UT Health San Antonio
Population Health Strategic Plan

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Acknowledgements

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Introduction

Population Health Strategic Plans developed by the six University of Texas System health institutions represent a logical extension of the UT System's longstanding concern for the health and well-being of Texas citizens. In 2006, a new report, *Code Red: The Critical Condition of Health in Texas*, assessed the magnitude of healthcare coverage issues and recommended strategies for improvement.[1] In response, Dr. William Henrich, then the Dean of the School of Medicine at The University of Texas Health Science Center at San Antonio (now called UT Health San Antonio™), recruited Dr. Amelie G. Ramirez to establish the Institute for Health Promotion Research (IHPR) in 2006 to meet critical needs identified in *Code Red*. The IHPR provides innovative, culturally appropriate educational and behavioral science interventions and communication to improve the health of South Texas majority Latino population. In 2010, Dr. Barbara J. Turner joined UT Health San Antonio and established the Center for Research to Advance Community Health (ReACH) in collaboration with the UT Health Science Center at Houston (UTHealth) School of Public Health and University Health System to develop initiatives and interventions addressing disease prevention and improved outcomes of chronic diseases through health services and community-partnered research. In 2014, a further advance in UT Health San Antonio's population health initiatives was accomplished with the transformation of the South Texas Area Health Education Centers (AHECs) from an educational mission to a combined research/educational mission serving the 38 counties in our region. The following Population Health Strategic Plan builds on this initial infrastructure to expand UT Health San Antonio's commitment to addressing the most pressing health needs of South Texas citizens.

1) Identified Catchment Area

The Population Health Strategic Plan for UT Health San Antonio aims to address the health and well-being of residents in 38 counties of South Texas (Figure 1). Our large catchment area was defined based on our initial 38-county coverage mandate from the Texas Legislature as part of 1989's South Texas Border Health Initiative and: 1) counties served by our five AHECs under the auspices of UT Health San Antonio's Vice President for Research (VPR) office; 2) extensive research, clinical and educational programs directed by ReACH, IHPR, Cancer Therapy and Research Center (CTRC, now renamed UT Health San Antonio MD Anderson Cancer Center), and others to serve this region; 3) alignment with IHPR's *South Texas Health Status Review* that assessed health disparities in these 38 counties.[2]

Figure 1 South Texas Catchment Area

As the largest comprehensive health sciences university in South Texas, we have a long history of initiatives that focus on addressing population health challenges of this culturally rich, but economically disadvantaged region.

South Texas is characterized by large variations in population density. Our catchment area includes 19 counties with population densities of less than 30 persons per square mile. In contrast, San Antonio is the seventh largest city in the United States and the fastest growing among the 10 largest cities in the nation. San Antonio is also the largest majority-minority city in the country with 63% of residents self-identifying as Hispanic. Compared with the rest of the state and the nation, our region's rapidly growing population is younger, predominantly Latino, and socio-economically and educationally disadvantaged.

South Texas AHEC Service Area

UT Health San Antonio houses the central and administrative office for the South Texas AHEC, which has five regional AHEC centers covering the 38-county South Texas area (Figure 1) to collaboratively improve individual- and community-level health by: training health professionals to provide culturally competent and quality care; developing the next generation of healthcare leaders; and designing innovative health promotion programs. Each regional AHEC center has a director, staff, and local office that have been used over the years to work with community-based leaders and agencies to improve the supply, distribution, diversity and quality of health care personnel and increase the number of primary care physicians and other health professionals in the region. South Texas AHEC, established in 1991 with funding from the Health Services and Research Administration (HRSA), has been continuously funded. In 2015, UT Health San Antonio's VPR office developed the South Texas AHEC Research Initiative to use the regional AEHC centers to develop community engagement research projects, grant proposals and theory-driven research.

Extensive Research, Clinical and Educational Programs and Collaborations

UT Health San Antonio has many diverse projects, programs, and partnerships that address our catchment area's health and healthcare issues. For example, we have active Medicaid Waiver projects in seven of our 38 counties, focusing on health topics as varied as hepatitis C screening and treatment for baby boomers; multi-professional disease management programs for individuals with diabetes, hypertension, and/or hyperlipidemia; adolescent outpatient substance abuse treatment with both adolescent and parent components; and a health information exchange to improve quality of care evaluation. UT Health San Antonio partners with seven practice-based research networks (PBRNs) across the region and conducts federally- and state-funded projects to improve evidence-based healthcare and to provide culturally sensitive education. We also have extensive long-standing military and community partnerships, such as our Clinical and Translational Science Award (CTSA) that created citizen stakeholder groups to guide our community initiatives through seven county-level Translational Advisory Boards (TABs) in Frio, Bexar, Comal, Guadalupe, Gillespie, Karnes and Atascosa Counties. These TABs are facilitated and sustained by the South Central AHEC. We also have a community "Alliance" advisory board established in 2012 to guide and inform initiatives of ReACH and the AHECs. These community connections have grown over the years and inform community-partnered research funded by the Patient Centered Outcomes Research

Institute (PCORI) and the National Institute of Health (NIH), among others. We will capitalize on our partnerships and networks in South Texas to engage communities in population health initiatives.

Alignment with IHPR and Other Studies of Population Health

The IHPR's *South Texas Health Status Review (2013)* was the first document to assess 35 health conditions and identify the exact health disparities and population health issues facing people in the 38-county region of South Texas, compared to the rest of the state and nation.[2] UT Health San Antonio's strategic plan presented in this document reflects information gathered from primary and secondary data sources, including: 1) the IHPR's *South Texas Health Status Review*; 2) diverse national and local databases on demographics, disease prevalence, health behaviors and access to health care services; 3) community-articulated priorities from focus groups; 4) a survey of population health-related projects at UT Health San Antonio as well as community partners collaborating on these projects; and 5) information related to the development of new research and programs focusing on military members, veterans and their families. As described in the following sections of our plan, this environmental survey and primary data from the community complements data from diverse sources to support our strategic plan.

2) Population Health (Health Outcomes and Health Disparities)

Demographic, Socioeconomic and Access to Care Measures

Our strategic plan draws from national and statewide data from surveys, registries, the U.S. Census Bureau, and IHPR's *South Texas Health Status Review* to highlight the specific demographics, health behaviors, health outcomes (morbidity and mortality) and health disparities in our 38-county South Texas region compared to the rest of Texas and nation.

South Texas has 4.7 million residents (69% are Latino, 25% Non-Hispanic Caucasians and 4% African-American). Table 1 shows that only 7 of 10 adult South Texans graduated from high school (versus 8 of 10 in the rest of Texas) and 10% are not proficient in English, according to aggregated statistics for our catchment area from the *County Health Rankings & Roadmaps*, a collaboration of the Robert Wood Johnson Foundation (RWJF) and the University of Wisconsin Population Health Institute.[3] Table 1 also reveals challenges in regard to healthcare, with a low median income, high uninsured rate (>25%), and most regions designated as medically underserved by HRSA. Among the region's residents, 26% live in poverty versus 15% nationally.[3] The proportion of children

Table 1 Selected South Texas Resident Characteristics

Socioeconomic and Behavioral Factors* (%)	Population N=4,712,759
% Hispanic	69%
High school graduate	88%
% Unemployed	5.8%
Median Income	$43,438
Not English proficient	10%
Living in rural areas	12%
Full/partially medically underserved	91%
Uninsured	26%
Physical inactivity	27%
Excessive drinking	16%
Low birthweight	9%

ages <18 who live in poverty in 2014 was 30.3% in South Texas versus 25% for all of Texas (data not shown). Moreover, the 10 Texas counties with the highest poverty rates in 2010 were located in South Texas, and federal courts have designated all South Texas counties as "educationally disadvantaged." South Texas is a region with significant socio-economic and educational disparities that affect population health.

The *IHPR's Review* offers sound support for priority health challenges in the region such as obesity, diabetes, and certain cancers. [4] In 2008 and again in 2013, the IHPR's *Review* analyzed diverse county, state, and national data sources to compare South Texas' incidence, prevalence and mortality rates for more than 35 health indicators, ranging from cancers and chronic diseases to communicable diseases, maternal health and environmental health. IHPR Researchers found that South Texas had higher rates than in the rest of Texas for 12 health indicators: obesity; diabetes; cervical, liver, stomach and gallbladder cancers; child and adolescent leukemia; neural tube defects; other birth defects; tuberculosis; chlamydia; and childhood lead poisoning. For example, the percentage of obese adults in South Texas (32.7%) was higher than for the rest of Texas (29.1%) and the nation (27%). On the other hand, South Texas had lower rates for 16 health indicators, including breast, colorectal, prostate and lung cancers. Ethnic health differences were also observed with incidence rates for several health indicators higher for South Texas Latinos than South Texas non-Latino Caucasians. For example, more Latinos in South Texas were obese (37.9%) compared with their Caucasian counterparts (24.6%). South Texas Latinos had higher rates of breast and colorectal cancers compared to their Latino counterparts in the rest of Texas. Specifically, Latina women in South Texas had a higher incidence of breast cancer (95.6/100,000) than Latinas in the rest of Texas (90.7/100,000), although they did not have a statistically significantly higher breast cancer incidence compared to Latina women nationwide.

Leading Causes of Mortality in South Texas

Mortality data for South Texas was obtained from CDC Wonder's Underlying Cause of Death database, which offers mortality rates for all U.S. counties based on death certificates. Each death certificate identifies a single underlying cause of death along with demographic data. Table 2 shows age-adjusted mortality rates per 100,000 persons for the 15 leading causes of mortality in 2014 in the 38-county South Texas region compared with mortality rates in Texas and the U.S.[4] Clearly, heart disease and malignant neoplasms are the dominant causes of mortality both regionally and nationally, but mortality for these conditions is lower in the South Texas region than elsewhere. The mortality rate for chronic lower respiratory diseases is also markedly lower in comparison with the state and nation. Conversely, as noted in the IHPR's *South Texas Health Status Review*, mortality due to diabetes mellitus is higher in South Texas than in Texas and the U.S. (26.3, 21.3, and 20.9/100,000 respectively). Similarly, mortality from chronic liver disease is far higher in the South Texas region compared with Texas and the U.S. (19.6, 13.5 and 10.4/100,000, respectively). As shown, mortality from liver disease in our region is nearly twice the national rate. In South Texas and Texas, mortality rates from septicemia as well as renal disease are also higher than nationally. An examination of these top 15 causes of mortality in South Texas stratified by ethnicity reveals that mortality rates per 100,000 persons for Latinos are more than double those of their non-Latino counterparts for diabetes mellitus (34.3 versus 16.6, respectively) and chronic liver disease/cirrhosis (25.4

versus 11.7, respectively) (data not shown). Latinos also have higher mortality rates than non-Latinos for septicemia (20.7 versus 12.6, respectively); nephritis/nephrotic syndrome/nephrosis (19.1 versus 12.3, respectively); and influenza/pneumonia (17.7 versus 12.9, respectively). Conversely, non-Latinos have a higher mortality rate from malignant neoplasms than their Latino counterparts (155.3 versus 129.5, respectively). Notably, mortality rates for non-Latinos in South Texas are more than double their Latino counterparts in regard to both chronic lower respiratory diseases (40.7 versus 19.0, respectively) and suicide (16.1 versus 7.1, respectively).

Table 2 Age-adjusted mortality rates for South Texas, Texas and the U.S.: 15 leading causes (2014)

Cause	South Texas (per 100,000)	Texas (per 100,000)	United States (per 100,000)
Diseases of the Heart	165.6	169.9	167.0
Malignant Neoplasms	142.1	152.9	161.2
Cerebrovascular Disease	38.7	41.6	36.5
Unintentional Injuries	34.2	37.3	40.5
Chronic Lower Respiratory Disease	29.5	40.5	40.5
Diabetes Mellitus	26.3	21.3	20.9
Alzheimer's Disease	26.3	30.0	25.4
Chronic Liver Disease Cirrhosis	19.6	13.5	10.4
Septicemia	16.9	16.7	10.7
Nephritis, Nephrotic Syndrome, and Nephrosis	15.9	16.5	13.2
Influenza and Pneumonia	15.3	14.2	15.1
Suicide	10.3	12.2	13.0
Parkinson's Disease	7.7	7.9	7.4
Hypertension/Renal Disease	6.8	8.4	8.2
Homicide	5.6	5.2	5.1

Selected Indicators of Morbidity in South Texas

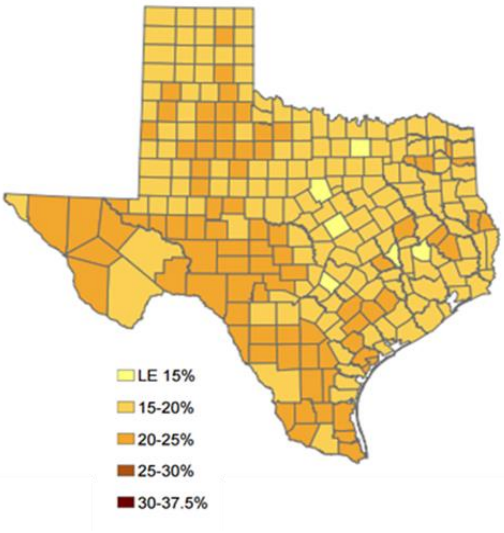
Obesity

Studies of obesity prevalence in our region and the state report varied rates, but there are clear themes – showing a markedly higher prevalence in our Latino majority population of South Texas. According to 2013 Texas Behavioral Risk Factor Surveillance System (BRFSS) data, in South Texas regions 8 and 9, which closely approximate our 38-county region, the prevalence rates of obesity were 38.3% and 41.1%, respectively.[6] In contrast, the 2015 BRFSS reported the prevalence of obesity in Texas was 32.4% overall and 36.9% among Latinos statewide.[7] The high prevalence of obesity contributes to the strikingly high prevalence of diabetes, which is far higher in the South Texas region, as described below.

Diabetes Mellitus

In 2015, the Texas Department of State Health Services (DSHS) reported that the prevalence of diabetes in the state had risen to 11%, and among Latinos and African Americans in the state it was 12.7% and 12.9%, respectively. As shown in Figure 2, the highest prevalence of this disease (darker yellow) is concentrated in South and West Texas where the prevalence in all counties is over 15%.[9] By comparison, the prevalence of diabetes nationally is 9.3%. Also, Latinos in South Texas had both higher diabetes incidence and mortality rates than in the rest of Texas and the nation.[10]

Figure 2 Prevalence of Diabetes in Texas Counties (2015)



Malignant Neoplasms (Cancer)

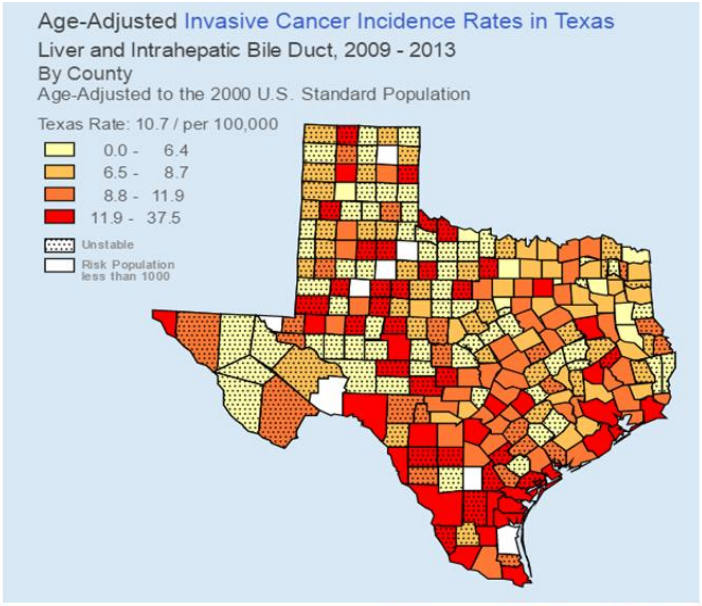
The incidence of liver cancer (hepatocellular carcinoma) is higher among Latinos in South Texas than elsewhere in the United States, and could be associated with greater prevalence of obesity and diabetes.[9-10] Counties in red have incidence rates for liver/bile duct cancer of ≥11.9/100,000, while, in comparison, the incidence rate nationally for liver/bile duct cancer was 8.4/100,000 in the same years (identified through Texas DSHS' Texas Cancer Registry; Figure 3, Part 1).[11] In fact, incidence of liver/bile duct cancer in Texas is nearly the highest in the nation.[12] This marked health disparity is likely multifactorial, reflecting liver disease due to hepatitis C virus (HCV) infection, alcoholic hepatitis and obesity. As noted below, HCV screening, diagnosis and cure are the focus of a major initiative across Texas lead by the ReACH Center. The IHPR's *Review* discovered cancer disparities in South Texas where incidence rates (Figure 3, Part 2) and mortality rates (Figure 3, Part 3) are higher than the state and nation for cervical, liver, stomach, gallbladder cancers and childhood and adolescent leukemia. In South Texas, stomach cancer incidence in Latinos (11.4/100,000) was more than two times that of non-Latino Whites (4.7/100,000).[13]

In South Texas, the incidence of gallbladder cancer in Latinos (2.5/100,000) was 2.8 times that of non-Latino Whites (0.9/100,000).[13] Kidney cancer among men was also statistically higher in regions 8 and 10 than the rest of Texas, and our experience has been that it is typically of a more aggressive, later-stage disease (likely reflecting a stage migration related to poor access to care).

Years Potential Life Lost (YPLL)
A global measure of the health of a community is the number of years of YPLL that serves as an indicator of premature death. According to RWJF's *County Health Rankings & Roadmaps*, in South Texas, the average number of YPLL between 2001 and 2013 was 7,752/100,000 persons, which is substantially higher than the Texas-statewide average of 6,620/ 100,000 persons during the same time period.[3]

Self-Rated Health
In our 38-county South Texas region, 26% of respondents reported fair or poor health compared with 20% of all respondents in Texas (respondents' ratings are on a five-point scale of excellent, very good, good, fair and poor). BRFSS respondents in South Texas also reported a mean of 4.1 poor physical health days/30 days compared with 3.5 such days for all respondents in Texas; and, for mental health, a mean of 3.3 versus 3.0 poor days.

Figure 3 Liver/Bile Duct Cancer Incidence in Texas



Cancer Type	Incidence per 100,000 population* South Texas, 2005-2009	Rest of Texas, 2005-2009	US, 2004-2008
Breast Cancer	106.3	117.5	124.0
Cervical Cancer	10.5	9.3	8.1
Colorectal Cancer	41.7	44.8	47.2
Prostate Cancer	121.2	146.4	156.0
Lung and Bronchus Cancer	49.6	66.9	62.0
Liver and Intrahepatic Bile Duct Cancer	12.2	8.4	7.3
Stomach Cancer	8.3	6.7	7.7
Gallbladder Cancer	1.7	1.1	1.2
Childhood and Adolescent Leukemia (2000-2009)	53.5 per million	46.0 per million	44.9 per million

** All rates except child and adolescent leukemia are expressed in terms of incidence per 100,000 population. Child and adolescent leukemia, however, is expressed in terms of incidence per million population.*

Cancer Type	Mortality per 100,000 population* South Texas, 2005-2009	Rest of Texas, 2005-2009	US, 2004-2008
Breast Cancer	19.7	22.7	23.5
Cervical Cancer	3.4	2.8	2.4
Colorectal Cancer	13.9	16.7	17.1
Prostate Cancer	18.8	22.1	24.4
Lung and Bronchus Cancer	36.2	50.2	51.6
Liver and Intrahepatic Bile Duct Cancer	9.3	6.7	5.3
Stomach Cancer	4.6	3.7	3.7
Gallbladder Cancer	0.8	0.6	0.6
Childhood and Adolescent Leukemia (2000-2009)	12.0 per million	7.7 per million	8.0 per million

** All rates except child and adolescent leukemia are expressed in terms of mortality per 100,000 population. Child and adolescent leukemia is expressed in terms of mortality per million population.*

Health Risk Factors

Underlying poor health status in South Texas, are many prevalent risky health behaviors that contribute to disproportionate morbidity and mortality. The IHPR's national *Salud America!* Childhood Obesity Prevention Program (funded by RWJF) launched the Salud Report Card in 2016 to give a county-level view of key health risk factors on indicators such as healthy eating, physical activity, health insurance rates and vulnerable populations—and how that data compares to the rest of Texas and the nation.[14] The Salud Report Card for Webb County in South Texas, for example, indicates Webb County has a higher obesity rate (31.3%) than the rest of Texas (27.9%) or nation (27.5%), combined with fewer grocery stores, less consumption of fruits and vegetables, less access to recreation and fitness facilities, less physically active

residents, more children in poverty, less access to primary care and far less health insurance coverage.[14]

Physical Inactivity and Access to Exercise Facilities
In South Texas, 27.2% of adults reported to BRFSS in 2012 that they had no leisure-time physical activity versus 24% in Texas overall. Of even greater concern, the 2013 Fact Sheet from Texas DSHS found that over one third (34.5%) of Latinos in the state reported no leisure-time physical activity.[15] With regard to access to exercise opportunities, defined as living close (within 3 miles) to recreational facilities (e.g., parks, gyms, community centers, pools, etc.), only 53% of individuals residing in South Texas reported having access to exercise opportunities compared with 84% in Texas overall. This large difference in access contributes to disparities in rates of engaging in physical activities.

Excessive Alcohol Consumption
The BRFSS asks about binge drinking ($\geq$4-5 drinks on one occasion in the past 30 days) or heavy drinking ($\geq$1-2 drinks per day). In South Texas in 2014, 15.8% of residents reported excessive alcohol consumption versus 17% in the state. However, binge drinking increases risks of liver disease, which clearly has a disproportionate impact on health in this region in combination with nonalcoholic fatty liver disease (NAFLD) due to obesity and HCV infection.

Adult Smoking
BRFSS asks respondents if they smoked at least 100 cigarettes in their life and if they smoke every day or most days; rates were similar for South Texas (15.9%) versus Texas overall (15%). These rates of tobacco smoking are lower than nationally (17%). Recent statistics from Texas BRFSS reveal that the rate of smoking for Latino adults ages 18-29 is approaching that of their non-Latino White peers. Additionally, disparities exist by gender (more smoking among Latino men than women).[16]

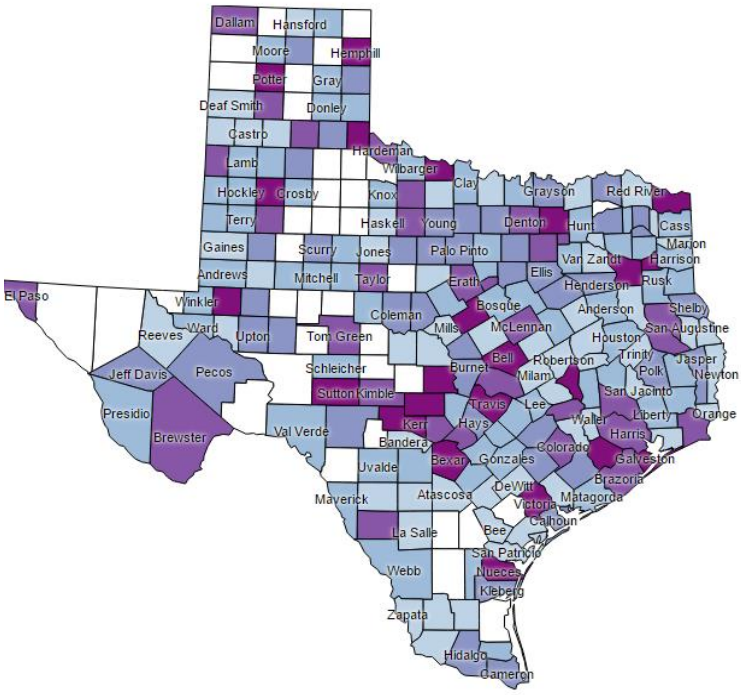
Low Birth Weight and Teen Birth Rate
Low birth weight (<2,500 grams) was reported for 8.6% of all live births in South Texas versus 8% in Texas as a whole. Births per 1,000 females ages 15-19 between 2007 and 2013 in South Texas was 68.1 versus 52 in Texas as a whole. Thus, this region has much higher rates of teen pregnancy, particularly compared to the national average of 24.2.

Violent Crime
In South Texas in 2010-2012, 310.2 violent crimes—involving face-to-face confrontation between a victim and a perpetrator (violent rape, aggravated assault, robbery and homicide)—were reported/100,000 residents compared with 422/100,000 in Texas.

