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COMMUNITY

PROFILE REPORT 2015



SUSAN G. KOMEN®
HOUSTON

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Acknowledgments

The Community Profile Report could not have been accomplished without the exceptional work, effort, time and commitment from many people involved in the process.

Susan G. Komen® Houston would like to extend its deepest gratitude to the following individuals who participated on the 2015 Community Profile Team:

Linda Highfield, PhD, MS

Assistant Professor in Community Health Practice
University of Texas School of Public Health Houston

Marieke Hartman, PhD, MSc

Postdoctoral Fellow in Health Promotion and Behavioral Sciences
University of Texas School of Public Health Houston

Daniella Chambers, BA

Masters student in Community Health Practice
University of Texas School of Public Health Houston

Jessica Hua, BSc

Masters Student in Health Promotion and Behavioral Sciences
University of Texas School of Public Health Houston

Nizar Bhulani, MBBS

Masters Student in Health Services Organization
University of Texas School of Public Health Houston

Zhanni Lu, MPH

Doctoral student in Community Health Practice
University of Texas School of Public Health Houston

Philomene Balihe, MPH

Biostatistician
Episcopal Health Foundation, Houston

Adriana Higgins, EdD

Executive Director
Komen Houston

Ginny T. Kirklin, MPH

Mission Director
Komen Houston

A special thank you to the following entities for their assistance with data collection and analyses, as well as providing information included in this report:

- D'Feet Breast Cancer, Inc.
- The Episcopal Health Foundation
- Galveston County Health District
- Texas Cancer Registry
 - Cancer data have been provided by the Texas Cancer Registry, Cancer Epidemiology and Surveillance Branch, Texas Department of State Health Services, 211 E. 7th Street, Suite 325, Austin, TX 78701, <http://www.dshs.state.tx.us/tcr/default.shtm>, or (512) 305-8506.
- The Rose
- University of Texas Medical Branch at Galveston

Report Prepared by:

Susan G Komen® Houston

602 Sawyer St., Suite 201

Houston, TX 77007

713 893-9188

www.Komen-houston.org

Contact: Ginny T. Kirklin at gkirklin@komen-houston.org

University of Texas School of Public Health Houston

1200 Pressler Street, RAS Bldg.

Houston, TX 77030

713 500-9050

<https://sph.uth.edu/>

Contact: Linda Highfield at linda.d.highfield@uth.tmc.edu

Executive Summary

Introduction to the Community Profile Report

Established in 1990 by passionate volunteers to support the individuals in need throughout the Houston area, Komen® Houston has granted \$50 million to local programs for breast cancer education and awareness campaigns, lifesaving screening and treatment programs, and innovative cutting edge research. Serving Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty and Montgomery counties, Komen Houston continues its commitment to fundraising and grantmaking so that families battling breast cancer can get the treatment and support they need.

Komen Houston is a leader in the communities it serves. It was named Affiliate of the Year in 2001 and again in 2003 and won an award for Educational Outreach at the Komen Foundation Mission Conference in 2004. Along with The Rose, Komen Houston founded the 1st Annual Breast Health Summit, which led to the creation of the Breast Health Collaborative of Texas in 2005. In 2015, Komen Houston worked to bring the Komen Tissue Bank to Houston and helped recruit 160 women to donate healthy breast tissue.

Komen Houston conducts a Community Profile, also called a community needs assessment, every four years in order to understand the state of the breast cancer burden and needs in the service area. In this year's profile, selected areas of Galveston County were studied at a health systems level and individual level to better understand barriers to mammography access and adherence in the underserved women.

The purpose of the Community Profile is to:

- Establish priorities for grant distribution
- Establish focused education efforts
- Determine public policy activities
- Establish directions for marketing

Quantitative Data: Measuring Breast Cancer Impact in Local Communities

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.

The quantitative data report considered breast cancer incidence, death and screening to identify areas that were not likely to meet the HP2020 goals for each. Based on the quantitative data report, for the Affiliate service area as a whole, the death rate was higher among Blacks/African-Americans than Whites and lower among Asian Pacific Islanders (APIs) than Whites. Liberty County is not likely to meet either the death rate or late-stage incidence rate HP2020 targets. Chambers and Harris Counties are not likely to meet the late-stage incidence rate HP2020 target.

The supplemental quantitative data report considered breast cancer statistics (incidence, late-stage incidence and death), mammography screening and population characteristics of young women at risk for breast cancer (education level, uninsured, linguistic isolation). The datasets used in the report for generating findings and making conclusions were at a census tract level or other local level of geography, for instance, zip code level, which is believed to lead to a more comprehensive and accurate understanding of breast health and breast cancer in females residing in the service area.

In order to most effectively use Komen Houston's limited resources to further assess access to breast health in the service area, and to make meaningful recommendations for improving access in a short period of time, a prioritization process was used to determine the target community. The prioritization of the data in this report was late-stage incidence as the primary concern, followed by death and screening utilization rates. Secondary considerations included risk factors for young women in the service area. The final consideration was to consider which parts of the service area have already been studied, either in previous profiles or by other groups, and the ability to reasonably affect change based on funding levels and organizational capacity. The overarching rationale for this process was that Komen Houston needs to immediately target areas where there are disparities in breast cancer stage and outcomes in the service area, and that the need to be planning for the future by considering areas where disparities are likely to occur over the coming decade.

Based on this prioritization process, certain areas of Galveston County, covering the areas of Santa Fe, Dickinson, Bacliff, Texas City, League City, La Marque, Friendswood, Gilchrist, High Island and Port Bolivar, were selected as the target community for further assessment. These areas were selected because a large proportion of the County is at excess risk for late-stage breast cancer diagnosis. Additionally, Galveston had the highest smoothed rates of late-stage incidence in the service area. These rates also exceeded the HP2020 goals as outlined in the overall quantitative report. Galveston County also has some areas that are experiencing statistically significantly higher than expected death based on the standardized death ratio (SMR). Galveston County also exceeds the HP2020 goals for screening mammography, with some areas having 40.0 percent of women who are not receiving regular screening.

Health Systems and Public Policy Analysis

There are a number of strengths and weaknesses of the continuum of care (CoC) in Galveston County. While there are a limited number of breast health providers in the target community, at the county level, the health system in Galveston County has already formed a safety net for providing female residents with breast health care through the coordination among a number of stakeholders in cancer control. There are 34 providers delivering various breast health care for the women with different needs and financial situations across the county. At least four of them are contractors of the Texas Breast and Cervical Cancer Control Services, including UTMB, The Rose, Planned Parenthood Gulf Coast Inc., and the Galveston County Health District. Under the Texas BCCS, these four providers serve low-income, uninsured or underserved women who seek affordable breast and cervical cancer screening and diagnostic services in more than six different fixed locations in Galveston. Further, the health providers affiliated with UTMB can

offer a broad spectrum of breast health care services for underserved women including the standard breast cancer screening and diagnostic services, treatment and survivorship services and end of life care across its locations. The 17 locations of the mobile mammography units across Galveston County facilitated by The Rose and UTMB spread the breast cancer screening services as well as breast health education to the most underserved and hard-to-reach women, especially minorities who historically lack breast health care. If any female receives an abnormal mammogram result through the mobile mammography units, she will be referred to other service providers in the next service stage of the CoC. However, when the target community in Galveston is investigated, there are gaps in breast health care that persist in spite of the efforts to date to improve access for underserved women.

The Texas Breast and Cervical Cancer Services (BCCS), Texas Comprehensive Cancer Control Plan (TCCCP) and the Affordable Care Act's (ACA's) impact in Texas on the delivery and utilization of breast health care in the service area of Komen Houston, especially when it comes to low-income, uninsured, and underserved women remains to be seen. These three breast cancer policies and their resulting programs have an emphasis on serving low-income and underserved women who are more likely to lack breast health care. In the service area of Komen Houston, the uninsured percentage is notably high compared to other counties across the state, highlighting the importance of understanding the impact of the Texas BCCS, TCCCP and ACA on the delivery and utilization of breast health care for Komen Houston. Without expanding Medicaid to provide coverage of the health insurance for the nonelderly with incomes up to 138.0 percent of the poverty level in Texas, it is estimated that more than one million eligible adults will still remain uninsured and likely be unable to purchase private health insurance using tax credits from the health insurance marketplace. Consequently, a great number of women whose insurance could be covered by Medicaid Expansion still need to seek affordable breast health care through other potential channels, such as the Texas BCCS.

The needs in the target community related to health systems and Breast Health CoC can be categorized into three areas: (1) Lack of breast health care services in the treatment, follow-up care, survivorship and end of life care stages based on the Breast Health CoC; (2) Need for more breast health services for low-income and uninsured females overall; (3) Potential transportation barriers preventing access to breast health care within the target community. As a result, four general actions can be taken to address these needs:

1. Advocate and collaborate to get more services for underserved women in the target community and in Texas in general.
2. Advocate, collaborate for and fund more services in patient navigation, survivorship and end of life care in the target community.
3. Collaborate, partner and fund more mobile mammography unit locations in the target community, particularly in areas of high late-stage incidence.
4. Increase collaboration between health care providers inside and outside the target community, especially the UTMB affiliated clinics, Galveston County health district, hospitals, community health centers and the mobile mammography units operated by The Rose, and the programs funded by D'Feet, Inc., to continue to offer services to women in need.

Qualitative Data: Ensuring Community Input

In the qualitative data report, the Affiliate explored explanations for barriers and facilitators to screening in Galveston County by interviewing patients and providers. The two key questions were:

1. *“What are the individual and system-level barriers and facilitators to screening access and adherence experienced by underserved women residing in at-risk areas of Galveston County?”*
2. *“What are the system-level barriers and facilitators to mammography screening access as identified by providers involved in the system of mammography screening delivery in Galveston County?”*

The main variables studied included “patient and provider (organization) characteristics”, “the system of breast cancer screening”, “barriers and facilitators to breast cancer screening”, “the use of evidence-based approaches as a facilitator”, “the level of integrated care,” and “recommendations to improve access to breast cancer screening”.

In total, an ethnically/racially diverse sample of 15 eligible patients was interviewed who had had at least one mammogram in Galveston County in the last five years. Results from the patient interviews were used as input for the subsequent ten provider interviews (mobile and clinic providers). Provider interviews were incorporated to provide systems-level insight on the barriers and facilitators experienced by patients. The phone interviews were audio recorded and subsequently transcribed verbatim by Adept Word Management, Inc. (Houston, Texas) for the purpose of content analysis.

Patients explained that they were personally motivated to get screened because of health awareness (e.g., fear of getting cancer, it gives a confirmation that you are healthy), breast pain, and a family history with breast cancer. At the interpersonal level, they saw cancer in their surroundings and got encouragement from family and the community to get screened. Also, women liked to stay healthy for their family, what additionally motivated them. Individual barriers that women experienced included: getting screened not being a priority (“just trying to survive”), procrastination, the pain of screening, and having no transportation. At the interpersonal level, single parenthood can be a barrier (e.g., because of financial reasons), and family was the priority. Providers recognized a number of motivators and barriers of the patients for obtaining their mammograms. In addition, they mentioned barriers such as not having money to pay, intermittent phone service to receive reminders, transportation issues, inability to take time off of work, and a low risk perception of getting cancer.

Besides these personal and interpersonal barriers and motivators for breast cancer screening, the qualitative assessment gained insight into what seemed to work well in the system of breast cancer screening and what might be improved.

- Facilitating factors included: a doctor’s recommendation, availability of free screening, convenient screening location (e.g., because of mobiles; multiple services at one

location), positive experiences (e.g., friendly providers that explain procedures), and appointment making for follow-up and yearly reminders.

- Help and information are needed about where women now qualify to get screened. The Affordable Care Act (ACA) created a challenge for both patients and providers: some women cannot go back to their old screening locations because they have insurance now; others have the opposite problem and are told to get ACA, otherwise they cannot get screened anymore. Providers don't know how to help them and where to send them now.
- The use of evidence-based approaches and continuum of care (integrated care) can be further improved. Collaborations can be further improved, if organizations formally communicate with each other, and jointly plan how to offer services more effectively and efficiently to the community (e.g., by joint fund raising).

Finally, patients and providers recommended:

- More education about the importance and availability of breast cancer screening; Patient navigation (e.g., appointment making, reminders, translation)
- Transportation
- Investing in "one-stop shop" services
- Continue providing screening and diagnostic services (at convenient locations and times)
- Better tracking systems for no-shows and reasons for not attending a planned screening.

Mission Action Plan

Problem statement: According to the Additional Quantitative Data Exploration, late-stage diagnosis and higher death are found in selected areas of Galveston County.

Priority: Increase the health care system's capacity to provide quality breast health care in the selected areas of Galveston County.

- Objective 1: By 2016, Komen Houston staff attends training on building collaborations for collective impact.
- Objective 2: By 2016, Komen Houston will form a new coalition to improve the health care system around breast cancer screening, diagnostic, treatment and support services in identified areas of Galveston County.
- Objective 3: By 2017, Komen Houston will develop a RFA for Galveston County organizations to submit proposals.
- Objective 4: By 2018, the Coalition Chair and Komen Houston Mission Director will create sustainability plan for coalition.

Priority: Increase breast health outreach to underserved populations that include Black/African-American, Hispanic/Latino and Vietnamese communities in Galveston County.

- Objective 1: By 2017, meet with at least four community organizations or service providers that work within the selected areas of Galveston County to discuss breast health outreach strategies.

- Objective 2: By 2018, partner with at least two of these organizations to provide culturally appropriate breast health events in Galveston County.

Problem Statement: According to the Quantitative Data Report, the breast cancer death rate was higher among Blacks/African-Americans than Whites for Galveston County and the Affiliate service area as a whole.

Priority: Partner with community organizations and/or other funders to use collective impact planning on the disparities identified.

- Objective 1: By 2018, fund best practices and evidence-based programs that result in documented linkages to outreach, education, breast cancer screening, diagnostic, treatment and/or supportive services among Blacks/African-Americans.
- Objective 1: By 2019, Komen Houston will participate in the Komen Roundtable events to impact breast cancer disparities.

Problem Statement: According to the Additional Quantitative Data Exploration, there were high death rates in selected areas of the service area, including Galveston County.

Priority: Increase the health care system's capacity to provide quality breast health care in the selected areas of service area.

- Objective 1: By 2017, the Komen Houston Medical Advisory Council will create a plan to address improving breast health care in outlying communities.

Priority: Develop and utilize partnerships to enhance Affiliate public policy efforts in order to improve breast health outcomes of women in the Affiliate service area.

- Objective 1: From 2016 to 2020, partner with Komen Texas Affiliate Collaborative on advocacy and public policy efforts for Texas.
- Objective 2: By 2016, identify and train at least six key volunteers to serve on the public policy committee and implement the public policy efforts of Komen Houston.

Priority: Increase state legislators' education and understanding of breast health issues.

- Objective 1: Komen Houston representatives attend Advocacy day at least once a year in Washington, DC, and every other year in Austin, Texas, to educate elected officials on the importance of increased access to care in the Affiliate service area.
- Objective 2: From 2016 to 2020, meet with at least four elected officials each year to include those serving Galveston County in District offices to educate them on breast cancer and the impact of Komen Houston.
- Objective 3: By 2017, conduct a bi-annual mailing to all legislators to increase Komen's visibility as a trusted local resource on breast cancer.

Priority: Increase the Komen constituents' education and understanding of late-stage breast cancer diagnosis.

- Objective 1: By 2018, the Education Committee will develop an education/awareness campaign on late-stage breast cancer diagnosis.

Problem statement: According to the Qualitative Data, underserved patients reported not getting screened or are delaying care due to financial barriers and/or confusion about where to get care using the Affordable Care Act.

Priority: Increase grantees efforts on reducing delays of breast health services for underserved patients in regards to the ACA.

- Objective 1: By 2017, fund the development of a patient navigation protocol to assist those with insurance under ACA find breast health services.

Problem Statement: According to the Qualitative Data, there is a lack of evidence-based approaches being utilized to keep patients in the continuum of care.

Priority: Increase capacity of non-profits to utilize best practices and evidence-based programs to provide culturally-tailored education and outreach that directly links individuals to breast health services and follow-up with priority given to high risk areas in Galveston, Chambers and Liberty Counties.

- Objective 1: By 2018, form a partnership with an academic institution to conduct at least two workshops on how to incorporate Best Practices and Evidence-Based Programs into funded projects.
- Objective 2: By 2018, hold a grantee workshop on best practices for measuring data to include baseline data, screening rates and rescreening rates and tracking time to screening, diagnostic and treatment services.
- Objective 2: By 2018, fund and mandate that best practices and evidence-based programs be incorporated into all grant programs and require that all funded education programs must demonstrate how their activities will lead to action, such as participants obtaining regular mammograms with priority given to high risk areas in Galveston, Chambers and Liberty counties.

Priority: Increase capacity of non-profits to utilize best practices and evidence-based to implement reminder letters, audit and feedback systems, patient reminder phone calls and other evidence-based approaches to improve no show rates, screening rates and rescreening rates in 2018-2019 with priority given to high risk areas in Galveston, Chambers and Liberty Counties.

- Objective 1: By 2018, form a partnership with an academic intuition to conduct at least two workshops on how to incorporate Best Practices and Evidence-Based Programs into their projects.
- Objective 2: By 2018, hold a grantee workshop on best practices for measuring data to include baseline data, screening rates and rescreening rates and tracking time to screening, diagnostic and treatment services.
- Objective 3: By 2019, fund and mandate that best practices and evidence-based programs be incorporated into all grant programs and require that all screening and diagnostic programs must demonstrate how their activities will lead to action, such as participants obtaining regular mammograms.

- Objective 4: By 2019, mandate that grantees include baseline data in applications and report percent changes from baseline.

Priority: Increase the quality of Affiliate funded grants to ensure identified gaps in the continuum of care are addressed in the target communities.

- Objective 1: By 2016, fund programs that use innovative or evidence-based approaches through collaboration that result in documented linkages to local breast cancer screening, diagnostic, treatment, survivorship, follow up care and end of life services among the priority population groups and target geographic areas identified in the Community Profile.

Disclaimer: Comprehensive data for the Executive Summary can be found in the 2015 Susan G. Komen® Houston Community Profile Report.

Introduction

Affiliate History

Established in 1990 by passionate volunteers to support the individuals in need throughout the Houston area, Susan G. Komen® Houston has granted \$50 million to local programs for breast cancer education and awareness campaigns, lifesaving screening and treatment programs, and innovative cutting edge research. Serving Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty and Montgomery Counties, Komen Houston continues its commitment to fundraising and grantmaking so that families battling breast cancer can get the treatment and support they need.

The Komen Houston Race for the Cure® continues to be Komen Houston's largest annual fundraiser and a vehicle for raising breast cancer awareness and the importance of breast self-awareness and early detection. The first Race was held in 1991, and the first grants were given in 1992 to three funded partners - The Rose, Baylor College of Medicine and the University of Texas MD Anderson Cancer Center for a total of \$43,100. In more recent years, Komen Houston ranked number one among 122 national and three international Komen Affiliates for three different categories: overall revenue, highest race revenue and highest in funds spent on the mission programs.

Komen Houston is a leader in the communities it serves. It was named Affiliate of the Year in 2001 and again in 2003 and won an award for Educational Outreach at the Komen Foundation Mission Conference in 2004. Along with The Rose, Komen Houston founded the 1st Annual Breast Health Summit, which led to the creation of the Breast Health Collaborative of Texas in 2005. In 2015, Komen Houston worked to bring the Komen Tissue Bank to Houston and helped recruit 160 women to donate healthy breast tissue.

Every year, Komen Houston grants 25.0 percent of its net funds to the Susan G. Komen® National Research Program to fund cutting-edge research. In 2014, more than \$3.9 million in new funding was granted for research at three Texas institutions including University of Texas MD Anderson Cancer Center and Baylor College of Medicine, bringing Komen's total research investment in Texas to more than \$94 million since 1982. Because of this medical research, the death rates for breast cancer in the US is 34.0 percent lower than it was 25 years ago and more than 3.1 million people are breast cancer survivors today.

Up to 75.0 percent of the net funds support the Komen Houston Community Grants Program. In the history, Komen Houston has granted to over 63 funded partners such as Good Neighbor Health Care Center, The Rose, the University of Texas Medical Branch, Asian American Health Coalition, Bayside Health Foundation and Harris County Hospital District Foundation. These funded partners provide education, mammography screening, diagnostic and treatment services and support to uninsured men and women. Komen Houston has grown its program to over 20 funded partners in all seven counties of the service area. An independent Grants Review Panel evaluates the grant applications received and recommends the applications for funding to the Komen Houston Board of Directors. Along with the Mission Director, the Grants Committee assists with the administration of the Grants Program.

Affiliate Organizational Structure

Komen Houston is governed by a Board of Directors. The staff of ten is led by the Executive Director and operates on a budget of over \$5 million a year. Figure 1.1 shows the organizational chart for Komen Houston. Under the Board of Directors, there is the Advisory Council and Board committees including the Executive, Strategic Missions, Fund Development, Finance and Governance Committees. The Strategic Missions Committee is responsible for the Grants, Education and Public Policy Committees.

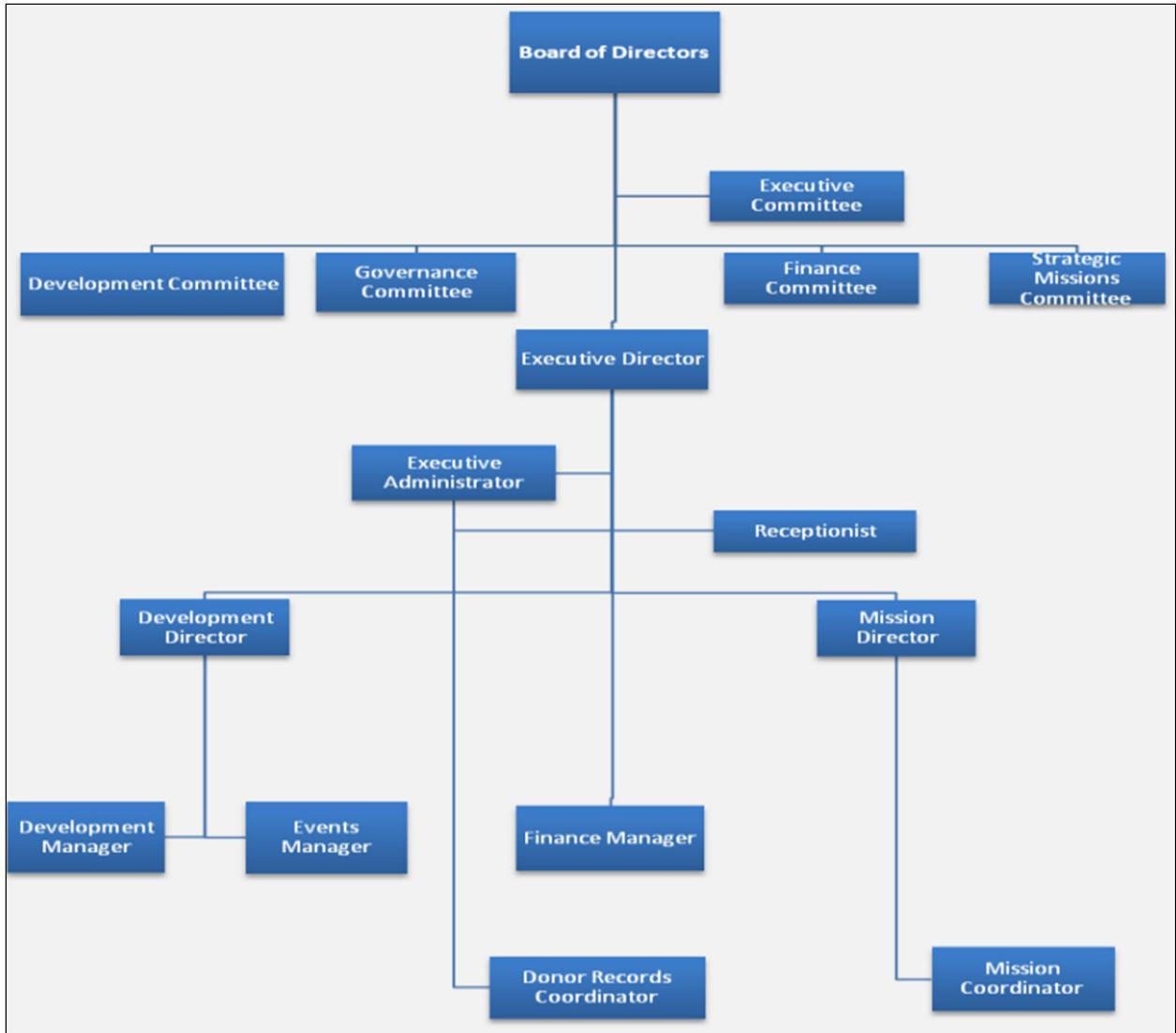


Figure 1.1. Susan G. Komen® Houston organizational chart

Affiliate Service Area

Komen Houston service area encompasses almost 8,000 square miles in southeast Texas and overlaps with the Houston-The Woodlands-Sugarland Metropolitan Statistical Area (Houston MSA). The Houston MSA is the fifth largest metropolitan area in the United States. The City of Houston is the fourth largest city in the nation with an estimated population of approximately 2.2 million people with a 4.7 percent increase change from 2010 (US Census Bureau, 2013). Figure 1.2 is a map of the service area with major cities and highways identified. Population and demographic indicators show great growth and diversity (Greater Houston Partnership, 2015):

- The region's population is expected to reach 9.5 million by 2040, growing by 3.7 million people over the next 30 years (2010-2040).
- The region is expected to grow by 120,000 to 130,000 per year.
- The Houston MSA ranks fourth in number of Hispanics/Latinos, seventh in number of Blacks/African-Americans and seventh in number of Asians.
- One in five Houstonians are foreign born.
- Ninety-two nations have consulate offices in Houston.

The Houston MSA has been the center of economic growth. Key dictators show (Greater Houston Partnership, 2015):

- For 2013, Houston had the fastest growing economy in the nation's 50 most populated metro areas.
- Twenty-six Fortune 500 companies have their headquarters in Houston.
- Houston has been ranked number one in energy sector employment for the last eight years.

The Houston MSA heavily relies on 4,206 lane miles of freeway and expressways for transportation (Greater Houston Partnership, 2015). The statistics show that (US Census Bureau, 2013):

- Of those commuting to work 79.7 percent drove alone, 10.9 percent carpoled and 2.4 percent used public transportation.
- Twenty-nine minutes was the mean travel time to work.
- Six percent of occupied housing units have no vehicles available.
- Thirty-four percent of occupied housing units have one vehicle available.

