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DATA SOURCES USED IN REPORT: Meeting notes, GIS, Census

STAKEHOLDERS (list organization names): Komen Arizona, American Cancer Society, Navajo Nation, Hopi Tribe, Tohono O’odham Nation, Gila River Indian Community, Hispanic Nurses Association, Mayo Clinic Cancer Center, Baggit!, University of Arizona Cancer Center, Mountain Park Community Health Center, Arizona Alliance for Community Health Centers, Health Net Health Plan, AHCCCS (Medicaid), Maricopa Integrated Health Services, Arizona State University, Centers for Disease Control, Invitae, Ebony House, Department of Education, Pilgrim Rest, Southwest Prostate Foundation, San Carlos Apache HealthCare Corporation, Hospice of the Valley, Maricopa County Dept. of Public Health, Breast Center of Southern Arizona and ADHS. (Of course CDC and ASTHO were also at the meeting.)

ABSTRACT/DESCRIPTION (300 WORDS OR LESS):
Arizona held two levels of stakeholders’ meetings; one with a small group for planning purposes and then the larger gathering of all stakeholders. The event was standing room only, as stakeholders shared information about the meeting more people asked to participate. The room was moved once due to escalating attendance, and still was not really big enough for the group.
During the initial stakeholder meeting, the data was shared with those participating. They asked questions and pointed out items they could not understand. Changes were made to prepare the data for the larger Stakeholder Meeting on March 25th.
Arizona’s data demonstrate that women of color, African American, Hispanic and American Indian, are typically diagnosed with breast cancer at a younger age than Non-Hispanic Whites. Their cancer type is also more aggressive. American Indian women in some cases had a longer time period between diagnosis and treatment initiation.

Screening Breakout
The meeting had distinct focused work group sessions, the first focused on screening. During that discussion some unanswered questions were: how to tailor screening, which genetic risk tool to use and promote, are there environmental factors, how does economic status relate to late stage diagnosis and mortality rates and who monitors imaging quality (this is a consolidated listing). There were also additional stakeholders listed for inclusion in subsequent meetings.
Follow up: Time to Diagnosis/Treatment Initiation
Questions raised during this break out session included: why those with access to screening did not take advantage, how do we access Commission on Cancer data for Arizona, is mobile chemo and alternative, how are different tumor types related to age, could we use incidence to mortality ratios, what is the link between insurance status and stage of diagnosis. Again additional partners were discussed with private insurance, CoC accredited hospitals and Arizona State University Health Informatics being listed for future involvement.
Quality of Treatment

Arizona has 9 CoC accredited hospitals serving 7 million people. There are now more hospitals looking at securing this level of accreditation, but this will take a long time. Some questions arising during this breakout session were: how to know whether patients are receiving the correct treatment counseling, how do we know the quality of mammography services being provided, distance to services is significant in many areas, does access to FQHCs make a difference and more. Additional stakeholders to invite to the table included insurance companies (payers), clinical researchers, and those conducting clinical trials. There is a great deal of interest in the data available, in the aggregate, from Arizona’s CoC facilities.

Impact to Date

Team Arizona continues to collect data related to these issues. Contact has been made with Commission on Cancer to determine who does/does not have CoC accreditation in Arizona. CoC also let us know who is working on future accreditation. They are not sure CoC facility data is available for Arizona right now. There have been some local issues that may limit access for a while. We are working on that, more in the future.

LESSONS LEARNED:

1. Arizona’s women of color are diagnosed with breast cancer about 7 years younger than Non-Hispanic Whites.
2. When diagnosed with breast cancer, their tumor types are more aggressive than those of Non-Hispanic Whites.
3. In Arizona, it is not feasible for this population to be screened using USPSTF guidelines.

