

BREWSTER COUNTY HEALTH AND ENVIRONMENTAL SURVEY

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EXECUTIVE SUMMARY

Brewster County is the largest county in Texas; it also has a very low population density. The majority of the population resides in the City of Alpine. Almost half of the population is of Hispanic origin and more than 95% of the residents were born in the United States. The population tends to be older and better educated than in the rest of Texas. However, even with a higher education level and lower unemployment, the per capita income is lower in Brewster County than in the rest of the state. The percentage of residents receiving Food Stamps or Temporary Assistance to Needy Families is lower than for the rest of the state, probably reflecting the age composition of county residents. The percentage of the population receiving Social Security is about the same as for the rest of the state. Almost 5% of the residents are manual laborers.

The majority of the population resides in the northern part of the county and has access to more health services and infrastructure than the more scattered population in the southern part. Some of the variables included in this study have been analyzed separately for those living in northern Brewster County and southern Brewster County.

The number of unoccupied housing units is high and the percentage of houses with public water and sewage connections low, especially in the southern Brewster County area.

Brewster County has been designated as a Health Professional Shortage Area (HPSA) and as a Medically Underserved Area (MUA). In recent years, the number of physicians practicing in the county has been decreasing. The percentage of the population who is uninsured is high and the percentage eligible for Medicaid and Medicare is lower than for the rest of the state.

Existing information suggests that teenage pregnancy and births to unmarried mothers are on the increase. Access to prenatal care and to immunization services appear to be better in Brewster County than in the rest of the state. The prevalence of lead poisoning is similar to the rate for the state. Similarly, the prevalence of vaccine preventable diseases, infectious diseases, and sexually transmitted diseases seem to be lower than for the rest of the state.

The causes of death for Brewster County residents are similar to those for the rest of the state. Cardiovascular problems, followed by cancer, unintentional injury and Chronic Obstructive Pulmonary Disease (COPD) are the leading causes of death. Mortality rates tend to be lower in Brewster County than in the rest of the state. When compared with the population in

Texas, there is no excess in the incidence of cancer for Brewster County residents and prostate cancer rates are lower than in the rest of Texas.

The water in southern Brewster County tends to have a higher content of dissolved solids, iron and sulfates. While these may cause the taste of water to be unpleasant, they do not pose any health threat to consumers. During the period 1995-1999, none of the public water systems were reported to have bacteriological contamination.

Community groups have expressed concerns about visibility in southern Brewster County. Several studies have identified possible sources which contribute to the problem but not with any high degree of certainty. The results of the ongoing "BRAVO" study by the Environmental Protection Agency (EPA) should be available in late 2002 or early 2003.

Respondents to a mail survey administered by the Texas Department of Health constitute a selective sample of the population in Brewster County. The survey respondents are older, better educated and have better access to health care than the rest of the population. In terms of ethnic background, Whites and Native Americans are over-represented while the Hispanic population is under-represented when compared to data collected in this area by the U.S. Bureau of Census.

Among survey respondents there are marked differences in access to public water, sewage disposal, and garbage collection between the residents of northern and southern Brewster County. A significantly larger percentage of southern Brewster County residents use private wells and bottled water, septic tanks, and private garbage pick-up.

Almost one-third of the household members were reported as having been diagnosed with seasonal allergies. This percentage is very high even when compared to similar border populations such as that of Presidio, Texas. While these findings cannot be readily explained, they may reflect the characteristics of the respondent population rather than indicate a problem in the community at large. The reported prevalence for other health problems was similar to those reported in other communities, except for the fact that a very high proportion of survey respondents require insulin for the control of their diabetes.

Although the respondents to the survey were older than the population of the state of Texas, the prevalence of diseases affecting individuals in Brewster County is not different from other communities in Texas. About 15% of the respondents reported having a transportation problem, which challenges public places to accommodate the needs of these population groups.

According to the community survey, private physicians are the primary source of health care for respondents in both northern and southern Brewster County. More than half of the survey respondents reported receiving medical care from private physicians, while less than 1% seek medical care in Mexico or go outside of the state to receive services. The Big Bend Regional Medical Center Hospital (in Alpine) is the second source for health care in northern Brewster County while the second source for health care in southern Brewster County is the Big Bend Family Health Center in Terlingua. Residents of southern Brewster County seem to have more difficulties accessing private providers than the residents of northern Brewster County.

Access to dental care is limited for Brewster County residents, especially for those residing in southern Brewster County. Almost 10% of the county residents cross the border into Mexico to receive dental care and a similar percentage do not have access to dental services at all.

Less than 5% of Brewster County residents cross the border into Mexico to purchase their medicines. This percentage is very low compared to other border communities. Most residents purchase their medicines in Alpine.

Sixty-two percent of the respondents in northern Brewster County are satisfied or highly satisfied with the quality of health services, but in the case of southern Brewster County only 44% of the respondents reported being satisfied with the services available. Respondents to the survey expressed concern about the scarcity of services, the quality of services available, and the long driving distances to a health provider.

About one-third of the respondents failed to identify any health concern and a similar proportion failed to identify an environmental concern. The most frequently mentioned health concern was the scarcity of health resources, followed by the prevalence of chronic health conditions (allergies, diabetes, cancer), and unhealthy lifestyles. In terms of environmental health problems the most frequently mentioned concerns were air pollution and water supply/quality.

SECTION 1 - REVIEW OF EXISTING PUBLIC INFORMATION

Geography and Demographics

Brewster County is located in the Upper Rio Grande Valley along the U.S.-Mexico border and, with 6,193 square miles, is the largest county in Texas. The population density is low: 1.4 persons per square mile, compared to 76.5 persons per square mile in the state of Texas [1]. Sixty-five percent of the county residents live in Alpine (population 5,622). The rest of the population is fairly scattered with the second major population center in Marathon (population: 455), followed by Terlingua and the Big Bend area. In 1990, 32.7% of the population resided in rural areas, the vast majority of which (96%) was non-farm land [2].

Brewster County borders the Mexican states of Coahuila and Chihuahua. There are no major cities located at the border of Brewster County with Mexico. The closest Mexican municipality is Ojinaga, Chihuahua, about 90 miles southwest of Alpine, and across the border from Presidio, Texas in Presidio County.

Based on the 1990 U.S. Census count of 8,681 and the 2000 U.S. Census count of 8,866, the population of Brewster County has grown 2.1% from 1990 to 2000 [3, 4].

According to estimates based on 1990 census data, almost 95% of Brewster County residents are U.S. born compared with 91% of Texas residents. More than 77% were born in Texas compared with 71% of other Texas residents [2] (see Table 1).

Table 1. Urban/Rural, Place of Birth and Migrant Population Characteristics for Texas, Texas-Mexico Border (TMB) Counties and Brewster County, 1990

Population Characteristics	Texas		TMB Counties		Brewster County	
	Number	Percent	Number	Percent	Number	Percent
Urban	13,637,248	80.3	1,385,606	82.7	5,845	67.3
Rural	3,349,262	19.7	289,211	17.3	2,836	32.7
Place of birth						
Native born	15,462,074	91.0	1,291,195	77.1	8,204	94.5
<i>Born in Texas</i>	<i>10,994,794</i>	<i>71.1</i>	<i>993,763</i>	<i>77.0</i>	<i>6,381</i>	<i>77.8</i>
<i>Born in other state</i>	<i>4,467,280</i>	<i>28.9</i>	<i>297,432</i>	<i>23.0</i>	<i>1,823</i>	<i>22.2</i>
Foreign born	1,524,436	9.0	383,672	22.9	477	5.5
Migrant/Seasonal	500,138	2.9	368,817	22.0	256	2.9
<i>Migrant Farmworker</i>	<i>281,778</i>	<i>1.6</i>	<i>207,792</i>	<i>12.4</i>	<i>144</i>	<i>1.6</i>
<i>Seasonal Farmworker</i>	<i>218,360</i>	<i>1.3</i>	<i>161,025</i>	<i>9.6</i>	<i>112</i>	<i>1.3</i>

Source: The University of Texas System, Texas-Mexico Border Counties, Demographics and Health Statistics: 1998, p 82, modified

The ethnic breakdown for Brewster County in 1995 was 53.7% White, 44.4% Hispanic, 1.2% African-American and 0.7% Native American and Asian [2] (see Table 2).

Table 2. Race/Ethnicity Population for Texas, Texas-Mexico Border (TMB) Counties and Brewster County, 1995

Ethnicity	Texas		TMB Counties		Brewster County	
	Number	Percent	Number	Percent	Number	Percent
Black	2,150,331	11.5	28,112	1.5	117	1.2
Hispanic	5,258,718	28.2	1,575,172	81.3	4,387	44.4
White	10,744,843	57.7	316,049	16.3	5,314	53.7
Other	476,294	2.6	17,092	0.9	73	0.7

Source: The University of Texas System, Texas-Mexico Border Counties, Demographics and Health Statistics: 1998, p 71, modified

The population in Brewster County tends to be older than the state average (see Table 3). According to 1990 U.S. Census data, 13.9% of the population is above 65 years of age compared with 10.1% for the state [3]. The population less than 15 years of age represents 19.8% of Brewster County compared with 24% of the state population being younger than 15 years of age.

Table 3. Population by Age in Texas and Brewster County, 1990

Age Group	Texas		Brewster County	
	Number	Percent	Number	Percent
<1	240,011	1.41	117	1.3
1-4	1,140,677	6.72	457	5.3
5-9	1,401,436	8.25	605	7.0
10-14	1,297,592	7.64	538	6.2
15-19	1,298,690	7.65	761	8.8
20-24	1,297,499	7.64	980	11.3
25-29	1,537,596	9.05	607	7.0
30-34	1,580,739	9.31	618	7.1
35-39	1,373,288	8.08	570	6.6
40-44	1,175,660	6.92	589	6.8
45-49	916,392	5.39	439	5.1
50-54	733,348	4.32	385	4.4
55-59	656,447	3.86	386	4.4
60-64	628,517	3.70	423	4.9
65-69	569,917	3.36	392	4.5
70-74	431,176	2.54	336	3.9
75+	707,165	4.16	478	5.5
Total	15,688,651	100	8681	100

Source: U.S. Bureau of the Census, 1990 U.S. Census Data, Database: C90STF3A

The populations of both Brewster County and the state of Texas are increasingly bilingual (see Table 4). In Brewster County, more than half (56.7%) of the 5-17 year-old population speaks English only (71.8% in the state), and among the 43.3% who speak Spanish (25.8% in the state) only 10.8% do not speak English very well (13.6% in the state) [2]. However, among those who are aged 65 years and older, 68.4% speak English only. Of the 30.3% who speak Spanish, about 41% do not speak English well. In the state, 83.3% of the population age 65 years and older speak only English and of the 12.9% who speak Spanish, 42.6% do not speak English well.

Table 4. Age by Language Spoken at Home and Ability to Speak English for Texas, Texas-Mexico Border (TMB) Counties and Brewster County, 1990

Language Spoken at Home	Texas		TMB Counties		Brewster County	
	Number	%	Number	%	Number	%
Persons 5-17 years of age						
Speak English only	2,480,382	71.8	86,920	20.4	828	56.7
Speak Asian	41,164	1.2	759	0.2	--	--
Speak Other	40,734	1.2	1,478	0.3	--	--
Speak Spanish and	892,384	25.8	337,799	79.1	632	43.3
<i>Speak English "Very well"</i>	525,855	58.9	179,920	53.3	402	63.6
<i>"Well"</i>	245,184	27.5	112,930	33.4	162	25.6
<i>"Not well"</i>	121,345	13.6	44,949	13.3	68	10.8
Persons 18-64 years of age						
Speak English only	7,731,991	74.0	218,599	23.3	3,047	55.7
Speak Asian	157,433	1.5	4,177	0.4	32	0.6
Speak Other	223,328	2.1	9,655	1.0	73	1.3
Speak Spanish and	2,330,148	22.3	706,583	75.2	2,319	42.4
<i>Speak English "Very well"</i>	1,268,947	54.5	352,723	49.9	1,461	63.0
<i>"Well"</i>	528,916	22.7	167,576	23.7	594	25.6
<i>"Not well"</i>	532,285	22.8	186,284	26.4	264	11.4
Persons 65 years of age & over						
Speak English only	1,423,145	83.3	66,944	42.6	820	68.4
Speak Asian	8,436	0.5	341	0.2	--	--
Speak Other	56,103	3.3	2,127	1.4	15	1.3
Speak Spanish and	220,574	12.9	87,558	55.8	363	30.3
<i>Speak English "Very well"</i>	72,652	32.9	22,093	25.2	60	16.5
<i>"Well"</i>	53,922	24.4	19,114	21.8	154	42.4
<i>"Not well"</i>	94,000	42.6	46,351	52.9	149	41.0
Source: The University of Texas System, Texas-Mexico Border Counties, Demographics and Health Statistics: 1998, p 99, modified						

Education and Workforce

In Brewster County there are four school districts and Sul Ross State University. The largest school district is the Alpine Independent School District. In 1999, it had 1,224 students and was classified as "Recognized" by the Texas Education Agency. The Marathon Independent School District (90 students), the San Vicente Independent School District (19 students), and the Terlingua Common School District (184 students) were each classified as "Acceptable." [5].