KOMEN HOUSTON SERVICE AREA

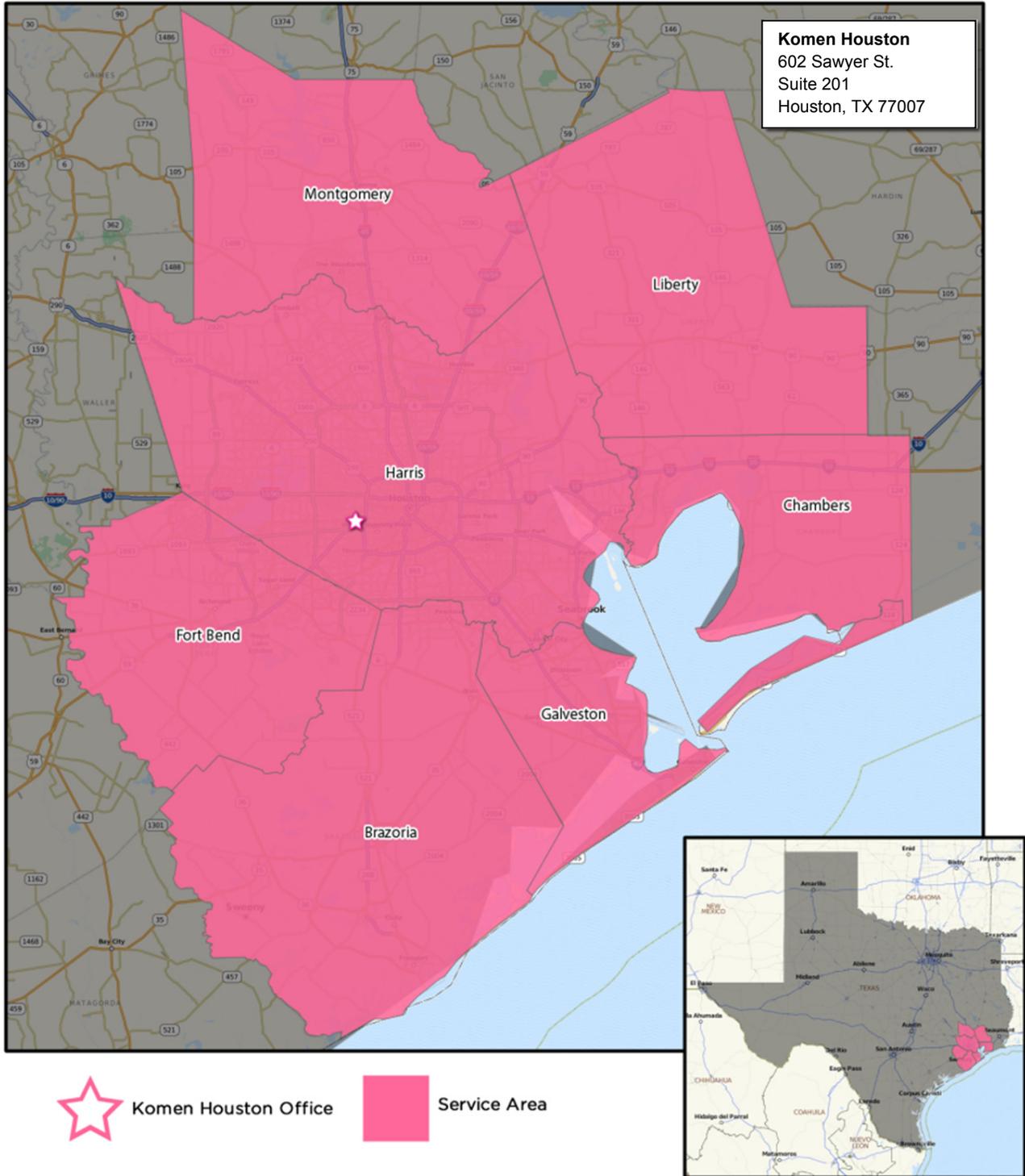


Figure 1.2. Susan G. Komen Houston service area

Purpose of the Community Profile Report

Komen Houston conducts a Community Profile, also called a community needs assessment, every four years in order to understand the state of the breast cancer burden and needs in the service area. In this year's profile, selected areas of Galveston County were studied at a health systems level and individual level to better understand barriers to mammography access and adherence in the underserved women.

The purpose of the Community Profile is to:

- Establish priorities for grant distribution
- Establish focused education efforts
- Determine public policy activities
- Establish directions for marketing

A communication plan will be developed to ensure the dissemination of the Community Profile to key stakeholders such as funded partners, sponsors, community partners, donors, legislators and other breast cancer organizations. A Community Profile Snapshot will be one key printed piece developed for a quick summary of the state of breast cancer in the community.

Dissemination plans may include: distribution to legislators, presentation and discussion at the Grant Writing Workshops and Funded Partners Orientations, meetings with funded partners and other organizations in Galveston County, presentations to all Komen Houston Committees and placement on the Komen Houston website and social media channels.

Quantitative Data: Measuring Breast Cancer Impact in Local Communities

Quantitative Data Report

Introduction

The purpose of the quantitative data report for Susan G. Komen[®] Houston 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 death rates (<http://www.healthypeople.gov/2020/default.aspx>).

The following is a summary of Komen[®] Houston's Quantitative Data Report. For a full report please contact the Affiliate.

Breast Cancer Statistics

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 (Table 2.1). 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. Using age-adjusted rates makes it possible to spot differences in breast cancer rates caused by factors other than differences in age between groups of women.

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 (Table 2.1). Like incidence rates, death rates may be calculated for all women or for specific groups of women (e.g. Black/African-American 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 incidence rates

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/>). 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 (Table 2.1). Late-stage incidence rates are shown in terms of 100,000 women and adjusted for age.

Table 2.1. Female breast cancer incidence rates and trends, death rates and trends, and late-stage rates and trends

Population Group	Incidence Rates and Trends				Death Rates and Trends			Late-stage Rates and Trends		
	Female Population (Annual Average)	# of New Cases (Annual Average)	Age-adjusted Rate/ 100,000	Trend (Annual Percent Change)	# of Deaths (Annual Average)	Age-adjusted Rate/ 100,000	Trend (Annual Percent Change)	# of New Cases (Annual Average)	Age-adjusted Rate/ 100,000	Trend (Annual Percent Change)
US	154,540,194	182,234	122.1	-0.2%	40,736	22.6	-1.9%	64,590	43.8	-1.2%
HP2020	-	-	-	-	-	20.6*	-	-	41.0*	-
Texas	12,251,113	13,742	114.4	-0.4%	2,610	21.8	-1.8%	4,905	40.7	-3.2%
Komen Houston Service Area	2,823,047	3,141	121.1	0.2%	586	23.6	NA	1,093	41.7	-1.3%
White	2,063,101	2,399	123.5	0.7%	415	22.2	NA	795	40.7	-0.9%
Black/African-American	535,840	557	121.2	-0.6%	157	35.6	NA	235	50.1	-1.5%
American Indian/Alaska Native (AIAN)	27,393	8	45.4	4.4%	SN	SN	SN	SN	SN	SN
Asian Pacific Islander (API)	196,713	103	56.0	6.2%	13	8.0	NA	37	19.3	-0.4%
Non-Hispanic/ Latina	1,883,831	2,653	130.0	0.7%	503	25.0	NA	893	43.6	-1.0%
Hispanic/ Latina	939,217	488	86.4	-1.6%	82	17.2	NA	200	34.1	-2.7%
Brazoria County - TX	147,578	160	112.2	2.2%	34	24.6	-1.1%	60	41.6	-2.0%
Chambers County - TX	16,086	16	100.7	-0.7%	SN	SN	SN	7	44.8	10.4%
Fort Bend County - TX	275,815	307	121.8	0.3%	41	17.7	-3.1%	97	37.9	-3.3%
Galveston County - TX	144,934	201	129.4	-2.5%	39	25.4	-2.0%	56	35.8	-6.9%
Harris County - TX	1,984,833	2,152	121.7	0.2%	410	24.2	-1.9%	771	43.0	-0.2%
Liberty County - TX	38,086	36	90.8	5.4%	11	26.9	-1.5%	14	35.0	2.9%
Montgomery County - TX	215,716	268	121.9	0.6%	49	23.3	-1.1%	88	39.9	-6.0%

*Target as of the writing of this report.

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: North American Association of Central Cancer Registries (NAACCR) – Cancer in North America (CINA) Deluxe Analytic File.

Source of death rate data: Centers for Disease Control and Prevention (CDC) – National Center for Health Statistics (NCHS) death data in SEER*Stat.

Source of death trend data: National Cancer Institute (NCI)/CDC State Cancer Profiles.

Incidence rates and trends summary

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

For the United States, breast cancer incidence in Blacks/African-Americans is lower than in Whites overall. The most recent estimated breast cancer incidence rates for Asians and Pacific Islanders (APIs) and American Indians and Alaska Natives (AIANs) were lower than for Non-Hispanic Whites and Blacks/African-Americans. The most recent estimated incidence rates for Hispanics/Latinas were lower than for Non-Hispanic Whites and Blacks/African-Americans. For the Affiliate service area as a whole, the incidence rate was slightly lower among Blacks/African-Americans than Whites, lower among APIs than Whites, and lower among AIANs than Whites. The incidence rate among Hispanics/Latinas was lower than among Non-Hispanics/Latinas.

The incidence rate was significantly lower in the following county:

- Liberty County

The rest of the counties had incidence rates and trends that were not significantly different than the Affiliate service area as a whole.

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.

Death rates and trends summary

Overall, the breast cancer death rate in the Komen Houston 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 **significantly higher** than that observed for the State of Texas.

For the United States, breast cancer death rates in Blacks/African-Americans 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/African-Americans. The most recent estimated death rates for Hispanics/Latinas were lower than for Non-Hispanic Whites and Blacks/African-Americans. For the Affiliate service area as a whole, the death rate was higher among Blacks/African-Americans 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 death rate among Hispanics/Latinas was lower than among Non-Hispanics/Latinas.

The death rate was significantly lower in the following county:

- Fort Bend 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 and trend in the Komen Houston service area were slightly lower than that observed in 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 of Texas.

For the United States, late-stage incidence rates in Blacks/African-Americans 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/African-Americans 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 late-stage incidence rate was significantly lower in the following county:

- Galveston 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.

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 2.2 shows some screening recommendations among major organizations for women at average risk.

Table 2.2. Breast cancer screening recommendations for women at average risk*

American Cancer Society	National Comprehensive Cancer Network	US Preventive Services Task Force
Informed decision-making with a health care provider at age 40 Mammography every year starting at age 45 Mammography every other year beginning at age 55	Mammography every year starting at age 40	Informed decision-making with a health care provider ages 40-49 Mammography every 2 years ages 50-74

*As of October 2015

Because having regular 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. The proportions in Table 2.3 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 20.0 percent of the women interviewed are Hispanic/Latina, but only 10.0 percent of the total women in the area are Hispanic/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 that 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 that should have had mammograms and 250 of those women actually had a mammogram in the past two years, the mammography screening proportion is 50.0 percent.

Because the screening proportions come from samples of women in an area and are not exact, Table 2.3 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 50.0 percent, with a confidence interval of 35.0 to 65.0 percent, the real rate might not be exactly 50.0 percent, but it's very unlikely that it's less than 35.0 or more than 65.0 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 2.3. Proportion of women ages 50-74 with screening mammography in the last two years, self-report

Population Group	# of Women Interviewed (Sample Size)	# w/ Self-Reported Mammogram	Proportion Screened (Weighted Average)	Confidence Interval of Proportion Screened
US	174,796	133,399	77.5%	77.2%-77.7%
Texas	3,174	2,348	72.0%	69.9%-74.0%
Komen Houston Service Area	255	190	73.3%	66.3%-79.2%
White	204	153	73.2%	65.7%-79.6%
Black/African-American	35	27	75.0%	55.6%-87.8%
AIAN	SN	SN	SN	SN
API	SN	SN	SN	SN
Hispanic/ Latina	27	17	67.5%	47.7%-82.5%
Non-Hispanic/ Latina	225	170	74.4%	67.2%-80.4%
Brazoria County - TX	16	9	57.8%	33.0%-79.1%
Chambers County - TX	SN	SN	SN	SN
Fort Bend County - TX	28	20	67.7%	44.2%-84.7%
Galveston County - TX	11	9	80.5%	39.7%-96.3%
Harris County - TX	160	126	78.5%	70.1%-85.0%
Liberty County - TX	SN	SN	SN	SN
Montgomery County - TX	28	19	63.3%	41.2%-81.0%

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 Houston 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 of Texas.

For the United States, breast cancer screening proportions among Blacks/African-Americans are similar to those among Whites overall. APIs have somewhat lower screening proportions than Whites and Blacks/African-Americans. 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/African-Americans. For the Affiliate service area as a whole, the screening proportion was not significantly different among Blacks/African-Americans 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. The screening proportion among Hispanics/Latinas was not significantly different than among Non-Hispanics/Latinas.

None of the counties in the Affiliate service area had substantially different screening proportions than the Affiliate service area as a whole, though two did not have enough data available.

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 2.4 and 2.5). 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.

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.

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 2.4. Population characteristics – demographics

Population Group	White	Black /African-American	AIAN	API	Non-Hispanic /Latina	Hispanic /Latina	Female Age 40 Plus	Female Age 50 Plus	Female Age 65 Plus
US	78.8 %	14.1 %	1.4 %	5.8 %	83.8 %	16.2 %	48.3 %	34.5 %	14.8 %
Texas	81.5 %	12.9 %	1.1 %	4.5 %	62.5 %	37.5 %	42.9 %	29.4 %	11.7 %
Komen Houston Service Area	72.7 %	18.8 %	1.1 %	7.4 %	65.0 %	35.0 %	41.6 %	27.5 %	9.8 %
Brazoria County - TX	80.3 %	12.6 %	0.9 %	6.2 %	72.2 %	27.8 %	43.4 %	28.9 %	10.9 %
Chambers County - TX	88.4 %	9.0 %	1.1 %	1.6 %	80.7 %	19.3 %	44.6 %	29.6 %	10.4 %
Fort Bend County - TX	58.4 %	22.8 %	0.7 %	18.1 %	76.2 %	23.8 %	43.8 %	27.8 %	8.4 %
Galveston County - TX	80.4 %	15.0 %	0.9 %	3.6 %	77.5 %	22.5 %	47.7 %	33.3 %	12.6 %
Harris County - TX	71.2 %	20.7 %	1.2 %	6.9 %	59.9 %	40.1 %	40.0 %	26.5 %	9.4 %
Liberty County - TX	86.0 %	12.1 %	1.0 %	0.8 %	82.0 %	18.0 %	45.9 %	31.6 %	12.3 %
Montgomery County - TX	91.0 %	5.1 %	1.1 %	2.8 %	79.4 %	20.6 %	46.1 %	31.4 %	11.8 %

Data are for 2011. Data are in the percentage of women in the population.

Source: US Census Bureau – Population Estimates

Table 2.5. Population characteristics – socioeconomics

Population Group	Less than HS Education	Income Below 100% Poverty	Income Below 250% Poverty (Age: 40-64)	Un-employed	Foreign Born	Linguistic-ally Isolated	In Rural Areas	In Medically Under-served Areas	No Health Insurance (Age: 40-64)
US	14.6 %	14.3 %	33.3 %	8.7 %	12.8 %	4.7 %	19.3 %	23.3 %	16.6 %
Texas	19.6 %	17.0 %	37.1 %	7.3 %	16.2 %	8.2 %	15.3 %	32.2 %	24.7 %
Komen Houston Service Area	19.6 %	15.3 %	33.9 %	7.2 %	22.2 %	10.3 %	5.8 %	20.2 %	24.5 %
Brazoria County - TX	15.1 %	10.7 %	26.6 %	5.7 %	12.0 %	4.0 %	22.5 %	14.6 %	20.7 %
Chambers County - TX	14.2 %	8.3 %	22.4 %	5.6 %	6.1 %	2.8 %	45.7 %	100.0 %	16.8 %
Fort Bend County - TX	11.4 %	8.3 %	21.6 %	5.1 %	25.0 %	6.5 %	5.5 %	22.0 %	18.9 %
Galveston County - TX	13.6 %	13.1 %	28.6 %	7.7 %	9.7 %	3.5 %	6.1 %	8.6 %	19.6 %
Harris County - TX	22.1 %	17.3 %	38.1 %	7.6 %	25.0 %	12.6 %	1.2 %	17.1 %	26.9 %
Liberty County - TX	24.9 %	16.2 %	41.3 %	10.4 %	6.6 %	3.2 %	63.2 %	100.0 %	26.5 %
Montgomery County - TX	13.9 %	11.5 %	24.6 %	6.6 %	12.3 %	4.2 %	22.7 %	36.8 %	19.1 %

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 rural population data: US Census Bureau – Census 2010.

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 Houston service area has a substantially smaller White female population than the US as a whole, a slightly larger Black/African-American female population, a slightly larger Asian and Pacific Islander (API) female population, a slightly smaller American Indian and Alaska Native (AIAN) female population, and a substantially larger Hispanic/Latina female population. The Affiliate's female population is substantially younger 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 is a slightly smaller percentage of people who are unemployed in the Affiliate service area. The Affiliate service area has a substantially larger percentage of people who are foreign born and a substantially larger percentage of people who are linguistically isolated. There is a substantially smaller percentage of people living in rural areas, a substantially larger percentage of people without health insurance, and a slightly smaller percentage of people living in medically underserved areas.

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

- Fort Bend County

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

- Harris County

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

- Liberty County

The following county has substantially lower employment levels than that of the Affiliate service area as a whole:

- Liberty 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 as of the writing of this report: 20.6 cases per 100,000 women).
- Reducing the number of breast cancers that are found at a late-stage (Target as of the writing of this report: 41.0 cases per 100,000 women).

To see how well counties in the Komen Houston 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 2.6):

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

		Time to Achieve Late-stage Incidence Reduction Target				
		13 years or longer	7-12 yrs.	0 – 6 yrs.	Currently meets target	Unknown
Time to Achieve Death Rate Reduction Target	13 years or longer	Highest	High	Medium High	Medium	Highest
	7-12 yrs.	High	Medium High	Medium	Medium Low	Medium High
	0 – 6 yrs.	Medium High	Medium	Medium Low	Low	Medium Low
	Currently meets target	Medium	Medium Low	Low	Lowest	Lowest
	Unknown	Highest	Medium High	Medium Low	Lowest	Unknown

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 2.7 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 percentages and key breast cancer death determinants such as poverty and linguistic isolation.

Table 2.7. Intervention priorities for Komen Houston service area with predicted time to achieve the HP2020 breast cancer targets and key population characteristics

County	Priority	Predicted Time to Achieve Death Rate Target	Predicted Time to Achieve Late-stage Incidence Target	Key Population Characteristics
Chambers County - TX	Highest	SN	13 years or longer	Rural, medically underserved
Liberty County - TX	Highest	13 years or longer	13 years or longer	Education, employment, rural, medically underserved
Harris County - TX	High	9 years	13 years or longer	%Hispanic/Latina
Brazoria County - TX	Medium High	13 years or longer	1 year	Rural
Galveston County - TX	Medium Low	11 years	Currently meets target	
Montgomery County - TX	Medium Low	12 years	Currently meets target	Rural, medically underserved
Fort Bend County - TX	Lowest	Currently meets target	Currently meets target	%API

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 2.1 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.

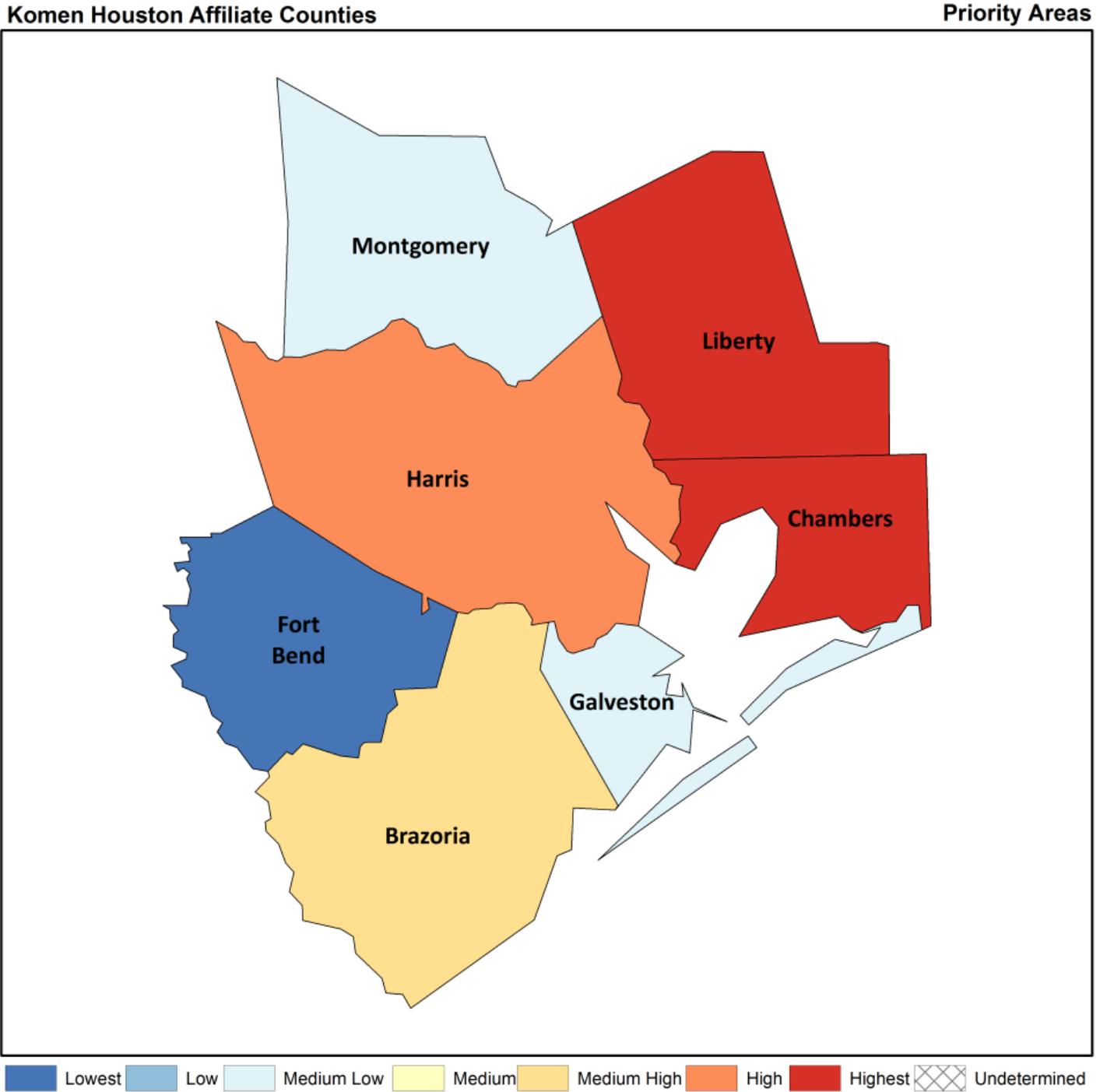


Figure 2.1. Intervention priorities

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 deaths, 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.

There are a number of data limitations that need to be considered when utilizing the data presented in the report. Firstly, the datasets used in the report for calculating incidence and death rates of breast cancer, the utilization of mammography and the population characteristics come from various periods of time depending upon data availability. It is also important to note that the data used in this study are at least one or two years behind the current date. This is due to the lag time between data collection and its release for use in studies such as this one.

The datasets of new breast cancer cases and breast cancer deaths among the target population used in the report are from 2000 to 2010. The datasets regarding the utilization of mammography from BRFSS Texas are from 2006, 2008 and 2010. Further, the datasets at the census tract level with regard to the population characteristics of the target population are from 2009 or 2012. Consequently, the datasets used in the report for calculation are one or two years behind, although they are the most recent available datasets. Generally, the incidence and death rates of breast cancer, the utilization of mammography and population characteristics in the females do not change dramatically each year. As a result, the data one or two years behind used in the report remain reliable. However, the readers of the report need to consider the time period of the datasets when using the data provided in the report.

Secondly, the report aimed to illustrate the breast cancer burden and breast health in the females residing in the service area of Komen Houston at a local level. However, some areas did have small populations and might not have enough breast cancer cases or deaths each

year, these data have either been excluded from the rate calculation or have been addressed through the use of specialized methods as noted in the report. Specifically, the data used to calculate late-stage incidence and death measures are based on small numbers. Care must be taken when interpreting data using small numbers. While the Affiliate believes the methodological approach, spatial empirical Bayesian smoothing and the standardized death ratio (SMR), is sufficient to address these concerns, it is understood that other reviewers may be cautious in interpreting these data.

The data presented for late-stage incidence are based on a smoothed *crude* rate. These data have not been age-adjusted. Some studies have shown that younger women are at higher risk of late-stage diagnosis as compared to older women. While there may be some age-effects in the estimate of late-stage rates, the Affiliate believes that even if they are present, they are important in that they point to areas that need further investigation into whether there are disparities in screening access or other risk factors that may potentially be addressed to reduce late-stage diagnosis in the service area.

Finally, the standard populations used to standardize the death and incidence rates of breast cancer in the target population may vary from the standard populations used in the community profiles published by other Affiliates.

Quantitative Data Report Conclusions

Highest priority areas

Two counties in the Komen Houston service area are in the highest priority category. One of the two, Liberty County is not likely to meet either the death rate or late-stage incidence rate HP2020 targets. One of the two, Chambers County is not likely to meet the late-stage incidence rate HP2020 target. Liberty County has low education levels and high unemployment.

High priority areas

One county in the Komen Houston service area is in the high priority category. Harris County is not likely to meet the late-stage incidence rate HP2020 target. Harris County has a relatively large Hispanic/Latina population.

Additional Quantitative Data

Introduction

The purpose of the additional quantitative data collection and analysis for Susan G. Komen® Houston is to identify areas of potential disparities in breast health for underserved women in the Affiliate seven county service area and to identify a target community for the collection of qualitative data to supplement the findings in this quantitative report and the overall quantitative data report (QDR). Disparities are differences between groups of people. Disparities may affect the frequency with which people get sick or their ability to recover. For example, there are well-documented disparities in breast cancer survival, where Black/African-American women are diagnosed less frequently with breast cancer, but survive at a lower rate than their White counterparts.

The following is a summary of the findings derived from the quantitative data collected and analyzed for Komen Houston, including three focal sections: breast cancer statistics, mammography screening and population characteristics of young women at risk for breast cancer. Consistent with the QDR, the Additional Quantitative Data Exploration section utilizes several of the same indicators, including incidence rates, death rates, late-stage incidence rates and mammography utilization to illustrate breast health and breast cancer in females residing in the service area of Komen Houston.

However, the additional datasets used for generating findings and making conclusions are at a census tract level or other local level of geography, for instance, zip code level, which is believed to lead to a more comprehensive and accurate understanding of breast health and breast cancer in females residing in the service area of Komen Houston at this time. Then, a target community for additional qualitative assessment is identified based on the quantitative data. Finally, the limitations of the quantitative data used in the report are discussed.

Breast Cancer Statistics

Two major indicators, incidence and death rates, are used to illustrate potential disparities in breast health access and cancer outcomes in females residing in the service area of Komen Houston at a census tract level. In particular, late-stage incidence and death rates of breast cancer in females served by Komen Houston can help assess disparities in breast cancer in their service area.

Incidence Rates

As described in the QDR, breast cancer incidence rates show the frequency of new cases of breast cancer in females living in an area during a certain time period. Additional data on breast cancer incidence of females residing in the service area were calculated at the census tract level. New cases of breast cancer from 2000 to 2010 were obtained under a data sharing agreement with the Episcopal Health Foundation. The data were provided to the Foundation by the Texas Cancer Registry for women at the census tract level under institutional review board (IRB) agreement.

