

2016 COASTAL BEND HEALTH NEEDS ASSESSMENT

Social Science Research Center

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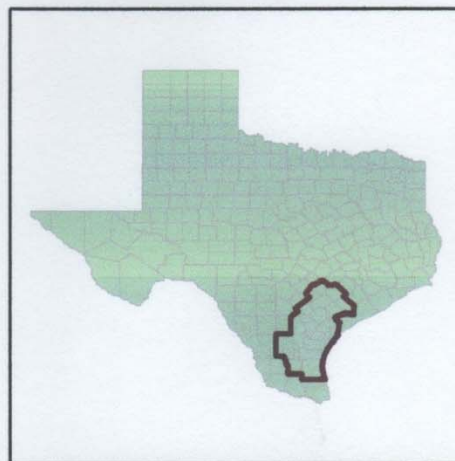
*Texas A&M
University-
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TEXAS

Regional Healthcare Partnership (RHP) Region 4



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Authorization

On October 23, 2015 the Social Science Research Center, College of Liberal Arts, Texas A&M University (SSRC) was contracted by the Coastal Bend Health Needs Assessment Steering Committee to conduct a health needs assessment of 18 Coastal Bend counties for 2016. Pursuant to a memorandum between Pamela Robertson, President and CEO of CHRISTUS Spohn Health System, Dr. Luis Cifuentes, Vice President for Research and Scholarly Activity, Dr. Kelly Quintanilla, Dean, College of Liberal Arts, Dr. Philip Rhoades, Director of the SSRC, and Dr. Pamela S. Meyer, Principal Investigator, the following deliverable is in fulfillment of said memorandum and contract.

This report has been produced for the 18 County Coastal Bend Health Needs Assessment by the Social Science Research Center at Texas A&M University-Corpus Christi. Funding was provided through a contract with CHRISTUS Spohn Health System and supported by the Members of the 2016 Coastal Bend Health Needs Assessment Committee.

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Executive Summary

The 2016 Coastal Bend 18 County Health Needs Assessment Steering Committee commissioned a health needs assessment study. The resulting report is based on information garnered from a community survey (convenience sample), an on-line survey of health care and social service providers, and targeted interviews with health care and social service providers. In addition, “First Look” discussions with health care and social service providers and local health systems’ leaders were held in Nueces and Victoria counties to review the data and begin to prioritize the top health needs of the region.

This report documents the status in the Coastal Bend area regarding access and utilization of health care services since the first health needs assessment was conducted in 2004 and then again in 2010, 2013 and 2016. Because the focus of the report is a “needs assessment,” the executive summary will highlight the “needs” of the community as supported by the data, but it is not a prioritized list. This approach helps to delineate the issues and allows for more effective action planning.

Data indicate that some segments of the RHP 4 population have limited access to health care services

Issue

Barriers to access can include a number of factors, the availability of health insurance, costs associated with health care, transportation to health care facilities, the availability of health care professionals, including medical specialists, and health literacy issues.

In the Community Survey, respondents without insurance said that cost was the main reason for not having insurance, followed by lost job, employer does not offer or stopped offering insurance, and changed employers. The majority of provider survey respondents also noted that the lack of insurance coverage was a moderate or major issue. Half of the provider survey respondents saw the availability of care for uninsured and underserved patients/clients as a major impediment to the delivery of health care. Some working individuals are being “squeezed” and unable to afford healthcare coverage.

Thirty-nine percent of the 2016 survey respondents experienced some type of barrier to access of routine health care, up from 20% in 2013. In addition to cost, respondents noted that they could not get in, their insurance was not accepted, or transportation. “First Look” attendees noted that primary care access is limited, some physicians are not accepting insurance from the marketplace, transportation is an issue for some, limited access to specialists, and limited availability of providers.

Recommendations

- Guide the currently uninsured to sign up for health care coverage under the Affordable Care Act.
- Train staff to assist the uninsured in selecting plans that suit the soon-to-be insured's needs.
- Encourage health care providers, clinics, and so on to expand their hours to include the evenings and weekends.
- Recruit primary care physicians and specialists to the area.
- Recruit more extenders (nurse practitioners and physician assistants) to the area.
- Increase health literacy about available health care resources.
- Explore the feasibility of telemedicine in the RHP 4, especially for the rural areas.

Data indicate that some residents, including those with health insurance, use the Emergency Department for primary care.

Issue

Many within our community use the Emergency Department (ED) for primary care visits. As noted in the report, only about 48% of the ED visits are high/urgent severity. This may not be the best usage of the ED and may indicate that some people do not have a medical home.

Recommendations

- Recruit more extenders (nurse practitioners and physician assistants) to help divert the use of emergency departments for non-emergent care.
- Recruit more primary care physicians to the area.
- Increase health literacy about available health care resources.
- Work with area clinics to expand evening and weekend hours.

Data indicate that some hospitalizations are preventable

Issue

The 2016 County Health Rankings indicated that our area had 80 preventable hospitalization days which is lower than the 102 days noted in 2013. Our region, however, is higher than the state's 58 days of preventable hospitalizations and the nation's 60 days. In examining the in-patient hospitalization primary diagnostic codes, pneumonia, septicemia and urinary tract infections are at the top of the list.

Recommendations

- Analyze the hospital and emergency department data to determine where patients with UTIs originate (such as nursing homes, home health, patient's home, etc.).
- Provide education on catheter placement and care to all health care providers who work with people who are most susceptible to these diseases.
- Provide pneumonia vaccinations to vulnerable patient populations
- Increase access to primary care and preventative measures.

Data indicate that chronic and co-morbid conditions are prevalent in RHP 4

Issue

In the Community Survey, 86.5% of respondents noted that one of the illnesses listed occurred in their household in the past 12 months. Allergies, asthma, and ear infections top the list of chronic conditions reported. Heart disease, diabetes, and hypertension also remain among the top ten chronic conditions noted.

According to the Community Survey, 55% of the respondents reported having poor physical health days in the past 30 days, up from 38% in 2013. Of those who reported poor physical health, the mean number of "not good" physical health days was 8.94. . In the 2016 County Health Rankings, the mean number of poor physical health days during the previous 30 days for all counties in the region was 3.88, up slightly from 2013. The 2016 County Health Rankings also noted that the area counties lost 8,794.12 years of potential life (premature death) surpassing the number for Texas (6,600) and the nation (7,700).

Recommendations

- Increase health literacy through patient and family education about disease maintenance.

- Monitor disease treatment specific to each condition to prevent worsening condition and potential readmission through patient navigation/community health worker programs.
- Increase screenings of disease for early detection.
- Increase awareness on how to best prevent and/or delay the onset of chronic diseases.
- Encourage hospitals to evaluate readmissions to determine if there are discernable patterns that can be remedied with interventions, education, and/or increased monitoring.
- Assign patient navigators/community health workers to patients with a history of readmissions.

Data indicate that obesity is still a major problem in RHP4

Issue

In 2016, according to the County Health Rankings, 31.6% of the area's population is obese; that is a 2.16% increase from 2013. In addition, only 56.41% of respondents say they have access to exercise opportunities compared to 84% for Texas and 62% for the nation. Providers say that obesity is the second most common condition they see.

Recommendations

- Create partnerships with health and social service agencies, government and educational institutions to formulate a RHP 4 initiative to tackle obesity.
- Evaluate successful regional programs that promote healthy lifestyles for possible local implementation.
- Increase education about healthy lifestyles, especially for children.
- Collaborate with local governments and school districts to implement healthy lifestyle programs.
- Enhance the physical environment in the RHP 4 for safe physical activity.
- Seek grants that fund programs aimed at reducing obesity.

Data indicate that mental health issues are increasing in the RHP 4

Issue

Mental health issues are increasing within the community. Mental health issues were noted in 2010 Coastal Bend Health Needs Assessment Report. In 2013, the report

noted suicidal ideation as the eighth most frequent secondary diagnoses among in-patient hospital data.

In 2016, psychological problems were the sixth most common condition providers saw. In the 2016 Community Survey, 14% of households with children reported having a child diagnosed with mental health problems. 2016 “First Look” attendees noted mental health issues as a concern for the community. This trend is substantiated with the inpatient hospitalization data where depression disorder and major depressive disorder, - are in the top ten diagnoses for those under the age of 18. In the community survey, 52% reported having poor mental health days in the past 30 days compared to only 27% in 2013. Thirty-three percent of the survey respondents reported missing work due to physical and/or mental health issues.

Recommendations

- Facilitate referrals to local mental health providers and/or associations for patients with dual diagnoses.
- Increase patient and family education about mental health issues.
- Create more immediate mental health services for patients with behavioral health diagnoses when discharged from acute care settings.

Data indicate that many people in RHP 4 lack health literacy

Issue

Health literacy can take several forms. Respondents in the Provider Survey, for example, noted that people lack an understanding of their bodies and that behavioral compliance was a problem. “First Look” attendees noted that people need education about their health care needs and available resources. Health care professionals noted that behavioral compliance may be an issue because patients of their inability to meet basic needs, like having affordable housing and food security.

Health literacy also refers to a lack of understanding about the payment system and how to get access to health care and community resources. The situation is further exacerbated by the differences in providers and the community perceptions about health care issues.

Recommendations

- Increase efforts to present hospital discharge information and follow-up information in easily understood language.
- Increase efforts to provide health educational materials and programs in easily understood language.
- Utilize patient navigators, community health workers and continuum of care processes.
- Expand organizational websites to link to sources of information about health, disease, events and resources.
- Create multi-media campaigns about the Affordable Care Act for RHP 4 residents.

Data indicate that respiratory conditions are a problem in the RHP4

Issue

The 2016 community survey respondents identify allergies and asthma as the most common illness in the past 12 months. In the survey, 39% of households with children report a previous asthma diagnosis: 68% still have it. Respiratory issues are in the top primary diagnoses for all In-patient and Emergency Department data. Respiratory issues are among the top of the list of primary diagnoses for children. Providers noted that allergies and chronic sinusitis are the fifth most common condition providers saw.

Recommendations

- Create collaborations to improve the condition of adults and children with asthma and other respiratory conditions.
- Evaluate the factors that contribute to asthma (e.g., air quality, individual genetics, living conditions, individual anxiety) and how the situations could be improved.

Data indicate that there are women's health issues in our community

Issue

The health of women and men of all ages is important. Because some diseases are gender specific and females give birth, the health of women becomes important for the community in a different way than for men. The data indicate that many women do not regularly receive mammograms and pap smears. The lack of screening can lead to more serious conditions if there are no early interventions. Also, the data revealed among all live births, 7.7% of newborns weighed less than 2,300 grams.

Recommendations

- Increase women's health literacy.
- Increase the number of culturally sensitive education programs about women's health issues (e.g., breast cancer, prenatal care, reproductive health).
- Provide supportive measures to increase utilization of preventative screenings.

Continued collaboration among health care and social service providers is important for the RHP 4.

Issue

"First Look" respondents noted that continued collaboration among health care and social service providers is important. With the Affordable Care Act requirements, there are economic incentives to collaborate. The Affordable Care Act's Readmissions Reduction Program will reduce Medicare payments to hospitals with excessive readmissions (within 30 days) for the following conditions: Acute Myocardial Infarction; Heart Failure; Pneumonia; Chronic Obstructive Pulmonary Disease; and Total Hip/Total Knee Arthroplasty. If a patient is discharged from one hospital and readmitted to another, Medicare will reduce payment to the hospital with the readmission. The continuum of care model expands to include all hospitals and health care providers in a region. The ultimate goal is to keep the community as healthy as possible through prevention, screening, and monitoring chronic conditions.

Recommendations

- Continue to support the website: www.coastalbendhealthfinder.org as a resource for the entire community. Updates and increases in the amount of information available is an asset for the community.
- Each hospital should make the 2016 RHP 4 Health Needs Assessment available on their website per IRS regulations.
- Hospital systems should standardize data collection methodology (e.g. race versus race and ethnicity questions at admission).

Coastal Bend Counties

Aransas	Gonzalez	Lavaca
Bee	Jackson	Live Oak
Brooks	Jim Wells	Nueces
DeWitt	Karnes	Refugio
Duvall	Kenedy	San Patricio
Goliad	Kleberg	Victoria

Introduction: Background and Purpose

The purpose of needs assessment in health care is to gather information required to produce beneficial change to the population's overall health (Rossi and Freeman, 1982). The health care system is multifaceted, with different segments of the system focusing on different needs of the community. Thus, a health needs assessment should incorporate data from multiple perspectives. The data from these multiple vantage points can be compared and contrasted. This opportunity to compare/contrast information, potentially leading to refining/reconceptualization of a problem or an effective intervention, as well as potentially resulting in reassessment of protocols or innovations that can have a positive impact on a community's overall health.

The recent passage of the Patient Protection and Affordable Care Act requires tax exempt hospital systems to conduct health needs assessments and develop community benefit plans every three years. Once the community is identified, a written Community Health Needs Report should be available to everyone in that community. Fortunately for our community, the region's health systems (for-profit and not-for-profit) joined forces to create a task force charged with overseeing the health needs assessment process in 2010, 2013 and now 2016.

Recently, the Robert Wood Johnson Foundation and University of Wisconsin Population Health Institute presented the *2016 County Health Rankings and Roadmaps*. Using a variety of county-level state and national data sources, the rankings are compiled for every state across the United States. The model used to assess and ultimately rank each county is based on 35 individual measures grouped into two broad categories:

Overall Health Outcomes and Overall Health Factors. Morbidity (ill health) and mortality (death) comprise the composite Overall Health Outcomes score. The Overall Health Factors measure is derived from individual measures capturing health behaviors, clinical care, social and economic factors, and the physical environment in each county. The rankings allow a state to compare its counties in terms of overall health and factors that influence health. The purpose of the project was to get a standard way to measure how healthy a county is and see where it can improve. Those counties having high ranks (e.g. 1 or 2) are estimated to be the “healthiest.”

Coastal Bend counties are not ranked highly. On most indicators, the Coastal Bend counties are ranked in the middle to bottom range. For comparison purposes, each county in the Coastal Bend was given a “report card” based on the *2016 County Health Rankings* as detailed in the Appendix A. Table 1 compares the overall County Health Rankings of the Coastal Bend counties for 2010, 2013, and 2016.

Table 1. Comparison of 2010, 2013 and 2016 Coastal Bend County Health Outcomes Rankings.

County	2010 Overall Rank (of 221)	2013 Overall Rank (of 231)	2016 Overall Rank (of 241)
Aransas	186	204	231
Bee	77	109	119
Brooks	104	229	241
DeWitt	15	85	48
Duval	191	176	238
Goliad	33	7	130
Gonzalez*	NA	146	171
Jackson	93	95	60
Jim Hogg*	158	139	NA
Jim Wells	193	197	237
Karnes	44	52	220
Kenedy	NR	NR	NR
Kleberg	99	39	132
Lavaca	14	18	58
Live Oak	47	87	115
McMullen*	NR	NR	NA
Nueces	113	107	122
Refugio	64	130	161
San Patricio	98	102	133
Victoria	82	88	90

Note: Missing values are common for individual measures. Not all counties, especially smaller counties, compile data on each of the approximately 30 measures used to calculate the ranking score, or they have sample sizes

simply too small for any meaningful comparison. PHI substitutes the state average for missing values in the calculation of rankings, an accepted technique for treatment of missing data.

*In 2012, the counties for Public Health Region 4 shifted. Gonzalez county was added to the region while Jim Hogg and McMullen were shifted to other PHRs.

In terms of 2016 Overall Health Outcomes, Coastal Bend counties' rankings ranged from a high of 48 (DeWitt) to a low of 238 (Brooks) out of 241 counties. In 2016, the Overall Health Outcome mean rank was 147.41, an increase from 2013 (109.65). With the exceptions of DeWitt and Karnes counties, Coastal Bend counties have lower ranks than in 2013. On Overall Health Factors, Coastal Bend counties' ranks ranged from 25 (LaVaca) to 238 (Brooks) out of 241 with a mean rank of 133.70, a slight increase from 2013 (122.29). These lower ranks suggest that the Coastal Bend counties need to improve health outcomes by addressing all health factors with evidence-based practices and policies.

The 2016 Coastal Bend Health Needs Assessment involved hospitalized and emergency department patients' information, the health care and social service providers' (survey, targeted interviews and "First Look" discussions) and the views of the community at large (on-line and community surveys). That is, this project used a mixed methods design to assess the community's health needs. Detailed information about the methodology is discussed in next section of this report. The data analysis - provides the community information to help prioritize their health care needs and develop strategies on how best to meet those needs.

Methodology

The data for the project came from the following sources:

- Survey of residents in the 18 counties of the Coastal Bend using convenience sampling
- In-patient and Emergency Department data from CHRISTUS Spohn Health System, Citizens Medical Center, Corpus Christi Medical Center, De Tar Health System, and Driscoll Health System
- On-line survey of health care and social service providers
- Targeted interviews with health care and social service providers
- In-patient and Emergency Department data from CHRISTUS Spohn Health System, Citizens Medical Center, Corpus Christi Medical Center, De Tar Health System, and Driscoll Health System
- Health care and social service provider community feedback to the “First Look” of the data collected

Community Survey Methodology

For the purposes of this project, a community survey of residents in the 18 county area was necessary to establish what residents considered were the health care utilization and needs. With the proliferation of mobile devices, telephone survey response rates have been in decline since 1997 (Duggan et al., 2015), and older individuals are more likely to complete surveys than are younger respondents (Witt & Best, 2008).

Additionally, recent research conducted at the Pew Research Center (Duggan et al, 2015) suggests that the omnipresence of sites such as Facebook and technology in today’s society provides for a strong representative response across all socio-economic demographics found in the U.S. population. Given this information and research, the researchers for this project employed a convenience sampling strategy using a quota determined by the percentage a particular county’s population of the Region 4 total population.

Recruitment

Two approaches were utilized in recruiting respondents to the community survey, person-to-person and on-line.

- **Person-to-person** survey recruitment was conducted by the researcher and one to three research assistants attending targeted events in the larger counties within the region during the months of October and November of 2015. Events chosen were expected to be frequented by adults who reside

within Region 4 and who had school-age children. At such events, an information table was established near an entrance to the event and adult participants were asked if they would like to complete one survey per household. The participants completed the survey on their own and were asked to return the completed survey prior to leaving the event. Completed survey responses were entered into the data management system by research assistants.

- **On-line** survey recruitment was conducted using the social media platform, Facebook, various coalition members' web pages and the CoastalBendHealthcareFinder.com web site. Utilizing the Facebook advertising function, residents in each of the RHP Region 4 counties were targeted on a weekly basis from January 20th 2016 through March 15th 2016 with an advertising message and a link to the survey instrument. Respondents were taken immediately to the survey and entered their responses unassisted. Counties were removed from the targeting mechanism as they met their population quota in the total response count. Measures were taken in the survey software program to not allow multiple responses from one ISP address.

In both recruitment processes, respondents were informed that their responses were anonymous and no information was reported to the researchers that would provide any means of individual identification to the researchers.

The Survey Instrument

Both in-person and on-line survey instruments were the same, with approximately 50 mostly closed-ended questions. The instrument was comprised of six sections. (See survey instrument attached in the Appendix).

- **Introduction.** To ensure that the respondent was a resident of one of the targeted Coastal Bend counties, the introductory section asked the respondents where their residence was located.
- **Health Status.** Comprised of three questions, this section asked respondents about their general health status, including mental health.
- **Health Care Access.** The third section consisted of 24 questions inquiring about the respondent's ability to seek health care when needed and the types of healthcare needed. It also included questions about the ability to pay for drug prescriptions and how long it had been since the last check-up.

- **Children's Health Status.** The fifth section of the survey was designed for those who had children under the age of 18 living with them. Questions in this section asked about whether children had health insurance and physical and/or mental health issues.
- **Background Information.** The last section of the survey instrument asked respondents basic demographic information such as sex, age, race/ethnicity, education, marital status, employment status, height, weight, and annual income.

Sample and Weighting

After four months of data gathering, there were 604 valid responses from the counties in RHP4. To achieve a proximal similarity to the region's population, sample weights were created to reflect each county population as a percentage of the region total population. This resulted in a statistically weighted sample of 501. Such reweighting of samples is known to help account for various means of bias in sampling procedures (Miller & Kobayashi, 2000). Table 2 presents the quota and number of valid responses collected by county for RHP Region 4.

Table 2. 2016 Texas RHP Region 4 Health Needs Assessment Proximal Similarity Quota and Sampling Strategy.

County	Population*	% of 18 County Area	Convenience Sample Quota (501)	Surveys Collected
Aransas	23,158	3%	15	16
Bee	31,861	4%	21	20
Brooks	7,223	1%	5	5
DeWitt	20,097	3%	13	14
Duvall	11,782	2%	8	8
Goliad	7,210	1%	5	6
Gonzales	19,807	3%	13	14
Jackson	14,074	2%	9	10
Jim Wells	40,838	5%	27	33
Karnes	14,824	2%	10	8
Kenedy	416	0%	1**	3
Kleberg	32,061	4%	21	28
Lavaca	19,263	3%	13	14
Live Oak	11,531	2%	8	13

Nueces	340,223	45%	226	293
Refugio	7,383	1%	5	7
San Patricio	64,804	9%	43	60
Victoria	86,793	12%	58	52
TOTAL	753,348	100%	501	604

*Source: Data derived from U.S. Census Bureau, State & County QuickFacts Population Estimates for 2010. Available at: <http://quickfacts.census.gov/qfd/states/48000.html>.

**Population warranted no respondents in the calls in weighted distribution.

While there may be considerable uncertainty as to the extent to which socio-economic correlates of health reflect causal chains and their implications for policy, there is nearly unanimous agreement that age, gender, ethnicity, race, educational attainment, annual income, marital status, and participation in the labor force are all critical predictors of one's perceived or actual health status (Fuchs, 2004). However, due to the number of questions that ask about household information, demographics that are applicable to the entire household will be considered as applicable in weighting this response set.

Additionally, due to the many issues that can be associated with one's urban or rural residential status (see the National Rural Health Association at <http://www.ruralhealthweb.org/>), for some analyses, the county data was dichotomized into urban and rural categories using criteria established by United States Department of Agriculture Economic Services. Using this data, approximately 70 percent of the region's population lives in counties that are classified as urban areas. The two primary urban counties are Nueces County, which accounts for 46% of the region's population and Victoria County which accounts for nearly 12% of the region's population. Because of their proximity to urban areas, four other counties, Aransas, Goliad, Refugio, and San Patricio are also considered urban.

Table 3 below shows key household demographic data gathered by the survey and compares it to available census data.

Table 3. 2016 Demographics of RHP Region 4 and Survey Response Households

Home Owner		
	Survey	Census*
Yes	60.5%	66.0 %
Marital Status		

Married	51.17%	49.30%
Participation in the		
Member of Home in Labor force		50.90%
Percent of Households with Children		
At Least One Child Under 18		40.40%
Annual Income		
\$50,000 or more	49.30%	57.30%
Rural/Urban Household		
Urban Households		70.02%

*Source: Data derived from U.S. Census Bureau, State & County QuickFacts Population Estimates for 2010. Available at: <http://quickfacts.census.gov/qfd/states/48000.html>.

For the purposes of this research a variance of more than +/- 10% for any one attribute of a critical variable from that of the population parameters will be considered significant. Due to the fact that there is no significant variation from population parameters the only weighting done in this assessment is that to assure that each response is proportionally weighted to its county's population.

Health Care and Social Service Provider Survey

To complement the Coastal Bend hospital systems' data, community telephone survey, the health region's health care and social service providers were asked to complete a brief on-line survey. The questionnaire was posted at a Survey Monkey website and consisted of 11 mostly close-ended questions developed by members of the 2014-2016 Coastal Bend Health Needs Steering Committee.

- **Introduction.** The introductory section explained the purpose of the survey and that the responses would be kept confidential.
- **Location.** In addition to asking respondents to identify the county in which they worked, they were also asked to describe their work setting (urban/rural; for-profit/not for profit) and role in the organization.
- **Health Care Access.** The third section consisted of questions inquiring about the respondent's accomplishments and challenges as a health care or social service provider. It also asked about what he/she saw as barriers to health and most frequent diseases or conditions for his/her patients/clients.