NEXT STEPS:

1. Continue working with CoC to determine the levels of Arizona specific data available.
2. Complete white paper on the steps/costs associated with becoming a CoC accredited facility.
3. Continue gathering and sharing related data to inform the Stakeholders.
AT THE TIME OF THIS REPORT, 15 COUNTIES ARE REPRESENTED IN THE DATA SETS. (Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma)
In some cases the data listed apply only to Maricopa, Pima and Yuma counties. It is made clear in the charts.

AT THE TIME OF THIS REPORT, THE FOLLOWING DATA SOURCES WERE INCLUDED IN THIS ANALYSIS: (LIST DATA SOURCES HERE)

Arizona Cancer Registry, 2010-2013
Arizona Health Status Vital Statistics, 2013
U.S. Census Bureau 2014 Poverty and Median Household Income Estimates, 2014
BRFSS, 2014
American College of Surgeons, 2016

Members of Team Arizona:

Arizona Cancer Registry          Georgia Yee, Office Chief          Georgia.Yee@azdhs.gov
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Cancer Prevention and Control   Emily Wozniak, Operations Manager Emily.Wozniak@azdhs.gov
Health Disparities Center       Alexandria Drake, Epidemiologist  Alexandria.Drake@azdhs.gov
Arizona Overview

Arizona is an extremely diverse state in regards to both geography and population.

According to the 2015 United States Census, the total population in Arizona was approximately 6.8 million. Arizona has fifteen large counties, and while each county varies greatly in population density, it is important to note that 80 percent of the total population lives in Maricopa and Pima counties (the respective locations of the cities of Phoenix and Tucson). The map on page 8 illustrates population by county.

Arizona’s residents vary greatly by race and ethnicity. The table below depicts the population characteristics for the state.

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percent (US Census Data, 2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, not Hispanic or Latino</td>
<td>55.8%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>30.7%</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>5.3%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>4.8%</td>
</tr>
<tr>
<td>Asian</td>
<td>3.4%</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>2.7%</td>
</tr>
</tbody>
</table>
In addition to being a racially and ethnically diverse population, Arizona’s residents possess unique characteristics that may present distinctive challenges to accessing culturally and linguistically-appropriate health care, including cancer screening, diagnostics, and treatment. For example, the US Census Bureau estimates that in 2010-2014, about 27% of Arizona residents speak a language other than English at home.

Arizona is also home to 22 sovereign American Indian Communities. The map on page 7 depicts the locations of tribal communities across the state.

**Cancer Programs at Arizona Department of Health Services**

The Arizona Department of Health Services (ADHS) possesses several programs that work collaboratively to address the burden of cancer in Arizona. The Bureau of Public Health Statistics, Office of Health Registries, houses the Arizona Cancer Registry at the Arizona Department of Health Services. The Office of Cancer Prevention and Control resides in the Division of Public Health Services, Bureau of Health Systems Development, at ADHS. Together, these programs make up the Arizona Cancer Prevention and Control Team.

The Arizona Cancer Registry (ACR) supports the collecting of cancer cases (incidence) and deaths (mortality) from cancer across the state of Arizona. Cancer reporting became mandatory on January 1, 1992. All cancer cases are reported to the ACR by providers, hospitals, pathology laboratories, and clinics across the state. The ACR reviews data accuracy, provides statistical support, responds to data requests, and monitors data trends.

The Office of Cancer Prevention and Control contains two CDC-funded programs: the Comprehensive Cancer Control Program and the Breast and Cervical Cancer Early Detection Program.

The Arizona Comprehensive Cancer Control Program enabled the development of the Arizona Cancer Coalition (ACC), a statewide group of public health professionals, providers, medical directors, survivors, and patients, who aim to reduce the incidence and mortality of cancer in Arizona. The ACC is composed of six “Action Teams” having specific cancer-related goals: Policy, Prevention, Early Detection, Treatment, Survivorship, and Research. To find out more about the Arizona Cancer Coalition, visit azcancercoalition.org.