Due to insufficient numbers of breast cancer cases at some of the census tracts over the time period of interest, any census tracts with less than 15 new breast cancer cases from 2000 to 2010 are excluded, as are census tracts with less than 200 people reported residing in them. Rates calculated with less than 20 cases are shown in cross-hatch (black lines) on Figure 2.2. Crude incidence rates are calculated for the 2000-2010 time period and subsequently age-adjusted to the US Standard population 2000 using the direct method of standardization (SEER_a, 2014). An annual average incidence rate was calculated by dividing the summed incidence rate by ten.

Figure 2.2 shows the distribution of incidence (new cases of breast cancer) in the service area. The highest incidence rates after adjusting for age are observed in Harris and Fort Bend Counties. The lowest overall incidence rates after adjusting for age are observed in Brazoria, Galveston, and Liberty Counties.

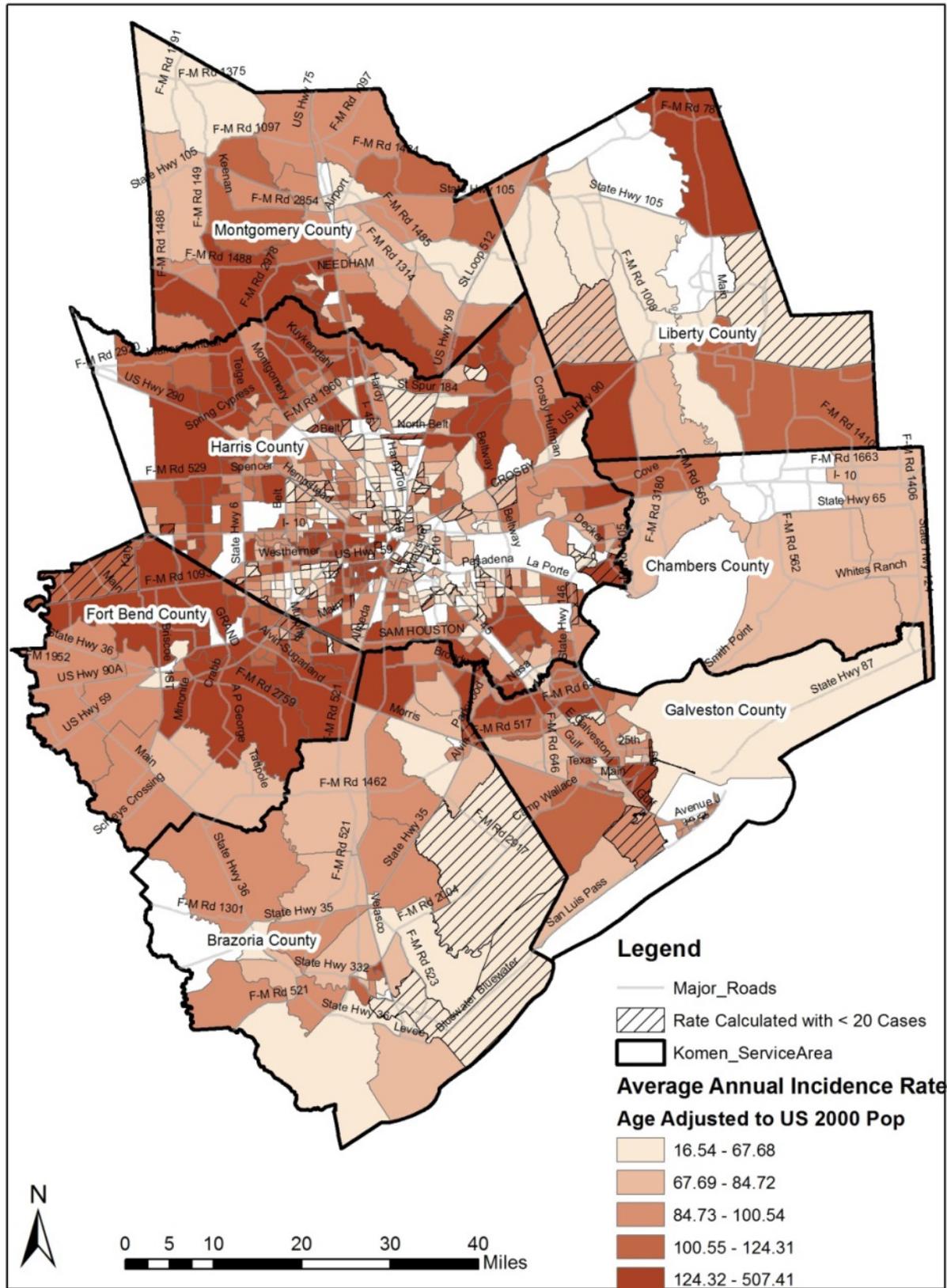


Figure 2.2. Average annual breast cancer incidence rate in women aged 40-64 years in the service area

It is important to note that incidence is a reflection of mammography screening utilization and breast cancer risk factors in the population. While it is a useful indicator, it is also important to consider late-stage incidence, as later stage diagnosis of breast cancer has been shown to lead to reduced survival and poorer health outcomes.

Late-Stage Excess Risk

Stage at diagnosis is an important predictor of survival (Wang, 2008). Women who are diagnosed at a late-stage are at higher risk for death from breast cancer, are at risk for complications and overall poorer health outcomes (Wang, 2008). Underserved populations have consistently been shown to be at higher risk for late-stage diagnosis (Wang, 2008; Eley et al. 1994; Bradley, Given and Roberts 2001; Spitler, Mayo, and Parker 2001).

In this report, late-stage breast cancer was considered cases diagnosed as regional or distant stage and was coded using the SEER 2000 summary staging manual (SEER_b, 2014). Due to small numbers, late-stage incidence was considered using two measures of calculation: excess risk and spatially smoothed late-stage incidence rates.

The excess risk calculation results in a map showing the “risk” of late-stage breast cancer in the service area as a ratio of the number of late-stage breast cancer cases divided by the expected number of late-stage cases for the same time period (Center for Spatially Integrated Social Science, 2003). Values of Excess Risk greater than one show locations where the number of late-stage cases exceeds the expected (Center for Spatially Integrated Social Science, 2003).

Figure 2.3 shows the distribution of census tracts considered at excess risk of late-stage breast cancer. Excess risk was calculated only for census tracts with five or more late-stage cases per IRB requirements for protection of information. Areas of excess risk are observed in all counties of the service area. The areas with the highest excess risk are shown in blue and include a substantial proportion of Galveston County.

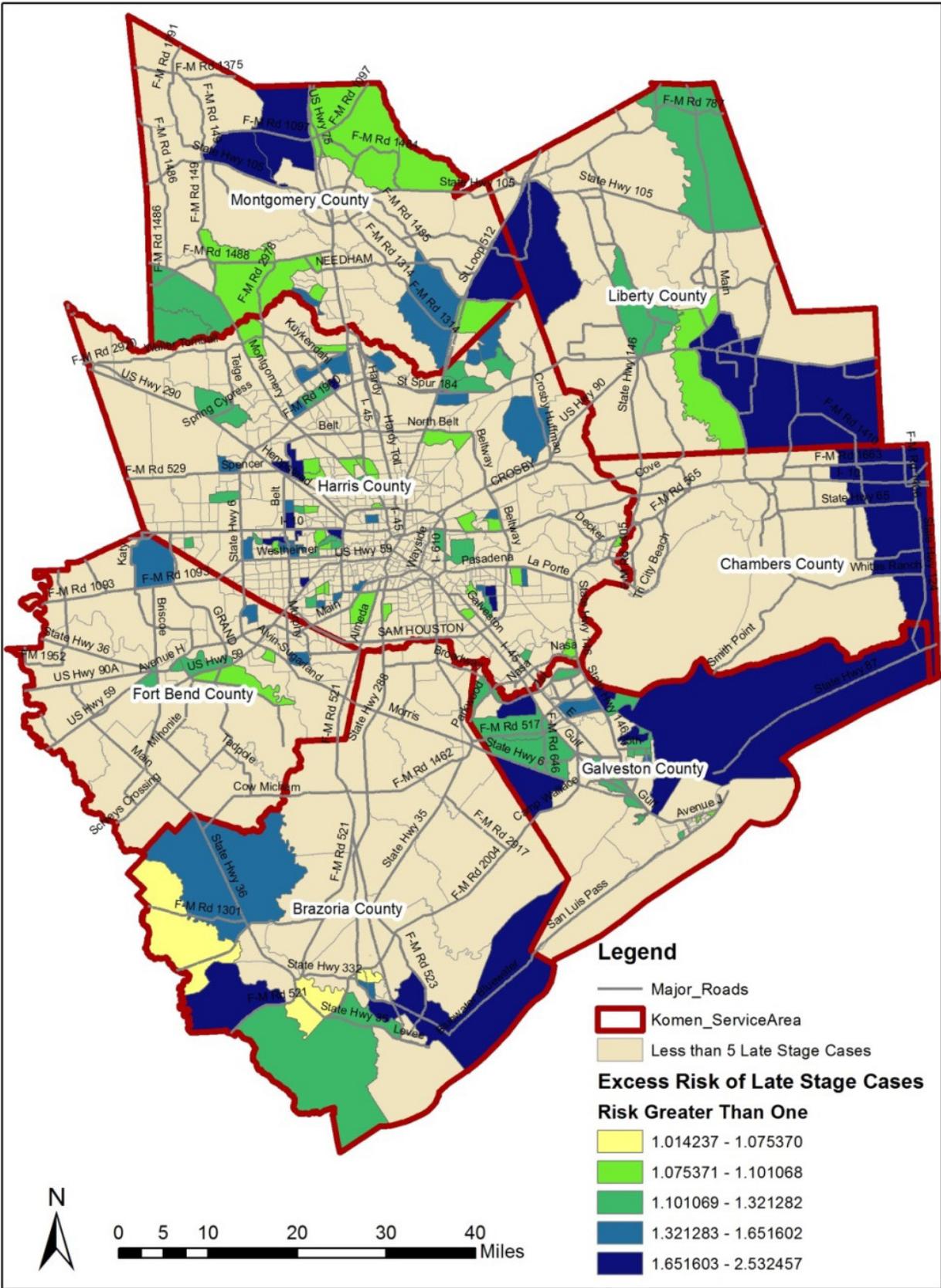


Figure 2.3. Late-stage incidence excess risk

Late-Stage Incidence Rates

Crude late-stage incidence rates were calculated and smoothed to address the problem of small numbers of late-stage breast cancer cases in the study area. When numbers of new late-stage breast cancer cases are small (e.g., < 10), then special methods are required in order to calculate reliable rates.

“Smoothing” was used on the maps and refers to the process of shrinking or leveling off areas on the map which appear to have very high values. It is a well-known problem that when disease rates are calculated with small numbers, the reported values may appear to be very high, but in reality these estimates have very wide confidence intervals. This means that the estimate of the rate is unstable or suspicious. Smoothing brings these estimates back toward the mean and effectively removes these so-called outliers, leading to reliable estimates. The smoothed rates reported here were calculated in the software program Geoda (Center for Spatially Integrated Social Science, 2003).

In this report, the Affiliate used k-nearest neighbors, which is a method for defining a “neighborhood” around a given census tract. For each census tract, the Affiliate used their six nearest census tracts (based on distance) as their defined neighborhood (Center for Spatially Integrated Social Science, 2003).

Figure 2.4 shows the smoothed late-stage breast cancer incidence rates for census tracts with five or more cases in the service area as compared to the HP2020 goal of 41.0/100,000, which was used in the QDR as the goal for late-stage incidence. All colored tracts are higher than the goal for late-stage incidence. Galveston County has the largest proportion of census tracts with late-stage rates at or above the HP2020 goal.

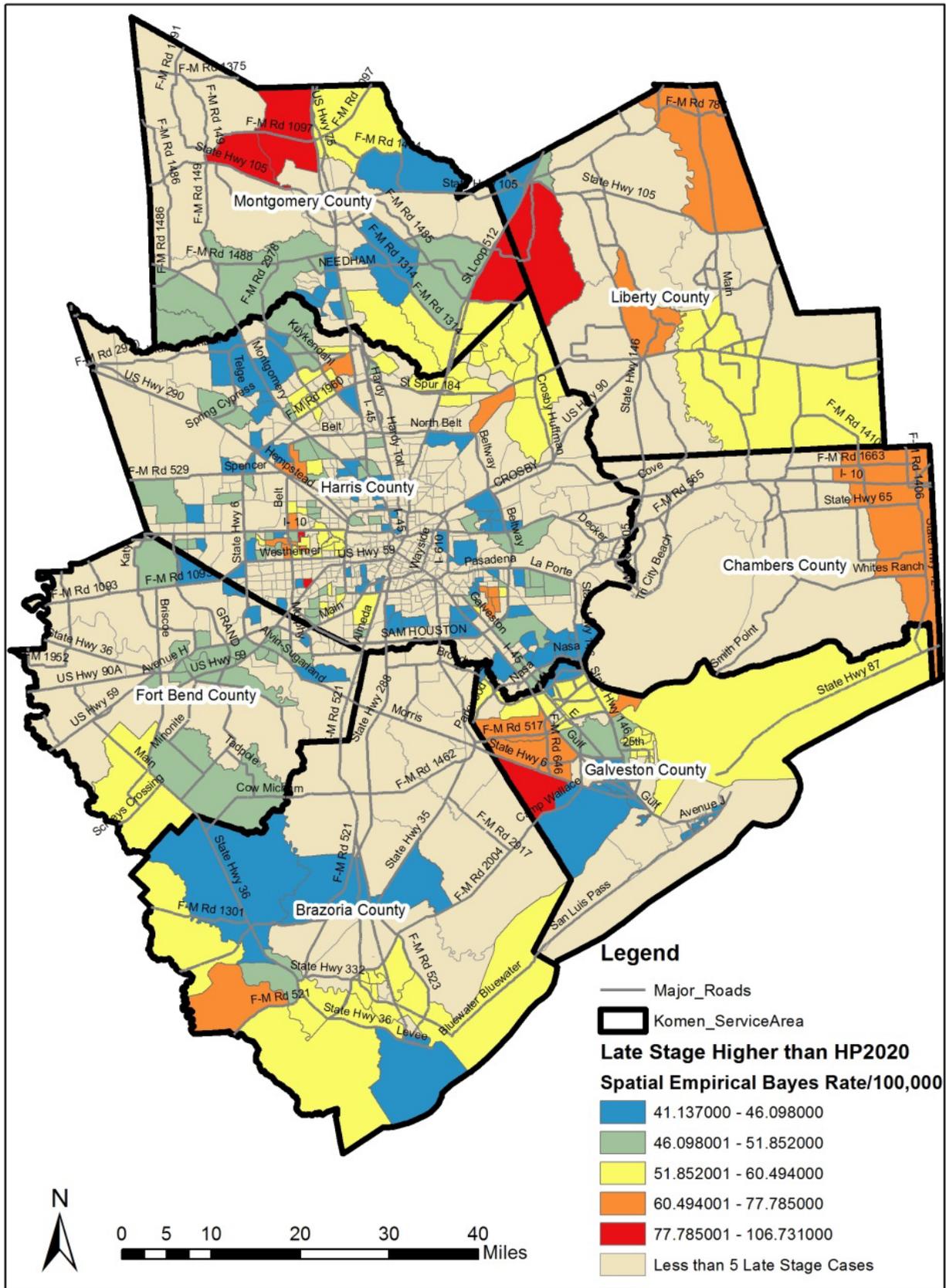


Figure 2.4. Late-stage incidence smoothed rate

Death Rates

In addition to the incidence rates of breast cancer in the target population, death rates of breast cancer among females residing in the seven county service area is calculated, which indicates the frequency of death from breast cancer among the target population during a certain time period. In order to calculate the death rates of breast cancer in the target population, breast cancer death data from 2000 to 2010 were obtained from Texas Cancer Registry at the census tract level under a data sharing agreement with the Episcopal Health Foundation.

In order to age-adjust the death rates of breast cancer for the service area, the 2000 US standard population dataset was obtained from National Cancer Institute (NCI) and the 2000 Texas standard population was obtained from US Census Bureau. Due to insufficient numbers of deaths from breast cancer at some of the census tracts, a standardized death ratio (SMR) was used to standardize and calculate the average annual death rate of breast cancer in the target population from 2000 to 2010.

The SMR is a ratio of the observed number of deaths in the service area and the number that would be expected to occur based on the Texas population. If the ratio observed is greater than 1, that census tract is considered to have worse death levels than expected (excess deaths). If the ratio observed is less than 1, that census tract is considered to have death levels that are better than expected (reduced deaths).

Confidence intervals (95 percent) were calculated to identify areas in the affiliate service area that were experiencing statistically significantly higher than or lower than expected death over the study time period. Two maps in the report illustrate areas with statistically significantly higher or lower SMR among females from 40 to 64 years old residing in the seven county service area.

Figure 2.5 shows the census tracts in the service area that had statistically significantly higher than expected death in red (excess deaths). Harris, Fort Bend, Galveston, Brazoria and Montgomery Counties all had areas with higher than expected death. Harris County had the largest number of census tracts with higher than expected death in the service area. All other areas (labeled as census tracts) had average death rates from breast cancer (e.g., the same as the overall Texas population).

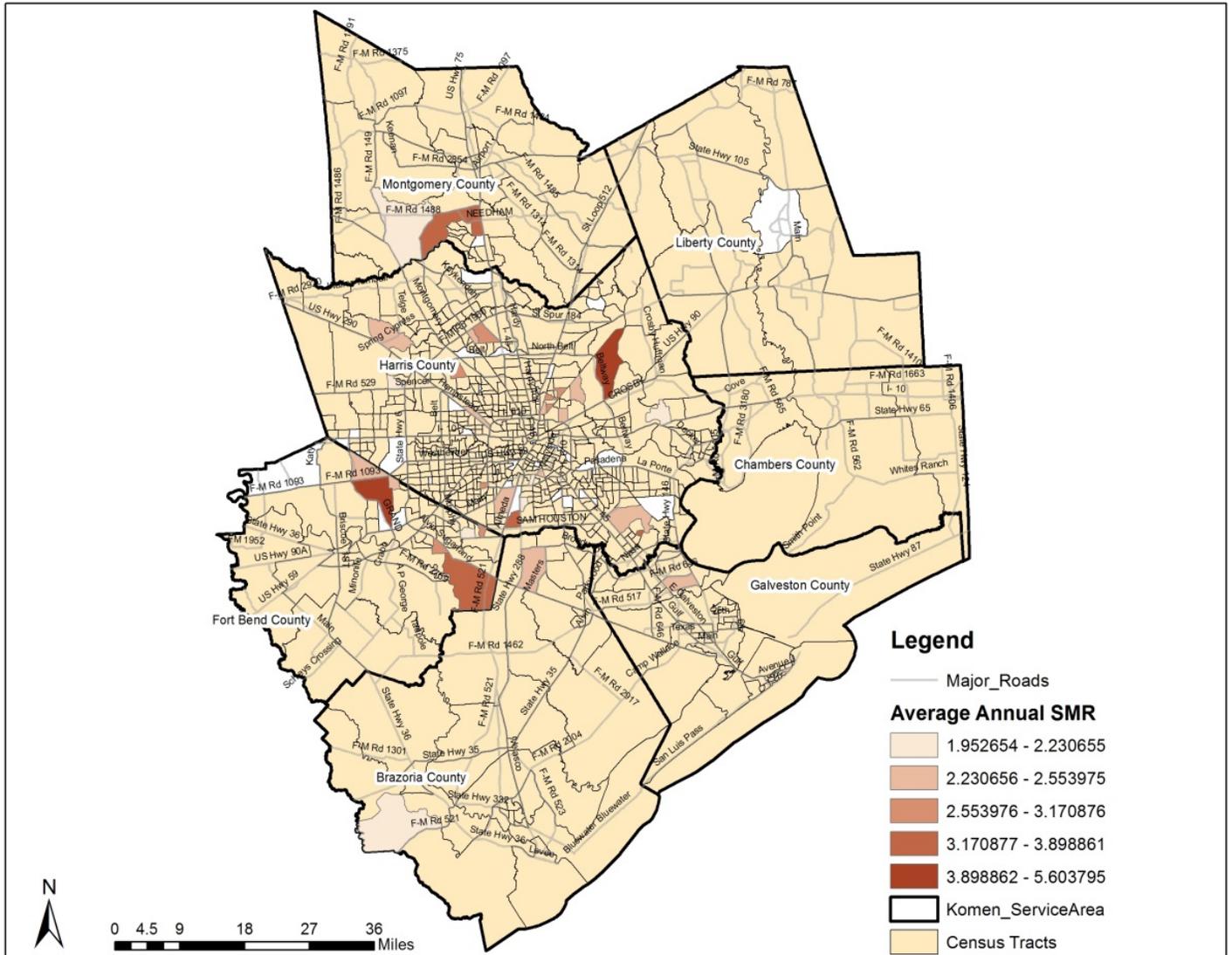


Figure 2.5. Annual average SMR in the Komen service area for areas with statistically significantly higher than average death

Figure 2.6 shows the census tracts in the service area with statistically significantly better than expected death. Parts of Harris, Fort Bend, Brazoria, Montgomery and Liberty Counties had better than expected death (less deaths). Harris County has the largest number of census tracts with better than expected death. All other areas (labeled as census tracts) had average death rates from breast cancer (e.g., the same as the overall Texas population).

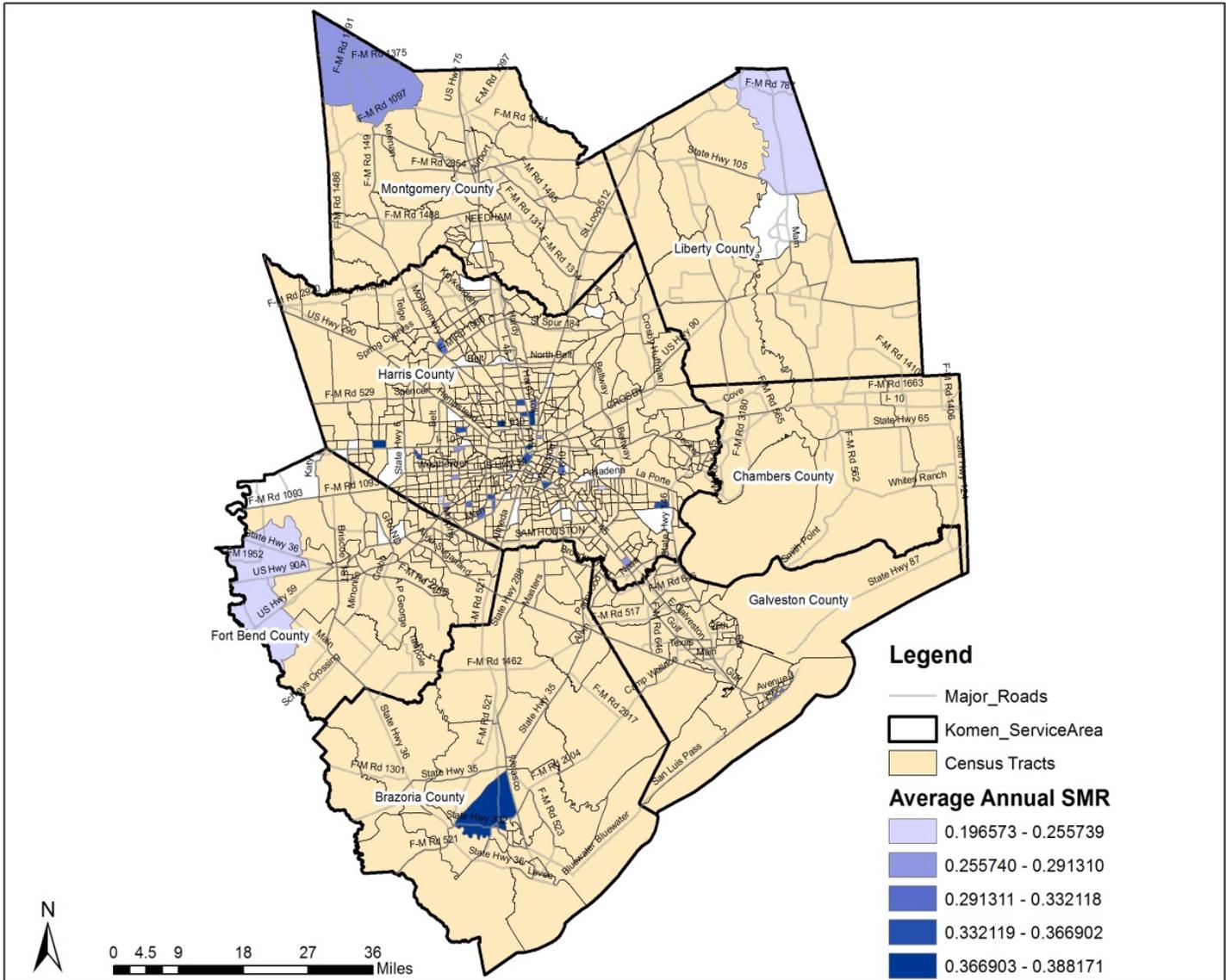


Figure 2.6. Average annual SMR in the Komen service area with statistically significantly lower than average death

Mammography Screening

This report investigates the utilization of mammography in females residing in Komen Houston's seven county service area every two years from 2006 to 2010 at a local level. The Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factors Surveillance System (BRFSS) in Texas collects data on mammography under the "women's health" section of its phone interview survey every two years.

The secondary dataset regarding the utilization of breast cancer screening services are derived from Texas Behavioral Risk Factors Surveillance System (Center for Health Statistics, 2014). Due to insufficient samples of women available at the census tract level across the seven County service area, local areas for this measure were derived based on groups of zip codes, resulting in 16 zip code combined areas across the service area. A minimum sample of 50 women is required in order to derive prevalence estimates. Texas BRFSS provided the prevalence estimates for women over 40 years of age who had not had a mammogram within the last two years for years 2006, 2008 and 2010.

Figure 2.7 shows the percentage of women older than forty years who had not had a mammogram within the last two years for the combined year range (2006, 2008 and 2010) residing in the seven service area of the Houston Komen Affiliate based on the entire female population of this age group in the service area.

Based on Figure 2.7, most zip code groups in the service area do not meet the Healthy People 2020 goal of 81 percent of women obtaining mammography screening as outlined in the QDR (e.g., ≤ 18.9 percent at risk). The Southeast part of Harris County has the highest percentage of women who reported not having had a mammogram in the last two years at 41 percent.