According to 1990 U.S. Census data, the population in Brewster County had a higher level of educational attainment than Texas; 73.2% of the residents age 25 years and older were high school graduates compared to 72.3% for Texas [2]. Also, the percentage of persons age 25 years and older who were college graduates was 28% for Brewster County compared to 20.4% for Texas (see Table 5).

Table 5. Educational Attainment of Persons 25 Years of Age and Older for Texas, Texas-Mexico Border (TMB) Counties and Brewster County, 1990

EDUCATIONAL ATTAINMENT	Texas		TMB Counties		Brewster County	
	Number	Percent	Number	Percent	Number	Percent
Less than 9 th grade	1,387,528	13.5	299,058	33.1	886	16.7
9 th to 12 th grade	1,485,031	14.4	120,311	13.3	537	10.1
High School Graduate	2,640,162	25.6	189,425	21.0	1,066	20.1
Some College, no Degree	2,171,439	21.1	144,111	15.9	1,182	22.3
Associate Degree	531,540	5.2	36,621	4.1	148	2.8
Bachelor's Degree	1,428,031	13.9	77,780	8.6	880	16.6
Graduate / Professional Degree	666,874	6.5	36,674	4.1	604	11.4

Source: The University of Texas System, Texas-Mexico Border Counties, Demographics and Health Statistics: 1998, p 90, modified

In 1999, the unemployment rate in Brewster County was lower than for Texas: 2.5% compared to 4.6% [6, 7] (see Table 6). Seventy-eight percent of the employed population was salaried compared to 81% of the workers for the state [8, 9] (see Table 7). Almost one third (30.5%) of the non-farm workers are employed by government agencies. Of these, about 88% are employed by state and local governments and about 12% by the federal government or military. Most private workers are in the service industry (38%) or in retail (29%). In Texas, 14% of the non-farm workers work for government agencies and of these, 79% work for state and local governments. Most Texans working in the private sector are in service (35%), retail (20%) or manufacturing (12%).

Table 6. Annual Average Unemployment Rates for Texas and Brewster County, 1990-1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Texas	6.3	6.7	7.7	7.2	6.4	6.0	5.6	5.4	4.8	4.6
Brewster County	4.7	3.2	2.2	2.4	2.4	2.5	2.8	2.8	2.4	2.5

Source: Texas Workforce Commission, Bureau of Labor Statistics. *Brewster County Civilian Labor Force Estimate, Actual Series, 1990-Current* AND *Texas Seasonally Adjusted Unemployment Rates, 1970 to Present*

Table 7. Labor Force Characteristics for Texas and Brewster County, 1998

	Texas		Brewster County	
	Number	Percent	Number	Percent
Total Full-time/Part-time employment	11,678,353		5,240	
By type				
Wage and salary employment	9,502,107	81.4	4,113	78.5
Proprietors' employment	2,176,246	18.6	1,127	21.5
<i>Farm proprietors' employment</i>	234,825		177	
<i>Non-farm proprietors' employment</i>	1,941,421		950	
By Industry				
Farm employment	280,667	2.4	243	4.6
Non-farm employment	11,397,686	97.6	4,997	95.4
Private employment	9,739,483	85.4	3,397	64.8
<i>Retail trade</i>	1,937,032	19.9	986	29.0
<i>Services</i>	3,436,273	35.3	1,292	38.0
<i>Transportation, public utilities</i>	627,289	6.4	293	8.6
<i>Construction</i>	744,552	7.6	273	8.0
<i>Manufacturing</i>	1,158,313	11.9	61	1.8
<i>Other</i>	1,836,024	18.9	492	14.5
Government and government enterprises	1,658,203	14.2	1,600	30.5
<i>Federal</i>	184,577	11.1	175	10.9
<i>Military</i>	165,408	10.0	24	1.5
<i>State and local</i>	1,308,218	78.9	1,401	87.6
State	317,521	19.1	776	48.35
Local	990,697	59.7	625	39.1
Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Accounts Data for 1998, <i>Full-time and Part-time Employment by Industry (number of jobs) for Texas</i> AND <i>Full-time and Part-time Employment by Industry (number of jobs) for Brewster County, Texas</i> , modified				

According to U.S. Census data, in 1998 the per capita income for Brewster County was \$18,729 compared to \$25,369 for Texas [1] (see Table 8). Data from 1997 also indicate that more residents of Brewster County live in poverty (22.7%) than in Texas (16.7%). Almost one third of the population less than 18 years of age live in poverty in Brewster County (31.5% compared to 23.6% in Texas) [1]. Only 10% of the population receives food stamps (13% in the state of Texas) and only 2.1% receive Temporary Assistance to Needy Families (3.5% for Texas) [2]. The percentage of the population who receives social security is the same as in the state, about 2.1%.

Table 8. Socioeconomic Indicators, Brewster County and Texas, 1998, 1997

	Brewster County	Texas
Per capita personal income, 1998	\$ 18,729	\$ 25,369
	Number in Brewster County	Percent Brewster County State
Persons living below poverty, 1997	1,950	22.7 16.7
<i>0-17 years</i>	678	31.5 23.6
<i>18 years and over</i>	1,272	19.8 13.8
Source: Texas Department of Health, Office of Policy and Planning. Selected Facts for Brewster County, 1999, modified		

Housing, Water and Wastewater Infrastructure

The number of unoccupied housing units is high, 25.3% in Brewster County compared to 13.4% for Texas [2]. Only 71.2% of the housing units receive public water (91.6% in Texas) and 24.1% have an individual well (8.1% in Texas). Only 64.7% have public sewage (81.2% in Texas) and 30.3% have a septic tank (18.1% in Texas) (see Table 9).

Table 9. Household Characteristics in Texas, Texas-Mexico Border (TMB) Counties and Brewster County, 1990

	Texas		TMB Counties		Brewster County	
	Number	Percent	Number	Percent	Number	Percent
Housing Units						
Occupied	6,070,937	86.6	482,482	86.4	3,350	74.7
Vacant	938,062	13.4	76,074	13.6	1,136	25.3
Source of Water						
Public Water	6,417,136	91.6	523,623	93.7	3,194	71.2
Individual Well						
Drilled	511,056	7.3	26,904	4.8	994	22.2
Dug	55,660	0.8	3,392	0.6	86	1.9
Other	25,147	0.4	4,637	0.8	212	4.7
Sewage Disposal						
Public Sewage	5,690,550	81.2	438,006	78.4	2,901	64.7
Septic Tank	1,266,713	18.1	109,135	19.5	1,360	30.3
Other	51,736	0.7	11,415	2.0	225	5.0
Source: University of Texas System, Texas Mexico Border Counties, Demographics and Health Statistics: 1998, p 152, modified						

Health Infrastructure and Insurance Coverage

Brewster County is designated as a Health Professional Shortage Area and as a Medically Underserved Area¹ [10]. In 1999, there were seven physicians for a ratio of one physician per 1,304 persons [1]. The majority of physicians are primary care practitioners. There were no obstetrician/gynecologists. Brewster County has 42 registered nurses for a ratio of one nurse per 217 persons (see Table 10). In Texas, the physician to population ratio is one per 701 persons and the nurse to population ratio is one per 169 persons. In addition, in Brewster County there were four dentists for a ratio of one dentist per 2,282 persons (in Texas there was one dentist per 2,472 persons), one acute care hospital (Big Bend Regional Medical Center) with 40 licensed beds, and one nursing home with 56 licensed beds.

Table 10. Health Professionals in Brewster County and in Texas, 1999

Health Professionals	Brewster County	Texas
Direct Patient Care Physicians	7	28,595
<i>Ratio of population per direct care physician</i>	<i>1,304</i>	<i>701</i>
<i>Ratio of population per general/family practice physician</i>	<i>1,521</i>	<i>3,790</i>
<i>Ratio of population (females 15-44) per OB/GYN physician</i>	—	<i>2,293</i>
Registered Nurses	42	118,929
<i>Ratio of population per registered nurse</i>	<i>217</i>	<i>169</i>
Dentists	4	8,109
<i>Ratio of population per dentist</i>	<i>2,282</i>	<i>2,472</i>
Source: Texas Department of Health, Office of Policy and Planning. Selected Facts for Brewster County - 1999		

The Big Bend Regional Medical Center is the referral center for the population living in almost 20,000 square miles. It provides level III trauma services, laboratory, x-ray, stress testing, respiratory services, mobile mammography, and mobile blood services. It also provides second level referral services for north-central Mexico. There are also specialists who serve on a rotating basis at the Big Bend Regional Medical Center and its clinics. As in many other remote

¹ Medically Underserved Area (MUA) status is a designation given to areas or populations having a shortage of health service personnel according to the U.S. Department of Health and Human Services (DHHS). Eligibility for designation as an MUA is based on the number of residents, the percentage of elderly (over 65 years of age), poverty rate, infant mortality rate and ratio of primary care physicians per 1,000 persons. Health Professional Shortage Area (HPSA) is an area designated by DHHS as having an acute shortage of health personnel. Three professions are recognized by this program: primary care physicians, dentists and mental health professionals.

areas in the country, the number of physicians residing in the mostly rural communities of Brewster County has been decreasing (see Table 11).

Table 11. Average Annual Number of Health Care Professionals for Brewster County

	1994	1995	1996	1997	1998	1999
Direct patient care physicians	9	11	4	4	6	7
Primary care physicians (a subset of direct patient care physicians)	7	9	3	3	3	4

Source: Texas Department of Health, Office of Policy and Planning. *Medically Underserved Area (MUA) and Medically Underserved Population (MUP) Designations in Texas, 1999*

Twenty-four percent of the Texas population is without health insurance. In Brewster County, almost 26% of the population lack health insurance and in the age group of 19-64 years the percentage of uninsured is 31.1% [1] (see Table 12).

Table 12. Persons Without Health Insurance, 1997

Persons Without Health Insurance	Brewster County		Texas
	Number	Percent	Percent
Total	2,776	25.7	24.2
0-18 years	678	26.1	25.0
19-64 years	2,059	31.1	27.6

Source: Texas Department of Health, Office of Policy and Planning. *Selected Facts for Brewster County - 1999*

Maternal and Child Health

In 1999, the fertility rate for Brewster County was lower than for the state (60.7% compared to 77.3%) [1]. The percentage of babies born to teenage mothers was about the same as for the state (5.9% vs. 6.1%) and the percentage of unmarried mothers is slightly higher than for the state (32.8% vs. 31.3%). It is worth noting that in Brewster County, contrary to state trends, the rates of teenage pregnancy and the percentage of babies born to unmarried mothers appear to have increased since 1995. In 1995, 3.5% of the babies were born to teenage mothers and 26.3% to unmarried mothers; the rates increased in 1999 to 5.9% and 32.8% respectively (see Table 13).

In addition, more mothers receive *adequate prenatal care*² in Brewster County (76.5%) than in the state (69.4%); for prenatal care during the first trimester, 83.6% of the mothers in Brewster County compared to 77.3% in the state [I].

Table 13. Natality, Brewster County and Texas, 1995, 1999

	1995			1999		
	Brewster County		Texas	Brewster County		Texas
	Number	Percent	Percent	Number	Percent	Percent
Total live births	114			119		
Adolescent mothers <18 years of age	4	3.5	6.9	7	5.9	6.1
Unmarried mothers	30	26.3	30.1	39	32.8	31.3
Low birth weight*	2	1.8	7.1	15	12.6	7.4
Late or no prenatal care	18	16.4	22.7	16	13.4	20.7
	1995			1999		
	Brewster County		Texas	Brewster County		Texas
Fertility rate **	53.7		74.3	60.7		77.3
* low birth weight represents live-born infants weighing less than 2,500 grams at birth. Late prenatal care refers to mothers who did not receive prenatal care during the first trimester of pregnancy						
** fertility rates are calculated as the number of births per 1,000 women ages 15-44						
Source: Texas Department of Health, Office of Policy and Planning. <i>Selected Facts for Brewster County - 1995, 1999</i>						

Approximately 96.5% of the babies born in Brewster County are delivered by a physician while the rest are delivered by other individuals (nurse, midwives, other). In the state about 95.9% of the babies are delivered by a physician and the rest by a nurse/midwife/other [I].