Each hospital system sent a message and link to its medical staff internally. In addition, each hospital system posted flyers with the survey link. Other Coastal Bend Health Needs Task Force Committee Members sent the link directly to their resource lists. In

addition, a website link was sent to members of the Nueces County Medical Association. Despite all efforts, 80 people responded. It is not unusual to have low response rates from providers as time and survey burden are difficult barriers to overcome (Cunningham, et al., 2015). Because of the small number of responses, the data presented from the Health Care and Social Service Provider Survey should not be interpreted as representative of the general health care community.

Basic Description of Provider Respondents

A total of 86 individuals completed the provider survey. Of the 86 respondents, 59 reported they worked in Victoria and 15 either conducted their work or were based in Nueces county. One worked in Dewitt, two more worked in Lavaca, and the remaining nine respondents did not answer this specific question. Nearly 32% indicated most of their work took place in urban areas, 13.2% said most of their work took place in rural communities, and 55.3% indicated they worked in both rural and urban areas. About half of the respondents indicated they worked in the private sector. Physicians comprised 61.8% of the sample, five nurses made up 6.6% of the sample. More than 20% self-identified as a healthcare professional who was neither a doctor nor a nurse, and more than 10% of the respondents indicated that they worked for either a healthcare agency or a social service agency related to health care. Additionally, outreach was conducted to interview physicians, directors of agencies, nurses, other licensed health care professionals. Five individuals agreed to be interviewed--two health care professionals and three individuals affiliated with health-care related organizations; they were administered the provider survey and asked to elaborate on their responses, particularly when their responses were preceded by a reaction, whether it was a long pause, a request for clarification, or a wish to provide nuance.

Coastal Bend Health Systems Hospitalization Data

In-patient and emergency department data from CHRISTUS Spohn Health System, Citizens Medical Center, Corpus Christi Medical Center, DeTar Health System, and Driscoll Health System were combined to determine the patterns of health care utilization and prevalence of disease among the five hospital systems' patients. The data did not have any information identifying patients, so some of the cases may be repeat patients.

The five excel files with in-patient data contained the following information: home zip code, patient's home county, discharge date, patient's age, patient's gender, patient's race/ethnicity, discharge disposition, DRG, DRG description, principal diagnosis code, principal diagnosis description, secondary diagnosis code, secondary diagnosis description, financial class, primary insurance, and patient's employment status.

Similarly, the five excel files with the emergency department data contained the same information listed above with the addition of CPT codes and level descriptions.

The in-patient and emergency department data excel files were combined into two distinct files and analyzed using the Statistical Package for the Social Sciences. Some variables were transformed to increase the comparability of the data. To simplify the analysis, the response categories for age, race, financial class, and employment status were reorganized into a smaller number of categories.

Variables indicating the most common principal and secondary diagnoses were created. In addition, certain diseases were examined by age and gender to determine if certain subgroups are more likely to have particular diseases/conditions than were others.

For the 18 counties in the Coastal Bend area, data from the five area hospital systems, CHRISTUS Spohn Health System, Citizens Medical Center, Corpus Christi Medical Center, DeTar Health System and Driscoll Health System, are combined and form the basis of this analysis. Overall, the data represent 291,917 patient hospitalizations from September 1, 2013 through August 31, 2015. The following section serves as an introduction to the background of Coastal Bend patients and the conditions that brought them to the hospitals.

Basic Description of Hospitalized Patients

Overall, the majority of cases were from the CHRISTUS Spohn Hospital System (45.5%) followed by the Corpus Christi Medical Center and Citizens Medical Center as shown in Table 4. With its targeted child population, Driscoll Health System comprised 4.3% of the total. Patients from Nueces County comprised 47.2% of the group.

Table 4. Frequency Distribution of In-Patient Hospitalizations by Coastal Bend Hospital Systems.

Location		
Health System	Frequency	Percent
CHRISTUS Spohn Health System	132,398	45.4
Citizen's Medical Center	35,446	12.1
Corpus Christi Medical Center	55,769	19.1
DeTar Health System	55,376	19.0
Driscoll Children's Hospital	12,928	4.4
Total	291,917	100

The majority of patient visits were female (58.1%). Patients' ages ranged from 0 to 110 with a mean patient age of 48.66 years. For Driscoll Children's Hospital, patients' mean age was 6.36 years. The mean age for Citizens Medical Center was 54.20. For Corpus Christi Medical Center, patients' mean age was 48.18 years. CHRISTUS Spohn Health System patients' mean age was 50.26 years.

The majority of patients self-identified as Hispanic (32.3%) and White (36.3%). A substantial proportion of patients, however, did not have an ethnicity or race indicated. This is due partially to the fact that in February 2012, the CHRISTUS Spohn Health System adopted the U.S. Census Bureau's two-part methodology of distinguishing ethnicity from race. The other systems in the region ask patients for their race, and many do not indicate either race or ethnicity. It was not possible to merge in a meaningful way the ethnicity/race data from the five health care systems due to this difference in data collection.

According to the 2010 U.S. Census, the population for this health region is 82% White, 4% African American, 1% Asian, and 12% Other. Of these, ethnically, 56% are Hispanic.

Financial Class and Employment Status

Financial class refers to how a patient paid for the hospital services received. Table 5 shows the relationship between financial class and patient's age. The largest source of payments for services came from Medicare; 40.3% of patients relied on Medicare to pay for their medical bills. Private insurance and Managed Care (including PPOs and HMOs) accounted for 24.8%, up from 2013 by 2.1%.

Those patients aged 18-64, who are in the "productive years" associated with employment were more likely to use private health insurance than were other age groups. For those patients less than 4 years of age, payments were most likely to be from Medicaid (68.2%), Managed Care (12.5%), or private insurance (15.8%), similar to the statistics for 2013. Patients 65 years or older overwhelmingly paid for hospital services through the Medicare program (92.9%).

Table 5. Crosstabulation of Financial Class by Age Groups.

FINANCIAL CLASS by RECODE OF AGE								
		RECODE OF AGE						Total
		0 thru 4	5 thru 17	18 thru 49	50 thru 64	65 thru 84	85+	
Unknown		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1
								0.0%
Charity, Self - Pay, Other		3.0%	4.3%	17.1%	11.7%	1.6%	1.7%	26,296
								9.0%
Federal/State Program		0.2%	2.6%	2.1%	1.6%	0.3%	0.3%	3,783
								1.3%
Managed Care		12.5%	12.9%	17.6%	19.6%	2.4%	0.3%	35,378
								12.1%
Medicaid		68.2%	62.0%	36.5%	17.8%	0.4%	0.1%	71,712
								24.6%
Medicare		0.2%	0.6%	8.4%	30.7%	92.9%	97.0%	117,713
								40.3%
Private Traditional		15.8%	17.7%	18.2%	18.6%	2.4%	0.6%	36,950
								12.7%
Total	Count	24,295	15,153	95,087	59,961	77,109	20,228	291833
	Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Chi-square =210508.587^a; d.f.=30; p=.0001

Financial class refers to how a patient paid for the hospital services received. Table 6 shows the relationship between financial class and patient's employment status. The largest source of payments for services came from Medicare; 40.3% of patients relied on Medicare to pay for their medical bills. Private insurance and Managed Care (including PPOs and HMOs) accounted for 24.8% of the payment methods used by patients, while Medicaid/ Medicaid HMO comprised 24.6%.

Those patients who identified as "employed full time" were more likely to use private health insurance (33.7%) and managed care (30.7%) than were other employment status groups. Retired and disabled patients overwhelmingly paid for hospital services through the Medicare program (90.2% and 73.1%, respectively). For patients identified as children, payments were most likely to be made from Medicaid (67.4%), private insurance (19.1%), or Managed Care (11.0%).

Table 6. Crosstabulation of Financial Class by Employment Status.

	Em- ployed FT	Em- ployed PT	Unemplo yed	Self-Em- ployed	Retired	Military	Unknown	Disabled	Child	Total
Charity, Self Pay, Other	23.4%	15.9%	21.7%	28.8%	3.2%	20.0%	7.9%	3.0%	1.8%	26337 9.0%
Federal/ State Program	1.2%	0.7%	3.0%	1.4%	0.9%	60.0%	1.2%	0.7%	0.7%	3783 1.3%
Managed Care	30.7%	17.3%	10.6%	16.2%	3.3%	10.0%	11.9%	3.1%	11.0%	35378 12.1%
Medicaid	6.5%	7.3%	30.4%	4.1%	0.3%	0.0%	26.6%	15.9%	67.4%	71712 24.6%
Medicare	4.4%	36.2%	20.6%	25.2%	90.2%	10.0%	40.2%	73.1%	0.0%	11775 7 40.3%
Private Tradition al	33.7%	22.6%	13.7%	24.3%	2.1%	0.0%	12.2%	4.2%	19.1%	36950 12.7%
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	291917 100%

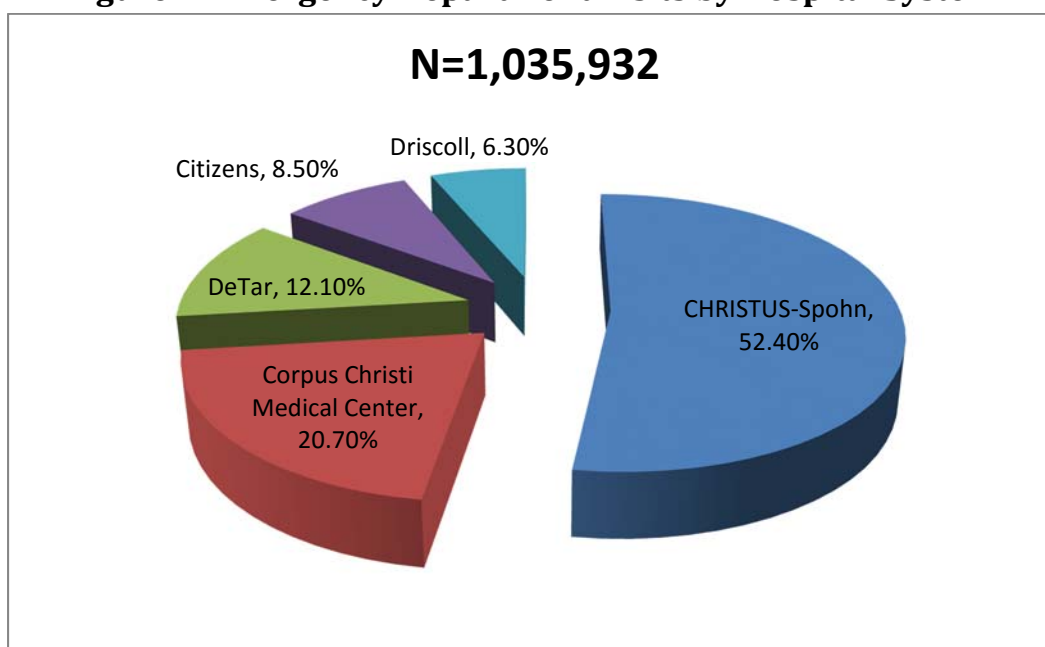
Chi-square = 43555.948; d.f.=40; p=.0001

Coastal Bend Emergency Department Utilization Data

The health needs task force committee decided to incorporate data from the emergency departments from all hospital systems in 2013, and the practice continued in 2016. The data did not have any personal identifiers and includes the following variables: home zip code, patient's home county, date of service, patient's age, gender, race, discharge disposition, CPT code, level description, principal diagnostic code, principal diagnostic description, secondary diagnostic code, secondary diagnostic description, financial class, primary insurance, and patient employment status.

Description of Emergency Department Patients

The majority of emergency department patients are from the CHRISTUS Spohn Health System (52.4%) as shown in Figure 1. Just over 20% are from the Corpus Christi Medical Center, 12.1% are from DeTar, 8.5% are from Citizens Medical Center with the remaining 6.3% from Driscoll Children's Hospital.

Figure 1. Emergency Department Visits by Hospital System.

As expected, 45.6% of cases in the emergency department (ED) were deemed moderate severity or less as shown in Table 7. “High/urgent severity” and “high/urgent severity and threats to functionality” comprised 38% of the ED patients. Cases coded ER visit or low-to-moderate severity cases would typically be considered unnecessary ED visits which could or should have been seen in a primary or urgent care setting.

Table 7. Top CPT Codes for Emergency Department Data.

CPT Code	CPT	Frequency	Percent
99281	ER visit*	21,039	2.5
99282	Low/moderate severity	77,222	9.1
99283	Moderate severity	352,021	34.0
99284	High/urgent severity	242,814	23.4
99285	High/urgent severity and threat func	151,027	14.6
Total		844,123	81.5
All Other Codes**		191,809	18.5
TOTAL		1,035,932	100.0

*ER visit represents a patient who presented a minor condition. **Other represents all other codes.

Demographic Information about Emergency Department Patients.

The majority of patient visits were female (55.9%). Patients' ages ranged from 0 to 112 with a mean patient age of 38.39 years. Forty-two percent of the ED patients identified as Hispanic. A large proportion of patients, however, did not have an ethnicity or race indicated. This is due to the fact that in February, 2012, the CHRISTUS Spohn Health System adopted the U.S. Census Bureau's two-part methodology of distinguishing ethnicity from race. The other systems in the region ask patients for their race and many patients did not identify their race nor their ethnicity. It was not possible to merge the ethnicity/race data from the five health care systems due to this difference in data collection.

Emergency Department Patient's Financial Class.

Overall, the majority of those who use the emergency department have some form of health insurance as shown in Table 5. Those who are in the charity or self-pay category, however, are more likely to use the ED for an ER visit (99281) than other groups.

As expected, those over the age of 65 use Medicare for payment over other methods of payment for Emergency Department services as shown in Table 8. Children under the age of 4 (74.1%) and those aged 5-17 years (60.5%) most often fall into the Medicaid payment category for the emergency department. Surprisingly, 43.5% of young adults aged 18-49 and 22.0% of older adults aged 50-65 were most often categorized as charity, self-pay or other.

Table 8. Crosstabulation of Financial Class of ED Patients by Age Groups.

FINANCIAL CLASS	AGE GROUP						Total
	0 thru 4	5 thru 17	18 thru 49	50 thru 64	65 thru 84	85+	
Charity, Self-Pay, Other							280,458
	8.0%	13.1%	43.5%	22.0%	1.7%	0.5%	27.1%
Federal/State Program							6,328
	0.6%	1.6%	0.4%	0.6%	0.4%	0.2%	0.6%
Managed Care							113,525
	7.4%	11.1%	13.2%	14.7%	2.0%	0.4%	11.0%
Medicaid							291,576
	74.1%	60.5%	23.7%	22.6%	0.5%	0.2%	28.1%
Medicare							224,778
	0.1%	0.1%	6.2%	25.0%	92.9%	98.0%	21.7%
Private Traditional							119,180
	9.8%	13.6%	13.0%	15.1%	2.5%	0.7%	11.5%

Total	Count	81657	119258	499446	175822	128587	31075	1,035,845
	Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-square = 783373.954; d.f. = 25; p=.0001

Table 9. Crosstabulation of Age Groups by Top CPT Codes.

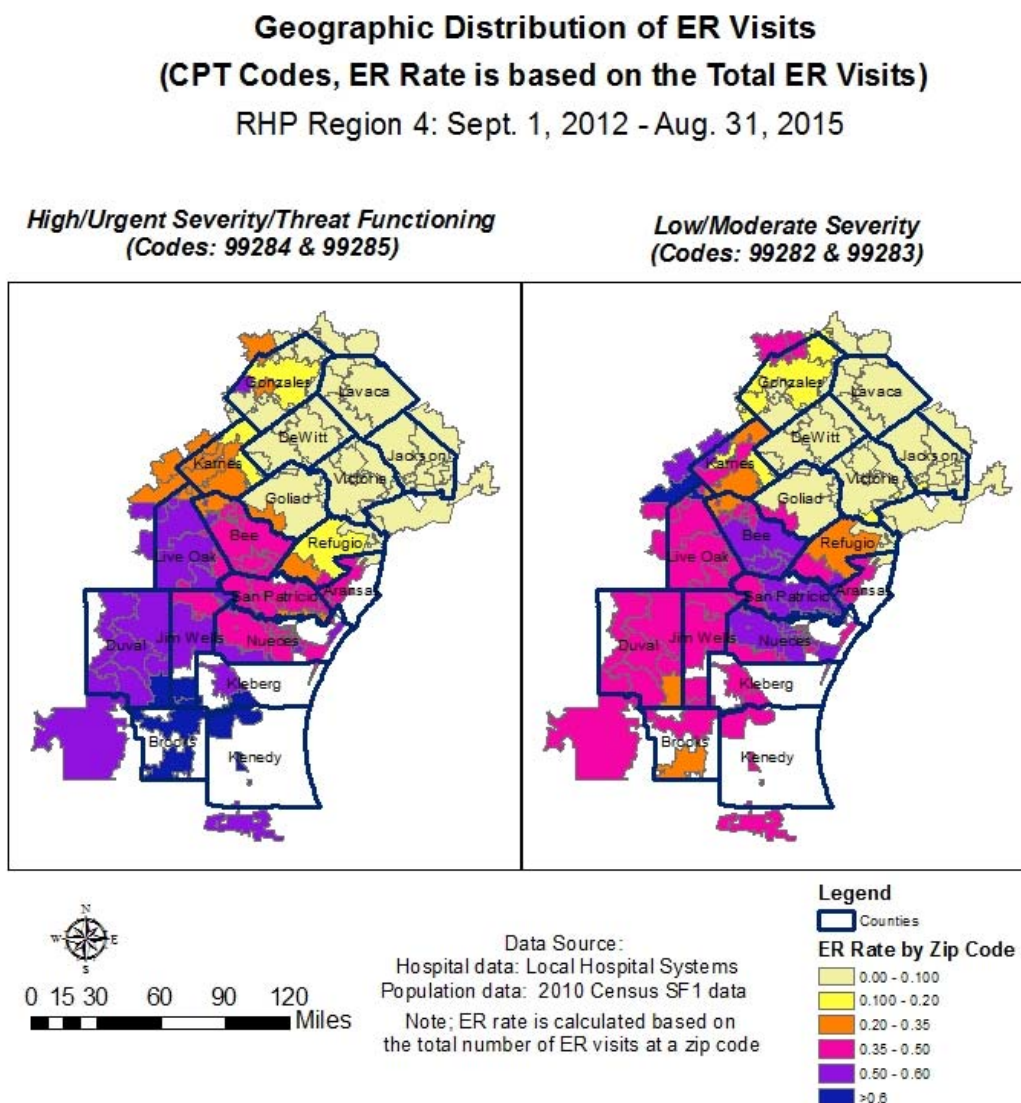
TOP CPT CODES		AGE GROUP						Total
		0 thru 4	5 thru 17	18 thru 49	50 thru 64	65 thru 84	85+	
99281-ER Visit*	Count							21,038
		6.1%	4.1%	2.4%	1.6%	0.7%	0.4%	2.5%
99282-Low/moderate severity	Count							77,221
		18.2%	14.0%	9.6%	5.8%	3.5%	2.1%	9.1%
99283-Moderate severity	Count							352,018
		60.1%	58.2%	42.4%	35.2%	26.4%	19.9%	41.7%
99284-High/urgent severity	Count							242,812
		13.4%	19.7%	32.7%	29.2%	29.6%	29.9%	28.8%
99285-High/urgent severity and threat functioning	Count							151,027
		2.2%	4.0%	12.8%	28.2%	39.8%	47.7%	17.9%
Total	Count	64,489	91,012	418,571	145,373	101,297	23,374	844,116
	Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Chi-Square =124757.209; d.f.= 20; p = .0001

Table 9 shows the level of severity for the emergency department visit by age group. Those aged 65 and older are more likely to visit the ED than are those under the age of 17.

As displayed in Figure 2, the urgent care and low/moderate severity emergency department visits vary by geographic region. Over 50% of the high urgent visits are in the southern counties of the region. The low severity visits are more concentrated in Nueces County

Figure 2. Geographic Distribution of ER Visits by Type of Visit.



“First Look” Feedback

In assessing the community’s health needs, input from persons representing the broad interests of the community, especially those with special knowledge and expertise in public health and social services was solicited. Two workshops called, “First Look,” were held on May 20 in Corpus Christi and June 3, 2016 in Victoria to discuss the preliminary results of the 2016 Coastal Bend Health Needs Assessment. Approximately 34 people from the community discussed the health needs assessment data in addition to their perceptions of the community’s major health issues. Prior to the presentation commencing participants were given a hand out with the following seven questions:

1. As a professional working in the healthcare system, can you please talk about anything in the presentation that took you by surprise or caught your attention?
2. Can you discuss how these findings either reflect or challenge your observations/experiences?
3. Was there anything that you were expecting to see but didn’t appear? What was it?
4. As a professional, working with clients and patients, what do you perceive to be the greatest needs in your communities?
5. Do you have any recommendations regarding how we can improve either the delivery of healthcare services or access to healthcare services?
6. What do you think your community is doing well?
7. Is there anything else you want to add?

Participants at the First Look workshops asked questions and made comments both throughout and following the presentation. They were also provide time at the end of the presentation to write responses to the seven questions. There written responses were collected and transcribed. . The 2016 Coastal Bend Health Needs Report incorporates the feedback received from the workshops.

How Healthy Are We?

County Health Rankings: Health Outcomes

The University of Wisconsin's Population Health Institute (PHI) developed an instrument that allows for a ranking of counties within states by Overall Health Outcomes of mortality (premature death) and morbidity (ill health). The Coastal Bend Health Region (4) ranks high on their scale; however, a high ranking is not a favorable ranking—the higher the ranking, the poorer the health outcomes. For the state of Texas, the county with the best overall health outcomes is ranked 1, the county with the poorest health outcomes is ranked 241. The rankings of Coastal Bend Counties' Health Outcomes ranged from 58 (Lavaca) to 237 (Jim Wells). Lavaca's ranking placed it in the top quarter of healthiest counties, while Jim Wells' ranking placed it within the bottom two percent of all the counties in the state of Texas.

As shown in Table 10, premature deaths in the Coastal Bend Health Region exceed the state's overall number by more than 2,000 premature deaths. Despite the high ranks for some of the Health Outcome indicators, the percentage of low birth weight deliveries (7.7%), however, is below the national and state median of 8.0%. The Coastal Bend counties are slightly above the national and state for the percentage reporting overall poor or fair health. The Coastal Bend counties are slightly above the national and state averages for the number of reported poor physical and mental health days.

Table 10. Comparison of Health Outcomes for U.S., Texas and the Coastal Bend Counties.

