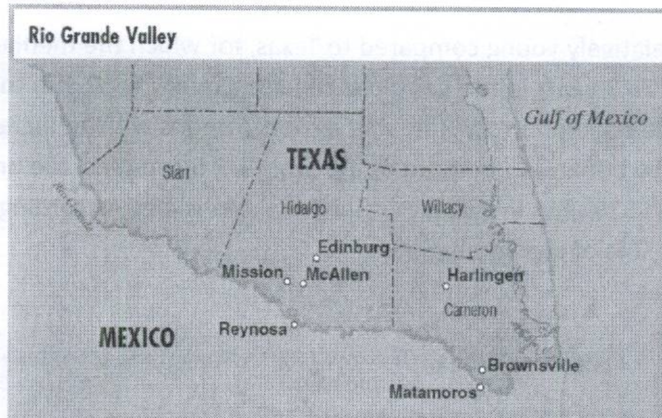
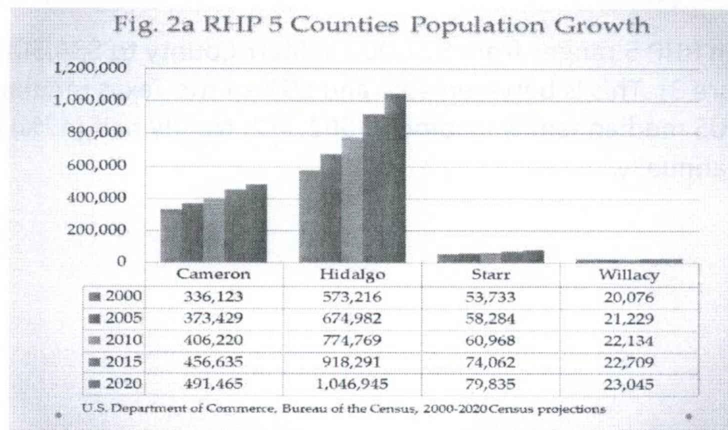
Section III. Community Needs Assessment

Demographics



RHP 5 is comprised of the four counties in the Rio Grande Valley of South Texas: Cameron, Hidalgo, Starr and Willacy (Figure 1.)

The population of RHP 5 was 1.26 million in 2010, an increase of 29% since 2000. Hidalgo County, which includes the McAllen-Edinburg-Mission metropolitan statistical area (MSA), has the largest population among the four counties (Figure 2). Population projections indicate that the rate of growth is expected to continue to increase rapidly over the coming years.



	Cameron	Hidalgo	Starr	Willacy
2000	336,123	573,216	53,733	20,076
2005	373,429	674,982	58,284	21,229
2010	406,220	774,769	60,968	22,134
2015	456,635	918,291	74,062	22,709
2020	491,465	1,046,945	79,835	23,045

U.S. Department of Commerce, Bureau of the Census, 2000-2020Census projections

Race/Ethnicity

The population of the counties of RHP 5 is predominately Hispanic, mostly Mexican American, ranging from 87% in Cameron County to 98% in Starr County, as of 2009.[1] By contrast 38% of the state's population is Hispanic. The proportion of African Americans across the region is under 1%, which is very different from many other Texas regions.

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1 Texas Department of State Health Services, Center for Health Statistics. See: https://www.dshs.state.tx.us/chs/healthcurrents/

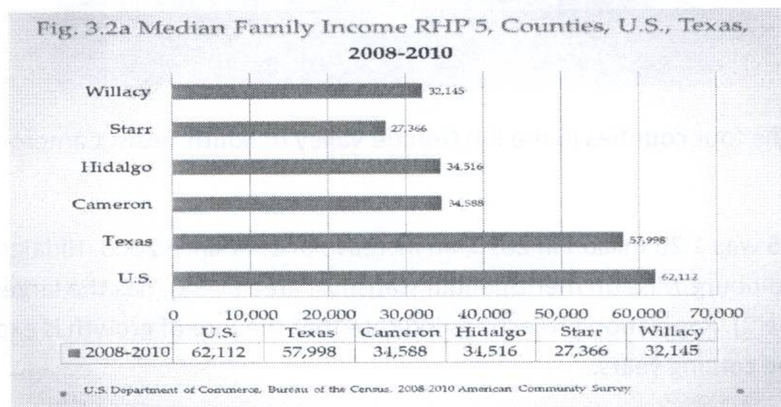
Language

Spanish is widely spoken in the region. Nearly all (96%) residents over age 5 in Starr County speak Spanish, with rate of 73% and 84% in Cameron and Hidalgo Counties, respectively.[2] Just under half of Willacy County residents speak Spanish (48%). In Texas, the rate is 29%.

Age and Gender

The population of RHP 5 is relatively young compared to Texas, for which the median age is 33.6. The median age of Region 5 ranges from 28.3 years in the populous Hidalgo County to 32.1 in the sparsely populated Willacy County. However, the region mirrors state and national trends with an increase in the elderly population due to aging "baby boomers." In three of the four RHP 5 counties, the proportion of population that is female is between 51% and 52%, but in Willacy County, the rate is 46%, according to 2011 Census estimates. For Texas, females comprise 50% of the population.

Income



	U.S.	Texas	Cameron	Hidalgo	Starr	Willacy
2008-2010	62,112	57,998	34,588	34,516	27,366	32,145

Median family income in RHP 5 ranges from $27,000 in Starr County to $34,500 in Hidalgo and Cameron Counties (Figure 3). This is between 45% and 59% of the Texas median income of $57,008, and 40% to 55% of the US median family income of $62,112. Nearly half (47%) of families in RHP 5 earn less than $25,000 annually.