Access to Care
In South Texas, 35 of 38 counties have some type of health professional shortage.[17-18] About 60% percent of the 38 counties have been designated rural by HRSA, with seven of

them also classified "rural frontier," which indicates an extremely low population density that may be associated with even more extreme health professional shortages.

Figure 4 Primary Care/Resident Ratio in Texas in 2013



In 2013, there was only one primary care physician per 3,501 residents in South Texas compared with 1/1,680 for the state. Thus, more than twice as many residents are served by one primary care physician in South Texas than in Texas as a whole. Data from the Area Health Resource File in 2013 (Figure 4) demonstrates clearly this poor supply of primary care physicians. Figure 4's lighter blue counties have the fewest primary care physicians (lightest blue is 9.2-25.2/100,000 and darkest purple is 87-146.3/100,000). No data were available for areas in white. Notably, only 3/38 counties in our region have high ratios of primary care providers.[17-18] Not surprisingly, federally-designated Primary Care Health Professional Shortage Areas (HPSAs) are common in South Texas, with the poorer provision of primary care in our rural counties of South Texas. Dental HPSAs are also common in South Texas, especially along the Texas-Mexico Border, whereas mental health HPSAs are distributed across all of Texas.

Of the 254 counties in Texas, 55 counties have one dentist and 49 counties have no dentists. Based on this information, 41% of Texas counties lack an adequate dental workforce. When compared with data from 2012, the number of Texas counties with no dentists increased from 40 to 49. Of the counties with a population between 10,000 and 50,000 people, 23 counties have one dentist and 5 counties have no dentists. When compared to median household income, areas in the Panhandle have fewer dentists as do areas along the Texas-Mexico border where median incomes are less than half of the national average (Do *et al*. 2015). The number of Texas counties with an inadequate dental workforce is increasing.

Health Insurance Rates

Although the Affordable Care Act (ACA) has increased healthcare coverage in record numbers, Latinos still have poor access to health insurance. In South Texas, the IHPR's *Review* indicated that in 2010, about 30% of adults lacked health insurance compared to 23% in the rest of Texas.[19] While both of those percentages have been reduced by the ACA in recent years, the disparities remain. For example, in South Texas alone, the percentage of Latinos with no health care was almost 3.5 times higher than for non-Latino Caucasians. Unfortunately, the future of health care coverage is highly uncertain and may become far

worse for residents of our region. Yet health insurance does not address the serious health care access problems that are even more severe for low-income residents of our region.

Summary

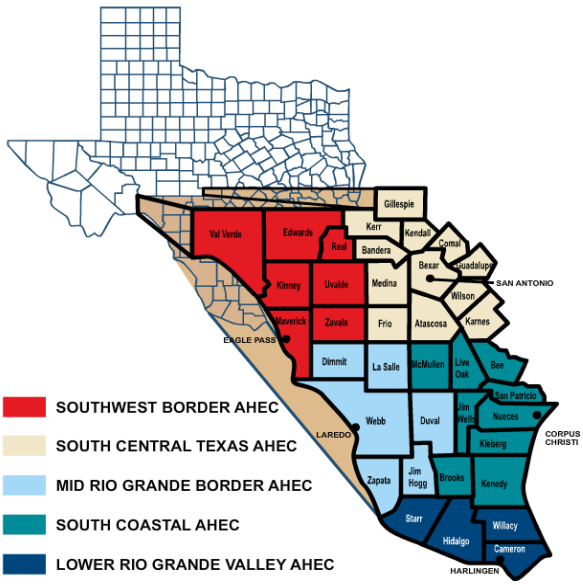
Overall, socioeconomic status measures, indicators of health care access, and data on unhealthy behaviors reinforce the need to systematically address the significant health and healthcare challenges confronting our 38-county catchment area. Although currently mortality rates from two major causes of death nationally—heart disease and cancer—are lower for this region, the health of our racial/ethnic residents will be increasingly and disproportionately compromised by diseases related to negative health behaviors, such as sedentary lifestyle and obesity. Clear consequences of lifestyle risks are seen in the higher prevalence of diabetes and chronic liver disease in our South Texas region compared with Texas and the U.S.

Data regarding YPLL ratings from RWJF for our counties point to greater morbidity in this region than for the rest of the state. These nonspecific indicators of morbidity may reflect health challenges for which prevalence data are not available by county, such as mental health conditions and chronic non-cancer pain. These health threats are heightened by poor access to health care as over 90% of this region has been designated by federal agencies as medically underserved. Deficiencies in primary care require creative solutions to maximizing available resources and complementing them with ancillary services and interventions that will require even more creative collaborations between academic and community partners.

3) Community Needs and Priorities Assessment

A key aspect of community-partnered research and population health is listening to and partnering with community members to address their health priorities. Existing databases are static and do not offer real-time information about the community's concerns and priorities. Consequently, our team elected to obtain primary data from community focus groups throughout our catchment area. Through our partnership with the South Texas AHEC centers, we conducted five focus group meetings about health priorities in the five AHEC regions (Figure 5) including: South Central (Atascosa, Bandera, Bexar, Frio, Gillespie, Guadalupe, Karnes, Kendall, Kerr, Medina and Wilson counties); South Coastal (Bee, Brooks, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces and San Patricio

Figure 5 South Texas AHEC regions



counties); Lower Rio Grande Valley (Cameron, Hidalgo, Starr and Willacy counties); Mid Rio Grande Border (Dimmit
Duval, Jim Hogg, La Salle, Webb and Zapata counties); and Southwest Border (Edwards, Kinney, Maverick, Real, Uvalde, Val Verde and Zavala counties). During the focus groups, attendees were asked to discuss their health and healthcare priorities and suggest ways to promote health and healthier living in their communities. These primary data offer valuable insights to complement the data that we collected from existing surveys and databases. AHEC directors and their staff members recruited 12-20 community members who represented the demographics of their specific region. Although a convenience sampling strategy was employed, recruitment aimed to meet specific objectives for participation of diverse community subgroups (e.g., Latino, male, lower socio-economic status). Only one member per family (immediate or extended) was eligible to participate. Before attending the focus groups, each consenting participant was asked to complete a demographic questionnaire (Appendix 1). Prior to starting the discussion, the bilingual moderator provided an overview of the process, purpose of recording and answered questions. Each focus group lasted about two hours and was audiotaped for later transcription and analysis. As shown in Table 3, the number of participants in each group ranged from 12 in the Lower Rio Grande Valley to 21 in the South Coastal region. Most were middle-aged women, and mostly Latino (except for one group). In three of the predominantly Latino groups, only half of the participants reported having health insurance.

Table 3 Demographic Characteristics of Focus Group Participants

Characteristics	South Central n = 16	South Coastal n= 21	Lower Rio n = 12	Mid Rio n = 17	Southwest n = 14
			%		
Sex					
Women	75.0	100.0	58.3	76.5	100.0
Age Group (years)					
<30	25.0	9.5	58.3	0	0
30-39	18.8	19.0	16.7	0	14.3
40-49	6.3	23.8	8.3	29.4	50.0
50-59	18.8	28.6	8.3	23.5	28.6
60+	31.3	19.0	8.3	41.2	7.1
Race/Ethnicity					
Latino/Hispanic	43.8	85.7	91.7	100.0	100.0
Caucasian/White	31.3	14.3	8.3	0	0
Black/African American	25.0	0	0	0	0
Health Insurance					
Yes	81.3	76.2	50.0	58.8	50.0
Preferred Language					
English	87.5	81.0	75.0	23.5	28.6
Spanish	6.3	4.8	25.0	64.7	64.3
Both	6.3	14.3	0	11.8	7.1

Moderators asked focus group participants six questions about community health (Table 4). Participants wrote their responses separately and placed them on a "sticky" wall for review by the group to identify common themes. For each question, the group had an opportunity to discuss their responses and elucidate themes. At the conclusion of each focus group, a one-page handout outlining the priority health topics based on current data in each AHEC region was distributed to all focus group participants (Appendix 1) in English and Spanish (after focus groups). During the course of the focus groups, each AHEC director helped to manage the logistics of the focus groups and took notes for the summary report.

Table 4: Population Health Focus Group Questions

1. What do you believe are the top 5 health needs in your community?
2. What makes it difficult for people to be at their best health in your community?
3. What makes it easier for people to be at their best health in your community?
4. Where do you go for your healthcare?
5. What are 5 things that can be done to improve health in your community?
6. What can be done next to improve health in your community?

Table 5 shows focus group discussion results for primary health concerns, which differed across the regions, but had recurring themes. For example, diabetes was among the top three priorities in four regions, and accessibility/availability of healthcare services were among the top four in each region. The rapidly escalating cost of healthcare is also a dominant theme, as is health education and promotion of healthy behaviors via increased access to exercise facilities and nutritious food. Interestingly, no group mentioned heart disease or cancer as top priorities.

Table 5 Primary health and health care needs identified by focus groups in five AHEC regions

Priorities from AHEC region of South Texas (number of unique mentions)				
South Central	**South Coastal**	**Lower Rio**	**Mid Rio**	**Southwest**
Accessibility/ Availability (14)	Diabetes (10)	Health Education and Promotion (7)	Community Health Education (12)	Healthcare Costs (11)
Nutrition (11)	Obesity (8)	Exercise Facilities (6)	Exercise Facilities (12)	Diabetes (7)
Exercising (9)	Accessibility/ Availability (7)	Diabetes (6)	Diabetes (5)	Accessibility/ Availability (6)
Education (8)	High Blood Pressure (6)	Accessibility/ Availability (6)	Mental Health (4)	Insurance gaps (5)
Costs of Care (7)	Asthma (6)	Obesity (5)	Healthcare Costs (4)	Nutrition (4)
Weight/Obesity (5)	High Cholesterol (6)	Health care Affordability (4)	Nutrition (4)	Health Programs (3)
				Education (4)

Table 6 shows the main barriers to a healthier status were pragmatic in nature (e.g., time commitment due to holding several jobs, lack of child care, untreated or inadequately treated mood disorders and cultural traditions, which often place a social stigma on seeking care). Other issues relate to lack of access to healthy foods and overall access/costs of healthcare.

Table 6 Primary barriers to improved health in each region

What makes it *difficult* to be at your best health?					
	South Central	South Coastal	SW Border	Lower Rio	Mid Rio
Personal reasons	✓	✓	✓	✓	✓
High costs of care/healthy foods	✓	✓	✓	✓	✓
Lack of healthy food options	✓				
Insurance costs/policies		✓			✓
Availability/variety of doctors			✓	✓	

Regarding factors that promote better health (Table 7), most communities endorsed the need for greater availability of facilities/environments for exercise. Another high priority was engaging the community to develop a sense of accountability for their own lifestyle choices. This intriguing idea has to be explored further to learn how to operationalize. Opportunities include encouraging community groups to hold individuals accountable or perhaps a form of competition where individuals who succeed most are recognized publicly. The other three ideas concern increasing access to health care, education about healthier lifestyles and seeking health care in Mexico, which appears to be a solution for some communities.

Table 7 Primary promoters of better health in each region

What makes it *easier* to be at your best health?					
	South Central	South Coastal	SW Border	Lower Rio	Mid Rio
Availability of parks/gyms	✓	✓		✓	✓
Availability of doctors/clinics	✓	✓		✓	
Accountability	✓		✓	✓	✓
Programs/health education		✓	✓		
Going to Mexico for care			✓		✓

Table 8 shows ideas for activities that would benefit the community were primarily focused on engaging the community and offering more resources, including: outreach/engagement programs, clinical programs, recreational facilities and assistance with navigating cost barriers.

Table 8 Primary suggested actions that would benefit the community in improving health

What can be done within the community to improve health?					
	South Central	South Coastal	SW Border	Lower Rio	Mid Rio
Programs/community outreach	✓	✓	✓	✓	✓
Additional clinics	✓			✓	
Additional recreational facilities			✓		✓
Community involvement		✓	✓	✓	✓
Lower costs/financial aid		✓			
Positive attitude/motivation	✓				

In summary, the community members participating in five focus groups in our 38-county region were largely aligned in describing the need to address the yawning gaps in our healthcare services and accessibility as well as creating a healthier environment through exercise facilities, access to healthier foods, and education about integrating these resources into daily lifestyle. Yet, there was also the realistic acknowledgment that individuals need to be motivated and held accountable for engaging in a healthier lifestyle. Diabetes was highlighted as a threat to the community and can serve as a useful model for chronic disease management initiatives because it requires substantial personal self-management and involvement of family/social support. Thus, our community focus groups generally support behavioral health interventions along with innovative healthcare delivery solutions supplemented by educational outreach programs. Although heart disease and cancer prevention are not specifically articulated as priorities, lifestyle issues are antecedents to these diseases and will yield benefits in the long term.

4) Identified Resources in the Community

UT Health San Antonio has access to multiple partners within the community that are able to offer a unique set of resources. We currently have strong relationships with Texas AgriLife Extension Service, educational institutions and diverse health care organizations, including but not limited to: safety net organizations, local federally qualified health centers and the Methodist Health Care Ministries-Wesley Nurse Program. We also partner with the Texas DSHS, school districts, faith-based organizations, community libraries and business groups. This section highlights collaborations with these community partnerships.

Texas A&M AgriLife Extension Service

The primary partner for our strategic plan is AgriLife Extension Service, which has programs across our 38-county region. AgriLife Extension, established in 1915 and based at Texas A&M University in College Station, is a unique statewide network of professional educators and trained volunteers with offices in every Texas county to improve the quality of life for all county residents. Since 1991, South Texas AHECs have worked with AgriLife Extension on multiple projects, including establishing seven Translational Advisory Boards (TABS) for our Clinical & Translational Science Award (CTSA) (see below). AgriLife Extension programs in two rural counties in our catchment area (Frio and Karnes) served as lead partners on a Patient-Centered Outcomes Research Grant (PCORI) grant to engage underserved communities in defining research priorities to improve outcomes of persons with chronic pain. Recently, AgriLife Extension launched an initiative, led by Executive Associate Director Dr. Susan Ballabina, to establish local coalitions of agencies and volunteers to address diabetes, asthma and infectious diseases. Dr. Ballabina is a partner with us on our strategic plan.

Translational Advisory Boards

Translational Advisory Boards (TABs) were brought to South Texas communities in 2009 by the UT Health San Antonio's NIH-funded CTSA (Institute for Integration of Medicine and Science [IIMS]). The IIMS seeks to improve human health by transforming the research and training environment to enhance the efficiency and quality of clinical and

translational research. The TABs are facilitated and sustained by the South Central AHEC and serve as a representative body that aims to improve community health through facilitation of community-based participatory research (CBPR) and educational outreach activities in partnership with UT Health San Antonio. Since their inception, the seven county-based TABs have conducted over 50 community research projects, partnered in PCORI, Cancer Prevention Research Institute of Texas (CPRIT), HRSA, NIH and National Library of Medicine Projects and have sponsored eight community health fairs/other community events every year.

Educational Institutions
In our strategic plan, we will enhance existing partnerships and generate new collaborative approaches to work with other UT System institutions and other educational institutions.

University of Texas at San Antonio (UTSA)
UTSA is the second-largest institution in the UT System with 8 colleges and over 30,000 students of whom 60% are from historically underserved populations. The UTSA-UT Health San Antonio educational partnerships include PhD programs in Biomedical Engineering (BME) and Biostatistics & Bioinformatics, both of which provide interdisciplinary tracks for training MD/PhD students in addition to the IIMS Translational Science PhD program. IHPR has developed communication interventions using a unique text-messaging system developed by UTSA's David Akopian, PhD who directs the UTSA Software Communications and Navigation Systems (SCNS) Laboratory. This laboratory offers short introductory courses in mobile technology development to over 100 middle and high school students and K-12 teachers, as well as 10 graduate students annually. We also have established a strong partnership with Zenong Yin, PhD, UTSA professor of health and kinesiology. Dr. Yin's work with researching and managing diabetes and chronic pain in underserved populations has increased our reach greatly in the areas of curriculum development, establishing a South Texas resident registry and training health professions students in evidence-based exercise regimens to manage chronic illness.

Dr. Yin and the AHEC program have worked with the UT Health San Antonio Vice President for Research, Dr. Andrea Giuffrida, to establish a Mobile Health Outreach Lab that is outfitted with equipment and technology to provide curbside health screenings, educational events and back-to-school physicals for community members throughout the 38 counties of South Texas. IHPR collaborated with Dr. Yin to develop *Míranos!*, a culturally tailored obesity prevention program for minority preschool students to promote healthy behaviors through the development of a supportive learning environment at school and home. This program produced favorable changes in weight scores, gross motor skill development, outdoor physical activity and eating healthy food among participants. Dr. Yin has also collaborated with the ReACH Center and South Central AHEC on a randomized trial of a clinic- versus community-based educational program in chronic pain self-management for low-income primary care patients that has demonstrated a significant beneficial impact on objective physical function and mental health measures.

San Antonio Life Sciences Institute (SALSI)
UTSA and UT Health San Antonio also collaborate through SALSI, a cooperative cancer research initiative established in 2003. This collaboration has enabled: joint doctoral programs and research projects; enhanced research, teaching and service missions of both institutions; the expansion of new scientific knowledge throughout Texas; and the growth of the biomedical and biotechnology industries in San Antonio.

UTHealth School of Public Health San Antonio Regional Campus (SARC)
SARC was established in 1979 and has served the state of Texas ever since by training and educating public health leaders in the South Central Texas region. The SARC has a long history working with UT Health San Antonio and conducts research in health disparities, childhood obesity, occupational and environmental exposures, as well as chronic disease risk. SARC offers multiple educational opportunities from certificate programs to masters and doctoral degree programs. These programs incorporate five core areas of public health: biostatistics; health promotion and behavioral sciences; epidemiology, environmental and occupational sciences; and management, policy and community health. The UT School of Public Health (UTSPH) is also a co-founder of ReACH. The UTSPH SARC is located in the same building as ReACH and IHPR, which is a strong asset to promote collaboration. Additionally, the SARC Regional Dean, Dr. Melissa A. Valerio, has a long history of involvement in the planning, implementation and evaluation of community-based coalitions and partnerships. She is serving a key role in developing the six UT System health institutions' Population Health Strategic Plans.

The University of Incarnate Word (UIW)
UIW was established in 1893 by the Sisters of the Incarnate Word of the Catholic Church. UIW has a strong outreach mission and has partnered with the UT Health San Antonio on numerous projects and events. UT Health San Antonio faculty serve as adjunct faculty at UIW, especially in the pre-health professions programs and several UT Health San Antonio departments serve as internship sites for UIW students. With the development of their new osteopathic medicine program, which is scheduled for accreditation in July 2017, we will develop new ways to collaborate to improve population health in South Texas. Enrollment for students in this program should begin in fall 2017.

St. Mary's University
St. Mary's University was brought to San Antonio by the Brothers of the Society of Mary (Marianists) in 1852. St. Mary's offers more than 75 academic programs, in addition to pre-professional programs in medicine, nursing, dentistry, pharmacy and allied health in collaboration with UT Health San Antonio.

Our Lady of the Lake University (OLLU)
OLLU, founded in 1895, has three Texas campuses: San Antonio, Houston, and La Feria in the Lower Rio Grande Valley. The School of Professional Studies (SPS) houses the first communication disorders (Speech & Language Pathology) program in South Texas. UT Health San Antonio works with the SPS to establish outreach programs for both children and adults diagnosed with autism as well as stroke victims. OLLU has a strong mission of mentoring underserved teens and UT Health San Antonio medical students assist with science and math tutoring activities.

Trinity University
Trinity University, founded in 1869, has a small but outstanding student body (2,300) and a strong community outreach mission in collaboration with UT Health San Antonio, especially in the study of healthcare administration (HCA). HCA students partner with UT Health San Antonio student organizations in community outreach events that focus on reaching underserved populations, such as those with intellectual and developmental disabilities. Trinity University is well known for its Music and Arts programs and works with UT Health San Antonio students to include other populations, such as developmentally delayed children and disabled and/or physically challenged adults.

Alamo Community College District (ACCD)
The ACCD provides a springboard for area residents to launch careers in healthcare; this educational emphasis is especially strong in training Latinos and other underrepresented groups within the region. UT Health San Antonio provides necessary internship sites for students and over the years has hired graduates of their programs for research projects, patient navigation services and outreach education. Disciplines that work to improve community health within the ACCD include the massage therapy program, the physical therapy assistant program and the nutrition assistant program. The IHPR is partnering with Northwest Vista College to create a 160-hour internship for a community health worker (CHW)/*Promotora* Training Program. The program will have two main components: 1) academic/teaching emphasizing training in navigation for patients with chronic diseases/cancer and 2) a practicum of health education and outreach activities.

The institutions described above are our main partners, but there are many other institutions within our catchment area and throughout the UT System with which we have developed strong relationships. Before the consolidation of UT Pan American in Edinburg, UT Brownsville and the UT Regional Academic Health Center in Harlingen, we had many shared initiatives and are continuing this work with the creation of UT Lower Rio Grande Valley. Additionally, we have an established connection to Texas A&M International University Laredo, Southwest Texas Junior College in Uvalde and the Texas Tech University Hill Country in Fredericksburg.

Health Care Organizations and Health Departments
University Health System (UHS)
UHS, one of two UT Health San Antonio clinical partners, is a nationally recognized teaching hospital and network of outpatient healthcare centers. For the past six years, University Hospital has been ranked the best in the San Antonio region by U.S. News & World Report and sixth best in Texas. The UHS clinic system provides much-needed care for underserved communities throughout Bexar County as well as outreach clinics throughout the South Texas region. University Hospital serves as the primary safety net hospital for South Texas and is staffed by physicians from UT Health San Antonio. UHS also serves as an anchor for Bexar County and 19 surrounding counties for its Texas 1115 Medicaid Waiver programs. Through this work and the Delivery System Reform Incentive Payment Pool, known as DSRIP, UHS is helping to transform care and providing a critically important source of funding for healthcare providers.

South Texas Veterans Health Care System (STVHCS)
In addition to UHS, STVHCS is UT Health San Antonio's other primary educational and clinical partner. STVHCS serves 80,000 enrolled Veterans at two inpatient locations (San Antonio and Kerrville) and multiple outpatient primary care clinics throughout Bexar County, Kerrville, and Victoria. The Audie L. Murphy Memorial Veterans Hospital (ALMMVH), named after the nation's most decorated World War II hero, is a quaternary care facility. Comprehensive health care is provided through acute medical, surgical, mental health, physical medicine and rehabilitation, geriatric and primary care services. ALMMVH is comprised of a Spinal Cord Injury Center, a Community Living Center, a Domiciliary and a Substance Abuse Residential Rehabilitation Treatment Program. ALMMVH provides quaternary services, including bone marrow transplantation, open-heart surgery, magnetic resonance imaging and positron emission tomography. As a Level II Research facility, ALMMVH has projects that include aging, cardiac surgery, cancer, diabetes and HIV. The facility has one of three NIH-sponsored clinical research centers in the VA. In addition, the Geriatric Research, Education & Clinical Center (GRECC) is a "Center of Excellence."

Texas Association of Community Health Centers (TACHC)
The TACHC, located in Austin, serves as the professional organization for the federally qualified health centers (FQHCs) in Texas. Throughout our region, FQHCs serve as the core of affordable healthcare for low income, vulnerable populations. Consequently, UT Health San Antonio partners with TACHC on diverse projects to improve quality and outcomes of care for underserved populations. The AHECs have worked with FQHCs on clinical rotations for health professions students, as outreach sites for health fairs and prevention screenings, and have participated in professional continuing education opportunities. FQHC leadership participate in the TABs and several are members of the local AHEC corporate boards. ReACH has research projects being conducted in FQHCs that are supported by the CPRIT and the Medicaid Waiver to improve health care through implementation of HCV screening and treatment of chronically infected baby boomers, innovative models of chronic pain care and HPV immunization for age-appropriate children. Our strategic plan will engage these partners in innovative research models to improve the health of our region.

Geriatric Care
Geriatric care partnership in San Antonio includes a long-standing relationship with Morningside Ministries, Palliative Care Services, the WellMed Charitable Foundation, and geriatric inpatient services at the VA. Throughout the region, we have long-term relationships with community hospitals, especially those serving veterans and those along the U.S./Mexico border. Examples of collaboration include: Valley Baptist Hospital in Harlingen that partners with UT Health San Antonio on professional education programs concerning TB treatment & management, pediatric emergencies and infectious diseases management. Another important collaboration is the Annual Medical Update, an event organized by hospitals in Laredo, the local AHEC and UT Health San Antonio to host 200 physicians and healthcare professionals from both sides of the border.