	Description	Number of Coastal Bend Counties Included in Category	2016 US Median	2016 Texas Overall	2016 Coastal Bend Counties	2013 Coastal Bend Counties
Premature Death	Years of potential life lost before age 75 per 100,000	17	7,700	6,600	8,794.12	8,001.24
Poor or Fair Health	% adults reporting fair or poor health	18	16.0	20.0	22.9	15.57
Poor Physical Health Days	Average # of physically unhealthy	18	3.7	3.5	3.88	3.6

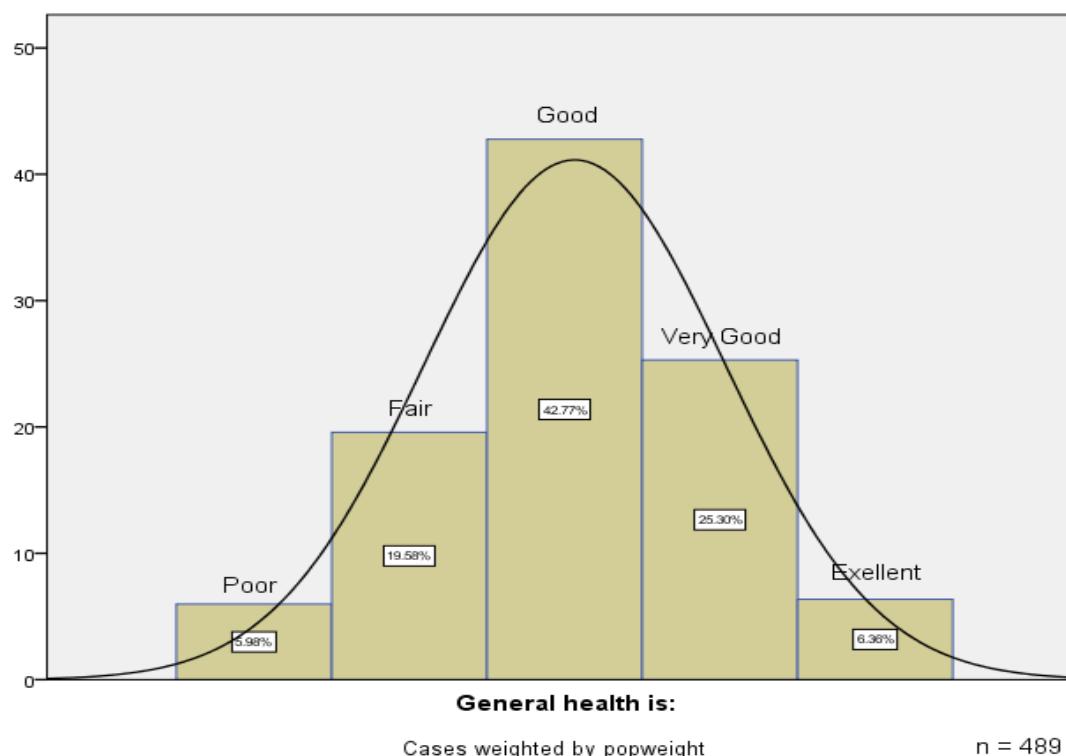
	days reported in past 30					
Poor Mental Health Days	Average # of mentally unhealthy days reported in past 30	18	3.7	3.0	3.24	2.9
Low Birth Weight	% of live births with weight <2500 grams	18	8.0	8.0%	7.7	8.8

Note: Missing values are common for individual measures. Not all counties, especially smaller counties, will compile data on each of over approximately 30 measures used to calculate the ranking score or will have sample sizes simply too small for any meaningful comparison. PHI substitutes the state average for missing values in the calculation of rankings, an accepted technique for treatment of missing data.

Community Survey Self-Reported Health Status

Nearly 75% of respondents to the Community Survey reported their general health status as good to excellent. While the number of individuals reporting a favorable general health status has remained the same as in past surveys, this year's data show a shift to a more normal distribution, with a larger percentage of respondents reporting a "good" to "very good" general health status and a lower percentage of respondents reporting an "excellent" or "poor" general health status. Lower levels of income (Chi square $p=.0001$) and education (Chi square $p=.015$) are strongly associated with the reporting of an unfavorable (Poor/Fair) general health status.

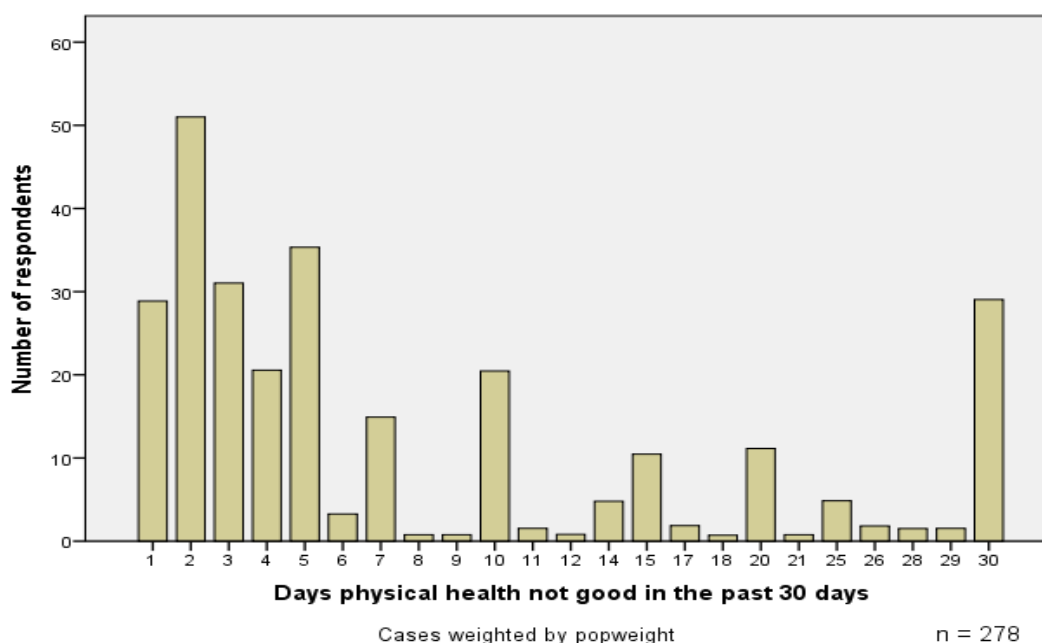
Figure 3. General Health Status as Self-Reported by Survey Respondents.



Physical and Mental Illness

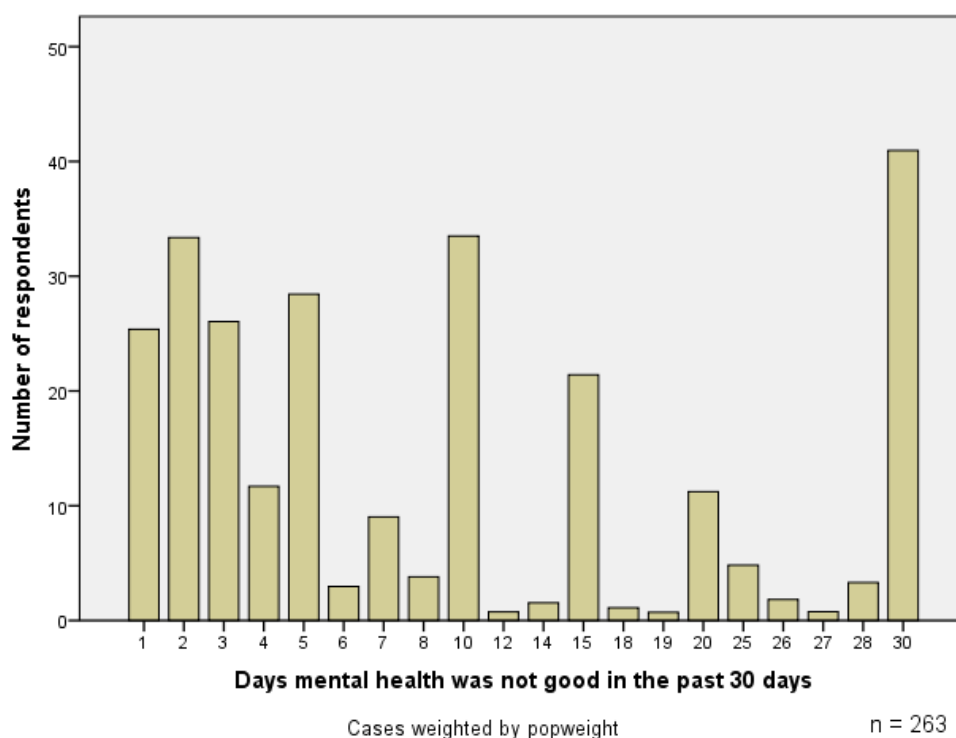
When asked about the number of days their physical health was not good in the past 30 days, 56% of the respondents to the Community Survey had at least one day of poor physical health as shown in Figure 4. This percentage is up considerably for the 2013 survey where only 38% of the respondents reported “poor physical health days”. All three measures of central tendency have dropped in this year’s data; in 2013 - the mean number of poor physical health days reported dropped from 13 days to 9 days in 2016. The median number of days dropped from 8 days to 5 days, and the mode dropped from 30 days to 2 days. Individuals whose highest level of education was 12th grade report a significantly higher average number of poor physical health days, nearly 12 days, than those with some college and higher levels of education, 8 days ($t=-2.158$; $p=.035$). Other demographic and socio-economic variables did not show a significant relationship.

Figure 4. Poor Physical Health Days Reported by Survey Respondents.
I Health Days Reported by Survey Respondents



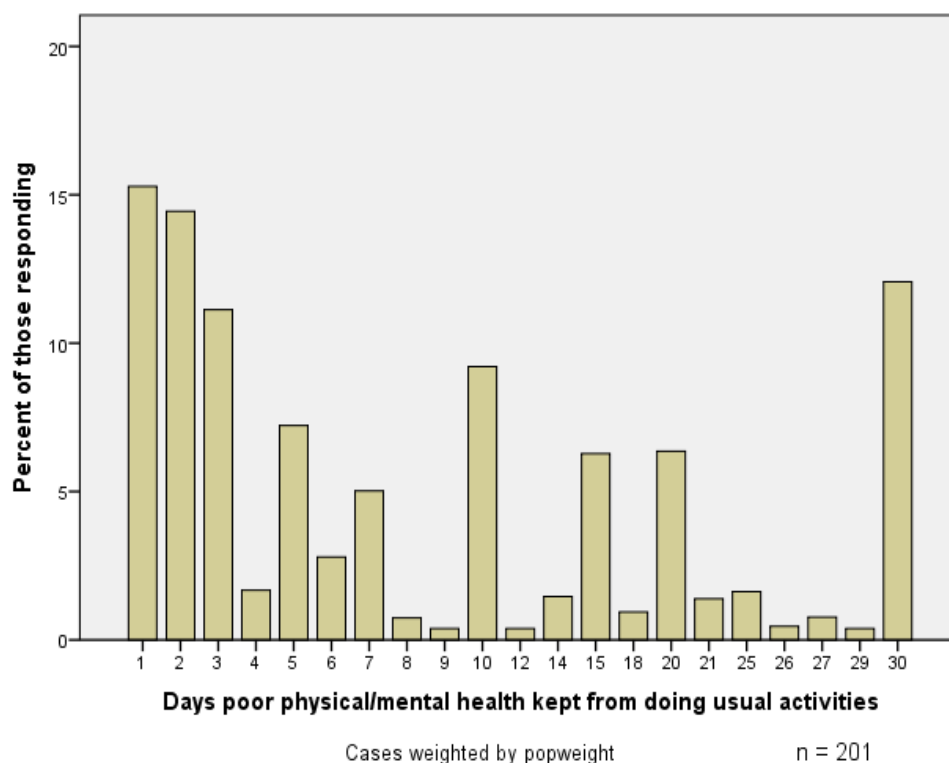
In the 2016 nearly the same percentage of respondents, 52%, reported poor mental health over the past 30 days (see Figure 5). This is up significantly from the 27% of respondents that reported poor mental health days in 2013. Additionally, in 2016 the mean increased significantly from 3 days in 2013 to 11 days in 2016, with the median increasing only slightly from 6 days to 7 days and the most common response being the same at 30 days. When looking at socio-economic and demographic variables, the respondent group with incomes below \$50,000 showed a significantly higher average number of poor mental health days than those with incomes of \$50,000 and above (12 days versus 7 days, $t=-3.951$; $p=.0001$). Additionally, the groups of respondents with a high school education or less had a significantly higher average of more poor mental health days than those with incomes of \$50,000 and above and some college education or higher (9 days versus 16 days, $t=-3.315$, $p=.0020$). Other demographic and socio-economic variables did not show a significant relationship.

Figure 5. Poor Mental Health Days Reported by Survey Respondents.



An important measure of the effect of that perceived poor and actual physical and mental health has on an individual is the number of days that these conditions keep the individual from doing usual activities such as employment. Figure 6 shows that 40% of the respondents claimed that poor physical/mental health kept them from doing usual activities at least 1 day in the past month with 10 days being the median number of days, 6 days being the mean number of days and 1 day being the most common response. These data are different from the 2013 survey in that the previous survey had 22% of respondents claim that poor physical/mental health kept them from doing usual activities at least 1 day in the past month. However, the mean, median, and mode were all higher with 17 days being the average number of days, 15 days being the median number of days and 30 days being the most common response. Therefore, while the self-reported incidence of poor physical/mental health seems to be rising, the effect on individuals' usual activities of these conditions seems to be reduced.

Figure 6. Days Poor Physical/Mental Health Affected Usual Activity.



The occurrence of a day missed due to poor physical and mental health is much more common among the lower educated, lower income respondents in our survey as is seen in Table 11.

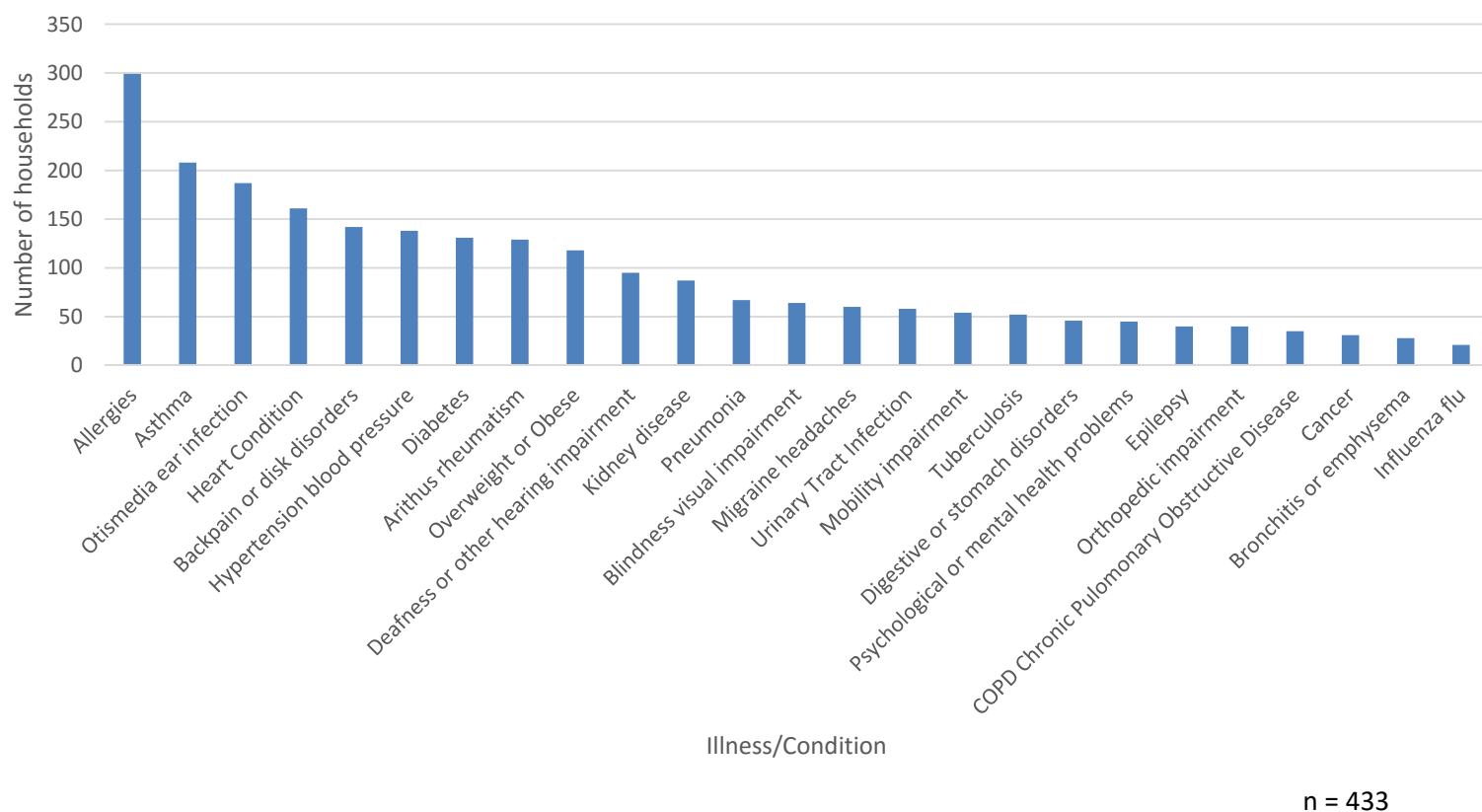
What is of interest in this table is that as both education and income increase the expected percentage of those affected by poor physical and mental health is above levels that are expected.

Table 11. Poor Physical/Mental Health Affected Usual Activity by Education and Income.

	Education Level			Total
Income	High school diploma or less	Some college	College degree or higher	
Less than \$25,000	57%	35%	26%	35%
\$25,000 to \$49,999	32%	38%	33%	32%
\$50,000 to \$99,999	11%	19%	26%	22%
\$100,000 +	0%	9%	15%	9%
Total	100%	100%	100%	159

Self-reported Prevalence of Common Illnesses

The Community Survey asked respondents to report the occurrence of 25 common illnesses within their household in the past 12 months. The illnesses were listed alphabetically, ranging from allergies to urinary tract infections. Figure 7 below lists all of the common illnesses and conditions which had a response in the order of most frequently occurring to the least frequent. When responding to this question, nearly 87% of the respondents reported at least one of these illnesses in their household with allergies being reported most frequently (299 households) and the flu being reported the least often (21 households).

Figure 7. Self-reported Prevalence of Common Illnesses/Conditions.

The Provider survey asked respondents to report which diseases/conditions they saw most frequently seen among their patients/clients. A total of 26 conditions/illnesses were listed. Table 12 below shows the top six most frequently observed conditions/illnesses.

Table 12. Most Frequent Diseases/Conditions Identified by Providers.

Most Frequent Diseases/Conditions Identified by Providers (n=67)	Frequency	Percent
Hypertension	29	33.7
Overweight or Obesity	29	33.7
Heart Conditions	27	31.4
Diabetes	26	30.2
Allergies	15	17.4
Psychological Problems	14	16.2

The most frequent diseases/conditions providers observed were hypertension, being overweight/obese, having heart conditions, diabetes, allergies, and psychological

problems. Hypertension, heart conditions, and allergies are among the most frequent conditions/illnesses listed for both the community survey and the provider survey. While diabetes and being overweight/obese wasn't among the top six conditions for the community survey, the percentage of community respondents who reported having those conditions/illnesses in their households is very similar to the rate at which providers reported observing those incidences. Providers report seeing psychological problems at a higher rate than community respondents but the difference is less than five percentage points. The condition where the greatest discrepancy exists between the surveys is the reporting of prevalence of allergies; this also is not a cause for concern, as household may be managing allergies with over-the-counter remedies.

Main Reasons for Adult Hospitalization and Emergency Department Usage

In general, the data support the fact that Coastal Bend residents suffer from many preventable conditions such as pneumonia and UTIs and are plagued with chronic conditions such as diabetes, kidney failure, and hypertension.

Hospital data provide another source of information about the health of a community. Table 13 illustrates the most common primary diagnoses for two years of hospital data (September 1, 2013 through August 31, 2015). Conditions related to birth top the list, but the list includes both chronic and acute conditions. Pneumonia, septicemia, and urinary tract infections are the most common infectious diseases. Acute kidney failure and heart related conditions represent more chronic conditions.

Table 14 presents the most common secondary diagnoses for two years. Many of the secondary diagnoses represent chronic conditions such as hypertension, diabetes, renal disease, and kidney failure. Pneumonia and urinary tract infection, however, continue to rank high among secondary diagnoses. Also of note is the diagnosis of suicidal ideation in the top ten list.

Table 13. Top Primary Diagnoses for Hospital Inpatient Data.

	Frequency	Percent	Valid Percent
Single live birth (V30.00)	8450	2.9	13.0
Pneumonia (486)	6206	2.1	9.6
Single live birth, cesarean (V30.01)	5116	1.8	7.9
Other specified rehabilitative procedure (V57.89)	5090	1.7	7.8
Septicemia, unspecified (38.9)	5051	1.7	7.8

Previous cesarean (654.21)	4991	1.7	7.7
Urinary tract infection (599)	4069	1.4	6.3
Acute kidney failure (584.9)	3934	1.3	6.1
Sub endocardial infarction (410.71)	3441	1.2	5.3
Cerebral artery occlusion (434.91)	3304	1.1	5.1
Normal delivery (650)	3242	1.1	5.0
Coronary atherosclerosis of native coronary artery	3190	1.1	4.9
Osteoarthritis, localized, lower leg (715.36)	3086	1.1	4.8
Atrial fibrillation (427.31)	2878	1.0	4.4
Obstructive chronic bronchitis with (acute) exacerbation (491.21)	2808	1.0	4.3
Top Codes Total	64856	22.2	100.0
All Other Codes	227061	77.8	
Total	291917	100.0	

Table 14. Top Secondary Diagnoses for Hospital Inpatient Data.

Name	Code	Count	Percent	Cumulative Percent
Delivery, single live born	V27.0	7426	2.5	27.7
Need for prophylactic vaccination and inoculation against viral hepatitis	V05.3	7137	2.4	30.1
Other disorders of urethra and urinary tract	599	6426	2.2	32.3
Acute kidney failure, unspecified	584.9	6377	2.2	34.5
Pneumonia, organism unspecified	486	6191	2.1	36.6
End stage renal disease	585.6	6100	2.1	38.7
Suicidal ideation	V62.84	5708	2.0	40.7
Diabetes mellitus	250	4375	1.5	42.2
Acute post hemorrhagic anemia	285.1	3261	1.1	43.3
Unspecified essential hypertension	401.9	3139	1.1	44.4

Inpatients aged 65 and older and the top diagnoses are reviewed as shown in Table 15. More chronic ailments are listed along with the previously identified preventable conditions (e.g. pneumonia and urinary tract infections).

Table 15. Top Primary Diagnoses for Hospital Inpatient Date for Adults aged 65 +.

	Frequency	Percent	Valid Percent
Other specified rehabilitative procedure (V57.89)	3766	3.9	14.6
Pneumonia (486)	3144	3.2	12.2
Septicemia, unspecified (38.9)	2682	2.8	10.4
Urinary tract infection (599)	2570	2.6	10.0
Acute kidney failure (584.9)	2279	2.3	8.9
Subendocardial infarction (410.71)	2060	2.1	8.0
Cerebral artery occlusion (434.91)	2013	2.1	7.8
Atrial fibrillation (427.31)	1963	2.0	7.6
Osteoarthritis, localized, lower leg (715.36)	1866	1.9	7.2
Obstructive chronic bronchitis with (acute) exacerbation (491.21)	1751	1.8	6.8
Coronary atherosclerosis of native coronary artery	1650	1.7	6.4
Top Codes Total	25744	26.4	100.0
All Other Codes	71593	73.6	
Total	97337	100.0	

By mapping the inpatient hospitalizations geographically, one discovers that hospitalizations vary by zip codes within counties. Figures 8 and 9, for example, show that two zip codes that have the highest inpatient visit ratios are 78104 (in Beeville) and 77976 (Victoria/DeWitt County border). In 78104, there are 959 IP visits, but the total population is 175. In 77976: there are 195 IP visits, but the total population is 126. These facts suggest that many inpatients, in these areas particularly and maybe overall, are repeat visitors.

For those aged 65 years and older, the rate of hospitalizations is highest in zip codes located in Victoria and Goliad counties with a few zip codes highlighted in Jim Wells, Jackson, and Nueces counties.

Figure 8. Total In-patient Hospital Visits for RHP 4 by Zip Code.