During the last five years, child immunization rates in Brewster County have been consistently higher than for the state of Texas, and since 1996 the percentage of children who had been adequately immunized was above 90% (see Table 14). In Texas, about 74% of the children are adequately immunized [III].

² Adequacy of prenatal care is measured with the Kessner Index, which incorporates information from three items recorded on birth certificates (length of gestation, timing of the first prenatal care visit, and number of visits) into one index. Although this index measures quantity of care better than either the number or timing of prenatal visits alone, it does not measure quality of care. A pregnant woman could have made several prenatal visits, but have received substandard care. Also, the index does not consider the relative risk of the mother. A mother could have been at high risk and have received an intermediate amount of care as measured by the index. However, the quantity of her care may have been inadequate given her condition. Moreover, in many cases the index relies upon accurate recall of onset of care and number of visits. Despite these shortcomings, the Kessner Index remains a good comparative measure of prenatal care adequacy.

Table 14. Immunization Completion Rates for Brewster County and Texas for Children 0 Through 35 Months of Age, 1995-1999

YEAR	Percent Immunized	
	Brewster County	Texas
1999 (4:3:1)	95	74
1998 (4:3:1)	93	74
1997 (4:3:1:3:3)	92	75
1996 (4:3:1:3:3)	93	74
1995 (4:3:1:3:3)	80	76
<p>NOTE: There was a change on how immunization coverage is reported in 1998. Prior to that change, the immunization report included information on the children 0 to 35 months of age and their immunization rates for 4 doses of DPT (diphtheria, tetanus, pertussis), 3 polio, 1 MMR (measles, mumps, rubella), 3 Hib (haemophilus influenzae type b), and 3 Hep B (hepatitis B) or 4:3:1:3:3. In 1998, reporting was simplified and limited to 4 DPT, 3 polio and 1 MMR, or 4:3:1.</p>		
<p>Source: Texas Department of Health, Public Health Regions 9 and 10, Immunization Division, CASA Database</p>		

Child Lead

Child lead poisoning continues to be a problem throughout the United States and Texas. An estimated 890,000 children nationwide suffer from this preventable illness [12]. Symptoms vary widely, but can include the following: neuro-behavioral problems, such as clumsiness, hyper-irritability and loss of recently acquired developmental skills; anemia; apathy; and gastrointestinal distress, including loss of appetite, abdominal cramps, constipation, and periodic vomiting. However, many children remain asymptomatic, even with high blood lead levels. Therefore it is important to have children tested if they may be at risk.

By eliminating the presence of lead in gasoline and metal food containers, great progress has been made toward reducing elevated blood lead levels. While less of a problem in Texas as in other parts of the U.S., leaded paint continues to be the largest source of contamination. In addition, residents in border communities may be at higher risk for lead poisoning due to the availability of certain folk remedies that contain lead such as “Greta” and “Azarcon” and the presence of current and former industrial sites. Other sources for lead include selected parental occupations (resulting in contaminated clothing), vinyl mini-blinds in homes, and restoration of older homes.

An elevated blood lead level is defined as a level equal to or greater than 10 micrograms of lead per deciliter of blood ($\mu\text{g/dL}$). Lead in the blood at this level or greater can lead to adverse health effects. Children are particularly susceptible to the effects of lead because their bodies absorb more of the lead they consume, they have greater hand-to-mouth activity, and because of their increased growth and development.

In Brewster County during 1997 and 1998, 152 children were tested for elevated blood lead levels. Seven children (4.6%) had a blood lead level over 10 $\mu\text{g/dL}$. For the entire state during 1997 and 1998, 4.2% of children tested had elevated blood lead levels [13].

Infections and Vaccine Preventable Diseases

In 1999, there were no cases of active tuberculosis, AIDS, hepatitis A, primary and secondary syphilis, and vaccine-preventable diseases reported in Brewster County. There were *less than five cases*³ of chickenpox, *less than five cases* of gonorrhea and 14 cases of chlamydia infection [1]. During the last decade, *less than five cases* of active tuberculosis have been diagnosed [14]. In 1998 there were *less than five cases* of shigellosis, 12 of hepatitis, *less than five cases* of aseptic meningitis, 41 cases of chickenpox, and 25 cases of chlamydia.

Age-adjusted morbidity rates for chlamydia, gonorrhea and AIDS for the period between 1995 and 1997 were significantly lower in Brewster County, compared to Texas (see Table 15) [15].

Table 15. Number of Cases and Age-Adjusted Morbidity Rates per 100,000 for Texas and Brewster County 1995-1997

STD	Texas		Brewster County	
	Number of cases	Age-adjusted rate per 100,000 *	Number of cases	Age-adjusted rate per 100,000 *
Chlamydia	46,138	243.7	21	229.5
Gonorrhea	26,876	142.0	<5**	21.5
AIDS	4,770	23.6	<5**	3.6
* age-adjusted rate per 100,000 population. The age-adjusted rate takes into account the difference in the age distributions of the state and Brewster County				
** less than 5 cases reported. Exact number not shown to protect confidentiality				
Source: Texas Department of Health, Bureau of HIV and STD Prevention, HIV/STD Epidemiology Division, unpublished data, 1995-1999				

³ “less than five cases” -- exact number not shown to protect confidentiality

Mortality and Morbidity Statistics

Comparisons of age-adjusted death rates per 100,000 population for selected causes of death for Brewster County and Texas for 1995 through 1997 indicate that for Brewster County and for the state of Texas the leading cause of death was cardiovascular disease, followed by cancer, unintentional injury, chronic obstructive pulmonary disease (COPD) and diabetes [16]. Except for unintentional injuries and COPD, mortality rates for Texas are higher than for Brewster County (see Table 16). For unintentional injuries, one could hypothesize that there is an excess of motor vehicle accidents probably due to long driving distances and/or road conditions, but the data are not conclusive. Small numbers of cases also preclude any conclusion on how the mortality rates due to COPD significantly differ from the mortality rates for the rest of the state.

Table 16. Number of Cases and Age-Adjusted Mortality Rates per 100,000 for Texas and Brewster County, 1995-1997

CAUSE OF DEATH	Texas		Brewster County	
	Number of deaths	Age-adjusted Rate per 100,000*	Number of deaths	Age-adjusted Rate per 100,000*
All Causes	139,932	520.6	75	448.9
Cardiovascular	55,742	187.7	26	119.1
Cancer	31,891	127.9	15	96.4
Unintentional Injury ¹	6,923	33.2	7	70.8
COPD ²	6,433	22.4	6	24.8
Diabetes	4,635	17.8	<5 ³	14.9
* age-adjusted rate per 100,000 population. The age-adjusted rate takes into account the difference in the age distributions of the state and Brewster County.				
¹ Unintentional injury deaths include motor vehicle accidents and pedestrian accidents, unintentional poisonings, falls, etc.				
² COPD: chronic obstructive pulmonary disease. This includes chronic bronchitis and emphysema.				
³ Less than 5 cases reported. Exact number not shown to protect confidentiality.				
Source: Texas Department of Health, Bureau of State Health Data and Policy Analysis, 1995-1997.				

Cancer Incidence and Mortality

Cancer incidence for Brewster County was examined by comparing the actual number of newly diagnosed cases that occurred and the number that would have been expected based on the cancer incidence experience for the entire state for the years 1990 through 1998 [17]. The expected number is computed by applying cancer incidence rates for the state of Texas to the population living in Brewster County. The expected number of cancer cases was adjusted for

race and ethnicity, sex, and age; adjustment accounts for differences in these characteristics between these two populations. The ratio of the observed (actual number of cases) to the expected number is known as a Standardized Incidence Ratio (SIR). A SIR of 1.00 indicates that the number observed was exactly the same as the number expected. A SIR greater than 1.0 indicates that more people were diagnosed with cancer than would have been expected. A SIR less than one indicates that fewer people were diagnosed with cancer than would have been expected.

Statistical methods were used to gauge if the difference between the observed number of cancers and expected number was due to normal random variation from year to year, or population to population, or was likely to be due to some other factor or factors. The 95% Confidence Interval (95% CI) can be interpreted as the range of the SIR accounting for the effects of chance variation. If this range includes a SIR of 1.00, then it is likely that the difference between the observed number of cancer deaths and the expected number of cancer deaths is due to random variation. If the 95% CI does not include a value of 1.00, then it is unlikely that the observed difference can be attributed to chance variation alone and some other factor or factors may be responsible for the observed difference.

Table 17 summarizes the cancer *incidence* data for Brewster County for the years 1997 through 1998 for the seven most frequently diagnosed cancers: oral/pharynx, colon, pancreas, lung, prostate, breast and leukemia [17]. For each of the cancers examined for males, except oral/pharynx and pancreas, the SIR was at or below 1.0 indicating that fewer cases of cancer were diagnosed for men in Brewster County than would have been expected based on the cancer experience of the entire state. However, most confidence intervals for the SIRs included 1.0 implying that the difference is not statistically significant. The only cancer incidence which is significantly lower in Brewster County residents than in the rest of the state is prostate cancer. None of the cancer incidence rates for Brewster County are significantly higher than for the rest of the state. For women, a similar pattern emerged; there was no excess of cancer reported for any of the selected sites.

Table 17. Number of Observed and Expected Cancer Cases and Race-Adjusted Standardized Incidence Ratios, Selected Sites, Brewster County, Texas, 1997-1998

Site	Observed	Males		
		Expected	SIR	95% CI
Oral & pharynx	6	2.2	2.8	1.0-6.1
Colon	4	5.4	0.7	0.2-1.9
Pancreas	2	1.6	1.2	0.1-4.4
Lung	8	13.4	0.6	0.3-1.2
Prostate	13	19.1	0.7	0.4-1.2
Leukemia	2	2.0	1.0	0.1-3.7
TOTAL	56	69.8	0.8	0.6-1.0
Site	Observed	Females		
		Expected	SIR	95% CI
Oral & pharynx	3	0.9	3.4	0.7-9.9
Colon	8	4.8	1.7	0.7-3.3
Pancreas	1	1.4	0.7	0.0-3.9
Lung	4	7.3	0.6	0.1-1.4
Breast	18	16.0	1.1	0.7-1.8
Leukemia	2	1.3	1.5	0.2-5.5
TOTAL	55	55.3	1.0	0.7-1.3
Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995-1996. The SIR has been rounded to the first decimal place.				
Source: Texas Department of Health, Texas Cancer Registry Division.				

Table 18 lists data on *deaths* due to the seven most frequently diagnosed cancers [17]. The only significant finding is the lower mortality rate due to lung cancer among males residing in Brewster County than among male Texas residents.

Table 18. Number of Observed and Expected Cancer Deaths and Race-Adjusted Standardized Mortality Ratios, Selected Sites, Brewster County, Texas, 1990-1998

Site	Observed	Males		
		Expected	SMR	95% CI
Oral & pharynx	1	2.0	0.5	0.0-2.8
Colon	3	8.0	0.4	0.1-1.1
Pancreas	1	4.7	0.2	0.0-1.2
Lung	20	32.7	0.6*	0.4-0.9
Prostate	8	11.5	0.7	0.3-1.4
Leukemia	5	4.1	1.2	0.4-2.9
TOTAL	75	98.2	0.8	0.6-1.0
Site	Observed	Females		
		Expected	SMR	95% CI
Oral & pharynx	1	0.8	1.3	0.0-7.1
Colon	10	6.7	1.5	0.7-2.8
Pancreas	3	4.2	0.7	0.1-2.1
Lung	9	16.5	0.6	0.2-1.0
Breast	15	11.5	1.3	0.7-2.1
Leukemia	0	2.7	0.0	0.0-1.4
TOTAL	66	72.8	0.9	0.7-1.2
* Significantly lower than expected at the $p < 0.05$ level				
Note: The SMR (standardized mortality ratio) is defined as the number of observed deaths divided by the number of expected deaths. The latter is based on race-, sex-, and age-specific cancer mortality rates for Texas during the period 1990-1998. The SMR has been rounded to the first decimal place.				
Source: Texas Department of Health, Texas Cancer Registry Division.				