San Antonio Metropolitan Health District (Metro Health)
Metro Health is the public health agency charged by state law, city code, and county

resolution with the responsibility for providing public health programs in San Antonio and unincorporated areas of Bexar County. Metro Health works with UT Health San Antonio on many projects, such as the Dental School's Miles of Smiles Program to increase access to comprehensive dental care among children and the uninsured or underinsured. Metro Health has a diabetes program and other chronic disease prevention programs through the Medicaid 1115 Waiver and other funding sources. Metro Health services also include an immunization registry, food/restaurant inspection and infectious diseases surveillance. They support the WIC program, Por Vida Health Eating Program and many health outreach events throughout the year in parks, neighborhoods and worksites. Tobacco cessation is a priority initiative of Metro Health and its leadership, supported by data developed by the IHPR, championed the non-smoking ordinance currently in place in San Antonio restaurants and businesses. Thus, this organization is a logical partner for many initiatives addressing risky behaviors and social determinants of health. Other health departments will be increasingly engaged with our strategic plan as more projects are launched in their regions.

Texas Primary Care Office - State of Texas (TPCO)
The TPCO works with healthcare providers and communities to improve access to care for the underserved by recruiting and retaining providers to practice in federally-designated shortage areas and expanding new and existing FQHCs. Funding for programs is provided by HRSA and the State of Texas. UT Health San Antonio works with the TPCO to assist with collaboration on federal (HRSA) and state (CPRIT) grants that have been awarded to our institution.[17]

Municipal Offices and Local Governments
County commissioners, county judges, mayors, city council members, and local city managers partner regularly with UT Health San Antonio to conduct events, projects and other initiatives that aim to improve the health and the economic viability of the counties/cities they serve. Partnerships of this nature provide the opportunity to network with health policy makers and other leaders who can facilitate initiatives to positively influence a community's health. For example, the City Manager of Stockdale, Texas, in Wilson County, assisted UT Health San Antonio researchers to establish a diabetes outreach project that brings resources to local residents (i.e., classes, monitoring services and personal consultation). UT Health San Antonio has several faculty serving on the San Antonio Mayor's Fitness Council (MFC), the most influential municipal board in this large metropolitan area focusing on public-private collaborations to promote healthy living in the city and the greater South Texas region. The MFC, with input and guidance from the IHPR, has developed several campaigns, events and activities that have helped increase the amount of healthy living opportunities in Bexar County. Conversely, the MFC has amplified many of the health promotion messages and materials developed by the IHPR.

Faith-Based Organizations
UT Health San Antonio has a strong network of faith-based organizations throughout our 38-county catchment area that include the YMCA, Catholic Charities, Methodist Healthcare Ministries, Lighthouse for the Blind, Salvation Army, Haven for Hope Homeless Shelters and Good Samaritan Centers, to name a few. In Laredo, UT Health San Antonio students work closely with Catholic Social Services, which meets the emergency

needs of Laredo's low-income families, including homelessness, immigration, adoption and other services to actively prevent homelessness. Each of these organizations has a strong community base and works with UT Health San Antonio to provide needed health services. For example, the Wesley Nurse Program is supported by Methodist Healthcare Ministries and spans 80 sites in 24 South Texas counties. Wesley Nurses provide health education, health promotion and resources in their communities. They partner with the AHECs to assist individuals and communities in achieving improved health and wellness through self-empowerment and access to healthcare information. For our strategic plan, we will partner with Wesley Nurses as a key support to address our deficient health care system by educating and engaging South Texas residents regarding healthier lifestyles.

Public Services and Schools

Community Public Libraries

The city libraries play a critical role in advancing quality of life and continued growth of every community in South Texas and offer a valued resource for program outreach and community discussion in free, safe, non-polarizing, convenient locations. We have partnered with libraries throughout South Texas for many outreach initiatives. The San Antonio Public Library has served as the location for one arm of a randomized trial to educate patients with chronic pain about effective self-management strategies. This project is being replicated in spring 2017 at the Pearsall Public Library. Additionally, the Edinburg Public Library will host an AHEC project on human papilloma virus (HPV) immunization.

Community School Districts and Early Childcare Centers

Since 1991, the South Texas AHECs have sponsored and participated in thousands of events, programs, seminars and camps in school districts across our 38 counties to increase awareness and interest of students and their families in health professions careers. South Texas AHECs have worked with all school districts within their dedicated county regions to strengthen the connection between health and learning through many programs including Student Health Advisory Councils (SHACs). For example, the SHAC in Laredo works with the local AHEC to sponsor health fairs that screen for and monitor diabetes and hypertension in overweight teens without a primary care physician. The SHAC in Corpus Christi partners with the local AHEC and the local family medicine residency program to perform needed school physicals and immunizations. Most importantly, this partnership helps parents and community stakeholders to reinforce the knowledge and skills that children need to stay healthy for a lifetime. Additionally, the IHPR and UTSA established a collaborative relationship with San Antonio Head Start Centers through its *Míranos!*, multi-component obesity prevention program for healthy lifestyles in early childhood.

Miles of Smiles-Laredo (MOS)

MOS provides preventive dental services to children attending the 47 elementary schools in Webb County, Texas. Children in kindergarten, first, second and third grades receive a dental screening and fluoride varnish. Children in second grade receive dental sealants on the first permanent molar teeth. All services are provided in the school using portable dental equipment. Children who are identified as having an urgent oral health care need are referred to the case manager to navigate the oral health care system. Since its inception

in 2006, a 6% reduction in untreated decay was observed with no increase in previous treatment. The percentage of children with urgent oral health care needs decreased from 6.3% in 2013 to 4.8% today.

Community Organizations, Business and Civic Groups
UT Health San Antonio has strategic partnerships to promote health and research across South Texas. Our strategic plan will strengthen and extend these productive relationships to the benefit of all involved. We also anticipate, as businesses develop and grow in South Texas, our educational mission and focus on health improvement can address employee wellness, job development, technology advancement and educational attainment.

Haven for Hope
Haven for Hope is a joint venture of several agencies and services to provide services and housing for homeless families and individuals in San Antonio. UT Health San Antonio has partnered with Haven for Hope since its opening in 2010 to provide nursing, psychiatric, social and oral health services, counseling for chronic diseases, such as diabetes and asthma management, as well as medication review for homeless men, women and children in the region.

*Alpha Home (Substance abuse housing) and San Antonio Metropolitan Ministrie*s (SAMMinistries)
Alpha Home and SAMMinistries provide regular medical and oral health outreach services by UT Health San Antonio faculty, medical and dental students to addicted and homeless populations served by these organizations. The Children's Advocacy Center of Laredo also has a strong connection with UT Health San Antonio's Laredo Regional Campus. The Center provides forensic interviews, counseling, medical referrals and social service referrals on-site in a child-friendly facility to prevent further abuse.

The Family Service Association
The Family Service Association is dedicated to helping children, seniors and families in need. It partners with UT Health San Antonio to support student community outreach projects, community-based research projects, community health education classes and health fairs, among others.

The San Antonio Business Group on Health (SABGH)
The SABGH, a membership-based organization of local employers, provides the business community with opportunities to: network, discuss best practices, promote worksite wellness initiatives and recognize local employers for their efforts to improve employee health and wellness. ReACH Director Barbara J. Turner, MD, has served as a consultant to this group.

BioMed SA
BioMed SA is a non-profit, membership-based organization that highlights the value of the local healthcare and biomedical industry in San Antonio and nationally. A board member of BioMed SA participates in our CTSA Community Health Advisory Board.

San Antonio Chamber of Commerce
UT Health San Antonio also collaborates with the San Antonio Chamber of Commerce, which represents the largest employers in the state including Valero, USAA, RackSpace and HEB, to name a few. A key partner is Kate Rogers who leads HEB's Health & Wellness activities and community events.

Lions Eye Bank and Mobile Lab, Rotary Clubs, San Antonio Food Bank and Habitat for Humanity
These organizations are four examples among a list of many community organizations that UT Health San Antonio partners with to conduct our outreach mission to the community. Students, faculty and staff routinely work collaboratively with these organizations to provide screening at health fairs, collect donations of food, clothing and other necessities for families, the elderly and underserved communities throughout the region.

Other organizations with strong ties to UT Health San Antonio are the Rape Crisis Center in San Antonio and the Bexar County Family Justice Center. Many crisis centers and shelters in Boerne, New Braunfels and Uvalde also work with UT Health San Antonio health professions students on projects that include medication reconciliation, diabetes management and other chronic illness management. In Corpus Christi, the Hope House assists women and their dependent children and newborn babies in need, and provides a location for UT Health San Antonio Community Service Learning (CSL) multidisciplinary health professions students to conduct their semester long outreach projects. As noted previously, the Children's Advocacy Center of Laredo has a strong connection with UT Health San Antonio's Laredo Regional Campus. The Center provides forensic interviews, counseling, medical referrals, and social service referrals on-site in a child friendly facility to prevent further child abuse. We also will explore collaborative opportunities through *San Antonio Works*, an industry-led experiential learning workforce program that serves students and employers in San Antonio and Bexar County. SA Works has involved a number of key partners, such as industry leaders, independent school districts, institutions of higher education and community-based organizations that have each supported SA Works in providing internships, job shadowing opportunities and other work-based learning opportunities for high school and college students as well as educators.

5) Identified Health Priorities

The health priorities identified from diverse sources in Section 2, as well as our primary data collection from community focus groups in our 38-county catchment area in Section 3, reinforce the need to focus on obesity, diabetes, unhealthy lifestyles and an unhealthy environment that underpins health threats (heart disease, stroke, asthma, etc.) in South Texas. These priorities clearly point to a woefully inadequate health care system that is unable to meet the needs of the local residents, accentuated by poor healthcare coverage. This was reinforced by our community members, who focused on the linkage between an unhealthy environment, obesity and diabetes. Although non-Latino Caucasians are clearly affected, addressing this continuum of socio-environmental risks and disease is

particularly urgent for our Hispanic community due to the greater burden faced by this segment of the population—and especially in children where obesity is endemic.[19,20, 21] Latino children and families also face barriers in access to healthy foods and drinks, physical activity, healthy schools, and proper maternal and early childhood development. Other consequences of obesity also disproportionately affect Latinos, such as a higher prevalence of arthritis and attendant severe musculoskeletal pain compared with non-Latino Caucasians.[23]

Table 9 Data to Support Leading Community-Identified Health Priorities

Priority	Primary Data
Obesity	35-40% in South Texas; South Texas Health Status Review & BRFSS Data
Diabetes	>15% in all South Texas counties; Texas DSHS
Healthcare Accessibility/Availability	Each primary care provider in South Texas serves twice as many residents as in the rest of the state; Most counties are Health Professional Shortage Areas (HPSAs)
Lack of Insurance/ Costs of Care	41% uninsured among Latinos in South Texas [18]

Therefore, we plan to initiate or collaborate with other UT System institutions to address the full spectrum of issues that contribute to overweight, obesity, diabetes, and complications. Another major health threat has arisen from liver disease related to the effects of obesity, leading to NAFLD and more severe nonalcoholic steatohepatitis. We will focus on environmental, behavioral, educational, and healthcare interventions in all age groups, and broadly address sequelae of obesity and diabetes. To succeed, we need to share best practices across the UT System, building on initiatives/projects already underway at our institution and working with a diverse array of community partners to address the social determinants of poor health through healthy living initiatives. These initiatives can take advantage of our extensive network of health care professionals, practicing as faculty and clinicians as well as learners. A special area of concentration for our strategic plan will be training and distributing CHWs as partners in mobilizing healthier lifestyles and better self-management of chronic disease (see Section 7).

Community members prioritized the development of resources in our catchment area to increase physical activity by offering exercise venues that are safe and affordable and the need for behavioral interventions to motivate residents to take advantage of these resources. Chronic disease and disability require coordination of providers, caregivers and patients to achieve substantial improvement in health outcomes and quality of life. IHPR's *Salud America!* is one example of UT Health San Antonio's programs that strive to raise awareness of healthy lifestyles and drive emerging solutions, such as reducing food deserts; increasing affordable, desirable healthy food and active spaces for physical activity; policy initiatives to promote healthier habits, such as open and shared use agreements for public use of school recreational facilities after class; and culturally appropriate community programs to educate and engage residents in changing unhealthy dietary and exercise norms with stories, data, tools and more. Social and environmental factors all play a key role in compromising the health of our communities.

An area of consistency between community members and the academic community is the problem with access to care. Most South Texas counties are Primary Care HPSAs and federally-designated Medically Underserved Areas.[24] Population growth is exacerbating access to care in South Texas, which was estimated to increase by more than 800,000 persons from 2000 to 2010. A focus on developing culturally appropriate models of care for Latinos is vital for South Texas, which is predicted to be as high as 95% Latino by 2050.[25] This deficient healthcare delivery infrastructure requires innovative solutions to increase the efficiency, quality and reach of existing healthcare environments, which are plentiful in urban areas and sparse in rural areas, as well as developing innovative approaches to engage community resources to promote prevention and disease management.

It is important to note that our community members did not focus on a variety of important threats to health. For example, heart disease and cancer are by far the leading causes of death both nationally and in South Texas. Nor did they focus on the antecedents to these diseases, such as under-diagnosis and treatment of hypertension, hyperlipidemia and underutilization of cancer prevention services. However, an important, remediable risk factor for both heart disease and cancer prevention is tobacco use. While South Texas generally has lower use of tobacco than the rest of Texas, rates are higher among certain groups, including young adult men ages 18-29. We support the UT System's laudable objective to promote tobacco cessation, prevention awareness and other resources to eliminate all tobacco use. We are partnering on the *Eliminate Tobacco* Campaign. At this point, a Planning Committee led by Dr. Amelie G. Ramirez of IHPR and Dr. Carlos Jaén, Chair of Family and Community Medicine, has: 1) assessed existing tobacco prevention and cessation policies and practices of the UT Health San Antonio; 2) identified potential institutional partners as well as partners in the community (e.g., cancer organizations and local advocacy groups); and 3) developed an action plan to achieve tobacco cessation and prevention at the institution. Multimedia campaign messaging that is developed will be positive and non-judgmental and address cessation, prevention and new policy development. Eventually *Eliminate Tobacco* intends to extend the messaging to the broader San Antonio community. We expect to build on this program with other initiatives.

Similarly, the community was unaware of the threat of liver disease, which has a disproportionate impact in Texas and especially in South Texas. Morbidity and mortality rates in this region far exceed that of the rest of the country. Multiple factors contribute to this increased morbidity, but here we can build on ReACH's implementation and dissemination research, funded by the Centers for Medicare & Medicaid Services (CMS) and CPRIT, which is already underway to diagnose and treat chronic HCV infection, following national guidelines to screen all baby boomers for HCV. This initiative would integrate well with our efforts to address obesity, because nonalcoholic fatty liver disease is a highly prevalent cofactor in causing liver disease and liver cancer in this region. In addition, UT Health San Antonio researchers have reported that Latinos diagnosed with chronic HCV infection are more likely to have advanced liver disease than other racial-ethnic groups.[26]

Overall, it is clear from our community meetings that there are many gaps in knowledge about health. Community members appear to acknowledge this deficiency by asking for more health education. This should include information about major causes of morbidity and mortality, as well as diseases that disproportionately affect our region. Minor attention was directed to hypertension, mental health disorders, higher risk cancers and degenerative conditions such as osteoarthritis that lead to chronic pain. The IHPR plans to expand its array of topics through the *Salud America!* Program, including mental health and social support among Latinos.

6) Identified Availability and Gaps in Technology and Infrastructure to Support Population Health

Availability

Clinical Informatics Infrastructure for Big Data and Health Information Technologies (HIT)

The Clinical Informatics Research Division (CIRD) of the Department of Biostatistics and Epidemiology (DEB) at UT Health San Antonio has a faculty director trained in computational science who is assisted by only one other faculty member in the Division. The CIRD has been developing functional databases for research and clinical care of large populations, but this work is in its early stages. CIRD's use of free, open-source software, non-proprietary data models, and the highly extensible and flexible i2b2 star schema will facilitate uniting data from different EMRs and other sources. Currently, electronic medical record (EMR) data are being linked from our collaborating institutions (UT Health San Antonio Physician Practice and UHS). In addition, UHS and UT Health San Antonio have developed a memorandum of understanding to formalize our data sharing infrastructure. This infrastructure will support not only our clinical mission, but also our research mission with specific access to necessary data to underpin our local population health initiatives. These resources are being extended through a PCORI grant awarded to DEB. Members of our informatics team are co-investigators on a Clinical Data Research Network called the Greater Plains Collaborative (GPC; PI Lemuel Waitman, PhD, University of Kansas), which brings together a diverse population of six million people. Other collaborating institutions are: University of Kansas Medical Center; Children's Mercy Hospital, Missouri; University of Iowa Healthcare; the University of Wisconsin-Madison and the Medical College of Wisconsin/Marshfield Clinic; the University of Minnesota Academic Health Center; and the University of Nebraska Medical Center. GPC lessons learned for data management and clinical research are informing initiatives specifically for Texas.

The informatics team is building upon existing local and PCORI-based HIT infrastructure and knowledge by establishing relationships with other health care providers in the Rio Grande Valley and beyond to develop a broader-based EMR collaborative across the South Texas region. The team is also involved in the UT Clinical Data Network, which is linking EMR data across all six UT System health institutions. UT Health San Antonio has links to Healthcare Access San Antonio (HASA), which is a patient-centered information service intended to improve the health status of individuals and the communities it serves. As a nonprofit community collaborative, HASA is still in development, but has cooperation of

diverse large health care institutions in the Bexar County region.[27] We plan on continuing our partnership with this organization as UT Health San Antonio already contributes data to this resource; however, it is still untested as a research resource.

An important approach to improving population health is to develop registries of patients with common chronic conditions that create burdens on the healthcare system and seriously impact population health. For example, through funding from the Medicaid Waiver, UT Health San Antonio has built informatics infrastructures that improve healthcare delivery and Dr. Barbara J. Turner (ReACH) and her team have developed a diabetes registry that is applicable to all primary care practices affiliated with UHS. Dr. Turner has also developed databases of information relative to HCV screening, care management and treatment. She is working with clinics that have multiple types of EMRs to align data on HCV screening and linkage to care. Another supported project has created a Health Information Exchange (HIE) to offer relevant timely access to data from the EMRs of UHS, UT Medicine and the community-based HIE in order to improve quality and outcomes of care. Using data gathered from this HIE, UT researchers created a chronic disease registry to improve evaluation of quality of care metrics. A separate project, maintained by the UT Dental School, upgraded the oral healthcare data infrastructure to improve dental services, better track medical conditions and establish core clinical quality measures.

Infrastructure for Community Engagement Activities

Several important resources for community engagement are now located in UT Health San Antonio's VPR office as community focused resources that extend beyond any single school at UT Health San Antonio. As described previously, the AHEC directors have developed extensive relationships with community leaders and community members throughout our 38-county catchment area. The AHEC Program is currently up for renewal with a new focus on integrating research to advance community health along with the traditional foci of education and workforce development infrastructure. The evolving AHEC mission dovetails well with our strategic plan. The CTSA, also under the purview of the VPR, has developed multiple TABs in conjunction with the AHEC throughout the local region, as described in Section 4. The TABs have served as key anchors for community-partnered research and other initiatives, and will continue this role in the future. Lastly, there are a number of other entities at UT Health San Antonio that are addressing these issues such as the School of Medicine, the School of Nursing, the Center for Medical Humanities and Ethics and the School of Dentistry.

Social Media and Social Marketing Infrastructure

The IHPR has several dissemination assets that are critical to reaching our South Texas catchment area in real time on mobile devices. These assets include SaludToday, a Latino health promotion social media campaign with more than 21,000 individuals and thousands more blog visitors, and *Salud America!*, an RWJF-funded obesity prevention program that curates healthy change news, multimedia content and videos, and action options for more than 80,000 email subscribers and thousands more website visitors. While these two assets are national in scope, their South Texas audience is among their largest geographic audience segments. The IHPR also developed and launched the SALSI and CTRC Distinguished Health Disparities Lecture Series, which brings some of the top

U.S. health disparities experts to San Antonio to offer the latest trends, tools and advancements in the fight against cancer health disparities.[28]

Existing Community-Academic Collaborations to Build Infrastructure for Population Health

A number of groups on the UT Health San Antonio campus are engaged in population health activities and have established partnerships and productive research collaborations with community partners. These include, but are not limited to, the UT Health San Antonio School of Nursing (SON), ReACH (University-wide), the IHPR (under the UT Health San Antonio School of Medicine [SOM]) and the Community Engagement core of the IIMS through the CTSA award and the AHEC (described previously). These entities can build on their existing diverse relationships with community leaders and residents throughout our 38-county catchment area. For example, the AHECs are developing a registry for community members and their health interests and priorities (e.g., clinical trials or other programs of interest to them or their families). In addition, IHPR asks participants in its studies if they would be interested in other research studies.

Infrastructure Gaps

Clinical Informatics

Our goal is to develop a robust clinical informatics infrastructure to support quality improvement, health services research, comprehensive population-based care and collaborations in communities across South Texas. UT Health San Antonio has invested significant capital to develop its clinical informatics infrastructure over the past three years, deploying nearly $1.5 million dollars towards the data warehouse i2b2 system. Even with this investment, there are insufficient resources to adequately support our strategic plan. In the absence of a targeted extramural funding source for population health activities, current funding is inadequate to fully realize a vigorous population health enterprise on campus. Additional financial resources are needed to support:

- Two senior-level programmers to: (1) map interfaces between UT Health San Antonio's robust data system and those from other organizations; (2) understand the spectrum of diseases that are being managed in South Texas and develop quality of care metrics.
- Three full-time data analysts to aggregate, normalize and analyze data generated by the programmers to support the population health mission.
- A clinician-informatics leader to direct this mission and enhance institutional governance with a stewardship plan.

This would enable UT Health San Antonio to evolve into a learning health care system that is more apt to enhance South Texas population health.

Recruitment

Our institution needs to create an interdisciplinary working group of population health researchers to support the informatics team. Population health requires perspectives not only of doctorally-trained informaticians, but clinicians from a variety of fields to use of existing resources. This team should draw from practicing clinicians and clinician-investigators from the all Schools at UT Health San Antonio. We would also benefit significantly from a clinical informatics work group that includes existing researchers and

clinicians and informaticians from University Health System's Sunrise team, the UT Health San Antonio Epic team and the CIRD team to discuss shared concerns, leverage resources, and coordinate efforts.

Community Engagement Activities
To address the community concern for access to care and address workforce development, we propose to use web-based/telehealth and on-the-ground strategies (a mobile van) to bring our researchers, clinicians and students to our underserved distant communities in this catchment area to conduct research and educational programs. We need web-based and telehealth infrastructure for support of research in communities throughout the region. We also need support for a mobile van, patterned after the successful model of our UTSA partner, Dr. Zenong Yin, Professor of Health and Kinesiology at UTSA. Dr. Yin equipped a RV with instruments and educational resources for community outreach programs and garnered NIH and state funding to support outreach health behaviors projects in remote areas of Texas. This van would offer the opportunity to perform multiple activities such as: enroll subjects in studies through the community registry that was established by the AHEC, conduct baseline and follow-up measures for trials and serve as an educational venue for students, faculty and others to interact with community members.

AHEC/CTSA/IHPR Community Engagement Activities
To address community concerns for access to care, enhance community-based education and address workforce development, we propose to expand our base of community-partnerships by building on the excellent foundation of relationships established by the AHECs. UT Health San Antonio offers administrative support and academic resources for all of the AHEC centers and offers interactions with other researchers who contribute their time and energies to accomplishing the community service mission of the AHECs.

The AHEC directors are experts in community engagement and necessary to maintain as a linkage for productive community collaborative investigation as well as educational programs and workforce development. Expanding the staff of community focused individuals (i.e., CHWs who can educate and perform research) within the existing AHEC, which are funded exclusively by a HRSA grant (pending renewal to be written in winter 2017), would allow the addition of many projects that could be conducted on a smaller scale. While each of the five AHEC Directors have broad project scope within their catchment area, a CHW dedicated solely to focusing on our population health plan, will facilitate community- partnered research projects while also assisting with establishing new relationships/partnerships for UT Health San Antonio. As a navigator and connector for the Center and the initiative, this would include opportunities for expanded funding, mentorships for new scholars, research opportunities for new and established researchers, clinical rotation sites for our students and most importantly, addressing health disparities in the regions. The CHW is an efficient investment in UT Health San Antonio's future in South Texas; they typically earn $30K with additional benefits.