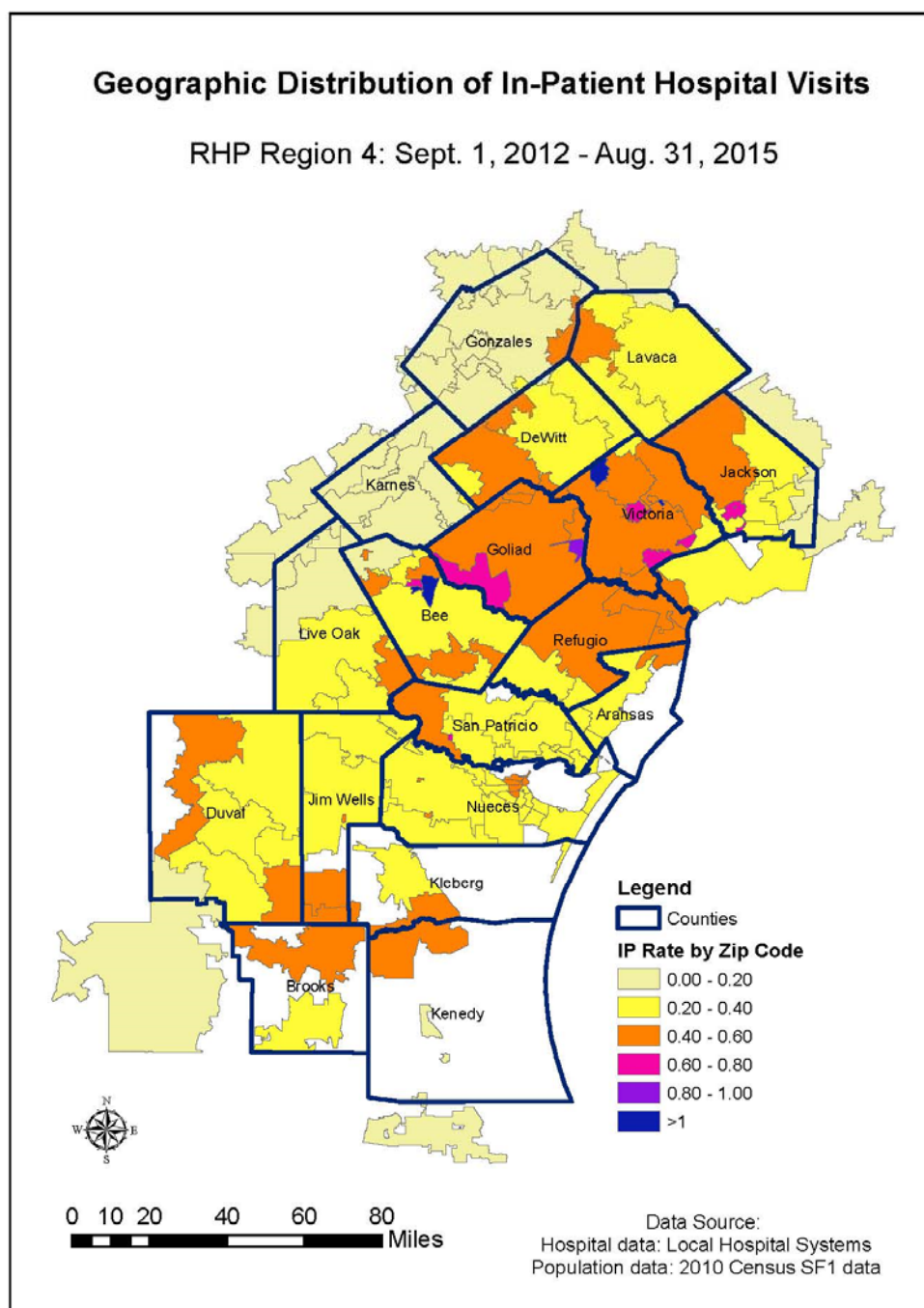
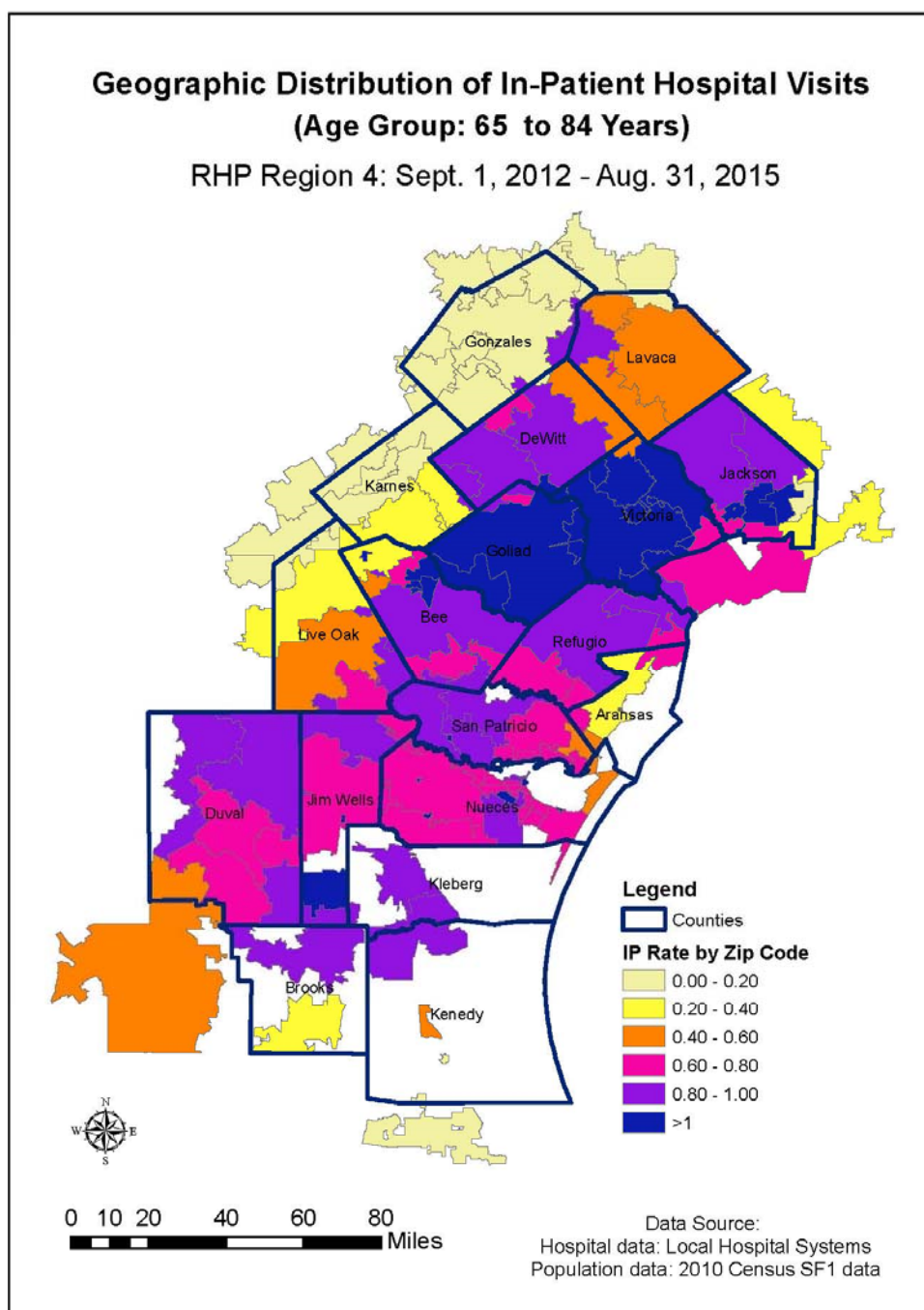


Figure 9. In-Patient Hospital Visits: Patients aged 65 to 84.



The emergency department data also provide insight into the types of health issues in our community. Table 16 illustrates the most common primary diagnoses for two years of emergency department data (September 1, 2013 through August 31, 2015). The list includes both chronic and acute conditions with urinary tract infection and acute respiratory infection as the most common infectious diseases.

Table 17 presents the most common secondary diagnoses for two years. Many of the secondary diagnoses represent chronic conditions such as hypertension and diabetes. Asthma, falls, and urinary tract infection are the most common acute conditions in the secondary diagnoses list. It is important to note that anxiety, dissociative and somatoform disorders are in the top ten list for the secondary diagnoses in the ED data.

Table 16. Top Primary Diagnoses for Emergency Department Data.

Primary Diagnostic Code	Frequency	Percent	Valid Percent
Acute respiratory infection, unspecified site (465.9)	32650	3.2	14.3
Urinary tract infection (599)	32595	3.1	14.3
Chest pain, unspecified (786.5)	22858	2.2	10.0
Abdominal pain, unspecified site (789)	19845	1.9	8.7
Acute pharyngitis (462)	14365	1.4	6.3
Unspecified otitis media (382.9)	12854	1.2	5.6
Headache (784)	12165	1.2	5.3
Influenza with other respiratory manifestations (487.1)	11017	1.1	4.8
Acute bronchitis (466)	10914	1.1	4.8
Noninfectious gastroenteritis and colitis (558.9)	10517	1.0	4.6
Lumbago (724.2)	9972	1.0	4.4
Other chest pain (786.59)	9910	1.0	4.3
Vomiting alone (787.03)	9725	.9	4.3
Cellulitis and abscess of leg, except foot (682.6)	9634	.9	4.2
Fever (780.6)	9260	.9	4.1
Total	228281	22.0	100.0
All Other Codes	807651	78.0	
Total	1035932	100.0	

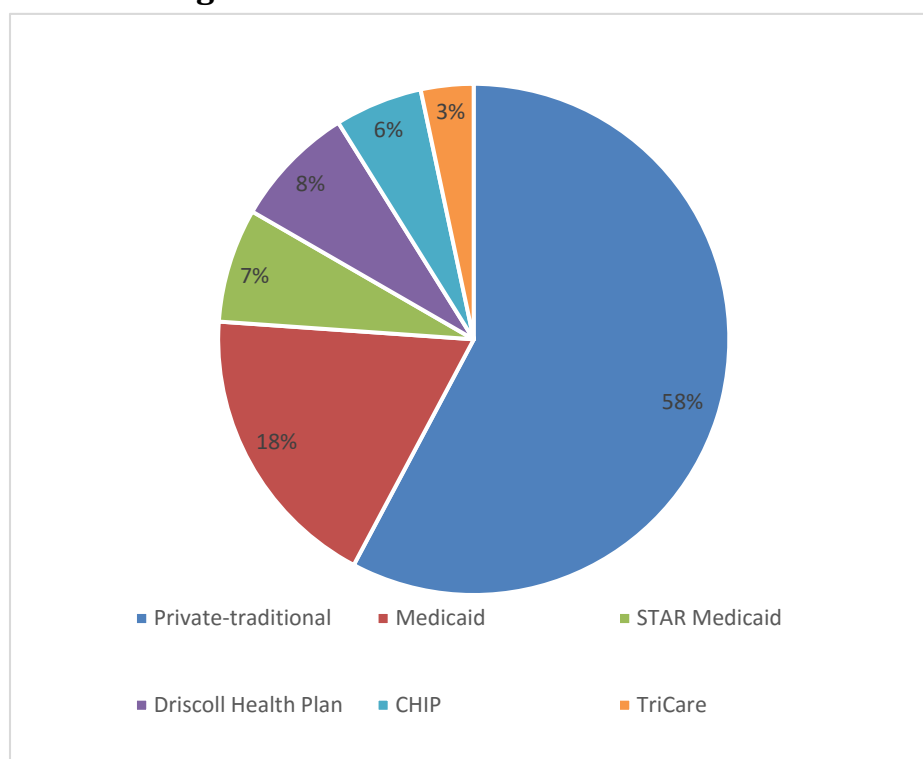
Table 17. Top Secondary Diagnoses for Emergency Department Data.

Name	Code	Count	Percent	Cumulative Percent
Unspecified essential hypertension	401.9	38378	3.7	32.5
Tobacco use disorder	305.1	37172	3.6	36.1
Diabetes mellitus	250	28497	2.8	38.8
Other acute pain	338.19	22425	2.2	41.0
Other disorders of urethra and urinary tract	599	16244	1.6	42.6
Asthma unspecified	493.9	10124	1.0	43.5
Overexertion from sudden strenuous movement	E927.0	8198	.8	44.3
Anxiety, dissociative and somatoform disorders	300	7826	.8	45.1
Unspecified fall	E888.9	7206	.7	45.8
Fall from other slipping, tripping, or stumbling	E885.9	7156	.7	46.5

Health Care Status of Children

When asked in the Community Survey if there was a child or children in the household, 36% (178) of the respondents reported having one or more children residing with them. Figure 10 shows the distribution of types of health insurance reported for children among those who could affirmatively state they had health insurance.

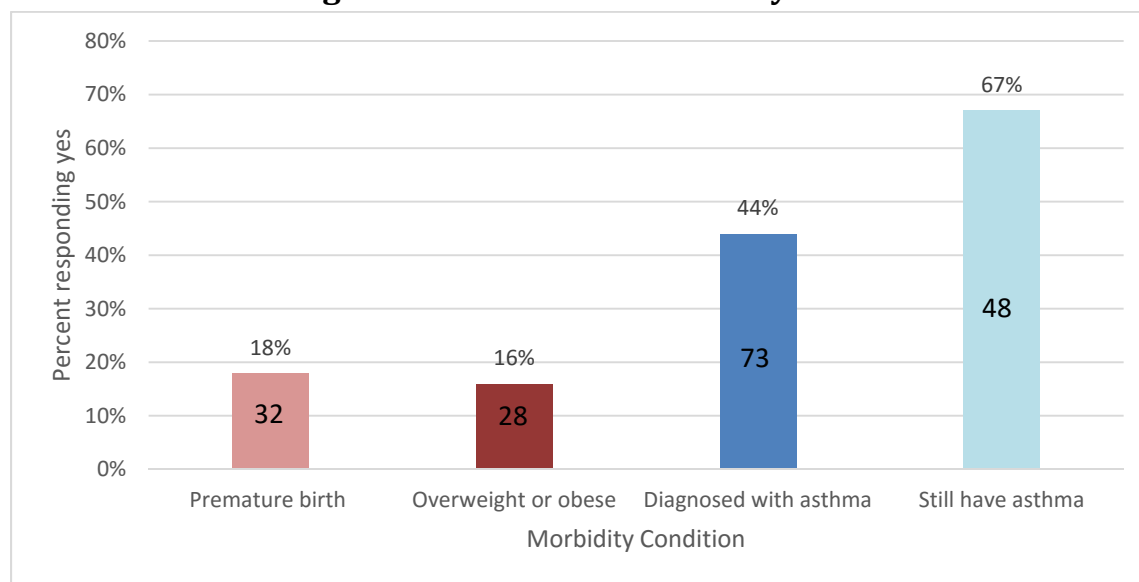
Figure 10. Children's Health Insurance.



Of the

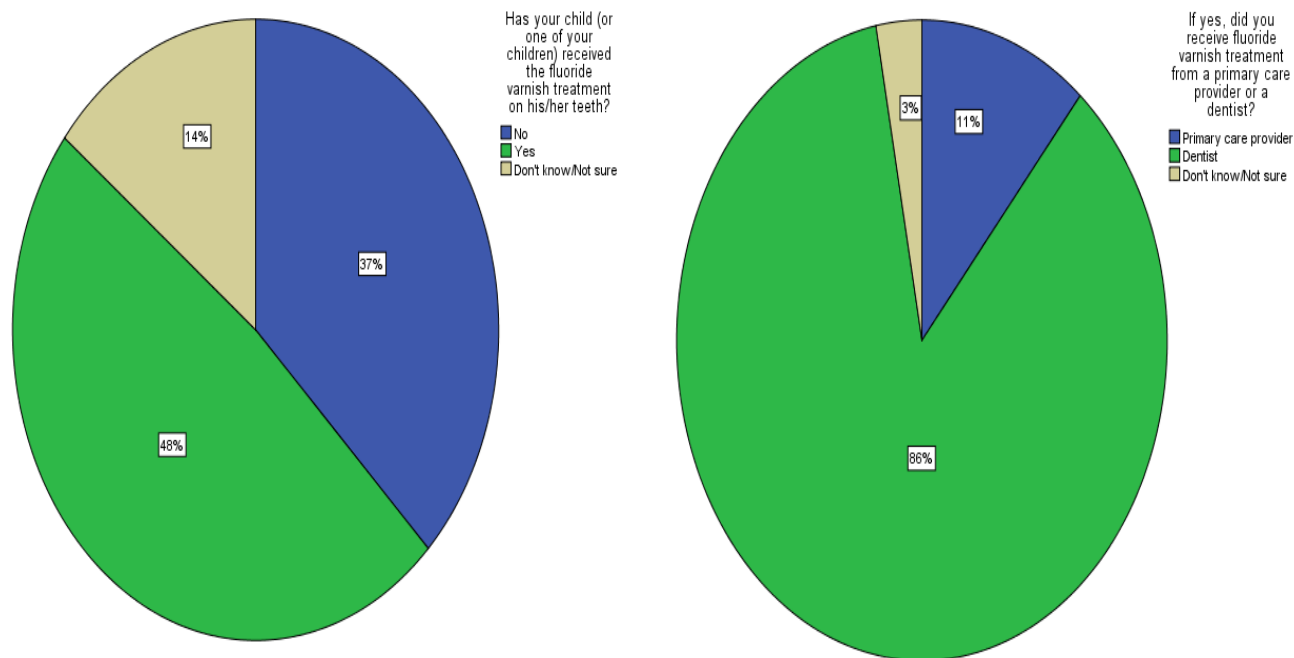
households with children that stated the children did not have insurance or the respondent did not know if there was insurance for the children – the primary reason for children not having insurance was cost.

Figure 11 below is a pictorial display of the morbidity data for children in the region. The number in each of the columns refers to the number of respondents who gave a positive or yes response to the the question. The percentage refers to the percent of those who responded to the actual question. The chart demonstrates that about 18% of those responding had at least one child born prematurely, 16% percent of those who have children report their child as being overweight or obese, 44% of respondents said that one or more of their children have been diagnosed with asthma and nearly 67% of all childred diagnosed with asthma still have the condition.

Figure 11. Children's Morbidity Conditions.

With regard to mental health 14% (25) of households with children report having a child diagnosed with mental health problems. Within those households, 88% of them were able to get the child or children the medical attention they needed.

It is reported that children within 48% of the households have received a fluoride varnish treatment of their teeth and that 85% of the time that treatment is performed at a dentist's office (see Figure 12).

Figure 12. Children's Dental Care.

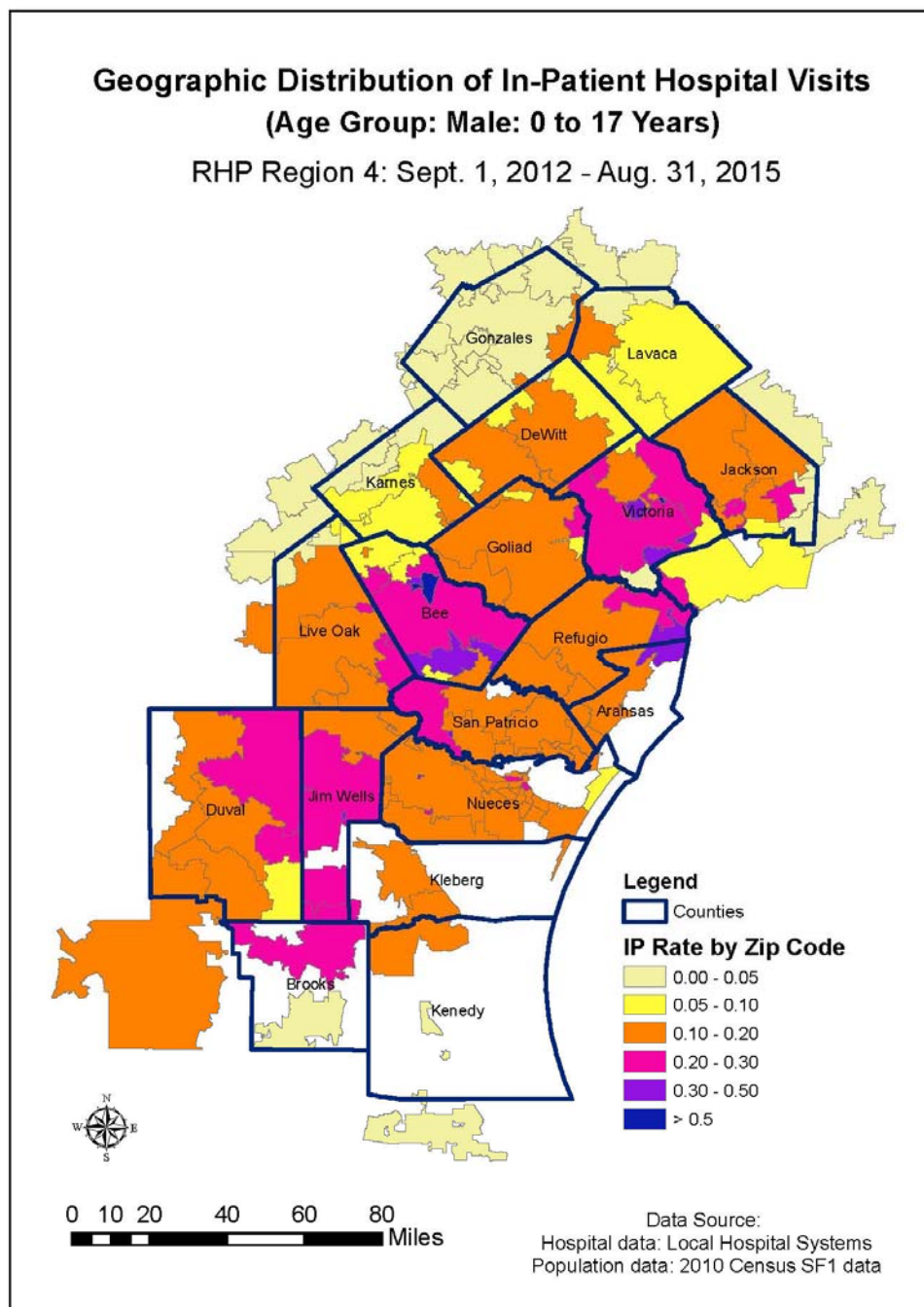
From the in-patient hospital data for those under the age of 18 years, birth represents the most common reason for hospitalization (see Table 18). Several preventable diseases such as pneumonia, dehydration, and acute bronchitis and asthma make the top ten list. Surprisingly, depressive disorder and major depressive disorder (recurrent episode) are two of the top ten diagnoses for children in Health Region 4, representing 2.3 percent of all in-patient hospitalizations for children.

When examining the geographic distribution of hospitalizations for children by zip code in RFP4, one zip code in Bee County has the highest rate for children as shown in Figure 13. The next highest rates occur in Victoria, Refugio, Aransas and the southern section of Bee counties.

Table 18. Top Ten Diagnoses for Children (0-18).

	Frequency	Percent
Single live birth (V30.00)	8450	20.1
Single live birth, cesarean (V30.01)	5116	12.2
Pneumonia (486)	1008	2.4
Dehydration (276.51)	618	1.5
Depressive disorder (311)	557	1.3
Acute bronchitis due to RSV (466.11)	448	1.1
Major depressive disorder, recurrent episode, unspecified (296.30)	413	1.0
Bronchopneumonia, organism unspecified (485)	404	1.0
Asthma, unspecified type, with (acute) exacerbation (493.92)	335	.8
Encounter for antineoplastic chemotherapy (V58.11)	333	.8
Top Codes Total	17,682	42.2
All Other Codes	24,344	
Total	42,026	100

Figure 13. Geographic Distribution of In-patient Hospital Visits: Patients 0-17.



What Are Factors in the Health Region that Lead to These Outcomes?

County Health Rankings: Health Factors

To determine health factors in the county health ranking, the University of Wisconsin, Health Institute, uses several indicators: health behaviors, clinical care, social and economic factors, and physical environment. The overall Health Factors for the Coastal Bend counties' ranks ranged from 25 (Lavaca) to 238 (Brooks) out of 241, similar to the rankings in 2013.

Health Behaviors.

As Table 19 shows, the Coastal Bend counties' measures of health behaviors are very similar to those of the nation and state and, in some cases, better than those of the state. The percentage reporting excessive drinking (lower than in 2013), alcohol-impaired driving deaths, and sexually transmitted infections are below those of the state. There are several factors, however, where the Coastal Bend counties are worse than the national and/or state measures. Access to exercise opportunities is lower for the Coastal Bend county residents (56.41%) than in other parts of Texas (84%). Teen birth rates are higher in the Coastal Bend (63.22 per 1,000 females aged 15-19) than the median rates for the state (52 per 1,000 females aged 15-19) or nation (40 per 1,000 females aged 15-19) although the 2016 teen birth rate in the Coastal Bend counties is lower than it was in 2013.

Clinical Care.

The results for Nueces County seem inconsistent in that the county ranks near the bottom for health behaviors while earning a high rank for clinical care indicators. This may indicate that Nueces County has adequate clinical resources but patients may not use them, do not follow care plans appropriately or do not know about the available resources. Another explanation may be that the resources are not evenly distributed throughout the region making access to the resources more difficult for some. For example, Jackson County has a primary care physician ratio of 14,590:1 which greatly exceeds the state overall ratio of 1,680:1. In comparison, Victoria County has a ratio of 1,250:1.

Compared to 2013, more residents of the Coastal Bend have health coverage. In 2013, 24.5% of those under the age of 65 did not have health insurance. In 2016, this number decreased to 23%. The preventable hospital stays (number of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees) is down to 80 in 2016 compared to 102 in 2013.

