Quantitative Data: Measuring Breast Cancer Impact in Local Communities Example

**Note:** This is an example of what a Quantitative Data narrative section may look like. The “Quantitative Data Report” section and the “Selection of Target Communities” section are from two different Affiliates. Therefore the numbers used in the “Selection of Target Communities” will not match those provided in tables 1-7. For more information, please see the Quantitative Data Section Template in Module 6 on myKomen: http://mykomen.org/mission/community_health/community_profile/m/module_6_toolkit_putting_the_cp_report_together/17497.aspx.

**Quantitative Data Report**

**Introduction**
The purpose of the quantitative data report for the Pink Affiliate of Susan G. Komen® is to combine evidence from many credible sources and use the data to identify the highest priority areas for evidence-based breast cancer programs.

The data provided in the report are used to identify priorities within the Affiliate’s service area based on estimates of how long it would take an area to achieve Healthy People 2020 objectives for breast cancer late-stage diagnosis and mortality (http://www.healthypeople.gov/2020/default.aspx). The following is a summary of the Komen Pink Affiliate’s Quantitative Data Report. For a full report please contact the Affiliate.

**Breast Cancer Statistics (Table 1)**

*Incidence rates*

The breast cancer incidence rate shows the frequency of new cases of breast cancer among women living in an area during a certain time period. Incidence rates may be calculated for all women or for specific groups of women (e.g. for Asian/Pacific Islander women living in the area).

The female breast cancer incidence rate is calculated as the number of females in an area who were diagnosed with breast cancer divided by the total number of females living in that area.

Incidence rates are usually expressed in terms of 100,000 people. For example, suppose there are 50,000 females living in an area and 60 of them are diagnosed with breast cancer during a certain time period. Sixty out of 50,000 is the same as 120 out of 100,000. So the female breast cancer incidence rate would be reported as 120 per 100,000 for that time period.
When comparing breast cancer rates for an area where many older people live to rates for an area where younger people live, it’s hard to know whether the differences are due to age or whether other factors might also be involved. To account for age, breast cancer rates are usually adjusted to a common standard age distribution.

To show trends (changes over time) in cancer incidence, data for the annual percent change in the incidence rate over a five-year period were included in the report. The annual percent change is the average year-to-year change of the incidence rate. It may be either a positive or negative number.

- A negative value means that the rates are getting lower.
- A positive value means that the rates are getting higher.
- A positive value (rates getting higher) may seem undesirable—and it generally is. However, it’s important to remember that an increase in breast cancer incidence could also mean that more breast cancers are being found because more women are getting mammograms. So higher rates don’t necessarily mean that there has been an increase in the occurrence of breast cancer.

**Death rates**

The breast cancer death rate shows the frequency of death from breast cancer among women living in a given area during a certain time period. Like incidence rates, death rates may be calculated for all women or for specific groups of women (e.g. Black women).

The death rate is calculated as the number of women from a particular geographic area who died from breast cancer divided by the total number of women living in that area. Death rates are shown in terms of 100,000 women and adjusted for age. Data are included for the annual percent change in the death rate over a five-year period.

The meanings of these data are the same as for incidence rates, with one exception. Changes in screening don’t affect death rates in the way that they affect incidence rates. So a negative value, which means that death rates are getting lower, is always desirable. A positive value, which means that death rates are getting higher, is always undesirable.

**Late-stage diagnosis**

For this report, late-stage breast cancer is defined as regional or distant stage using the Surveillance, Epidemiology and End Results (SEER) Summary Stage definitions ([http://seer.cancer.gov/tools/ssm/](http://seer.cancer.gov/tools/ssm/)). State and national reporting usually uses the SEER
Summary Stage. It provides a consistent set of definitions of stages for historical comparisons.

The late-stage breast cancer incidence rate is calculated as the number of women with regional or distant breast cancer in a particular geographic area divided by the number of women living in that area. Late-stage incidence rates are shown in terms of 100,000 women and adjusted for age.

Table 1. Female breast cancer incidence rates and trends, death rates and trends, and late-stage rates and trends.

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Incidence Rates and Trends</th>
<th>Death Rates and Trends</th>
<th>Late-stage Rates and Trends</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female Population (Annual Average)</td>
<td># of New Cases (Annual Average)</td>
<td>Age-adjusted Rate/100,000</td>
</tr>
<tr>
<td>US</td>
<td>154,540,194</td>
<td>182,234</td>
<td>122.1</td>
</tr>
<tr>
<td>HP2020</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>State</td>
<td>2,426,817</td>
<td>3,333</td>
<td>118.7</td>
</tr>
<tr>
<td>Komen Pink Affiliate Service Area</td>
<td>1,519,436</td>
<td>2,078</td>
<td>117.1</td>
</tr>
<tr>
<td>White</td>
<td>1,137,025</td>
<td>1,621</td>
<td>113.9</td>
</tr>
<tr>
<td>Black</td>
<td>354,522</td>
<td>425</td>
<td>125.6</td>
</tr>
<tr>
<td>AIAN</td>
<td>9,727</td>
<td>SN</td>
<td>SN</td>
</tr>
<tr>
<td>API</td>
<td>18,162</td>
<td>13</td>
<td>93.4</td>
</tr>
<tr>
<td>Non-Hispanic/ Latina</td>
<td>1,468,505</td>
<td>2,067</td>
<td>118.0</td>
</tr>
<tr>
<td>Hispanic/ Latina</td>
<td>50,931</td>
<td>12</td>
<td>62.0</td>
</tr>
<tr>
<td>County</td>
<td>10,580</td>
<td>15</td>
<td>118.0</td>
</tr>
<tr>
<td>County</td>
<td>28,581</td>
<td>31</td>
<td>88.4</td>
</tr>
<tr>
<td>County</td>
<td>60,720</td>
<td>80</td>
<td>110.5</td>
</tr>
<tr>
<td>County</td>
<td>18,062</td>
<td>23</td>
<td>102.5</td>
</tr>
</tbody>
</table>