Diabetes

The Texas Behavioral Risk Factor Surveillance System conducted a statewide survey in 1997 to determine the health and disease risk factors of Texans. Included on the survey was a question which asked individuals 18 years and older if they had been told by a doctor they had diabetes. According to the 1997 survey, an estimated 540 individuals or 6.7% of the population in Brewster County reported being diabetic. This estimate for Brewster County is comparable to the estimated 6.5% of Texas adults who have been diagnosed with diabetes [18].

Water Quality

Results from recent sampling of Brewster County public water systems by the Texas Natural Resources Conservation Commission (TNRCC)⁴ document that during the period 1995 through 1999, none of the public water systems had Total Coliform (bacteriological) violations [19]. However, the public water in southern Brewster County (Terlingua-Big Bend area) is generally of less quality than water in northern Brewster County (Alpine area) primarily regarding secondary standards such as chlorides, iron, sulfates, and total dissolved solids. The high salts and dissolved solids content in water in the southern Brewster County Basin, while unpleasant, do not present a threat to the health of its consumers.

Air Quality

Concerns of visibility at the Big Bend National Park and surrounding areas of Brewster County were raised in 1993 and several studies have been conducted since then [20]. The first hypothesis tested was that the problem resulted from emissions from the combined operation of two Mexican coal-fired power plants, Carbón I and Carbón II, located approximately 130 miles east-southeast of Big Bend National Park. The study, conducted by the binational Big Bend Air Quality Technical Work Group⁵, concluded that if the Carbón I power plant had any impact on Big Bend, it was unlikely that it was the predominant contributor to visibility impairment in the Big Bend area. The study also concluded that if there were any impacts from the Carbón II plant, while possibly the largest single source in the vicinity of the park, they were likely to be small relative to the cumulative impact from numerous other regional sources that could be farther away from the park [20]. In 1996, another study, also conducted by the binational Big Bend Air Quality Technical Work Group, focused on collecting information on fine particulates. The results of this study were released in March of 1998 and it documented numerous sources of emissions that contribute to the visibility impairment at Big Bend National Park. Some of the sources could be coal-fired power plants located at distances exceeding 700 kilometers (~ 435

⁴ TNRCC is the Texas agency responsible for enforcement of environmental regulations.

⁵ The binational Big Bend Air Quality Technical Work Group was established by a joint communiqué issued by Carol M. Browner, EPA Administrator, and Lic. Luis Donaldo Colosio, Mexico's Secretary for Social Development (Secretaría del Desarrollo Social or SEDESOL). The workgroup is presently coordinated jointly by the U.S. EPA and its counterpart in Mexico, PROFEPA (Procuraduría Federal de Protección al Ambiente).

miles), in both the United States and in Mexico. Moisture from the Gulf of Mexico increases the relative humidity at Big Bend and the increased humidity, in general, lowers visibility. Coal-fired combustion emission concentrations were higher in the U.S. than in Mexico whereas fuel-oil combustion emission concentrations were higher in Mexico than in the U.S. Based on these results the study group recommended an additional more extensive study covering a wider area [20]. The objectives of this additional study are to: (1) better quantify the impacts from specific sources to visibility impairment at Big Bend National Park; (2) expand the spatial domain of the study particularly toward the northeast, the south, and into the Gulf of Mexico; and (3) the study design should be based on the findings from the final report of the preliminary regional study. The results of this extensive “Big Bend Regional Aerosol Visibility and Observational” (BRAVO) Study are expected to be available in late 2002 or early 2003.

SECTION 2 - COMMUNITY SURVEY

Objectives of the community survey

Concerned residents of Brewster County requested the assistance of the Texas Department of Health (TDH) to conduct a health needs assessment in the county. TDH and the Big Bend Regional Sierra Club organized two focus groups, one in Alpine and another in Terlingua. The aim of the focus groups was to identify and discuss specific issues and concerns in their respective communities that could be included in a community survey. The focus groups were held November 9 and 10, 1998. The objectives of the community health survey were: (1) to begin to identify possible links between changing environmental conditions and community health status; (2) to prioritize community health and environmental concerns; (3) to identify specific areas for community action; and (4) to provide a baseline to monitor future changes in community health status.

Methods

A mail survey to address the questions raised in the community focus groups was jointly designed by TDH and community representatives. The survey instrument was made available in both English and Spanish. To assure uniformity and a good level of comprehension in both languages, pilot testing of the questionnaire was conducted in Marfa⁶ and in two neighborhoods of El Paso, one predominantly Hispanic and another predominantly non-Hispanic. The final version of the questionnaire was submitted to the Texas Department of Health Internal Review Board (IRB) for their review and approval. The IRB approved the study on May 24, 1999.

Mailing addresses for the survey were obtained from the water service department in Alpine and from the U.S. Postal Service offices in Alpine, Terlingua and the Big Bend National Park. The lists were reviewed and all inactive accounts, schools, businesses, government agencies and non-governmental organizations were deleted. A coded sticker was attached to each questionnaire to identify only the general area of where the questionnaire was originally mailed to (Alpine, Big Bend National Park, and Terlingua areas) thus allowing analysis of data for the county as a whole and for presenting any differences between the northern Brewster County area

⁶ Marfa is a community in Presidio County, approximately 25 miles from Alpine.

and the southern Brewster County area. A total of 2,860 questionnaires was mailed out in August 1999; 2,027 (70.8%) contained addresses in the city of Alpine and the rest contained addresses in the Terlingua and Big Bend National Park areas. All mailed packages included a self-addressed stamped envelope to encourage participation in the study. No survey reminders were sent.

Only one questionnaire was to be completed per household in the language of preference of the respondent (English or Spanish). The questions included in the survey tool covered the following areas of inquiry: length of time residing in the Brewster County area; place of residence before moving to Brewster County; reasons for moving; access to water, wastewater and garbage disposal systems; number and characteristics of the persons living in the household; an assessment of health conditions of the members of the household; access to preventive services (mammograms, Pap smears, prostate exams); location of usual source of health care; satisfaction with health services in the area; access to prescription medication in the area; access to dental services; insurance coverage; perception of the most important health and environmental problem in the community; and questions related to lifestyles.

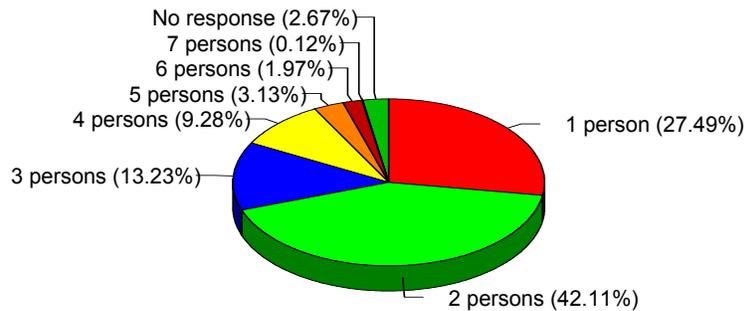
Of the 2,860 survey packets mailed out, the U.S. Postal Service returned 233 as undeliverable (residents had moved, the box was closed, vacation homes). Of the remaining 2,627 packets that were delivered, 882 completed questionnaires were returned to TDH for a response rate of 33.6%. Of the 882 completed questionnaires that were returned, 20 were ineligible for inclusion in the study (did not wish to participate, resided in Brewster County less than 6 months, clearly stated not a resident of Brewster County). The total number of valid questionnaires was 862. Six hundred and twenty-nine (73.0%) of the questionnaires were from northern Brewster County and 218 (25.3%) were from southern Brewster County. Fifteen (1.7%) of the returned questionnaires had the coded sticker removed. These questionnaires were included in the analysis for Brewster County as a whole, but are presented as “unknown residence” when the data is separately analyzed for the northern and southern Brewster County areas.

SECTION 3 - RESULTS

Characteristics of Respondents

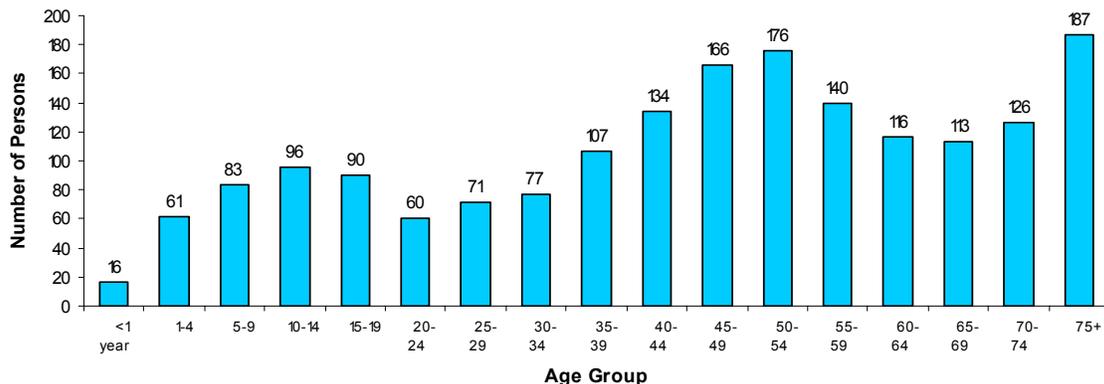
The total number of individuals represented in the 862 questionnaires was 1,912 or 21% of the estimated population for Brewster County for 1999. The average household size was 2.2 persons (see **Figure 1**). The number of individuals represented in the northern Brewster County area totaled 1,454; the southern Brewster County area (which includes Terlingua and the Big Bend area) totaled 422; and the number of individuals in the fifteen questionnaires with the coded sticker removed totaled 36.

Figure 1. Number of Persons in Household



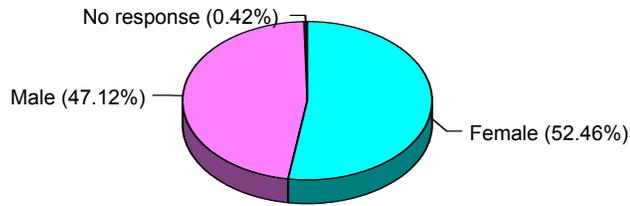
The demographic breakdown of the respondent households was older and represented a higher proportion of females than the population in Brewster County as reported in the 1990 U.S. Census. About two thirds were over 35 years of age, while this age group represents less than half of the estimated county population (48.8%) (see **Figure 2**).

Figure 2. Age Distribution



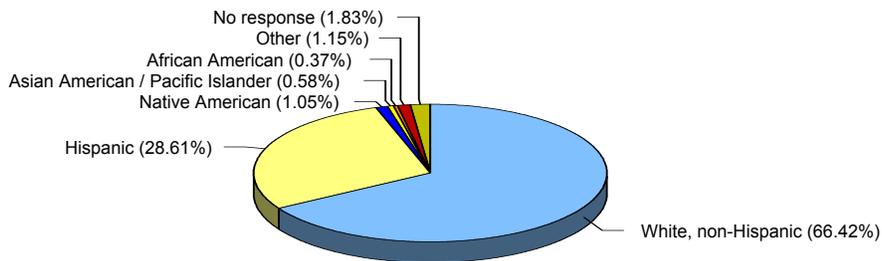
Fifty-two percent were females when according to the U.S. Census 49.6% of the county residents are females (see **Figure 3**).

Figure 3. Gender



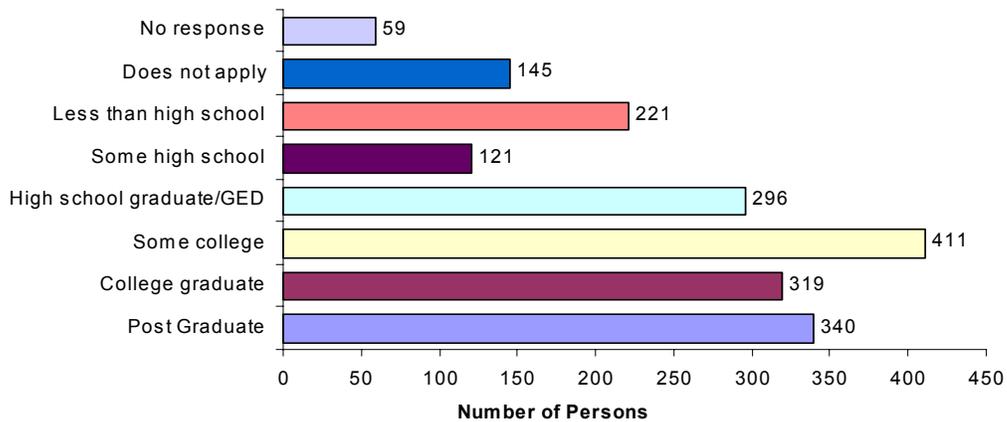
In terms of ethnic background, White non-Hispanics (66.4% of the respondents vs. 49.2% of the population) and Native Americans (1.1% of respondents) were over-represented while Hispanics (28.6% of the respondents when they represent 49.1% of the population) and other ethnic groups were under-represented (see **Figure 4**).