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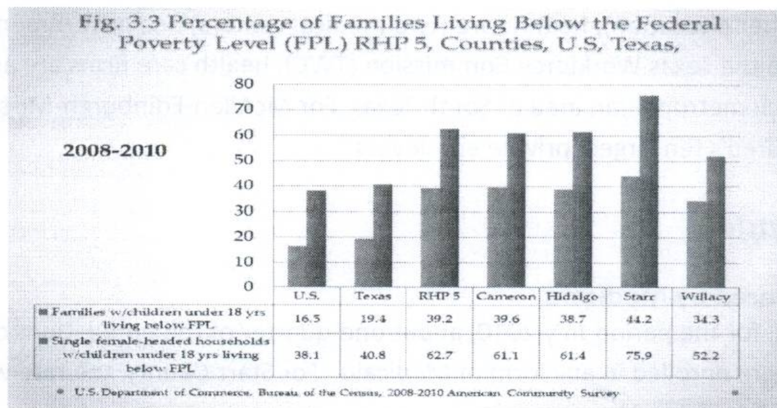
2 U.S. Census Bureau. See: http://quickfacts.census.gov/qfd/states/48/48427.html



Additionally, 40% of all families live below the federal poverty line—twice the poverty rate for Texas and 2.5 times the U.S. poverty rate. The McAllen–Edinburg–Mission metropolitan statistical area ranks last among the nation's 361 MSAs, with a per capita income of $15,184.[3]Among families with a single female head of household, over 60% live below the poverty line, half again the proportion in Texas and the US (Figure 4).

Education

Educational attainment in RHP 5 is below that of Texas; it is also not distributed equally among the RHP 5 counties. The percentage of adults age 25 and older without a high school education range from 38% in Cameron County to 54% in Starr County, compared to 21%, statewide (Table 1).[4] The proportion of adults with a high school education ranges from 23% in Starr County to 28% in Willacy County; the rate for Texas is 26%. Those with some college ranges from 13% in Starr County to 17% in Cameron County; the rate for Texas is 22%.

Table . Educational Attainment among RHP 5 Counties, 2005-2009

Adults Age 25 and Older Who:	Cameron	Hidalgo	Starr	Willacy	Texas
Did Not Complete High School	38%	41%	54%	45%	21%
Completed High School Graduate	24%	24%	23%	28%	26%
Have Some College	17%	16%	13%	14%	22%

Source: U.S. Census Bureau, American Community Survey, 2005-2009.

Employment, Large Employers

Unemployment rates across RHP 5 ranged from 8.7% to 11.2% among adults age 16 and older 2011.[5] The largest employers in the region, particularly in the McAllen-Edinburg-Mission MSA are in education (local

3 Dynamic Growth in the Rio Grande Valley. Dallas Federal Reserve Bank, 2006. See: http://www.dallasfed.org/assets/documents/research/swe/2006/swe0602c.pdf

4 Texas Department of Health Services, reporting on county data from the American Community Survey (2005-2009). See: https://www.dshs.state.tx.us/hcquery/report/?mode=demo&areas=31_266_255

5 U.S. Census Bureau, American Community Survey 2009-2011 3-year estimates. See: http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

school districts and higher education), health care (two medical centers) and government (city, county and U.S. Customs).[6] According to the Texas Workforce Commission (TWC), health care firms are among the top private sector employers in each metropolitan area of South Texas. For McAllen-Edinburgh-Mission, health care firms comprise seven of the area's ten largest private employers.[7]

Insurance Coverage

Total Population Covered by Medicaid

According to state data, for the period July 2010, about one-quarter of the populations of Cameron, Hidalgo and Willacy counties were enrolled in any form of Medicaid. For Starr County, the rate was nearly one-third, compared to 12% for Texas (Table 1).

Table . Number and Percentage of Population on Any Medicaid Program, RHP 5 Counties and Texas, 2010

	Cameron	Hidalgo	Starr	Willacy	Texas
Number	97,670	195,283	19,581	5,636	3,040,879
Percentage	24%	25%	32%	25%	12%

Source: Texas Health and Human Services Commission. Percentages derived from 2010 Census Bureau counts.

Uninsured Non-elderly Population

Within Texas, which has the highest under-65 uninsured rate in the country—26% in 2010—RHP 5 has even higher uninsured rates. According to federal statistics, only Willacy County has an under-65 uninsured rate that is less than 30%. Among the other three counties of RHP 5, the uninsured rates range between 36% and 38% (Table 1).[8]

Table . Number and Percentage of Non-elderly Uninsured, RHP 5 Counties and Texas, 2010

	Cameron	Hidalgo	Starr	Willacy	Texas
Number	134,358	265,156	19,259	4,779	5,820,793
Percentage	38%	38%	36%	29%	26%

Source: U.S. Census Bureau, 2010.

Sources of Coverage among Non-elderly Adults

Among non-elderly adults (ages 18 to 64), uninsured rates are higher than for the entire non-elderly population

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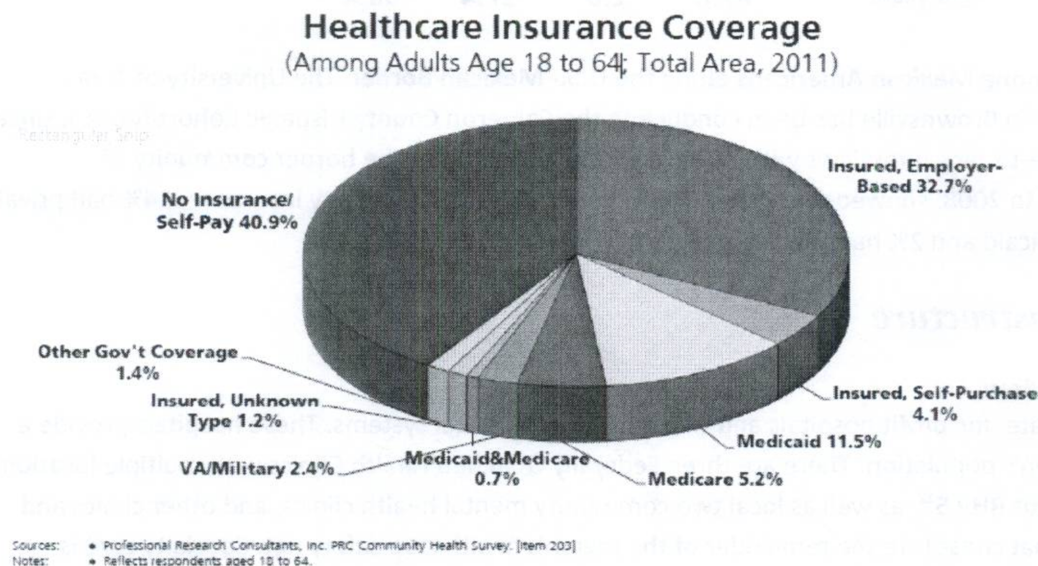
6 McAllen Economic Development Corporation. Data from 2010. See: http://www.mcallenedc.org/mcallen-top-employers.php