Moreover, the AHECs' potential to engage and deliver services to community members throughout the South Texas region is currently limited by lack of infrastructure for communication and travel. Additional web-based and tele-health infrastructure to

support communities throughout the region, as well as travel funding would significantly improve community-based health promotion in the region.

IHPR Social Media and Social Marketing Infrastructure
Though we frequently promote South Texas-related content and develop case studies and research that focuses on South Texas, SaludToday social media and *Salud America!'s* healthy change network could further develop more multimedia content, campaigns, data and case studies for our 38-county South Texas catchment area. Currently, this infrastructure is supported on a year-to-year funding basis with external funds, but we need additional funds to ensure its continued operation and sustainability.

7) Availability and Gaps in the UT Health San Antonio Population-Based Workforce

Available Workforce

UT Health San Antonio's Focus on Hispanic Health
Our institution has five schools, including Medicine, Dentistry, Nursing, Health Professions and Graduate Biomedical Sciences. The U.S. Department of Education has designated UT Health San Antonio as a Latino-Serving institution. Over 3,200 UT Health San Antonio students train annually in more than 100 affiliated hospitals, clinics and healthcare facilities from South Central Texas to the Mexico border. Latino students comprise: 20% of 917 medical students; 32% of 824 nursing students; 16% of 410 DDS degree students; and 39% of 71 dental hygiene trainees. UT Health San Antonio also has outreach programs for Latino high school and undergraduate students. The UT School of Medicine is among the top 10 medical schools nationally in the number of Latino matriculates according to a 2011 AAMC survey and was named one of the top three medical schools for Latinos in 2014 by *Latino Business* magazine.[29, 30] UT Health San Antonio's focus on training Latinos to serve our community offers a firm foundation for our strategic plan's educational programs. UT Health San Antonio's IHPR is home to *Éxito! Latino Cancer Research Leadership Training*, a National Cancer Institute-supported program launched in 2010 to increase the number of master's-level students and master's trained health professionals entering (and completing) doctoral programs and focusing their careers on Latino cancer control research. Since its inception, 30% of its trainees (n=100) have matriculated into a doctoral program in the biomedical sciences. Based on its accomplishments it was refunded in 2015 for another five years. The UT Health San Antonio research and clinical missions are also heavily focused on Latino and underserved residents in our catchment area. One of the CTRC's three main research programs is the Population Science & Prevention Program, which is guided by IHPR's Dr. Amelie G. Ramirez. Dr. Ramirez continues to serve as the CTRC's Associate Director of Cancer Prevention and Health Disparities.

UT Health San Antonio's Focus on Low-Income Population Health
The UT Health San Antonio clinical mission demonstrates our strong commitment to serving low-income residents. In just one year, we had more than 280,000 unique encounters by uninsured patients in CareLink, over 190,000 encounters by Medicaid enrollees and 163,000 encounters for the uninsured. Our physicians staff University

Hospital, the largest safety net hospital serving South Texas. Medicaid Waiver funding through the DSRIP mechanism has allowed UT Health San Antonio to implement 20 projects within the region to improve healthcare delivery with an emphasis on stakeholders who lack strong support within the healthcare system. This includes patients who have minority status, are chronically ill, uninsured, low-income and/or on Medicaid. The waiver programs advance best practices in several paradigms of care: 1) health promotion and disease prevention; 2) expansion/redesign of primary care; 3) improved access to specialty care; 4) chronic care management; 5) behavioral health; 6) oral health; and 7) workforce development and enhancement of within-person capacity. Intervention foci range across a continuum of services to address the diverse needs of this region's population. Examples include: use of telemedicine for specialist treatment, increased access to mental health services, utilization of behavioral case management, chronic disease detection and care management, improved diabetes quality of care, control of hypertension among patients with diabetes, creation of an oral-health emergency clinic, development of an adolescent outpatient substance abuse treatment clinic, transitional care for individuals discharged from psychiatric units or diverted from emergency rooms and expansion of a neuropsychological division to improve access to neuropsychological evaluation and testing services. Thus, our work conducted through the Medicaid Waiver serves as an outstanding foundation for projects and initiatives proposed in our strategic plan. In particular, the ReACH Center has been conducting three Medicaid Waiver projects (as described below) that work to redesign primary care models to achieve disease management and prevention goals. This practical implementation science needs to be expanded to other venues and the workforce to participate in similar projects; and services research is sorely deficient.

The Center for Research to Advance Community Health (ReACH)

The ReACH Center was founded in 2010 by UT Health San Antonio and UTSPH to promote the health of South Texas residents through community- and patient-centered research. Barbara J. Turner MD, MSEd, MA, MACP is the founding Director of ReACH, a Professor of Medicine at UT Health San Antonio, and an Adjunct Professor at UTSPH. The ReACH Center serves as a hub for health services and health disparities research with 28 "Scholars" who are researcher-educators from diverse schools (Nursing, Medicine, and Health Professions), UTSPH, UTSA, UT Austin School of Pharmacy's San Antonio campus and STVHCS. Scholars have diverse and complementary areas of expertise such as: biostatistics, community engagement, epidemiology, public health, nursing, physical therapy, pharmacoeconomics, complexity science, kinesiology, behavioral health and psychology. Clinician (MD, RN, PharmD, etc.) ReACH Scholars practice in: family medicine, general internal medicine, hospital medicine, pediatrics, maternal-child health, oncology and infectious diseases. ReACH Scholars lead studies on health threats for South Texas (e.g., obesity, hypertension, diabetes, hepatitis C and HIV disease). Examples of research projects led by the ReACH Director, Dr. Turner, include Medicaid Waiver projects that focus on addressing health disparities for predominantly Hispanic populations with uncontrolled diabetes and uncontrolled hypertension in primary care practices and implementing national guidelines for hepatitis C screening and treatment of baby boomers (born 1945 – 65) in primary care practices throughout South Texas. Dr. Turner's team has also partnered with AgriLife Extension agents on a federally-funded project to develop research priorities to address chronic pain in rural South Texas

counties. In an effort to expand research to promote population health in the military/veteran population, ReACH recently added Co-Director Mary Jo Pugh PhD, RN to lead efforts focused on that important sector of the South Texas population. Dr. Pugh is an internationally-renowned researcher in epidemiology of complex comorbidity, epilepsy and health services research focusing on quality of and health outcomes associated with caregiving. While focused on military and veteran populations, findings from Dr. Pugh's work will be evaluated for implementation to the broader South Texas population.

The Institute for Health Promotion Research (IHPR)
The IHPR, established in 2006 at UT Health San Antonio, has a mission to reduce cancer and chronic disease health disparities among Latinos locally, regionally and nationally. To achieve this mission, IHPR: tests and implements research, education, intervention and outreach projects; trains scientists and mentors students; and develops and implements culturally appropriate educational web-based programs. Dr. Amelie G. Ramirez, IHPR Director, is an international Latino health disparities expert who leads more than 30 faculty and staff and oversees a number of local and national population health research programs, behavioral interventions and communications programs and models. Project examples include:

- *Salud America!: The RWJF Research Network to Prevent Obesity Among Latino Children*. This program, mentioned earlier, has an overall investment of $8 million by RWJF since 2007 to use innovative, evidence-based, multi-media communications to educate and activate an online network of more than 100,000 researchers, community leaders and others to reverse Latino childhood obesity and help Latino kids grow up with healthy weight and less risk of cancer, diabetes and mental and physical health issues.
- *Redes En Acción: The National Latino Cancer Research Network*. *Redes En Acción* was established in 2000 to increase the pipeline of independent Latino cancer health disparities researchers and test novel methods and tools to improve cancer prevention and control in Latino communities. The network, headquartered at the IHPR with regional sites in San Francisco, San Diego, New York City, Miami and Chicago, has produced 300+ research projects and has received millions of dollars for Latino cancer issues. The network also conducted 2,400 community events and earned awards for its PSAs, videos, magazines and *fotonovelas*.
- *Éxito! Latino Cancer Research Leadership Training*. This program, mentioned earlier, is increasing the number of master's-level students and master's-trained health professionals entering doctoral programs and focusing on Latino cancer control research.
- *Quitxt*. This program, mentioned earlier, is an English and Spanish bilingual tobacco-cessation service for young Latino adults in South Texas using mobile-phone text messages, YouTube videos, mobile web pages, and Facebook ads to deliver content.
- *CHW/Promotora Training Program*. The IHPR/AHEC Promotores of South Texas Training Program in partnership with Northwest Vista College is endorsed by the Texas DSHS as a certified CHW training program. The program enables CHWs/Promotores to help bridge the healthcare gap for our rural and underserved communities with an overarching goal of a healthier community. Trainings offered

include a 160 hour CHW Certification course and CHW CE programming tailored to meet the needs of the community. The program is available to 26 counties of the South Texas AHEC catchment area, not covered already by the Northwest Vista College. The academic/teaching component emphasizes cancer, chronic disease and patient navigation with specific modules. The practicum supports ongoing health education and outreach activities as well as community education. This program will be a critical component of our research plan initially and long-term because CHWs are such a critical component of our vision to increase health and wellness in our region.

Institute for the Integration of Medicine and Science (IIMS)
IIMS, established in 2008 through a NIH Clinical and Translational Science Award (CTSA – UL1 TR000149), has a core to promote community engagement and community-based participatory research through PBRNs, IHPR, AHECs, ReACH, UTSPH and other partners in South Texas. UT Health San Antonio's IIMS was renewed in 2013 for another five years. ReACH was noted twice as a strength in the CTSA application's review because of its focus on health disparities, population-based research and community-engaged research (CER). IIMS has three graduate programs of relevance to training in population health: a) Certificate in Translational Science (12 hours); b) Masters of Science in Clinical Investigation (30 hours); and c) Translational Science PhD (72 hours). The CTSA has seven community boards (TABs), described previously.

Department of Epidemiology and Biostatistics (DEB)
The DEB has developed a multi-disciplinary research and educational program in biostatistics, bioinformatics, evaluation and research information systems. DEB infrastructure supports translational research through the CTSA and supports information systems for many research programs. The Informatics-Data Management Cluster is led by Dr. Alfredo Tirado-Ramos, Director of Clinical Informatics, and Bill Sanns, Director of Information Systems; both oversee extensive information technology (IT) resources.

UT Austin College of Pharmacy (UT Austin-COP)
The Pharmacotherapy Education and Research Center (PERC) of the Pharmacotherapy Division in San Antonio has been affiliated with UT Health San Antonio's School of Medicine since 2006, allowing UT Health San Antonio faculty to capitalize on resources at both institutions. The mission of the PERC is to train pharmacists and pharmaceutical scientists and to conduct translational, interdisciplinary and other types of innovative research. Dr. Christopher R. Frei leads the Pharmacotherapy Division (UT Austin) and the PERC (UT Health San Antonio); he is also a ReACH Scholar.

Military and Veteran Population Health Research
Population health in the military and veteran populations has been the focus of health services research in the South Texas area and has been funded and supported by the Departments of Defense (DoD) and Veterans Affairs (VA) for nearly 20 years. VA and UT Health San Antonio researchers (Drs. Jacqueline Pugh, Mary Jo Pugh, Luci Leykum, Erin Finley, Holly Lanham, Polly Noel and Lauren Penney) are particularly strong in population-based research using big data and complexity science methods. They conduct research to improve the quality of care and patient outcomes for clinically complex

patients receiving care in hospitals, community based clinics and the home, in addition to enhancing patient engagement in their care. Research examining military deployment related outcomes is also a growing area of expertise with the South Texas Research Organizational Network Guiding Studies on Trauma and Resilience, or STRONG STAR (PI Dr. Alan Petersen) and other emerging research programs. STRONG STAR is a multi-disciplinary and multi-institutional research consortium funded by the DoD and VA to develop and evaluate the most effective early interventions possible for the detection, prevention, diagnosis and treatment of combat-related posttraumatic stress disorder (PTSD) and related conditions in active-duty military personnel and recently discharged veterans. Traumatic brain injury (TBI) researchers funded by the Chronic Effects of Neurotrauma Consortium, the DoD, and the NIH (Drs. Carlos Jaramillo, Mary Jo Pugh, Blessen Eapen and Don McGeary) are examining the impact of TBI and other deployment-related exposures on active duty service members, Veterans and their families using longitudinal cohort and merged DoD and VA healthcare system data. They are also conducting clinical trials to identify treatment modalities that address common comorbidities, such as pain in those populations and developing programs to implement findings from research into the local community. Further development of military research is supported by the UT Health San Antonio Military Health Institute, under the leadership of Byron Hepburn MD, Maj. Gen. USAF (Ret.). The San Antonio Geriatric Research, Education and Clinical Center (GRECC) is operated by the STV HCS and serves elderly veterans in Central and South Texas. Research within the GRECC centers on the broad themes of metabolism and inflammation with the goal of understanding the pathophysiology of numerous age related diseases that affect the lives of millions of older veterans, including diabetes, obesity, sarcopenia, Alzheimer's disease, heart failure and Parkinson's disease. Research and outreach to elders in the South Texas community is an emerging area of strength.

The Barshop Institute for Longevity and Aging Studies

The Barshop Institute at UT Health San Antonio aims to: understand the rudimentary biology of aging; ascertain the therapies that will treat and cure the diseases of aging by fostering dynamic, collaborative research; educate and train future scientists and clinicians; and promote public awareness of age-related issues. The Barshop Institute is led by Nicholas Musi MD, a basic sciences researcher who also directs the GRECC. A key leader for population health within the Barshop Institute is Sara Espinoza MD, MSc whose research is focused on understanding the geriatric syndrome of frailty, including the incidence, prevalence and its predictors. In addition, the Barshop Institute is home to the Claude D. Pepper Center for Healthy Aging and the NIA Aging Interventions Testing Center within the Nathan Shock Center of Excellence in the Biology of Aging. The Barshop Institute is one of the few places in the country that can both investigate the aging process and move the findings into the clinic.

UT Health San Antonio School of Nursing Center for Community-Based Health Promotion with Women and Children (CBHP)

The UT Health San Antonio School of Nursing CBHP is supported in part by the Anita Thigpen Perry Endowment and housed in the School of Nursing's Office of Research and Scholarship. The Center collaborates with the community in the development, implementation and evaluation of culturally proficient health interventions for women

and their families experiencing disparities in health outcomes. The Center's Advisory Council is made up of both interdisciplinary academic and community partners, including representatives from: Familias en Accion Community Collaborative Council (CCC), American Indians in Texas at the Spanish Colonial Missions (AIT-SCM), Mujeres West, Alpha Home, Haven for Hope and the Prosumer Group. Four faculty members in the School of Nursing are ReACH Scholars and faculty also collaborate in research projects with the Department of Family and Community Medicine and UTSA. Of note, Dr. Janna Lesser is a key leader in population-health research in the UT Health San Antonio School of Nursing. Dr. Lesser is a Professor in the School of Nursing, Director of the CBHP and Research Director of the South Texas AHECs. She conducts community-partnered exploratory and intervention studies with individuals and communities experiencing health and social inequities. Dr. Lesser is currently piloting a diabetes mellitus risks program curriculum that utilizes the UTSA mobile health lab. Dr. Lesser provides a unique perspective on participatory research approaches by integrating a life course perspective.

School of Dentistry
The primary community-focused initiatives of the School of Dentistry are led by David Cappelli DMD, MPH, PhD, a professor in the Department of Comprehensive Dentistry. Dr. Cappelli has a PhD in epidemiology and directs Miles of Smiles, a Laredo school-based oral health program launched in 2006 in two elementary schools in United Independent School District. Currently, the program has grown substantially and treats 10,000 children in kindergarten through third grade in 47 elementary schools in both United and Laredo Independent School Districts. The program extends to the *Colonias* (El Cenizo, Rio Bravo), the city and the suburbs of Laredo. Preventive services are provided as well as assessment for untreated tooth decay and needs for additional dental care. Partners of this program include the UT Health San Antonio's Laredo Regional Campus, United Independent School District, Laredo Independent School District, the City of Laredo Department of Health, Gateway Community Health Center and the Laredo Community College (dental assisting program).

Practice Based Research Network (PBRN) at the School of Dentistry
The national dental practice-based research network engages providers in scholarly activity focused on research questions related to the practice of dentistry. The research, conducted in dental offices and community health centers, expands the evidence-base of the profession and promotes the translation of oral health science into practice. Both general dentists and specialists in endodontists, periodontists, orthodontists, oral surgeons, prosthodontists, oral pathologists, as well as pediatric and dental public health, are engaged in the process. The National Dental Practice-Based Research Network (National Dental PBRN) is housed at the University of Alabama at Birmingham (UAB) School of Dentistry. The National Institute of Dental and Craniofacial Research (NIDCR) awarded a $66.8 million, seven-year grant for this initiative. While the hub is at UAB, regional research sites, or nodes, are located in San Antonio, Texas; Rochester, NY; Gainesville, FL; Birmingham, AL; Minneapolis, MN; and Portland, OR.

The South Texas Oral Health Network (STOHN)
The STOHN, affiliated with UT Health San Antonio, was established through the CTSA funded by the NIH in May 2008. STOHN provides a centralized university-based

infrastructure, a link to research resources and an engine to move projects forward. This local infrastructure allows dental practitioners and UT Health San Antonio faculty to participate in research leading to collaborative community partnerships. STOHN's 60 members are committed to participating in research activities and have contributed to research at each stage of its development.

Community Stakeholder Partnerships
UT Health San Antonio's strategic plan is prepared to make a long-term commitment to nurturing ongoing collaborations with the community to improve health and reflecting the following CBPR principles: valuing equitable partnerships, understanding community perceptions, respecting the community's diversity and mobilizing community assets and strengths.[22] Our strategic plan will provide useful, valid information and training opportunities to our community members to help them understand, assess and implement evidence-based advances in healthcare in their communities. Consumers, providers and other stakeholders will continue to be involved in all aspects of the strategic plan's educational and research programs to ensure that they are relevant, useful and scalable. Our dynamic dialogue is essential for effective translation, adoption and dissemination of research.

Summary of Funded Population Health Research
We have assembled a database of recent and current research conducted at UT Health San Antonio related to population health in order to gain a better understanding of the availability of expertise in this area (Appendix 3). As shown, our 116 projects are funded by federal, state and private sources including: NCI, NHLBI, NIMH, CPRIT, HRSA, PCORI, NIDDK, DoD, VA, Texas Health and Human Services Commission and private foundations (RWJF, Susan G. Komen, Elizabeth Huth Coates, etc.). We have identified 65 investigators with current projects who come from 29 departments within UT Health San Antonio's five schools. Projects cover workforce development, oral health, mental health, cancer and chronic disease control and prevention amongst populations including Latinos, military, women and children.

Educational Capabilities
Translational Research PhD Program (Director, Christopher R. Frei, PhD, UT Austin School of Pharmacy)
This collaboration of four universities on a single joint doctoral degree program is unique in the UT System. The participating universities include: UTSPH Regional Campus in San Antonio, UT Health San Antonio, UTSA and UT Austin. The program is designed to use existing resources and expertise in specific key areas of each university to offer a strong, diverse and competitive Translational Science (TS) PhD. The TS PhD will prepare the next generation of scientists to lead the multi-disciplinary biomedical research teams of the future in increasingly complex research environments. The course director is Christopher R. Frei, PharmD, an associate professor and division head of the Pharmacotherapy Division, College of Pharmacy at UT Austin. He suggests this course could be easily expanded to integrate diverse training elements required for expertise in population health, including community-based participatory research, comparative effectiveness research, health services research and behavioral research health expertise. We currently are working with Dr. Frei to develop a Certificate in Population Health

Research, which will serve to expand the CTSA in translation of evidence-based programs/treatment into the community, while at the same time advancing the population health of South Texas. We believe this will be an excellent infrastructure, as long as we can find instructors and obtain the requisite permissions. Students would come from UT System institutions.

Masters of Science in Clinical Investigation: Health Services Research (Co-Directors, Helen Hazuda, PhD and Polly Noel, PhD)
This graduate degree program is broad and offers coursework relevant to population health. In particular, the Health Services Research course provides experience in large data research as well as relevant statistical methods underpinning health services research. It is considered a basic component of preparation to conduct population health research addressing health services delivery and quality of care. The program directors are leaders in population health.

MD, MPH Degree Program (Director, Barbara Taylor MD, MPH)
UT Health San Antonio has a thriving program for medical students in collaboration with UTSPH San Antonio Regional Campus. Students are increasingly encouraged to conduct research projects for their MPH degree in collaboration with faculty. These young investigators can be mentored to involve themselves increasingly in community outreach/population health research.

Cancer Prevention Certificate Program (Director, Michael J. Wargovich, PhD)
UT Health San Antonio has a 12 semester-credit-hour Graduate Certificate in Cancer Prevention (CCP) that is offered by the Graduate School of Biomedical Sciences and is designed for students who desire additional training in the constantly evolving discipline of cancer prevention to supplement their clinical or basic science training. This certificate gives students a structured introduction into the most important components involved in the continued progress of all levels of science involved in the prevention of cancer. Coursework focuses on topics in cancer prevention and translational science and includes biostatistics, epidemiology and clinical trial design and analysis.

Training in Health Disparities Research (Director, Dr. Amelie G. Ramirez)
Through its projects and researchers, the IHPR offers training/mentoring opportunities to high-school and college students through junior faculty in the areas of research methods, health promotion, health disparities and more. Interested trainees can complete the Prospective Trainee Survey.[31] IHPR also conducts the aforementioned *Éxito!* Training Program to increase master's-level students and master's trained health professionals entering (and completing) doctoral programs and focusing their careers on Latino cancer control research.

Gaps in the Population Health Workforce
Goal: We require a core system of population health researchers/educators with both junior and senior faculty with expertise in: health services/health policy/health outcomes; comparative effectiveness/decision science/health economics; community-partnered research; and dissemination/implementation science.

Key gaps to address:

- Because we do not have enough training programs in disciplines relevant to population health at the Masters and PhD levels as well as research fellowships for post-doctoral level trainees, it will likely take years to develop this infrastructure absent a significant infusion of support.
- We currently have 12 open recruitments for faculty with skills applicable to population health.
- We frequently hire individuals trained at other UT System Institutions, but it is often difficult to attract them away from their training institution.
- In particular, in regard to health services/outcomes research and policy (currently less than 10 faculty members), we require at least five to ten additional faculty to lead health services innovations research and community-based health care delivery initiatives.
- Specifically in the DEB:
    - A search is underway to recruit a new departmental chair.
    - DEB has an inadequate number of biostatistics and clinical informatics faculty, reflecting the loss of two senior faculty this year with only one junior faculty in replacement. DEB requires three additional senior faculty and two junior faculty to lead research.
    - Within the DEB, there is a noticeable shortage of faculty (less than five) with expertise in epidemiology. This should also be addressed with at least two researchers trained in epidemiology,
    - Concerning clinical informatics, one faculty member is a PhD researcher. DEB has limited input from MDs who are knowledgeable about informatics and involved in the clinical enterprise, and we have no MDs who are informatician-researchers.
    - DEB lacks faculty with expertise in Dissemination and Implementation research, a growing research field that focuses on implementing best practices of research advances and then adapting and disseminating them throughout a target set of locations. Dissemination and Implementation research is a focus of the CTSAs. Currently, there is a dissemination and implementation central core in UT Health San Antonio Division of General/Hospital Medicine and the VA. There is also expertise in the Department of Community and Family Medicine and UT Health San Antonio School of Nursing. There should be additional expertise in this area added to the DEB and/or General and Hospital Medicine.
    - In regard to Outcomes Research, a closely related field, the UT Health San Antonio School of Health Professions has been developing a research and educational focus that will add to the collective expertise at our institution.
- We need to establish a **more coordinated health policy-focused approach** (faculty currently sit on various city and community councils, e.g., the Mayor's Fitness Council), but population health efforts across the institution could benefit from greater coordination and dialogue. The goal is to effect policy changes and collaborate with community organizations to address social and environmental barriers to health.