Figure 4. Race / Ethnicity

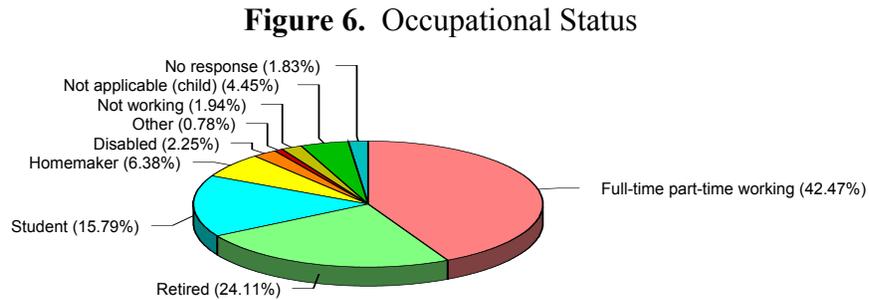


More than one third (34.5%) of the respondents were college graduates and/or had a postgraduate education (see **Figure 5**).

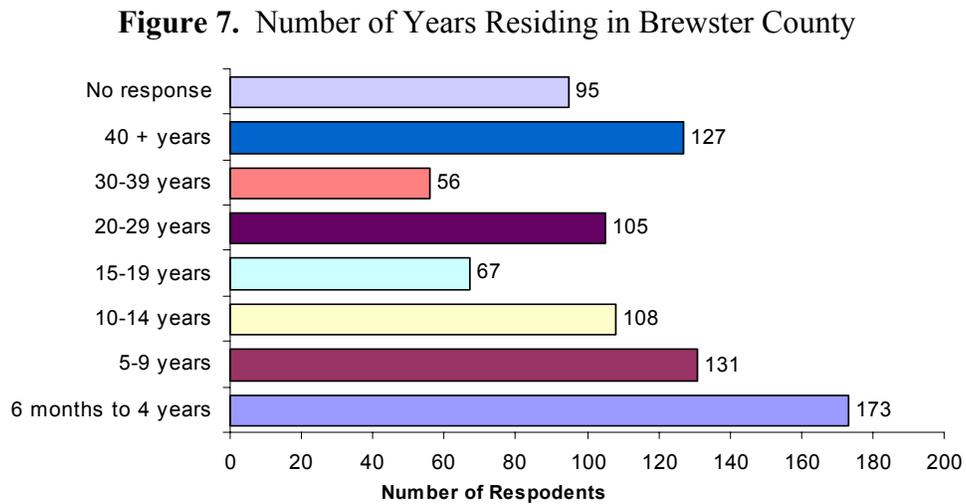
Figure 5. Educational Attainment



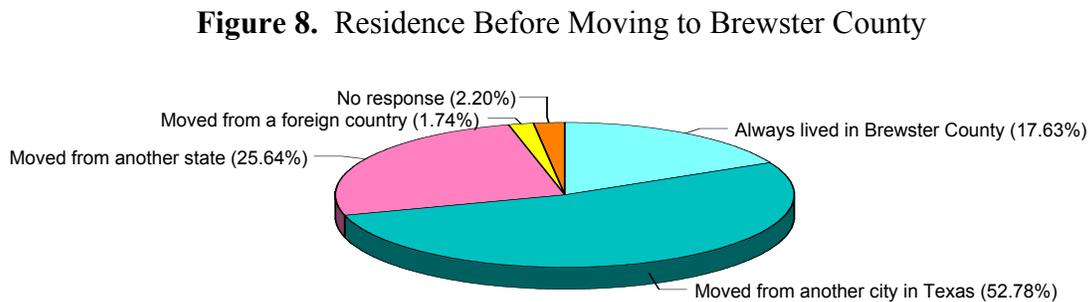
Forty-two percent of the respondents were working and almost 16% were students (see **Figure 6**).



The majority of the respondents are longtime residents, almost two-thirds having lived there for more than 10 years (see **Figure 7**).

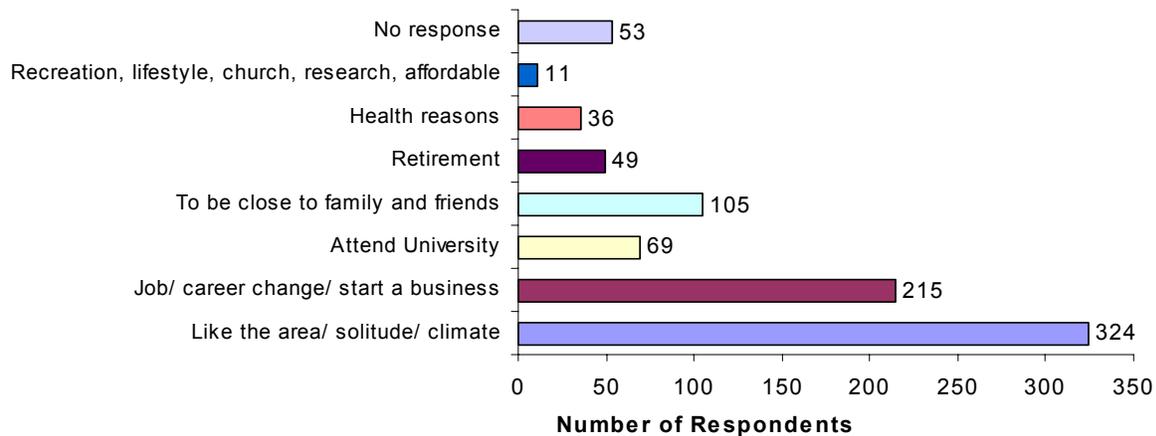


Of those who had lived for a period of time outside Brewster County (82.4%), the majority had resided in other cities in Texas (52.8%). Two hundred twenty-one (25.6%) reported having moved to Brewster County from another state, and 15 (1.7%) had lived in another country, including Mexico (see **Figure 8**).



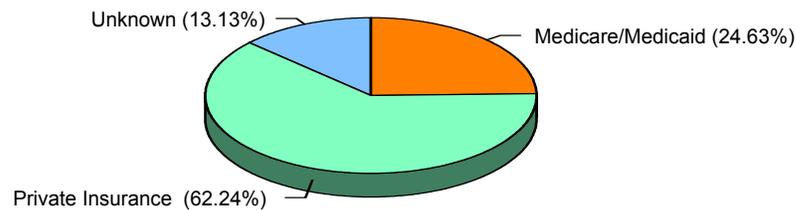
The largest percentage of people (37.6%) who moved to Brewster County did so because they like the area. About one-quarter (24.9%) moved for job-related reasons and only about 8% to attend the University (see Figure 9).

Figure 9. Reasons for Moving to Brewster County



About 25% of the respondents had Medicaid or Medicare coverage and the percentage of respondents with private insurance was surprisingly high (62.2%) (see Figure 10).

Figure 10. Insurance Coverage.



Water, Sewage, and Solid Waste

In terms of sources of drinking water and sewage disposal there were marked differences between the responses provided by residents of northern Brewster County and those of southern Brewster County. While the majority of the population residing in the northern Brewster County area has access to public water (88.4%) only one-quarter (27.5%) of the residents in the southern Brewster County (Terlingua/Big Bend) area has access to public water. Most of the residents in southern Brewster County obtain water from a private well (37.2%), while 11.5% obtain water from a neighbor and 13.8% depend on bottled water (see Table C-11).

Table C-11. Source of Drinking Water

Source of Water	Brewster County (n=862)	Northern Brewster County (n=629)	Southern Brewster County (n=218)	Unknown Residence (n=15)
	Number (Percent)	Number (Percent)	Number (Percent)	Number (Percent)
Public drinking water	627 (72.7)	556 (88.4)	60 (27.5)	11 (73.3)
Private well	135 (15.7)	51 (8.1)	81 (37.2)	3 (20.0)
Obtain water from neighbor	25 (2.9)	--	25 (11.5)	--
Bottled water	56 (6.5)	24 (3.8)	30 (13.8)	2 (13.3)
Water dispenser	7 (0.8)	3 (0.5)	4 (1.8)	--
Other sources	39 (4.5)	4 (0.6)	35 (16.1)	--
<i>Distilled (source not reported)</i>	3 (0.3)	3 (0.5)	—	—
<i>Hauling water (From various sources)</i>	15 (1.7)	—	15 (6.9)	—
<i>Reverse osmosis (from various sources)</i>	8 (0.9)	—	8 (3.7)	—
<i>Rain catchment</i>	3 (0.3)	—	3 (1.4)	—
<i>Spring water</i>	4 (0.5)	1 (0.2)	3 (1.4)	—
<i>Gas station, lodge, store, other</i>	6 (0.7)	—	6 (2.8)	—
No response	3 (0.3)	1 (0.2)	2 (0.9)	--

Note: Total number of responses exceed 862 and percent totals exceed 100 due to multiple responses.

The majority of residents of northern Brewster County are connected to public sewers (89.2%) and 10.3% have a septic tank. In southern Brewster County the most common method of sewage disposal is a septic tank (67.9%) and only 14.2% are connected to a public sewer system (see **Table C-12**).

Table C-12. Wastewater Disposal

Disposal Method	Brewster County (n=862)	Northern Brewster County (n=629)	Southern Brewster County (n=218)	Unknown Residence (n=15)
	Number (Percent)	Number (Percent)	Number (Percent)	Number (Percent)
Public Sewer	602 (69.8)	561 (89.2)	31 (14.2)	10 (66.7)
Septic Tank	216 (25.1)	65 (10.3)	148 (67.9)	3 (20.0)
Cesspool	22 (2.6)	1 (0.2)	19 (8.7)	2 (13.3)
Other	20 (2.3)	1 (0.2)	19 (8.7)	—
<i>Composting toilet</i>	—	—	5 (2.3)	—
<i>To garden, trees, plants</i>	—	—	8 (3.7)	—
<i>To Rio Grande, aquifer, settling ponds</i>	—	—	2 (0.9)	—
<i>Other and unknown</i>	—	1 (0.2)	4 (1.8)	—
No response	8 (0.9)	2 (0.3)	6 (2.8)	--

Note: Total number of responses exceed 862 and percent totals do not equal 100 due to multiple responses.

Ninety-one percent of northern Brewster County residents reported city-pickup as their method of solid waste/garbage disposal while 6.8% reported private-pickup (see **Table C-13**). In southern Brewster County 56.9% of the respondents depend on private pick-up and 22.0% rely on city-pickup. The rest use different methods of garbage disposal including: burn, bury, haul to dumpster, recycle, and use for compost.

Table C-13. Solid Waste Disposal

Disposal Method	Brewster County (n=862)	Northern Brewster County (n=629)	Southern Brewster County (n=218)	Unknown Residence (n=15)
	Number (Percent)	Number (Percent)	Number (Percent)	Number (Percent)
City pickup	633 (73.4)	575 (91.4)	48 (22.0)	10 (66.7)
Private Pickup	172 (20.0)	43 (6.8)	124 (56.9)	5 (33.3)
Bury	19 (2.2)	4 (0.6)	15 (6.9)	--
Burn	25 (2.9)	2 (0.3)	23 (10.6)	--
Other	31 (3.6)	14 (2.2)	17 (7.8)	--
<i>Haul to dump/dumpster</i>	18 (2.1)	8 (1.3)	10 (4.6)	—
<i>Compost</i>	4 (0.5)	2 (0.3)	2 (0.9)	—
<i>Recycle</i>	9 (1.0)	4 (0.6)	5 (2.3)	—
No response	10 (1.2)	2 (0.3)	8 (3.7)	--

Note: Total number of responses exceed 862 and percent totals exceed 100% due to multiple responses.

Selected Health Conditions

The survey tool listed a series of health conditions and asked the respondents for the first name and age of the persons residing in the household who had been diagnosed by a “physician or other healthcare provider” with that particular condition. The number of individuals reported to having been diagnosed with the conditions are listed in **Table C-14a**.⁷

⁷ The methodology, age groups and diagnostic categories used in the studies conducted in Brewster, Presidio and the Lower Rio Grande Valley (LRGV) follow a different methodology and therefore are not directly comparable. The comparisons can only be made in very broad terms.