NA – data not available
SN – data suppressed due to small numbers (15 cases or fewer for the 5-year data period)
Data are for years 2006-2010.
Rates are in cases or deaths per 100,000.
Age-adjusted rates are adjusted to the 2000 US standard population.
Source of incidence and late-stage data: NAACCR – CINA Deluxe Analytic File.
Source of death trend data: NCI/CDC State Cancer Profiles.

Incidence rates and trends summary
Overall, the breast cancer incidence rate and trend in the Komen Pink Affiliate service area were lower than that observed in the US as a whole. The incidence rate and trend of the Affiliate service area were not significantly different than that observed for the State.
For the United States, breast cancer incidence in Blacks is lower than in Whites overall. The most recent estimated breast cancer incidence rates for APIs and AIANs were lower than for Non-Hispanic Whites and Blacks. The most recent estimated incidence rates for Hispanics/Latinas were lower than for Non-Hispanic Whites and Blacks. For the Affiliate service area as a whole, the incidence rate was higher among Blacks than Whites and lower among APIs than Whites. There were not enough data available within the Affiliate service area to report on AIANs so comparisons cannot be made for this racial group. The incidence rate among Hispanics/Latinas was lower than among Non-Hispanics/Latinas.

The following counties had an incidence rate significantly higher than the Affiliate service area as a whole:

- County

The incidence rate was significantly lower in the following counties:

- County

**Significantly less favorable trends** in breast cancer incidence rates were observed in the following county:

- County

Significantly more favorable trends in breast cancer incidence rates were observed in the following counties:

- County

The rest of the counties had incidence rates and trends that were not significantly different than the Affiliate service area as a whole or did not have enough data available.

It’s important to remember that an increase in breast cancer incidence could also mean that more breast cancers are being found because more women are getting mammograms. Section 2.3 contains information about screening rates.

**Death rates and trends summary**

Overall, the breast cancer death rate in the Komen Pink Affiliate service area was similar to that observed in the US as a whole and the death rate trend was not available for comparison with the US as a whole. The death rate of the Affiliate service area was not significantly different than that observed for the State. For the United States, breast cancer death rates in Blacks are substantially higher than in Whites overall. The most recent estimated breast cancer death rates for APIs and
AIANs were lower than for Non-Hispanic Whites and Blacks. The most recent estimated death rates for Hispanics/Latinas were lower than for Non-Hispanic Whites and Blacks. For the Affiliate service area as a whole, the death rate was higher among Blacks than Whites. There were not enough data available within the Affiliate service area to report on APIs and AIANs so comparisons cannot be made for these racial groups. Also, there were not enough data available within the Affiliate service area to report on Hispanics/Latinas so comparisons cannot be made for this group.

The following counties had a death rate **significantly higher** than the Affiliate service area as a whole:

- County

**Significantly less favorable trends** in breast cancer death rates were observed in the following county:

- County

The rest of the counties had death rates and trends that were not significantly different than the Affiliate service area as a whole or did not have enough data available.

**Late-stage incidence rates and trends summary**

Overall, the breast cancer late-stage incidence rate in the Komen Pink Affiliate service area was slightly higher than that observed in the US as a whole and the late-stage incidence trend was lower than the US as a whole. The late-stage incidence rate and trend of the Affiliate service area were not significantly different than that observed for the State.

For the United States, late-stage incidence rates in Blacks are higher than among Whites. Hispanics/Latinas tend to be diagnosed with late-stage breast cancers more often than Whites. For the Affiliate service area as a whole, the late-stage incidence rate was higher among Blacks than Whites and lower among APIs than Whites. There were not enough data available within the Affiliate service area to report on AIANs so comparisons cannot be made for this racial group. The late-stage incidence rate among Hispanics/Latinas was lower than among Non-Hispanics/Latinas.

The following counties had a late-stage incidence rate **significantly higher** than the Affiliate service area as a whole:

- County

The rest of the counties had late-stage incidence rates and trends that were not significantly different than the Affiliate service area as a whole or did not have enough data available.
Mammography Screening
Getting regular screening mammograms (and treatment if diagnosed) lowers the risk of dying from breast cancer. Screening mammography can find breast cancer early, when the chances of survival are highest. Table 2 shows some screening recommendations among major organizations for women at average risk.