- We need more faculty with expertise in eHealth measurement and behavioral medicine (we have substantial expertise in psychologists, but less so in behavioral health research methods).
- We have a small number of faculty (less than 10) with community-partnered research and implementation science expertise. There is an ongoing effort to recruit faculty with this expertise. For example, currently the IHPR is recruiting for two cancer prevention/health disparities/population health faculty members.
- We need to expand our research infrastructure with at least 10 CHWs who can participate in and lead projects that we will develop as part of the mentoring program described in our strategic plan and strategy to implement population health.

To address these deficiencies, we propose finalizing our internal faculty recruiting and establishing collaborations with other UT System institutions. We suggest the UT System be a coordinating center where expertise is shared across institutions. Of course, these collaborations presume that we have the funds to support the time of investigators at other institutions.

8) Assessment of Additional Needs

Lack of Community Infrastructure for Population Health Research and Educational Initiatives

Although we have an agreement to partner with AgriLife Extension agents on this strategic plan to advance community health, this collaboration will not succeed without a stable, well-funded infrastructure. The AgriLife Extension program is funded by federal agencies and appears to be relatively stable in funding. However, primary linkage to these community resources is through the AHEC, which is a more fragile infrastructure that has been repeatedly zeroed out by Congress in its budget. To have a credible sustained partnership with the community, it is essential that our institution be able to deliver on its promises to advance community health. Authenticity and value of community-partnered research is diminished significantly when researchers "parachute in" and leave after funding has expired. Therefore, additional approaches to sustain long-term funding are required. One option is to partner with foundations in Texas and bring to the attention of the Texas legislature that academic community-based collaboration in population health can improve the lives of persons living in Texas. Also, other successful academic community partnerships around the country can be used as models. For example, in Los Angeles a not-for-profit community organization has partnered with UCLA to greatly expand mental health access and resources for residents. UT Health San Antonio should consider developing relationships with area employers and existing community-based services on community health initiatives as one avenue to improve the lives of all persons living in our catchment area, while increasing the viability of our economy.

Gap in Support for Mental Health and Substance Use Disorder Services

Mental health issues loom large as a major contributing factor to many of our health issues in South Texas. We have a scanty mental health clinical infrastructure and, as pointed out by the chair of Psychiatry at UT Health San Antonio (Dr. Steven R. Pliszka), the fee-based

payment system does not allow his department to extend its clinical services to low-income underserved populations. Dr. Pliszka is enthusiastic about creative opportunities to shape behavioral health and to innovate in mental health services throughout South Texas with adequate support. One of the most fertile opportunities is training CHWs/*Promotoras* and patient navigators in behavioral health supportive roles in partnership with psychologists and psychiatrists to conduct more proactive outreach and then to offer group or online support services to increase the reach of our mental health support throughout the communities. There is a need to offer more proactive outreach supplemented by group or online support services in both mental health and substance use disorder realms. The ability to offer innovative and comprehensive support services will change the landscape of mental health and substance use disorder care in our catchment area.

Sharing Expertise Across UT System Institutions

We will work with our faculty to develop innovative expertise and collaboration in consultation with UT System institutions. First, we should carefully assess our own assets and identify potential partnership. For instance, we should be able to share faculty, courses and administrative infrastructure as well as databases of the patients we serve. As part of this vision, the current initiative to link the electronic medical records across our institutions needs to be jumpstarted with an oversight board of not only informaticians, but also clinician researchers who use these data to deliver clinical care and to examine quality and outcomes of care.

In addition, the UT System should be looking to self-insure because we can innovate in healthcare delivery and lifestyle support to this large Texas population working for our institutions. Therefore, we believe that a collaborative vision is required for the population health initiative and fully hope that the leadership will look at commonalities and partnerships to achieve our goals. In our discussions with UT Health San Antonio leaders, the idea of self-insurance had great appeal because it would allow the system to be an incubator for excellent healthcare leading to a practice-based learning healthcare system. A role model for this type of self-insurance is the Geisinger Health Plan that offers Geisinger Indemnity Insurance Company run by the system in Pennsylvania. Geisinger has been cited in a review by the Commonwealth Fund as an outstanding model of a health system and infrastructure that promotes continuous quality improvement and high achievement of quality of care metrics.[31] Another example not based in an academic center, the Mountain Health CO-OP is a member-run, Idaho health insurance CO-OP offering quality, affordable coverage accepted by up to 85% of Idaho's doctors and hospitals. Quality of care and evaluations have shown that this is a high functioning system.[32]

Access to Care for the South Texas Population

Because of the vast distances that are involved in our 38-county catchment area, we need to have a center in the UT System to support remote communications, telehealth and virtual visits. Currently, much of our indigent patient population has minimal access to computers, or even smart phones. A creative solution might be to promote a centralized computerized infrastructure in community health centers or rural health clinics where individuals can congregate to gain access to our latest initiatives and to converse with experts about topics of interest. Somehow we have to get past the need to drive many hours to get to these communities, but still keep them closely engaged with us on initiatives.

9) Plan and Strategy to Implement Population Health at UT Health San Antonio

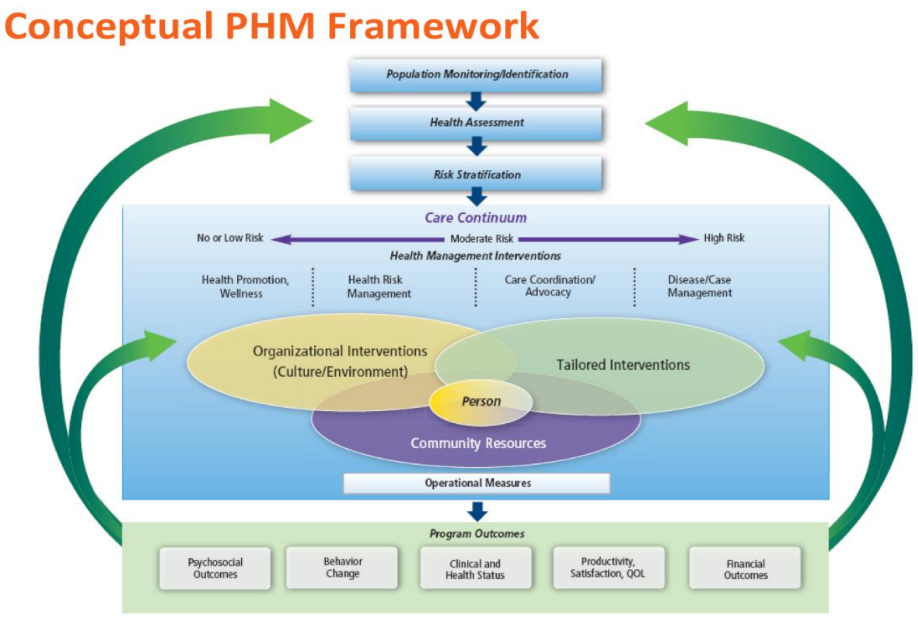
Background to Plan

Overall, we base our work on the original definition of population health by Kindig and Stoddart (2003): "An approach [that] focuses on interrelated conditions and factors that influence the health of populations over the life course, identifies systematic variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations."[32] Our strategic plan focuses first on: (1) establishing the infrastructure required to successfully conduct population health research and then (2) proposing several small projects that could constitute proof of concept in addressing the population health priorities defined above in our 38-county South Texas catchment area. We currently structure this plan on a short-term basis with refinements to take place over the next few years. The long-term vision for a population health infrastructure is highly dependent on the overall strategic plan developed by the UT System over the course of the next year. As noted previously, we should not have our own isolated population health strategic plan without determining where there are opportunities for productive partnerships across UT System institutions. In addition, long-term plans are completely dependent on an infusion of funding to increase our capabilities in regard to infrastructure, as noted before, and in regard to our faculty expertise in this field.

Below are the five key components that will underpin our Strategic Plan:

1) We plan to structure our initiative based on the Population Health Management Framework (Fig 6).[34] The model offers a valuable structure for organizational interventions, personalized interventions, community resources and addresses the full spectrum of health.

Figure 6 Population Health Management Framework



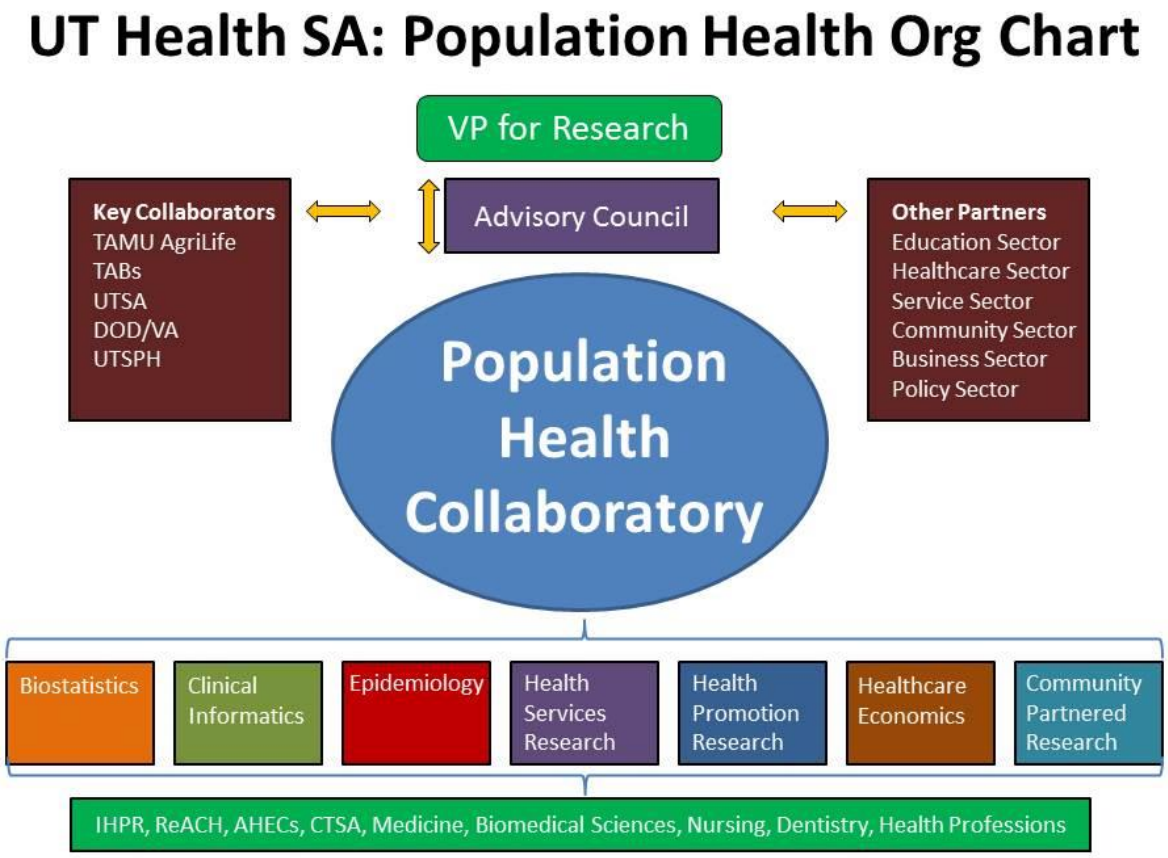
Source: Care Continuum Alliance, *Outcomes Guidelines Report, Vol. 5*, 2010.

2) Successful population health requires a truly multi-professional multi-disciplinary approach. The following areas of expertise have been defined in other population health initiatives as being necessary to successfully conduct this research:

- Biostatistics: contributes to scientific advances that benefit human health through innovation in methodology, theory and use of biostatistical methods across a full range of biomedical research. Included in this category is expertise in complexity science, which is a unique area of biostatistics necessary for looking at multilevel interventions often needed to advance health in the community.
- Clinical informatics: the use of data and information systems to inform the discovery and management of new knowledge relating to health and disease. It spans the use of data for clinical trials to use of administrative and other big data for clinical research.
- Epidemiology: advances the understanding of the inter-relationship of genetic and environmental factors affecting human health and aims to inform the translation of this knowledge to public health interventions.
- Health Services Research and Quality Improvement: examines outcomes from delivery of care, management of health services, assessment of healthcare needs, measurement of outcomes, allocation of healthcare resources, evaluation of different health markets and health services organizations and health disparities. Develops and tests interventions to improve outcomes of health care.
- Health Promotion Research: focuses on strategies for fostering healthful behaviors and improved health outcomes and quality of life across a wide variety of conditions, including chronic disease, healthy aging and recovery from cardiovascular disease throughout the continuum of care, from critical care facilities to home-based care in the community.
- Dissemination and Implementation Science: this field of research identifies strategies to adopt, integrate and spread evidence-based health interventions into clinical and community settings to improve patient outcomes and benefit population health.
- Health Care Economics and Decision Science: bridges the worlds of decision science, cost effectiveness, comparative effectiveness and metrics development. Its investigators perform scientifically rigorous research that informs clinical care and health policy.
- Community-Partnered Research: this area of research brings together experts in community engagement who have long-established relationships on productively partnering with individuals in the community on research initiatives.

3) We envision a new population health infrastructure at UT Health San Antonio called a Collaboratory – because it is a center without walls. The Collaboratory will draw upon diverse types of expertise within our institution ***and*** expertise from outside UT Health San Antonio and community-based institutions through our advisory council (Figure 7). As shown in this figure, the coordinating center for our population health initiative will reside within the VPR's office because it allows us to integrate expertise across all schools with the overall vision and mission of UT Health San

Figure 7 Population Health Infrastructure for the UT Health San Antonio Population Health Collaboratory



Antonio. We believe this innovative infrastructure can prevent schisms that have occurred in implementation of population health groups in other institutions.

4) We have aligned our leadership in the five schools comprising UT Health San Antonio: health professions, medicine, nursing, dentistry and biomedical sciences. We have pockets of expertise in each of these schools that will be drawn together and coordinated under the leadership of a senior community oriented health services researcher. We are developing the job description for this individual and after institutional approval will be searching in the next few months for such a leader.

5) A key component of successful population health research is having a strong partnership and infrastructure in the community. We are currently proposing to collaborate with Texas A&M's AgriLife Extension Service, which has agents located in each of the 38 counties in our catchment area and in the past have been outstanding partners on CTSA and PCORI research initiatives. This federally-funded program has the same mission as we do, to advance the health of communities in partnership with residents. The fact that AgriLife Extension Service is well-established in each of these counties and respected by the local residents as being productive partners greatly facilitates our ability to engage and meet the needs of community residents. In

partnership with AgriLife Extension Service in two rural counties, we have developed a 90 page handbook entitled *Underserved Populations: Advancing Health by Engaging and Developing Research (UP AHEAD Research)* that will be used by our research team to inform initiating relationships with communities throughout our catchment area. Building upon these community relationships could lead to the development of Community Advisory Councils to advise on community needs, research priorities and implementation activities. *UP AHEAD Research* was written to assist academic researchers with initiating partnerships in the community, gaining input from the community into research priorities and developing action plans to operationalize those goals. It is inherently a practical guide with many tips based on real-world experience. IHPR also works with the San Antonio Mayor's Fitness Council.

Priorities and Activities

Short-term activities will be completed in one to three years and are described below. Longer-term activities and outcomes will be accomplished only if we successfully garner resources to support these activities.

Priority - Capacity Building: Increase our workforce of young investigators conducting research focusing on health priorities of the communities in our catchment area.

Planned activity: Develop a learning collaborative led by established investigators conducting population health research to mentor young investigators in targeted projects addressing specific priorities in the community.

- Inputs: The completed survey of current research related to population health across UT Health San Antonio schools has helped us to identify established researchers that can serve as mentors. We can draw upon trainees enrolled in appropriate degree granting programs such as the PhD in Translational Science, MD-MPH or fellows in appropriate disciplines as well as other talented students enrolled in all of our schools. We plan to involve AgriLife Extension agents in counties where research projects are undertaken, AHEC staff who provide outreach activities to the communities and UTSA educational measurement and cultural competency experts. These activities can build on current small grant funding opportunities in community engagement provided by the CTSA and other small grant programs underway at UT Health San Antonio.
- Activities: We plan to solicit and review brief proposals from trainees in response to RFAs with specific mentors identified to lead projects addressing each topic. Mentors and relevant community stakeholders would meet with students at least bimonthly for projects to be completed over the course of 1-2 years. The director of this educational program would meet with each student bimonthly and with all mentors monthly.
- Outputs: Completed trainee projects will yield specific products such as: publications, presentations locally and nationally, grow our sustainable collaborations with community partners and products that can lead to approaches that improve the health of the community and provide the foundations for larger scale projects.

- Short-term outcomes: The primary outcome is the development of a mentorship program for population health that involves diverse senior investigators with expertise in relevant disciplines.
- Long-term outcomes: Our goal is to establish a program that engages trainees in population health research related fields with an established program of training that leads to further training in these fields. We also hope to retain a majority of these trainees in post-doctoral fellowships and faculty positions. A second goal is to develop a portfolio of large and small projects that will be conducted throughout our South Texas catchment area. Products of these initiatives will be evaluated for impact specifically from the program as well as leading to larger scale studies that improve the health of the population.

Priority - Health Promotion: Establish a multimedia, multi-component communication and dissemination plan to increase healthy behaviors and promote health policy/systems changes.

Planned Activity: Create a powerful, culturally infused, scientific theory-based multimedia campaign, utilizing real community role models and/or programs to model health behaviors—to generate behavioral change toward healthy lifestyles as well as system-level policy changes.

- Inputs: Recruit, train and manage a team of content curators, social marketing and social media experts led by a communications director that will craft stories, tools and other content about positive personal and system health change relating to knowledge, attitudes and behaviors.
- Activities: Design and execute didactic yet compelling multimedia programming focuses on community health issues relevant to South Texas. We will use different communication channels such as print, radio, TV and digital media aimed at general and Latino audiences. Using different forms of media (mass media, social media, etc.), we will disseminate this information.
- Outputs: We will develop a large network of online followers that will be exposed to a variety of media content (stories, news, etc.) carried over a number of different media channels. Specifically, we could create and disseminate high-attention, health and human interest TV news stories to air on mass media and reinforce these messages via robust digital and social media outlets.
- Short-term Outcomes: Develop a network of over 50,000 South Texas stakeholders in individual and policy health change. Increase health literacy and demand for communications targeting health lifestyles in South Texas.
- Long-term Outcomes: Reduce the incidence and severity of cancer and chronic disease in South Texas.

Priority – Health Care: Improve access and quality of healthcare delivery.

Planned activity: Establish a workforce of well-trained CHWs who can address priority deficiencies both within health care settings and in communities.

- Inputs: We can draw from NorthWest Vista's certificate, the DSHS certified AHEC Promotores Program for CHWs, IHPR and other Population Health mentors, as well as work with practices in the region where CHWs can be deployed for practicums. CHWs will contribute to research and other community health initiatives conducted by our five schools.

- Activities: Engage trainees and graduate CHWs in educational programs and on-site practicums. This will be a workforce to learn and provide culturally appropriate education, navigation services and other support for high priority conditions in our region. This training program will reflect evidence-based practices and research conducted by our team that have been demonstrated to yield measureable benefits for our community. We will offer practicum opportunities at collaborating clinics that serve low income, vulnerable populations in this region.
- Outputs: Develop a CHW training program that offers specific education related to topics of priority in our community and that addresses the major causes of morbidity and mortality in the region. The program will focus on behavioral, attitudinal, knowledge and environmental factors that must be addressed to improve health.
- Short-term outcomes: Evaluation of the program will be conducted in collaboration with Northwest Vista, AHEC Promotores Program and UTSA educators who will demonstrate acquisition of specific skills and knowledge that can be deployed with a bilingual, low health literacy patient populations facing specific health threats. CHWs will rate their training experience highly and clinic staff and patients will also rate their contributions to patient care as substantive.
- Long-term outcomes: If we can build the case that the CHW workforce improves quality and outcomes of care, we can expand our program to engage and train CHWs who will serve more rural, vulnerable populations in our catchment area. We will be able to document the health needs that CHWs are trained to meet and outcomes from their services.

Priority – Update the IHPR's *South Texas Health Status Review*.
Planned Activity: Develop and publish an update to the IHPR's *South Texas Health Status Review* (first published in 2008 and updated in 2013) to confirm the strategic plan's identified priorities and assess existing/shifting health disparities affecting our 38-county catchment area.

- Inputs: IHPR researchers will renew their partnership with the Texas DSHS and other data sources to conduct a review on health indicators.
- Activities: Analyze diverse county, state and national data sources to compare South Texas' incidence, prevalence and mortality rates for 35 health indicators, ranging from cancers and chronic diseases to communicable diseases, maternal health and environmental health (and more issues, based on partners' input).
- Outputs: A publication of an updated *South Texas Health Status Review*.
- Short-term Outcomes: Publish and utilize the *Review* to confirm health disparities and health priority needs across South Texas.
- Long-term Outcomes: Disseminate the *Review* widely to increase awareness of these disparities and priorities.

Priority – Population-based Surveys: Conduct a population-based survey of adult residents of our catchment areas about facilitators and barriers to improving health.
Planned activity: Use GfK's KnowledgePanel®, a national population-based panel, to gain information about health behaviors, health risks and daily life based on a survey of adults

in our 38 county region. GfK has 800 members representing the adult population in our region with purposive oversampling of Latinos.

- Inputs: Community advisors and academic partners (including students/fellows) in the Population Health Collaboratory will meet to define critical unanswered issues that can best be addressed with a survey of a population-based sample of individuals residing in our region. This will be an equal partnership with community members guiding the content and cultural competency of questions addressing issues such as specific barriers to healthier living and specific suggestions that could lead to research initiatives.
- Activities: This activity would involve our Population Health Research Team and community advisors through the AHECs. We plan to use our existing GfK partnership to develop a survey, pilot test and translate into Spanish. Pretest: n=25 interviews. We estimate a response rate consistent with prior GfK surveys (≥50%). GfK will provide standard deliverables (self-documented data file with all the survey data, general demographic profile data, and field report documenting all sampling and data collection procedures, codebook, and panel recruitment methodology). Ideally, we would like to follow this panel longitudinally.
- Outputs: This survey will give us data regarding barriers and facilitators to specific health outcomes that are selected by the community and researchers that is needed to guide the development of programs and interventions. Longitudinal surveys of this panel will provide an opportunity to evaluate the impact of programs and changes in participant perceptions of need over time.
- Short term outcomes: The survey of our South Texas region will be informative not only for the activities of our Collaboratory, but can also be useful for UT RGB where we have direct overlap with some of our communities. We expect that this information will guide the foci of short-term projects that trainees will address in partnership with their mentors.
- Long-term outcomes: Over time, the series of surveys of a population-based sample on diverse health priorities in South Texas will create a unique compendium of data coming directly from the community that will shape the long-term projects created in partnership with all of our community assets and leaders.

Priority – Integrating Education on Population Health into Curricula across UT Health San Antonio. This will require us to develop a working group of educators and researchers across all five schools to evaluate the content of our curricula. To ensure that population health is addressed, we will develop/identify educational programs that address identified institutional gaps.

Planned Activity: An institution-wide assessment of all of our educational programs will allow us to identify best practices in terms of education regarding population health as well as opportunities to ensure that this content is provided across all of our schools.

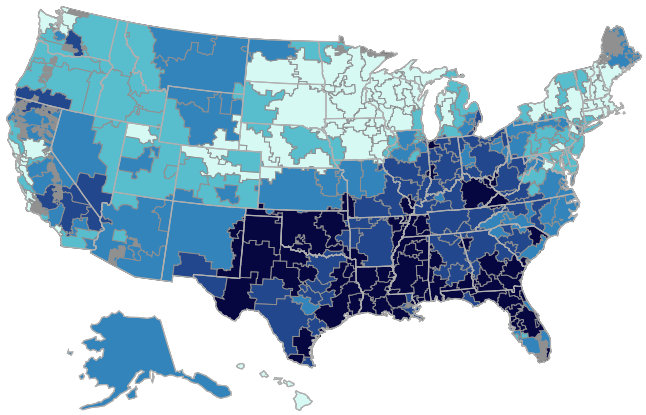
- Inputs: We will undergo a review of curricula by educators and researchers in each school while reviewing curricula at other UT System institutions to identify existing resources and models of programs that address the array of topics relevant to population health. As an example, we have found an existing interdisciplinary course at UT Health San Antonio in the School of Health Professions that addresses topics such as: the US health care system/health care reform, cultural competency, ethics in healthcare and research, behavioral health and other related topics. The

identification of appropriate lecturers and course directors for these educational programs will require requisite time committed and covered to ensure the quality of this educational initiative.