Table C-14a. Health Conditions

Condition	Persons affected *	Percent (n=1912) *	Age affected
Allergies, seasonal	605	31.6	All age groups
Arthritis, Degenerative	162	8.5	65 years old and over
Arthritis, Rheumatoid	94	4.9	Persons over 45
Asthma	173	9.0	All age groups
Cancer	136	7.1	Above age 45 Skin (23.9%), breast (14.5%), colon (8.7%), prostate (8%), melanoma (5.8%), and urinary bladder (4.3%)
Chronic bronchitis	72	3.8	Persons over 45
Chronic lung conditions, other	24	1.3	Persons over 45 (includes tuberculosis, COPD, pulmonary hypertension, fungus, chronic congestion)
Diabetes (requiring Insulin)	42	2.2	The majority above 40 years of age
Diabetes (not requiring Insulin)	80	4.2	The majority above 40 years of age
Emphysema	48	2.5	60 years of age and over
Heart conditions	58	3.0	Enlarged heart, bypass surgery, pacemaker, cardiomyopathy
Hepatitis A	17	0.9	All age groups
High Cholesterol	293	15.3	The majority above 40 years of age
Hypertension	344	18.0	The majority above 40 years of age
Mental Illness	38	2.0	All age groups
Multiple Chemical Sensitivity	25	1.3	All age groups
Multiple Sclerosis	6	0.3	Over 20 years of age
Other **	190	9.9	Lupus, migraines, kidney stones, hypoglycemia, thyroid problems, macular degeneration, gout, Parkinson's, cirrhosis of the liver, depression, hiatal hernia/reflux/gerd, colitis, chronic fatigue syndrome, hip replacement, dermatitis, spinal disc problems, ADHD, cataracts, diverticulosis, endometriosis, glaucoma, fibromyalgia, hepatitis C, infertility, osteoporosis, anemia, steime leventahls, ankylosing spondylitis, polycystic ovarian syndrome, Crohn's disease, cystocele, bursitis, carpel tunnel syndrome, celiac sprue, CFIDS.
* Persons Affected exceed 1,912 and Total Percent exceeds 100 due to some individuals being reported as having multiple conditions/illnesses.			
** Each condition listed under "Other" was reported for 7 or fewer individuals.			

One notable finding is that almost a third (31.6%) of the participants were reported as having been diagnosed with seasonal allergies. This is double the prevalence documented in 1995 in Presidio where a face-to-face survey of 314 households representing 1,010 individuals documented that 14% of the residents had allergies [21]. Similarly, the percentage of respondents affected by asthma was more than double in Brewster County (9%) than in Presidio (3.5%).

To further clarify the extent of asthma in the community, a retrospective analysis of data was undertaken. The analysis used data from a Behavioral Risk Factor Surveillance System (BRFSS) survey undertaken at about the same time as the Brewster County Survey. Results of the analysis indicate that asthma prevalence rates for children in Brewster County are similar to the national average, about 6.8%. (See further details in copy of the asthma summary findings in ADDENDUM section at end of this report.)

The second most prevalent health problem was hypertension. Eighteen percent of the participants were reported as having been diagnosed as hypertensive. This prevalence is slightly higher than the prevalence reported in Presidio in 1995 of 14.2% [21], and the rate reported (13%) in Hidalgo, Willacy and Cameron counties [22]. More residents of Brewster County were reported as having been told that they had high cholesterol (15.3%) than the residents in Presidio (8.1%).

The prevalence of diabetes in the three communities is very similar, 6.4% of the respondents in Brewster County, 6.1% of the respondents in Presidio [21], and 6.2% in the Lower Rio Grande Valley [22]. One interesting finding is that almost one-third of the diabetics in Brewster County require insulin. However, it is unknown if those who are using insulin are type I or type II diabetics. In general, 90% of diabetics are type II and their condition can be controlled with oral medication, diet and exercise.

Chronic bronchitis also affected more respondents in Brewster County than in Presidio (3.8% compared to 2.7%) [21]. In the Lower Rio Grande Valley, 12.2% of the population said that they suffered from shortness of breath and 6.3% suffered persistent coughs [22].

Arthritis and other health problems that may affect the mobility of an individual were reported by about 14% of the respondents (degenerative arthritis 8.5%, rheumatoid arthritis 4.9% and multiple sclerosis 0.3%). These findings point to the need for public places to address the special needs of these population groups.

It is interesting to note that the prevalence of health problems in northern and southern Brewster County is very similar (see **Table C-14b**). Differences among the two populations include southern Brewster County having a slightly higher percentage of individuals reported as having high cholesterol, rheumatoid arthritis, heart conditions and multiple chemical sensitivity; a higher percentage of northern Brewster County residents were reported as having seasonal allergies, asthma, and diabetes.

Table C-14b. Health Conditions by Area of Residence

Condition	Brewster County		Northern Brewster County		Southern Brewster County		Unknown Residence	
	Number	%	Number	%	Number	%	Number	%
Allergies, seasonal	605	31.6	472	32.5	122	28.9	11	30.6
Arthritis, Degenerative	162	8.5	125	8.6	37	8.8	0	--
Arthritis, Rheumatoid	94	4.9	67	4.6	26	6.2	1	2.8
Asthma	173	9.0	143	9.8	30	7.1	0	--
Cancer	136	7.1	106	7.3	28	6.6	2	5.6
Chronic bronchitis	72	3.8	55	3.8	17	4.0	0	--
Chronic lung conditions, other	24	1.3	17	1.2	7	1.7	0	--
Diabetes, (requiring Insulin)	42	2.2	32	2.2	10	2.4	0	--
Diabetes, (not requiring Insulin)	80	4.2	63	4.3	16	3.8	1	2.8
Emphysema	48	2.5	35	2.4	12	2.8	1	2.8
Heart Conditions	58	3.0	39	2.7	17	4.0	2	5.6
Hepatitis A	17	0.9	12	0.8	5	1.2	0	--
High cholesterol	293	15.3	218	15.0	72	17.1	3	8.3
Hypertension	344	18.0	260	17.9	79	18.7	5	13.9
Mental illness	38	2.0	29	2.0	9	2.1	0	--
Multiple Chemical Sensitivity	25	1.3	17	1.2	8	1.9	0	--
Multiple Sclerosis	6	0.3	6	0.4	0	0	0	--
Other	190	9.9	137	9.4	50	11.8	3	8.3

NOTE: Total of responses exceed 862 and total percent exceeds 100 due to multiple responses

Usual Source of Health Care

Almost three-fourths (71.9%) of the survey respondents reported a private physician as their primary source for medical care (see **Table C-15**). The second most often mentioned source for medical care was the Big Bend Regional Medical Hospital located in Alpine. Residents of southern Brewster County reported having less access to health care. About 6.4% of the respondents from southern Brewster County said that they did not have a physician (compared to 1.4% of the residents in northern Brewster County), relied less on private physicians, and relied more on the Big Bend Family Health Center in Terlingua. It is worth mentioning that a very small percentage of Brewster County residents go to Mexico for health care and the percentage of residents using out of the state providers was also small.

Table C-15. Usual Source of Health Care

Source of Care	Brewster County (n=862)		Northern Brewster County (n=629)		Southern Brewster County (n=218)		Unknown Residence (n=15)	
	Number	%	Number	%	Number	%	Number	%
Big Bend Family Health Center (Terlingua)	70	8.1	5	0.8	65	29.8	--	--
Big Bend Regional Medical Center Hospital (Alpine)	196	22.7	168	26.7	26	11.9	2	13.3
TDH clinic (Alpine, Marfa and Presidio)	44	5.1	37	5.9	7	3.2	--	--
Private physician	620	71.9	497	79.0	114	52.3	9	60.0
<i>In Alpine</i>	356	41.3	306	48.6	45	20.6	5	33.3
<i>In other Texas city</i>	252	29.2	187	29.7	61	28.0	4	26.7
<i>In other state</i>	7	0.8	3	0.5	4	1.8	—	—
<i>In Mexico</i>	5	0.6	1	0.2	4	1.8	—	—
Military/VA clinics	20	2.3	9	1.4	11	5.0	--	--
Do not go to a physician	25	2.9	9	1.4	14	6.4	2	13.3
Other	6	0.7	1	0.2	4	1.8	1	6.7
No response	22	2.6	12	1.9	10	4.6	--	--

NOTE: Total of responses exceed 862 and total percent exceeds 100 due to multiple responses

As can be seen in **Table C-16**, 46.2% of respondents reported receiving their dental services in Alpine while 35.5% reported another location in Texas. As in the case of medical services, a higher percentage of southern Brewster County residents do not find their needs met in Texas

(35.8% vs. 14.2% in northern Brewster County). Moreover, 13.3% of the southern Brewster County residents do not see a dentist or rely on Mexican providers (19.3%) compared to 8.3% and 5.4%, respectively, of the northern Brewster County residents. The percentage of respondents reporting they cross the border in search of dental care (8.8%) is similar to the percentage reported in Hidalgo, Cameron and Willacy counties (10%) but lower than in other border communities in West Texas [22]. Thirty-three percent of San Elizario’s residents (in El Paso County) seek dental care in Mexico [23]. There is a significant amount of unmet need for dental services; 9.4% of the respondents do not see a dentist regularly. Outreach and education services may be needed to educate nonusers on the importance of oral health and receiving regular checkups.

Most respondents (72.6%) reported that they obtain their medications in Alpine and an additional 5.6% obtain them by mail (see Table C-17). Only 4.5% of the respondents purchase their medications in Mexico. This percentage is surprisingly low compared with other border communities. According to the study conducted in Presidio in 1995, 61.4% of those respondents buy their medications in Ojinaga, Chihuahua, Mexico [21], while the survey among the indigent population residing in Hidalgo, Cameron and Willacy counties documented that one-fourth of the low-income community members go to Mexico for medications [22].

Table C-16. Usual Source for Dental Care

City Where Dental Care is Obtained	Brewster County		Northern Brewster County		Southern Brewster County		Unknown Residence	
	Number *	% *	Number	%	Number	%	Number	%
Alpine	398	(46.2)	331	(52.6)	62	(28.4)	5	(33.3)
Elsewhere in Texas**	306	(35.5)	218	(34.7)	80	(36.7)	8	(53.3)
In Mexico ***	76	(8.8)	34	(5.4)	42	(19.3)	--	--
TDH mobile clinic van	1	(0.1)	--	--	1	(0.5)	--	--
Elsewhere ****	10	(1.2)	3	(0.5)	7	(3.2)	--	--
Do not see a dentist	81	(9.4)	52	(8.3)	29	(13.3)	2	(13.3)
No response	140	(16.2)	132	(21.0)	8	(3.7)	--	--

* totals of responses exceed 862 and total percent exceeds 100 due to multiple responses

** includes localities such as Fort Stockton, Fort Davis, El Paso, San Antonio, New Braunfels, Austin, Blanco, Midland, Dallas, Weatherford, Arlington, Denton, Springtown, San Angelo, Houston, Lake Jackson

*** includes Ojinaga, Ciudad Acuña, Ciudad Juárez, Chihuahua

**** includes Oklahoma, Arizona, New Mexico, Montana and Massachusetts.

Herbs / Natural Remedies

Four hundred and fourteen (48%) of the respondents reported they do prepare or buy (non-prescription) natural /herbal remedies. This may be a cultural reflection of the respondent population or may reflect self medication.

Table C-17. Usual Source of Medications

City/Source Where Medications Are Obtained	Number *	Percent *
Alpine	626	72.6
Mail order and/or AARP	48	5.6
In Mexico	39	4.5
In Ft. Stockton	39	4.5
Midland/Odessa	24	2.8
Dallas/Arlington Area	15	1.7
VA and military	11	1.3
El Paso	10	1.2
San Antonio, New Braunfels, Austin	6	0.7
Marfa	1	0.1
Other **	43	5.0
No response	48	5.6
* total responses exceed 862 and total percent exceeds 100 due to multiple responses		
** includes locations such as Big Spring, Harlingen Houston, Lubbock, Pecos, San Angelo, Seminole, Temple, Uvalde, Nevada, California, Missouri, Florida, Montana, Ohio, Alabama and Canada		

Satisfaction with Health Care Services

More than half of the respondents reported being satisfied or highly satisfied with the healthcare services they receive (see **Table C-18**). However, more respondents in northern Brewster County (62%) reported being satisfied or highly satisfied while only 44% in southern Brewster County reported the same. It is worth noting that about 13% of the respondents in southern Brewster County could not respond to this question because they do not use locally available services.