<table>
<thead>
<tr>
<th>Susan G. Komen</th>
<th>American Cancer Society</th>
<th>National Cancer Institute</th>
<th>National Comprehensive Cancer Network</th>
<th>US Preventive Services Task Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammography every year starting at age 40</td>
<td>Mammography every year starting at age 40</td>
<td>Mammography every 1-2 years starting at age 40</td>
<td>Mammography every year starting at age 40</td>
<td>Informed decision-making with a health care provider ages 40-49</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mammography every 2 years ages 50-74</td>
</tr>
</tbody>
</table>

Because having mammograms lowers the chances of dying from breast cancer, it’s important to know whether women are having mammograms when they should. This information can be used to identify groups of women who should be screened who need help in meeting the current recommendations for screening mammography. The Centers for Disease Control and Prevention’s (CDC) Behavioral Risk Factors Surveillance System (BRFSS) collected the data on mammograms that are used in this report. The data come from interviews with women age 50 to 74 from across the United States. During the interviews, each woman was asked how long it has been since she has had a mammogram. BRFSS is the best and most widely used source available for information on mammography usage among women in the United States, although it does not collect data matching Komen screening recommendations (i.e. from women age 40 and older). The proportions in Table 3 are based on the number of women age 50 to 74 who reported in 2012 having had a mammogram in the last two years.

The data have been weighted to account for differences between the women who were interviewed and all the women in the area. For example, if 20 percent of the women interviewed are Latina, but only 10 percent of the total women in the area are Latina, weighting is used to account for this difference.
The report uses the mammography screening proportion to show whether the women in an area are getting screening mammograms when they should. Mammography screening proportion is calculated from two pieces of information:

- The number of women living in an area whom the BRFSS determines should have mammograms (i.e. women age 50 to 74).
- The number of these women who actually had a mammogram during the past two years.

The number of women who had a mammogram is divided by the number who should have had one. For example, if there are 500 women in an area who should have had mammograms and 250 of those women actually had a mammogram in the past two years, the mammography screening proportion is 50 percent.

Because the screening proportions come from samples of women in an area and are not exact, Table 3 includes confidence intervals. A confidence interval is a range of values that gives an idea of how uncertain a value may be. It's shown as two numbers—a lower value and a higher one. It is very unlikely that the true rate is less than the lower value or more than the higher value.

For example, if screening proportion was reported as 50 percent, with a confidence interval of 35 to 65, you would know that the real rate might not be exactly 50 percent, but it's very unlikely that it's less than 35 or more than 65 percent.

In general, screening proportions at the county level have fairly wide confidence intervals. The confidence interval should always be considered before concluding that the screening proportion in one county is higher or lower than that in another county.
Table 3. Proportion of women ages 50-74 with screening mammography in the last two years, self-report.

<table>
<thead>
<tr>
<th>Population Group</th>
<th># of Women Interviewed (Sample Size)</th>
<th># w/ Self-Reported Mammogram</th>
<th>Proportion Screened (Weighted Average)</th>
<th>Confidence Interval of Proportion Screened</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>174,796</td>
<td>133,399</td>
<td>77.5%</td>
<td>77.2%-77.7%</td>
</tr>
<tr>
<td>State</td>
<td>4,006</td>
<td>3,128</td>
<td>78.0%</td>
<td>76.2%-79.7%</td>
</tr>
<tr>
<td>Komen Pink Affiliate Service Area</td>
<td>2,258</td>
<td>1,764</td>
<td>78.7%</td>
<td>76.4%-80.9%</td>
</tr>
<tr>
<td>White</td>
<td>1,759</td>
<td>1,353</td>
<td>78.1%</td>
<td>75.5%-80.5%</td>
</tr>
<tr>
<td>Black</td>
<td>461</td>
<td>381</td>
<td>81.6%</td>
<td>76.1%-86.1%</td>
</tr>
<tr>
<td>AIAN</td>
<td>14</td>
<td>12</td>
<td>92.0%</td>
<td>46.5%-99.3%</td>
</tr>
<tr>
<td>API SN SN SN SN</td>
<td>34</td>
<td>28</td>
<td>75.8%</td>
<td>51.6%-90.2%</td>
</tr>
<tr>
<td>Hispanic/ Latina</td>
<td>34</td>
<td>28</td>
<td>75.8%</td>
<td>51.6%-90.2%</td>
</tr>
<tr>
<td>County SN SN SN SN SN SN</td>
<td>34</td>
<td>28</td>
<td>75.8%</td>
<td>51.6%-90.2%</td>
</tr>
<tr>
<td>County</td>
<td>35</td>
<td>30</td>
<td>89.6%</td>
<td>64.5%-97.6%</td>
</tr>
<tr>
<td>County</td>
<td>32</td>
<td>28</td>
<td>86.4%</td>
<td>64.4%-95.7%</td>
</tr>
<tr>
<td>County</td>
<td>125</td>
<td>82</td>
<td>86.4%</td>
<td>64.4%-95.7%</td>
</tr>
<tr>
<td>County</td>
<td>36</td>
<td>28</td>
<td>86.1%</td>
<td>65.2%-95.4%</td>
</tr>
</tbody>
</table>

SN – data suppressed due to small numbers (fewer than 10 samples).
Data are for 2012.
Source: CDC – Behavioral Risk Factor Surveillance System (BRFSS).

Breast cancer screening proportions summary
The breast cancer screening proportion in the Komen Pink Affiliate service area was not significantly different than that observed in the US as a whole. The screening proportion of the Affiliate service area was not significantly different than the State.

For the United States, breast cancer screening proportions among Blacks are similar to those among Whites overall. APIs have somewhat lower screening proportions than Whites and Blacks. Although data are limited, screening proportions among AIANs are similar to those among Whites. Screening proportions among Hispanics/Latinas are similar to those among Non-Hispanic Whites and Blacks. For the Affiliate service area as a whole, the screening proportion was not significantly different among Blacks than Whites and not significantly different among AIANs than Whites. There were not enough data available within the Affiliate service area to report on APIs so comparisons cannot be made for this racial group. The screening proportion among Hispanics/Latinas was not significantly different than among Non-Hispanics/Latinas.
The following counties had a screening proportion **significantly lower** than the Affiliate service area as a whole:

- County
- County

The remaining counties had screening proportions that were not significantly different than the Affiliate service area as a whole.