- Activities: An institutional working group will investigate courses as well as lectures within courses for undergraduates and graduates of our institution related to the broad array of topics that are relevant to population health. Each UT Health San Antonio school will present an assessment of their educational program review to the Healthy South Texas Collaboratory, where the group members can provide suggestions to address curriculum gaps in a systematic way.
- Outputs: This undertaking will lead to a more comprehensive focus on population health across the institution's educational programs and will ensure that all graduates are exposed to educational foundations of population health sciences and highlight the need for our academic institution to serve the broader community beyond the patients we treat.
- Short term outcomes: This will lead to well-defined curricula with educational objectives and specific metrics related to knowledge, attitudes and beliefs that will be used to evaluate the quality of the program. In the first year we will assess courses and lectures at all schools to identify where this content is already being taught and where it needs to be expanded or inserted.
- Long-term outcomes: A well planned educational initiative will ensure that all students who graduate or attend our institution will be exposed to key aspects of population health before they embark on careers in the healthcare field. This includes not only researchers, but also individuals who will become clinicians, educators, administrators and policymakers, among other related fields.

10) Environmental Impact Assessment

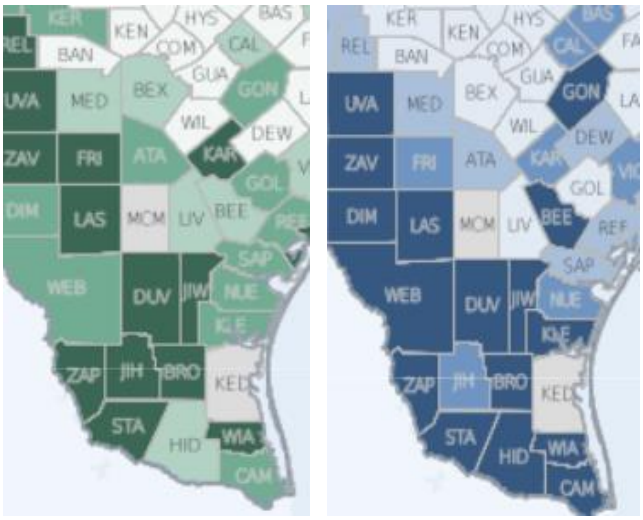
Figure 8 Ranking of Health System Performance



South Texas and our 38-county catchment area has the potential to become one of the unhealthiest regions in the nation. According to the Commonwealth Fund's assessment of the performance of healthcare systems across the country in 2016, as shown in Figure 8, all of Texas shows poor performance, with the darkest blue indicating that the local healthcare delivery system is in the lowest quintile in the nation.[35] As shown, the South Texas region is not spared from this poor performance and among the gravest concerns is the high proportion of uninsured residents with no clear path to healthcare. With the changing healthcare

landscape, this situation appears ever more serious. For our region, this means that many thousands of persons with potentially devastating diseases will not have coverage for care. Among the greatest threats is the inexorable connection between common and insidious diseases such as diabetes and liver disease, low health literacy, unhealthy lifestyles, genetic risks, cultural norms and poor health. For example, the prevalence of diabetes is 20% higher in South Texas than the rest of the state; fully 25% of these persons have poor diabetes control (defined as hemoglobin A1c >8%).[36] It is clear that urgent steps must be taken not only to prevent diabetes, but to ensure that those individuals who have the disease can receive the treatment and lifestyle support necessary for minimizing or eliminating the dire consequences of morbidity and mortality.

Figure 9 Current Health Rankings (left) and Future Health Rankings (right) of South Texas Counties



Yet it is important to have a broader focus than diabetes alone because the combination of a poorly supported region in terms of the social determinants of health (e.g., education, social services and physical environment), in combination with inadequate healthcare, will all lead to a greater burden of poor health. The following pair of figures from the RWJ County Health Rankings demonstrate this grim situation well. On the left side of Figure 9 are the county rankings in our region, in terms of current health in 2016, with darker colors signifying areas with the poorest health. These data are based on how long people live and how healthy people feel while alive.[3] The dark green counties are in the lowest quartile of all Texas counties. On the right side of Figure 9 are the county rankings reflecting projected future health based on the following variables: health behaviors, clinical care and social, economic and physical environment factors. As shown, the darkest blue are counties in the lowest quartile of all counties in Texas, indicating that nearly all of our catchment area has shifted towards being the unhealthiest region of the state.

This situation will lead to an enormous burden, not only for our academic institution, but also for other healthcare providers. It will also stress the entire economy of our region. Given that UT Health San Antonio's mission is to serve low-income vulnerable populations and that our partner institution, UHS, is the primary safety-net hospital for civilians in South Texas, we are likely to be inundated with uninsured or underinsured residents presenting complications of poorly managed diseases. The influx of individuals with potentially preventable diseases will introduce stressors on finances and physical resources.

Poor health of the community affects all aspects of living in our region such as: taxpayers who must pay for uncompensated care; healthcare providers who cannot afford to provide care without compensation; businesses that have increasingly unhealthy employees;

residents who are unable to contribute to the social good because they are too ill; and a general shrinking of the vibrancy of our community. We believe that this grim future is not well understood by our community, especially those outside of the healthcare system. Thus, our strategic plan will focus especially on helping our community partners understand the impact of addressing the overall health and well-being of our community as it relates to their own success and viability. Finally, our greatest strength lies in being a part of an extensive network of experts throughout the UT System where we all join forces to advance the ultimate goal of fostering a healthy, vibrant Texas.

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Appendices

Demographic Questionnaire

Instructions: Please provide a response for each of the following questions:

1. **What is your age?** _____

2. **What is your sex?**
   - ☐ Male
   - ☐ Female

3. **What county do you currently live in?** _____

4. **With which racial or ethnic category do you identify?**

   ☐ Asian or Pacific Islander ☐ Asian Indian ☐ Black/African American
   ☐ Caucasian/White ☐ Latino/Hispanic ☐ Native American
   ☐ More than one race (specify): _____

5. **What is your Veteran status?**

   ☐ U.S. military veteran or active duty member
   ☐ Spouse of a U.S. military veteran or active duty member
   ☐ Not a veteran

6. **Disability Status:** Do you have a disability as defined by the Americans with Disabilities Act?

   ☐ Yes
   ☐ No
   ☐ Prefer not to answer

7. **Do you currently have health insurance?**
   ☐ Yes ☐ No

8. **How many people currently live in your household?** _____

9. **Annual Household Income:**

   ☐ Less than $10,000 ☐ $10,000 to $19,999 ☐ $20,000 to $29,999
   ☐ $30,000 to $39,999 ☐ $40,000 to $49,999 ☐ $50,000 to $59,999
   ☐ $60,000 to $69,999 ☐ $70,000 to $79,999 ☐ $80,000 to $89,999
   ☐ $90,000 to $99,999 ☐ $100,000 to $149,999 ☐ More than $150,000

10. **What is your preferred language?**

    ☐ English ☐ Spanish ☐ Other (please specify) _____

11. **What do you feel are the Top 5 health needs in *your* community?**

    1) _____ **2)** _____ **3)** _____

    4) _____ **5)** _____

Encuesta Demográfica

Instrucciones: Por favor conteste las siguientes preguntas con las respuestas apropiadas:

1. **¿Cuántos años tiene usted?** _____
2. **¿Sexo?**
   - ☐ Masculino
   - ☐ Femenino

3. **¿En cuál condado vive usted ahorita?** _____

4. **¿Con cuál raza se identifica usted?**

   ☐ Asiático o de las Islas del Pacifico ☐ Asiático Indio ☐ Negro o Afroamericano
   ☐ Caucásico/Anglo ☐ Latino/Hispano ☐ Nativo Americano
   ☐ Más de una raza (especificar): _____

5. **¿Cuál es su estatus de veterano?**

   ☐ Veterano militar de Estados Unidos o miembro del militar corriente
   ☐ Pareja de un veterano militar de Estados Unidos o pareja de miembro del militar corriente
   ☐ No soy veterano o miembro militar

6. **Estatus de discapacidad: ¿**Tiene usted una discapacidad como está definida por el acta de los americanos con discapacidades (ADA)?

   ☐ Si
   ☐ No
   ☐ Prefiero no contestar

7. **¿Ahorita, tiene usted seguro de salud medico?**
   ☐ Sí ☐ No

8. **¿Cuantas personas viven ahorita en su hogar?** _____
9. **Ingreso anual de su familia:**

☐ Menos de $10,000	☐ $10,000 a $19,999	☐ $20,000 a $29,999
☐ $30,000 a $39,999	☐ $40,000 a $49,999	☐ $50,000 a $59,999
☐ $60,000 a $69,999	☐ $70,000 a $79,999	☐ $80,000 a $89,999
☐ $90,000 a $99,999	☐ $100,000 a $149,999	☐ Más de $150,000

10. **¿Cuál es su lenguaje preferido?**

    ☐ Ingles ☐ Español ☐ Otro (especificar) _____

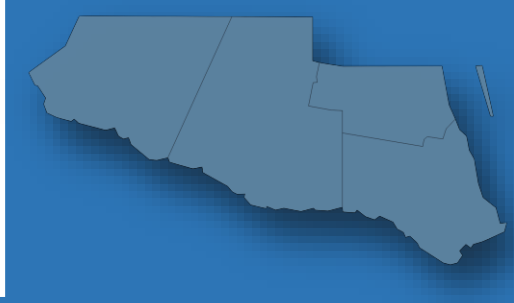
11. **¿Cuáles piensa usted que son las 5 más grandes necesidades sobre la salud para *su* comunidad?**

1) _____ **2)** _____ **3)** _____

4) _____ **5)** _____

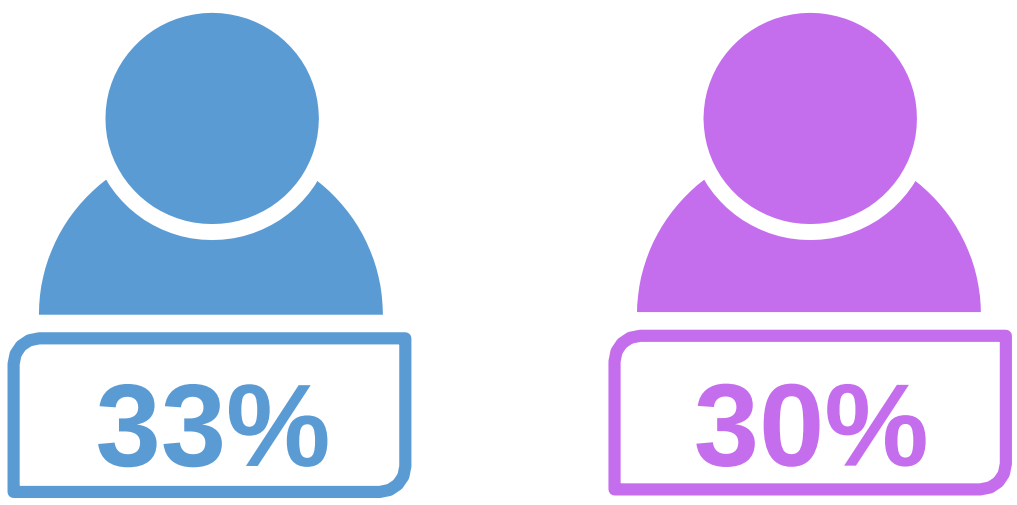
COMMUNITY HEALTH

HEALTH IN THE LOWER RIO GRANDE VALLEY © 2016



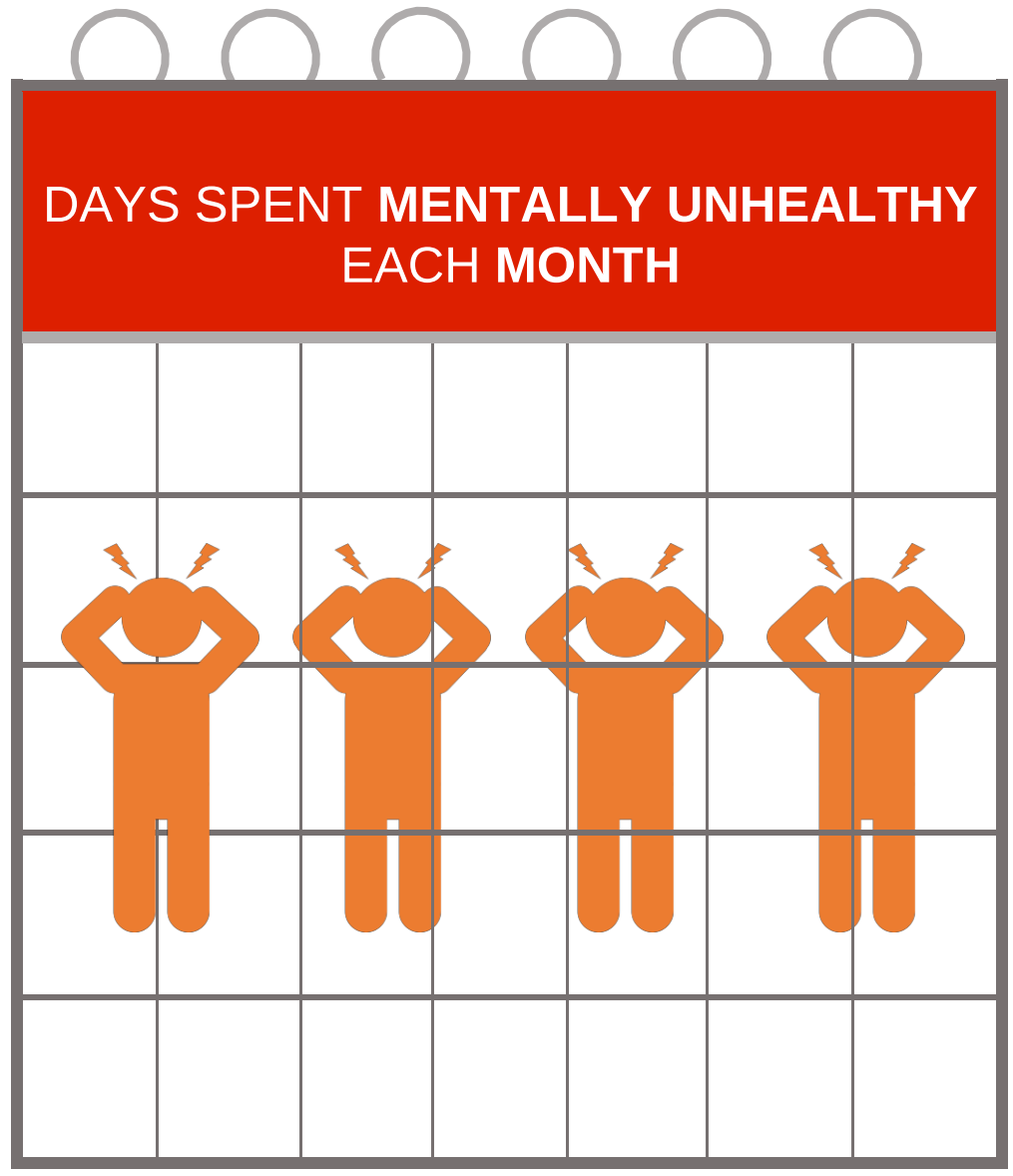
OBESITY

1 OUT OF EVERY 3 ADULTS ARE **OBESE**, MEANING THEY HAVE A **BODY MASS INDEX** OF **GREATER THAN OR EQUAL TO 30**



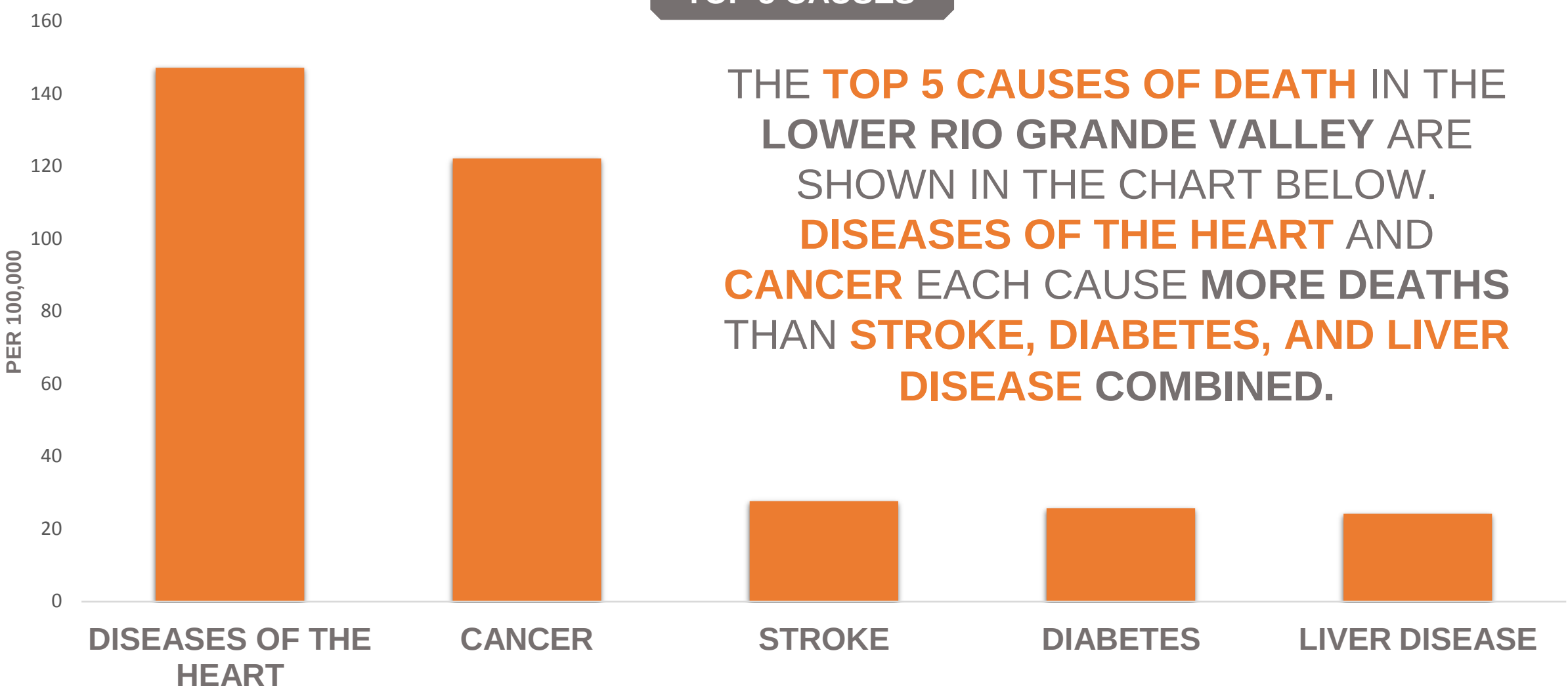
OBESITY IS HIGHER IN MEN THAN IN WOMEN

MENTAL HEALTH



ADULTS IN THE **LOWER RIO GRANDE VALLEY**REPORT EXPERIENCING NEARLY **4 MENTALLY UNHEALTHY DAYS EACH MONTH.** THIS INCLUDES FEELING **STRESSED, DEPRESSED, OR HAVING EMOTIONAL PROBLEMS** TO THE POINT WHERE IT **INTERFERES** WITH **EVERYDAY TASKS.**

TOP 5 CAUSES



THE **TOP 5 CAUSES OF DEATH** IN THE **LOWER RIO GRANDE VALLEY** ARE SHOWN IN THE CHART BELOW. **DISEASES OF THE HEART** AND **CANCER** EACH CAUSE **MORE DEATHS** THAN **STROKE, DIABETES, AND LIVER DISEASE COMBINED.**

HEALTH IN THE LOWER RIO GRANDE VALLEY © 2016

HEART HEALTH

NEARLY **15 IN EVERY 10000** PEOPLE WHO DIE IN THE **LOWER RIO GRANDE VALLEY**, DIE FROM **CARDIOVASCULAR DISEASE.** HOWEVER, **OVER 8%** OF ALL **TEXANS** LIVE WITH **CARDIOVASCUALR DISEASE.**

SMOKING

18 % OF ADULTS IN THE **LOWER RIO GRANDE VALLEY SMOKE CIGARETTES. HOWEVER**, WE DO NOT KNOW HOW MANY PEOPLE **USE OTHERS FORMS OF TOBACCO**, SUCH AS **DIPPING**.

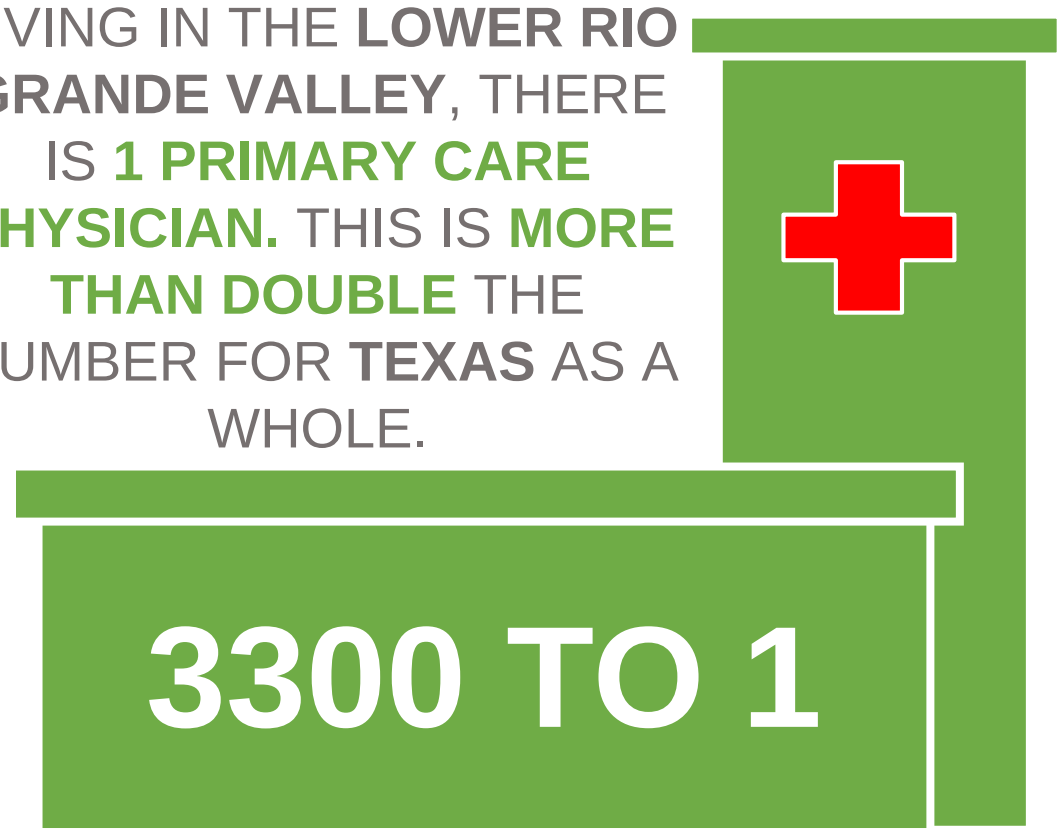
CIGARETTE SMOKING HAS BEEN **SHOWN TO CAUSE CARDIOVASCULAR DISEASE, VARIOUS CANCERS, RESPIRATORY CONDITIONS**, AS WELL AS MANY OTHER **POOR HEALTH CONDITIONS. DIPPING** HAS ALSO BEEN **SHOWN TO CAUSE THROAT AND MOUTH CANCERS.**

VIOLENT CRIME

FOR EVERY 1000 PEOPLE, ROUGHLY **4 PEOPLE REPORT** THE OCCURRENCE OF **VIOLENT CRIMES.** THESE CRIMES INCLUDE **ASSAULT, HOMICIDE, ROBBERY, AND RAPE**.
5,200 PEOPLE WILL BE THE **VICTIMS OF VIOLENT CRIME** THIS **YEAR** ALONE.

HEALTH CARE

FOR EVERY **3300 PEOPLE** LIVING IN THE **LOWER RIO GRANDE VALLEY**, THERE IS **1 PRIMARY CARE PHYSICIAN.** THIS IS **MORE THAN DOUBLE** THE NUMBER FOR **TEXAS** AS A WHOLE.