Those who reported being dissatisfied primarily complained about the quality of the services (poor service, misdiagnosis, excessive waiting time) and the infrastructure (few physicians, few specialists, outdated equipment/facilities) (see **Table C-19**). About 7% are concerned about the distance they have to travel to see a doctor and 4.7% are concerned about the cost of the services.

It would be interesting to know if the perceived low quality of services corresponds to low technical quality or if it is related to other aspects of health care delivery that may be unpleasant or inconvenient but solvable. The lack of physicians and specialists needs to be approached at the state and federal levels. Attracting professionals to remote areas is always a challenge but other countries and states have been creative and have found suitable solutions. A review of the strategies used for other communities could assist in shaping a policy agenda for Brewster County.

Table C-18. Satisfaction with Health Care

Level of Satisfaction	Brewster County (n=862)		Northern Brewster County (n=629)		Southern Brewster County (n=218)		Unknown Residence (n=15)	
	Number	%	Number	%	Number	%	Number	%
Very satisfied	84	9.7	65	10.3	18	8.3	1	6.7
Satisfied	406	47.1	325	51.7	78	35.8	3	20.0
Unsatisfied	280	32.5	192	30.5	79	36.2	9	60.0
Do not know / do not use services	55	6.4	24	3.8	29	13.3	2	13.3
No response	37	4.3	23	3.7	14	6.4	--	--

Table C-19. Reasons for Not Being Satisfied with Medical Care

Reason Reported for Dissatisfaction	Number * (n=258)	Percent * (of 258)
Poor service	101	39.1
Few specialists	58	22.5
Few doctors	41	15.9
Outdated equipment/facilities	27	10.5
Mis-diagnosis	20	7.8
Too far to travel to receive care	18	7.0
Expensive (cost of care)	12	4.7
Excessive waiting time	10	3.9
Other **	5	1.9

* total number of responses exceeds 258 and percent totals more than 100 due to multiple responses
 ** include poor emergency services, hard to get appointments, no preventive care, and clinic hours should be extended

Preventive Practices

Of the 862 respondent households, 380 (44.1%) households reported that someone in the household (a total of 390 women) had undergone a mammogram within the previous two years (see **Table C-20**). Similarly, 445 (51.6%) households reported that someone in the household (a total of 468 women) had undergone a pap smear within the previous two years. These findings, however, cannot be used to estimate the number of women who are receiving regular exams but they do appear to indicate that there are women who do not take a yearly mammogram and that the coverage for mammograms is lower than for pap smears. Because cervical and breast cancers are curable if they are detected in their early stages, it is important to determine what barriers women experience in accessing those services and develop programs to expand access. Similarly, only 286 (33.2%) of the households reported that someone in the household (a total of 291 men) had undergone a prostate exam within the previous two years. Strategies to increase coverage of prostate exams among male residents in Brewster County need to be explored.

The survey found that in 223 (25.9%) of the respondent households there was someone who smoked (a total of 268 individuals). No attempt was made to ascertain the age of the smokers. Although this number is not strikingly high, every effort should be made to reduce it. One in every five deaths in the state of Texas is related to smoking. For 1993, the costs attributed to smoking were estimated at more than 5 billion dollars for adults aged 35 years and older, with direct health care costs of \$1.44 billion and indirect costs of \$3.66 billion [24]. These costs total more than seven times the amount collected from state taxes on cigarette sales. Persistent smokers experience a 7% to 15% increase in outpatient visits over five years, a 30% to 45% increase in hospital admissions, and a 75% to 100% increase in hospital days. Environmental Tobacco Smoke (ETS) contributes to the incidence of lung cancer, increases the severity of asthma, and contributes to lung infections, reduced lung function and other respiratory problems.

One hundred ninety seven (22.9%) of the respondents reported having someone in the household (a total of 269 individuals) who consumes alcohol on a daily basis. Further information is needed to determine if a serious problem of excessive alcohol consumption exists in Brewster County.

Only seven (0.8%) households reported that someone in the household abuses medications or other substances. According to data from the Texas Commission on Alcohol and Drug Abuse (TCADA), in 1995 there were 50 admissions into their program in Brewster County, and 18% of

those admitted used needles [25]. However, it should be emphasized that this county-level data reflects where the services are available rather than where the substance abuse occurred.

Table C-20. Preventive Practices

	Number
Number of women receiving a mammogram in the previous 2 years	390
Number of women receiving a Pap smear within previous two years	468
Number of men who had undergone a prostate exam in previous two years	291
Number of smokers in survey	268
Number of persons consuming alcohol on a daily basis	269
Number of persons abusing medications or other substances	7

Health Areas Identified As Problematic

Participants were asked to list the most important health problem in the community. Almost one-third (32.9%) of the respondents failed to list a health problem (see **Table C-21**). Twenty-two percent of the respondents identified issues related to the supply of services; having too few physicians and specialists were the problems most frequently cited. A similar number of respondents (21.1%) listed a health condition; cancer, allergies and diabetes were the problems most frequently mentioned. About 11% of the respondents identified issues related to lifestyle such as alcohol and drug abuse, and 7% listed problems related to the environment (air pollution and water supply/quality). The high cost of health care was mentioned by only 2% of households. This finding may be associated with the fact that most respondents reported having insurance coverage.

Table C-21. Most Important Health Problem

Health Problem	Number * (n=862)	Percent * of 862
Supply of services	190	22.0
<i>Few doctors</i>	76	8.8
<i>Few specialists</i>	41	4.8
<i>Hospital needs updating (administration and equipment)</i>	35	4.1
<i>Expensive services/medicines</i>	17	2.0
<i>Long travel for health care</i>	10	1.2
<i>No preventive/wellness programs available</i>	11	1.3
Health conditions	182	21.1
<i>Cancer</i>	45	5.2
<i>Allergies</i>	44	5.1
<i>Diabetes</i>	38	4.4
<i>Pulmonary, respiratory</i>	28	3.2
<i>Heart problems</i>	17	2.0
<i>Asthma</i>	10	1.2
Lifestyle	94	10.9
<i>Drug consumption/traffic</i>	33	3.8
<i>Lack of health awareness/education</i>	10	1.2
<i>Alcohol Abuse</i>	51	5.9
Infrastructure	61	7.1
<i>Water supply and quality</i>	22	2.6
<i>Air pollution</i>	39	4.5
Other **	135	15.7
No response	284	32.9
* Total responses exceed 862 and total percent exceeds 100 due to multiple responses.		
** Includes responses such as unsatisfactory EMS system, unwanted teen pregnancies, misdiagnosis, uninsured/underinsured, sinus problems, poor diet/nutrition, smoking, getting appointments, home care, poor hygiene, accidents, STDs, obesity, arthritis, blood pressure, cholesterol.		

Environmental Areas Identified As Problematic

As can be seen in **Table C-22**, about one third (33.6%) of the respondents chose not to answer this question. For the respondents who did provide an answer, air quality is of significant concern. Almost three-fourths of the environmental problems identified (73.5%) relate to the quality of air. Water supply/quality was of concern to 28.2% of the respondents. Other problems listed were related to trash, sewage, noise (trains, U.S. Air Force jets), rodents, and domestic and wild animals.

Table C-22. Most Important Environmental Problem

Environmental Problem	Number * n = 862	Percent * (of 862)
Air Quality	634	73.5
<i>Air quality in general</i>	496	57.5
<i>Pollution from Mexico</i>	101	11.7
<i>Dust</i>	19	2.2
<i>Smoke (diesel, train, wood, cigarette)</i>	15	1.7
<i>Sulfur Dioxide</i>	3	0.3
Water Supply and Quality	243	28.2
<i>Water Supply, drought</i>	59	6.8
<i>Water Quality</i>	50	5.8
<i>Water, non-specified</i>	134	15.5
Other problems	93	10.8
<i>Trash (litter, waste disposal)</i>	29	3.4
<i>Sewage tank problems</i>	10	1.2
<i>Overpopulation</i>	10	1.2
<i>Noise pollution</i>	10	1.2
<i>Low-flying Air Force bombers/jets</i>	7	0.8
<i>Unpaved/unkept roads/streets</i>	5	0.6
<i>Nuclear waste</i>	3	0.3
<i>Rodents, insects, pests</i>	3	0.3
<i>Dogs (barking, stray, poop)</i>	3	0.3
<i>Domestic animals (horses, chickens, ostriches) in the city</i>	3	0.3
<i>Wild animals (deer, javelina, raccoons) in the city</i>	3	0.3
<i>No dumpsite/landfill</i>	3	0.3
<i>No recycling</i>	2	0.2
<i>Trash from other states</i>	2	0.2
No response	290	33.6
* Total responses exceed 862 and total percent exceeds 100 due to multiple responses.		

SECTION 4 - RECOMMENDATIONS

The findings of the community survey indicate that the following recommendations be considered:

Sustaining current efforts:

1. The Texas Natural Resources Conservation Commission (TNRCC) should maintain the level of effort in monitoring the water systems in the area, especially those in southern Brewster County, to ensure that the quality of water does not degrade.
2. The Environmental Protection Agency (EPA) and the National Park Service (NPS) need to complete ongoing studies related to visibility in the Big Bend area.
3. The Texas Department of Health should maintain a strong public health presence in order to continue comprehensive control of infectious diseases and vaccine preventable diseases.
4. Good access to maternal/child services should be maintained, with emphasis on prenatal care, immunizations, and efforts to decrease lead poisoning (increase the number of children screened and public education regarding the hazards of lead).
5. Health services that are provided must continue to be of good technical quality and culturally acceptable.

Improving current efforts to:

1. Ensure all public facilities are easily accessible to the elderly and to individuals with disabilities.
2. Link communities in southern Brewster County with federal and state agencies that can assist in attracting resources to improve existent quality water systems.
3. Recruit and retain primary health care providers in the area, especially in southern Brewster County.
4. Provide better access to dental care.
5. Expand health insurance coverage, especially for the indigent population.
6. Educate the community on the need to adopt healthier lifestyles (decrease smoking and alcohol consumption, increase the use of seat belts while driving), and augment the

frequency of screening for chronic diseases, including but not limited to prostate cancer, Pap smears, mammograms, hypertension, and diabetes.

7. Improve public support for existing public health and safety-net services. Continued deterioration of these services could undermine the above average public indicators for health status.

Issues requiring further study:

1. Determine if residents of Brewster County are benefitting from existing social and health related public programs such as Food Stamps, Temporary Assistance to Needy Families, Social Security, Medicaid and Medicare.
2. Determine if there is a need for improving the transportation system to facilitate access to health services and what would be the best strategy for doing so.
3. Determine if the quality of health care provided in the area is acceptable.
4. Ascertain what the community expects from the health care system and what needs to happen to increase the level of satisfaction with the services provided.
5. Determine if the high number of unoccupied households and the scarcity of garbage collection services represent a public health hazard for the residents of Brewster County, especially for those residing in the southern Brewster County area.
6. Because of the lack of adequate infrastructure in southern Brewster County and the higher reliance on private wells for drinking water, include southern Brewster County in the parasites in schoolchildren prevalence study currently being conducted in El Paso.
7. Determine if the high rate of unintentional injuries is accurate, and determine possible causes and solutions.

The Texas Department of Health will continue working with community leaders, state and federal agencies, and private entities to ensure that health and environmental concerns are addressed.

SECTION 5 - DISCUSSION

This report was created using both existing, standardized data sources and survey responses from the Brewster County community. It brings together, for the first time, information on community health indicators, environmental resources, and a wide range of other community issues. It also provides a comparison of conditions and the health status of residents within the county (northern and southern Brewster County) and comparisons between Brewster County and other Border counties, the state, and for selected measures, the nation. The survey responses from Brewster County residents supplement the standardized data with more current and locally relevant information from the Brewster County community.

The primary limitation of the study is the response rate from the mail survey. Even though the response rate of 34% is generally considered good for a mail survey, we must be careful in generalizing the results of the survey to the entire community. Based on the demographic information provided by the survey respondents, we know the survey respondents are not representative of the entire Brewster County population with regard to age, sex, race/ethnicity, education, and other demographic variables. An additional limitation is that Marathon residents were not surveyed. While the Marathon population of 455 is small, compared to Alpine, it is assumed that variables for both northern Brewster County communities are the same.