The Breast and Cervical Cancer Early Detection Program, known locally as the Well Woman HealthCheck Program (WWHP), provides breast and cervical cancer screening and diagnostic services and linkage to treatment to uninsured Arizonans. The WWHP has been offered in Arizona since 1993 and screens 7,000 women each year across the state. The WWHP is offered in all fifteen counties of Arizona through contracted providers.
belonging to federally qualified health centers (FQHCs) or county health departments. To view a listing of contracted providers and to learn more about the program, visit wellwomanhealthcheck.org.

If cancer is found, Arizona offers the Breast and Cervical Cancer Treatment Program (BCCTP), and patients are enrolled in an AHCCCS-health plan at no cost to them. The patient’s cancer treatment is completely covered. If a woman does not qualify for the BCCTP, she may be eligible for treatment support through community grant programs funded by Susan G. Komen Arizona. To learn more about the BCCTP, please visit the BCCTP Eligibility webpages.

In addition, the Office of Cancer Prevention and Control seeks to educate providers and the community about the importance of timeliness of services and appropriate patient follow up, systems change approaches, and effective electronic health record (EHR) system utilization within federally qualified health centers (FQHCs).

Cancer Stakeholders

The Arizona Cancer Prevention and Control Team is fortunate to collaborate frequently with many partners across the state that address cancer. Many of our core stakeholders participate in Work Groups within the Arizona Cancer Coalition and the Melanoma Task Force.

We held our first Breast Cancer Collaborative Stakeholder Meeting on March 25, 2016, with the support of the following partners: American Cancer Society, Arizona Health Care Cost Containment System (Arizona’s Medicaid program), Arizona Alliance for Community Health Centers, Arizona State University, Bag-It!, Breast Center of Southern Arizona, Centers for Disease Control and Prevention, Department of Education, Ebony House, Gila River Indian Community, Health Net Health Plan, Hopi Tribe, Hospice of the Valley, Hispanic Nurses Association, Invitae, Maricopa Integrated Health Services, Maricopa County Department of Public Health, Mayo Clinic Cancer Center, Mountain Park Community Health Center, Navajo Nation, Pilgrim Rest, San Carlos Apache HealthCare Corporation, Southwest Prostate Foundation, Susan G. Komen Arizona, Tohono O’odham Nation, and The University of Arizona Cancer Center.
Arizona State Data Report

Arizona Tribal Land and Reservations

The state of Arizona has 22 sovereign American Indian Communities. With 5% of the state’s population identifying as American Indian, Arizona ranks 3rd in the nation for states with the largest American Indian population.
Arizona is a very diverse state in terms of the size and population of our counties. Our least populated county is Greenlee County with 9,529 residents and our most populated county is Maricopa County with 4,167,947 residents. Pima County also has over one million residents with a population of 1,010,025.
Arizona has a significant amount of variation in the percent of foreign born individuals living in each county. The county with the highest percentage of foreign born residents is Santa Cruz County with 32.6% of residents being born outside of the United States. The county with the smallest percentage of foreign born residents is Apache County with 2.0% of residents being born outside of the United States.
Screening

Time Since Last Mammogram by Race/ Ethnicity

- The above table shows time since last mammogram by Race/Ethnicity using BRFSS data. The table shows that compared to White Non-Hispanic women, Black/African American, American Indian, and Hispanic women get screened more frequently during the suggested screening time frame recommended by the American Cancer Society. Black/African American women surveyed were most likely to have had a mammogram within the past year or past two years at 88%.