**Population Characteristics**

The report includes basic information about the women in each area (demographic measures) and about factors like education, income, and unemployment (socioeconomic measures) in the areas where they live (Tables 4 and 5).

It is important to note that the report uses the race and ethnicity categories used by the US Census Bureau, and that race and ethnicity are separate and independent categories. This means that everyone is classified as both a member of one of the four race groups as well as either Hispanic/Latina or Non-Hispanic/Latina. Demographic and socioeconomic data can be used to identify which groups of women are most in need of help and to figure out the best ways to help them.

The demographic and socioeconomic data in this report are the most recent data available for US counties. All the data are shown as percentages. However, the percentages weren’t all calculated in the same way.

- The race, ethnicity, and age data are based on the total female population in the area (e.g. the percent of females over the age of 40).
- The socioeconomic data are based on all the people in the area, not just women.
- Income, education and unemployment data don’t include children. They’re based on people age 15 and older for income and unemployment and age 25 and older for education.
- The data on the use of English, called “linguistic isolation”, are based on the total number of households in the area. The Census Bureau defines a linguistically isolated household as one in which all the adults have difficulty with English.
**Table 4. Population characteristics – demographics.**

<table>
<thead>
<tr>
<th>Population Group</th>
<th>White</th>
<th>Black</th>
<th>AIAN</th>
<th>API</th>
<th>Non-Hispanic/Latina</th>
<th>Hispanic/Latina</th>
<th>Female Age 40 Plus</th>
<th>Female Age 50 Plus</th>
<th>Female Age 65 Plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>78.8%</td>
<td>14.1%</td>
<td>1.4%</td>
<td>5.8%</td>
<td>83.8%</td>
<td>16.2%</td>
<td>48.3%</td>
<td>34.5%</td>
<td>14.8%</td>
</tr>
<tr>
<td>State</td>
<td>70.0%</td>
<td>27.9%</td>
<td>0.7%</td>
<td>1.4%</td>
<td>96.5%</td>
<td>3.5%</td>
<td>49.2%</td>
<td>35.8%</td>
<td>15.6%</td>
</tr>
<tr>
<td>Komen Pink Affiliate Service Area</td>
<td>74.3%</td>
<td>23.6%</td>
<td>0.7%</td>
<td>1.3%</td>
<td>96.0%</td>
<td>4.0%</td>
<td>49.7%</td>
<td>36.1%</td>
<td>15.8%</td>
</tr>
<tr>
<td>County</td>
<td>80.2%</td>
<td>19.2%</td>
<td>0.3%</td>
<td>0.2%</td>
<td>98.7%</td>
<td>1.3%</td>
<td>50.6%</td>
<td>36.0%</td>
<td>16.4%</td>
</tr>
<tr>
<td>County</td>
<td>96.9%</td>
<td>2.0%</td>
<td>0.6%</td>
<td>0.4%</td>
<td>92.5%</td>
<td>7.5%</td>
<td>50.4%</td>
<td>36.7%</td>
<td>16.5%</td>
</tr>
<tr>
<td>County</td>
<td>76.3%</td>
<td>22.1%</td>
<td>0.5%</td>
<td>1.1%</td>
<td>97.0%</td>
<td>3.0%</td>
<td>50.1%</td>
<td>37.3%</td>
<td>16.4%</td>
</tr>
<tr>
<td>County</td>
<td>58.8%</td>
<td>40.3%</td>
<td>0.2%</td>
<td>0.7%</td>
<td>98.7%</td>
<td>1.3%</td>
<td>54.1%</td>
<td>40.9%</td>
<td>19.2%</td>
</tr>
</tbody>
</table>

Data are for 2011.
Data are in the percentage of women in the population.
Source: US Census Bureau – Population Estimates

**Table 5. Population characteristics – socioeconomics.**

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Less than HS Education</th>
<th>Income Below 100% Poverty</th>
<th>Income Below 250% Poverty (Age: 40-64)</th>
<th>Unemployed</th>
<th>Foreign Born</th>
<th>Linguistically Isolated</th>
<th>In Rural Areas</th>
<th>In Medically Underserved Areas</th>
<th>No Health Insurance (Age: 40-64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>14.6%</td>
<td>14.3%</td>
<td>33.3%</td>
<td>8.7%</td>
<td>12.8%</td>
<td>4.7%</td>
<td>19.3%</td>
<td>23.3%</td>
<td>16.6%</td>
</tr>
<tr>
<td>State</td>
<td>18.1%</td>
<td>17.6%</td>
<td>40.1%</td>
<td>9.6%</td>
<td>3.4%</td>
<td>1.3%</td>
<td>41.0%</td>
<td>61.3%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Komen Pink Affiliate Service Area</td>
<td>18.2%</td>
<td>16.6%</td>
<td>38.9%</td>
<td>9.5%</td>
<td>3.7%</td>
<td>1.5%</td>
<td>42.0%</td>
<td>55.3%</td>
<td>15.4%</td>
</tr>
<tr>
<td>County</td>
<td>24.1%</td>
<td>15.7%</td>
<td>45.2%</td>
<td>9.6%</td>
<td>1.3%</td>
<td>0.3%</td>
<td>68.4%</td>
<td>100.0%</td>
<td>15.5%</td>
</tr>
<tr>
<td>County</td>
<td>26.8%</td>
<td>13.7%</td>
<td>40.9%</td>
<td>9.1%</td>
<td>4.5%</td>
<td>2.7%</td>
<td>90.0%</td>
<td>100.0%</td>
<td>17.8%</td>
</tr>
<tr>
<td>County</td>
<td>22.1%</td>
<td>20.4%</td>
<td>42.8%</td>
<td>12.0%</td>
<td>2.3%</td>
<td>1.1%</td>
<td>33.7%</td>
<td>100.0%</td>
<td>15.4%</td>
</tr>
<tr>
<td>County</td>
<td>25.8%</td>
<td>21.0%</td>
<td>51.2%</td>
<td>14.9%</td>
<td>1.1%</td>
<td>0.3%</td>
<td>49.1%</td>
<td>30.1%</td>
<td>17.6%</td>
</tr>
</tbody>
</table>