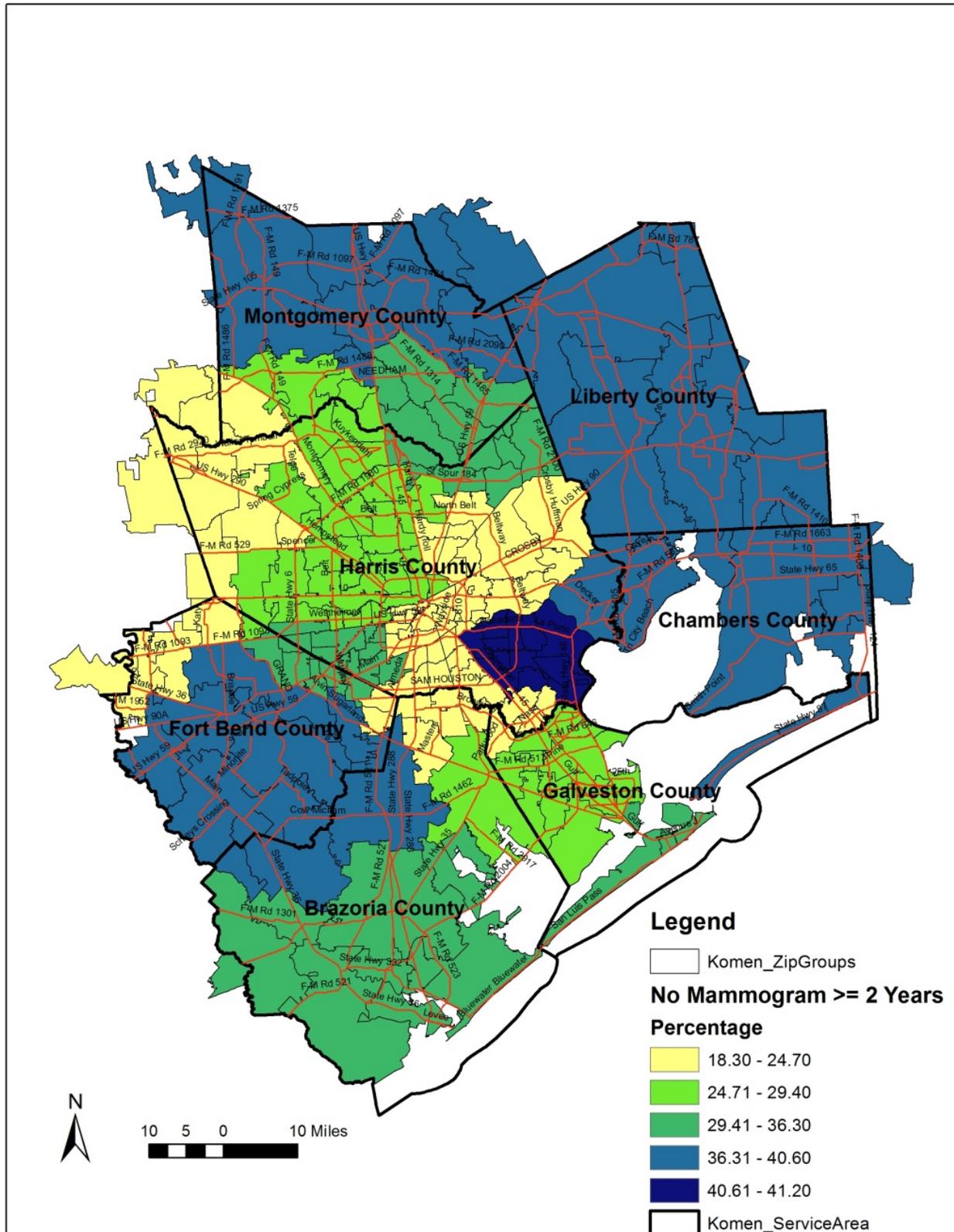


Figure 2.7. Proportion of women who had not had a mammogram within the last two years in 2006, 2008 and 2010

Breast Cancer Screening Proportions Summary

The local level data on utilization of mammography within the last two years among females older than 40 years old illustrates an in-depth exploration of how often the target population residing in the seven county service area of Komen Houston utilized mammography every two years from 2006 to 2010. A majority of the zip code areas in the seven county service area do not meet the HP 2020 goal for mammography screening of 81.1 percent (less than 18.9 percent of women not screened).

Some areas in Montgomery, Chambers, Liberty, Galveston, Harris and Fort Bend are at more than double the goal (over 36.0 percent of women who are not screening). Based on the above map, a large part of the service area needs to be investigated further to understand local-level and systems barriers to accessing mammography among females older than forty years of age, in the hope of increasing the percentage of the utilization of mammography among the target population.

Population Characteristics of Young Women at Risk of Breast Cancer

The report illustrates the characteristics of the target population whom Komen Houston serves, including women who may be at future risk of breast cancer by considering educational attainment level, insurance rate and linguistic isolation in young women (ages 18-44 years). The characteristics of the women portrayed in the report are considered three important factors impacting females' decisions on accessing mammography and breast cancer treatment based on observations from previous research studies and the inputs from grantees of Komen Houston (Meissner et al., 2012; Cho et al., 2011 & Kwork & White, 2011). Insurance and education levels are reported as predictors of accessing mammography based on the National Health Interview Survey (NHIS) report (Smith et al., 2010). Uninsured women were only half as likely to report having had a mammogram in the past year, as compared with their insured counterparts (Smith et al., 2010). With an increase in educational attainment level, females were more likely to report having had a mammogram in the past year (Smith et al., 2010). Meanwhile, linguistic isolation is another critical element impacting the accessibility of breast cancer screening and treatments (Kwork & White, 2011).

Insurance, educational attainment levels, and linguistic isolation need to be taken into consideration when analyzing gaps in the provision of breast cancer screening and treatment services for females residing in the service area of Komen Houston. Further, females under 40 years of age who are diagnosed with breast cancer are more likely to experience aggressive breast cancer as compared to other age groups. As a result, Komen Houston has a specific interest in these younger females who may be at risk for breast cancer.

The percentages of the three characteristics in the female population are calculated using the American Community Survey (ACS) at a census tract level from US Census Bureau. ACS is a nationwide survey designed to provide communities up-to-date information for a number of population characteristics (US Census Bureau, n.d.). As a critical element in the Census Bureau's decennial census program, it collects and produces population and housing information such as age, race, income, commute time to work, home value, veteran status, and other important data every year throughout the decade about the US population at the local

community level (US Census Bureau, n.d.). With a focus on younger females at potential risk for breast cancer, the uninsured percentage and educational attainment of females age 18 to 44 years old were explored using 2012 ACS data for the seven county service area; while, linguistic isolation by household in the service area in 2009 was examined.

Specifically, lower educational attainment in females is calculated as females having educational attainment levels lower than 9th grade or between 9th and 12th grade without a high school diploma. Lower educational attainment levels of females ages 18 to 44 residing in the service area of the Komen Houston Affiliate are illustrated using the percentage of females with lower educational attainment levels at the census tract level based on the total female population ages 18 to 44.

The estimated uninsured percentages of females ages 18 to 44 living in the service area is examined using the percentage of uninsured females ages 18 to 44 at the census tract level based on the total female population ages 18 to 44. Linguistic isolation is calculated as all members of a linguistically isolated household. As a result, the females in the service area of Komen Houston in 2009 who were linguistically isolated are portrayed using the percentage of the number of linguistically isolated households based on the total number of households in the same area. According to the US Census Bureau, linguistic isolation is defined as a household in which all members 14 years old and over speak a non-English language and also speak English less than “Very well” (US Census Bureau, n.d.).

Based on Figure 2.8, Liberty, Harris and Montgomery Counties have a larger number of census tracts with young women (ages 18 to 44 years old) with less than a high school education level.

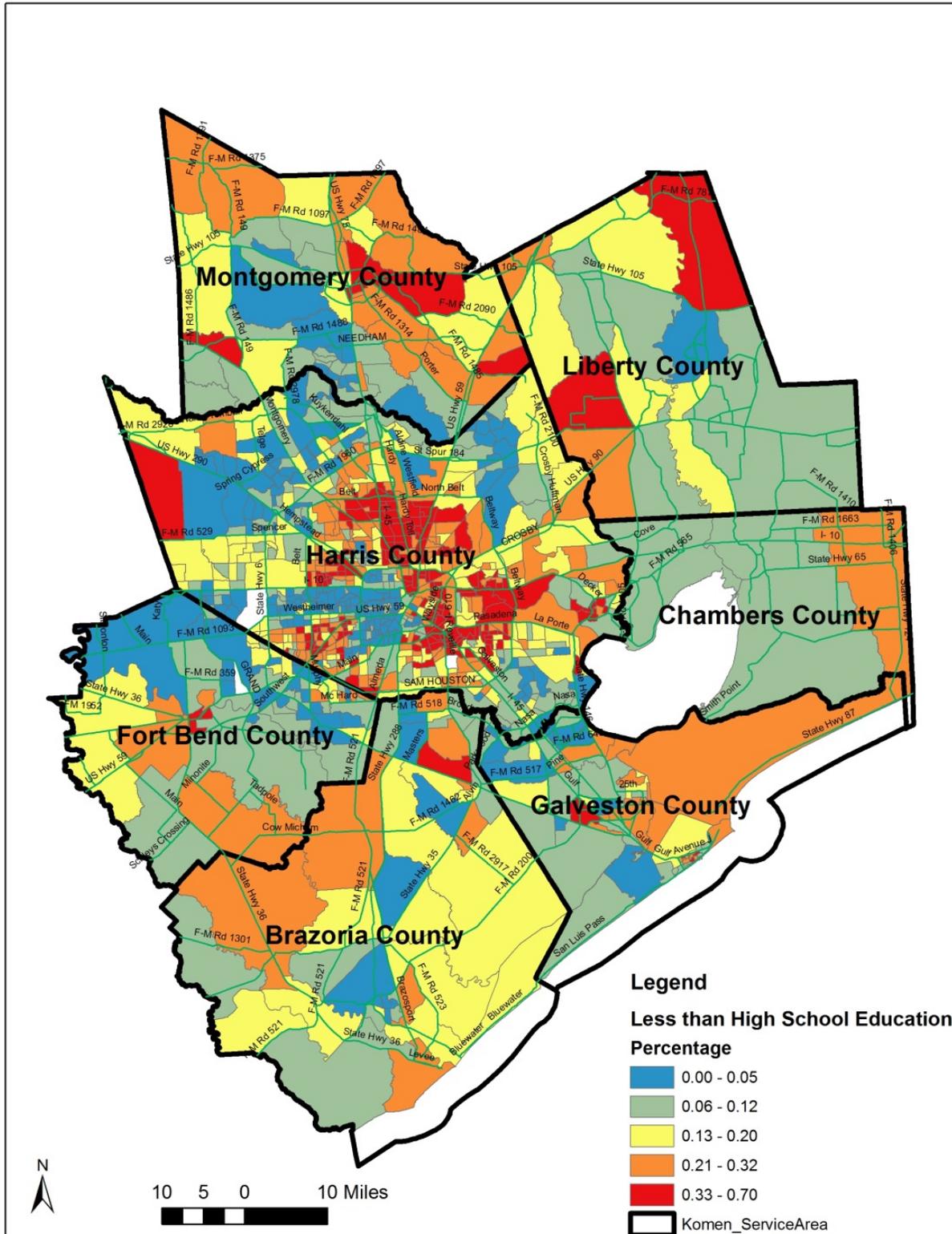


Figure 2.8. Proportion of women with less than a high school education between 18-44 years of age

Based on Figure 2.9, Brazoria, Galveston, Chambers, and Harris have large numbers of census tracts with high rates of uninsured populations.

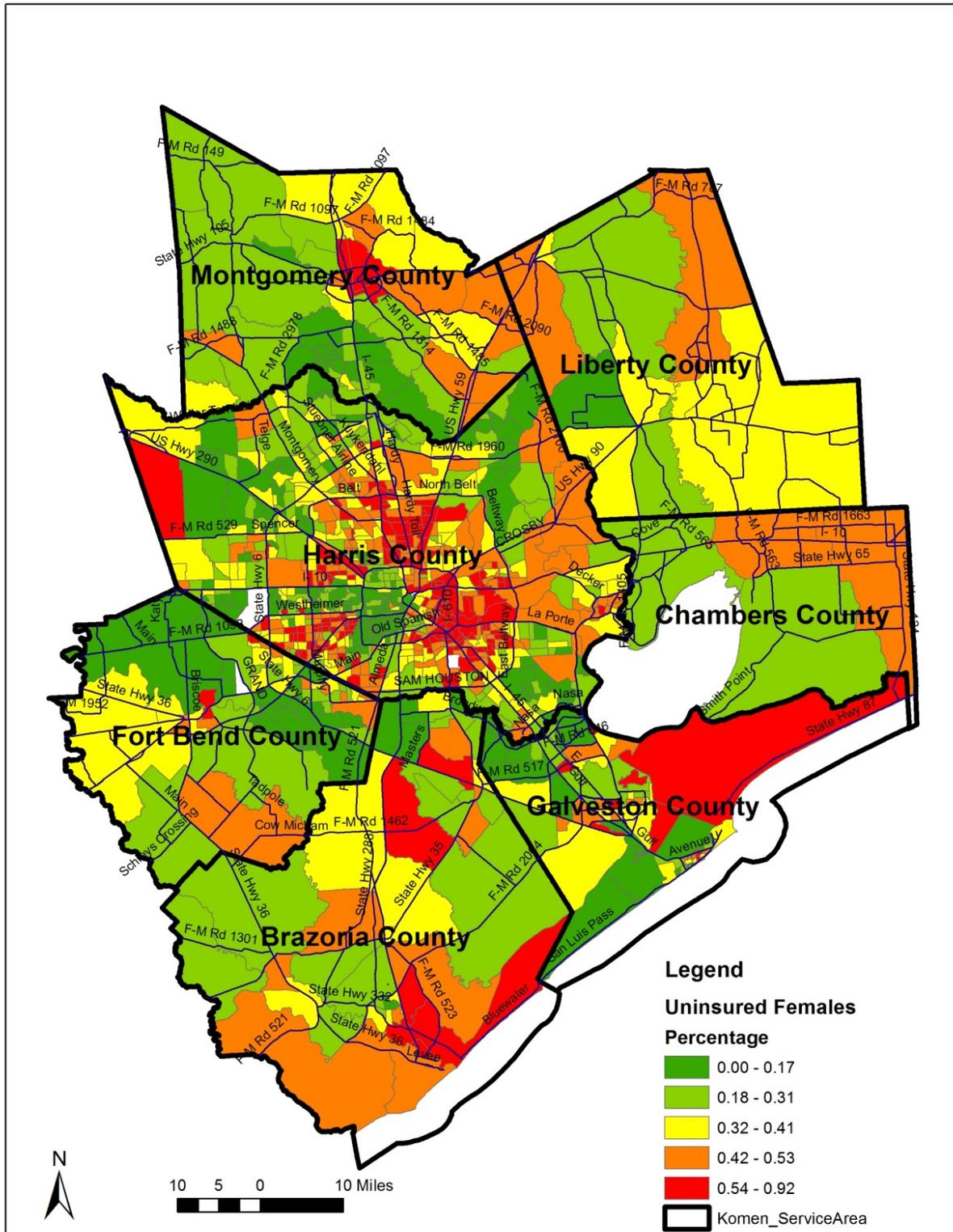


Figure 2.9 Proportion of women 18-44 years of age who are uninsured

Figure 2.10 shows that Harris County has a large concentration of linguistically isolated households. The other Counties have low concentrations of linguistically isolated households.

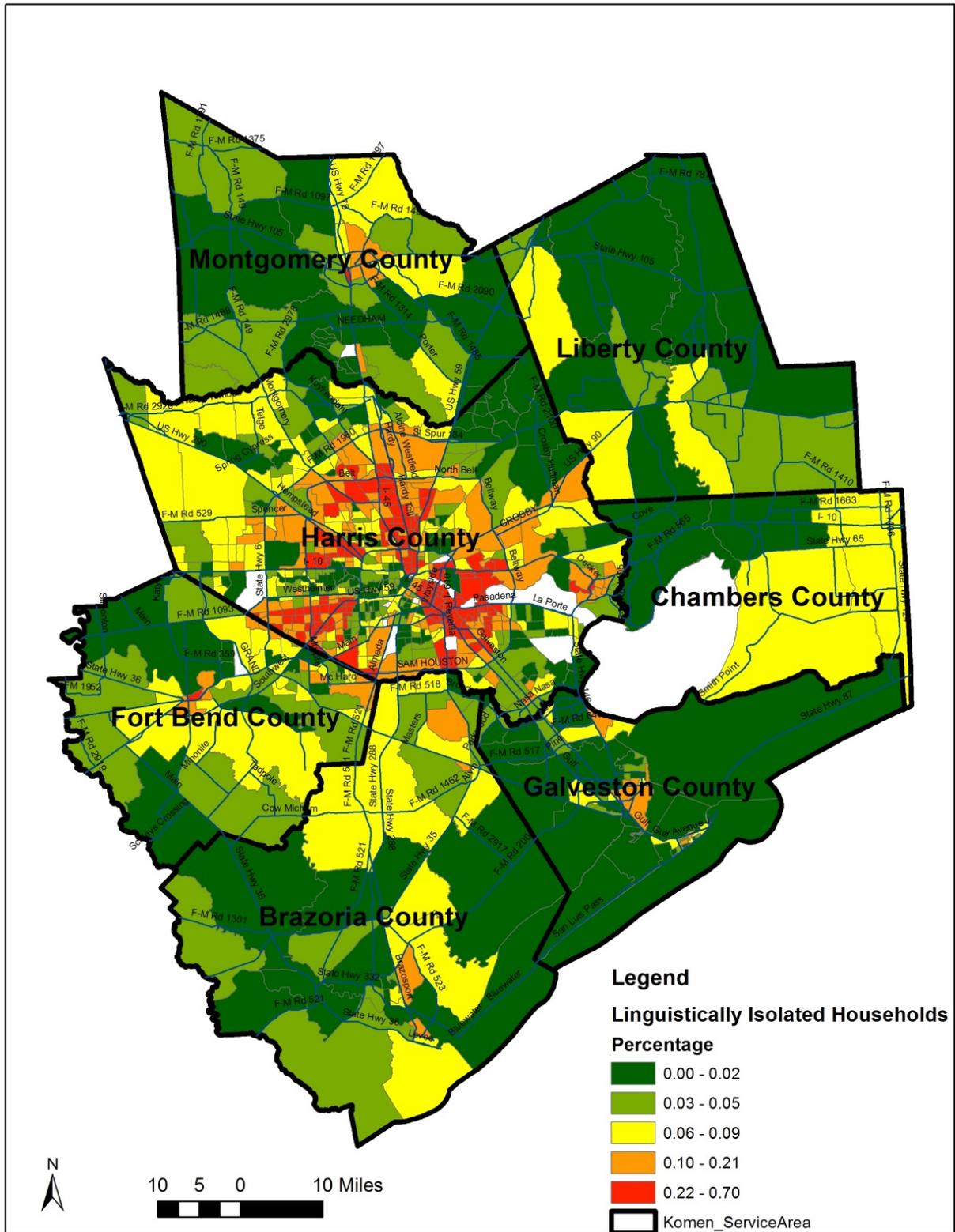


Figure 2.10. Proportion of linguistically isolated households

Population Characteristics of Young Women at Risk of Breast Cancer Summary

The proportions of three population characteristics of women at the risk for breast cancer residing in the service area of Komen Houston illustrate the potential barriers to accessing breast cancer screening and treatment services in the seven counties. The higher uninsured percentage, lower educational level (lower than high school education attainment), and existing linguistic isolation of women ages 18 to 44 years may lead to lower utilization of mammography or breast cancer treatments in the coming years.

Based on the three maps showing the percentages of these three characteristics based on the total population of females between 18 to 44 years old, there are several key points that need to be highlighted:

- Harris and Liberty Counties have a larger number of census tracts with young women ages 18 to 44 years old who have less than a high school level of education.
- All seven service counties report a number of census tracts with uninsured populations. In terms of overall county population, Galveston and Harris Counties have the largest uninsured populations.
- Harris County has the largest concentration of linguistically isolated households among the seven county service area.

The young women ages 18 to 44 years old may be at risk for limited access to mammography screening and some of them are likely to develop breast cancer in the future. Through understanding their characteristics, such as educational attainment levels, insurance rates and linguistic isolation, Komen Houston is able to identify potential barriers for them to access and utilize breast cancer screening services and therefore develop new programs to increase their access to and utilization of breast cancer screening services, potentially reducing the number of breast cancers that are found at a late-stage.

Summary of Additional Quantitative Data Exploration

The additional quantitative data explored for females residing in the seven county service area of Komen Houston, including late-stage incidence and death rates of breast cancer, the utilization of mammography, and population characteristics of young women at risk of breast cancer, helps enhance the Quantitative Data Report (QDR) provided by Komen Headquarters in understanding breast health and breast cancer status at a local level in the service area of Komen Houston. With the county level data in late-stage incidence and death rates, Komen Houston can estimate how long it would take a county in its service area to achieve Healthy People 2020 objectives for breast cancer late-stage diagnosis and death.

We gathered data on age ranges, demographics and other factors that were not covered by the previous section of the Profile. Maps including sub-county level data were included to see smaller pockets in the service area that are in need of further assessment. Based on the assessment of the utilization of mammography in females ages 40 and older, Komen Houston can also evaluate what groups have lower utilization of mammography among the females they serve. Moreover, with the population characteristics of young women ages 18 to 44 years old at

the risk of breast cancer, Komen Houston can learn more about the barriers these young women face to accessing breast cancer screening services.

To summarize, with the additional quantitative data investigated in the report, Komen Houston is able to identify priorities in its service area for future programs and funding allocations and select a target county that has the biggest needs gaps in services and resources for reducing breast cancer burden, which will be explored further by the Health Systems Analysis. The additional data is to be used in conjunction with data from the QDR to narrow down the areas that are to be selected for further health systems analysis.

Selection of Target Communities

In order to most effectively use Komen Houston's limited resources to further assess access to breast health in the service area, and to make meaningful recommendations for improving access in a short period of time, a prioritization process was used to determine the target community and specific areas for additional assessment within the selected county at the census tract level. The prioritization of the data in this report was late-stage incidence as the primary concern, followed by death and screening utilization rates. Secondary considerations included risk factors for young women in the service area.

The final consideration was to consider which parts of the service area have already been studied, either in previous profiles or by other groups, and the ability to reasonably affect change based on funding levels and organizational capacity. The overarching rationale for this process was that Komen Houston needs to immediately target areas where there are disparities in breast cancer stage and outcomes in the service area, and that the Affiliate needs to be planning for the future by considering areas where disparities are likely to occur over the coming decade.

The QDR shows that Chambers and Liberty counties were considered highest priority areas. Komen Houston acknowledges the issues in these counties and will continue to work with current grantees to improve breast health services. Chambers and Liberty counties will also be addressed in the Mission Action Plan.

Based on this prioritization process, certain census tracts in Galveston County were selected as the target community for further assessment. A final consideration was the amount of previous research and assessment that has been conducted by Komen Houston over the last several community profiles. Galveston County has never been selected as a target community. Finally, Komen Houston felt that Galveston County has enough resources for access to mammography to make it a candidate for affecting change without having to fund substantial infrastructure (as would be required in some of the other Counties in the service area).

Within Galveston County, a number of census tracts were selected as the target communities for additional assessment based on their excess risk of late-stage breast cancer, late-stage incidence rates, death, screening utilization and percentages of uninsured and lower educational level women. In particular, census tracts 48167720600, 48167720302,

48167720700, 48167723400, 48167723502, 48167723501, 48167720800, 48167720900, 48167721100, 48167721700, 48167721800, 48167723900, 48167722001, 48167722002, 48167722100, 48167723300, and 48167720301, are areas that will be targeted for additional assessment in the health systems analysis and in the qualitative assessment.

While in the QDR, Galveston County was considered medium-low based on the county-level data explored, the additional data used in this section highlights that certain census tracts in the county are at higher risk for late-stage cancer, death, lack of screening, lower educational attainment and uninsured. The HP2020 goal for late-stage breast cancer incidence is a rate of 41.0 per 100,000. While Galveston county overall is below this rate (35.8 based on the QDR), there are a number of census tracts in the county that exceed this goal. Some census tracts in Galveston had the highest smoothed rates of late-stage incidence in the service area.

In regard to mammography screening rates, in the QDR, the proportion of women 50-74 years of age reporting mammography screening within the last two years in Galveston was 80.5 percent, which is just below the HP2020 goal of 81.1 percent. However, when expanding the data to a zip code group level and adding females 40 to 50 years of age, the Affiliate can see that these numbers dropped to a range of 71 to 60 percent of women getting screened every two years and that screening utilization varies across the county. In other words, some census tracts in Galveston have 40 percent of women who are not receiving screening every two years.

We also explored the uninsured percentage for females ages 18 to 40 to supplement the data in the QDR which looked at women 40-64 years of age. While Galveston overall has an uninsured percentage of 19.6 percent, there is great variation at the census tract level. In census tract 723900, there are large proportions of uninsured young women who will be in need of mammography screening in the coming years. This census tract reported 92 percent of females 18 to 40 years of age are uninsured.

Notably, the areas of Galveston County that have the highest excess risk, rates, lower mammography screening levels and uninsured young women are the areas that were significantly impacted by Hurricane Ike in 2008, indicating the need for further assessment and exploration. In the health systems analysis, Komen Houston will take a closer look at the current services being offered in these census tracts, including both fixed site and mobile mammography screening locations. The Affiliate will also investigate the numbers of primary care and specialty providers in the county as they relate to breast health services.

Health Systems and Public Policy Analysis

Health Systems Analysis Data Sources

The Health Systems and Public Policy Analysis section is supplementary to the overall Quantitative Data Report (QDR) and Additional Quantitative Data Explanation Section (AQDE). The purpose is to illustrate how health systems and public policies in the seven county service area of Susan G. Komen Houston shape breast health care for the uninsured and underserved.

There are four main parts in the Health Systems and Public Policy Analysis Section. First, the health system resources and service gaps in census tracts in Galveston County, regarded as the target community, are investigated based on a conceptual framework- the breast cancer “Continuum of Care” (CoC), so as to identify the strengths and weakness in service in the target community. Further, the public policies that impact the delivery and utilization of breast health care, especially breast cancer screening services, at the local, state and national levels are examined to better understand how current public policies have impacted the way in which breast health care is delivered and utilized among females in the service area, including the National Breast and Cervical Cancer Early Detection Program (NBCCEDP), State Comprehensive Cancer Control Program (CCCP), and Patient Protection and Affordable Care Act (ACA). In addition, Komen Houston’s public policy efforts to promote breast health, as well as, advocacy for collaborative relationships with various breast health care stakeholders are presented. Finally, a summary of the findings of the health systems and public policy analysis is presented in the hope of informing future funding allocation, collaboration with the diverse stakeholders in the target community, programming for addressing breast health service gaps, and the public policy work of Komen Houston.

Methodology

The Health Systems and Public Policy Analysis section involves two areas of focus: health systems overview and public policy overview.

Health systems overview

The addresses of breast health care providers in the target community in Galveston County, covering census tract codes: 720300,720600,720700,720900,721100,721700,721800,722000, 722100, 723300, 723400, 723500, 723900 are investigated in terms of physical location, service type and reimbursement type. The census tracts in Galveston County were selected based on the data analysis in the AQDE, reflecting the areas with higher breast cancer mortality and late-stage breast cancer diagnosis rates, as well as lower utilization rates of regular breast cancer mammography screening among local females.

Using information from the Texas Department of State Health Services Family and Community Health Service, the Episcopal Health Foundation, the US Department of Health and Human Services (HHS) and local contacts, there are an estimated 35 breast health care providers identified in Galveston County, encompassing: community health centers (including federally qualified health centers), hospitals, free clinics, health departments and mobile mammography units; whose services cover the continuum of breast health care from initial screening, to diagnosis, treatment, and survivorship, and finally to end of life care.

The physical location of each provider in the selected census tracts are geocoded and then the service and reimbursement types of these providers are listed based on the breast cancer CoC model in order to determine the assets and gaps in breast health care in the target communities.

Public Policy Overview

The analysis of current breast cancer related policies at the local, state and national level stems from reviewing the peer-reviewed literature published in scientific journals as well as white papers from the Centers for Disease Control and Prevention (CDC) and the Texas Department of State Health Services (Texas DSHS). This section touches on four major parts including an overview of the NBCCEDP in Texas, Texas’s CCCP, the implications of the ACA in Texas, and Komen Houston Affiliate’s public policy activities.