7 Texas Comptroller's Office. Undated. Texas in Focus: South Texas. http://www.window.state.tx.us/specialrpt/tif/southtexas/healthcare.html

8 U.S. Census, Small Area Health Insurance Estimates, 2010. See: http://www.census.gov/did/www/sahie/data/interactive/

because children have more expansive eligibility criteria for obtaining Medicaid coverage compared to adults. A 2011 local community health assessment in the region found that uninsured rates topped six out of 10 non-elderly adults in Willacy County (61%), nearly half of non-elderly adults in Hidalgo County (47%) and was 37% for Cameron County non-elderly adults. The overall uninsured rate was 41% for the region (excluding Starr County), compared to 31% for the State of Texas.[9] Likewise, 60% of adults reported having some kind of health coverage, with only one-third (33%) covered by employer-sponsored insurance (ESI), as shown below (Figure 5). This compares to a statewide rate of 54% with ESI for non-elderly adults.[10]

Figure . Source of Coverage for Non-elderly Adult Respondents in a 2011 Health Needs Assessment Survey



9 2011 PRC Community Health Report. This health needs assessment was sponsored by Valley Baptist Health System and conducted by Professional Research Consultants, Omaha, Nebraska. The survey included 400 adults in in Cameron County and 100 each in Willacy County and Hidalgo County. Residents of Starr County were not included.

10 See the Kaiser Family Foundation website: http://www.statehealthfacts.org/profileind.jsp?ind=130&cat=3&rgn=45

Category	Insurance status All types %	Private %	Medicaid %	Medicare %
All Participants	31.4	11.9	8.3	11.0
Males	36.0	14.4	8.5	13.0
Females	27.7	9.9	8.2	9.4
18-64 years	20.4	13.8	4.6	1.8
≥65 years	87.8	2.0	27.4	58.4

Insurance Coverage among Mexican Americans along the U.S.- Mexican Border. The University of Texas School of Public Health in Brownsville has been conducting the Cameron County Hispanic Cohort (CCHC), since 2003. Results from face-to-face interviews with 2000 Mexican-Americans in the border community of Brownsville from 2003 to 2008, showed that only 20% of non-elderly adults had any insurance; 14% had private coverage, 5% had Medicaid and 2% had Medicare (Figure 6).[11]

Healthcare Infrastructure

Health System Overview

RHP 5 includes 13 private, for-profit hospitals and two non-profit hospital systems. These hospitals provide a safety net for the region's population. There are three Federally Qualified Health Clinics with multiple locations among them throughout RHP 5[12] as well as local two community mental health clinics, and other clinics and private practitioners that constitute the remainder of the region's health care safety net. Specialty care is provided in RHP 5 where possible, but many people are referred to University of Texas Medical Branch at Galveston or other large medical centers, often through funds from the county indigent care program. These funds are limited and often consumed within a few months of each fiscal year. Finally, many people cross the border to Mexico for a range of services from diagnostic, to treatment including the purchase of prescription drugs that are available without prescription in border towns.

Health Professional Shortage Areas

RHP 5 has long been a health professional shortage area with particular difficulty in recruiting and retaining primary care and specialist physicians, nurses and physician assistants. All four counties of RHP 5 have "whole county" shortage area designations for dentists and mental health professionals.[13] Starr and Willacy counties

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11 Fisher-Hoch SP, Vatcheva KP, Laing ST et al. Missed opportunities for diagnosis and treatment of diabetes, hypertension, and hypercholesterolemia in a mexican american population, cameron county Hispanic cohort, 2003-2008. *Prev Chronic Dis* 2012;9:E135.

12 Texas Department of State Health Services, Office of Primary Care. See: https://www.dshs.state.tx.us/chpr/fqhcmain.shtm

13 Texas Department of State Health Services, 2010. See: http://www.dshs.state.tx.us/Layouts/ContentPage.aspx?PageID=35614&id=66988&terms=shortage

have whole county primary care health professional shortages, while the shortage in Cameron County is designated as "partial." Poverty, remoteness, lack of an academic health educational center, and cultural and language barriers all contribute to the difficulty in recruiting and retaining health care professionals in the region.

Table . Health Professional Shortage Area Designations in RHP 5, 2010

	Health Professional Shortage Area Designations		
	Primary Care	**Dental**	**Mental Health**
RHP 5 County			
Cameron	Partial County	Whole County	Whole County
Hidalgo	Not Designated	Whole County	Whole County
Starr	Whole County	Whole County	Whole County
Willacy	Whole County	Whole County	Whole County

Source: Texas Department of State Health Services, 2010

Health Care Providers

Below is a more detailed description of the health care workforce in RHP 5 for a variety of health care providers, including but not limited to primary care, dental and mental health.[14] The region's rates per 100,000 population are compared to those of Texas.

Community Health Workers (CHW). In RHP 5 the rate of 18.1 community health workers (CHWs) per 100,000 population is higher than the Texas rate of 5.9 (Table 4). This is reflective of the longstanding presence of "Promotoras," who have a tradition of serving as CHWs in Hispanic communities in South Texas. CHWs are gaining stature throughout the country as having an important role to play in supporting patient-centered care. Many of the DSRIP projects for RHP 5 will feature the role of CHWs in improving the delivery of cost-effective health care services.

Dentists. The supply of dentists in RHP 5 is second in deficit only to mental health professionals. There are only 21 dentists per 100,000 population—less than half the rate for Texas.

Nurses and Nurse Practitioners. There are 3,659 Licensed Vocational Nurses (LVN) in RHP 5 for a rate of 274 per 100,000 population; this is only slightly lower than the rate of 282 for Texas. However, for Registered Nurses (RNs) there are only 6,623 RNs or 497 per 100,000 population available, fully 30% below the rate of 713 in Texas. The situation is even worse for nurse practitioners in RHP 5 where the rate is about 14 per 100,000 population compared to about 26 per 100,000 in Texas.