Data are in the percentage of people (men and women) in the population.
Source of health insurance data: US Census Bureau – Small Area Health Insurance Estimates (SAHIE) for 2011.
Source of medically underserved data: Health Resources and Services Administration (HRSA) for 2013.
Source of other data: US Census Bureau – American Community Survey (ACS) for 2007-2011.

**Population characteristics summary**

Proportionately, the Komen Pink Affiliate service area has a slightly smaller White female population than the US as a whole, a substantially larger Black female population, a substantially smaller Asian and Pacific Islander (API) female population, a slightly smaller American Indian and Alaska Native (AIAN) female population, and a substantially smaller Hispanic/Latina female population. The Affiliate’s female population is slightly older than that of the US as a whole. The Affiliate’s education level is slightly lower than and income level is slightly lower than those of the US as a whole.
There are a slightly larger percentage of people who are unemployed in the Affiliate service area. The Affiliate service area has a substantially smaller percentage of people who are foreign born and a substantially smaller percentage of people who are linguistically isolated. There are a substantially larger percentage of people living in rural areas, a slightly smaller percentage of people without health insurance, and a substantially larger percentage of people living in medically underserved areas.

The following counties have substantially larger Black female population percentages than that of the Affiliate service area as a whole:

- County
- County

The following county has substantially larger AIAN female population percentages than that of the Affiliate service area as a whole:

- County

The following counties have substantially larger Hispanic/Latina female population percentages than that of the Affiliate service area as a whole:

- County
- County

The following county has substantially older female population percentages than that of the Affiliate service area as a whole:

- County

The following counties have substantially lower education levels than that of the Affiliate service area as a whole:

- County
- County

The following counties have substantially lower income levels than that of the Affiliate service area as a whole:

- County

The following counties have substantially larger percentage of adults without health insurance than does the Affiliate service area as a whole:

- County
Priority Areas

Healthy People 2020 forecasts

Healthy People 2020 (HP2020) is a major federal government initiative that provides specific health objectives for communities and for the country as a whole. Many national health organizations use HP2020 targets to monitor progress in reducing the burden of disease and improve the health of the nation. Likewise, Komen believes it is important to refer to HP2020 to see how areas across the country are progressing towards reducing the burden of breast cancer.

HP2020 has several cancer-related objectives, including:

- Reducing women’s death rate from breast cancer (Target: 20.6 per 100,000 women).
- Reducing the number of breast cancers that are found at a late-stage (Target: 41.0 cases per 100,000 women).

To see how well counties in the Komen Pink Affiliate service area are progressing toward these targets, the report uses the following information:

- County breast cancer death rate and late-stage diagnosis data for years 2006 to 2010.
- Estimates for the trend (annual percent change) in county breast cancer death rates and late-stage diagnoses for years 2006 to 2010.
- Both the data and the HP2020 target are age-adjusted.

These data are used to estimate how many years it will take for each county to meet the HP2020 objectives. Because the target date for meeting the objective is 2020, and 2008 (the middle of the 2006-2010 period) was used as a starting point, a county has 12 years to meet the target.

Death rate and late-stage diagnosis data and trends are used to calculate whether an area will meet the HP2020 target, assuming that the trend seen in years 2006 to 2010 continues for 2011 and beyond.

Identification of priority areas

The purpose of this report is to combine evidence from many credible sources and use the data to identify the highest priority areas for breast cancer programs (i.e. the areas of greatest need).
Classification of priority areas are based on the time needed to achieve HP2020 targets in each area. These time projections depend on both the starting point and the trends in death rates and late-stage incidence.

Late-stage incidence reflects both the overall breast cancer incidence rate in the population and the mammography screening coverage. The breast cancer death rate reflects the access to care and the quality of care in the health care delivery area, as well as cancer stage at diagnosis.

There has not been any indication that either one of the two HP2020 targets is more important than the other. Therefore, the report considers them equally important. Counties are classified as follows (Table 6):

- Counties that are not likely to achieve either of the HP2020 targets are considered to have the highest needs.
- Counties that have already achieved both targets are considered to have the lowest needs.
- Other counties are classified based on the number of years needed to achieve the two targets.