Health Systems Overview

The quantitative data analysis in the QDR and the AQDE indicated that certain census tract areas in Galveston County needed to be further assessed for needs and gaps existing in these areas for access to breast health services. As a result, these census tract areas in Galveston County are regarded as the target community. Breast health providers in the target community are examined based on the breast cancer CoC model.

Breast Cancer Continuum of Care

The breast cancer Continuum of Care (CoC) portrays an “integrated system of breast health care through a sequential structure of interrelated health services spanning all stages of care, from initial screening, to diagnosis, treatment, survivorship and end of life care” (Komen.org, 2011) (Figure 3.1).

Based on this model, breast health care providers located in the selected census tracts in Galveston County in any of these five stages of breast health care are examined in order to identify and assess the assets and challenges of providing better breast health care for women residing in the target communities, and potential strategies that could be designed to bridge the needs gaps of the target population based on the analysis.

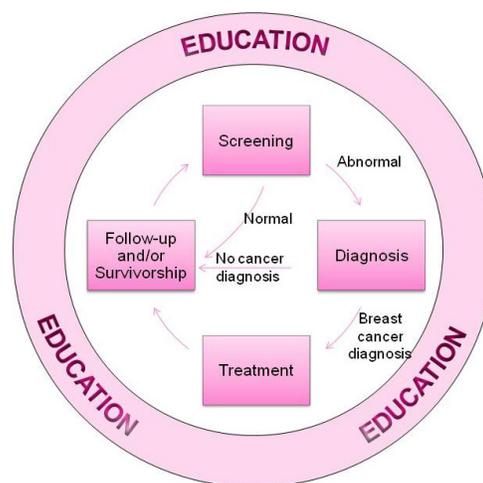
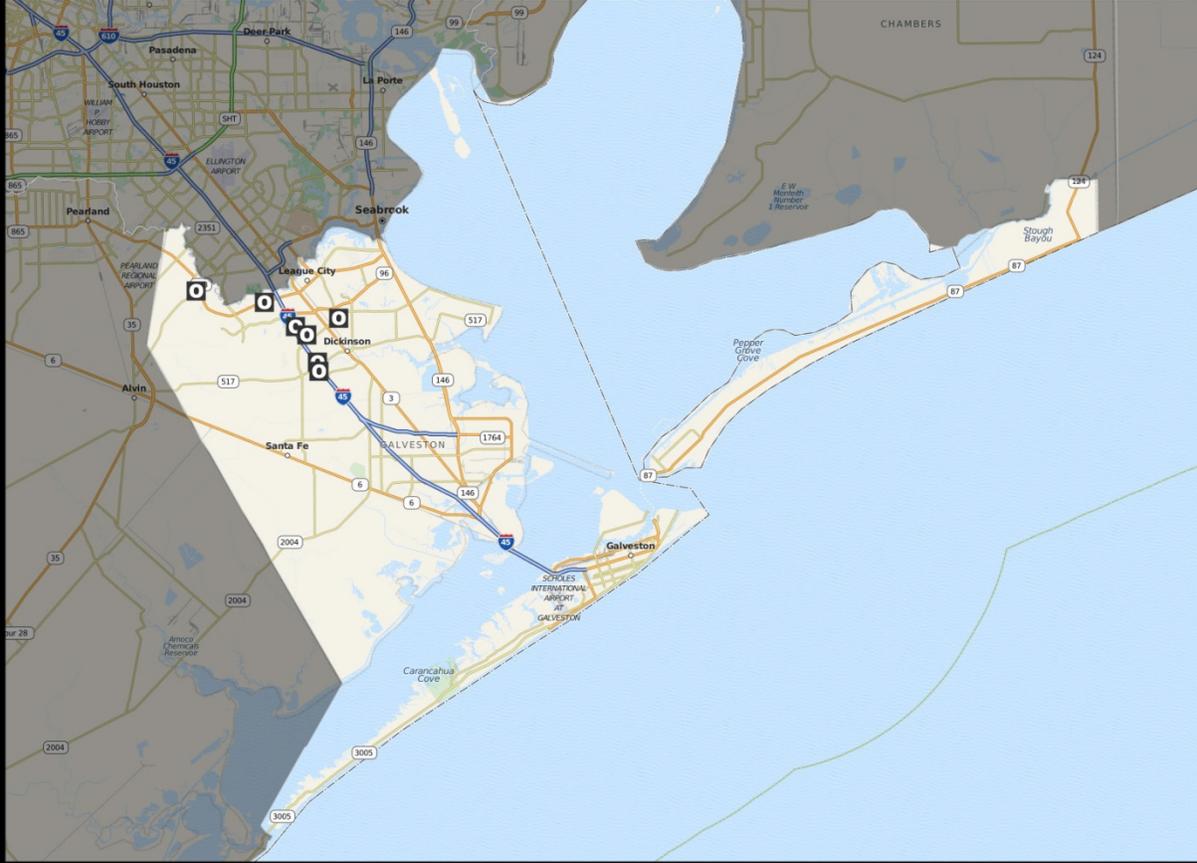
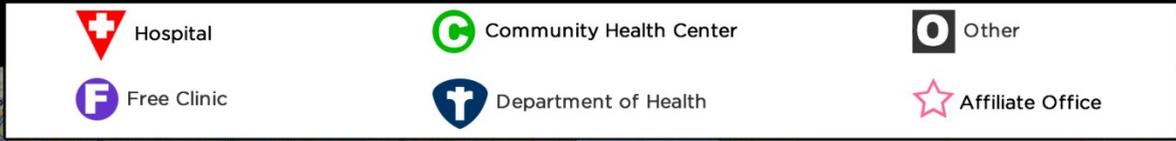


Figure 3.1. Breast Cancer Continuum of Care (CoC)

Breast Health Care Providers in the Target Community

The physical locations of all the providers in Galveston County were documented and submitted to Komen Headquarters for GIS mapping. Figure 3.2 shows provider locations in the target community.

Targeted Census Tracts in Galveston County



Statistics

Total Locations in Region: 7

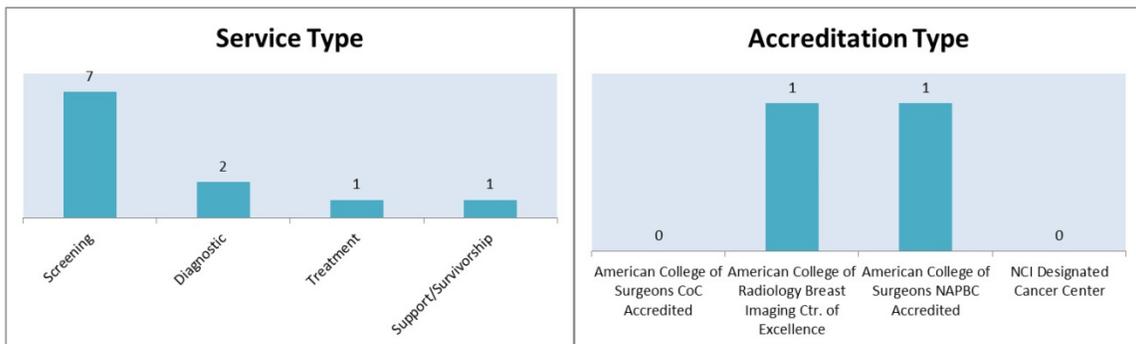


Figure 3.2. Breast cancer services available in targeted Census Tracts in Galveston County

Based on the breast cancer CoC model, the breast health care providers located in the target areas within Galveston County are categorized and listed below in terms of services they provide in the different stages of the breast cancer CoC. Further, the breast health care providers who are contractors of Texas Breast and Cervical Cancer Services (BCCS), and the NBCCEDP in Texas, are indicated (Figure 3.3).

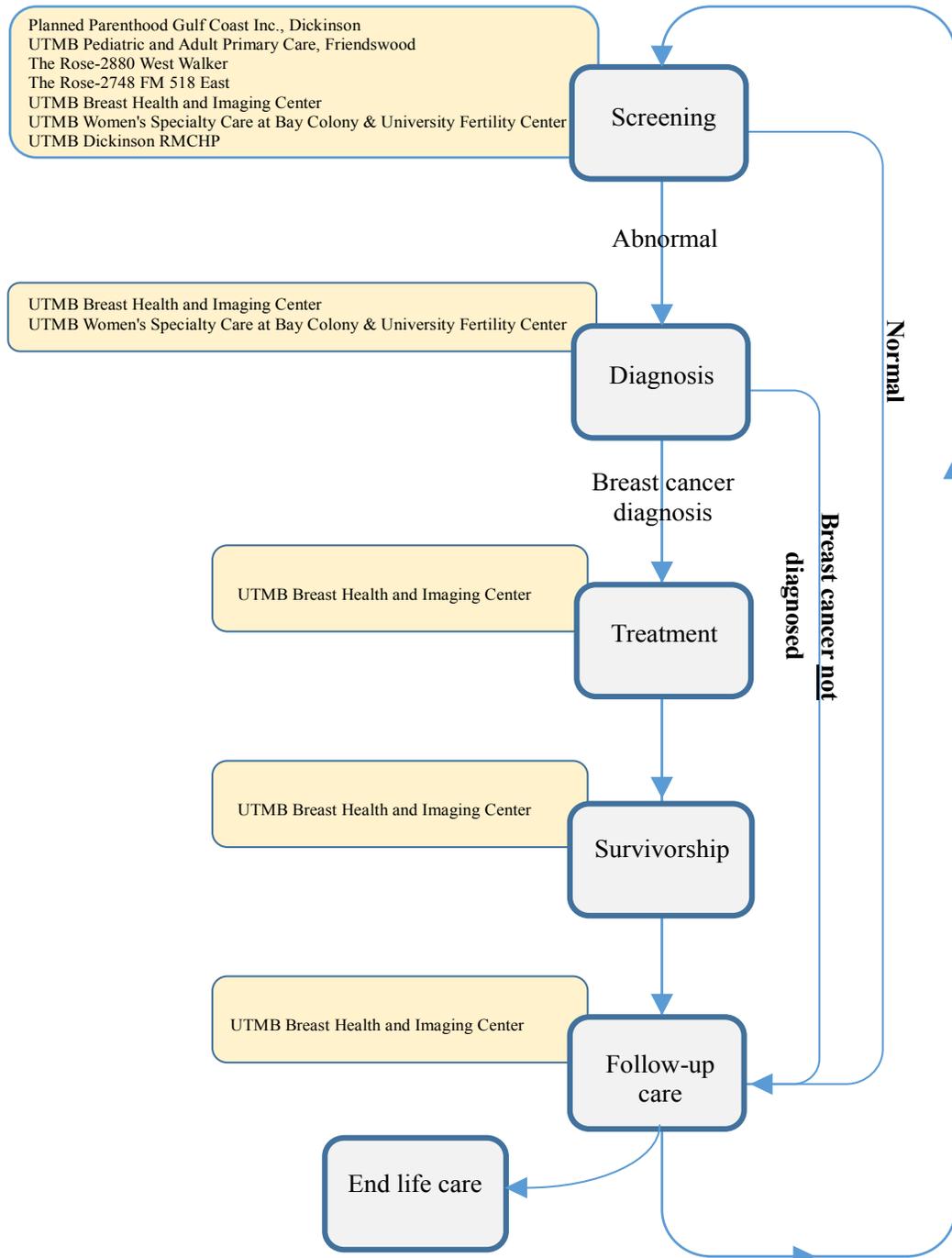


Figure 3.3. Breast health care providers listed by the each stage of the CoC in the target community

According to Figure 3.2 and Figure 3.3 showing the physical locations and service types of the breast health care providers located in the target community, there are few breast health care providers located in the target community, seven in all. In terms of service type, there is only one provider delivering treatment and support services, seven in the screening stage (including two locations of mobile mammography units run by The Rose) and two in the diagnostic stage in the target community, which may lead to lack of access to services for local females, particularly for treatment and support services. Importantly, there are no providers in the highest late-stage incidence area of the target community in Galveston.

In terms of reimbursement type of the providers, few of them provide affordable or free breast health care under the Texas BCCS program for uninsured or low-income women. The female uninsured percentage in Galveston County was 27.1 percent in 2012, and was even higher in the target communities. For instance, the female uninsured percentage in the target community ranges from 54.0 to 92.0 percent of females according to the AQDE. Lack of Texas BCCS programs delivered in the target communities and a high number of uninsured females in need of screening indicate that there may be problems accessing services across the CoC in the target communities.

The insufficiency of providing affordable, high-quality, diverse and accessible breast health care in the target communities may drive women residing locally to seek breast health care in other areas of Galveston County, or even in other counties with more breast health resources, potentially resulting in disparities in care across the CoC.

To generate a more comprehensive assessment of the breast health care assets and gaps in the target communities, an analysis of breast health care assets in the entire area of Galveston County is added in the hope of examining the possible breast health care assets close to the target community geographically that the women residing in the target communities can take advantage of, therefore potentially bridging or reducing the service gaps observed in the target community.

Breast Health Care Providers in Galveston County

In Galveston County, there are 35 breast health care providers, including the providers in the target communities as identified through the information available from the websites of Texas DSHS, the Episcopal Health Foundation, and HSS, whose services cover all five stages in the breast cancer CoC ranging from breast screening services, diagnostic services, treatment services, support services to end of life care.

These providers can be categorized into five types: community health centers (including Federally Qualified Health Centers), health department, hospital, free clinic and, other (including mobile mammography units & US Food and Drug Administration (FDA) certified mammography centers), leading to a safety net providing cancer prevention and control programs for women in Galveston County.

Among the providers, Galveston County Health District (GCHD), University of Texas Medical Branch (UTMB) and The Rose receive funding in 2014 from Komen Houston specifically to serve the uninsured and underserved women in the service area in their fixed locations and mobile mammography units. Both UTMB and The Rose run mobile mammography units in different locations in Galveston, but generally the mobile unit stops by any given location a limited number of times, for instance, once very year.

List of Providers in Galveston County:

Community Health Centers (including Federally Qualified Health Centers):

- Coastal Health & Wellness Island Community Center (University of Texas Medical Branch (UTMB) mobile mammography unit location)-contractor of Breast and Cervical Cancer Services
- Coastal Health & Wellness Texas City-contractor of Breast and Cervical Cancer Services

Health Department:

- Galveston County Health District–contractor of Breast and Cervical Cancer Services

Hospital:

- University of Texas Medical Branch (UTMB) Galveston Clinic-contractor of Breast and Cervical Cancer Services (FDA-certified mammography center)
- Mainland Medical Center (FDA-certified mammography center)
- UTMB Cancer Center, Galveston (Infusion Therapy, Radiology & Radiation oncology)

Free Clinic:

- St. Vincent's Clinic (UTMB mobile mammography unit location)

Other (including mobile mammography units & FDA-certified mammography center):

- Victory Breast Diagnostics & Women's Imaging (FDA-certified mammography center)
- Memorial Hermann Health System dba Memorial Hermann Imaging, Friendswood (FDA-certified mammography center)
- Kingspoint Medical Imaging, Inc. (FDA-certified mammography center)
- Planned Parenthood Gulf Coast Inc., Dickinson-contractor of Breast and Cervical Cancer Services
- UTMB Breast Health and Imaging Center-contractor of Breast and Cervical Cancer Services (FDA-certified mammography center)
- UTMB Dickinson Regional Material Child Health Program (RMCHP)
- UTMB Family Medicine, Island West
- UTMB Pediatric and Adult Primary Care, Friendswood
- UTMB Pediatric and Adult Primary Care, League City
- UTMB Texas City RMCHP-contractor of Breast and Cervical Cancer Services
- UTMB Women's Specialty Care at Bay Colony & University Fertility Center
- UTMB Cancer Center, Dickinson Clinic

- Nine locations of The Rose mobile mammography units-contractor of Breast and Cervical Cancer Services
- Seven locations of UTMB mobile mammography Units (not counting two locations at St. Vincent's Clinic and Coastal Health & Wellness Island Community Center respectively)

Amongst all these providers, four have contracts with Texas BCCS, including Galveston County Health District (including two locations at the Coastal Health & Wellness Island Community Center & Texas City, and one location at the Health Department of Galveston County Health District), University of Texas Medical Branch (three locations in the fixed clinics and nine locations of mobile mammography units), Planned Parenthood Gulf Coast Inc., Dickinson, and The Rose (nine locations of mobile mammography units), which serve eligible women with breast and cervical screening and diagnostic services.

Komen Houston works closely with three major stakeholders in cancer control collaboratively in Galveston County to promote breast health through enhancing accessible, affordable and high-quality breast health care for females residing in the county, including D'Feet Breast Cancer Inc., UTMB and their associated clinics located in Galveston, and The Rose. Komen Houston currently grants funding to these three partners to provide clinical breast exams, screening mammography, diagnostic mammography and patient navigation services.

D'Feet Breast Cancer, Inc., funds breast health care for uninsured and underserved women of Galveston County ages 40-65 at high risk for breast cancer through its collaboration with the GCHD, UTMB Galveston, Victory Breast Imaging and Women's Diagnostic Center, Mainland Medical Center, and The Jesse Tree (D'Feet, n.d.). The breast health care is composed of free screening mammograms, free follow up care, community outreach, and breast health education programs in the Galveston County Schools (D'Feet, n.d.).

D'Feet Breast Cancer, Inc., contracts with the GCHD to run its free mammogram and follow up programs in Galveston County for its target population (D'Feet, n.d.). Trained personnel from GCHD represent the D'Feet program and conduct breast cancer screening and clinical breast exams for women (D'Feet, n.d.). Further, women enrolled in the D'Feet mammography program can receive the breast cancer services provided at Victory Breast Diagnostics & Women's Imaging, Mainland Medical Center, or UTMB Galveston and the UTMB mobile mammography units (D'Feet, n.d.).

UTMB Galveston has at least ten clinics and has nine mobile mammography locations in the Galveston area, delivering breast health care ranging from screening, diagnostic, treatment and support services to end of life care. In addition to the clinics, such as UTMB Cancer Center providing infusion therapy, chemotherapy, radiation, surgery, reconstruction and patient navigation, the UTMB mobile vans reach out to nine different locations to provide free breast cancer screening services.

Most of the locations the UTMB mobile vans visit are churches in underserved neighborhoods in Galveston County, including: Greater Bell Zion, Greater Barbour's Chapel Baptist Church, Mount Olive Missionary Baptist Church, St. Mary of the Miraculous Medal Catholic Church and

St. Augustine Episcopal Church. Partnering with the churches to provide mobile mammography screening services enables UTMB to provide care to underserved populations who are less likely to use breast health care due to their uninsured status, cultural concerns, language barriers, health literacy and other barriers. Further, the UTMB mobile mammography unit provides screenings at the St. Vincent Clinic and Coastal Health & Wellness Island Community Center through the collaboration with the GCHD to provide essential breast health services for low-income and uninsured women in Galveston County.

The Rose is another long-term community partner of Komen Houston in Galveston County. The Rose provides mobile mammography units in Galveston County primarily around the areas of the Clear Creek Independent School District. Most of the locations of these Rose mobile mammography units are in intermediate or high schools, which serve as the community outreach at the local level, as well as to increase breast cancer awareness among the local population. Please see the map below showing the locations of all the providers in Galveston County for more detail.

In the area outside the target community, there are additional breast health care providers located in Galveston County that are able to offer breast health services for women residing in the target community, potentially addressing some of the issue of insufficient breast health care locally. These providers can be considered supplementary to the providers within the target community. Providers in Galveston County overall are shown in Figure 3.4 by type of service offered (e.g., screening). There are no providers located in the area of Galveston with the highest late-stage incidence rate (shown in red on the map) and only four located in census tracts at the next highest late-stage incidence rate (shown in orange on the map). However, it is important to note that many people in Galveston County struggle with transportation barriers which may preclude their use or regular use of these services.

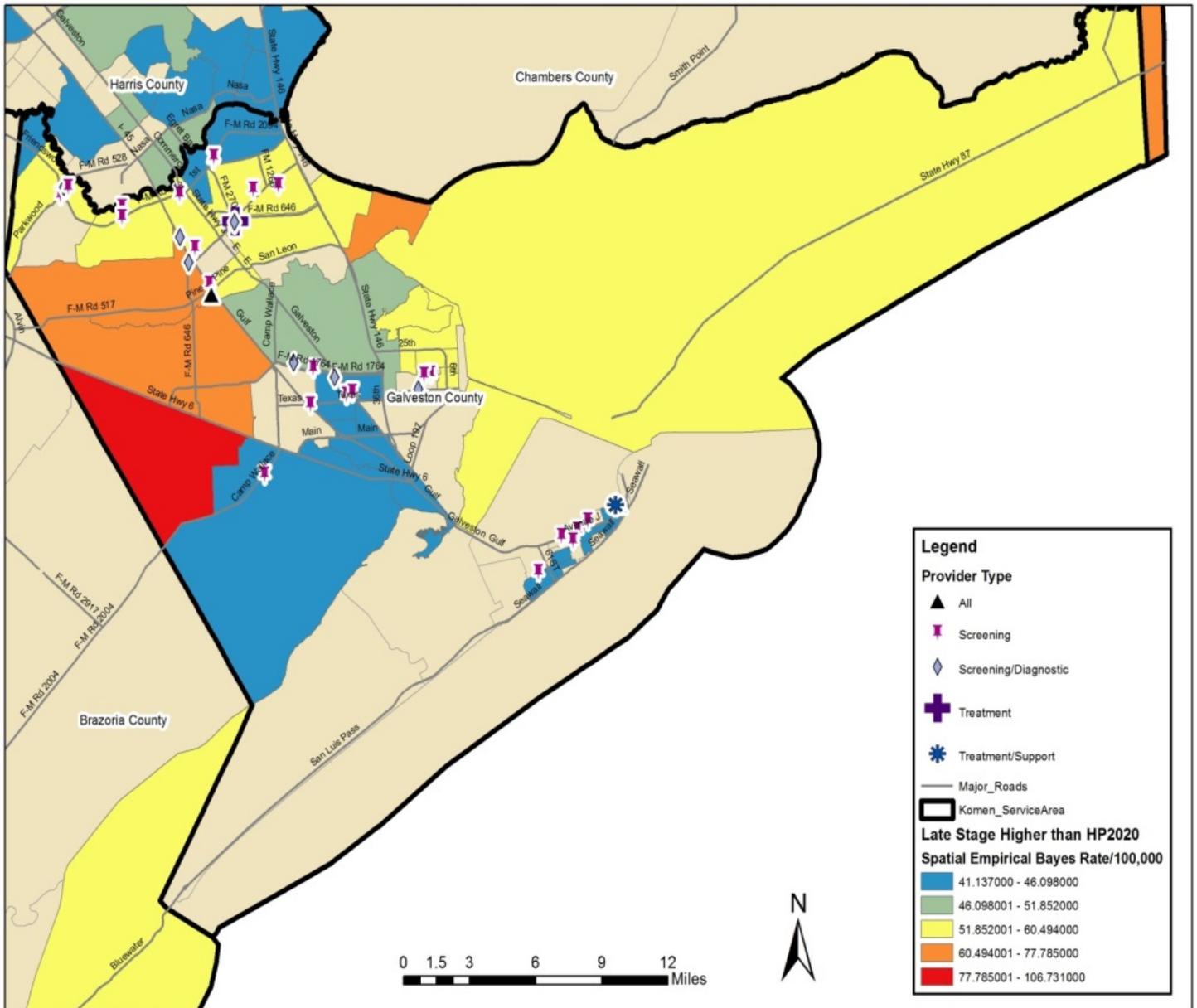


Figure 3.4. Locations of all breast health providers in Galveston County in relation to late-stage incidence rates.

Summary of Health Systems Strengths and Weaknesses for the Target Community

While there are a limited number of breast health providers in the target community, at the county level, the health system in Galveston County has already formed a safety net for providing female residents with breast health care through the collaboration and coordination among a number of stakeholders in cancer control.

Counting the breast health care providers outside the target community, there are 35 providers delivering various breast health care for the women with different needs and financial situations.

At least four of them are contractors of the Texas BCCS, including UTMB, The Rose, Planned Parenthood Gulf Coast Inc., and the GCDH. Under the Texas BCCS, these four providers serve low-income, uninsured or underserved women who seek affordable breast and cervical cancer screening and diagnostic services in seven different fixed locations in Galveston.

Further, the health providers affiliated with University of Texas can offer a broad spectrum of breast health care services for underserved women including the standard breast cancer screening and diagnostic services, treatment and survivorship services and end of life care across its locations.

The 18 regular locations of the mobile mammography units across Galveston County facilitated by The Rose and the UTMB spread the breast cancer screening services as well as breast health education to the most underserved and hard-to-reach women, especially minorities who historically lack breast health care. If any female receives an abnormal mammogram result through the mobile mammography units, she will be referred to other service providers in the next service stage of the CoC. However, when the target community is investigated, there are gaps in breast health care that persist in spite of the efforts to date to improve access for underserved women.

Summary of Key Mission Related Partnerships in Target Community

Komen Houston seeks to advance and promote research, education screening, and treatment to alleviate the burden of breast cancer on females. In Galveston County, as mentioned previously, there are four major partners who work with Komen Houston to achieve this key mission through providing breast health care for females residing in the target community- namely D'Feet Breast Cancer, University of Texas Medical Branch in Galveston, The Rose and Galveston County Health District.

In 2014, Komen Houston provided funding to three of the partners for the purpose of providing reliable, high quality, affordable and accessible breast health care for women in need for breast health care in all stages of the breast cancer CoC. While not receiving direct funds from Komen Houston, Galveston County Health District is one of the service providers for the D'Feet Breast Cancer program.

Summary of Potential New Partnerships or Collaboration Opportunities to Address Needs

Based on the analysis of the breast health care assets in the target community, potential new partnerships or collaborations will need to be cultivated with the community partners outside the target community that can provide additional breast health care services that are not currently available in the target community in an adequate amount for females in need of service residing there.

Non/for-profit organizations or community health centers in the target community that are willing to provide breast health care for females residing in the target community or are willing to host the mobile mammography units in their locations can be potential new partners for Komen

Houston. Komen Houston can generate new mobile mammography unit locations among these organizations or help them apply to be Texas BCCS Contractors. They may also provide funding for the expansion of services in the target community. As well, the breast health care providers located outside the target community that are currently providing breast health care such as patient navigation, end of life care and support, are critical partners of Komen Houston. Through the potential partnerships with these breast health care providers, Komen Houston can tailor their resources to better meet the needs of females in the target community. In addition, other community-based organizations that have strong connections to underserved females, such as churches and community centers, need to be paid attention to in the future as an avenue for increasing access to services.

Public Policy Overview

Insurance coverage has been recognized as one of the critical elements that shape females' access to breast health care, especially among low-income and under-insured females. Smith et al. assert that insurance is one of the core predictors of accessing mammography (Smith et al., 2010). Women without insurance are half as likely to report having had a mammogram in the past year compared to those who have insurance (Levy et al., 2012). In the service area of Komen Houston, in 2012, the uninsured percentages of the seven county service area among females ages 18-64 are 37.3 percent in Harris, 29.1 percent in Brazoria, 24.7 percent in Fort Bend, 27.1 percent in Galveston, 28.9 in Montgomery, 25.5 percent in Chambers, and 37.2 percent in Liberty respectively calculated using data from the US Census Bureau's American Community Survey.