Physician Assistants (PA). RHP 5 is equally or better supplied with PAs than Texas as a whole.As managed care becomes more common in RHP 5 we expect the numbers of PAs to increase.

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14 Texas DSHS Center for Health Statistics, 2011. See
http://www.dshs.state.tx.us/chs/hprc/health.shtm
Rates were based on a population of 1,334,042 for RHP 5, and 25,883,999 for Texas.

Behavioral Health Professionals (psychiatrists, psychologists, social workers). Texas has one of the lowest ratios of psychiatrists to 100,000 population of any state in the nation. RHP 5 has 2.8 psychiatrists per 100,000 population 40% of the already low level of 6.8 in Texas; similarly there are 9.2 licensed psychologists per 100,000 in RHP 5 compared to 25.8 in Texas. RHP 5 has 40% of the rate of mental health professionals of the state.

Two participants in the focus groups that were part of the PRC community health needs assessment articulated a patient perspective on the poor state of mental health access in the Rio Grande Valley: [15]

> *"It's all crisis care, you know, so they have to get so sick they become dangerous. Even if you get hospitalized for a psychiatric problem, chances are you won't even get accepted to an in-patient facility because they're all full."*
>
> *"Mental health in two areas, one even people who have insurance have trouble getting mental health services. They end up waiting for months to see a psychiatrist or a counselor."*

Physicians. As of September 2011 there were 1,378 physicians in RHP 5 providing direct patient care, among whom 728 provide primary care. There are 103 direct care physicians and 54.6 primary care physicians per 100,000 population in RHP 5. These rates are 40% and 20% less, respectively, than the Texas rate, despite the very high degree of health disparities and disease burden, particularly of obesity and diabetes, in the population, as discussed below. RHP 5 is 20% lower in primary care physicians per 100,000 population compared to Texas (54.6 v. 69.5).

Table . **Health Workforce Supply and Distribution RHP 5 and Texas, 2011**

Category		N	Population/ Worker	Workers/ 100,000 Population	Ratio RHP 5/ Texas
Community Health Workers					
	RHP 5	241	5,535	18.1	3.10
	Texas	1,527	16,951	5.9	
Dentists					
	RHP 5	286	4,664	21.4	0.47
	Texas	11,751	2,203	45.4	
Nurses (LVNs)					
	RHP 5	3,659	365	274.3	0.97
	Texas	72,921	355	281.7	
Nurses (RNs)					
	RHP 5	6,623	201	496.5	0.70
	Texas	184,467	140	712.7	
Nurse Practitioners					
	RHP 5	190	7,021	14.2	0.55
	Texas	6,676	3,877	25.8	
Physician Assistants					
	RHP 5	281	4,747	21.1	1.00

15 2011 PRC Community Health Report. Professional Research Consultants, Omaha, Nebraska. p. 42.

Category	N	Population/ Worker	Workers/ 100,000 Population	Ratio RHP 5/ Texas
Texas	5,372	4,818	20.8	
Psychiatrists				
RHP 5	37	36,055	2.8	0.41
Texas	1,766	14,657	6.8	
Psychologists				
RHP 5 (2010)	119	10,924	9.2	0.36
Texas (2010)	6,547	3,876	25.8	
Direct Care MDs				
RHP 5	1,378	968	103.3	0.63
Texas	42,716	606	165	
Primary Care MDs				
RHP 5	728	1,832	54.6	0.79
Texas	17,996	1,438	69.5	

Source: Texas Department of State Health Services, Center for Health Statistics, 2011

There are 39 family medicine physicians, or 2.9 per 100,000 population in RHP 5—30% fewer compared to the rate for Texas (Table 4).[16] Similarly, there are 15.5 family practice physicians per 100,000 population, fully 25% lower than the Texas rate of 20.2 per 100,000 population. RHP 5 has half the rate of general practitioners per 100,000 population compared to Texas. Pediatrics is the only area where there RHP 5 has parity or exceeds Texas in physicians per 100,000 population (13.8 v. 12.8). However, the population in RHP 5 is substantially younger than the Texas population as a whole. The supply of physicians in Internal Medicine and OB/GYN specialties lags behind Texas by 30% and 25%, respectively. The rate of Geriatrics specialists in RHP 5 is in parity with the State's rate.

Table . Primary Care Physicians by Specialty, RHP 5 and Texas, 2011

	Family Medicine	Family Practice	General Practice	Pediatrics	Internal Medicine	Obstetrics and Gynecology	Geriatrics	Total
				Number of Physicians				
RHP 5	39	207	18	184	191	86	2	728
Texas	1053	5216	664	3321	5293	2188	33	17,996
				Physicians per 100,000 population				
RHP 5	2.9	15.5	1.3	13.8	14.3	6.4	0.1	54.6
Texas	4.1	20.2	2.6	12.8	20.4	8.5	0.1	69.5
Ratio: RHP 5/ Texas	0.71	0.77	0.50	1.08	0.70	0.75	1.00	0.79

Source: Texas Department of State Health Services, 2011.

16 Texas Department of State Health Services, 2011. See: http://www.dshs.state.tx.us/chs/hprc/tables/2011-Primary-Care-Physicians-by-County-of-Practice-and-Specialty/. Rates were based on a population of 1,334,042 for RHP 5, and 25,883,999 for Texas.