* Note: BRFSS data is based on self-reported Race/Ethnicity. Therefore there is not a specified definition of Hispanic origin provided to survey participants.
Women 40+ Who Have Had a Mammogram in the Past 2 Years

<table>
<thead>
<tr>
<th></th>
<th>Unsure</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Non-Hispanic</td>
<td>9%</td>
<td>24%</td>
<td>66%</td>
</tr>
<tr>
<td>Black</td>
<td>13%</td>
<td>17%</td>
<td>70%</td>
</tr>
<tr>
<td>American Indian</td>
<td>10%</td>
<td>28%</td>
<td>63%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>10%</td>
<td>24%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Source: BRFSS, 2014

Looking more specifically at age differences, it can be observed that 70% of Black women over the age of 40 have had a mammogram in the past two years. White Non-Hispanic women were the next highest group at 66% followed by Hispanic women at 65% and American Indian women at 63%.
Women 50+ Who Have Had a Mammogram in the Past 2 Years

The survey results for women over the age of 50 had similar results as women over the age of 40. Black women had the highest reports of having a mammogram in the past 2 years at 78%. This was followed by White Non-Hispanic, American Indian, and Hispanic women all at 68%. All of the examples given so far go against the original hypothesis that minority women in Arizona had worse screening rates when compared to other (specifically White Non-Hispanic) women.

Source: BRFSS, 2014
This map shows the locations of the 160 licensed mammography facilities in the state of Arizona as of 6/29/2016. The map also includes a gray driving zone that represents an hour drive from the closest mammography facility. This shows areas of the state where mammograms are not easily available to residents.
Diagnosis/ Mortality Data

All Female Breast Cancer, 2010-2013:
Race/Ethnicity by Derived SEER Summary Stage and County Groups

<table>
<thead>
<tr>
<th>Race/Ethnicity by County Groups</th>
<th>Maricopa County</th>
<th>Pima County</th>
<th>All Other Races &amp; Unknown Race</th>
<th>All Other Races &amp; Unknown Race</th>
<th>All Other Races &amp; Unknown Race</th>
<th>All Other Races &amp; Unknown Race</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Non-Hispanic</td>
<td>51.5%</td>
<td>43.8%</td>
<td>46.0%</td>
<td>46.0%</td>
<td>46.0%</td>
<td>46.0%</td>
</tr>
<tr>
<td>White Hispanic</td>
<td>48.5%</td>
<td>56.2%</td>
<td>54.0%</td>
<td>54.0%</td>
<td>54.0%</td>
<td>54.0%</td>
</tr>
<tr>
<td>Black</td>
<td>22.7%</td>
<td>21.5%</td>
<td>24.2%</td>
<td>24.2%</td>
<td>24.2%</td>
<td>24.2%</td>
</tr>
<tr>
<td>American Indian</td>
<td>21.9%</td>
<td>27.0%</td>
<td>19.0%</td>
<td>19.0%</td>
<td>19.0%</td>
<td>19.0%</td>
</tr>
<tr>
<td>All Other Races &amp; Unknown Race</td>
<td>49.4%</td>
<td>39.6%</td>
<td>51.6%</td>
<td>51.6%</td>
<td>51.6%</td>
<td>51.6%</td>
</tr>
</tbody>
</table>

*Note: The Arizona Cancer Registry defines White Hispanic as White Race or Race indicated as Other and an Ethnicity Code of: Mexican, Puerto Rican, Cuban, South or Central American, Other Spanish, or Spanish ‘NOS’

Source: Arizona Cancer Registry
Because of small case counts, Blacks & American Indians are placed in All other races & Unknown races in Yuma County.
Invasive Female Breast Cancer, 2010-2013:
Race/Ethnicity by ER, PR, and HER2 Combination Results and County Groups

*Because of small case counts, Blacks & American Indians are placed in All other races & Unknown races in Yuma County.