DATA SOURCES

CDC WONDER: http://wonder.cdc.gov/ucd-icd10.html
CDC COUNTY DATA: http://www.cdc.gov/diabetes/data/countydata/countydataindicators.html
COUNTY HEALTH RANKINGS: http://www.countyhealthrankings.org/
TEXAS DSHS: http://www.dshs.texas.gov/

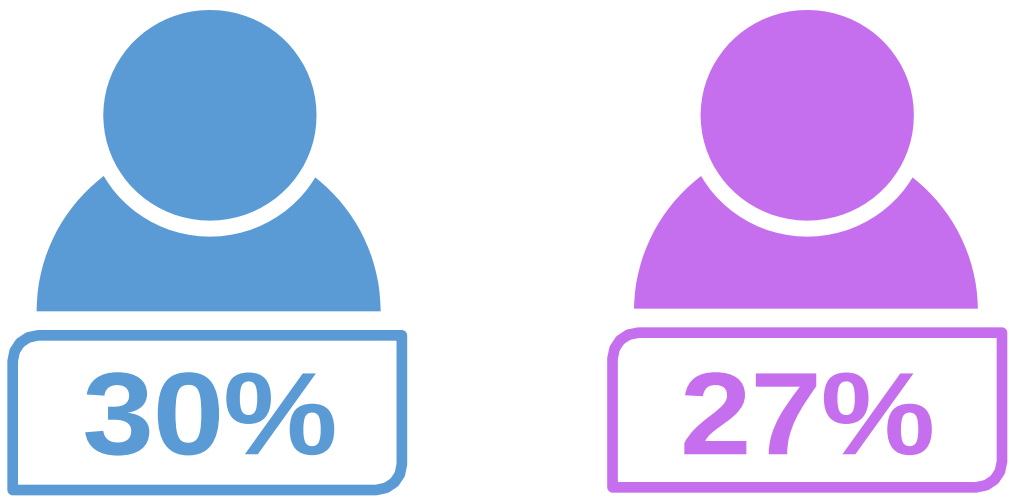
COMMUNITY HEALTH

HEALTH IN THE MID RIO GRANDE VALLEY © 2016

OBESITY

1 OUT OF EVERY 4 ADULTS ARE **OBESE**, MEANING THEY HAVE A **BODY MASS INDEX** OF **GREATER THAN OR EQUAL TO 30**

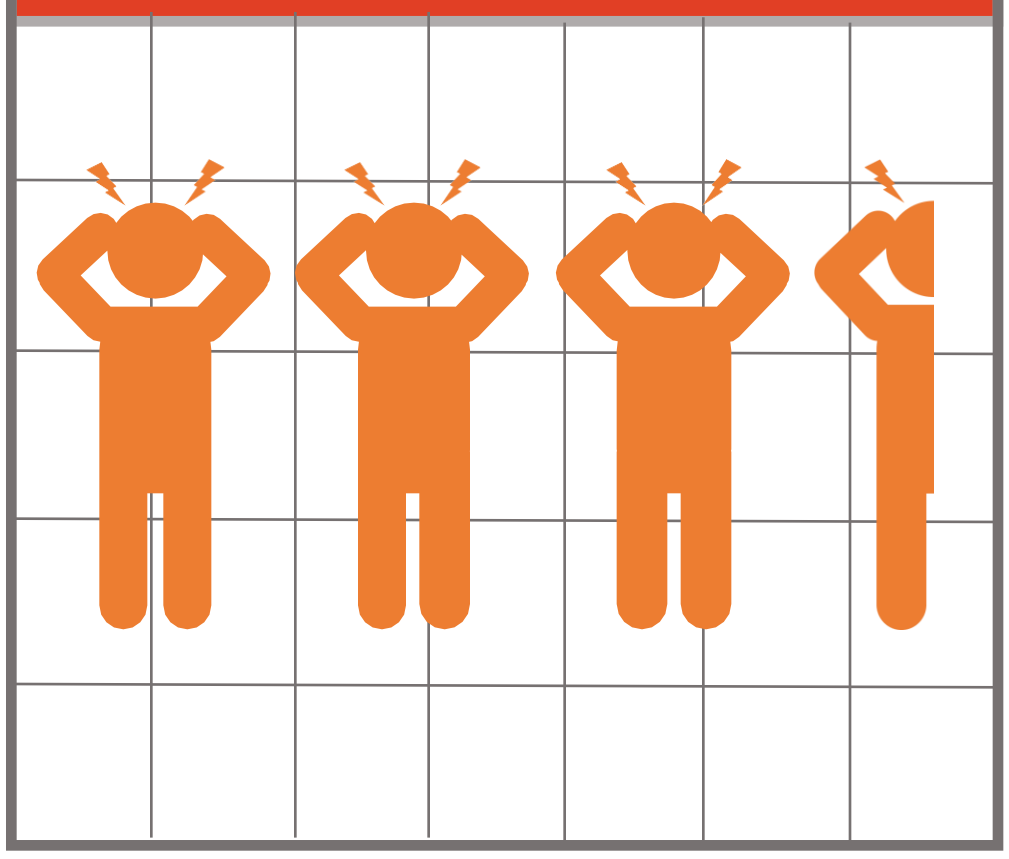
OBESITY



OBESITY IS HIGHER IN MEN THAN IN WOMEN

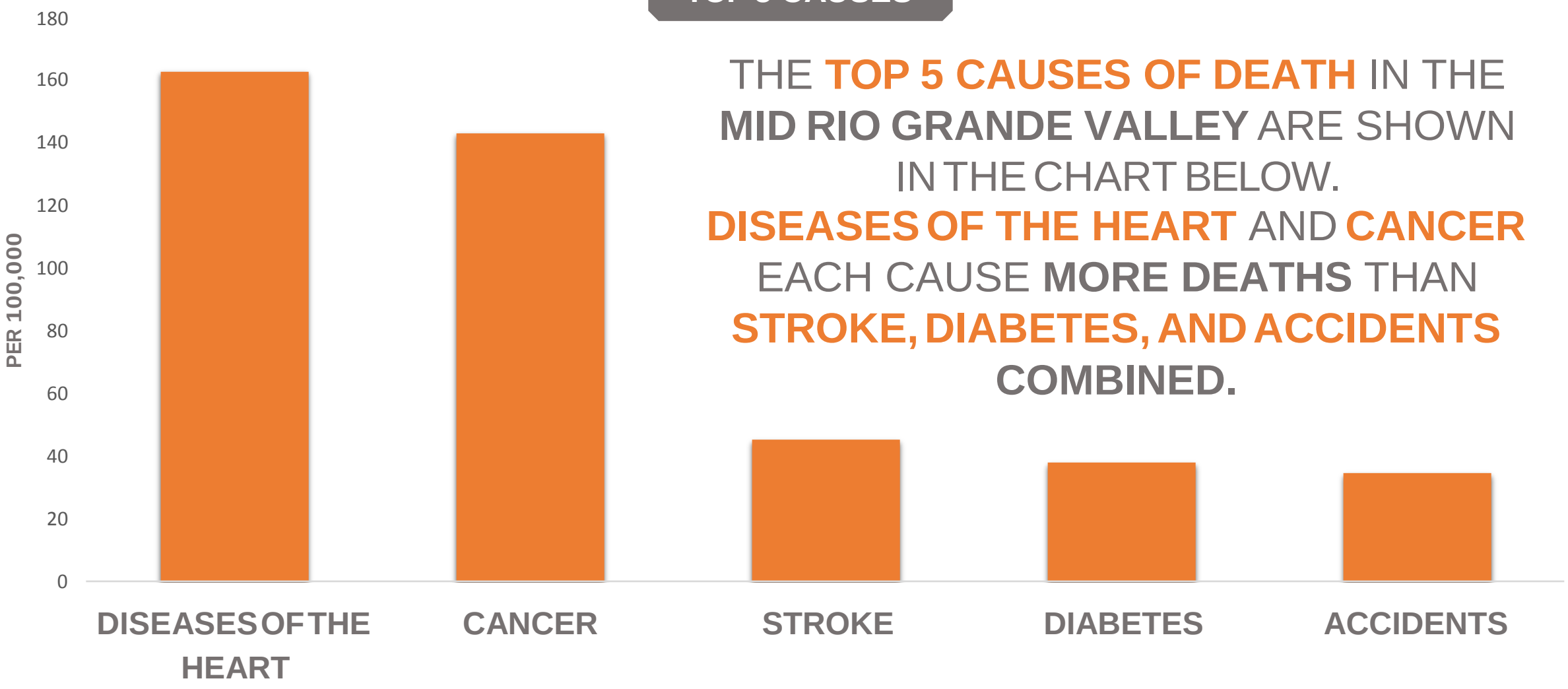
MENTAL HEALTH

DAYS SPENT **MENTALLY UNHEALTHY** EACH **MONTH**



ADULTS IN THE **MID RIO GRANDE VALLEY** REPORT EXPERIENCING **3 AND A HALF MENTALLY UNHEALTHY DAYS EACH MONTH.** THIS INCLUDES FEELING **STRESSED, DEPRESSED, OR HAVING EMOTIONAL PROBLEMS** TO THE POINT WHERE IT **INTERFERES** WITH **EVERYDAY TASKS.**

TOP 5 CAUSES



THE **TOP 5 CAUSES OF DEATH** IN THE **MID RIO GRANDE VALLEY** ARE SHOWN IN THE CHART BELOW. **DISEASES OF THE HEART** AND **CANCER** EACH CAUSE **MORE DEATHS** THAN **STROKE, DIABETES, AND ACCIDENTS COMBINED.**

HEALTH IN THE MID RIO GRANDE VALLEY ◉ 2016

HEART HEALTH

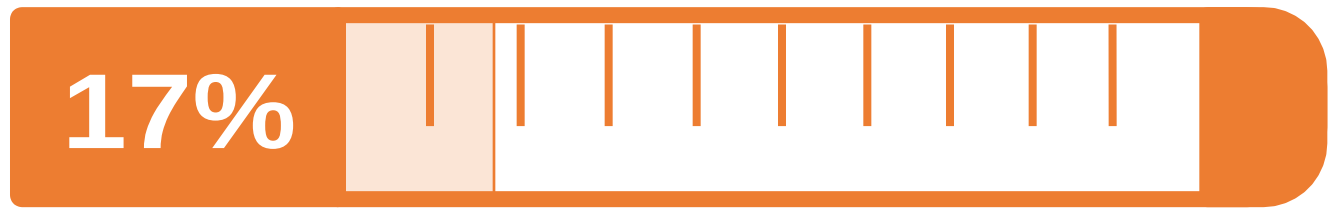
PEOPLE WHO DIE IN THE **MID RIO GRANDE VALLEY**, DIE OF **CARDIOVASCULAR DISEASE.** HOWEVER, **OVER 8%** OF ALL **TEXANS** LIVE WITH

NEARLY **16 IN EVERY 10000** O

CARDIOVASCULAR DISEASE.

SMOKING

17 % OF ADULTS IN THE **MID RIO GRANDE VALLEY SMOKE CIGARETTES. HOWEVER**, WE DO NOT KNOW HOW MANY PEOPLE **USE OTHERS FORMS OF TOBACCO**, SUCH AS **DIPPING**.



CIGARETTE SMOKING HAS BEEN **SHOWN TO CAUSE CARDIOVASCULAR DISEASE, VARIOUS CANCERS, RESPIRATORY CONDITIONS**, AS WELL AS MANY OTHER **POOR HEALTH CONDITIONS. DIPPING** HAS ALSO BEEN **SHOWN TO CAUSE THROAT AND MOUTH CANCERS.**

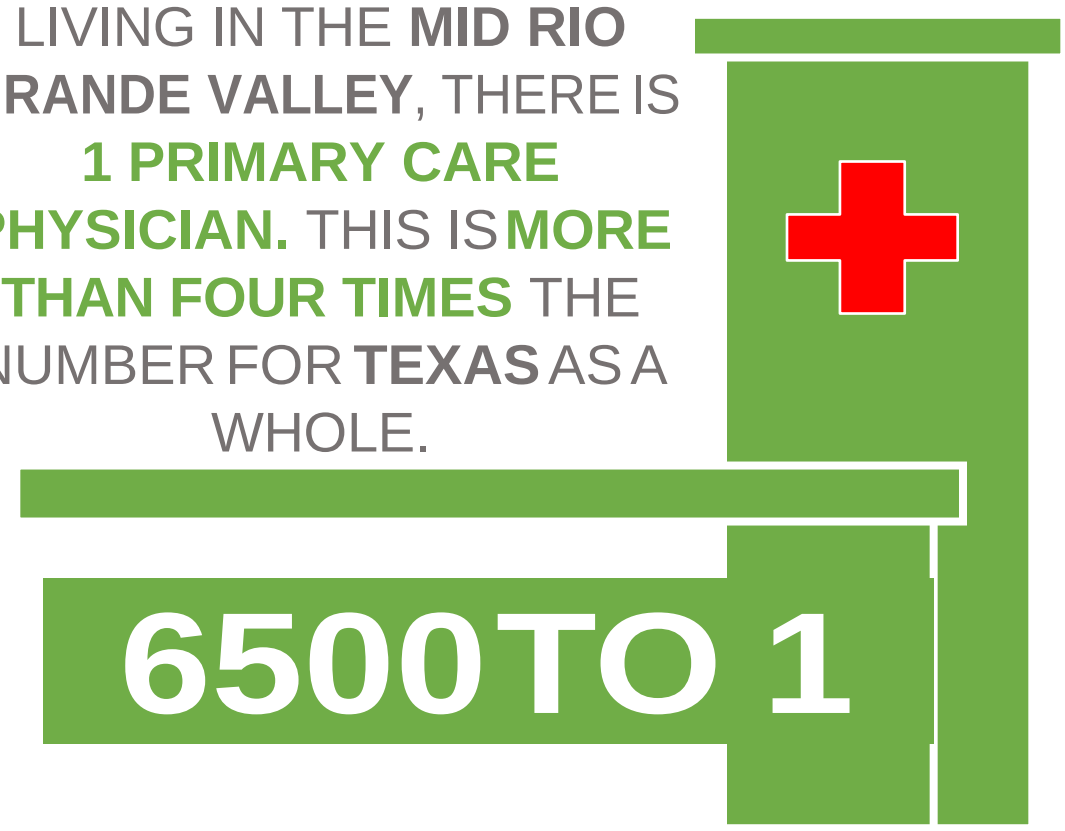
VIOLENT CRIME

FOR EVERY 1000 PEOPLE, ROUGHLY **4 PEOPLE REPORT** THE OCCURRENCE OF **VIOLENT CRIMES.** THESE CRIMES INCLUDE **ASSAULT, HOMICIDE, ROBBERY, AND RAPE**.

1,200 PEOPLE WILL BE THE **VICTIMS OF VIOLENT CRIME** THIS **YEAR** ALONE.

HEALTH CARE

FOR EVERY **6500 PEOPLE** LIVING IN THE **MID RIO GRANDE VALLEY**, THERE IS **1 PRIMARY CARE PHYSICIAN.** THIS IS **MORE THAN FOUR TIMES** THE NUMBER FOR **TEXAS** AS A WHOLE.



DATA SOURCES

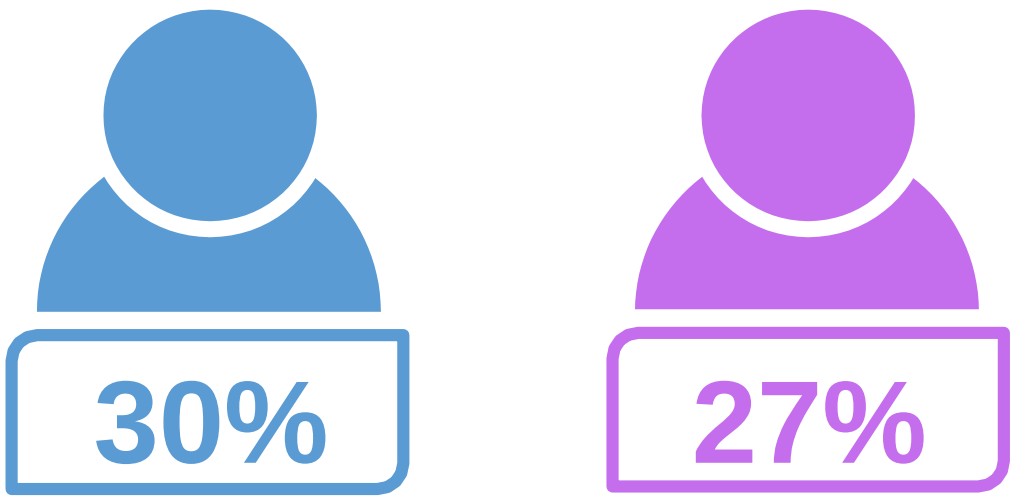
CDC WONDER: http://wonder.cdc.gov/ucd-icd10.html
CDC COUNTY DATA: http://www.cdc.gov/diabetes/data/countydata/countydataindicators.html
COUNTY HEALTH RANKINGS: http://www.countyhealthrankings.org/
TEXAS DSHS: http://www.dshs.texas.gov/

Salud de la Comunidad

SALUD DE LA REGION FRONTERIZA ◉ 2016

OBESIDAD

1 DE CADA 4 ADULTOS SON **OBESOS**, ESTO SIGNIFICA QUE TIENEN UN **INDECE DE MASA CORPORAL SUPERIOR O IGUAL A 30**

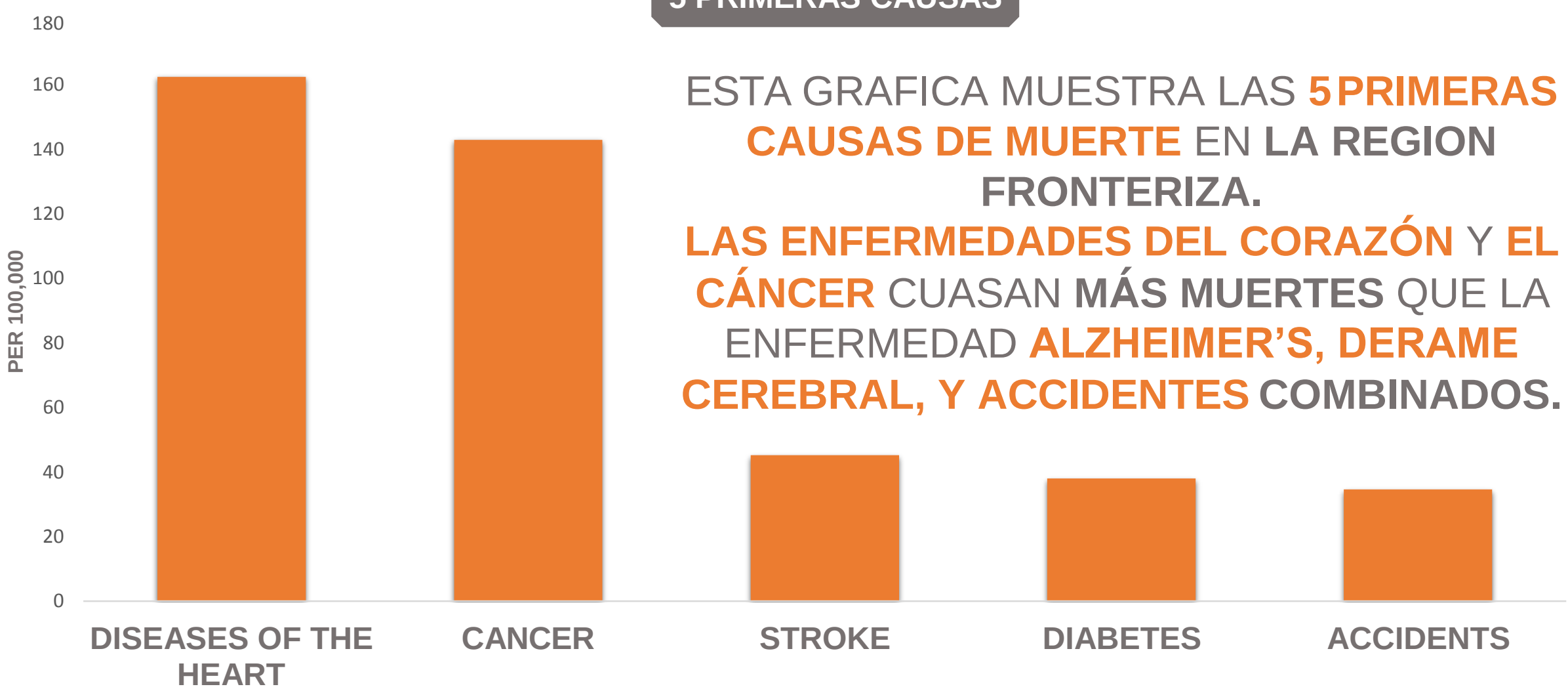


LA OBESIDAD ES MAS ALTA EN HOMBRES QUE EN MUJERES

SALUD MENTAL

ADULTOS EN LA **REGION FRONTERIZA** REPORTAN QUE PASAN **3 DIAS Y MEDIO MENTALMENTE INSALUDABLES DURANTE EL MES.** ESTO INCLUYE SINTIRSE **ESTRESADO, DEPRIMIDO, O TENIENDO PROBLEMAS EMCIONCALES** HASTA EL PUNTO QUE **INTERFIERE** CON **LAS ACTIVIDAES DIARIAS.**

5 PRIMERAS CAUSAS



ESTA GRAFICA MUESTRA LAS **5 PRIMERAS CAUSAS DE MUERTE** EN **LA REGION FRONTERIZA.**

LAS ENFERMEDADES DEL CORAZÓN Y **EL CÁNCER** CUASAN **MÁS MUERTES** QUE LA ENFERMEDAD **ALZHEIMER'S, DERAME CEREBRAL, Y ACCIDENTES COMBINADOS.**

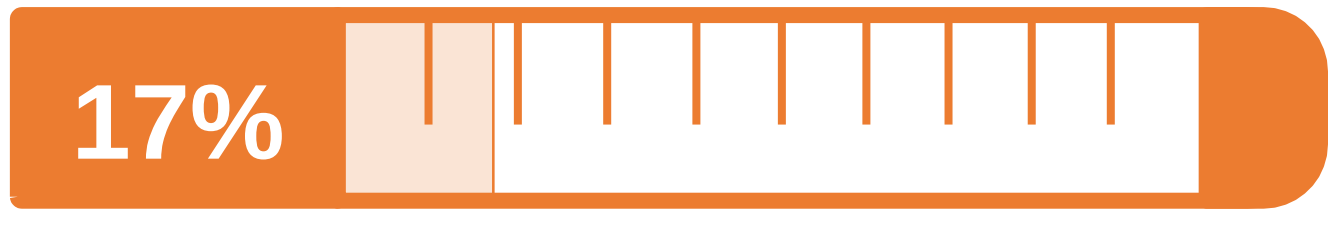
SALUD DE LA REGION FRONTERIZA ◉ 2016

SALUD DEL CORAZÓN

CASI **16 EN CADA 10,000** PERSONAS QUE MUEREN EN **LA REGION FRONTERIZA,** MUEREN DE **ENFERMEDADES CARDIOVASCULARES. MAS DEL 8%** DE TODOS LOS **TEJANOS** VIVEN CON **ENFERMEDADES CARDIOVASCULARES.**

EL FUMAR

17% DE ADULTOS EN LA **REGION FRONTERIZA FUMAN CIGARILLOS. SIN EMBARGO**, NO SABEMOS CUÁNTAS PERSONAS UTILIZAN **OTRAS FORMAS DE TABACO**, POR EJEMPLO **MASTICAR TABACO**.