A great number of public health programs and policies have been contributing to expanding insurance coverage or providing affordable breast health care for low-income, uninsured, underinsured, and non-elderly females in need of breast health care across the states including the State's NBCCEDP, State's CCCP and the ACA. These critical public programs and policies and their provisions influence the entire breast cancer CoC.

In the remainder of the section, the NBCCEDP, CCCP and ACA and the implications of these three primary breast cancer policies are portrayed in the context of the service area of Komen Houston as well as Texas. Further, the endeavors of Komen Houston to bolster its public policy activities in better serving its target population with a myriad of community stakeholders and grantees are introduced.

National Breast and Cervical Cancer Early Detection Program (NBCCEDP)

NBCCEDP Texas Policy-BCCS

The NBCCEDP aims to provide uninsured, under-insured, and low-income women with free or low-cost breast and cervical cancer screening and follow-up diagnostic services, which was created by the CDC in 1991 and derived from the Breast and Cervical Cancer Death Prevention Act of 1991 (CDC, 2013). Low-income and uninsured women can receive treatment under Medicaid when they are diagnosed with breast or cervical cancer through the NBCCEDP funded provisions (American Cancer Society, 2013). NBCCEDP funded programs vary across the

states in the amount of funding, program infrastructure for management, service delivery and enrollment eligibility (CDC, 2012).

In Texas, the Texas Department of State Health Services (Texas DSHS) administers the Breast and Cervical Cancer Services Program (BCCS) through contracts with local health departments, community-based organizations, private/non-profit organizations, hospitals and hospital districts and university-based teaching institutions to serve women in need of breast and cervical screening and diagnostic services (Texas DSHS, 2012).

The Texas BCCS program is funded through money from the CDC's NBCCEDP, Title XX to Temporary Assistance for Needy Families (TANF) funds and the State General Revenue (DSHS, n.d.). The Texas BCCS provides \$1 of non-federal resources for each \$3 of Federal funds received from CDC (CDC, n.d.). In the fiscal year 2013, 43 organizations contracted with the Texas DSHS to provide BCCS services at 212 clinics across the state (DSHS, 2013). Further, more than 218 counties in Texas had more than one BCCS contractor reported in 2013 (DSHS, 2013).

The Texas BCCS contractors primarily provide breast and/or cervical cancer screening, diagnostic and support services, follow-up, case management, and individual client education services (DSHS, 2013). Further, they help determine service eligibility for Medicaid among women diagnosed with breast and/or cervical cancer and ensure initiation of treatment if breast or cervical cancer is clinically indicated (DSHS, 2013).

Texas BCCS enrolls women who qualify using the following enrollment eligibility criteria: (1) with an income at or below 200.0 percent of the Federal Poverty Level (FPL); (2) uninsured or underinsured; (3) ages 18-64 years and eligible for cervical cancer diagnostic services, 21– 64 years and eligible for cervical cancer screening services, and 40–64 years and eligible for breast cancer screening and diagnostic services (DSHS, 2013). The high priority populations of Texas BCCS in breast health care are women ages 50-64 (DSHS, 2013).

Between the 2012-2013 fiscal year, it was estimated that 43,282 women were served by Texas BCCS contractors, among which there were 19,959 eligible women who received breast cancer screening, reporting a total of 484 breast cancer cases (DSHS, 2013). Generally, from 2007 to 2013, the number of women served by Texas BCCS contractors increased from 21,179 to 43,282 (DSHS, 2013). Approximately 80.0 percent of the women who received breast cancer screening through the Texas BCCS contractors were racial/ethnic minorities (CDC, 2014). During 2008 to 2012, under the Texas BCCS program, for instance, Hispanic/Latina women receiving breast cancer screening accounted for 58.6 percent, Black/African-Americans accounted for 9.6 percent, Asian/Pacific Islanders accounted for 1.9 percent and, other races accounted for 0.2 percent (CDC, 2014).

Texas BCCS currently serves only 6.3 percent of eligible women in Texas (Levy et al., 2012). In the 2013 fiscal year, the CDC granted \$194 million for the NBCCEDP, while Texas DSHS

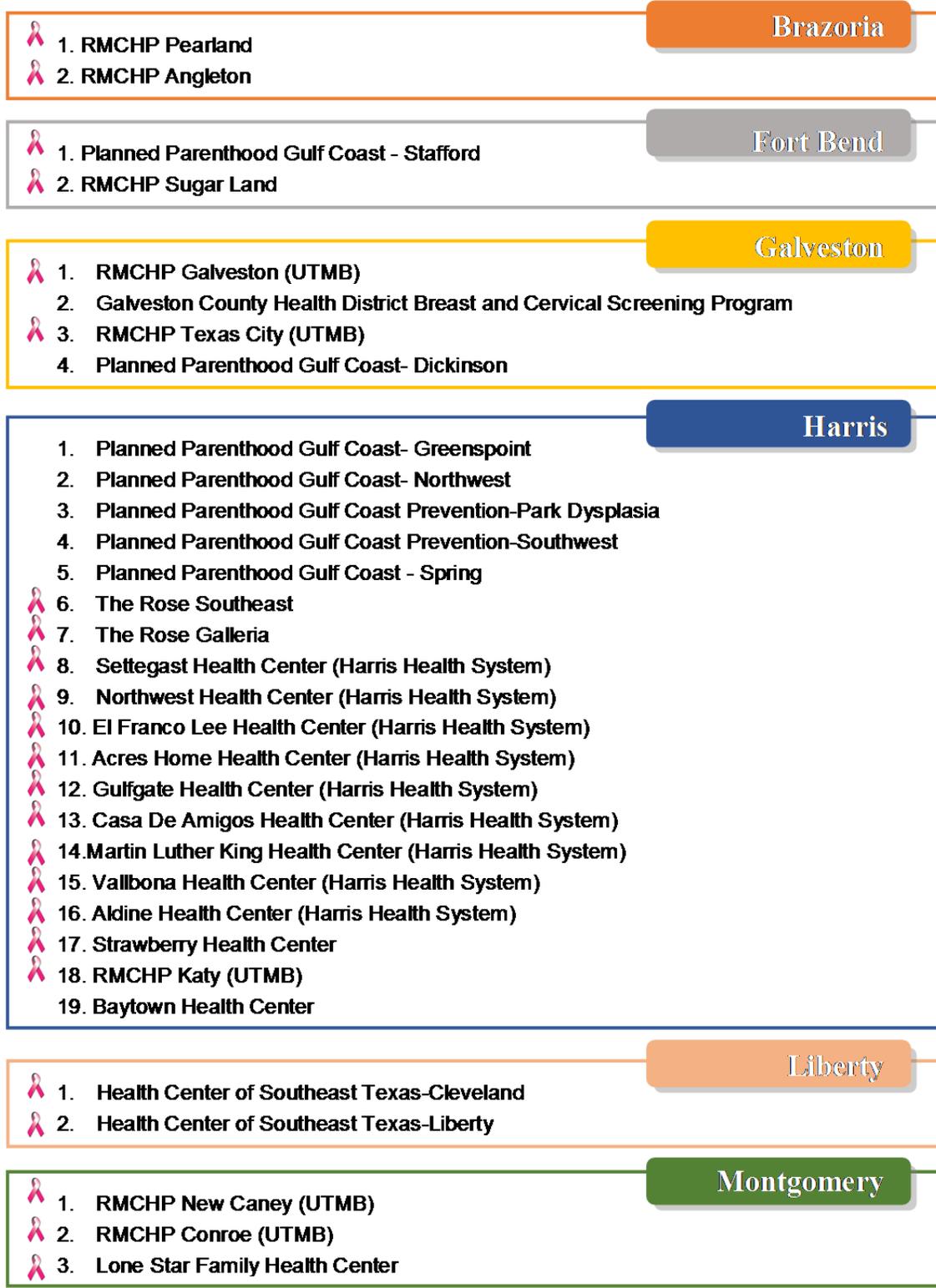
offered approximately \$2.4 million for the local BCCS programs (American Cancer Society, 2013).

Access to Medicaid Treatment in Texas-MBCC

Medicaid for Breast and Cervical Cancer (MBCC) is a Medicaid program authorized by federal and state regulations, mainly the Breast and Cervical Cancer Prevention and Treatment Act of 2000, in the aim of providing access to cancer treatment services for qualified, low-income and uninsured women through Medicaid (DSHS, 2013). Texas is an Option 3 state according to the Breast and Cervical Cancer Prevention and Treatment Act of 2000, in which qualified women for MBCC are entitled to receive breast or cervical treatment no matter whether or not they are diagnosed with breast or cervical cancer through Texas BCCS contractors (DSHS, n.d.). The MBCC provides eligible women with full Medicaid coverage including undergoing active treatment for breast or cervical cancer and other necessary services as long as they are qualified for MBCC (DSHS, 2013).

The general eligibility criteria for the MBCC in Texas include: 1) diagnosed with breast or cervical cancer and in need of treatment; 2) have an income at or below 200.0 percent of FPL; 3) 64 years of age or younger; 4) be a Texas resident and US citizen or eligible immigrant; and 5) without insurance or not eligible for Medicaid (DSHS, 2013). The number of women who received BCCS services covered by the MBCC has been steadily increasing from 389 in 2007 to 2,733 in the 2013 fiscal year (DSHS, 2013).

In the service area of Komen Houston, there are 32 contractor locations of the Texas BCCS program, including four of them located in Galveston County. Figure 3.3 shows the list of Texas BCCS Contractors located in the Service Area of Komen Houston in 2014 fiscal year.



*The grantees of Komen Houston in 2014 fiscal year are indicated with a pink ribbon.

Figure 3.3. List of Texas BCCS Contractors located in the service area of Komen Houston in 2014 Fiscal Year

Working relationship between Texas BCCS and Medicaid

The Komen Affiliates in Texas created a collaborative called the Komen Texas Advocacy Collaborative (KTAC) to have one voice on public policy issues. KTAC maintains communication with the BCCS program. BCCS provides budget, service and policy updates to KTAC as needed, and is aware of the collaborative's goals of advocating for the uninsured in Texas and people affected by breast cancer.

The KTAC is developing a relationship with Medicaid, through the Texas Health and Human Services Commission, to stay informed of changes with MBCC and other policy changes of interest to the Komen mission.

Komen Houston current relationship with Texas BCCS

The collaborative relationship with BCCS is new. Susan G. Komen Headquarters managed the relationship in the past, but with recent advocacy program changes, KTAC is taking over responsibility of communicating and working with the agency to ensure advocacy interests are met. Komen Houston maintains its relationship between Texas BCCS through its membership of KTAC as a liaison, providing timely information regarding breast health care to BCCS and informing its varying grantees of the updates or changes of the services, utilization or eligibility of Texas BCCS.

Komen Houston's plan for the next four years to strengthen the relationship with Texas BCCS

Advocacy efforts for the next four years include more communication with BCCS and learning ways in which Komen Houston can be helpful in ensuring BCCS serves more of the working poor.

Texas Comprehensive Cancer Control Program

Funded by the CDC and administrated by the Texas DSHS, The Texas Comprehensive Cancer Control Program (CCCP) focuses on controlling cancer and reducing the cancer burden in Texas through integrating and coordinating the resources in cancer prevention, early detection, treatment, rehabilitation, and palliation in communities with the hope of decreasing cancer incidence, morbidity and death in Texas (DSHS, 2013).

Cancer Alliance of Texas (CAT), formerly Texas Comprehensive Cancer Control Coalition, was initiated by the Texas DSHS as a state cancer coalition to facilitate collaboration and communication among the major cancer control stakeholders in Texas (DSHS, 2013). Komen Houston is one of over 50 members that work in cancer control in the state.

The Cancer Prevention and Research Institute of Texas (CPRIT) crafted the Texas Cancer Plan 2012, which is the fundamental thrust of the TCCCP's collaborative efforts and activities in achieving better cancer control outcomes in Texas (DSHS, 2013). The Texas Cancer Plan 2012 identifies cancer challenges and issues in Texas and illustrates the goals, guidelines and activities for the community stakeholders, such as clinics, hospitals, community health centers and private/non-profit organizations, to take action on cancer in Texas collaboratively and

coordinately (DSHS, 2013). According to the Texas Cancer Plan 2012, one of the priorities during 2012 to 2016 is to increase screening and early detection for breast, cervical, and colon and rectum cancers (CPRIT, 2012).

Texas Comprehensive Cancer Control Plan Breast Cancer Objectives

The Texas Comprehensive Cancer Control Plan (Texas Cancer Plan 2012) has 16 goals categorized into six major components: 1) Primary prevention and risk reduction; 2) Screening and early detection; 3) Diagnosis, treatment and palliation; 4) Quality of life and survivorship; 5) Infrastructure; and 6) Research and commercialization (CPRIT 2012).

The Texas Cancer Plan 2012 establishes the objectives and measureable targets for each goal within each major component, which helps community stakeholders to achieve the correspondent cancer goals in an effective way (CPRIT, 2012). Based on the Texas Cancer Plan 2012, there are series of objectives for the community-based organizations to follow (CPRIT, 2012):

- Support policy, environmental and systems changes for cancer control.
- Provide cancer prevention awareness information and screening programs for clients.
- Provide navigation services for clients.
- Encourage participation in clinical trials.
- Collaborate to provide community prevention programs.
- Provide culturally relevant counseling, information, and referrals for cancer screening tests.
- Adhere to guidelines and best practices for prevention, treatment, and supportive care.
- Raise constituents' awareness about cancer prevention and control programs in your district and help establish new programs where needed.
- Sponsor or support legislation and funding that promotes cancer research, prevention and control.
- Ensure that all Texans have access to health care and to screening and early detection services.

These objectives can be implemented as guides for community-based organizations in Texas, such as Komen Houston, to set up their strategic plan for future planning and programming in breast public policy work.

Komen Houston Current Relationship with CAT

Komen Houston is a member of CAT. The Komen Texas Affiliates that are members of CAT share responsibility of attending quarterly calls and updating KTAC on developments.

Further, the CAT is aimed to promote the implementation of the Texas Cancer Plan 2012 in Texas. Komen Houston contributes to achieving the objectives the Texas Cancer Plan 2012 set up for the community-based organizations by integrating the plan into its collaboration with a range of stakeholders and grantees in cancer control at the local level. In addition, Komen Houston utilizes the data from the Texas Cancer Plan 2012 to contribute to its Community Profile that is used to direct its future strategic plan.

Komen Houston's plan for the next four years to strengthen its roles with CAT

In the next four years, Komen Houston is to make efforts to achieve two goals of the Komen Texas Advocacy Collaborative:

1. Encouraging more Affiliates to become Cancer Alliance of Texas members.
2. Integrating cancer policy objectives into the KTAC advocacy agenda.

With budget and staffing limitations, KTAC Affiliates will seek ways to collaborate with other CAT agencies for policy advocacy, especially those working on Medicaid Expansion and issues relating to increased access to care.

Affordable Care Act

Since enacted in 2010, the ACA has generated health insurance expansion and instituted a number of health regulations, leading to an increase in health insurance coverage for underinsured, uninsured and low-income populations. However, due to variability in implementing the ACA at the state level, ACA provisions and enrollment numbers vary across the US. Two ACA provisions are the core elements of the implementation of the ACA: one is Medicaid expansion and the other is the health insurance marketplace. At this time, ACA allows each state to decide whether to implement Medicaid expansion and to run state or federal based health insurance exchange marketplaces for individuals to purchase insurance coverage.

Texas Action on Medicaid Expansion

There have been more than 25 states and Washington D.C., implementing Medicaid expansion to provide health insurance for low-income adults by April 2014 (Rudowitz et al., 2014). As a central coverage provision of the ACA, Medicaid expansion aims to address health insurance gaps among adults with incomes up to 138.0 percent of FPL (about \$16,105 per year for an individual and about \$27,000 for a family of three in 2014) (Rudowitz et al., 2014). The Supreme Court restricted the federal government's enforcement power over the Medicaid expansion provision at the state level in 2012 (the Harvard Law School Center for Health Law & Policy Innovation, n.d.). As a result, Medicaid expansion became a coverage provision option for each state to choose based on their situation.

Texas is one of 24 states that did not implement Medicaid expansion. Some of the low-income adults with incomes between 100.0 percent to 138.0 percent FPL in Texas may be eligible for using tax credits to purchase private coverage in the new health insurance marketplace run by HHS (Obama Care Facts, n.d. & KCMU, 2014). However, the majority of the under-insured and uninsured adults with low incomes have been left without an affordable insurance coverage option in Texas due to the lack of Medicaid expansion (KCMU, 2014).

According to the Kaiser Commission on Medicaid and the Uninsured, there are an estimated 122,000 adults currently eligible for Medicaid in Texas based on the eligibility criteria for the ACA Medicaid expansion as of April 2014 (KCMC, 2014). Further, another 1,046,000 adults (<100 percent FPL) are currently in the coverage gap and 681,000 adults (100 percent-138 percent FPL) currently may be eligible for purchasing health insurance through the health insurance marketplace using tax credits in Texas (KCMC, 2014). Due to the decision to not

expand Medicaid, there are overall 1,727,000 low-income adults in Texas reported to be excluded from Medicaid, without counting undocumented immigrants and legal immigrants who have been in the US for less than five years (KCMC, 2014).

If Texas adopted Medicaid expansion, it would have increased access to breast health and breast cancer care for approximately 900,000 low-income women through covering their health insurance (Komen Policy Fact Sheet, 2014). Further, Medicaid expansion could lead to an overall increase in economic activity through the addition of deferral funds for the program (Komen Policy Fact Sheet, 2014). The Kaiser Commission on Medicaid and the Uninsured predicts that if Texas participated in Medicaid expansion, during the time period 2014-2023, the gross state product would increase by \$270 billion (in 2012 dollars) and employment in Texas would increase by 3.2 million persons within this period of time (KCMC, 2013).

The Uninsured in Texas

The large number of adults who are excluded from Medicaid expansion due to the State's decision is critical for Texas, as it has more than 27.0 percent of the total population without health insurance prior to the ACA, which is beyond the national rate of 18.0 percent and is the highest across the states (Young & Garfield, 2014). Among the uninsured populations in Texas, females account for 49.0 percent of the uninsured reported in 2010 (Aaronson, 2014). According to the Kaiser Family Foundation, 53.0 percent of the population in Texas has been uninsured for at least five years, and 40.0 percent have incomes below the poverty level (Komen Policy Fact Sheet, 2014).

The uninsured populations in Texas, are composed of a large number of children, and employed individuals ages 18 to 34 (Aaronson, 2014). The reasons for such high, employed and young rates of uninsured populations in Texas are many. Most of these uninsured but employed individuals remain working in industries that do not provide employment-based health insurance, such as the agricultural sector. Further, the individual insurance marketplace in Texas requires high premium prices for the elderly, females and individuals with pre-existing conditions; while Medicaid eligibility in Texas is limited for adults (Aaronson, 2014). Finally, more than one million of the state's uninsured individuals are immigrants, who are often underserved and hard-to-reach populations (Aaronson, 2014).

Since the ACA insurance mandate for the public became effective in January 2014, there have been 207,500 Texans, who acquired health coverage through the federal health insurance marketplace (by the end of February, 2014). The majority of these were between the ages 45 and 65 and female (56.0 percent) (Aaronson, 2014). Compared to the over 6.6 million uninsured populations in Texas, who are mainly younger than 34 years and male, the number of the current enrollees of the ACA is far from solving the high-uninsured percentage issue in Texas.

Implications of ACA on DSHS BCCS eligibility and utilization

Generally, there has been minimal impact of the ACA on Texas BCCS eligibility and utilization. However, as discussed previously, without implementing the ACA Medicaid expansion in Texas, an estimated 687,000 women of reproductive age were potentially left behind for breast and cervical cancer health care because of their health insurance status (Kenny et al., 2012). As a result, Levy et al. (2012) contend that state NBCCEDP programs, such as the Texas BCCS, remain essential for low-income women, especially those with language and literacy-related barriers, to obtain breast and cervical care (Levy et al., 2012).

Implications of ACA for Health Care Providers

By 2023, it is projected that 50.0 percent of non-elderly uninsured Americans will have incomes below 138.0 percent of the FPL and could be eligible for Medicaid expansion, including more than 13 million non-elderly people enrolled in Medicaid and the Children's Health Insurance Program (CHIP), and 24 million people enrolled in health insurance marketplaces (Kleinman, 2014). As a result, a reliable and competent health care workforce would be needed to satisfy the emerging demand of health care in the near future resulting from the expansion of the health coverage under the ACA. There is a projected physician shortage of 91,500 by 2020 (Kleinman, 2014). Among the health care workforce, it is anticipated that primary care physicians would be in shortage because they serve as the gateway to the circle of health care. Based on the analysis of the health care providers in the target community and Galveston overall, the majority of low-income women are starting their initial breast health care in community health centers, free clinics, or non-profit organizations where most of the health services are delivered by primary care physicians. Consequently, more attention needs to be paid to maintaining a competent and sustainable health workforce of primary care physicians in order to accommodate the increase of the needs of health care given an existing shortage of health workforce.

Implications of ACA for the Affiliate

Komen Houston serves as one of the critical stakeholders in Galveston County as well as the other six counties in breast cancer control for the uninsured and low-low income women in the context of the changing breast health policy environment.

Without Medicaid expansion in Texas, which would have eased eligibility requirements, over one million Texans remain uninsured (Kaiser Family Foundation, 2014). Affordable Care Act provisions such as preventive services—including mammograms—without cost sharing, restrictions on annual and lifetime limits, restraints on out-of-pocket costs and required coverage of pre-existing conditions could alleviate barriers to health care access for those in the insurance gap in Texas. The federal health exchange provides tax subsidies to people making between 100.0 percent and 400.0 percent of the poverty level to help offset insurance costs through the marketplace (IRS.gov, 2012).

More community outreach efforts might be needed to connect the eligible uninsured to insurance access through the marketplace, especially with 31.0 percent of the uninsured reporting never having coverage in their lifetime (Kaiser Family Foundation, 2014).

However, with over one million uninsured people in the state who are unable to access affordable insurance even with Affordable Care Act provisions and tax credits, health care centers and nonprofits will continue to serve a large population in need.

The overall impact of the Affordable Care Act in Texas on the uninsured will take time. In the meantime, thousands of women will still need breast cancer screening, treatment, education and aftercare services.

The current prevalence of access to care issues means that Texas Komen Affiliates will continue to serve high volumes of uninsured and underinsured constituencies through community based grants. Through Affordable Care Act outreach collaborations, Komen might be able to use grant funding more efficiently, by ensuring those without insurance options receive resources.

Komen Houston Public Policy Activities

Komen Houston recognizes that public policy activities are one of the instrumental strategies to influence the delivery and utilization of breast health care in the health system at the macro level, often leading to profound changes in addressing the gaps and issues in breast cancer control. In the rest of the section, public policy activities that Komen Houston participates at both local and state levels are discussed.

Current Public Policy Activities

Komen Houston, a member of KTAC, maintains relationships with local and federal elected officials to ensure Komen's policy priorities are reinforced, and have become comfortable contacting policymakers. This is primarily through individual meetings and phone calls. The collaborative has conference calls as needed while the Public Policy Committee conducts bi-monthly calls to discuss updates from State health agencies and advocacy organizations during the legislative session. The Committee is responsible for public policy planning and decides KTAC's role for local advocacy.

Future Public Policy Activities

With advocacy program changes at Komen Headquarters, KTAC is assuming more state level advocacy and public policy roles. Komen Houston is ready to engage legislators beyond initial contact, with more emphasis on policy changes affecting breast cancer patients and survivors.

Komen Houston would like to strengthen the Collaborative structure through public policy, especially through volunteers willing to support KTAC's legislative goals.

Future goals for all Komen Affiliates include working with more cancer and health coalitions to learn about patient issues and to develop Komen's advocacy presence. Specifically, Komen Houston establishes its own policy goals of 2015:

- Lead the breast cancer movement in the Affiliate community.
- Collaborative with Komen Headquarters on federal level breast cancer issues.
- Collaborative with KTAC on state level breast cancer issues.

To achieve these policy goals, Komen Houston plans to take a number of action steps.

- Rebuild the Komen Houston advocacy taskforce.
- Support the legislative efforts of national Komen Headquarters by responding to calls to action, participating in legislative meetings/lobby dates, advocating for the policies of the state and federal legislative agendas.
- Develop and strengthen relationships with elected officials on the federal and state tier of government by communicating through advocacy for the policies of Komen Headquarters agenda and sharing information regarding the grantees of the Houston Affiliate.

Health Systems and Public Policy Analysis Findings

Needs in target community related to health systems and CoC

The needs in the target community related to health systems and breast cancer CoC can be categorized into three areas: 1) Lack of breast health care services in the treatment, follow-up care, survivorship and end of life care stages based on the Breast Health CoC; 2) Need for more breast health services for low-income and uninsured females overall; 3) Potential transportation barriers preventing access to breast health care within the target community. As a result, four general actions can be taken to address these needs:

1. Advocate and collaborate to get more services for underserved women in the target community and in Texas in general.
2. Advocate, collaborate for and fund more services in patient navigation, survivorship and end of life care in the target community.
3. Collaborate, partner and fund more mobile mammography unit locations in the target community, particularly in areas of high late-stage incidence.
4. Increase collaboration between health care providers inside and outside the target community, especially the UTMB affiliated clinics, Galveston County health district, hospitals, community health centers and the mobile mammography units operated by The Rose, and the programs funded by D'Feet to continue to offer services to women in need.

Key partnerships in target communities and potential new partners

The key partnerships in the target community of Komen Houston are the breast cancer control organizations that have collaborated with Komen Houston, including: UTMB and their associated health care providers, the Galveston County health district, D'Feet and The Rose. The UTMB associated entities have four locations in the target community composed of UTMB Dickinson RMCHP, UTMB Pediatric and Adult Primary Care, Friendswood, UTMB Breast Health and Imaging Center and UTMB Women's Specialty Care at Bay Colony & University Fertility Center, providing diverse and affordable breast health care services in the target community. As a Texas BCCS contractor, UTMB Breast Health and Imaging Center participates in providing low-cost or free breast health care services and it is the only provider in the target community that can offer services covering all five stages of the breast cancer CoC for females. Further, The Rose runs two mobile mammography units in the target community that can serve

underserved and low-income females as they are also Texas BCCS contractors; they are also a long-term community partner with Komen Houston.

The potential community partners that Komen Houston can reach out to and establish new collaborative relationships with in expanding the access to breast health care for females residing in the target community are local non/for-profit organizations that offer the types of breast health care that currently are not available in a great volume in the target community, such as patient navigation, survivorship, and end of life care. Further, within the target community and at the state-level, Komen Houston can work to advocate for increased access to breast health services. In addition, to address the issues that underserved women face in the target community, collaborative relationships with local faith-based groups or organizations may be an effective way to increase the frequency of operation of mobile mammography units at the local level. UTMB has sent their mobile units to a range of religious/faith-based organizations to reach out to underserved and minority women and it is possible this model could be expanded in partnership with Komen Houston. Further, the successful mobile mammography units run by The Rose in the local school district show another way of collaborating with other community based organizations to meet the breast health care needs of the community; Komen Houston plans to maintain and even increase such kinds of connections at the local level.