Source: Arizona Cancer Registry
All Female Breast Cancer, 2010-2013:
Race/Ethnicity by Days from Diagnosis to First Course Treatment* and County Groups

Maricopa County

Pima County

Yuma County**

Legend for Race/Ethnicity
- White Non-Hispanic
- White Hispanic
- Black
- American Indian
- All other races & Unknown Race

Source: Arizona Cancer Registry

*Because of small case counts, Blacks & American Indians are placed in All other races & Unknown races in Yuma County

* 13.6% of all cases are excluded. Either diagnosis date or First Course Treatment date is estimated or missing.
This map shows the percent of early stage diagnoses overlaid with Federally Qualified Health Center locations. According to the map there doesn’t seem to be a blatant correlation between multiple FQHC locations and earlier breast cancer detection. This map also gives an example of population distribution in the state, with many of the more densely populated areas having more FQHCs. The color scheme on this map has been flipped from the other maps in this profile so the dark purple color represents an undesirable outcome like in the other maps.

*Note: The Arizona Cancer Registry defines an Early Stage Diagnosis as a diagnosis at the In Situ or Local Stage using SEER Summary Stage.
The color scheme has been adjusted back to the format of the rest of the maps with the least desirable outcome being the highest percentage or rate and represented in dark purple. Similar to the previous map, this indicates the locations of FQHCs in comparison to late stage cancer diagnoses. We see that Gila County has one of the highest percentages of late stage diagnoses which could be due to the low number of FQHCs.

*As of 2015 Gila County has an FQHC but this layer file was compiled with data from 2013.

*Note: The Arizona Cancer Registry defines a Late Stage Diagnosis as a diagnosis at the Regional or Distant Stage using SEER Summary Stage.
A factor that may influence a late stage breast cancer diagnosis is lack of insurance. This map compares the percent of late stage diagnoses by county to the percent uninsured from that county. Interestingly, the three counties with the highest percentage of late stage diagnoses were in the lower two categories for percent uninsured.
All Female Breast Cancer Cases by Race/Ethnicity and Age, 2010-2013

The following tables break down breast cancer diagnoses by Race/Ethnicity as well as age groups. Due to the population makeup of the state only certain counties were able to be pulled individually. The remaining 12 counties were aggregated to an “All Other Counties” section.

Source: Arizona Cancer Registry
What is especially interesting to note is the difference in the age of diagnosis in the different Races/Ethnicities. Please refer below for the median age of diagnosis.

**Median Age by Race/Ethnicity**
- White Non-Hispanic: 64 years
- White Hispanic: 57 years
- Black: 58 years
- American Indian: 57 years

*Because of small case counts, Blacks & American Indians are placed in All other races & Unknown races in Yuma County.*
This map compares breast cancer mortality rates with Race/Ethnicity demographic information taken from the 2014 Census. This not only highlights counties with higher mortality rates but also provides information on potential intervention target groups in individual counties or regions. Hispanic includes unknown race with an ethnicity of Hispanic.
When comparing breast cancer mortality to percent uninsured we find that once again the two counties with the highest mortality rates do not have the highest percent of uninsured individuals. Santa Cruz County represents the strongest visible correlation. Santa Cruz had a mortality rate of 21.6 per 100,000 females and 26% of the county was uninsured (which tied for the highest percentage in the state) in 2013.
The final mortality map compares median household income to mortality rates. This represents another method used to use demographic and socio-economic status data to compare to mortality rates. Median household income does not seem to be a strong indicator to higher breast cancer mortality rates in a county. Graham County and Coconino County have the highest mortality rates in the state but neither are in the lowest median household income category represented.
This map shows the 9 locations of Commission on Cancer (CoC) Hospitals in the State of Arizona. This hospital designation is given by the American College of Surgeons to facilities that provide high-quality patient centered care. Through accreditation by the CoC organizations are showing they have established data-driven performance measures to enhance quality of care. For comparison, there are 9 CoC accredited hospitals just in the city of Atlanta (not including suburbs or the metropolitan area) and there are 14 CoC hospitals located in the city of Chicago\(^1\). This shows that with a population of nearly 7,000,000 in the state of Arizona, not only is there an uneven distribution of CoC accredited hospitals but also a significant lack in number of CoC accredited hospitals.

\(^1\)https://www.facs.org/search/cancer-programs