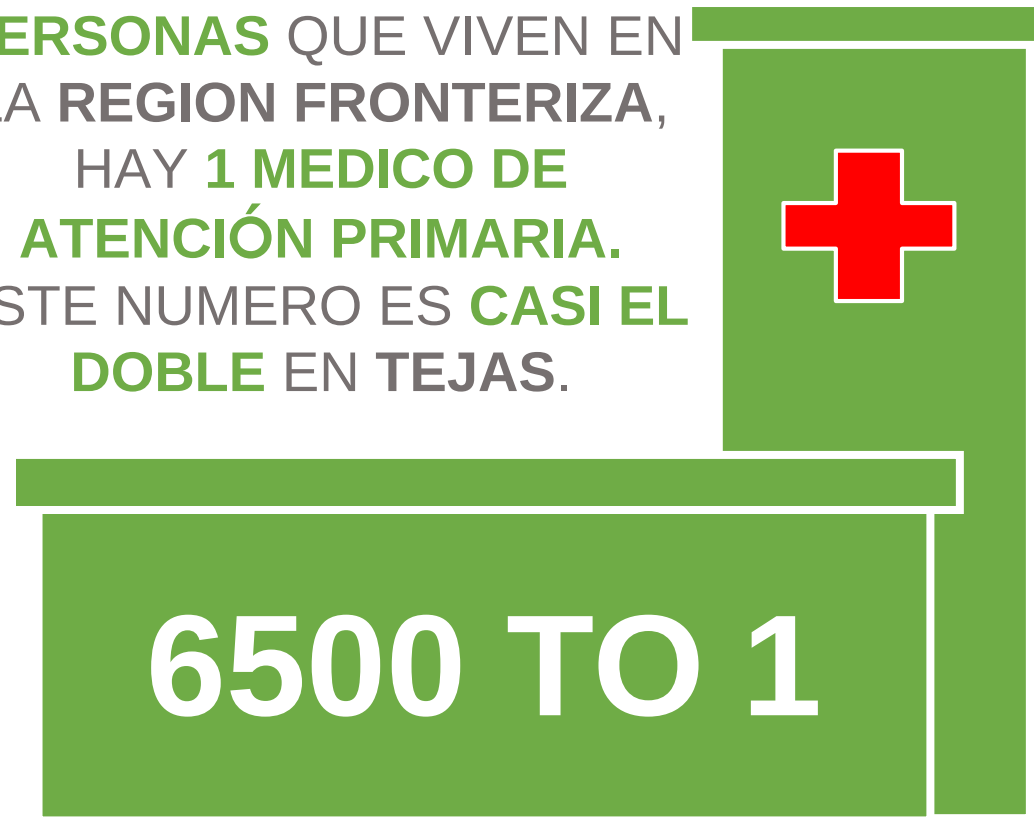
FUMAR CIGARILLOS SE HA **DEMOSTRADO QUE CAUSA ENFERMEDADES CARDIOVASCULARES, VARIOS CÁNCERES, CONDICIONES REPIRATORIAS**, ASÍ COMO OTRAS **ADVERSAS CONDICIONES DE SALUD. MASTICAR TABACO** TAMBIEN A DEMOSTRADO **QUE PUEDE CAUSAR CÁNCERES DE LA BOCA Y GARGANTA.**

EL CRIMEN VIOLENTO

POR CADA 1,000 PERSONAS, APROXIMADAMENTE **4 PERSONAS REPORTAN** LA OCURRIENCIA DE **CRÍMENES VIOLENTOS.** ESTOS CRÍMENES INCLUYEN **ASALTO, HOMICIDIO, ROBO, Y VIOLACIÓN**. **1,200 PERSONAS** SERÁN LA **VICTIMA DE DELITOS VIOLENTOS** EN SÓLO **ESTE** AÑO.

ATENCIÓN MÉDICA

POR CADA **6,500 PERSONAS** QUE VIVEN EN LA **REGION FRONTERIZA**, HAY **1 MEDICO DE ATENCIÓN PRIMARIA.** ESTE NUMERO ES **CASI EL DOBLE** EN **TEJAS**.



FUENTE DE DATOS

CDC WONDER: http://wonder.cdc.gov/ucd-icd10.html
CDC COUNTY DATA: http://www.cdc.gov/diabetes/data/countydata/countydataindicators.html
COUNTY HEALTH RANKINGS: http://www.countyhealthrankings.org/
TEXAS DSHS: http://www.dshs.texas.gov/

Appendix 3: Population Health Projects at UT Health San Antonio

Principal Investigator	Funding Source	Project Start Date	Project End Date	Award Title	School	Department	Topic
Aguilar,Raymond P	TX Health and Human Services Commission	9/1/2014	9/30/2015	AFFORDABLE CARE ACT (ACA) MATERNAL, INFANT AND EARLY CHILDHOOD HOME VISITING PROGRAM	SOM	Psychiatry	Maternal and child health
Balderas,Vidal G	UTHSCSA- no sponsor	8/1/2010	1/1/2029	DENTAL CARE PROGRAM FOR SAISD	SOD	Comprehensive Dentistry	Oral health, schools
Bazaldua,Oralia V	NHLBI	4/1/2014	3/31/2016	MEDICATION FOCUSED OUTPATIENT CARE FOR UNDERUTILIZATION OF SECONDARY PREVENTION	SOM	Family & Community Medicine	Pharmacy, diabetes, hyperlipidemia, hypertension, cardiovascular disease
Bowden,Charles L	NIMH	7/1/2015	12/31/2016	OPTIMIZING OUTCOMES IN BIPOLAR ILLNESS INTERVENTIONS IN HISPANIC COMMUNITIES	SOM	Psychiatry	Mental health, hispanic communities
Breslin,Eileen T	MEXICANS AND AMERICANS THINKING TOGETHER (Foundation)	3/1/2014	2/28/2017	SALUD: NUEVAS FRONTERAS	SON	Family & Community Health Systems	Schools, interdisciplinary collaboration (students), health screenings, community-based
Calmbach,Walter L	CPRIT	9/1/2014	8/31/2016	MANAGING OBESITY IN PRIMARY CARE: TRAINING CLINICIANS & STAFF IN PATIENT BEHAVIOR CHANGE SKILLS	SOM	Family & Community Medicine	Obesity, provider education
Calmbach,Walter L	TEXAS ACADEMY OF FAMILY PHYSICIANS	9/1/2011	6/1/2017	ADDRESSING CHILDHOOD OBESITY IN PRIMARY CARE PRACTICES	SOM	Family & Community Medicine	Child health, obesity, primary care
Cappelli,David P	HRSA- BUREAU OF HEALTH PROFESSIONS	9/1/2015	8/31/2018	GRANTS TO STATES TO SUPPORT ORAL HEALTH WORKFORCE	SOD	Comprehensive Dentistry	Oral health, schools, hispanic communities, interdisciplinary collaboration, workforce development
Cappelli,David P	HRSA- BUREAU OF HEALTH PROFESSIONS	7/1/2015	6/30/2020	POST DOCTORAL TRAINING IN GENERAL, PEDIATRIC, AND PUBLIC HEALTH DENTISTRY AND DENTAL HYGIENE	SOD	Comprehensive Dentistry	Oral health, workforce development, health disparities
Delgado,Roxana E	UTHSCSA- REACH	4/1/2016	3/31/2017	MILITARY CAREGIVERS HEALTH ASSESSMENT: CARING FOR WOUNDED, ILL AND INJURED SERVICE MEMBERS AND VETERANS, A PILOT	SOM	Epidemiology & Biostatistics	Military, mental health, caregivers
Donly,Kevin James	METHODIST HEALTH CARE MINISTRIES	1/1/2016	12/31/2016	LAREDO REGIONAL CAMPUS - DENTAL CLINIC AT LAREDO HEALTH DEPARTMENT: DENTAL CARE, PROVIDING DENTAL SUPPLIES FOR TREATMENT OF PATIENTS AND LAB COSTS FOR PATIENTS REQUIRING LAB WORK IN WEBB COUNTY, TEXAS.	SOD	Developmental Dentistry	Oral health, hispanic communities
Donly,Kevin James	METHODIST HEALTH CARE MINISTRIES	1/1/2016	12/31/2016	PEDIATRIC DENTAL CARE AT THE RICARDO SALINAS DENTAL CLINIC AND DENTAL SEALANT DAY WITH EDGEWOOD ISD	SOD	Developmental Dentistry	Oral health, hispanic communities, schools
Donly,Kevin James	METHODIST HEALTH CARE MINISTRIES	1/1/2016	12/31/2016	RESIDENCY TRAINING PROGRAM - LAREDO	SOD	Developmental Dentistry	Oral health, workforce development, hispanic communities
Fernandez,Miguel Claudio	MHM-ICCU	9/1/2015	8/31/2016	CSEC SOUTH TEXAS POISON CENTER GRANT	SOM	Emergency Medicine	Poison control, community services
Finley,Erin	VETERANS ADMINISTRATION (VA)	1/26/2016	11/30/2016	IMPROVING AND SUSTAINING THE DELIVERY OF CPT FOR PTSD IN MENTAL HEALTH SYSTEMS	SOM	Medicine- Hospital Medicine	Mental health, healthcare systems
Foster,Byron Alexander	K23-NIH	4/1/2016	3/31/2017	IDENTIFYING PATIENT CENTERED OUTCOMES FOR EARLY CHILDHOOD OBESITY INTERVENTION	SOM	Pediatrics	Child health, obesity
Foster,Byron Alexander	K23-NIH	5/1/2015	8/31/2016	POSITIVE DEVIANCE IN CHILDHOOD OBESITY	SOM	Pediatrics	Child health, obesity
Frei,Christopher R	PFIZER	12/1/2010	1/1/2029	HEALTH CARE COSTS ASSOCIATED WITH CA-MRSA TREATMENT FAILURE AND ADVERSE DRUG EVENTS IN SOUTH TEXAS MEDICAL CLINICS	SOM	Pharmacotherapy Education & Research Center	Healthcare systems, cost, pharmacy
Frei-Jones,Melissa Joy	CENTERS FOR DISEASE CONTROL	9/30/2015	9/29/2016	COMMUNITY COUNTS: PUBLIC HEALTH SURVEILLANCE FOR BLEEDING DISORDERS	SOM	Pediatrics	Public health, blood disorders
Frei-Jones,Melissa Joy	HRSA- MATERNAL AND CHILD HEALTH BUREAU	4/1/2016	3/31/2017	USING IPAD TO PROVIDE REAL-TIME HEMOPHILIA EDUCATION DURING CLINIC	SOM	Pediatrics	Health education, blood disorders, clinic-based
Grota,Patti Garner	UT SYSTEM	10/1/2015	8/31/2016	ASSESSMENT OF THE IMPLEMENTATION OF (EBP) EVIDENCE BASED PRA	SON	Health Restoration & Care Systems Management	Healthcare systems
Hazuda,Helen P	NIH	2/1/2016	1/31/2017	DIABETES PREVENTION PROGRAM OUTCOMES STUDY (DPPOS) - PHASE 3 - RESEARCH PROJECT	SOM	Medicine- Clinical Epidemiology	Diabetes, cardiovascular disease, aging populations, medications
Hazuda,Helen P	NIH	2/1/2016	1/31/2017	ACTION FOR HEALTH DIABETES EXTENSION STUDY RESEARCH PROJECT (LOOK AHEAD)	SOM	Medicine- Clinical Epidemiology	Diabetes, lifestyle, weight loss, obesity, cardiovascular disease
Healy,Jennifer M	HSC- INSTITUTITIONAL PROJECT- NO SPONSOR	2/1/2012	1/1/2029	THE DOUBLE PARALLEL CURRICULUM IN PALLIATIVE CARE (DP-PC)	SOM	Medicine- Geriatrics	Palliative care, aging populations, workforce development (med students)
Lesser,Janna	HSC- INSTITUTITIONAL PROJECT- NO SPONSOR	6/1/2012	1/1/2029	CENTER FOR COMMUNITY BASED HEALTH PROMOTION	SON	Family & Community Health Systems	Community discussions, health disparities, interdisciplinary collaboration, women's health, hispanic communities, children's health, LGBTQ health, Nativ American health
Maples,Natalie J. L.	TEXAS DEPT STATE HEALTH SERVICES	7/1/2016	6/30/2017	THE MOMMIES TOOLKIT: IMPROVING OUTCOMES FOR FAMILIES IMPACTED BY NEONATAL ABSTINENCE SYNDROME	SOM	Psychiatry	Women's health, substance use disorders, pregnancy, community-based

Population Health Projects at UT Health San Antonio

Principal Investigator	Funding Source	Project Start Date	Project End Date	Award Title	School	Department	Topic
McMains,Kevin	HSC- INSTITUTITIONAL PROJECT- NO SPONSOR	3/1/2006	1/1/2029	OTOLARYNGOLOGY FOR THE PRIMARY CARE PHYSICIAN	SOM	Otolaryngology	Workforce development, otolaryngology
Medellin,Glen A	HSC- INSTITUTITIONAL PROJECT- NO SPONSOR	5/1/2012	1/1/2029	SUPPORTIVE AND PALLIATIVE CARE PROVIDER SUPPORT	SOM	Pediatrics	Children's health, palliative care, workforce development, interdeisciplinary collaboration
Morales-Campos,Daisy Yvette	NIH-NATIONAL CANCER INSTITUTE	9/1/2014	8/31/2016	DETERMINANTS OF HPV VACCINATION FOR HISPANIC PARENTS FROM THE TEXAS-MEXICO BORDER	SOM	Institute for Health Promotion Research	Hispanic communities, women's health, parents, cervical cancer, health disparities, clinic-based, workforce development
Muir,Mark Thomas	SOUTHWEST TEXAS REGIONAL ADVISORY COUNCIL	10/1/2015	9/30/2016	REMOTE TRAUMA OUTCOMES RESEARCH NETWORK (REMTORN): A CIVILIAN RESEARCH MODEL FOR TRANSLATION TO MILITARY PREHOSPITAL CARE	SOM	Surgery	Trauma, military, infrastructure, surgery
Nambiar,Anoop	HSC- INSTITUTITIONAL PROJECT- NO SPONSOR	1/1/2016	12/31/2016	PULMONARY FIBROSIS FOUNDATION CARE CENTER	SOM	Medicine- Pulmonary Diseases	Interdisciplinary collaboration, pulmonary diseases, care coordination
Parra-Medina,Deborah M	DHHS	6/1/2016	5/31/2017	ENLACE: A PROMOTORA LED PHYSICAL ACTIVITY INTERVENTION TRIAL FOR LATINAS	SOM	Epidemiology & Biostatistics	Community-based, women's health, Hispanic communities, obesity, diabetes, cancer,
Parra-Medina,Deborah M	DHHS	4/1/2015	3/31/2017	PEDIATRIC OBESITY MANAGEMENT INTERVENTION TRIAL FOR HISPANIC FAMILIES	SOM	Epidemiology & Biostatistics	Children's health, Hispanic communities, obesity, community-based, parents
Parra-Medina,Deborah M	NIH-NATIONAL INSTITUTE ON AGING	9/30/2015	8/31/2016	TEXT MESSAGING TO PROMOTE WALKING IN LATINOS WITH PERIPHERAL ARTERIAL DISEASE	SOM	Epidemiology & Biostatistics	Hispanic communties, community-based, technology, physical activity, peripheral artery disease
Parra-Medina,Deborah M	STATE-CPRIT	12/1/2015	11/30/2016	USING BEST PRACTICES TO PROMOTE HPV VACCINATION IN RURAL PRIMARY CARE SETTINGS	SOM	Epidemiology & Biostatistics	Cancer, clinic-based, children's health, provider education
Parsons,Helen M	HSC-SCHOOL OF MEDICINE	8/1/2015	7/31/2016	OUTCOMES OF YOUNG ADULTS WITH CANCER AFTER RECENT HEALTH POLICY CHANGES	SOM	Epidemiology & Biostatistics	Cancer, health policy
Patel,Darpan	PCORI	6/1/2016	5/31/2017	THE ANNUAL CONFERENCE FOR COMMUNITY ENGAGED HEALTHCARE IMPROVEMENT	SON	Health Restoration & Care Systems Management	Health disparities, community discussions, workforce development
Peterson,Alan L	DEPT OF THE ARMY	9/30/2012	9/29/2016	CLINICAL EFFECTIVENESS TRIAL OF IN-HOME COGNITIVE PROCESSING THERAPY FOR COMBAT-RELATED PTSD	SOM	Psychiatry	Mental health, military, home-based, technology, telehealth
Peterson,Alan L	DEPT OF THE ARMY	9/27/2010	9/26/2016	COMPARING INTERNET AND IN-PERSON BRIEF COGNITIVE BEHAVIORAL THERAPY OF INSOMNIA	SOM	Psychiatry	Mental health, military, home-based, technology, telehealth
Peterson,Alan L	DEPT OF THE ARMY	9/30/2015	9/29/2016	IMPLEMENTATION OF PROLONGED EXPOSURE IN THE ARMY: IS CONSULTATION NECESSARY FOR EFFECTIVE DISSEMINATION	SOM	Psychiatry	Mental health, military, provider education
Peterson,Alan L	DEPT OF THE ARMY	9/29/2015	9/28/2016	SUPPORTING MILITARY FAMILIES WITH YOUNG CHILDREN THROUGHOUT THE DEPLOYMENT LIFECYCLE	SOM	Psychiatry	Mental health, military, families, parents
Peterson,Alan L	DEPT OF THE ARMY	1/1/2013	12/31/2017	VARIABLE-LENGTH COGNITIVE PROCESSING THERAPY FOR COMBAT-RELATED PTSD	SOM	Psychiatry	Mental health, military
Pineda,Juanita Lozano	HEALTH RESEARCH & SERVICES ADMIN (HRSA)	7/1/2016	6/30/2017	DENTAL HISPANIC CENTER OF EXCELLENCE	SOD	Comprehensive Dentistry	Workforce development, Hispanic communities, oral health
Pineda,Juanita Lozano	METHODIST HEALTH CARE MINISTRIES	1/1/2016	12/31/2016	DIRECT DENTAL SERVICES AND TRAINING OF DENTAL STUDENTS/RESIDENTS AT SACDC/HFH	SOD	Comprehensive Dentistry	Oral health, workforce development (students)
Plastino,Kristen A.	DHHS	10/1/2013	9/30/2016	1115 WAIVER TEEN PREGNANCY PREVENTION PROPOSAL	SOM	Ob/Gyn	Women's health, prevention education, pregnancy, provider education, workforce development
Plastino,Kristen A.	DHHS	7/1/2016	6/30/2017	BUILDING CAPACITY TO SUPPORT REPLICATION OF EVIDENCE-BASED TEEN PREGNANCY PREVENTION IN TEXAS (TIER 1A)	SOM	Ob/Gyn	Women's health, prevention education, pregnancy, community-based
Plastino,Kristen A.	DHHS	10/1/2015	9/30/2016	CURRICULA TRAINING FOR ABSTINENCE PROGRAM	SOM	Ob/Gyn	Women's health, prevention education, pregnancy, community-based, schools
Plastino,Kristen A.	DHHS	7/1/2016	6/30/2017	REPLICATING EBIs TO SCALE IN A COMMUNITY WITH THE GREATEST NEED, BEXAR COUNTY, TEXAS (TIER 1B)	SOM	Ob/Gyn	Women's health, prevention education, pregnancy, community-based
Ramirez,Amelie G	ROBERT WOOD JOHNSON FOUNDATION	2/1/2016	1/31/2017	SALUD AMERICA! THE RWJF RESEARCH NETWORK TO PREVENT OBESITY AMONG LATINO CHILDREN, 2016	SOM	Epidemiology & Biostatistics	Child health, obesity, Hispanic communities, community discussions, community engagement, policy
Ramirez,Amelie G	SUSAN G. KOMEN FOR THE CURE	4/1/2016	3/31/2017	IMPROVING ADHERENCE TO ENDOCRINE HORMONAL THERAPY AMONG BREAST CANCER PATIENTS	SOM	Epidemiology & Biostatistics	Cancer, women's health, technology, Hispanic communities
Seger,Pegeen	HOUSTON ACAD OF MED	5/1/2015	4/30/2016	ADDRESSING CULTURAL COMPETENCE IN SOUTH TEXAS	UTHSCSA	Library	Workforce development
Shriver,Brent	DHHS	8/1/2015	7/31/2016	PHYSICIAN ASSISTANT TRAINING IN PRIMARY CARE	SHP	Physician Assistant Studies	Workforce development, primary care
Taylor,Barbara	UT SYSTEM/UHS	7/14/2014	6/30/2017	IMPROVING RETENTION IN HIV CARE AND CLINIC EFFICIENCY BY REDUCING MISSED MEDICAL VISITS	SOM	Medicine- Infectious Disease	Community engagement, HIV, clinic-based

Population Health Projects at UT Health San Antonio

Principal Investigator	Funding Source	Project Start Date	Project End Date	Award Title	School	Department	Topic
Tobon Gonzalez,Alejandro	PCORI	4/1/2014	1/1/2029	PATIENT ASSISTED INTERVENTION FOR NEUROPATHY: COMPARISON OF TREATMENT IN REAL LIFE SITUATIONS (PAIN-CONTROLS)	SOM	Neurology	Pain, neuropathy
Tomlinson,Gail	Foundation (Valley Baptist Legacy Foundation)	1/1/2015	6/30/2016	CAMERON COUNTY CANCER EDUCATION AND ACCESS TO CANCER PREVENTION SERVICES	SOM	Pediatrics	Community-based, cancer, prevention
Turner,Barbara	PCORI	10/1/2013	6/30/2016	EVALUATING METHODS TO ENGAGE MINORITY PATIENTS AND CAREGIVERS AS STAKEHOLDERS	SOM	REACH Center	Hispanic communities, community engagement, pain
Turner,Barbara	UT System	7/1/2015	6/30/2017	MOTION IS LOTION: EVALUATING CLINIC- AND COMMUNITY-BASED PAIN SELF-CARE PROGRAMS FOR LOW-INCOME HISPANICS ON OPIOIDS	SOM	REACH Center	Clinic-based, community-based, Hispanic communities, pain
Turner,Barbara	PCORI	7/1/2016	11/30/2017	EVALUATING METHODS TO ENGAGE MINORITY PATIENTS: NOVEL MODEL FOR INPATIENT HCV SCREENING AND LINKAGE TO CARE FOR MINORITY BABY BOOMERS	SOM	REACH Center	Hepatitis C, linkage to care, aging populations
Turner,Barbara	CPRIT	6/1/2016	5/31/2017	STOP HCC - EVIDENCE-BASED HEPATOCELLULAR CANCER PREVENTION TARGETING HEPATITIS C VIRUS INFECTION	SOM	REACH Center	Hepatocellular cancer, prevention, Hepatitis C, clinic-based, technology, collaborative care, provider education, linkage to care
Turner,Barbara	UT System	1/1/2016	11/30/2016	UNIVERSITY OF TEXAS COLLABORATIVE ON POPULATION HEALTH INNOVATION AND IMPROVEMENT	SOM	REACH Center	Population health, community engagement, interdisciplinary collaboration
Velligan,Dawn I	PCORI	9/1/2013	8/31/2016	IMPROVING TRANSITIONAL CARE EXPERIENCE FOR INDIVIDUALS WITH SERIOUS MENTAL ILLNESS	SOM	Psychiatry	Mental health, infrastructure
White,Carole L	Nancy Smith Hurd Foundation	5/1/2015	12/31/2016	CARING FOR THE CAREGIVER: PROGRAM OF THE INSTITUTE FOR ALZHEIMER'S AND NEURODEGENERATIVE DISEASE	SON	Health Restoration & Care Systems Management	Caregiver, infrastructure, workforce development, community education
White,Carole L	SAN ANTONIO AREA FOUNDATION	1/1/2016	12/31/2016	BUILDING FAMILY CAREGIVER SUCCESS THROUGH COMMUNITY PARTNERSHIPS	SON	Health Restoration & Care Systems Management	Caregiver, community engagement, interdisciplinary collaboration
Zelle,Boris A	SYNTHES	10/1/2015	1/1/2029	ETHNIC DIFFERENCES IN PATIENTS' PERCEPTION TOWARDS ISOLATED ORTHOPAEDIC INJURIES: A PILOT STUDY	SOM	Orthopaedics	Health disparities, interdisciplionary collaboration

Appendix 4 - Budget

Communications Campaign $300k/yr x 3 yrs		$900,000
Update South Texas Health Status Review Editor, data collection and reprinting		$50,000
Annual Population-based Surveys $30k/yr x 3 yrs		$90,000
Web-based Telehealth Support $200k/yr x 3 yrs		$600,000
Mobile Van and Supplies Van start up Annual supplies ($140,000 x 3 yrs)		$382,000 $420,000
2 senior level database programmers (100% FTE) $80k/yr x 2 programmers x 3 yrs		$480,000
2 data analysts (100% FTE) $100k/yr x 3 analysts x 3 yrs		$900,000
1 clinician/informatics coordinator (75% FTE) $250/yr x 1 coordinator x 3 yrs		$750,000
IHPR/AHEC/CTSA Community Health Workers (CHWs) (100% FTE) $30k/yr x 5 CHWs (1 for each 5 AHECs) x 3 yrs		$585,000
Travel and Communications for CHWs $10k/yr x 3 yrs		$30,000
Total:	**First Year** **3 Years**	**$1,729,000** **$4,755,000**