Social and Economic Factors.

Overall, some social and economic factors in Coastal Bend counties have improved since 2013. The Coastal Bend unemployment rate (4.6%), for example, is lower than that for the nation (6.0%) and Texas (5.1%) as a whole. In 2013, 28.8 percent of children lived in poverty compared to 27.6 percent in 2016, though the Coastal Bend counties still have higher poverty rates compared to the state and nation statistics (25% and 23%, respectively). . In 2016, within Coastal Bend Counties, 89% ninth grade cohorts graduate within four years. Not only has the rate improved since 2013, Coastal Bend Counties outperform both the state and national high school completion rates. Both the degree of income inequality and the percentage of children living in single parent households are higher greater in the Coastal Bend counties than for the state and the nation.

The Physical Environment.

The Physical Environment ranks ranged from a high of 2 for Live Oak County to lower ranks for Nueces (120), Jim Wells (138) and San Patricio (161). Air pollution and severe housing problems were less prevalent in the Coastal Bend than for the nation and state as a whole, some issues persist. Eleven of the 18 counties had drinking water violations reported.

Table 19. Comparison of 2016 County Health Rankings for Health Factors: Measures for National, Texas and the Coastal Bend Counties Results.

	Description	Number of Coastal Bend Counties Included in Category	2016 U.S. Median	2016 Texas Overall	2016 Coastal Bend Counties	2013 Coastal Bend Counties
HEALTH FACTORS*						
HEALTH BEHAVIORS						
Adult smoking	% adults who are current smokers	18	18	15	14.7	13.0
Adult obesity	% adults who report BMI ≥ 30	18	31	28	29.62	29
Food environment index	Index of factors that contribute to healthy food environment (0-10)	18	7.2	6.4	6.83	-

Physical Inactivity	% adults aged 20+ who report no leisure time physical activity	18	28	24	29.11	26.6
Access to exercise opportunities	% of population with adequate access to physical activity locations	17	62	84	56.41	-
Excessive drinking	% adults who report binge or heavy drinking	18	17	17	16.27	18.5
Alcohol-impaired driving deaths	% adults driving deaths involving alcohol	18	31	32	20.38	-
Sexually transmitted infections	# newly diagnosed chlamydia cases per 100,000 pop.	17	287.7	498.3	483.67	440
Teen birth rates	# births per 1,000 females ages 15-19	17	40	52	66.94	75
CLINICAL CARE						
Uninsured	% of population < age 65 without health insurance	18	17	25	23	24.5
Primary care physicians	Ratio of population to primary care physicians	15	1,990:1	1,680:1	3,995:1	2,977:1
Dentists	Ratio of population to dentists	17	2,590:1	1,880:1	3,342:1	3,331:1
Mental health providers	Ratio of population to mental health providers	15	1,060:1	990:1	2,997:1	-
Preventable hospital stays	# hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	17	60	58	80	102
Diabetic monitoring	% diabetic Medicare enrollees ages 65-75 who receive HbA1c	17	85	84	83	82
Mammography screening	% female Medicare enrollees ages 67-69 who receive	17	61	58	52.7	57
SOCIAL & ECONOMIC FACTORS						
High school	% 9 th grade	16	86	88	89	87.9

graduation	cohort who graduates in 4 years					
Some college	% adults ages 25-44 with some post-secondary education	18	56	59	49.0	47.0
Unemployment	% population aged 16 + unemployed but seeking work	18	6.0	5.1	4.6	6.9
Children in poverty	% children < 18 in poverty	18	23	25	27.6	28.8
Income inequality	Ratio of household income at 80 th percentile to income at 20 th percentile	18	4.4	4.9	5.1	-
Children in single-parent households	% children who live in household headed by single parent	18	32	33	37	33.5
Social associations	# membership associations per 10,000 population	17	13.0	7.8	10.68	-
Violent crime rate	# reported violent crime offenses per 100,000 population	18	199	422	389.88	-
Injury deaths	# deaths due to injury per 100,000 population	17	74	54	75.06	-
PHYSICAL ENVIRONMENT						
Air pollution	Average daily of fine particulate matter in micrograms per cubic meter	18	11.9	9.6	8.57	9.1
Drinking water violations	Presence of health-related drinking water violations	18	-	-	11 counties had violation	-
Severe housing problems	% households with overcrowding, high housing costs, or lack of kitchen or plumbing	18	14	18	14.5	-
Driving alone to work	% of workforce who drives alone to work	18	80	80	79	-
Long	Among those	18	29	36	30	-

commute-driving alone	who drive alone- % commuting > 30 minutes					
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Note: Missing values are common for individual measures. Not all counties, especially smaller counties, will compile data on each of over approximately 30 measures used to calculate the ranking score or will have sample sizes simply too small for any meaningful comparison. PHI substitutes the state average for missing values in the calculation of rankings, an accepted technique for treatment of missing data.

*All of the measures for the county health rankings are not the same as in 2013 so many comparisons are not possible.

Access to Health Care Resources

The Community Survey provides insight regarding Region 4 individuals' access to health care resources. This year, as in years past, financial access in terms of health insurance is measured in terms of the number of individuals who have basic health insurance.

When answering the Community Survey, 81% of the respondents self-identified having health insurance; this is a 15% increase in the proportion of respondents having insurance during the the 2013 Community Survey (see Figure 14). When asked about the general type of health insurance respondents had, the most common response was managed care coverage, followed by traditional private plans, Medicare, Medicaid along with a few other types as seen in the graph below. Managed care increased from a 11% in 2013 to 43% in 2016 while traditional health coverage decreasing from 41% to 32%.

Figure 14. Types of Health Care Insurance Reported.

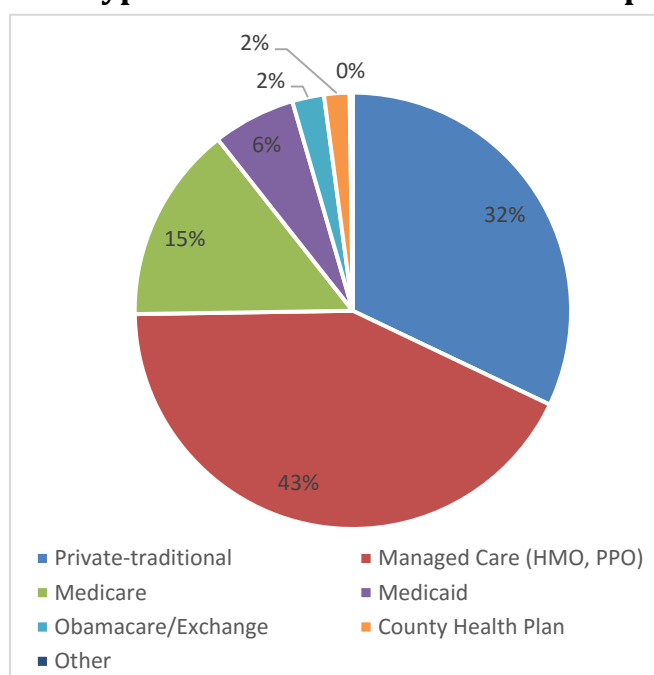
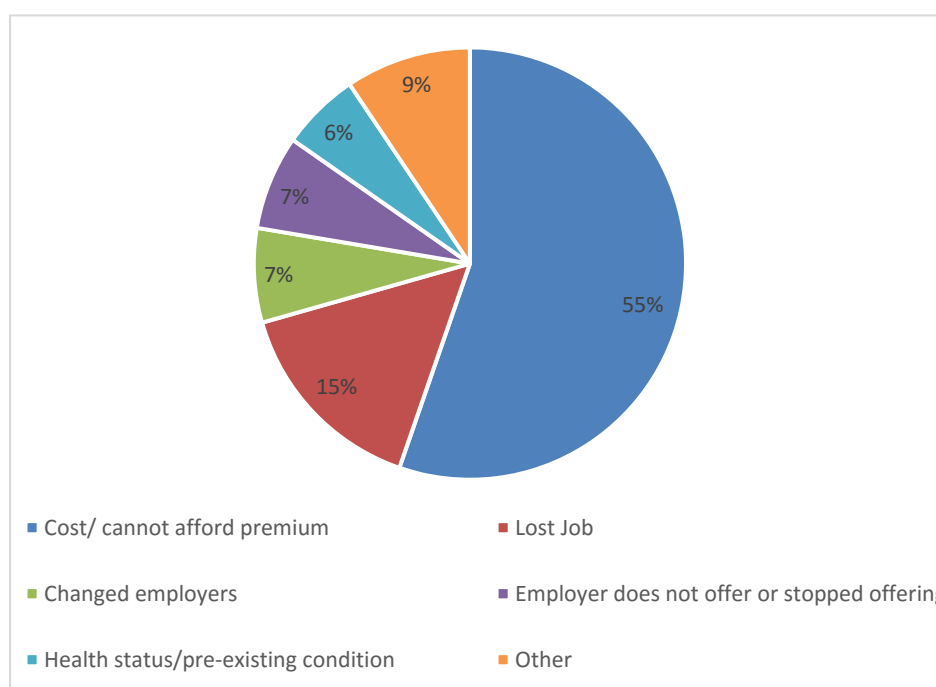


Figure 15 shows the reasons given by uninsured respondents for not having health insurance, with the common reported barriers to access to health insurance being cost of premiums (55%) followed by job loss (15%).

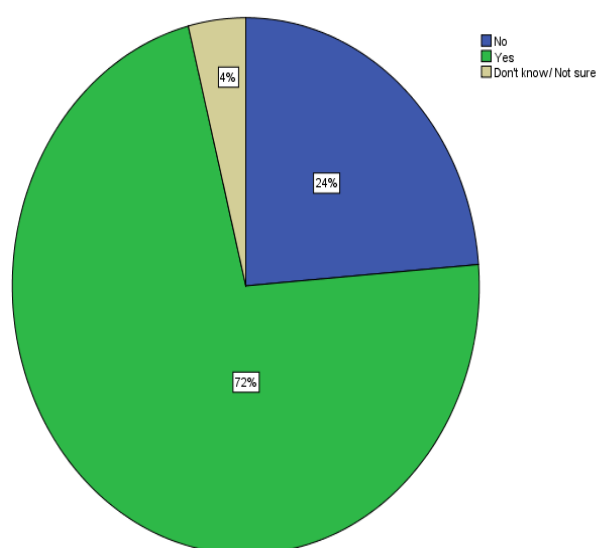
Figure 15. Reasons for Not Having Health Insurance.



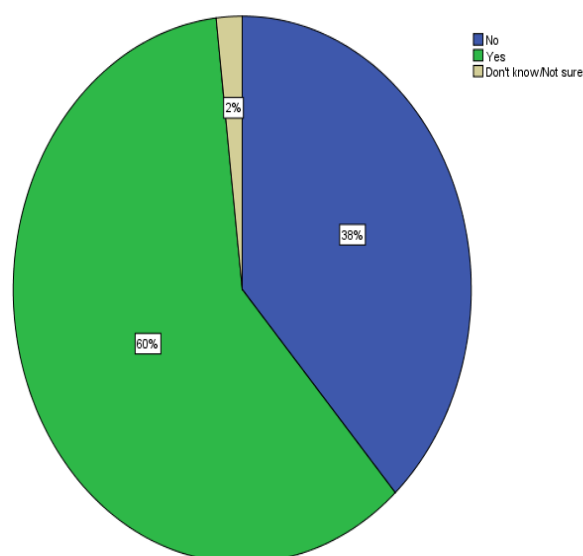
As seen in Figure 16, , a majority of the respondents also report having some type of both prescription drug (72%) and dental insurance (60%) coverage.

Figure 16. Prevalence of Prescription Drug and Dental Insurance.

Yes to Prescription Drug Insurance



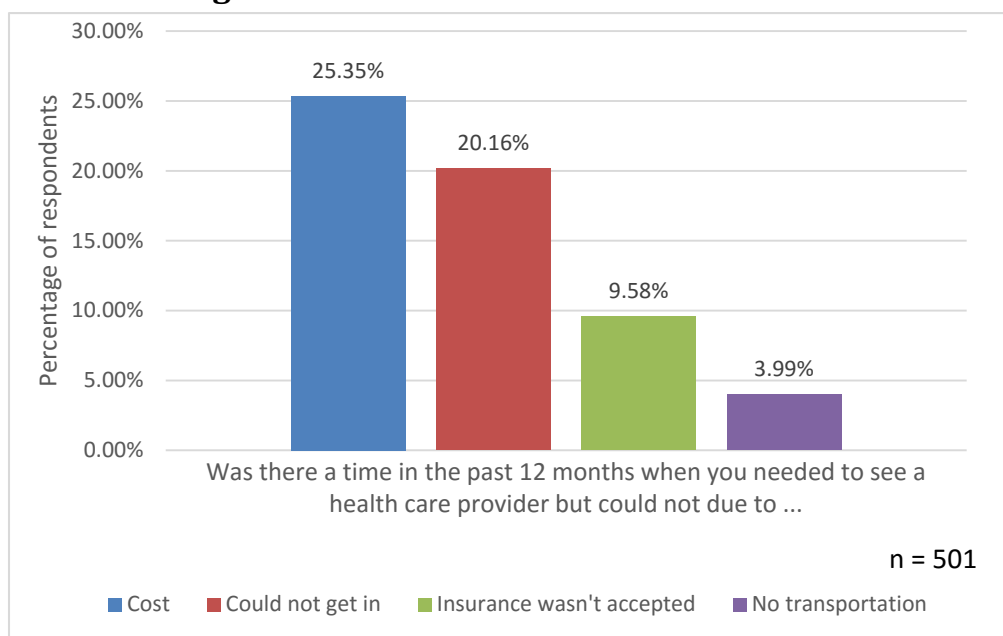
Yes to Dental Insurance



Barriers to Health Care Access

In the community survey nearly 40% (199) of the respondents stated that they had one or more types of barriers in accessing health care, this rate is double the rate reported in 2013. Respondents were asked about four specific barriers to health care access. Figure 17 below shows that cost continues to be the primary concern for respondents to this survey, followed by appointment availability, acceptance of insurance and transportation.

Figure 17. Barriers to Health Care Access.



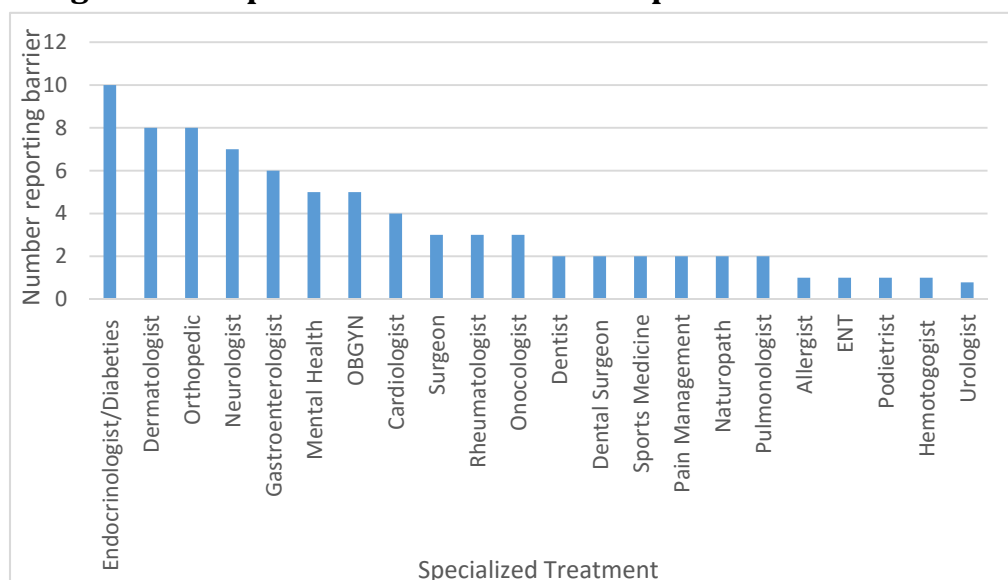
When examining the relationship between having health insurance and one or more barriers to health care access is crosstabulated, 48% of those without health insurance reported one or more barriers to accessing health care, while 40% of those with health care insurance reported a barrier to accessing healthcare. Cost, as a barrier to access, was about 3 times more prevalent among those without health insurance than those with insurance. Transportation was mentioned as a barrier to access in the uninsured group about twice as often as those with health insurance.

Logic would dictate that, as seen in Table 20 below, those with low income would be more prone to experiencing barriers in accessing health care. What is interesting about the table below is that among those with higher levels of education and income, particularly among those respondents in the \$50,000 to \$99,999 income bracket, the percentage of respondents experiencing a barrier to health care has higher than statistically expected levels.

Table 20. Barrier to Health Care by Education and Income.

Barrier to Access Health Care: YES	Educational Level			Total
	High School Diploma or Less	Some College	College Degree or Higher	
Less than \$25,000	43.2%	23.2%	14.7%	
\$25,000-\$49,999	36.4%	31.3%	23.5%	
\$50,000-\$99,999	13.6%	31.3%	32.9%	
\$100,000 and up	6.8%	14.1%	28.8%	
Total	100%	100%	100%	313

Looking at specialized treatments, 12% of respondents in 2016 experienced some type of barrier to accessing specialized treatment or a physician. The 2016 rates reporting barriers to specialized treatment is higher than the 2013 rate of 7% (see Figure 18).

Figure 18. Experienced a Barrier to a Specialized Treatment.

In sum, multiple sources indicate that many residents in RFP4 do not have any type of health insurance as shown in Table 21. Younger adults are less likely to have health insurance than older adults.

Table 21. Residents with No Type of Insurance by Data Source.

RESIDENTS WITH NO TYPE OF INSURANCE	PERCENTAGE
Survey Respondents	18%
Hospital In-Patient Data (Charity, Self-Pay, Other)	
18-49 year olds	17.1%
50-64 year olds	11.7%
Emergency Department Patient Data (Charity, Self-Pay, Other)	
18-49 year olds	44.5%
50-64 year olds	22.5%
2016 County Health Rankings	
National Median	17.0%
All RHP 4 Counties	23.0%

The lack of health care insurance issue is not unique to our community. A recent Commonwealth Fund study (2016) noted that the Affordable Care Act's tax credits have impacted insurance costs differently for those in employer-based plans than those in the new marketplace insurance. Additionally, the study (2016) found that both low and high income adults found it difficult to find affordable plans. The Commonwealth Fund group also estimates that it is likely that premiums will be higher in 2017 than in 2016.

The provider survey identifies very similar concerns. Table 22 below shows the top five barriers for access to care according to the provider survey. Given that health care professionals and directors/workers of health care agencies serve the health needs of individuals differently, reported rankings for both types of workers within the health care industry are presented.

Table 22. Top Five Barriers Identified by Providers.

Ranking	Total Provider Survey (n=76)	Health Care Professionals (n=69)	Directors/Workers for Agency (n=7)
1	Availability of care for uninsured and underserved patients/clients 52.3%	Availability of care for uninsured and underserved patients/clients 56.5%	Availability of care for uninsured and underserved patients/clients 85.7%
2	System Funding (government payers) 40.7%	System Funding (government payers) 43.5%	Complexity of Reporting/billing requirements 85.1%
3	Complexity of Billing Requirements 39.5%	Access to evidence-based clinical information 43.0%	Availability of Specialists 71.4%
4	Computer and communications technology that are not compatible 34.9%	Complexity of Billing Requirements 39.1%	Public Resources for Chronic Disease Management 71.4%
5	Availability of Specialists 26.7%	Availability of Specialists 24.6%	Systems funding (government payers) 56.5%

Like the community survey, respondents from the provider survey identified availability of care for uninsured and underserved patients and clients as problematic, complexity of billing requirements is also barrier, as well as the availability of specialists. Those who were interviewed asserted that Medicaid expansion could eliminate one barrier to people's access to care; however several also voiced concern that improvements in access to care is also contingent upon doctors accepting patients. Several interviewees and first look participants noted that there is such a demand for healthcare in the area that doctors can be selective about which clients they will accept. So, an expansion of Medicaid will not automatically increase access to care. This is also related to another major barrier, system funding. Because government payers may pay less than some insurance policies, there is a structural problem with doctors in high-demand areas being able to be selective about their clients. Interestingly, it appears that the respondent's role within the healthcare systems seems to shape what the perceived barriers are. For example, an examination of responses by the type of work respondents do revealed one difference worth noting.

Those working for agencies identified public resources for chronic disease management as a barrier to access for care. Those working with agencies indicated that they saw that patients with chronic conditions needed more support or access to information that increased patients' awareness of resources that could help them effectively manage their diseases/conditions. One director of an agency said, "There is too much 'silo-ing' in health care. There's a hierarchy of needs. If a patient does not have affordable housing or a home to begin with or if a parent is struggling to feed their children, then they are not going to be concerned with their health needs." In this interview, the director elaborated upon the lack of resources for the poor that has them struggling to survive and not even thinking about their health maintenance. Here the director of the agency has broadened the scope of public resources for chronic disease management to include programs and services that are not directly connected to the chronic disease. So, access to non-health related public resources, whether in the form of subsidized housing, food stamps, or affordable childcare, access to efficient public transportation, could make patients' management of their chronic diseases more efficient and effective. A health care professional also echoed a very similar theme indicating that there are two types of patients who do not manage their illnesses—one type really doesn't care; the other is unable to manage. Several interviewees indicated that Texas accepting the Medicaid expansion would go a long way to help with the management of chronic diseases and to ameliorate some of the non-compliance they see in patients. This brings us to the issues of the severity of barriers to health for patients and clients.

Providers were asked about the degree to which 12 issues were a barrier to patients/clients' health. Below you will find the top five issues for providers, for the total sample, providers who say their work is conducted primarily in an urban setting, a rural setting, or in both a rural and urban setting. The data are also parceled by what type of provider the respondent is. It is important to note the severity of the problem.

The proportion of providers indicating the issue was either a MODERATE or MAJOR problem for the total provider sample, the location where the work takes place, and the type of work the provider does.

Table 23. Identified Issues by Urban/Rural Setting: Provider Survey.

Ranking	Total Provider Survey (n=76)	Urban Setting (n=24)	Rural Setting (n=10)	Rural and Urban Setting (n=42)	Health Care Professionals (n=57)	Directors/Workers for Agencies (n=7)
1	Lack of insurance 89.2%	Lack of insurance 95%	Lack of insurance 80%	Lack of Insurance 88.2%	Lack of insurance 87.7%	Lack of insurance 100%
2	Lack of drug compliance 76.6%	Lack of behavioral compliance 85%	Lack of drug compliance 80%	Lack of drug compliance 73.5%	Lack of drug Compliance 73.0%	Lack of drug compliance 100%
3	Lack of behavioral compliance 73.8%	Lack of understanding about the payment system 80%	Lack of health information 80%	Lack of understanding about the payment system 71.9%	Lack of behavioral compliance 70.0%	Lack of health information 100%
4	Lack of understanding about payment system	Lack of drug compliance 78.9%	Lack of behavioral compliance 77.8%	Lack of behavioral compliance 64.7%	Lack of understanding about payment system	Lack of behavioral compliance 100%

	70.3%				67.9%	
5	Lack of understanding about bodies 65.6%	Lack of understanding their bodies 77.8%	Transportation 66.7%	Lack of understanding their bodies 58.8%	Lack of understanding about bodies 60.7%	Transportation 85.7%

Lack of health insurance is the most severe barrier to health care, according to providers. Drug compliance and behavioral compliance are also highly ranked issues according to the providers. Also worth noting is that lack of understanding of health information, lack of understanding of payment information, and lack of understanding of their bodies are ranked highly as moderate/major problem for most types of providers. Interviews with providers reveal that all of these issues are interconnected. For example, several interviewees discussed the idea of “health literacy” broadly, indicating, that if one did not understand the health insurance industry (this is especially true for the newly insured who have been able to get access to insurance with the passage of the Affordable Care Act), the consumer purchasing insurance may not choose the plan that most closely fits their needs, and if they purchase a plan that does not fit their needs, they may not be able to comply with treatment or prescription regimens articulated by their health care provider because they may not be able to afford to carry through their providers’ orders. Moreover, understanding one’s body and the importance of compliance is a function of being able to understand the provider. Issues related to communication, while not making the top five issues for any of the provider groups, did emerge through interviews with providers. Both health care professionals and individuals who worked with agencies suggested the behavioral and drug compliance can also be linked to being able to understand what doctors and nurses are saying. Effective communication, though, is a function of healthcare professionals being able to take the appropriate amount of time to interact with patients and/or their families/significant others who would be helping them follow their provider’s instructions.