<table>
<thead>
<tr>
<th>Time to Achieve Death Rate Reduction Target</th>
<th>Time to Achieve Late-stage Incidence Reduction Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 6 yrs.</td>
<td>13 years or longer</td>
</tr>
<tr>
<td>Current meets target</td>
<td>Highest</td>
</tr>
<tr>
<td>Unknown</td>
<td>13 years or longer</td>
</tr>
</tbody>
</table>

Table 6. Needs/priority classification based on the projected time to achieve HP2020 breast cancer targets.

If the time to achieve a target cannot be calculated for one of the HP2020 indicators, then the county is classified based on the other indicator. If both indicators are missing, then the county is not classified. This doesn't mean that the county may not have high needs; it only means that sufficient data are not available to classify the county.

**Affiliate Service Area Healthy People 2020 Forecasts and Priority Areas**

The results presented in Table 7 help identify which counties have the greatest needs when it comes to meeting the HP2020 breast cancer targets.
• For counties in the “13 years or longer” category, current trends would need to change to achieve the target.
• Some counties may currently meet the target but their rates are increasing and they could fail to meet the target if the trend is not reversed.

Trends can change for a number of reasons, including:
• Improved screening programs could lead to breast cancers being diagnosed earlier, resulting in a decrease in both late-stage incidence rates and death rates.
• Improved socioeconomic conditions, such as reductions in poverty and linguistic isolation could lead to more timely treatment of breast cancer, causing a decrease in death rates.

The data in this table should be considered together with other information on factors that affect breast cancer death rates such as screening rates and key breast cancer death determinants such as poverty and linguistic isolation.

**Table 7.** Intervention priorities for Komen Pink Affiliate service area with predicted time to achieve the HP2020 breast cancer targets and key population characteristics.

<table>
<thead>
<tr>
<th>County</th>
<th>Priority</th>
<th>Predicted Time to Achieve Death Rate Target</th>
<th>Predicted Time to Achieve Late-stage Incidence Target</th>
<th>Key Population Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>Highest</td>
<td>SN</td>
<td>13 years or longer</td>
<td>%Black, education, poverty, employment, rural, medically underserved</td>
</tr>
<tr>
<td>County</td>
<td>Medium</td>
<td>13 years or longer</td>
<td>8 years</td>
<td>Medically underserved</td>
</tr>
<tr>
<td>County</td>
<td>Medium Low</td>
<td>SN</td>
<td>1 year</td>
<td>Rural</td>
</tr>
<tr>
<td>County</td>
<td>Undetermined</td>
<td>SN</td>
<td>SN</td>
<td>%Black, education, employment, rural, medically underserved</td>
</tr>
</tbody>
</table>

NA – data not available.
SN – data suppressed due to small numbers (15 cases or fewer for the 5-year data period).
Map of Intervention Priority Areas

Figure 1 shows a map of the intervention priorities for the counties in the Affiliate service area. When both of the indicators used to establish a priority for a county are not available, the priority is shown as “undetermined” on the map.

Figure 1. Intervention priorities.
Data Limitations
The following data limitations need to be considered when utilizing the data of the Quantitative Data Report:

- The most recent data available were used but, for cancer incidence and mortality, these data are still several years behind.
- For some areas, data might not be available or might be of varying quality.
- Areas with small populations might not have enough breast cancer cases or breast cancer deaths each year to support the generation of reliable statistics.
- There are often several sources of cancer statistics for a given population and geographic area; therefore, other sources of cancer data may result in minor differences in the values even in the same time period.
- Data on cancer rates for specific racial and ethnic subgroups such as Somali, Hmong, or Ethiopian are not generally available.
- The various types of breast cancer data in this report are inter-dependent.
- There are many factors that impact breast cancer risk and survival for which quantitative data are not available. Some examples include family history, genetic markers like HER2 and BRCA, other medical conditions that can complicate treatment, and the level of family and community support available to the patient.
- The calculation of the years needed to meet the HP2020 objectives assume that the current trends will continue until 2020. However, the trends can change for a number of reasons.
- Not all breast cancer cases have a stage indication.

Quantitative Data Report Conclusions

Highest priority areas
One county in the Komen Pink Affiliate service area is in the highest priority category. County is not likely to meet the late-stage incidence rate HP2020 target.

The death rates in County (27.2 per 100,000) are significantly higher than the Affiliate service area as a whole (22.8 per 100,000). County has a relatively large Black population, low education levels, high poverty rates and high unemployment.

Additional Quantitative Data Exploration (if applicable)
(Affiliate did not collect additional data. In the final report this section will be deleted if the Affiliate did not collect additional data.)
Selection of Target Communities

In order to be the most efficient stewards of resources, Susan G. Komen Pink Affiliate has chosen five target communities within the service area. The Affiliate will focus strategic efforts on these target communities over the course of the next five years. Target communities are those communities which have cumulative key indicators showing an increased chance of vulnerable populations likely at risk for experiencing gaps in breast health services and/or barriers in access to care.

When selecting target communities, the Affiliate reviewed Healthy People 2020, a major federal government initiative that provides specific health objectives for communities and the country as a whole. Specific to Komen Pink’s work, goals around reducing women’s death rate from breast cancer and reducing the number of breast cancers found at a late-stage were analyzed. Through this review, areas of priority were identified based on the time needed to meet Healthy People 2020 targets for breast cancer.