Impact of public policy on breast health care

The Texas BCCS, TCCCP and ACA's impact in Texas on the delivery and utilization of breast health care in the service area of Komen Houston, especially when it comes to low-income, uninsured, and underserved women remains to be seen. These three breast cancer policies and their resulting programs have an emphasis on serving low-income and underserved women who are more likely to lack breast health care. In the service area of Komen Houston, the uninsured percentage is notably high compared to other counties across the state, highlighting the importance of understanding the impact of the Texas BCCS, TCCCP and ACA on the delivery and utilization of breast health care for Komen Houston.

NBCCEDP

The Texas BCCS is a Texas version of the NBCCEDP, a major program that facilitates and finances more than 32 breast and cervical service providers serving low-income and uninsured women across the service area of Komen Houston in 2014 fiscal year. Especially, the Medicaid program (MBCC) under the Texas BCCS enables females without insurance to access breast and cervical services. Since 1991, Texas BCCS has served 340,510 unduplicated women, including 230,422 women screened for breast cancer, and 2,733 women received both breast and cervical cancer services under MBCC in the 2013 fiscal year (DSHS, 2013). However, there are still a great number of eligible women who do not receive coverage from the Texas BCCS program. The ratio of women screened by the Texas BCCS contractors from 2007 to 2009 to the eligible women in 2014 is estimated to be 6.3 percent (Levy et al., 2014). With the enactment of the ACA in Texas, some ACA provisions may cover the health insurance of some of the uninsured nonelderly women and thus they may be able to receive breast health care from other providers than Texas BCCS contractors alone, although given the low enrollment

numbers so far this is not likely to have made much impact. So far, there have been no significant changes to the Texas BCCS.

TCCCP

Texas CCCP works as a bridge to link a variety of community stakeholders in breast cancer control in Texas and promotes the implementation of the Texas Cancer Plan that establishes the guidance and standards for cancer control and prevention. Through being a member of the Komen Texas Advocacy Collaborative (KTAC), a representative of Texas CCCP, Komen Houston carries out its mission, develops its programs and delivers its services to the target populations utilizing the scientific data and information from the Texas Cancer Plan. The connection between Komen Houston and the TCCCP will continue serving as a way for Komen Houston to engage in breast public policy activities at varying levels in Texas.

ACA

The impact of the ACA on breast health care in the service area of Komen Houston needs to be observed closely and determined in the future as it takes several years to fully implement the ACA and all its provisions at the state level. Two key elements of the ACA provisions, Medicaid expansion and using tax credits to purchase private health insurance from the health insurance marketplace, will influence access to breast health care for underserved women in the service area of Komen Houston directly in Texas.

Without expanding Medicaid to cover the health insurance for the nonelderly with incomes up to 133.0 percent of the poverty level in Texas, it is estimated that more than 1 million eligible adults will still remain uninsured and likely be unable to purchase private health insurance using tax credits from the health insurance marketplace. Consequently, a great number of women whose insurance could be covered by Medicaid expansion still need to seek affordable breast health care through other potential channels, such as the Texas BCCS.

The age groups of the uninsured in the Texas are from 18 to 34 years old with 49.0 percent of these being females (Aaronson, 2014). In the near future, these young females will need breast health care such as breast cancer screening. Levy et al., predict that an additional 500,000 women in the first year of ACA implementation would receive breast cancer screening and increase by 1 million more over two years (Levy et al., 2012). If Texas decides not to implement Medicaid expansion in the coming years, these projected breast health care users will still use the Texas BCCS, leading an emerging demand of breast and cervical services delivered through the Texas BCCS contractors.

In the long-term, with the health insurance rates among nonelderly people in Texas surging, more health care providers and personnel are demanded to meet the needs of breast health care. As well, the large number of the eligible women for the Texas BCCS who do not receive the breast and cervical screening services remain (Levy et al., 2012). To satisfy the projected rise of the needs of breast health care among the low-income and uninsured women in the service area, Komen Houston needs to continue allocating the resources and working

collaboratively with the stakeholders on enhancing the provision of breast health care for the low-income and uninsured women.

Affiliate's Policy Work

Komen Houston is one of the leading community-based non-profit organizations that contribute to breast cancer control in Texas through its collaboratively working relationship with Komen Headquarters, other Komen Affiliates, local health care providers, health districts, hospitals, medical institutes, and other non/for-profit organizations. In addition to its efforts in raising funds, improving breast health awareness, funding breast health care services and research, and supporting breast cancer patients and survivors, Komen Houston has made tremendous endeavors in cultivating the environment for promoting breast health and controlling breast cancer through its policy work, such as fostering firm working relationships with the various breast health policies, regulations, nationwide programs, advocacy for better breast cancer services for underserved and uninsured females, informing legislators and advocates of the intensive information pertaining to the utilization of breast health care at the local level.

The Komen Texas Advocacy Collaborative (KTAC) is the major channel for Komen Houston to facilitate its policy work and collaborate with Federal, state and local officials, organizations and other Komen Affiliates on policy activities. As a member of KTAC, Komen Houston maintains its working relationship with a range of nationwide breast health programs, such as the Texas BCCS, the Texas CCCP, and the ACA through its membership of KTAC as a liaison at the local level, providing timely information regarding the utilizations of the breast health care derived from these policies in the hope of informing breast policy work at the state and national levels, such as public policy planning or policy advocacy.

With an aim to become the leader of the breast cancer movement in the local community, Komen Houston further seeks to enhance the relationship with KTAC so as to contribute to breast public policies at the state level and with Komen Headquarters on addressing the breast cancer issues at the federal level collaboratively. Komen Houston is anticipated to participate in more state level advocacy activities and play more critical public policy roles in promoting the policy changes that can influence breast cancer patients and survivors through its membership with KTAC.

Data Limitations

Some limitations of the data in this section should be taken into consideration when any of the conclusions from this section are implemented in the community. The conclusions generated in the section heavily rely on the information of the health care providers in the target community and Galveston County, which was collected through the websites of several health department entities, such as Texas DSHS, and the websites of the providers themselves and further verified by the professionals working for the Galveston County Health District, D'Feet and UTMB who are familiar with the health systems of breast health care. However, some breast health care providers in the target community or Galveston County may be still missed. Further, the information with regard to the services provided by the health care providers and reimbursement types may be inaccurate or out-of-date. Moreover, some community stakeholders, who play a

critical role in breast cancer control, may not be counted in this section because the services they provide are not related to the breast cancer CoC. In addition, the breast health care services that are not covered in the breast cancer CoC are exclusive to the investigation, such as education and community outreach, which are critical for promoting breast health among the women in the service area of Komen Houston.

Qualitative Data: Ensuring Community Input

Qualitative Data Sources and Methodology Overview

Available data on breast cancer incidence indicate that women in Galveston County are at an increased risk for late-stage diagnosis of breast cancer and maintain higher death rates than expected based on the general Texas population. Because the stage at diagnosis is an important predictor of survival, Susan G. Komen® Houston looks to improve access to mammography screening in Galveston County.

Previous research into barriers and facilitators to mammography screening studied mainly individual and interpersonal influences on screening behaviors. Examples of barriers include: fear of pain or the screening outcome, costs (lack of insurance), forgetfulness, competing priorities, and distrust of the medical system (Crump et al., 2000; Highfield et al., 2014; Ko et al., 2003; Ogedegbe et al., 2005; Peek et al., 2008; Schueler et al., 2008). Identified facilitators include: screening recommendation by a physician or health professional and patient navigation (Crump et al., 2000; Highfield et al., 2014; Legler et al., 2002; Wells et al., 2008). At the systems level, limited knowledge is currently available evaluating the continuum of mammography delivery and level of integrated care and the use of evidence-based programs and strategies to promote access to mammography screening. Both a high level of integrated care and the use of evidence-based programs might promote the access of mammography screening by improving the quality of care (Armitage et al., 2009; Glasgow et al., 2004).

The aim of this qualitative assessment was to explore barriers and facilitators to mammography screening for underserved women in Galveston County, with a special focus on system-level barriers and facilitators. System-level barriers and facilitators were studied both from a patients' and providers' perspective. The overarching goal of the assessment was to give substantive recommendations for funding priorities for Susan G. Komen® Houston to improve mammography screening in the area.

Methodology

To identify system needs, researchers from the University of Texas - School of Public Health Houston (UTSPH) completed a qualitative study that explored barriers and facilitators to access to mammography screening in Galveston County from a patient's perspective first. Patients' perceptions are an important source in identifying the gaps within the system because they are users who experience first-hand, what barriers exist and what serves as motivators. In total, 15 patients were interviewed who had had at least one mammogram in Galveston County in the last five years.

The key question of the patient interviews was: "What are the individual and system-level barriers and facilitators to screening access and adherence experienced by underserved women residing in at-risk areas of Galveston County?" Five variables were identified to be explored during the patient interviews: 1) Patient characteristics, including screening history; 2) General (individual) motivations and barriers to mammography screening; 3) Identifying the system and barriers and facilitators related to the system; 4) Intention to get another

mammogram (screening adherence); and 5) Recommendations for improving the system to promote access to mammography screening (advice).

Telephone interviews were conducted by two female interviewers from UTSPH at the Galveston County Health District (GCHD) office in Galveston. Interviewers used open ended questions and semi-structured approaches. Open ended questions allowed researchers to explore patients’ perceptions and experiences with the mammography system, while also being able to focus on specific issues through probes for further clarification. Open ended interview questions focused on the “how, what, and why” instead of the “yes and no” experiences to promote reflective analysis among patients’ responses. Semi-structured interviews were chosen because it enables in-depth exploration of the variables, without limiting patients’ detail of response due to structural limitations as may be seen in a survey. From a semi-structured interview process, research staff was able to obtain reliable, comparable qualitative data and guarantee consistency of explored topics throughout the interviews. The topic-list used during the interviews is shown in Table 3.1. Additional probes were asked about patient experiences with access to the system of mammography screening, from informational sources about breast cancer screening, provider recommendations, referrals, clinical breast exams, patient navigation, screening, and receiving the screening results to identify gaps within the existing system of mammography delivery.

Table 3.1. Topic-list patient interviews

Theme	Question
<i>Patient characteristics: Screening history</i>	1. How many mammograms did you get in the past five years?
	2. Where did you get your mammograms?
<i>General (individual) motivations and barriers</i>	3. What motivates you to get your mammogram?
	4. What were barriers to getting your mammogram?
<i>Identifying the system Barriers and facilitators related to the system</i>	5. Please tell me, what are your experiences with getting a mammogram in Galveston County? How did that go? How did you know about it? <ul style="list-style-type: none"> a. What went well? b. What didn’t go well? c. [For repeat screeners] Why did you go back to get a mammogram? d. [For one-time screeners] Why didn’t you go back to get a mammogram?
<i>Intention to get a new mammogram</i>	6. Please tell me, how would these experiences motivate you to get another mammogram in the future?
	7. How would these experiences keep you from getting another mammogram in the future?
<i>Recommendations</i>	8. Thinking about your past experiences getting a mammogram in Galveston, what can make it easier to get a mammogram?
	9. What other (final/ general) advices that you have that can help improve access to mammography screening in Galveston County?

Throughout the interviews, which took on average 30 minutes, model system of care flow charts were used to record field notes. The model flow chart acted as a guide for the interviewers to keep the interview flowing; to get detailed information about access to every unit (i.e., organization) in the system of mammography delivery and flow between the units. Following the interviews, patients were asked to participate in a short demographic survey that included questions about age category, employment and partner status, and race / ethnicity. Additionally, after the interview, the interviewer completed a face sheet with their main impressions from the interview and attention points to focus on for the next interview. Both forms of field notes provided contextual information for interpretation during data analysis. Interviews were audio recorded and subsequently transcribed verbatim by Adept Word Management, Inc. (Houston, Texas) for the purpose of content analysis by research staff.

Results from the patient interviews, were used as input for the subsequent 15 proposed provider interviews. Provider interviews were incorporated to provide systems-level insight on the barriers and facilitators experienced by patients. Because of their roles in the mammography delivery system, providers were able to address concerns with system integration, collaboration, and the use of evidence-based interventions as they impact patient experiences in Galveston County. Providers are expected to have more of a helicopter view over the system of mammography screening delivery than patients do, and therefore will complement the patient interviews.

The key question of the provider interviews was: “What are the system-level barriers and facilitators to mammography screening access as identified by providers involved in the system of mammography screening delivery in Galveston County?” Six key variables were identified to be explored during the provider interviews: 1) Provider characteristics, including their organization and their role(s) within the organization; 2) Identifying the system of mammography screening; 3) Identifying barriers and facilitators related to the system; 4) Use of evidence-based programs and strategies (facilitator); 5) System integration (facilitator); and 6) Recommendations for improving the system of mammography delivery to increase access to care.

Semi-structured interviews were conducted via phone or in-person by research staff from UTSPH. The use of semi-structured interviews in this study facilitated in-depth exploration of the system of care, without limiting provider detail due to structural limitations. Providers selected to participate were initially approached through email and given information about the study, e.g., what kind of questions will be asked and how participants’ rights and anonymity would be guaranteed, in an attached document. Upon agreeing to partake in the study, providers were contacted by phone to schedule the interview.

Research staff utilized an established topic-list (see Table 3.2) to explore system-level barriers and facilitators to mammography screening. Questions were designed to be open-ended to facilitate extended response and critical analysis of the system of mammography care. In addition, interviewees were provided with the “System of Mammography Screening” flowchart, the “Summary Barriers and Facilitators” document, and the “Evidenced-Based Interventions

Overview” chart via email for ease of reference during the interview process. Both the “System of Mammography Screening” flowchart and the “Summary Barriers and Facilitators” document were compiled by research staff following analysis of patient responses. Subsequently, staff included relevant evidence-based programs and strategies that could address the barriers and facilitators in the “Evidence-Based Interventions Overview”. In the provider interview process, these documents served as reflective material to facilitate provider discussion on commonly acknowledged patient experiences within the system of mammography care. The “Evidenced-Based Interventions Overview” was developed as a reference resource, to discuss the use of evidence-based interventions and its potential.

Table 3.2. Topic-list provider interviews

Theme	Question
<i>Provider characteristics</i>	1. Can you tell me a little bit more about your organization, what role does your organization have in the delivery of breast health care and what is your role within this organization?
<i>Further identifying the system</i>	2. Can you please help us to identify where your organization fits in <in the system of mammography screening flowchart>? <i>Or ask for confirmation if it was already included in the flowchart.</i>
	3. Which organizations and their roles/places in the health delivery system do you recognize?
	4. Which were you not aware of?
	5. Which additional organizations/ people do you know who are involved in the system of mammography screening in Galveston County that are not included in the flowchart yet? (e.g., Funding organizations also)
	6. What do you think works well (in the health delivery system) and facilitates access to mammography screening for patients in Galveston County?
<i>Barriers and facilitators related to the system</i>	7. What do you think works not so well in the system/ hinders (smooth) access to mammography screening for patients in Galveston County?
	8. Optional [<i>depending on time</i>]: What motivations have you observed amongst your patients for getting a mammogram?
	9. Optional [<i>depending on time</i>]: What barriers have you observed amongst your patients for getting a mammogram?
	10. Please reflect upon these <summary patient barriers and facilitators>, do you recognize them? What do you think?
	11. How do you think the system of mammography delivery in Galveston County may influence or explain these patient’s barriers?
	12. What recommendations do you have to improve the delivery system to reduce these barriers for patients?

Theme	Question
<i>Possible facilitator: the use of EBAs (organizational readiness)</i>	13. Does your organization, by itself or in collaboration with others, use any programs or strategies to promote (access to) mammography screening?
	a. <u>If no:</u> Was there any change in the organization the past five years meant to improve the mammography delivery system? i. <u>If no:</u> Continue to question 15
	14. <u>If yes:</u> What kind or program/ strategy/ change is used? a. Why was that program/ strategy/ change chosen? b. Where did you find them? c. Optional: <i>[depending on time]</i> How did that go? The selection and implementation of it?
	15. Has your organization tried/ considered/ done any of these <from the evidence-based intervention overview>? a. If yes: which ones? Why? (or why not) b. If no: What do you think of these programs? What are your first thoughts?
<i>Possible facilitator: integrated care</i>	16. Which organizations do you collaborate with and in which kind of way?
	17. How does funding play a role in these collaborations?
	18. Would you like to collaborate with more organizations or intensify existing collaborations? a. <u>If yes:</u> With who? How? Why?
<i>Recommendations</i>	19. If you could advice Susan G Komen Houston about how or where to invest money in Galveston County to improve mammography delivery and increase access to mammography screening among women in Galveston County, what would you recommend?

Each interview took approximately 45 minutes. Following the interviews, providers were asked to participate in a brief demographic survey that captured gender, age category, and race / ethnicity. Interviewers then compiled interview notes to retain contextual understanding of the responses. Also the provider interviews were audio-recorded and transcribed verbatim by Adept Word Management, Inc. for the purpose of content analysis.

The combination of quantitative data from the Community Profile’s Quantitative Data Report and qualitative data from patient and provider interviews allowed for triangulation of the findings. Triangulation is the use of various types of data collection on the same topic, to get a more reliable answer on the research question (Malterud, 2001; Tobin & Begley, 2004). Quantitative data enabled the Affiliate to get a first impression about whether access to mammography is a problem in Galveston County and for which population subgroups/ areas in particular. Then patient interviews helped explain this problem (situation), by exploring individual and system level barriers to mammography screening from their experiences and interaction with the system. Finally, to explain and complement patient perspectives, provider interviews explored system-level barriers to mammography screening from their perspectives, that included

interaction with patients, collaborations with other units in the system, and a broader overview of organization and the system of mammography delivery in general.

Sampling

A sample size of 15 patient and 15 providers was chosen because 30 interviews are generally sufficient to achieve 90-95 percent data saturation in qualitative data collection. Data saturation is an important criterion for sample size in qualitative assessments, since it shows that the researchers are getting insight into a reliable picture of the topics of study interest (Griffin & Hauser, 1993).

To recruit patients, researchers from UTSPH requested the GCHD to provide a purposive sample based on pre-selected criteria. The selection criteria ensured that only patients were selected that had experienced the system and came from at-risk areas. These criteria included gender (female), age (45 through 74 years of age), income (below 200 percent of federal poverty level), residing in at-risk areas for late-stage diagnosis and death and screened at least once in the past five years. To identify patients from at-risk areas, census tracts of at-risk areas were translated into the following zip-codes to select patients from those areas: 77510, 77511, 77517, 77518, 77539, 77546, 77563, 77568, 77573, 77590, 77591, 77617, 77623, and 77650.

In addition, the purposive sampling existed of an as diverse as possible sample to get a more complete picture of the system of breast-cancer screening in the at-risk areas of Galveston County. Diversity in participants was sought in race/ethnicity, and the number of times women had received a mammogram in the last five years. The study aimed to recruit a multiethnic/racial group with a random sample of four Hispanic/Latina, four Non-Hispanic Black/African-American, four White, and three to four Asian Pacific/Islander women to capture possible differences across ethnicities. Moreover, the aim was to recruit seven to eight patients who had had only one mammogram within the past five years (one-time screeners), and seven to eight patients who had had at least three mammograms in Galveston County the past five years (repeat screeners). It was expected that one-time screeners can provide more insight into barriers, and repeat screeners into facilitators, to allow for a more complete identification of barriers and facilitators to screening.

To be able to reach 15 women for a phone interview, GCHD provided research staff from UTSPH a list of 120 patients from the D'Feet Program, screened on the selection criteria above. The two interviewers called patients from the GCHD location until the purposeful sample of 15 women was reached. Vietnamese women were given the option to do the interview in Vietnamese, interviewed by a Vietnamese-American interviewer from UTSPH. Other patients with limited English language proficiency did not participate in the study.

After finishing the patient interviews, participating providers were selected using the snowball method. The analysis of patient interviews identified organizations of key study interest by evaluating patient interactions during the process of mammography screening. Input on provider recruitment was also provided by Susan G. Komen Houston and the program director of D'Feet. Providers surveyed represented clinic, mobile, and community organization service

types involved with the system of mammography delivery in Galveston County. A total of 30 providers from 11 unique organizations were invited to participate in the interview process. The goal was to complete a sample of 15 interviews. Three declined to participate, 17 could not be reached/ failed to respond, and 10 providers participated.

Ethics

There were no foreseen risks for participants, both patients and providers, to partake in the study process. The interviews purely focused on experiences, opinions and recommendations related to the system of mammography screening in Galveston County. Moreover, participation was optional and anonymity was guaranteed.

All contacted interviewees were given an overview of the study project and consent was obtained verbally prior to beginning the interview process. Called patients received three options: (1) to refuse participation, (2) to join the interview directly, or (3) to get extra time to think about participation. Those who request extra time could receive the study information by email and had three to five days to consider participation. After three to five days the patient was contacted by phone again. Providers were usually contacted via email and provided with a description of the study in an attached document (if only phone numbers were available, then the first contact was by phone). They had three to five days to refuse participation in the study before they were contacted again by the research staff of UTSPH.

Participants were informed that they were able to stop and ask any question throughout the interview and could skip any question or quit the interview without giving a reason. All participants were de-identified using personal identification numbers which were assigned following interview consent for anonymity. Contact information for the project leaders, Drs. Linda Highfield and Marieke Hartman, were provided. Participants were also given the contact information for the Committee for the Protection of Human Subjects if further concerns arose after the interviews.

No identifiable patient data was abstracted and/ or retained in this study. The list of potential patients provided by GCHD and D'Feet Breast Cancer remained at the GCHD location and was kept in a confidential file whenever it was not in use. After completion of interviews, the list was shredded. Only transcription of the interviews, the field notes, and answers on the short survey of interviewees' demographics were retained for further analysis. A \$20 gift card to Target was given to compensate each patient and community (volunteer) provider for their time. Clinical and mobile providers did not receive compensation for participation. Participants had the option to receive the final results of the study if they wished.

Qualitative Data Overview

Qualitative data was captured during the interview process using audio recording devices. Recorded interviews were transcribed verbatim by Adept Word Management, Inc. Transcribed documents and quantitative data from the short demographic surveys were stored for analysis. Interviewer field notes were retained for context placement, and were archived.

MAXQDA software was used to manage the gathered data for qualitative analysis. MAXQDA is able to import transcribed interviews and has a customized coding system, allowing researchers to easily sort, categorize, and visualize data into common themes. Besides, quantitative data from the short surveys were managed with Excel.

The data was analyzed using content analysis. Relevant excerpts regarding the main themes “Patient’s screening history”, “System of mammography identification”, “Facilitators and barriers to mammography”, “Intention to get a new mammogram”, and “Recommendations to improve the system” were extracted from the data, and assigned to sub-codes. These sub-codes were, on the one hand, deductively derived from the scientific literature, and on the other hand inductively derived from the interview data. Pre-generated sub-codes based on the literature included different units in the continuum of mammography screening, e.g., information source, recommendation, referral, navigation, clinical breast exam, screening, screening outcome and diagnostics (Taplin et al., 2012). In addition, facilitators and barriers were divided at the individual, interpersonal, community, and system level based on ecological models of health behavior change (Kok et al., 2008; Taplin et al., 2012). Then, the interview data led the identification of additional sub-codes, such as health awareness as an individual facilitator and long waiting time at the screening location as a system barrier.

Concerning the provider interviews, collaboration across organizations in the breast cancer continuum was considered under the following sub-codes: 1) No awareness - meaning that they did not have knowledge of other organizations providing breast health services; 2) Awareness - providers in the community are aware of other programs or services, but they organize their own activities solely on the basis of their own program or service mission, and make no effort to do otherwise; 3) Communication - providers actively share information and communicate on a formal basis; 4) Cooperation - providers modify their own service planning to avoid service duplication or to improve links among services, using their knowledge of other services or programs; 5) Collaboration - providers jointly plan offered services and modify their own services as a result of mutual consultations and advice. These sub-codes were derived from the integrated care literature that suggests that higher levels of collaboration (i.e., integration) can be related to better quality and access to care (Browne et al., 2004).

Two coders coded the first interviews with patients and providers independently and compared outcomes. In case of incongruity, the cause of this incongruity was discussed and consensus was sought on the interview fragment coded and/ or sub-code applied. This contributed to higher inter-coder agreement, a quality measure of qualitative research (Tong et al., 2007). After this preliminary process, one of the coders completed coding the remaining interviews. Subsequently, two researchers searched for patterns between excerpts under the different sub-codes and clustered them if they were related. The final stage of the analyses involved summarizing the data under each main and (clustered) sub-code.

Patients' perspectives on barriers and facilitators to mammography screening

A total of 18 women were interviewed from the 120 phone contacts provided by GCHD. Of the women, 15 met the established screening criteria on the basis of age, income level, and area of residency (Table 3.3).

Table 3.3. Characteristics of the interviewed patients

	Non-adherent screeners (n=6) (≤ 2 times in the past 5 years)	Repeat screeners (n=9) (≥ 3 times in the past 5 years)
Age category		
45 – 55 yrs.	2	5
55 – 59 yrs.	2	3
60 – 64 yrs.	1	1
65 – 69 yrs.	1	
Employment		
Unemployed	4	4
Part-time employed	1	3
Full-time	1	2
Partner		
Yes	4	4
No	2	5
Race/ Ethnicity		
Hispanic/ Latina	1	3
Non-Hispanic White	2	2
Non-Hispanic Black/ African-American	1	1
Non-Hispanic Asian	1	2
Other	1	1
US Born		
Yes	4	4
No	2	5

Five of the 15 women identified as non-adherent screeners, having completed one or two mammograms in the last five years. Ten women identified as repeat, adherent screeners, completing three or more mammograms in the five year period. By race, four of the women interviewed were Non-Hispanic White, four were Hispanic/Latina or Spanish origin, three were Non-Hispanic Asian, and two were Non-Hispanic Black/African-American. Additionally, one participant self-identified her race as Hebrew Israelite and another as American Indian/Alaskan Native. Half of the participants were born in the United States (n=8), three in Vietnam, three in Mexico, and one in Bolivia. Eight of the women lived with a partner, while seven did not. Three women interviewed were employed full-time at 40 or more hours per week, three worked part-time for 20 or more hours per week, one worked part-time at less than 20 hours per week, and eight were unemployed. By age category, seven women interviewed were between 45 and 54

years of age, four were between 55 and 59 years, one was between 60 and 64 years, and two women were between 65 and 69 years of age.

Patients' identification of the system of mammography screening in Galveston

Patients mentioned two organizations that provide information about how to do breast-exams and the importance of screening (A,B). Women further mentioned that they were informed about the importance of screening (and exams) by schools, media, word of mouth, Planned Parenthood, or they actively searched for ways to get screened (e.g., through 211 Health Hotline, SNAP Food stamp office, Medicaid Office). Subsequently, patients had contact with four organizations (A,B,C,D) regarding recommendation/ referral; clinical breast exams; and to visit a mobile van to get screened. Three patients remarked that they visited the mobile van near three religious organizations. Women referred to the mobile vans being provided by organization E, F (and potentially D). Women hardly referred to patient navigators for help with making appointments and guiding them through the system. Only organization A was constantly involved with the patients, i.e., through informing, translation paper work, recommendation/ referral, pointing at van. Finally, patients seemed to get screened in-clinic by organization H and I (and potentially J) for regular screening or diagnostics.

Patients' individual and interpersonal level barriers and facilitators to mammography screening in Galveston

Patients explained that they were personally motivated to get screened because of health awareness (e.g., fear of getting cancer, it gives a confirmation that you are healthy), breast pain, and a family history with breast cancer. At the interpersonal level, they saw cancer in their surroundings, and got encouragement from family and the community to get screened. Also, women liked to stay healthy for their family, what additionally motivated them.