Hospital Bed Capacity and Ownership Status

Hospitals in RHP 5 range in size from 48 beds to over 800 beds across three counties (Table 5). Many are full service hospitals but none has a trauma unit designated under level 3.[17]

Table . Inpatient Hospitals and Medical Centers in the Counties of RHP 5, 2012

Hospitals and Medical Centers	Beds	Trauma Level	Status
Cameron County			
Valley Baptist Health System	866	III	For Profit
Harlingen Med Center	112		For Profit
Valley Regional Hospital	214	III	For Profit
Solara Hospital	41		
South Texas Rehabilitation Hospital	40		For Profit
Total Beds Cameron County	**1273**		
Hidalgo County			
Mission Regional Medical Center	297	IV	Non-Profit
Doctors Hospital at Renaissance	530	III	For Profit
Edinburg Regional medical Center	213		For Profit
McAllen Heart Hospital	60		For Profit
McAllen Medical Center	441		For Profit
Rio Grande Regional Hospital	320	III	For Profit
Solara Hospital	78		For Profit
Knapp Medical Center	227	III	Non-Profit
South Texas Behavioral Center	134		
Total Beds Hidalgo County	**2300**		
Starr County			
Starr County Memorial Hospital	**48**	IV	Non-profit, Hospital District
Willacy County			
Total Beds Willacy County	**0**		
Total Inpatient Beds RPH 5	**3621**		

Source: Texas Department of State Health Services, Dept. of Regulatory Services, 2012.

Health Service Costs

The costs of health services are heavily weighted toward Medicare and Medicaid in RHP 5. Because of the lack of access to preventive health services and the high burden of chronic diseases, people in RHP 5 are often seen in crisis in emergency departments with advanced manifestations of chronic disease; this drives up the overall cost of treatment and adds to the burden of indigent care that hospitals and health systems provide.

For example, based on admissions data from hospitals in RHP 5, the figure below shows that the estimated annual impact of diabetes on length of hospitalization is substantial and accounts for 2,126 extra days in the

17 Texas Department of Regulatory Services, October, 2012. See: http://www.dshs.state.tx.us/HFP/apps.shtm#hosp_gen_spec

ICU, and 14,087 extra days from medical/surgical bed days. The estimated annual excess costs of these extra bed days, as a result of diabetes, range from $48 million to $82 million.

Figure . Estimated Annual Excess Hospital Days and Cost Due to Diabetes among RHP 5 Hospitals, 2011

	No. of Patients (N) and Average Length of Stay (ALOS) in Days			
	Diabetes		No Diabetes	
Type of Admission	**N**	**ALOS**	**N**	**ALOS**
ICU Admissions	2,934	8.38	3,565	7.66
Medical/Surgical Admissions	18,830	5.69	24,562	4.94
All Admissions (ICU and Med/Surg)	20,666	4.18	26,828	3.54
	Annual Excess Utilization and Cost Due to Diabetes			
	Extra Hospital Days per Year	Estimated Cost Per Day	Low Estimate	High Estimate
ICU Admissions for Patients with Diabetes	2,126	$12000-$18000	$25,517,831	$38,276,746
Medical/Surgical Admissions for Patients with Diabetes	14,194	$1650-$3161	$23,243,292	$44,528,513
All Admissions: Total Annual Estimated Excess Cost			$48,761,123	$82,805,260

Source: University of Texas Health Science Center-San Antonio; analysis of date from six hospitals in RHP 5, 2011.

Key Health Challenges in RHP 5

Overall Health Status

Based on self-reported health status results from the 2011 Community Health Assessment for Cameron, Hidalgo and Cameron counties, 82% of those surveyed said their health was excellent, very good or good; 28% said their health was fair to poor, which is much higher than the Texas and national averages of 17% each. Among Willacy County residents surveyed, 40% rated their health status as fair or poor.[18]

Leading Causes of Mortality

The five leading causes of death for adults in the counties of RHP 5 are heart disease, cancer, diabetes, strokes, accidents (including motor vehicle) (Figure 8).[19] Others leading causes include septicemia, liver disease, renal disease, Alzheimer's disease, suicide and homicide. Because there are no formal disease registries for these diseases and they depend on death certificates, these statistics do no fully reflect the extent to which diabetes and overweight/obesity contribute to these causes of death. This prevalence and impact of diabetes in the region is explored more in-depth, below.

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18 2011 PRC Community Health Report. Professional Research Consultants, Omaha, Nebraska. The survey included 400 adults in in Cameron County and 100 each in Willacy County and Hidalgo County. Residents of Starr County were not included.

19 Texas Department of Health, Texas Vital Statistics, 2008.

Figure . Leading Causes of Mortality for RHP 5

Fig. 7.1a Major Causes of mortality for all counties in RHP5
Data from DSHS 2010*

Rank	1	2	3	4	5	6	7
Cause	Heart	Cancer	Diabetes	Stroke	Accidents	Lung disease	Septicemia
Rate/100K	181.53	127.56	31.58	31.30	26.10	21.87	16.03
Rank	**8**	**9**	**10**	**11**	**12**	**13**	
Cause	Liver disease	Kidney Disease	Alzheimer	Hyper-tension	Suicide	Homicide	
Rate/100K	15.80	15.47	8.90	5.22	5.21	4.39	

* There is no formal register for any of the diseases except cancer, and therefore These data are subject to substantial under and mis-reporting and should be used as relative, but certainly not the absolute causes of death. For example, diabetes is grossly under-reported in many instances, such as death certificates.

Diabetes

Self-reported rates of being diagnosed with diabetes are much higher among RHP 5 counties than Texas and nationally. Results from the Behavioral Risk Factor Surveillance System (BRFSS) for Public Health Region 11 (includes all the RHP 5 counties and several others in South Texas), 14.3% of adults report having diabetes, compared to 9.7% for Texas and 9.3% for the U.S.[20]

Because diabetes is often listed well down the list of ICD-9 diagnoses it is very often missed in reporting on hospital admissions. The estimated impact of diabetes on hospital care in the region is demonstrated in Table 8, below, based on analyses from 6 hospitals in the region. For each major reason for admission, the number and percentage for which the patient also has diabetes—beyond those admissions that are explicitly associated with diabetes—was examined. The analysis showed that two-thirds of renal disease and nearly two-thirds of heart failure admissions include patients who also have diabetes. More than half of admissions for heart attack, hypertension, sepsis, stroke, and nearly half of admissions for Alzheimer's disease and depression are for patients who also have diabetes.