Additional key indicators the Affiliate reviewed when selecting target counties included, but were not limited to:

- Incidence rates and trends
- Death rates and trends
- Late stage rates and trends
- Below average screening rates
- Residents living below poverty level
- Residents living without health insurance
- Unemployment rates
- Residents who are linguistically isolated and/or foreign born

The selected target communities are:

- Clay County, Pink State
- Jackson County, Pink State
- Johnson County, Pink State
- Northeast Pink Region (Atchison, Brown, Doniphan, Jackson Counties)
- Wyandotte County, Pink State

Northeast Pink Region, Pink (Atchison, Brown, Doniphan, Jackson Counties, Pink): Due to small population sizes, data has been suppressed for many of Northeast Pink counties. These counties have been combined into one region for the purpose of this report and for the affiliate’s targeted efforts. The Northeast Pink Region is located in eastern Pink and aligns with the Pink state border. All counties in the region are considered rural.
These counties have been chosen due to low screening rates, unique population demographics, and identification as medically underserved and having lower income levels.

Although, the demographic makeup of this region’s female residents is primarily Caucasian; several American Indian reservations are located in the region. In the past, breast cancer in American Indians was rare. Unfortunately, the last two decades have seen large increases in both incidence and mortality rates for this group of women. Incidence and mortality rates are still lower than among white or African American women, and rates do vary according to where in the country women live (Komen, 2014). American Indian women make up 9.1 percent of women residing in Jackson County, Pink and 9.9 percent of women living in Brown County, Pink. This is nine times higher than the service area average and substantially higher than the United States average. Due to small numbers, reported screening rates for many of the region’s counties are not available. However, Atchison County has significantly lower screening levels than any other county in the affiliate's entire service area. Only 49.8 percent (Confidence interval 30.4 percent -69.2 percent) of women ages 50-74, living in Atchison have reported a screening mammogram within the last two years.

Finally, socioeconomic characteristics of the region indicate a potential concern about women’s access to affordable breast health care. All counties in the region, with the exception of Jackson County, Pink have substantially higher percentages of residents living below 250 percent poverty income than the service area average. Additionally, Doniphan County is considered to be in a medically underserved area compounding potential barriers to breast health care. Only two providers in the entire region participate in the National Breast and Cervical Cancer Early Detection Program; and one of those providers is limited to only providing services to American Indian women.

The health systems analysis component of this report will take a deeper look at the available breast health services in the region. Due the region's rural nature and one county being designated as medically underserved, it is vitally important to gain a clear understanding of how accessible breast health services are in the region.

**Wyandotte County, Pink:**
Wyandotte County, Pink is comprised largely of the city of Pink City, Pink. It is an urban county located adjacent to the Pink border. The county’s 78,840 women represent the most diverse population in the Affiliate’s service area. Of these women, 27.8 percent are Black, a rate higher than the national average and double that of the service area average. This is significant due to the high mortality rates Black women experience from breast cancer when compared to other races. Additionally, 24.9 percent of the county is
Hispanic/Latina, 7.2 percent are linguistically isolated, and 14.2 percent are foreign born. All of these percentages are substantially higher than the Affiliate service area’s averages.

Wyandotte has been identified as a high priority county due to the amount of intervention time needed to achieve the HP2020 targets. For instance, the county’s death rate of breast cancer was 28.5 per 100,000 women. This is higher than the United States rate (22.6), as well as the Affiliate service area’s rate (24.9). The death rate is expected to decrease over the next few years. But currently, the county continues to have one of the highest rates of breast cancer death in the service area. Data showing late stage diagnosis rates and trends were not available for this county.

Screening rates in Wyandotte County are lower than the United States; and the service area averages and socioeconomic data for the county show several concerning areas. Wyandotte residents are substantially more likely to have less than a high school education, an income below 250 percent poverty, and be unemployed than others in the United States and the Affiliate service area. Wyandotte County residents are also the least likely in the Affiliate service area to have health insurance.

Although Wyandotte County is in the immediate metropolitan area where services are more likely to be readily available, a health systems analysis will provide a deeper look at any underserved areas in Wyandotte County. Based on shared data regarding diversity and trends in Wyandotte County, it appears many residents would benefit from services within their neighborhoods that are no-cost or reduced cost, culturally sensitive, and easily accessible. The actual availability of these services will be reviewed in a health systems analysis.

Clay County, Pink:
Clay County is located within the immediate metropolitan area of Pink City, Pink. The annual average female population is 110,058. Caucasian women make up approximately 91.0 percent of the population; 6.0 percent of women are Black. Additionally, 5.7 percent of the population identify themselves as Hispanic/Latina. Clay County has been chosen as a target community due to breast cancer death rates and trends, as well as the breast cancer incidence and late-stage diagnosis of breast cancer rates (Table 8). It is also a high priority county based on the intervention times needed to meet Healthy People 2020 goals.

The county’s breast cancer incidence, death, and late stage diagnosis rates are all higher than the United States, as well as the Affiliate service area’s averages.
Additionally, trends in data show these incidence rates and late-stage diagnosis rates are getting higher. Simultaneously, the breast cancer death rates are lowering.

The increasing trend of late-stage diagnosis rates is concerning. This suggests a significant likelihood that more women will be diagnosed at a late-stage. Late stage diagnosis complicates treatment and can lead to a poorer prognosis for survival.

On the plus side, Clay County women (ages 50-74) self-reported obtaining a screening mammogram within the last two years at a rate higher than the Affiliate service area and the United States. The increase in incident rates may be correlated to the above average mammography screening rates in Clay County.