While the community survey revealed that transportation was an important barrier for respondents, only two types of providers, those working in a rural area and those working with agencies reported transportation being one of the most pressing barriers to health for patients/clients. One reason transportation may not be a highly ranked impediment is because health care professionals may be focusing on issues directly connected to the ailment(s) that brings/bring the patient to the doctor’s office/clinic/hospital. This may be a consequence of thinking of patients as individuals.

Factors outside of the immediate health concern need to be taken into consideration as well. . Those providers working in rural communities may be sensitive to the transportation issue, as the way they can conduct their practices and refer their clients compels them to be aware of the role geography plays in healthcare broadly, but also in the way they can conduct their own practice. Additionally, those working within agencies are often helping clients gain access to resources. They are likely to be having conversations with clients about what types of resource they have. Because of those conversations, such professionals are more likely to see the way social and economic factors, like access to transportation, affect care.

“First Look” attendees noted that primary care access is limited. Some physicians are not accepting insurance from the marketplace, transportation is an issue for some, and limited access to specialists, and limited availability of providers are all issues. As Figures 19 and 20 show, physicians and surgeons and urgent care facilities are not equally distributed throughout the region. Most are clustered within the more urban areas of Nueces and Victoria counties.

Utilization of Health Care Resources

When asked about their utilization of health care resources in the past 12 months, 77% of respondents stated that they had at least one primary health care provider. When comparing those respondents with and without health insurance, 88% of those with health insurance have a primary health care advisor and 43% of those without health insurance claim to have a primary health care advisor.

The place for routine health care can be varied. Figure 21 shows the most common response is a doctor’s office or HMO (73%), followed by clinic (15%), and urgent care center (4%). As Figure 22 shows, there are 22 Federally Qualified Health Centers (FQHC) in RHP4. Seven counties do not have FQHC sites. In a related study, Rust and colleagues (2009) found that the absence of community health centers is associated with a sizeable excess ED visits in rural counties, especially for the uninsured.

Figure 19. Geographic Distribution of Physicians and Surgeons in RHP4.

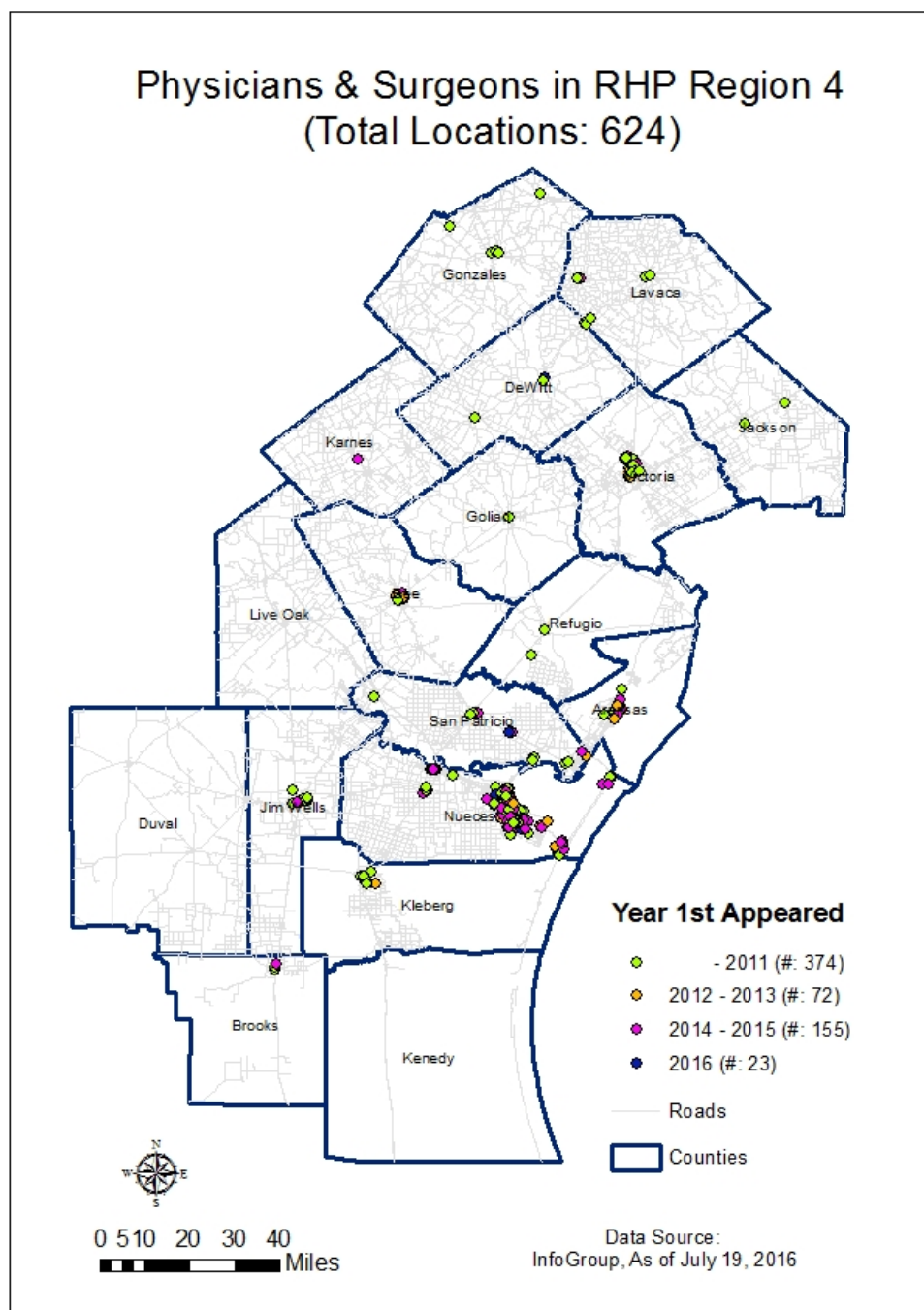


Figure 20. Geographic Distribution of Urgent Care Facilities in RHP 4.

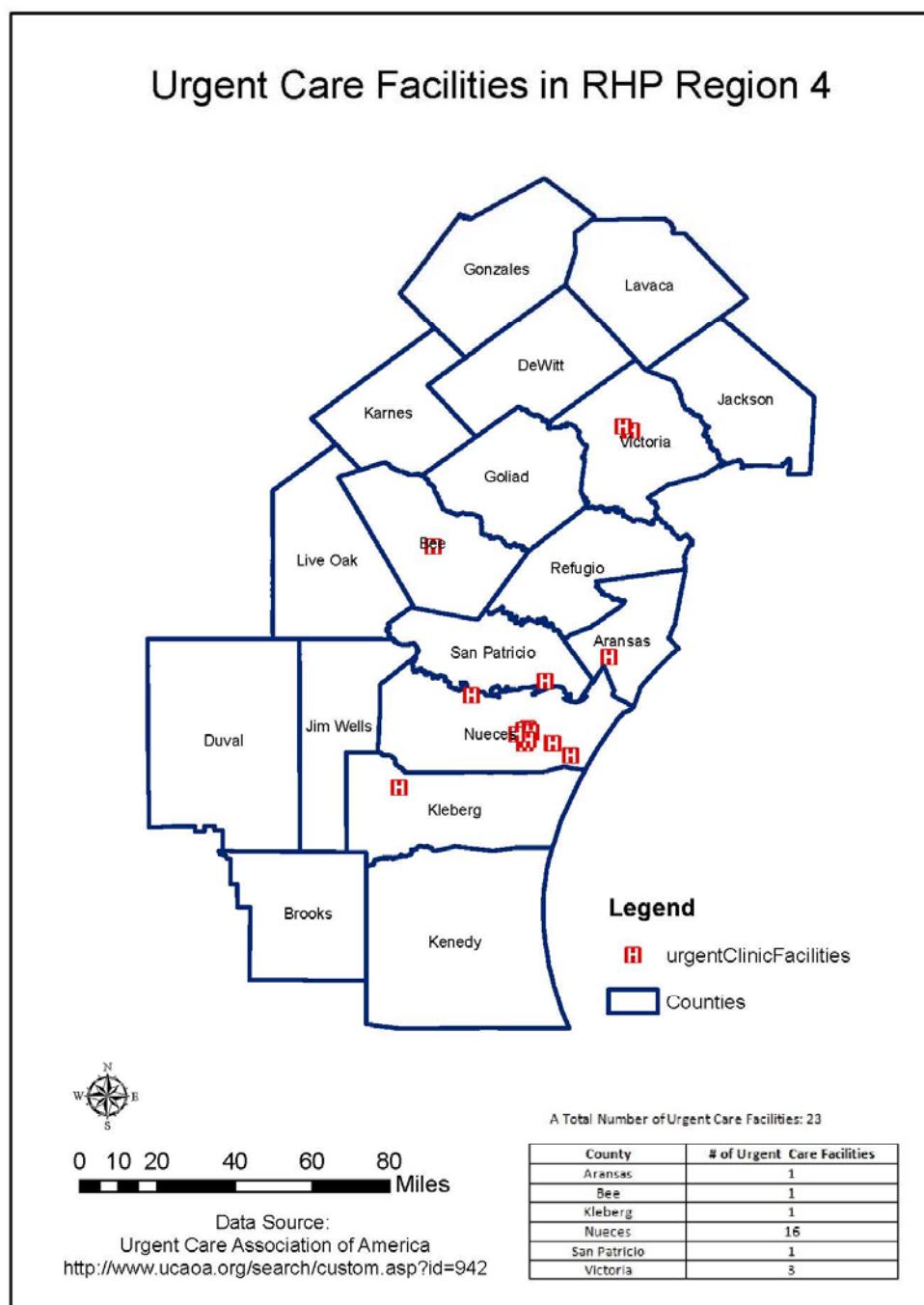
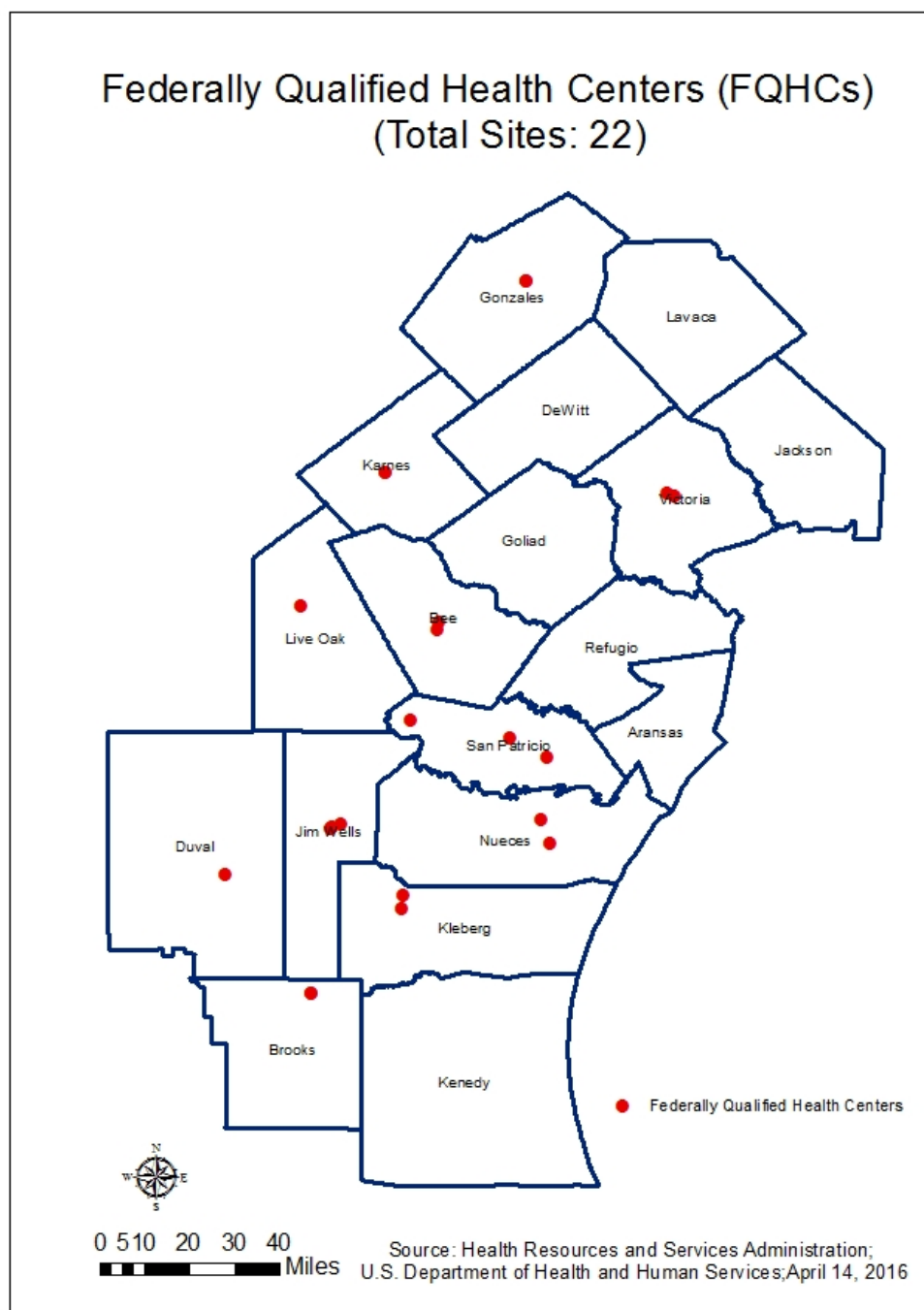
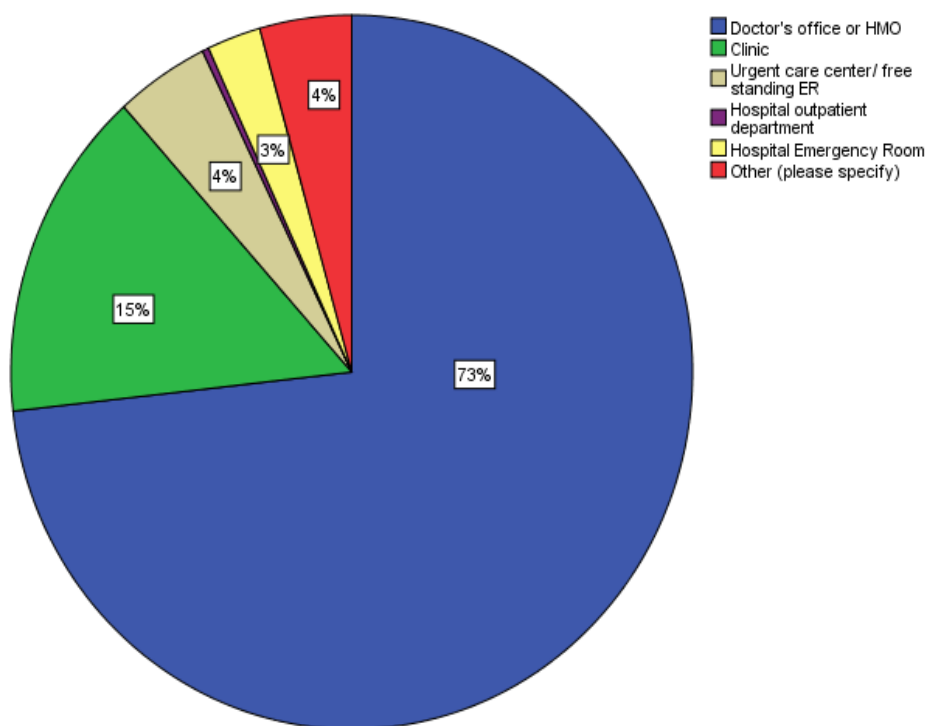


Figure 21. Geographic Distribution of FQHCs in RHP4.

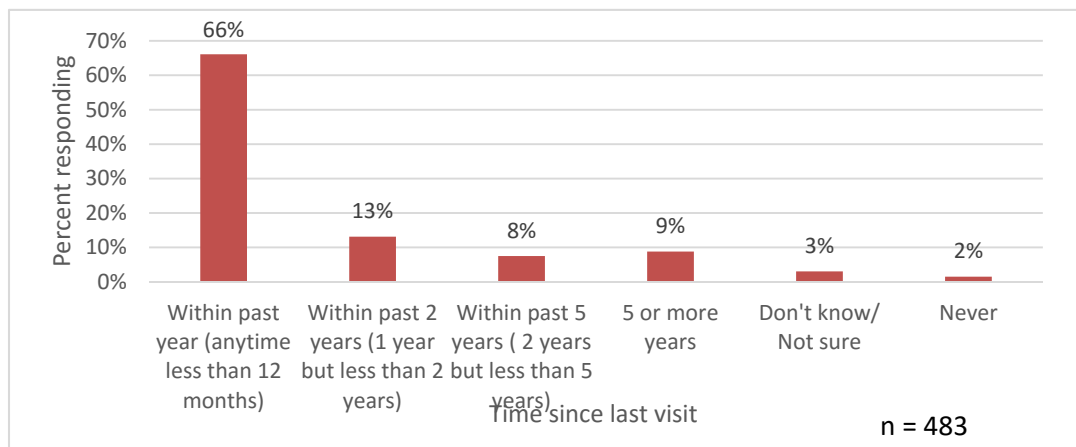


In total there are 22 sites. Seven counties don't have FQHC sites. They are Kenedy, Refugio, Lavaca, Dewitt, Aransas, Goliad, and Jackson. San Patricio has 3 sites. Other counties have 1 or 2 sites.

Figure 22. Place for Routine Health Care.



Respondents were also asked how long it had been since their last routine checkup. Figure 23 shows that 66% of the respondents had had a routine health care checkup in the past 12 months.

Figure 23. Time Since Last Routine Health Care Visit.

Respondents with health insurance were nearly twice as likely as those without health insurance to have had a routine health visit in the past 12 months (72% versus 37%). When comparing respondents with and without a primary health care provider, 75% of those with a health care provider had had a visit in the past 12 months versus 30% of those without a primary health care provider. While not statistically significant in this case, a similar to the pattern was found in the area of barriers to health care. The percentage of those respondents in the \$50,000 to \$99,999 income bracket without a primary care provider is higher than the level that one might expect (see Table 24).

Table 24. No Primary Health Care Provider by Education and Income.

Income	Education Level			Total
	High school diploma or less	Some college	College degree or higher	
Less than \$25,000	41%	40%	30%	37%
\$25,000 to \$49,999	41%	31%	27%	32%
\$50,000 to \$99,999	18%	17%	30%	22%
\$100,000 +	0%	11%	13%	9%
Total	100%	100%	100%	87

Having health insurance appears to play a role in the number of times a respondent reported going to an emergency room for routine health care in the past year and in the number of times a respondent went to the emergency room in general. The percentage

of the uninsured using the emergency room was slightly higher in both respects; the difference in utilization, however, was not significant.

Having health insurance that covers the cost of prescription drugs makes a significant difference in patient compliance. Individuals without prescription drug insurance are three times more likely not to take medicines as prescribed by their primary medical advisor or physician.

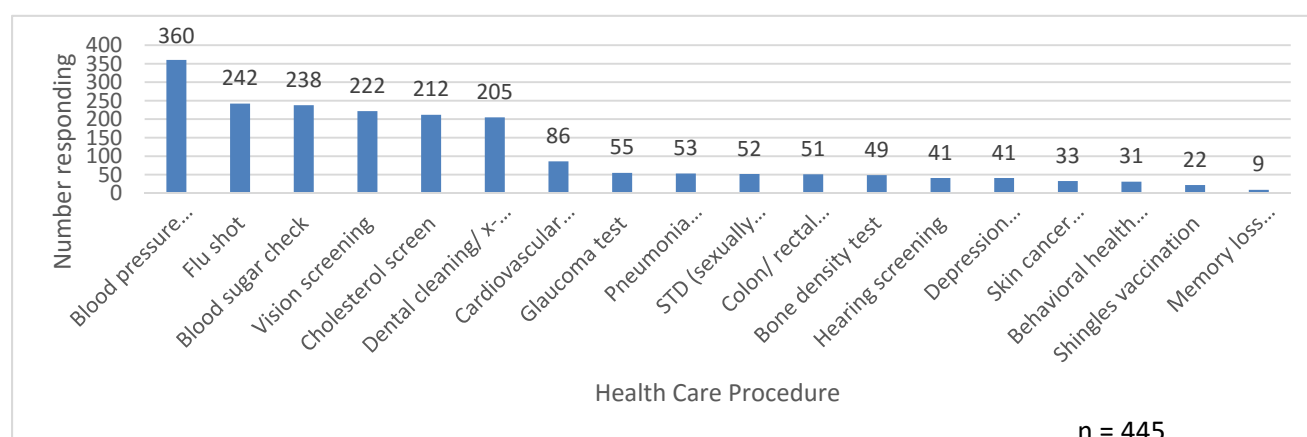
Table 25. Prescription Drug Insurance and Compliance.

		Prescription drug coverage that covers the cost of your prescription medi...			Total
		No	Yes	Don't know/ Not sure	
Are you taking your medication as prescribed?	Yes	39.1%	73.4%	22.2%	63.4%
	No	60.9%	26.6%	77.8%	36.6%
Total		100.0%	100.0%	100.0%	100.0 %

Self-reported Health Care Procedures

Respondents to the Community Survey were asked if they had one of 22 common health care procedures in the past 12 months. Nearly 89% had received one or more of the procedures listed. Figure 24 shows the 18 medical procedures that are not related to gender in the order of most common, blood pressure check (360) to least common, memory loss screening (9).

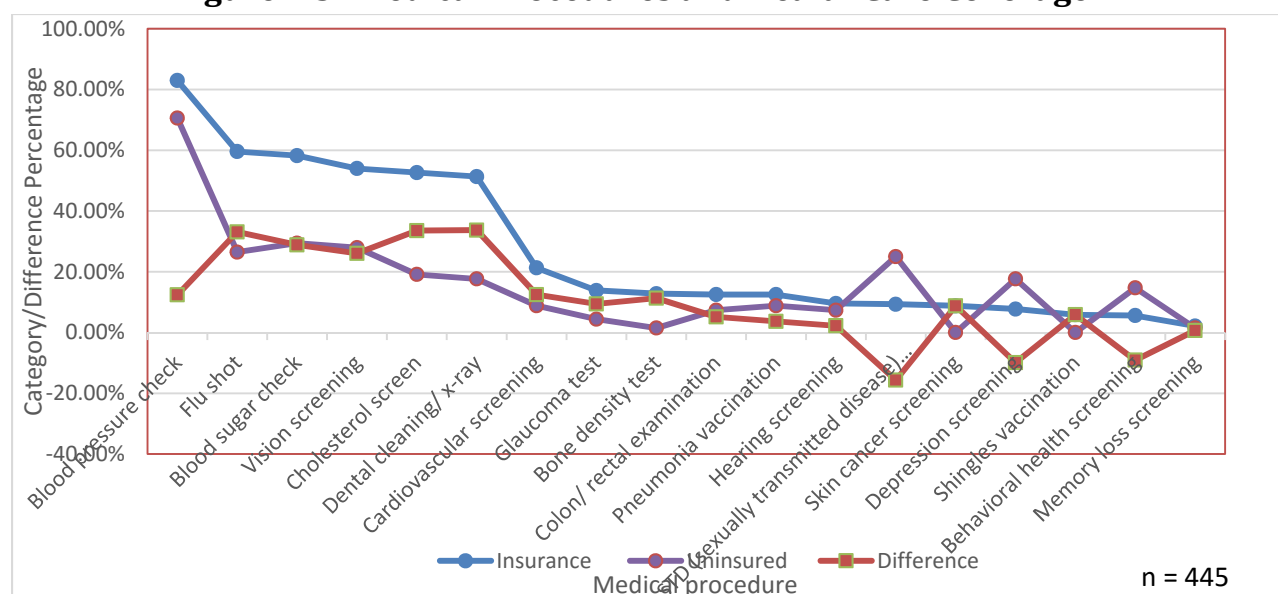
Figure 24. Self-reported Health Care Procedures.