Table . Hospital Admissions in RHP 5, by Diagnosis and Proportion with Type 2 Diabetes, 2011

Major Reason for Admission	Total Admissions	Admissions for which Patient has Diabetes	
		N	%
1. Hypertension	7,899	4,326	54.8
2. Renal Disease	5,394	3,561	66.0
3. Heart Failure	3,391	2,152	63.5
4. Sepsis	3,075	1,648	53.6
5. Cancer	2,138	683	31.9
6. Stroke	1,639	837	51.1
7. Depression	1,187	509	42.9
8. Heart Attack	1,178	686	58.2
9. Leg or Foot Ulcer	712	472	66.3
10. Peripheral Neuropathy	649	577	88.9

20 Behavioral Risk Factor Surveillance System Prevalence and Trends Data: Texas 2010, from the Centers for Disease Control and Prevention (CDC). Query page from the Texas Dept. of State Health Services: http://www.dshs.state.tx.us/chs/brfss/query/brfss_form.shtm

Major Reason for Admission	Total Admissions	Admissions for which Patient has Diabetes	
		N	%
11. Alzheimer's Disease	604	292	48.3
12. Birth <36 weeks	472	3	0.6
13. Retinopathy	295	279	94.6
14. Eclampsia	180	13	7.2

Source: UTHSCSA; analysis of data from six hospitals in RHP 5, 2011.

Overweight and Obesity

Fig. 12a Comparison with NHANES National Data Using the 2010 ADA Definition of Diabetes, 2011

	Cameron County Hispanic Cohort	Nationally (NHANES 1999-2002)	
	Total	All US %	Mexican Americans %
BMI			
Overweight (BMI 25-29)	33.2	34.1	39.0
Obese (BMI≥30)	48.5	32.3	36.8
Extreme obesity (BMI≥40)	7.9	4.8	4.5
2010 Diabetes definition			
Diagnosed Diabetes	13.7	8.3%	10.4%
Undiagnosed Diabetes	17.0	3.0%	3.0%
Total diabetes	30.7	11.3%	13.4%

References: ADA/CDC/NIH Diabetes Facts 2011 & Fisher-Hoch et al 2011

Local Behavioral Risk Factor Surveillance Survey (BRFSS) data on overweight (body mass index between 25 and 29) and obesity (BMI greater than or equal to 30) are available for the Brownsville-Harlingen (Cameron County) and McAllen-Edinburg-Pharr (Hidalgo County) MSAs in South Texas. In the former, about 71% were estimated to be overweight (38.9%) or obese (32%) in 2007; in the McAllen MSA, 69% were either overweight (35.8%) or obese (33.3%) in 2010.[21] Results from the 2011 health needs assessment for the region found 76% of adults to be overweight or obese, compared to 66.5% for Texas and 70% for the U.S.[22] Obesity is implicated as a risk-factor in many diseases, including diabetes, heart disease, and cancers. Programs to reduce obesity and prevent the onset of diabetes can play a major role, along with early detection in preventing other illnesses.

Overweight and Obesity among Mexican American Adults. Figure 9 shows the prevalence of obesity to be 48.5% of the adult population among participants in the Cameron County Hispanic Cohort (CCHC) Study,[23] compared to 36.8% of Mexican Americans nationally. Additionally, rates of diagnosed and undiagnosed diabetes in the predominately Mexican American community of RHP 5 is 30% compared to less than half that

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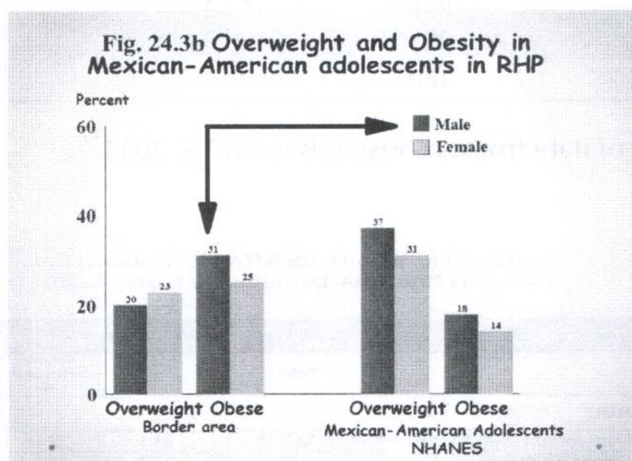
21 SMART: BRFSS City and County Data, CDC. See: http://apps.nccd.cdc.gov/BRFSS-SMART/MMSARiskChart.asp?yr=2010&MMSA=208&cat=OB&qkey=4409&grp=0

22 2011 PRC Community Health Report.

23 Fisher-Hoch SP, Rentfro AR, Salinas JJ et al. Socioeconomic status and prevalence of obesity and diabetes in a Mexican American community, Cameron County, Texas, 2004-2007. *Prev Chronic Dis* 2010;7:A53.

rate (13.4%) for Mexican Americans nationally. Well over 30% of CCHC respondents said they had no physical activity in the past month compared to 24% in Texas. Less than half of respondents reported physical activity levels that meet the minimum recommended requirements. Altogether over 80% of the population of RHP 5 is obese or overweight and therefore at high risk for other medical conditions especially diabetes.



Overweight and Obesity among Mexican American Adolescents. Figure 10 shows that more than half of adolescents are overweight or obese, which contributes to diabetes and other health issues throughout youth and into adulthood. In fact 56% of adolescents are either obese or overweight in the border region and more are obese than overweight.[24] Arrows show the importance of obesity in adolescent males.

Other Chronic Diseases

Cardiovascular Disease. The death rate from acute cardiovascular diseases such as heart attacks and strokes is substantially lower in RHP 5 compared to Texas and the nation. However, heart failure is among the top diseases resulting in hospitalization in RHP 5, as noted above. It appears that heart failure is very common, and likely underdiagnosed. Similar to diabetes, people can go for some time with insidious heart failure without a proper diagnosis. Based on data from the ongoing CCHC study in South Texas, as many as 30% of Mexican American adults in the region have evidence of heart failure.[25,26,27]

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24 Rentfro AR, Nino JC, Pones RM et al. Adiposity, biological markers of disease, and insulin resistance in Mexican American adolescents, 2004-2005. *Prev Chronic Dis* 2011;8:A40

25 Fisher-Hoch SP, Vatcheva KP, Laing ST et al. 2012.

26 Laing ST, Smulevitz B, Vatcheva KP et al. High Prevalence of Subclinical Atherosclerosis by Carotid Ultrasound among Mexican Americans: Discordance with 10-Year Risk Assessment using the Framingham Risk Score. *Echocardiography* 2012.