A health systems review will analyze the availability of services in Clay County. Although it is located in the immediate metropolitan area, many residents are not able or prefer not to make the trip to central Pink City, Pink where many no/low cost breast health services are available. An accurate picture of what services are available north of the river for residents in the service area is needed.

**Jackson County, Pink:**
Jackson County, Pink is in the immediate metropolitan area of Pink City, Pink and is a high priority county in regards to meeting the Healthy People 2020 goals. Jackson County has been chosen as a target community due to rates and trends regarding breast cancer deaths, as well as the rates of breast cancer incidence and late-stage diagnosis (Table 9). Additionally, Jackson County residents reflect a diverse population with many women who may be more vulnerable to breast cancer due to known poorer prognosis rates (i.e., late stage diagnosis or more aggressive cancers). Finally, compared to the Affiliate service area average, more residents in this county are living below 250 percent poverty, have higher unemployment rates, and are less likely to have health insurance making affordable access to breast health care potentially difficult. The female population in Jackson County is 344,786. The county has the largest female population of any county in the Affiliate service area. It represents 31.0 percent of the service area’s total female population; and is more diverse than many of the other

### Table 8. Clay County breast cancer statistics

<table>
<thead>
<tr>
<th></th>
<th>Clay County</th>
<th>Affiliate Service Area Rate</th>
<th>U.S. Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence Rate*</td>
<td>134.8</td>
<td>126.7</td>
<td>122.1</td>
</tr>
<tr>
<td>Death Rates*</td>
<td>27.2</td>
<td>24.9</td>
<td>22.6</td>
</tr>
<tr>
<td>Late-Stage Rates*</td>
<td>49.2</td>
<td>47.5</td>
<td>43.7</td>
</tr>
</tbody>
</table>

*Rates are age-adjusted and are figured per 100,000 women
counties. For instance, 26.2 percent of females in the county are Black. This is almost double the service area average and is also substantially higher than the United States average. Additionally, 7.9 percent are Hispanic/Latina.

Data for Jackson County shows the breast cancer death and late stage diagnoses rates are currently higher than both the United States’ and the Affiliate service area’s average rates. However, we see promising trends in the rates of incidence, deaths from breast cancer and late stage diagnoses. All categories are expected to show lowering rates in upcoming years.

Table 9. Jackson County breast cancer statistics

<table>
<thead>
<tr>
<th></th>
<th>Jackson County</th>
<th>Affiliate Service Area Rate</th>
<th>U.S. Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence Rate*</td>
<td>123.4</td>
<td>126.7</td>
<td>122.1</td>
</tr>
<tr>
<td>Death Rates*</td>
<td>26.7</td>
<td>24.9</td>
<td>22.6</td>
</tr>
<tr>
<td>Late-Stage Rates*</td>
<td>49.9</td>
<td>47.5</td>
<td>43.7</td>
</tr>
</tbody>
</table>

*Rates are age-adjusted and are figured per 100,000 women

Women in Jackson County, ages 50-74, have reported obtaining a screening mammogram at a rate comparable to the Affiliate service area average. This is positive since mammography can facilitate early detection.

**Johnson County, Pink:**

Johnson County, Pink is located at the far eastern edge of the Affiliate service area and is considered to be a rural county. It has been chosen as a target community due to higher than average breast cancer death rates, late stage diagnosis rates and an increasing trend in incidence rates (Table 10). In the Affiliate’s 17-county service area, Johnson has one of the highest death rates and the highest rates of late-stage breast cancer diagnosis. Consequently, Johnson County has also been identified as a high priority county due to the amount of time needed to meet the Healthy People 2020 goals. The female population of the county is 25,795. Caucasian females make up 91.9 percent of the county population; 5.1 percent are Black; and 3.4 percent identify as Hispanic/Latina. When comparing demographics, both of these latter percentages are below the service area averages.

Johnson County currently has breast cancer incidence rates lower than both the United States and service area averages. However, trends show incidence rates increasing. Also problematic, both breast cancer death and late diagnosis rates are above the United States and service area averages, with an increasing trend for late stage diagnosis. No data is available for trends related to the death rates from breast cancer.
Table 10. Johnson County breast cancer statistics

<table>
<thead>
<tr>
<th></th>
<th>Johnson County</th>
<th>Affiliate Service Area Rate</th>
<th>U.S. Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence Rate*</td>
<td>117.7</td>
<td>126.7</td>
<td>122.1</td>
</tr>
<tr>
<td>Death Rates*</td>
<td>30.6</td>
<td>24.9</td>
<td>22.6</td>
</tr>
<tr>
<td>Late-Stage Rates*</td>
<td>50.6</td>
<td>47.5</td>
<td>43.7</td>
</tr>
</tbody>
</table>

*Rates are age-adjusted and are figured per 100,000 women

With screening rates in Johnson County below the United States and service area averages, it is possible women are experiencing barriers to receiving mammography screening. This may be associated with higher rates of late stage diagnoses and more women dying from breast cancer. It may also explain the lower rates of incidence. Review of available breast health services in Johnson County is crucial. Although Warrensburg, Pink is located within Johnson County; many residents still live in rural areas and may not have easy access to health centers. Additionally, many residents are unable or prefer not to come to the metropolitan area to seek services. The ability to receive no cost services through the National Breast and Cervical Cancer Early Detection Program will be explored in the health systems analysis.

In a separate Word document to be submitted with the Mission Action Plan by March 16, 2015:

References