</td>
<td>2004-2013</td>
</tr>
<tr>
<td>TN Vital Records</td>
<td>2004-2013</td>
</tr>
<tr>
<td>TN BRFSS</td>
<td>2013</td>
</tr>
<tr>
<td>TN Hospitals</td>
<td>Current</td>
</tr>
<tr>
<td>TN Mammography Facilities</td>
<td>2015</td>
</tr>
</tbody>
</table>
Breast Cancer Incidence Rate by Region, 2004-2013

State Rate: 144.7 / 100,000

Age-Adjusted Rate Per 100,000
- 148.7 - 157.3
- 147.7 - 148.6
- 137.2 - 147.6
- 126.0 - 137.1
Breast Cancer Mortality Rate by Region, 2004-2013

State Data Report

Age-Adjusted Rate Per 100,000
- 23.8 - 30.4
- 22.3 - 23.7
- 21.6 - 22.2
- 20.7 - 21.5
2004-2013 Female Breast Cancer Incidence
Regional and Distant Stage

Age-Adjusted Rate
Per 100,000
- 48.8 - 65.3
- 43.3 - 48.7
- 38.6 - 43.2
- 33.8 - 38.7
- 30.2 - 38.7
- 23.7 - 30.1
2004-2013 Female Breast Cancer Incidence
Regional and Distant Stage
By TN Health Department Regions

Age-Adjusted Rate Per 100,000
- 45.0 - 51.9
- 44.4 - 45.9
- 41.2 - 44.3
- 37.8 - 41.1
Breast Cancer Incidence, 2004-2013

Ordinary Kriging

Age-Adjusted Rate Per 100,000
- 140.616667 – 173
- 135 – 140.616667
- 130 – 135
- 127 – 130
- 91 – 127
Breast Cancer Mortality, 2004-2013
Ordinary Kriging

Age-Adjusted Rate
Per 100,000
- 25 – 32.8
- 23.5 – 25
- 22.5 – 23.5
- 21.2 – 23.5
- 14.7 – 21.2
2004-2013 Female Breast Cancer Incidence
Regional and Distant Stage
Ordinary Kriging
Breast Cancer Mortality Rate by County, 2004-2013
Hot Spot Analysis

Legend
- Cold Spot - 99% Confidence
- Cold Spot - 95% Confidence
- Cold Spot - 90% Confidence
- Not Significant
- Hot Spot - 90% Confidence
- Hot Spot - 95% Confidence
- Hot Spot - 99% Confidence
- Data Suppressed
2004-2013 Female Breast Cancer Incidence
Regional and Distant Stage
Hot Spot Analysis
2004-2013 Female Breast Cancer
Average Number of Days from Diagnosis to Follow-Up
2004-2013 Female Breast Cancer by Race - Average Number of Days from Diagnosis to First Course of Treatment

White

African-American

Average Number Of Days
- 61 - 100
- 31 - 60
- 26 - 30
- 21 - 25
- 0 - 20
- No Cases
2004-2013 Female Breast Cancer Incidence
By Race

White

African-American

Age-Adjusted Rate Per 100,000

- 150.1 - 162.6
- 145.1 - 150.0
- 136.1 - 145.0
- 112.0 - 135.0
2004-2013 Female Breast Cancer Mortality
By Race

White

African-American

*Data suppressed when fewer than 11 cases.
Commission on Cancer Approved Hospitals With 45-Minute Drive Time Area

Legend
- CoC Approved Hospital
- 45-Minute Travel Time
Commission on Cancer Approved Hospitals
With 60-Minute Drive Time Area

Legend
- CoC Approved Hospital
- 60-Minute Travel Time

Tennessee Department of Health, Breast Cancer Learning Community Data Report
Mammography Facilities, Tennessee, 2014 / 2015
With 30-Minute Drive Time Areas

Data source: Association of State and Territorial Health Officials
Map produced by Office of Healthcare Statistics, Division of Policy, Planning and Assessment, Tennessee Department of Health
Mammography Facilities, Tennessee, 2014 / 2015

 Counties without Mammography Facility

Number of Units Per Facility

- 5 - 7
- 4
- 3
- 2
- 1

Data source: Association of State and Territorial Health Officials
Map produced by Office of Healthcare Statistics; Division of Policy, Planning and Assessment; Tennessee Department of Health
Mammography Facilities per Population
Tennessee Counties, 2014 / 2015

Data source: Association of State and Territorial Health Officials
Map produced by Office of Healthcare Statistics; Division of Policy, Planning and Assessment; Tennessee Department of Health

Ratio of Units to 100,000 Women 40+ (2014)
- 20.6 - 45.8
- 16.2 - 20.5
- 12.3 - 15.1
- 9.1 - 12.2
- 0.0 - 9.0
Mammography Facilities per Population
Tennessee Regions, 2014 / 2015

Ratio of Units to 100,000 Women 40+ (2014)

- 22.6 - 31.6
- 14.8 - 22.5
- 11.3 - 14.7
- 7.5 - 11.2

Data source: Association of State and Territorial Health Officials
Map produced by Office of Healthcare Statistics; Division of Policy, Planning and Assessment; Tennessee Department of Health
Tennessee Behavioral Risk Factor Surveillance Survey, 2013
Have you ever had a clinical breast exam?

*Percent who responded "Yes"
Tennessee Behavioral Risk Factor Surveillance Survey, 2013

Have you ever had a mammogram?

*Percent who responded "Yes"
Tennessee Behavioral Risk Factor Surveillance Survey, 2013
For female respondents age 40 or older:
Have you NOT had a mammogram within the past two years?

*Percent of women 40 or over who responded, "No" to the question:
"Have you had a mammogram within the past two years?"