27 Queen SR, Smultevitz BE, Rentfro AR et al. Electrocardiographic Abnormalities among Mexican Americans: Correlations with Diabetes, Obesity and the Metabolic Syndrome. *World Journal of Cardiovascular Diseases.* In press.

Kidney Disease. Renal disease is the second leading cause of hospital admissions in RHP 5, as noted in Table 8, above. Renal dialysis rates in RHP 5 are also among the highest in Texas.[28] Chronic kidney disease and end-stage renal disease are significant health problems in RHP 5, responsible for premature death, a major source of suffering and poor quality of life, and high costs.[29]

Chronic Liver Disease. South Texas has one of the highest rates of chronic liver disease in the country.[30] Among participants in the CCHC study, 47% have elevated liver enzymes. Two recent publications from this population strongly point to non-alcoholic fatty liver disease (NAFLD) as the likely culprit.[31,32] NAFLD leads to non-alcoholic steatohepatitis, cirrhosis and liver cancer.[33]

Elevated Cholesterol. The 2011 Community Health Report survey found that 31% of respondents reported a physician had told them they had high cholesterol, while nearly half (48%) of the Mexican American participants tested in the Cameron County Hispanic Cohort (CCHC) study were found to have elevated cholesterol levels,

Based on results from the CCHC Study, which involved testing participants for various diseases, researchers estimated that 273,831 Mexican Americans in the RHP 5 have diabetes, for which 56% are not being treated; 292,271 have hypertension for which 50% are not being treated; and 441,634 have elevated cholesterol for which 85% are not receiving treatment.[34]

Mental Health and Substance Abuse

Mental health disorders are among the most common causes of disability, and fully one fifth of those recently surveyed in the region considers their mental health to be fair or poor compared to less than 12% in the United

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28 U.S.Department of Health and Human Services. CDC WONDER online databases. 4-9-2012. 8-16-2012.

29 Perez A, Anzaldua M, McCormick J, Fisher-Hoch SP. High frequency of chronic end-stage liver disease and hepatocellular carcinoma in a Hispanic population. *J Gastroenterol Hepatol* 2004;19:289-295.

30 Ibid.

31 Li Q, Qu HQ, Rentfro AR et al. PNPLA3 Polymorphisms and Liver Aminotransferase Levels in a Mexican American Population. *Clin Invest Med* 2012;35:E237.

32 Pan JJ, Qu HQ, Rentfro A, McCormick JB, Fisher-Hoch SP, Fallon MB. Prevalence of metabolic syndrome and risks of abnormal serum alanine aminotransferase in Hispanics: a population-based study. *PLoS One* 2011;6:e21515.

33 Angulo P. Nonalcoholic fatty liver disease. *N Engl J Med* 2002;346:1221-31.

34 See citations 25-27.

States.[35] Additionally, 39% said they had experienced chronic depression (two or more years in their lives when they felt depressed or sad on most days) compared to 27% in the US. Research from the CCHC study, found that depression is associated with low levels of education, low income, being female, high BMI and diabetes (unpublished data).

Mental health and physical health are closely connected and mental illness is also often accompanied by underlying chronic medical conditions. This is illustrated in the figure above that presents survey results from clients of Tropical Texas Behavioral Health Center (TTBH), a performing provider in RHP 5. Substance abuse is also a common disorder among individuals with severe mental illness, highlighting the need to increase prevention efforts and improve access to treatment for substance abuse and co-occurring disorders.

Because the entire region has a severe shortage of mental health professionals, the need for expanding the behavioral health workforce is critical. Untreated persons with significant mental illness are more likely to be incarcerated and they incur more costs than non-mentally ill.[36] This is particularly true in Texas, which, in spending $38 per capita (2009) on mental health services compared to the U.S. average of $123 per capita, ranks Texas 51st (including Washington, D.C.) in state spending per person for treatment of mental illness.[37] Integrating behavioral health services with physical health services is an important priority for improving the coordination and quality of care for individuals with co-occurring conditions.

Infectious Diseases

One of the important issues in the RHP 5 population is the increased susceptibility to infectious diseases found in people with diabetes, particularly concerning tuberculosis, influenza, and pneumonia. We have the highest rates in the nation. In 2009, the prevalence of tuberculosis was 12.8 cases per 100,000 population compared to 6.2 in Texas and 4.4 in U.S. Diabetes is the biggest risk factor for tuberculosis in our area and it accounts for about one-third of TB cases.[38,39] At the same time, only 45% of people 65 years and older in the region have

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35 2011 PRC Community Health Report.

36 Cox JF, Morschauser PC, Banks S, Stone JL. A five-year population study of persons involved in the mental health and local correctional systems: implications for service planning. *J Behav Health Serv Res* 2001;28:177-187.

37 Kaiser Family Foundation. (n.d.). State Mental Health Agency (SMHA), per capita mental health services expenditures, FY 2009. See: http://www.statehealthfacts.org/comparemaptable.jsp?yr=90&typ=4&ind=278&cat=5&sub=149&sortc=1&o=a

38 Fisher-Hoch SP. Diabetes and tuberculosis: a twenty-first century plague? *Int J Tuberc Lung Dis* 2011;15:1422.

39 Restrepo BI, Camerlin AJ, Rahbar MH et al. Cross-sectional assessment reveals high diabetes prevalence among newly-diagnosed tuberculosis cases. *Bull World Health Organ* 2011;89:352-359 PMCID: PMC3089389.

had pneumococcal vaccine compared to 69% in Texas and 68% in the rest of the United States. Among non-elderly adults (18 to 64) only 35% received flu vaccinations compared to 52% nationally.

Oral Health

Only 48% of those in RHP 5 had seen a dentist or dental clinic during the past year, well under the rate for Texas (62%) or the US (67%). Being male, under 65 and living in poverty were risk factors for lower rates of dental care. The proportion of children who visited a dentist over the past year was 85%, above the rate of 79%[40] and this is likely due to children under age of 21 having better access to Medicaid than adults, and there are dentists in the community who accept Medicaid patients. Because only 35% of adults in the region (ranging from 17% to 38% among the RHP 5 counties) have dental insurance compared to 61% in the U.S., it is commonplace for residents with dental problems to visit the hospital emergency room or seek dental care in Mexico. However, due to the recent escalation of violence fewer people now go to Mexico.