Individual barriers that women experienced included: getting screened not being a priority ("just trying to survive"), procrastination, the pain of screening, and having no transportation. Having no insurance as well as getting insurance were barriers for the different women. See also system-level barriers. At the interpersonal level, single parenthood can be a barrier (e.g., because of financial reasons), and family got the priority.

Patients' perspective on system and community level barriers and facilitators to screening in Galveston

System facilitators to get a mammogram mentioned by the patients included a doctor's recommendation; availability of free screening; a convenient screening location; a positive experience during screening; appointment making for follow-up after an abnormal result; and yearly reminders. Doctor's recommendation was mentioned explicitly as a motivator to get screened. Doctors recommended screening based on age and family history with (breast) cancer. Another motivator was the available free screening for the uninsured. Women got informed about this service by pamphlets, their social network or their doctor. Subsequently, most women had to call to get enrolled in the free mammography program. On the phone they had to answer questions to qualify themselves for the program. Women referred to the screening location as convenient because of "having everything in one place", i.e., referral,

clinical breast exam and screening in one location; because the location is nearby and/ or they have the option of several locations and can chose the most convenient one. One organization provided even a car ride from the exam location to the screening location. Most women mentioned that they didn't have to wait long at the screening location, maybe a maximum of 15 minutes. At one religious building it was first come, first serve, which was fine to the woman. Women attributed a positive experience particularly to the friendly providers and good treatment (e.g., explanation by technicians, translation by an ethnically matched key person). Women received the results by mail within a couple of days till a couple of weeks. In case the clinical breast exam or screening showed a lump or shadow or mass, women were called with the results and helped with making an appointment for further diagnostics (e.g., ultrasound, biopsy, doppler) which was appreciated. Finally, several women tell about receiving a letter or a call, for instance the next year, when they need to get screened again, which was seen as helpful ("it keeps it in your mind at least").

Barriers to screening included insurance issues; losing a key person that invited, translated, facilitated everything for the woman to get screened (after this immigrant women were helpless); transportation issues (no car, no money for gas), and negative experiences. Negative experiences of the patients related to the system included rather a long waiting time at the clinic; having to answer questions and paper work over again; and non-friendly providers. A woman explains that, at the clinic, she first has to wait for a clinical breast exam and then for screening, what makes the visit up to two hours. Another woman explains how she felt uncomfortable by a provider who didn't explain much, and decided to continue going to another location where she had more positive experiences.

Not having insurance has also been a barrier for women in the past, and being too young to apply for Medicare. When not knowing where to get free screening, women didn't get their mammogram. Thereby, does the introduction of the Affordable Care Act cause barriers for the system. Some women cannot go back to their old screening locations again because they have insurance now. Others have the opposite problem and are told to get Obama Care, otherwise they cannot get screened anymore. Help and information about where women now qualify to get screened is lacking.

Patients' recommendations to improve the system

Two main recommendations were given by the patients to improve access to well woman exams and breast cancer screening for women in Galveston County: 1) more marketing for the free exams and screening, and 2) giving more help and guidance. Women mention that many women don't know about the free services. Suggestions are to inform these women by flyers at the women's shelter (non-profit organizations) for example and in the mail. It were particularly women not born in the US, that wanted more guidance such as translation, making appointments, doing reminders, really taking care, for instance also by providing transportation. As a woman requested: "one place, one day, just take me there".

Providers' perspectives on barriers and facilitators to mammography screening

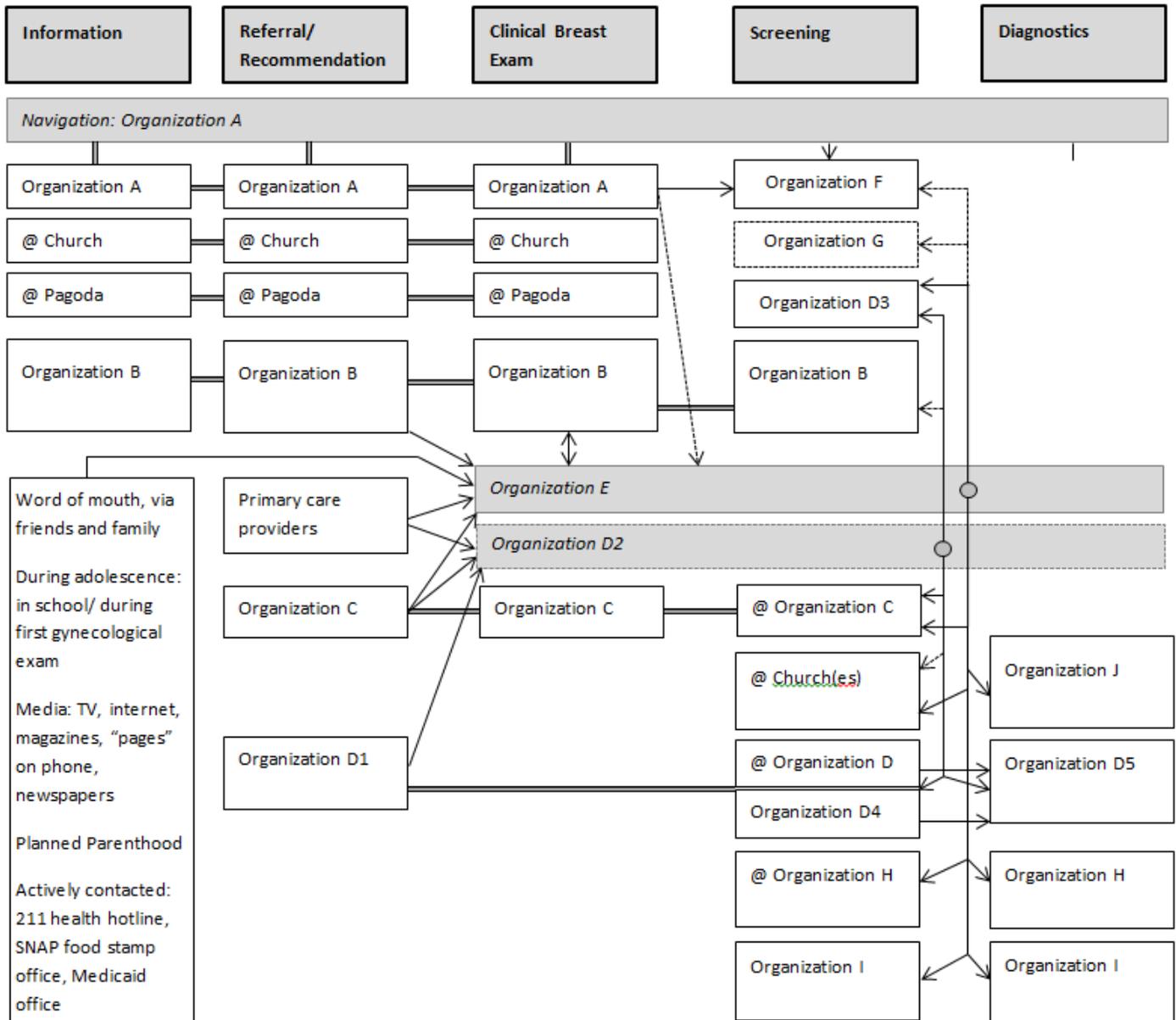
A total of 10 providers, from six unique organizations, participated in eight interviews (Table 4). From this population, five providers were employed in clinic settings (Organization A-D), and five were employed in mobile mammography (D,F,G). The interviewees held various roles in their organizations, from positions in administrative leadership (CEO, Executive Director, etc.) to direct patient care (e.g., Breast Imaging Radiologist, Patient Navigator). All interviewed providers were female. Similar races/ ethnicities were represented in the provider interviews as in the patient interviews. Of the interviewed sample, four providers were Non-Hispanic White, four were of Hispanic/Latino, one was Non-Hispanic Black/African-American, and one was Non-Hispanic Asian. All age categories were represented among the providers, from 25 – 29 years old and 60 and 64 years old.

Table 3.4. Characteristics of the interviewed providers.

	Clinic providers (n=5)	Mobile providers (n=5)
Organization	A, B, C, D	D, E, F
Role		
Leadership	2	2
Patient care	3	3
Age category		
25 – 34 yrs	1	1
35 – 44 yrs	2	1
45 – 54 yrs	1	2
55 – 64 yrs	1	1
Race/ Ethnicity		
Hispanic/ Latina	2	2
Non-Hispanic White	1	3
Non-Hispanic Black/ African-American	1	
Non-Hispanic Asian	1	
Gender: Female	5	5

Providers' view of the system of care in Galveston

Providers assisted in reviewing the system of care diagram that was developed during the patient interviews. They noted that providers and community organizations were doing a good job of providing information about breast health through a variety of sources and venues. Providers were also providing referrals and recommendations to try and get patients connected with the various organizations in the continuum of care. Based on the provider interviews, the flowchart as shown in Figure 1 was finalized. Organizations in the flowchart denoted with an @ symbol indicate that patients are receiving that category (e.g., information, referral) at that organization, but organized by another organization.



@ = at location ; dotted lines = mentioned by providers only ; double line = within one organization

Figure 3.5. Flow-chart system of mammography delivery in Galveston County

Providers’ perspective on individual level barriers and facilitators to mammography screening in Galveston

In the interviews, providers noted a number of motivators for women to obtain their mammograms, such as a high level of awareness of the need for screening, wanting to stay healthy for their families, being health conscious in general, having family and social support, a family history of breast cancer and that women who had noticed a lump on self-breast exam were motivated to come in and get their mammogram to make sure there wasn’t any cancer present.

Providers also discussed the barriers that make women reluctant to get a mammogram, including: fear of pain from the mammogram, fear of the outcome of cancer, not having a regular relationship with a doctor and not receiving a doctor's recommendation to get a mammogram, forgetting about their appointment, not making their health a priority (competing demands), finances (such as not having money to pay, intermittent phone service, transportation issues, inability to take time off of work) and that patients think they are not at high risk of breast cancer so mammography is not high on their priority list.

Providers' perspective on system and community level barriers and facilitators to screening in Galveston

Providers noted a number of facilitators to mammography screening that are already taking place in Galveston, such as: doctors making the recommendation for women to get their mammograms, the work their organizations have done to build trust with the community, trying to make appointments convenient by offering assistance in pre-qualification and paperwork, reducing wait times and providing appointment reminder calls, patient navigation, fundraising to offer free or reduced cost mammograms, breast health awareness information being provided by multiple organizations such as churches, schools, the media and health care providers and providing transportation services to appointments when possible.

Providers also noted a number of barriers that are occurring with the system of care, such as: transportation being a limited service which often has to be booked well in advance of the appointment date, patients receive different parts of the continuum of care from different providers which makes for a fragmented health care experience, getting mobile mammography out to the community at locations that are convenient for them at regular intervals is a challenge, wait times for mammography appointments can be long with some of the providers, screening appointments are often only available during business hours making it difficult for some women who need to take time off of work, having to obtain a clinical breast exam prior to the mammogram makes it harder for some women to get their screening done, educational information can be limited and not reach all women in need, language barriers exist between providers and patients, technical problems with the mobile van (breaking down) and there are a number of disconnected (standalone) organizations that provide various parts of the continuum of care making coordination of care for patients more difficult.

Providers also noted that the changes in the system of care due to the Affordable Care Act were both a facilitator and barrier. Insurance coverage through ACA acted as a facilitator by providing coverage (and reduced cost in many cases) for women to obtain screening and any required follow-up care. However, it was also a barrier because of the complexity associated with the various plans – not all providers accepted all plans, some providers were unsure where to send these newly insured patients for care and some women who had never had insurance before needed to be educated about what it was and how to use it, which went beyond the scope of care of many of the providers interviewed.

Providers' perspectives on the use of evidence-based strategies in Galveston

Providers reported varying degrees of familiarity with and use of evidence-based strategies. Some providers reported they were unaware of the concept of 'evidence-based', while others reported having at least tried some strategies in their sites. In providers who had tried programs or strategies, approaches used included: one-on-one or group patient education about mammography and breast cancer; client incentives (such as gas cards); reduction of structural barriers through the use of patient navigation, mobile mammography, scheduling of patient appointments and not requiring a clinical breast exam prior to obtaining a mammogram; media for community outreach and education, and patient reminders (phone calls or letters). Most providers reported having tried various strategies at different points in time in their programs, but not the use of evidence-based intervention programs available through resources such as the National Cancer Institute's Research Tested Intervention Programs (RTIPS). They expressed an interest in the programs described as examples in the interviews, but noted that they would need assistance and resources in trying to implement these types of programs in their practices.

Providers' perspectives on mammography system integration in Galveston

Providers reported varying levels of integration in the system of care in Galveston ranging from no awareness to cooperation. Many organizations reported awareness of other programs and referral of women/patients from one provider to another, however, many were not formally communicating, modifying their service delivery planning, or jointly planning how to offer services more effectively or efficiently to the community as a result of mutual consultation.

When asked about funding, providers noted the importance of funding for service delivery and that it facilitates their ability to work with other groups. However, most reported that they do not engage in joint fundraising efforts, nor do they specifically share budgets across organizations. Some organizations noted that they are competing for a shrinking pool of funding for breast health and it can make service delivery challenging.

Intention to start new collaborations and/ or intensify collaborations differed between the organizations. Several providers mentioned they were not planning to start new or intensified collaborations and had no specific organizations in mind to extend collaboration with. They also noted that they had no time or resources to invest in additional collaborations. In contrast, other organizations were open for more collaboration and in one case also trying to get in contact with a new mobile provider. They saw organizations in the flowchart that they were not familiar with and that they wanted to contact. Also, one provider mentioned that it would be good if the big organizations involved in the system would get around the table to discuss how access to breast health care could be enhanced.

Providers' recommendations for improving access in Galveston

Providers mentioned five main funding recommendations for Komen Houston: 1) more education about the importance and availability of breast cancer screening; 2) patient navigation; 3) transportation; 4) investing in "one-stop shop" services; 5) and providing screening and diagnostic services. Providers mentioned that more education and advertising is

needed to inform women about the importance of mammography screening and existence of free mammograms. Multiple channels were mentioned within this context: many women don't have a *physician* or switch a lot – therefore building on relationships between primary care providers and women would be helpful; *community outreach* with education, exams, and screening can be further enhanced by visiting more (culturally diverse) places with the mobile van, as well as making community outreach more consistent (repeated screenings at the same place); advertising in new papers and other *media*; and a *central help line* that women (and providers) can call where they would qualify for breast cancer screening with or without insurance. Providers further emphasized the need for patient navigators, particularly to call patients to remind them about their annual need for screening, as well as to remind them about their upcoming appointment (instead of letters only/ inconsistent reminders). Several providers also asked for additional and continued funding of mobile mammography, screening, and diagnostics (e.g., ultrasound, biopsy, breast MRIs). Increased funding for mobile mammography screening would enable offering more mobile services, e.g., education, exams, screening and diagnostics (“one-stop shop”); at a variety of places and a variety of times, to prevent losing patients because of transportation issues and waiting times.

Finally, two providers gave unique recommendations, not meaning that these are not important (in qualitative research quantity has very little meaning). A first provider wished for a better tracking system for no-shows. Knowing how many and why women don't show up, could contribute to effective system change. A second one recommended bringing the big parties involved in the delivery of breast health care together to start the discussion on how to promote access to and the continuum of care. “How do we get this patient to you? And how do we get that patient to me?”.

Qualitative Data Findings

Limitations of the Qualitative Data

There are a number of limitations that should be considered when interpreting the findings in the qualitative report. First, the Affiliate was not able to reach the desired number of providers for interviews. The Affiliate goal was to reach 15 providers to approach saturation. However, the Affiliate ran into a number of challenges reaching and getting provider participation. In many cases, the Affiliate only had access to general contact information for providers (e.g., office mainline number) and were told a message would be sent to the provider in regard to participation in the study. In these cases, the Affiliate usually did not receive any follow up contact from the provider or organization. Most providers interviewed in the study participated as a result of having direct contact information or referral from a contact that they knew. Komen Houston was not able to interview any of the community organizations mentioned by patients such as churches and Planned Parenthood. Interviewing these organizations may have given further insight into the system and how women first access information about mammography screening in Galveston.

The steps in the continuum of care beyond diagnostic screening (treatment and survivorship) were not specifically investigated in this study and were not mentioned directly by patients or

providers in the interviews. Further study of those areas may be necessary in the future in Galveston to obtain a more complete picture of the continuum of care.

Additionally, the Affiliate identified a number of census tract areas in the quantitative data report and health systems analysis as the target communities in Galveston. However, providers in the area generally record patient data by address and zip code, not by census tract. Komen Houston had to aggregate the census tracts to corresponding zip codes in order to select patients for interviews which may have resulted in a slight expansion of the intended target communities.

Providers and patients from at-risk areas in Galveston County: final reflection

The quantitative data report (QDR) identified areas of Galveston County where women were experiencing higher rates of late-stage diagnosis of breast cancer, higher death and lower rates of mammography screening. It also identified areas where younger women were concentrated with lower levels of education, lacked insurance and came from linguistically isolated households. These are the areas which were translated to the zip codes above and used for selecting women for qualitative interviews. Consistent with the findings of the QDR, women in the target community identified a number of individual level and system level barriers to accessing mammography. Women noted that screening was not a priority because they were too busy “just trying to survive.” This is consistent with the QDR findings of a population with lower levels of education and lower rates of insurance, both of which are barriers to accessing preventive services such as mammography. At the systems level, women noted that not having a key person invite and guide them through the health care system was a barrier. They also noted translation and language issues as a barrier, which was consistent with the QDR findings of higher numbers of women in this area coming from linguistically isolated households. Women also noted the paperwork process for obtaining a free or low-cost mammogram was a barrier, which may be linked to education level and linguistic barriers. Providers recognized women’s barriers to screening such as having difficulty taking time away from work, needing to make multiple appointments (clinical breast exam, followed by screening), limited educational information to the patients and limited language services. These are all consistent with the QDR data indicating that there are large numbers of underserved women in the target communities and that they are accessing screening at lower rates than recommended by Healthy People 2020.

In the health systems analysis (HSA), the Affiliate specifically investigated the locations of service providers in the target community. It was noted that there are very few providers actually located in the target community in the continuum of care. Only three organizations, with a total of seven locations are either physically located in or providing mobile services in the target community. This is consistent with the qualitative findings that there are a number of barriers to accessing care, including transportation issues, lack of mobile mammography in the community at regular intervals and lack of patient education. Given that most of the providers of breast health are in the northern part of the County (bordering Harris County) or on Galveston Island, women in the target community need to seek services outside their local area. Figure 3.5 in the qualitative report shows the variety of organizations where women are seeking care. In

comparing this to Figure 3.2 in the HSA, it becomes clear that there are a number of organizations outside the local community where women are gaining access to services. One of the key findings of the HSA was the need for collaboration and partnerships to provide access to services for women in the target community. This is consistent with the qualitative findings that access issues are occurring in the target community both from the patient and provider perspective.

The qualitative data narrative provides context for the QDR and HSA reports. It also provides greater insight into the barriers and facilitators in the system of care in Galveston from both the patient and provider levels. Taken together, the three reports provide a comprehensive look at the target community and recommendations for Susan G. Komen® Houston for future collaborations and funding efforts to improve access to care for women in the target community.

Mission Action Plan

Breast Health and Breast Cancer Findings of the Target Communities

- For the Affiliate service area as a whole, the death rate was higher among Blacks/African-Americans than Whites.
- Liberty County is not likely to meet either the death rate or late-stage incidence rate HP2020 targets. Chambers and Harris Counties are not likely to meet the late-stage incidence rate HP2020 target.
- In the quantitative data report, the Affiliate identified areas in the service area where there were high rates of late-stage diagnosis of breast cancer, higher breast cancer death rates, lower rates of mammography screening and areas where younger women (under 40) were experiencing higher rates of no insurance, lower educational levels and linguistic isolation. All of which are predictive of lower rates of mammography screening. The Affiliate identified areas of Galveston County as experiencing higher rates of late-stage diagnosis, death and lower screening rates.
- In the health systems analysis the Affiliate took a closer look at service providers in the target areas of Galveston County. The Affiliate found:
 - Few service providers located in the target community within the continuum of care, particularly for treatment, survivorship and end of life care
 - More breast health services for uninsured and low-income women in the area.
 - Transportation barriers may be an issue preventing access to services for women.
- In the qualitative data report, the Affiliate explored explanations for the breast cancer (screening) problem in Galveston County by interviewing patients and providers. Besides familiar personal and interpersonal barriers and motivators for breast cancer screening (e.g., health consciousness versus fear and conflicting priorities; the importance of family), the qualitative assessment gained insight into what seemed to work well in the system of breast cancer screening and what might be improved.
 - Facilitating factors included: a doctor's recommendation, availability of free screening, convenient screening location (e.g., because of mobiles; multiple services at one location), positive experiences (e.g., friendly providers that explain procedures), and appointment making for follow-up and yearly reminders.
 - Help and information are needed about where women now qualify to get screened. The Affordable Care Act (ACA) created a challenge for both patients and providers: some women cannot go back to their old screening locations because they have insurance now; others have the opposite problem and are told to get ACA, otherwise they cannot get screened anymore. Providers don't know how to help them and where to send them now.
 - The use of evidence-based approaches and continuum of care (integrated care) can be further improved. Collaborations can be further improved, if organizations formally communicate with each other, and jointly plan how to offer services more effectively and efficiently to the community (e.g., by joint fund raising).
 - Finally, patients and providers recommended: 1) more education about the importance and availability of breast cancer screening; 2) patient navigation (e.g., appointment making, reminders, translation); 3) transportation; 4) investing in

“one-stop shop” services; and 5) (continue) providing screening and diagnostic services (at convenient locations and times); 6) and better tracking systems for no-shows and reasons for not attending a planned screening.

Mission Action Plan

Problem statement: According to the Additional Quantitative Data Exploration, late-stage diagnosis and higher death are found in selected areas of Galveston County.

Priority: Increase the health care system’s capacity to provide quality breast health care in the selected areas of Galveston County.

- Objective 1: By 2016, Komen Houston staff attends training on building collaborations for collective impact.
- Objective 2: By 2016, Komen Houston will form a new coalition to improve the health care system around breast cancer screening, diagnostic, treatment and support services in identified areas of Galveston County.
- Objective 3: By 2017, Komen Houston will develop a RFA for Galveston County organizations to submit proposals.
- Objective 4: By 2018, the Coalition Chair and Komen Houston Mission Director will create sustainability plan for coalition.

Priority: Increase breast health outreach to underserved populations that include Black/African-American, Hispanic/Latino and Vietnamese communities in Galveston County.

- Objective 1: By 2017, meet with at least four community organizations or service providers that work within the selected areas of Galveston County to discuss breast health outreach strategies.
- Objective 2: By 2018, partner with at least two of these organizations to provide culturally appropriate breast health events in Galveston County.

Problem Statement: According to the Quantitative Data Report, the breast cancer death rate was higher among Blacks/African-Americans than Whites for Galveston County and the Affiliate service area as a whole.

Priority: Partner with community organizations and/or other funders to use collective impact planning on the disparities identified.

- Objective 1: By 2018, fund best practices and evidence-based programs that result in documented linkages to outreach, education, breast cancer screening, diagnostic, treatment and/or supportive services among Blacks/African-Americans.
- Objective 1: By 2019, Komen Houston will participate in the Komen Roundtable events to impact breast cancer disparities.

Problem Statement: According to the Additional Quantitative Data Exploration, there were high death rates in selected areas of the service area, including Galveston County.

Priority: Increase the health care system's capacity to provide quality breast health care in the selected areas of service area.

- Objective 1: By 2017, the Komen Houston Medical Advisory Council will create a plan to address improving breast health care in outlying communities.

Priority: Develop and utilize partnerships to enhance Affiliate public policy efforts in order to improve breast health outcomes of women in the Affiliate service area.

- Objective 1: From 2016 to 2020, partner with Komen Texas Affiliate Collaborative on advocacy and public policy efforts for Texas.
- Objective 2: By 2016, identify and train at least six key volunteers to serve on the public policy committee and implement the public policy efforts of Komen Houston.

Priority: Increase state legislators' education and understanding of breast health issues.

- Objective 1: Komen Houston representatives attend Advocacy day at least once a year in Washington, DC, and every other year in Austin, Texas, to educate elected officials on the importance of increased access to care in the Affiliate service area.
- Objective 2: From 2016 to 2020, meet with at least four elected officials each year to include those serving Galveston County in District offices to educate them on breast cancer and the impact of Komen Houston.
- Objective 3: By 2017, conduct a bi-annual mailing to all legislators to increase Komen's visibility as a trusted local resource on breast cancer.

Priority: Increase the Komen constituents' education and understanding of late-stage breast cancer diagnosis.

- Objective 1: By 2018, the Education Committee will develop an education/awareness campaign on late-stage breast cancer diagnosis.

Problem statement: According to the Qualitative Data, underserved patients reported not getting screened or are delaying care due to financial barriers and/or confusion about where to get care using the Affordable Care Act.

Priority: Increase grantees efforts on reducing delays of breast health services for underserved patients in regards to the ACA.

- Objective 1: By 2017, fund the development of a patient navigation protocol to assist those with insurance under ACA find breast health services.

Problem Statement: According to the Qualitative Data, there is a lack of evidence-based approaches being utilized to keep patients in the continuum of care.

Priority: Increase capacity of non-profits to utilize best practices and evidence-based programs to provide culturally-tailored education and outreach that directly links individuals to breast health services and follow-up with priority given to high risk areas in Galveston, Chambers and Liberty Counties.

- Objective 1: By 2018, form a partnership with an academic institution to conduct at least two workshops on how to incorporate Best Practices and Evidence-Based Programs into funded projects.
- Objective 2: By 2018, hold a grantee workshop on best practices for measuring data to include baseline data, screening rates and rescreening rates and tracking time to screening, diagnostic and treatment services.
- Objective 2: By 2018, fund and mandate that best practices and evidence-based programs be incorporated into all grant programs and require that all funded education programs must demonstrate how their activities will lead to action, such as participants obtaining regular mammograms with priority given to high risk areas in Galveston, Chambers and Liberty counties.

Priority: Increase capacity of non-profits to utilize best practices and evidence-based programs to implement reminder letters, audit and feedback systems, patient reminder phone calls and other evidence-based approaches to improve no show rates, screening rates and rescreening rates in 2018-2019 with priority given to high risk areas in Galveston, Chambers and Liberty Counties.

- Objective 1: By 2018, form a partnership with an academic intuition to conduct at least two workshops on how to incorporate Best Practices and Evidence-Based Programs into their projects.
- Objective 2: By 2018, hold a grantee workshop on best practices for measuring data to include baseline data, screening rates and rescreening rates and tracking time to screening, diagnostic and treatment services.
- Objective 3: By 2019, fund and mandate that best practices and evidence-based programs be incorporated into all grant programs and require that all screening and diagnostic programs must demonstrate how their activities will lead to action, such as participants obtaining regular mammograms.
- Objective 4: By 2019, mandate that grantees include baseline data in applications and report percent changes from baseline.

Priority: Increase the quality of Affiliate funded grants to ensure identified gaps in the continuum of care are addressed in the target communities.

- Objective 1: By 2016, fund programs that use innovative or evidence-based approaches through collaboration that result in documented linkages to local breast cancer screening, diagnostic, treatment, survivorship, follow up care and end of life services among the priority population groups and target geographic areas identified in the Community Profile.

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