When examining gender specific healthcare procedures 37% of the female respondents reported having had a mamogram in the past 12 months, while 42% reported having had a PAP smear. With regard to male respondents 8% of the males responding report having a digital prostate check in the past 12 months while 16% had a PSA prostate check.

Respondent data demonstrates that having insurance can be a major determinate in receiving many of the medical procedures listed. For example, the incidence of dental cleaning/xrays, cholesterol screening and flu shots occurred 30% less frequently among the uninsured respondents than those with insurance. Blood sugar checks and vision screenings occurred 25% less frequently among uninsured respondents compared to the insured. Uninsured respondents do report a 16% higher occurrence of STD testing, 10% higher incidence of depression screening and a 9% higher incidence of behavioral screenings.

Figure 25. Medical Procedures and Health Care Coverage.



When looking at gender specific procedures 12% of uninsured females report having had a mamogram in the past 12 months, with 22% of uninsured females having had a PAP smear in the past 12 months. No uninsured males report having a digital prostate check in the past 12 months, while 1% had a PSA prostate check.

Getting routine care is dependent on having facilities available in your area. As shown in Figures 26, 27, and 28 below, health care facilities, mental health and dentists are not equally distributed in RHP4. Most are located in the two more urban areas, Corpus Christi and Victoria. For those living in the more rural counties, traveling for care is a necessity.

Mental health facilities particularly are very limited even in the urban areas. For the entire region there are only 19 facilities. Only 2 additional facilities have been added since 2014 despite increases in population for the region.

Routine care also is related to proximity and accessibility. The burden of travel for care is more difficult for those in rural areas, and there are racial differences in access. One study using national data, for example, found that the time spent in travel for medical/dental care was on average 22 minutes and 10.2 road miles (Probst et al, 2007). Rural residents seeking care usually traveled 30 or more road miles.

Although most U.S. residents say they have a usual source for medical care, many report barriers to timely access to such care. As Rust and colleagues (2012) found in their study, (and as noted earlier in this report), many see the Emergency Department as an apt replacement to their usual source of health care. Proximity is as important as accessibility during hours beyond 8am to 5pm.

Figure 26. Geographic Distribution of Health Care Facilities in RHP4 by Zip Code.

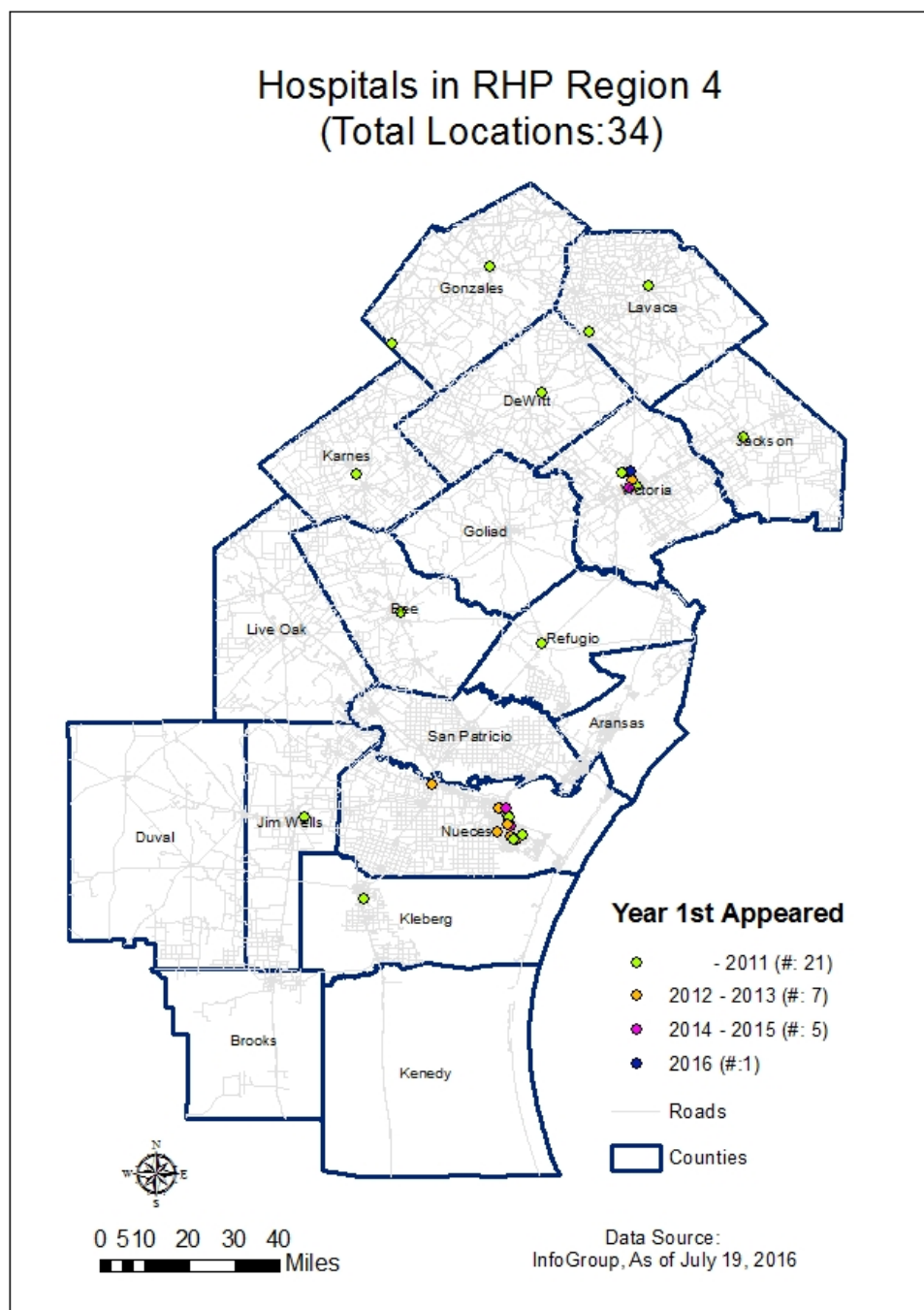


Figure 27. Geographic Distribution of Mental Health Care Facilities in RHP4 by Zip Code.

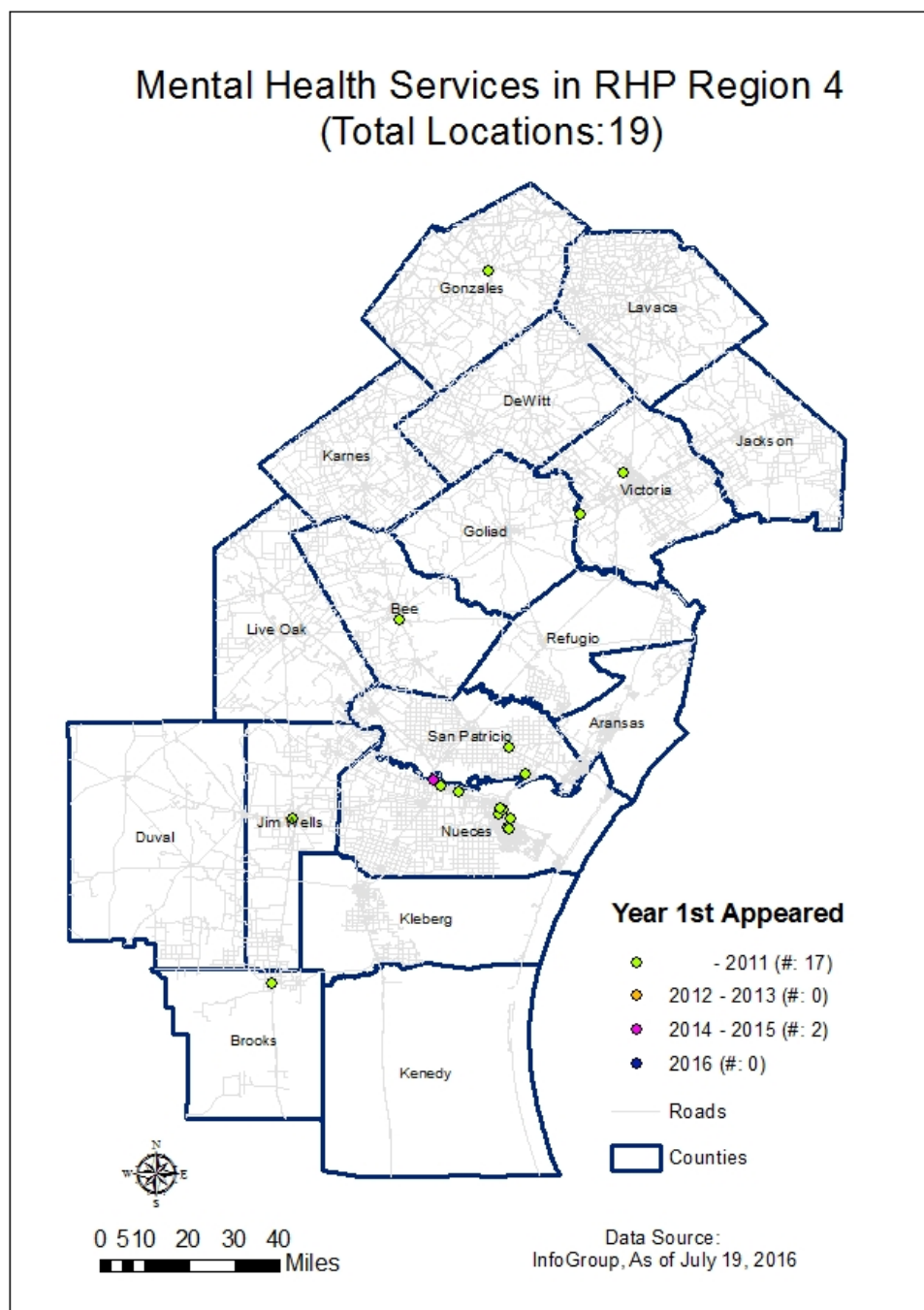
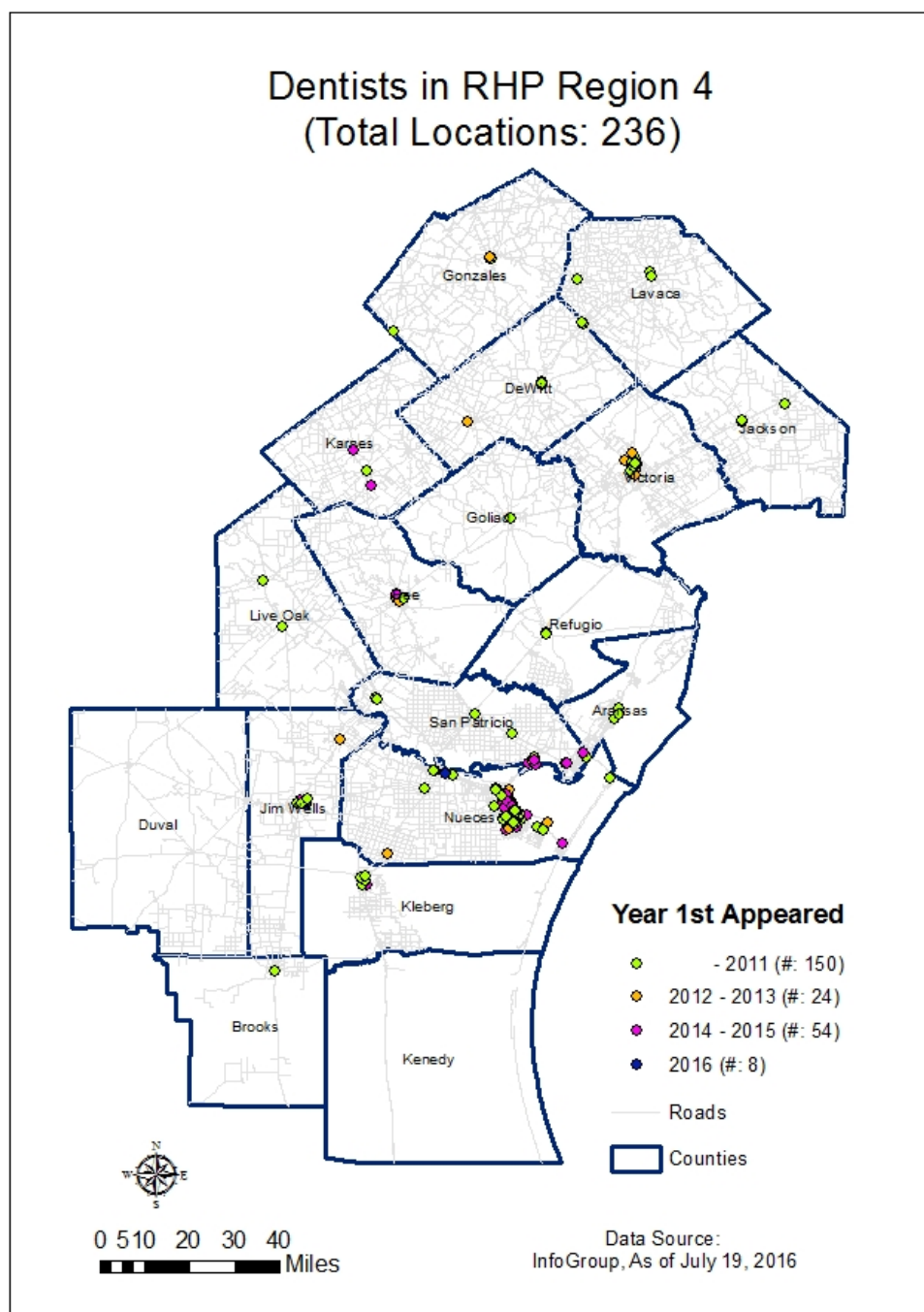


Figure 28. Geographic Distribution of Dentists in RHP4 by Zip Code.



Preventable Hospitalizations

The County Ratings of Health Factors (see Table 19 above) indicates that the RHP4 counties have 80 preventable hospital stays compared to 58 for Texas and 60 for the

U.S. In 2016, this number of preventable hospitalization days decreased by 23%. The preventable hospital stays (number of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees) is down to 80 in 2016 compared to 102 in 2013.

Analysis of the hospital and emergency department data revealed that many patients end up in the hospital and/or emergency rooms for preventable conditions, such as pneumonia and urinary tract infections (UTI). Spatially, Figure 29 illustrates urinary tract infections by zip codes for the all-patients, females, males and those 65 years old and older. As the maps show, females and the elderly are more likely to have urinary tract infections than others. Females in certain zip codes located in Goliad, Victoria, Jackson, Gonzalez, and Kennedy have higher rates for UTIs than other zip codes.

Figure 30 shows that hospitalization rates for pneumonia by zip codes. The rates for pneumonia for children are highest in zip codes located in Jim Wells, Victoria and Goliad counties with a few zip codes highlighted in Kennedy, Jackson, Refugio, and Bee counties. For those 5 years of age and over, the high rates of pneumonia are pervasive for all the counties within the region.

Figure 31 shows the emergency department visits for acute bronchitis for males and females. Most ED patients with acute bronchitis come from zip codes in the most urban areas, but not all do. The highest rates of visits are in zip codes bordering the southern area of Goliad county. The use of the ED for this preventable disease may indicate the lack of a medical home leading to an acute bronchitis episode.

Figure 29. Geographic Distribution of In-Patient Hospital Visits for UTI.

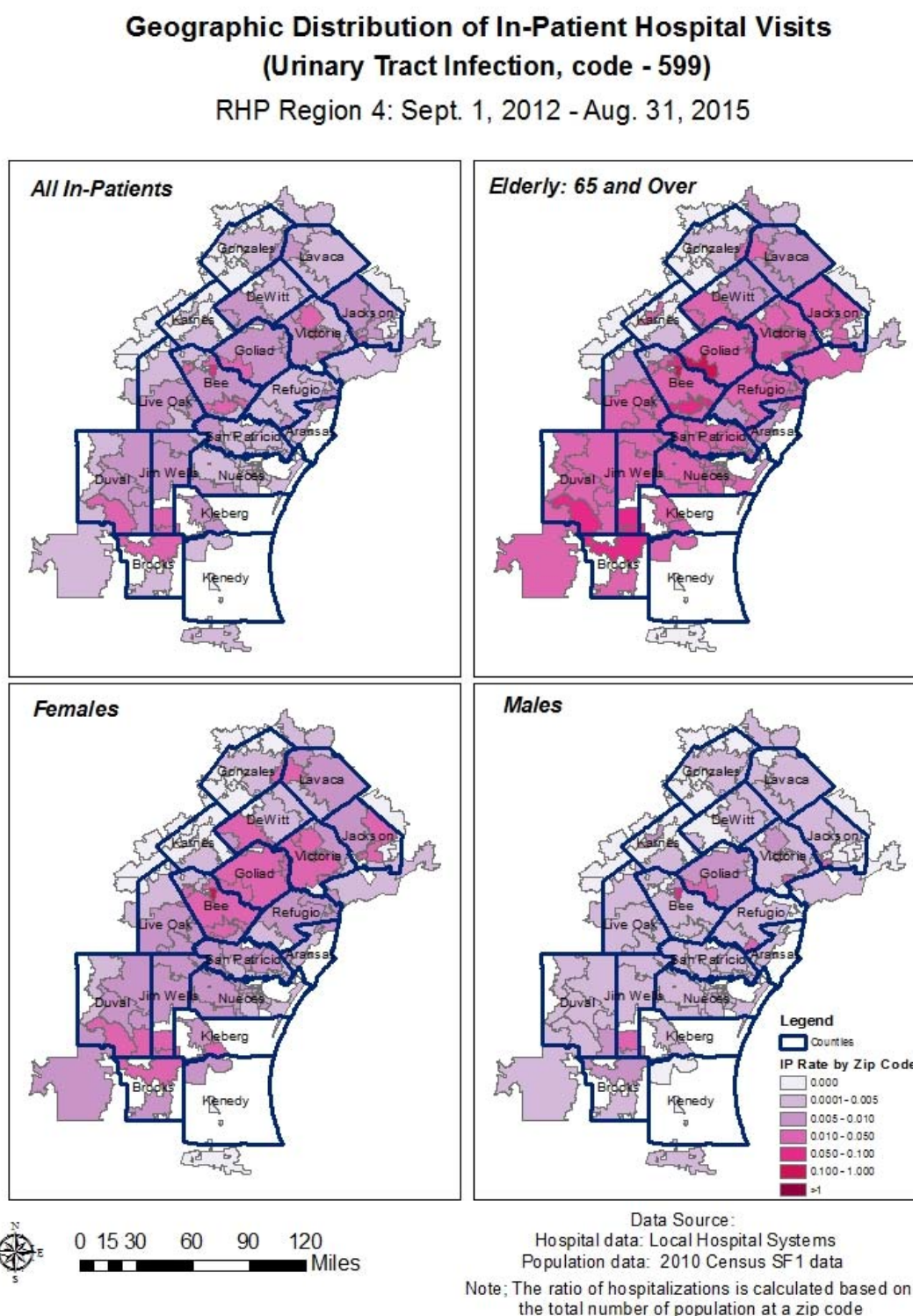


Figure 30. Geographic Distribution of In-Patient Hospital Visits for Pneumonia.

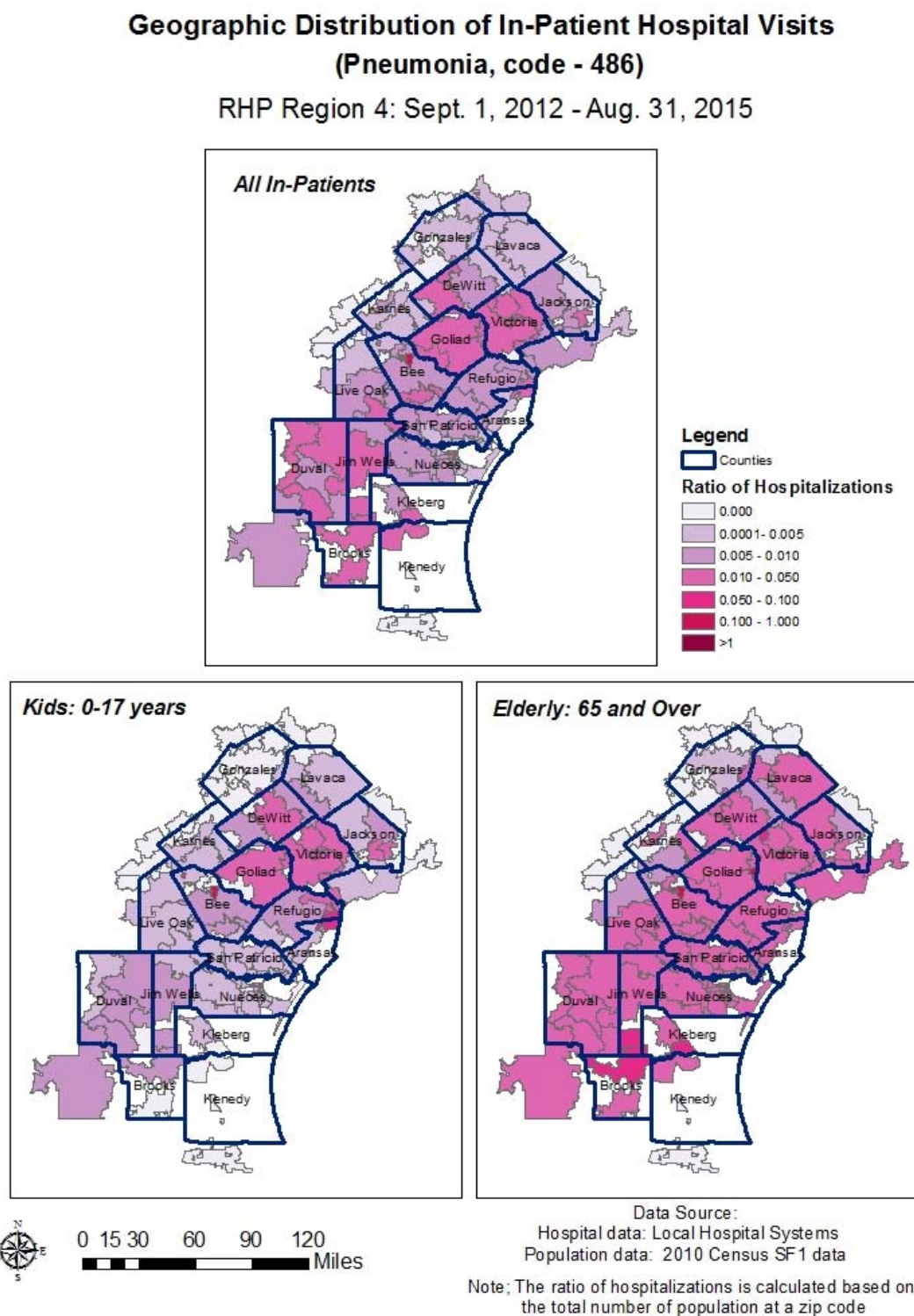
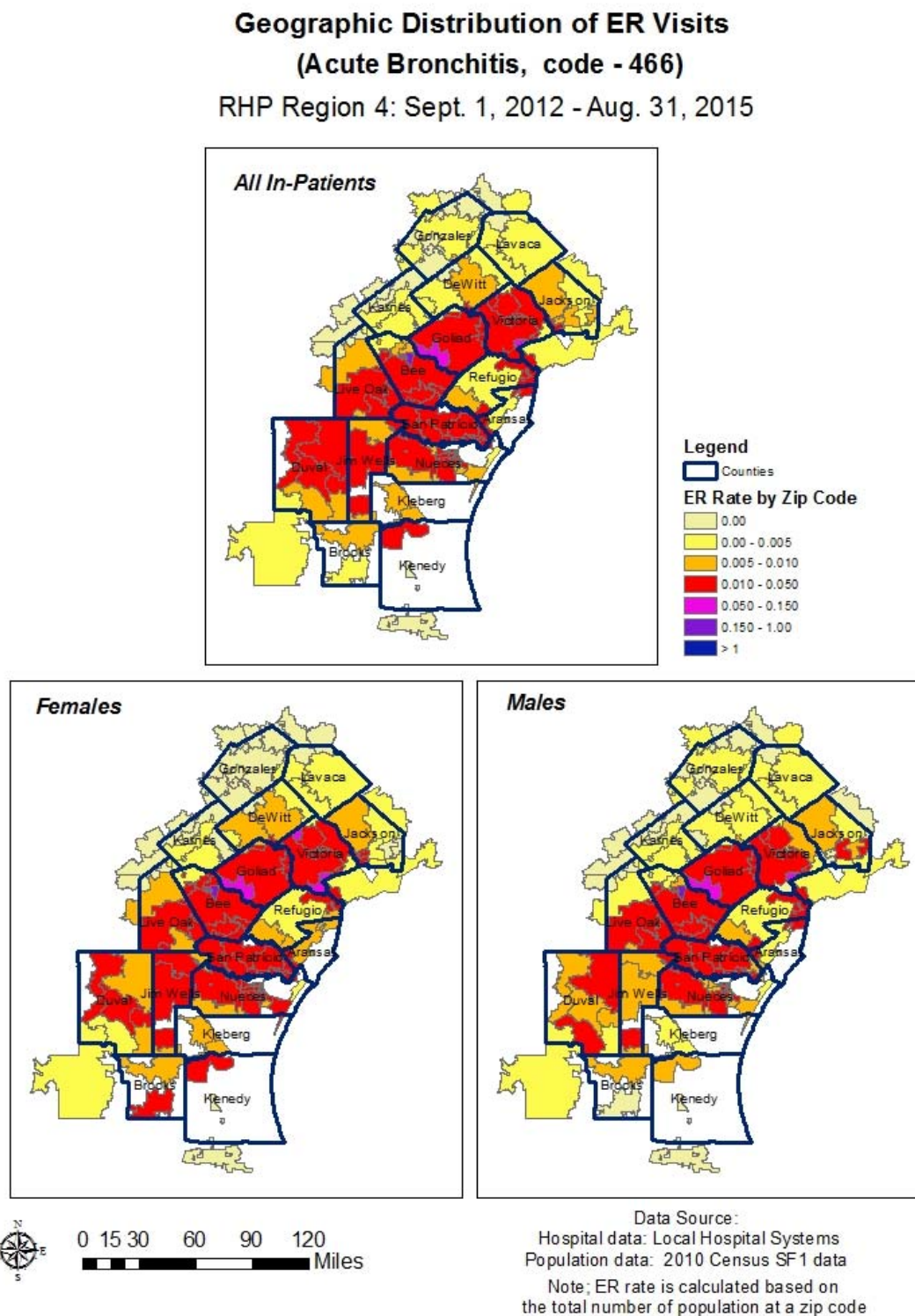


Figure 31. Geographic Distribution of In-Patient Hospital Visits for Acute Bronchitis.