Emergency Department Utilization

Just under 7% of adults surveyed for the 2011 Community Needs Report reported going to a hospital emergency room more than once in the past year for their own health. Of those using the ER, 23% said the visit was due for a reason other than an emergency or life-threatening situation, such as making a visit during after-hours or on the weekend, or not having another place to go.[41] Additionally, 10% of respondents in a survey Texas Tropical Behavioral Health Center conducted among its client population in 20XX.[42]

Health Education

Participants in the focus groups that were part of the PRC community health needs assessment were asked individually to identify their top five health priorities for their community. Health Education was ranked number 4, behind diabetes and obesity, mental health, and substance abuse concerns. In focus group discussions, participants described a high level of health illiteracy in the community. They emphasized a strong need for patients to get more follow up support about their medications and other ways to actively engage in their own care, as illustrated by this comment[43]:

> *"Patients don't understand their medical problem, they don't understand their treatment plan, they don't understand the goals, and they don't understand how the medical system works."*

Delivery System Reform Initiatives

Within RHP 5, only one of the performing providers has received federal funding to support recent health care reform initiatives under either CMS Innovation Center Grants, HITECH payments, HRSA grants, SAMSHA funding or CDC state grants. Tropical Texas Behavior Health is receiving EHR incentive payments and is

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40 2011 PRC Community Health Report.

41 Ibid.

42 Tropical Texas Behavioral Health Center. Survey of XXX clients in 20XX.

43 2011 PRC Community Health Report.

participating in the Substance Abuse Prevention and Treatment Block Grant initiatives sponsored by SAMSHA. Additionally, the Center of Excellence on Diabetes in Americans of Mexican Descent at the University of Texas School of Public Health, Brownsville campus, is supported by a grant from the National Institute for Minority Health and Health Disparities.

Expected Changes During the Waiver Period of FFY 2012 – FFY 2016

There is every reason to believe that the population growth of the area will continue, particularly given the situation south of the border that is causing many citizens or legal residents to come to the US. With the passage of federal health care reform, there could be an improvement in insurance coverage and access to care over the next four years due to the expansion of Medicaid eligibility if the legislation remains intact. If plans to start a new medical school in this region materialize, this effort would enhance the DSRIP residency expansion projects in producing more locally trained medical professionals who remain in the area.

Approach and Sources Used to Complete Needs Assessment

The goal of this RHP 5 Needs Assessment was to guide the health care reform strategic planning process by providing information to guide stakeholder decisions in selecting DSRIP projects for the region. In this process we engaged the community and key partners to identify health concerns, priorities, strengths, and opportunities for DSRIP projects.

Key sources of information that supported this Needs Assessment came from the Texas Department of State Health Services, Center for Health Statistics, which is a major source of information for local community health assessment and public health planning. The Center is a repository of federal health surveys that have demographic, health and workforce statistics available at the state, MSA or county level, as well as state-based surveys and vital statistics at the state and county level.

The *2011 Community Health Report*, prepared by Professional Research Consultants (PRC), and sponsored by Valley Baptist Health System, which is located in RHP 5, also provided recent statistics on self-reported health care coverage, health status and disease diagnoses, and results from focus groups, as referenced throughout this needs assessment.

The University of Texas School of Public Health, Regional Campus at Brownsville, conducts the *Cameron County Hispanic Cohort* study of 2000 Mexican Americans residing in Brownsville from which published research in peer-reviewed journals was incorporated into the Needs Assessment to highlight the high burden of chronic conditions and lack of insurance coverage among this particularly poor and vulnerable population in an already high poverty region.

Several other locally conducted analyses contributed to the Needs Assessments. The University of Texas Health Science Center-San Antonio analyzed admissions from six participating hospitals in RHP 5 to better understand the impact of diabetes on inpatient hospital utilization and costs. Tropical Texas Behavioral Health conducted a recent survey of its clients to examine rates of co-occurring conditions, their reliance on the ER for non-emergencies, and other health care issues.

Summary of Community Needs

Identification Number	Brief Description of Community Needs Addressed through RHP Plan	Data Source for Identified Need
CN.1	Shortage of primary and specialty care providers and inadequate access to primary or preventive care	Texas Department of State Health Services, 2011. http://www.dshs.state.tx.us/chs/hprc/tables/2011-Primary-Care-Physicians-by-County-of-Practice-and-Specialty/ Texas Department of State Health Services, 2010, for health care workforce shortage designations made by HRSA. See: http://www.dshs.state.tx.us/Layouts/ContentPage.aspx?PageID=35614&id=66988&terms=shortage Behavioral Risk Factor Surveillance System Prevalence and Trends Data: Texas 2010, from the Centers for Disease Control and Prevention (CDC) http://www.dshs.state.tx.us/chs/brfss/query/brfss_form.shtm Published articles by the UT School of Public Health at Brownsville, from the Cameron County Hispanic Cohort, 2003-2008
CN.2	Shortage of behavioral health care professionals and inadequate access to behavioral health care	Texas Department of State Health Services, 2011. http://www.dshs.state.tx.us/chs/hprc/tables/2011-Primary-Care-Physicians-by-County-of-Practice-and-Specialty/ 2011 PRC Community Health Report. Professional Research Consultants, Omaha, Nebraska Tropical Texas Behavioral Health Survey of Clients, 20XX
CN.3	Inadequate integration of care for individuals with co-occurring medical and mental illness or multiple chronic conditions	University of Texas Health Science Center-San Antonio analysis of admissions from six participating hospitals in RHP 5, 2011 Published articles by the UT School of Public Health at Brownsville, from the Cameron County Hispanic Cohort, 2003-2008 Tropical Texas Behavioral Health Survey of Clients, 20XX
CN.4	Lack of Patient-Centered Care	2011 PRC Community Health Report. Professional Research Consultants, Omaha, Nebraska