Lack of Health Literacy

About half of the adults in the United States have inadequate or marginal functional health-related literacy. Lower health literacy is associated with poorer self-care abilities, poorer health status, less health care knowledge, reduced use of preventive services, increased hospitalization and increased health care costs (U.S. Department Health and Human Services, 2010).

“First Look” attendees and provider survey respondents both noted the lack of health literacy in the Coastal Bend. Over half of the providers noted that their patients lacked behavioral compliance and understanding of their bodies. They also noted that most did not understand how the payment system worked. The “First Look” attendees noted that there is a need to educate people about their health care needs and available resources.

Chronic and Co-morbid Conditions

As the data indicated, allergies, asthma, and ear infections top the list of chronic conditions reported by the community survey participants. In addition, heart disease, diabetes, and hypertension also remain among the top ten chronic conditions noted. Fifty-five percent of the community survey respondents reported poor physical health days. The provider survey respondents also identified heart conditions, diabetes, and hypertension as the top chronic conditions they see.

Obesity contributes to the cause of many health problems, including heart disease, stroke, and diabetes. The 2016 County Health Rankings demonstrate that almost a third of RFP4 residents are obese, similar to rates found in 2013.

Our local environment may contribute to obesity. Obesity is related to the food one eats and the amount of exercise one gets. In the County Health Rankings examination of the Health Behaviors and Physical Environment Factors (see Table 19), the RPH4 counties rank low compared to the U.S. and Texas for access to exercise opportunities (the proportion of the population with adequate access to physical activity locations), physical inactivity (the proportion of adults who report no leisure physical activity), and food environment index (index of factors that contribute to a healthy food environment (0-10)).

In addition, respiratory conditions in our community affect people’s quality of life including their ability to play and work. The community survey respondents identified allergies (59%) and asthma (41%) as the most common illness in the past 12 months. In the survey, 39% (71) of households with children report a previous asthma diagnosis and 68% still have it. Respiratory issues are in the top primary diagnoses for all in-patients and emergency department data. Respiratory issues are in the top primary

diagnoses for children. Allergies and chronic sinusitis are the fifth most common condition providers saw.

These chronic and co-morbid conditions for adults and children can lead to increased use of the emergency department and in-patient hospitalization.

What Can We Do to Improve Our Community's Health?

There are several approaches to improving the overall health of a community. The following represents some of the recommended tactics supported by the literature.

Integrate Health Care through Continuum of Care and Patient Navigators

Patient navigators (or community health workers) provide culturally sensitive assistance and care-coordination, guiding patients through available medical, insurance, and social support systems. The goal of the patient navigation system is to reduce disparities in health care access and increase healthy outcomes.

Although patient navigator programs vary widely across the country, the research indicates that patient navigation systems are especially effective for cancer screening (Genoff, 2016; Hou, 2015). Patient navigator programs with other health outcomes and access to care, however, are less documented.

Both health care providers and those who worked for a social service or health care service noted that noncompliance with treatment or maintenance programs may be a byproduct of patients not having access to resources so that they may be compliant. Equally important is the role patient navigators can play in helping patients/clients understand what they need to do to optimize their health. One interviewee discussed the way the language barriers exist between patients and health care professionals. Health care professionals use a medicalized language with which patients may not be familiar; thus, even among English speakers, the jargon a health care professional employs may sound like a foreign language. A patient navigator would have the training and experience to ensure that patients and their families/support system understand their doctor's instructions. Health care professionals noted, that when the nurse-patient ratio is high, nurses do not always have the time to sit and work with patients and their support network to ensure that the patient is clear about the things they need to do. A patient navigator may be able to help provide that necessary communication for the hospitals or doctor's offices while minimizing overhead costs.

Research (Michelen, et al. 2006) shows that community health workers help reduce emergency department visits for treatment that would be better delivered in providers' offices or in clinics. By diverting patients from the emergency departments to more appropriate care, community health workers increased patients' level of health and reduced costs. Community health workers also may increase health literacy through educating former emergency department patients about other resources available to them. The community health workers program in the CHRISTUS Spohn region

effectively demonstrated how the continuum of care strategy prevents visits to the ER and preventable hospitalizations. Community health workers in Victoria are initiating a similar program.

The County Health Ranking Organization reports that the continuum of care is scientifically supported, especially for certain diseases such as breast cancer. The County Ratings website (<http://www.countyhealthrankings.org/policies/systems-navigators-and-integration-eg-patient-navigators>) lists continuum of care programs found to be effective.

Increase Health Literacy

The Center for Disease Control says “The Patient Protection and Affordable Care Act of 2010, Title V, defines health literacy as the degree to which an individual has the capacity to obtain, communicate, process, and understand basic health information and services to make appropriate health decisions.” Research indicates the health information is often presented in a way that is misunderstood or is not usable by many U.S. residents. If people do not understand prevention and self-management of conditions, they will not be able to make informed decisions about their health care needs. Chronic conditions such as diabetes are especially difficult to manage without clear information.

Studies indicate that between 25-50% of the U.S. population has limited health literacy. The elderly and low income are the most likely to have lower levels of health literacy (Eichler et al, 2009). Low levels of health literacy are associated with poor use of health services and health outcomes. Those who worked for social service and health care agencies noted that signing people up for health insurance was the easy part of getting people access to insurance. The challenge was helping people who have never had access to health insurance before understand what they can access and how insurance works. This part of enrolling people into health insurance programs required time and effort. Assessments of the effectiveness of enrollment programs need to account for this aspect of offering services.

Although more evidence is needed to determine which interventions are most effective with certain populations, there is some evidence that mixed (print and multimedia) methods work well (Wilson et al, 2012). There is some evidence that community health workers help patients in multiple ways. They improve patient knowledge, healthy behaviors and access to health care (Viswanathan, 2009). Moreover, patients are assigned a community health worker or patient navigator who follows the patient for the first 90 days and/or makes home visits once the patient is discharged from the hospital

(Spencer, Gunter, and Palmisano, 2010). The patient navigator can provide one-on-one conversations about how to maintain health in a culturally sensitive manner.

The County Health Ranking Organization reports on several interventions that help improve health literacy at their website:

<http://www.countyhealthrankings.org/policies/health-literacy-interventions>.

Increase Primary Care Access

There are many barriers to health care in the Coastal Bend. Many in our area do not have health insurance, which limits their access to routine health care. Increasing primary care access strategically is important. One strategy is to increase public awareness about the Affordable Care Act and currently obtainable resources in the community. Efforts to guide Coastal Bend residents on how the Affordable Care Act will affect them and if they are eligible to enroll for insurance coverage are encouraged. These educational efforts could include public awareness campaigns, websites and a social media presence, in addition to print material, and person-to-person discussions.

Another barrier is the insufficient number of primary care physicians, dentists and specialists. Recruitment and retention of more health care providers to the region are mandatory for the health of Coastal Bend residents. Increasing the number of nurse practitioners and physician assistants can extend primary care treatment to more people. Survey respondents illuminated two structural issues related to increasing access to primary care. The first is the way that capitation currently works, which compensates providers by the number of patients/clients the provider has, the provider is incentivized to do less when providing care for patients. When capitation fees are used to compensate physicians, the more time they invest in caring for a patient, the less they are actually being rewarded for the amount of time they are spending on that patient. A second issue raised by interviewees was the fact that Corpus Christi hospitals graduate approximately 50-60 physicians per year, yet very few actually elect to stay in the Corpus Christi area to practice. One respondent noted, "hospitals need to remember their client isn't the patient; their client is the physician. Physicians can take their patients anywhere they want... It is not so much the compensation; [the hospitals here] have gotten away from being physician friendly." This respondent noted that hospitals in this area have a tendency to dictate policies to the physicians and hypothesized that increases in some shared governance practices in the hospitals may help with retaining physicians who complete their residencies in our local hospitals.

The few available health care providers are concentrated in Corpus Christi and Victoria, the more populous areas. The result is that Coastal Bend residents who live in rural areas have very few providers available to them. Many must travel some distance to

receive routine health care and may wait until the condition becomes worse and treatments more difficult. Two recommendations to address the needs of rural residents are to explore the use of telemedicine in the rural areas and increase the number of mobile clinics.

Accessibility also relates to providers' hours of operation and locations. In 2013, "First Look" discussants recommended the creation of community clinics in schools. School buildings are located in residents' neighborhoods, and they could be used as clinics during after-school hours. This would allow people to have access to health care on weekends and after work. Health practitioners could screen patients and make referrals as needed. Another recommendation is to encourage doctors and dentists to have some weekend and evening office hours to increase accessibility for those who cannot take off time from work to see a provider. Fully one third of workers have what can be considered irregular work schedules; ten percent work irregular or on-call work hours; seven percent work rotating or split shifts, and 17 percent have unstable work schedules (Golden 2015). These individuals are also more likely to members of what is considered the missing class—those making too much money to be identified as poor and eligible for social programs but not enough to have economic security (Newman and Chen 2011). Having health care professionals who operate practices outside of nonstandard business hours would increase individuals' access to health care providers and may also reduce the use of emergency departments for non-emergency conditions.

In a study of the Southwestern United States, Averill (2015) found that adequate housing, transportation, and food insecurity are especially problematic in rural communities. In rural communities, there is a tendency to wait to seek care until there is a crisis. Such practices may exacerbate the overall cost of health care to a community. The tendency to wait until there is a crisis may not be a function of rural culture; it may be a response to the lack of access to routine health care and limited economic opportunities. Those in rural communities not only have to travel far distances to access care, the income for workers in rural communities tends to be substantially less than wages for workers residing in more urban areas (Raasch 2007). Waiting to seek care may simply be a function of individuals hoping their health improves without intervention because the cost of seeking care can be prohibitive. Increasing access to care, outside of Emergency departments is one strategy hospitals and health care professionals can employ to try to counter rural health seeking behaviors.

Those who have history of health insurance instability tend to visit the doctor less frequently. When they become eligible for Medicare, compared to their counterparts who had regular access to health insurance (and, as a consequence health care), those with a history of insurance instability visit the doctor more often, often have more disabilities, and their disabilities are more severe. Thus, the cost of health care for them is more expensive (Reyes and Hardy, 2015).

These studies inform our understanding of vulnerable populations. Those in rural communities may be waiting to seek treatment until they are in crisis because they must expend energy meeting basic needs. Health issues may actually be ignored because meeting needs like housing and food take primacy. Additionally, populations that experience health insurance instability also tend to be poorer, placing them in similar situations as rural populations. Once they have health care as an entitlement, seeking services are less likely to place them in a position where they have to make choices between health care and food and shelter demands. At the same time, we also see them using the health care services to which they are entitled. This change in behavior suggests that the organization of the health care industry and the economy actually are responsible for the differences observed in health seeking behaviors. When barriers to access to care are removed, people seek care.

There are several ways to address accessibility. One is to advocate for Medicaid expansion. This could provide access to health care for the working poor, which could lead them to adopt more proactive behaviors and/or encourage doctors' visits before their health reaches a crisis.

Another approach is to consider supporting programs that can ameliorate housing, food insecurity, and transportation issues. The health care system can advocate for/support programs that are not directly related to health issues. By supporting programs in the community—like affordable housing initiative, supporting programs to increase food security, as well as other social service programs like increased access to affordable child care or expanded early child care education programs can create conditions that will enable individuals to direct some of their attention to their health and the health of their family members. Increasing access to reproductive health programs can encourage family planning and lower the rate of unintended pregnancies, which are correlated with low education attainment levels and lower wages, both of which are risk factors for being uninsured and not engaging in proactive care. Support of such programs could positively impact on the overall health of the entire community as well as have a positive impact on the expenses health care industries must incur when people neglect their health. .

Decrease Preventable Hospitalizations

Pneumonia and UTIs are some of the most common diagnoses in the hospital and emergency department data. The County Rankings revealed that the Coastal Bend counties are higher in preventable hospitalizations than Texas or the U.S. National Benchmarks. These infectious diseases can be avoided through pneumonia vaccination programs and education on how to prevent UTIs and pneumonia. The zip code mapping provided in this report are a first step, however, more analyses about the patients who suffer from these ailments would be prudent. If patients with UTIs are coming from

nursing homes or have catheters, then efforts to decrease UTIs may focus on educating caregivers about the maintenance and management of catheters. It would be prudent to learn if those who entered the health care system with pneumonia received a pneumonia vaccination. If they did not, it would be important to address the barriers to pneumonia vaccinations. Knowing more about how the patients came to the hospital is the first step the reducing preventable hospitalizations. The next step is to have more effective discharge planning and follow-up.

Some hospitalizations are related to co-morbidities and sometimes include physical and mental health conditions. To prevent admission/readmission patterns, a more integrated approach to patient care is needed. Increasing behavioral health services and mental health workforce could reduce the utilization of emergency departments for readmission inpatient psychiatric care.

There are several incentives for addressing preventable hospitalizations. One is better recovery for the patient. The other, however, represents changes in Medicare reimbursements as part of the Readmissions Reduction Program of the Affordable Care Act (ACA). Medicare will reduce payments to hospitals with excessive readmissions (within 30 days) for acute myocardial infarction (AMI), heart failure (HF) and pneumonia (PN). In 2015, the list could expand to include patients with acute exacerbation of chronic obstructive pulmonary disease (COPD) and patients admitted with elective total hip replacement (THA) and total knee replacement (TKA).

One caveat to this readmission reduction plan is that even if a patient is discharged from one hospital and readmitted at another, there will be a reduction in payment to the hospital with the readmission. Under health care reform, the continuum of care model now expands to all hospitals and health care providers in a region.

Regional hospitals are encouraged to share quality data and best practices around reduction of preventable hospitalizations. Health care delivery needs to be patient-centered, coordinated and integrated. In the future, it does not matter where a patient presents for readmission. The region shares the burden of preventing readmissions, and there will be economic penalties for not doing so.

Health care providers voiced concern for hospitals employing cost assessment metrics that were similar to “car dealerships” or “hotels” to determining staffing ratios. They advocated for staffing ratios that were a function of what patients need. When patients have multiple conditions and diagnoses, educating the patient and his/her support network (whether that is family and/or friends) is imperative to ensuring that patients have improved chances at maintaining/optimizing their health. While the staffing ratio of nurses to-patients may be lower and look like more of a cost burden, these health care providers argue that these patients will be more successful at managing their

illnesses/diseased when they arrive home and will be less likely to return “week after week with the same problem.” Two individuals who worked for social service and health care agencies advocated for hospitals to take a more holistic approach in treating patients. For these directors of agencies, supporting social programs that help people gain access to affordable housing and enhance patient food security, “would go a long way to helping patients be compliant with their treatment plans.” One respondent noted, “If a patient has to worry about eating, they are not going to spend the money they have on getting their medications; they are going to spend their money on food. The hospital industry needs to think about Maslow’s hierarchy of needs... we may be able to save health care costs simply by ensuring people have a place to stay and food to eat.”

Improve Women’s Health Status

The data indicate that many women are not getting the preventative screenings necessary to forestall chronic issues, such as breast and cervical cancers. In addition, the health of children in the area may be compromised by the lack of health literacy and low birth weights.

In an attempt to address the needs of women (and their children), the state of Texas expanded health programs to low income women. On July 1, 2016, Texas Health and Human Services Commission launched two new women’s health programs: the Healthy Texas Women program and the Family Planning Program. The programs extend existing women’s health and family planning services to more women in Texas. The Healthy Texas Women program offers comprehensive healthcare, including birth control; pregnancy tests and counseling; and health screenings and treatment for hypertension, diabetes and cholesterol. The Family Planning Program now offers additional services including limited prenatal care. The state also provides breast and cervical cancer screenings.

In the Corpus Christi area, there are 4 locations for these services. In the Victoria area, there are 2 (one is for health related matters and the other is for dental issues).

Address Respiratory Problems

The data indicates that asthma is one of the most frequent reasons for hospital admissions and emergency department visits for adults and children in RHP 4. This pattern is not unique to our area. Malhotra and colleagues (2014) mapped 1-year asthma prevalence rates for 556 southern counties, emergency department visit rates and racial disparity rate ratios. They found that low income children with Medicaid coverage experience considerable variation in asthma prevalence and outcomes from

one community to another. They also suggest that eliminating these variations provide a great opportunity for improving population-level health.

Both indoor and outdoor air quality can play a considerable role in avoiding potential asthma episodes. To reduce asthma, several approaches have demonstrated effectiveness. One approach is to ensure that children with asthma have a medical home. A medical home refers to coordinated sharing of responsibility among personal physicians and their teams, patients (and parents) to ensure that children have access to needed services for asthma management. One study (Diedhiou, et al. 2010) found that asthmatic children receiving care in a medical home were less likely to visit the Emergency Department.

Consideration of community and school environmental pollution is important. “Breathe across Texas,” for example, supports initiatives such as the Asthma Coalition of Texas (ACT). ACT is a partnership of individual and corporate members sharing a goal to optimize the quality of life for Texans with asthma by addressing asthma issues in medical management, patient education, epidemiology and surveillance, government, asthma in schools and the environment.

Another approach is to improve the home environment. A study (Postma, et al. 2011) of rural Hispanics, for example, found that educational programs delivered by community health workers improved the caregivers’ abilities to manage asthma medications and adopt behaviors to decrease asthma triggers in the home. Encouraging mothers to breastfeed their babies is worthwhile. Breastfeeding provides many health benefits to children including lower likelihood of asthma, obesity and diabetes (U.S. Preventive Services Task Force 2008).

Address Mental Health Issues

Often times, people experiencing severe mental illness do not receive treatment until their mental illness becomes disruptive or becomes a threat to the health and safety of others (Cummings and Kropf, 2009). Those with severe mental health issues often experience multiple health issues and addressing the mental health issues can help in effectively treating the other health issues not directly related to the mental health.

Screening for mental health issues is important not only for the individual but also for the community. Hess and colleagues (2011) recommended training for physicians to develop counseling and intervention skills for older patients. Doctors in private practice asked aging patients questions about memory concerns 45% of the time and hearing concern during 53% of the visits; doctors in residency clinics asked such questions only 27% and 38% of the time, respectively. Hearing and memory issues have an adverse impact on other health behaviors. Improving relationships between doctors and patients,

that lead to doctors to learning more about issues that may adversely affect behavioral and drug compliance. Unaddressed memory and hearing issues lead to greater reliance on the health care system. Continuing education programs that encourage health care professionals to discuss hearing and memory issues can have a positive impact on behavioral and drug compliance but can also extend the amount of time the elderly are able to live independently.

Tai-Seale and colleagues (2007) conducted a study that took place with doctors who agreed to have their patient visits video-recorded. The median amount of time doctors spent discussing mental health issues with their patients was 2 minutes. Patients completed a mental health screening inventory that was not part of the doctor's visit; researchers found that 50% of the patients' scores on the inventory indicated that they were depressed, yet mental health questions only occurred in 22% of the doctors' visits and the time spent on mental health screening was significantly shorter than the recommended 5 minutes. Additionally, many of the patients revealed suicidal ideation, an issue that also emerged as an issue in the Needs Assessment.

To help address the mental health issues in our community, health care provider training that focuses on screening for issues related to mental health for all patients and hearing and memory issues, particularly among the elderly, could be a first step to getting individuals the care they need and may actually help with the behavioral and drug compliance.

Increase Collaboration within Community

The Affordable Care Act's Readmissions Reduction Program will reduce Medicare payments to hospitals with excessive readmissions (within 30 days) for the following conditions: Acute Myocardial Infarction; Heart failure; Pneumonia; Chronic Obstructive Pulmonary Disease; and Total Hip/Total Knee Arthroplasty. If a patient is discharged from one hospital and readmitted to another, Medicare will reduce payment to the hospital with the readmission. Using the continuum of care model expands to include all hospitals and health care providers in a region. The ultimate goal is to keep the community as healthy as possible through prevention, screening, and monitoring of chronic conditions.

Hospital systems may need to work together to create a system to track patients who are frequent visitors. To reduce readmissions to the hospital, learning about the patient's living environment may enhance knowledge about what is contributing to the patient's chronic issues and readmissions. Once identified, strategies to increase/maintain the health of the patient can be developed, hopefully leading to a reduction in readmissions.

Family caregivers are referred to as a “shadow workforce” of the health care industry. As the health care system is currently organized, they provide the bulk of the informal care for patients, but the health care system does not include them when providing information about the patient (Booliman and Kimbrel, 2011). Caregiving is extremely patient focused with little regard for the social network that works to ensure behavioral and drug compliance for patients. Systems should develop programs that can make family and informal caregivers more integrated into the treatment plans.

Other types of collaborations are important to consider as well. For example, evidence supports the effectiveness of community fitness and exercise programs aimed to increase physical activity, especially for older adults (Holland, 2005, Cruz-Ferreira, 2011). Social support interventions that accompany these activities also are helpful (CG-Physical activity).

Most importantly, health disparities are best tackled from multiple levels. Individually based interventions are important but they are not enough. Looking back to the 20th century’s greatest public health achievements, such as water fluoridation, food safety, and motor vehicle safety, it is evident that population based strategies lead to the greatest improvements in people’s overall quality of life. Improving the places where people live, play and work are the best strategies to reduce health inequities. The Center for Disease Control advocates using health practitioners who “play an important role in these improvements by engaging the community, identifying needs, conducting analyses, developing partnerships, as well as implementing evidence-based interventions” (CDC, *A Practitioner’s Guide for Advancing Health Equity*, 2013:2). Interventions that focus on systems improvements, policy improvements and environmental improvements have the greatest potential to prevent and reduce health inequities.

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APPENDIX A

University of Wisconsin Population Health Institute: County Health Rankings and Roadmaps

APPENDIX B

Coastal Bend Counties' Census Data

APPENDIX C

Community Survey

APPENDIX D

Social Services and Provider Survey

APPENDIX E

Additional Maps