Even though the survey respondents may not necessarily reflect the health status and opinions of the entire county, they do provide needed insight into areas which deserve additional attention by local, state, and national officials and community leaders. One of the original motivations for this community assessment came from a group of citizens concerned about air quality in the county and its potential adverse effect on health. Although the survey was not able to directly address that concern, it does provide clear documentation as to the level of community concern and underscores the need for additional environmental monitoring and health surveillance in the area.

In addition to defining local concerns for health, the environment, and the need for additional medical resources and infrastructure in parts of the county, this report also confirms that the Brewster County community is doing a number of things well. For instance, access to prenatal care and immunization services are higher in the county than for the state as a whole and cancer

incidence rates and selected infectious and sexually transmitted diseases rates are also lower than for the rest of the state.

We hope this document will serve as a starting place for the community and the state to address the issues and concerns raised in the survey and will also provide the foundation for continued support in those areas where the community is doing well. The recommendations provided in the report outline specific actions which are needed to continue this effort.

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ADDENDUM

Summary of Asthma Findings for Brewster County, Texas
Responsible: Juan C. Zevallos, MD - Texas Department of Health, El Paso
February 2002

Sources of information:

A. The Centers for Disease Control and Prevention (CDC)-sponsored *Behavioral Risk Factor Surveillance System (BRFSS) survey* was applied in 1999 to a representative number of individuals living in Brewster County. The questions asked were:

- 1) "Have any of your children been told by a doctor, nurse, or other professional that he or she had asthma?"
- 2) "When was the last time you sought medical care or gave medication for your child?"

An estimated 133 children aged <18 years old reported having been told as having asthma. Forty-four (33%) were seen within the past 6 months; 22 (17%) were seen within the past 5 years; and 67 (50%) were seen 5 or more years. The 133 children that had been told as having asthma represent 6.82% of the total number of children estimated to live in the county (Brewster County BRFSS, TDH, 1999). This estimate is made assuming that 22.2% of the Brewster County population is less than 18 years of age (2000 Census population). Although we don't have self-reported data among Texas children, the U.S. prevalence of asthma for the same age group has been estimated to be 6.86% (CDC Asthma Surveillance Summary).

The year 2000 Texas BRFSS conducted among adults estimated an asthma prevalence of 10.5%. We do not have estimates for asthmatic adults residing in Brewster County.

B. Data was also obtained for the first three quarters of *1999 Texas Hospital Discharge Data Base* (Texas Health Care Information Council). Information on the total number of discharges (after hospitalization) from the Big Bend Regional Medical Center, located in Alpine, TX was obtained.

A total of 21 cases were found with the diagnosis of asthma during the first three quarters of 1999. The average age for this group of people was 9.2 years. The diagnosed cases of asthma included: (1) chronic obstructive asthma (ICD-9 code 493.20); (2) acute exacerbation of asthma (ICD-9 code 493.21); and (3) unspecified asthma (ICD-9 code 493.90). None of the cases were discharged with the diagnosis of "extrinsic asthma." Thus, the hospitalization rate per 10,000 population for Brewster County in 1999 could be estimated as 32.4.

According to the CDC Asthma Surveillance Summary, there were 164,000 hospitalizations with asthma as the first-listed diagnosis during the years 1993-1994 nationwide. The hospitalization rates (per 10,000 population) were higher in the 0-4 year old age group (49.7) as compared to the 5-14 year old age group (18.0) and the 15-34 year-old age group (10.0).

Additional notes:

Brewster County includes the Big Bend National Park, and according to the National Census Bureau, 8,886 people lived in Brewster County at the time of the year 2000 Census, 2.5% more than during the previous year. The Big Bend Regional Medical Center is the only facility receiving patients for hospitalization in the entire Brewster County.

In conclusion, the available self-reported data on prevalence of asthma for children less than 18 years of age for Brewster County is not higher than national estimates.

APPENDICES

Brewster County Community Health Assessment

Questionnaire _____

1. Do you USUALLY live in the Brewster County area throughout the year? ' YES ' NO
If YES, how many years have you lived in the Brewster County area? _____ (If less than one year, please write 0.)
If NO, about how many months of the year do you live in Brewster County? _____Months

2. Where did you live immediately before moving to this area?
(Check one only)
 - " 1. always lived in this area
 - " 2. other city in Texas. What city? _____
 - " 3. other state. What state? _____
 - " 4. other country. What country? _____

3. If you moved to this area, what was the **primary** reason for moving here? _____

4. What is the main source of your **drinking water**?
(Check one only)
 - " 1. public water (piped to your house)
 - " 2. private well on own property
 - " 3. obtain from neighbor
 - " 4. bottled water
 - " 5. water machine dispenser
 - " 6. other (specify) _____

5. Where does your **wastewater** go?
(Check one only)
 - " 1. city sewer system
 - " 2. septic system
 - " 3. cesspool/open pit/pit privy
 - " 4. other (specify) _____

6. What do you do with your solid waste / garbage?

(Check one only)

- " 1. city pickup
- " 2. private pickup
- " 3. bury it
- " 4. burn it
- " 5. other (specify) _____

7. Including yourself, how many persons (adults and children) live with you at your residence? _____

8. Beginning with yourself, please fill out the following information for each person living at your residence. Please PRINT.

First name only	Age	Gender	Race/Ethnicity:	Main occupation:	Highest level of education:
(a)		<ul style="list-style-type: none"> " Male " Female 	<ul style="list-style-type: none"> " White " African American " Hispanic/Mexican-American " Native American " Asian " Other _____ 	<ul style="list-style-type: none"> " Student " Retired " Working (full or part-time) " Not working " Homemaker " Disabled " Other _____ " Does not apply 	<ul style="list-style-type: none"> " Less than high school " Some high school " High school graduate or GED " Some college " College graduate " Post graduate " Does not apply

First name only	Age	Gender	Race/Ethnicity:	Main occupation:	Highest level of education:
(b)		" Male " Female	" White " African American " Hispanic/Mexican-American " Native American " Asian " Other _____	" Student " Retired " Working (full or part-time) " Not working " Homemaker " Disabled " Other _____ " Does not apply	" Less than high school " Some high school " High school graduate or GED " Some college " College graduate " Post graduate " Does not apply

First name only	Age	Gender	Race/Ethnicity:	Main occupation:	Highest level of education:
(c)		" Male " Female	" White " African American " Hispanic/Mexican-American " Native American " Asian " Other _____	" Student " Retired " Working (full or part-time) " Not working " Homemaker " Disabled " Other _____ " Does not apply	" Less than high school " Some high school " High school graduate or GED " Some college " College graduate " Post graduate " Does not apply

First name only	Age	Gender	Race/Ethnicity:	Main occupation:	Highest level of education:
(d)		" Male " Female	" White " African American " Hispanic/Mexican-American " Native American " Asian " Other _____	" Student " Retired " Working (full or part-time) " Not working " Homemaker " Disabled " Other _____ " Does not apply	" Less than high school " Some high school " High school graduate or GED " Some college " College graduate " Post graduate " Does not apply

First name only	Age	Gender	Race/Ethnicity:	Main occupation:	Highest level of education:
(e)		" Male " Female	" White " African American " Hispanic/Mexican-American " Native American " Asian " Other _____	" Student " Retired " Working (full or part-time) " Not working " Homemaker " Disabled " Other _____ " Does not apply	" Less than high school " Some high school " High school graduate or GED " Some college " College graduate " Post graduate " Does not apply

First name only	Age	Gender	Race/Ethnicity:	Main occupation:	Highest level of education:
(f)		" Male " Female	" White " African American " Hispanic/Mexican-American " Native American " Asian " Other _____	" Student " Retired " Working (full or part-time) " Not working " Homemaker " Disabled " Other _____ " Does not apply	" Less than high school " Some high school " High school graduate or GED " Some college " College graduate " Post graduate " Does not apply

First name only	Age	Gender	Race/Ethnicity:	Main occupation:	Highest level of education:
(g)		" Male " Female	" White " African American " Hispanic/Mexican-American " Native American " Asian " Other _____	" Student " Retired " Working (full or part-time) " Not working " Homemaker " Disabled " Other _____ " Does not apply	" Less than high school " Some high school " High school graduate or GED " Some college " College graduate " Post graduate " Does not apply

First name only	Age	Gender	Race/Ethnicity:	Main occupation:	Highest level of education:
(h)		" Male " Female	" White " African American " Hispanic/Mexican-American " Native American " Asian " Other _____	" Student " Retired " Working (full or part-time) " Not working " Homemaker " Disabled " Other _____ " Does not apply	" Less than high school " Some high school " High school graduate or GED " Some college " College graduate " Post graduate " Does not apply

First name only	Age	Gender	Race/Ethnicity:	Main occupation:	Highest level of education:
(i)		" Male " Female	" White " African American " Hispanic/Mexican-American " Native American " Asian " Other _____	" Student " Retired " Working (full or part-time) " Not working " Homemaker " Disabled " Other _____ " Does not apply	" Less than high school " Some high school " High school graduate or GED " Some college " College graduate " Post graduate " Does not apply

HEALTH CONDITIONS:

9. ASTHMA:

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with ASTHMA?

If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____

(b) **first name** only _____, **age** _____, year diagnosed _____

(c) **first name** only _____, **age** _____, year diagnosed _____

10. EMPHYSEMA:

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with EMPHYSEMA?

- If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

11. CHRONIC BRONCHITIS:

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with CHRONIC BRONCHITIS?

' YES ' NO

- If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

12. OTHER CHRONIC LUNG CONDITION(S):

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with OTHER CHRONIC LUNG CONDITION(S)? ' YES ' NO

- If YES, please write: (a) **first name** only _____, **age** _____, **condition** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, **condition** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, **condition** _____, year diagnosed _____

13. SEASONAL ALLERGIES OR HAY FEVER:

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with SEASONAL ALLERGIES OR HAY FEVER? ' YES ' NO

- If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

14. HYPERTENSION / HIGH BLOOD PRESSURE:

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with HYPERTENSION/HIGH BLOOD PRESSURE? ' YES ' NO

- If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

15. HIGH CHOLESTEROL:

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with HIGH CHOLESTEROL?

' YES ' NO

- If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

16. DIABETES (REQUIRING INSULIN):

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with DIABETES (REQUIRING INSULIN)? ' YES ' NO

- If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

17. DIABETES (NOT REQUIRING INSULIN):

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with DIABETES (NOT REQUIRING INSULIN)? ' YES ' NO

- If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

18. CANCER:

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with CANCER?

- If YES, please write: (a) **first name** only _____, **age** _____, **type of cancer** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, **type of cancer** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, **type of cancer** _____, year diagnosed _____

19. KIDNEY FAILURE (REQUIRING DIALYSIS):

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with KIDNEY FAILURE (REQUIRING DIALYSIS)? ' YES ' NO

- If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

20. DEGENERATIVE ARTHRITIS (DUE TO ADVANCED AGE):

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with DEGENERATIVE ARTHRITIS (DUE TO ADVANCED AGE)? ' YES ' NO

If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

21. RHEUMATOID ARTHRITIS (DUE TO INFLAMATION):

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with RHEUMATOID ARTHRITIS (DUE TO INFLAMATION)? ' YES ' NO

If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

22. MULTIPLE SCLEROSIS:

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with MULTIPLE SCLEROSIS? ' YES ' NO

If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

23. MULTIPLE CHEMICAL SENSITIVITY:

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with MULTIPLE CHEMICAL SENSITIVITY? ' YES ' NO

If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

24. VIRAL OR INFECTIOUS HEPATITIS (TYPE A):

Have you or anyone living at your residence ever been diagnosed by a physician or other health care provider with VIRAL OR INFECTIOUS HEPATITIS (TYPE A)? ' YES ' NO

If YES, please write: (a) **first name** only _____, **age** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, year diagnosed _____

25. Have you or anyone living with you had any health problems that we did not list? ' YES ' NO
If YES, please write: (a) **first name** only _____, **age** _____, **condition** _____, year diagnosed _____
(b) **first name** only _____, **age** _____, **condition** _____, year diagnosed _____
(c) **first name** only _____, **age** _____, **condition** _____, year diagnosed _____

26. Have you or anyone living with you had a MAMMOGRAM in the past 2 years? ' YES ' NO
If YES, how many (female) persons living with you in your home have had a MAMMOGRAM in the last 2 years? _____

27. Have you or anyone living with you had a PAP SMEAR in the past year? ' YES ' NO
If YES, how many (female) persons living with you in your home have had a PAP SMEAR in the past year? _____

28. Have you or anyone living with you had a PROSTATE EXAM in the past year? ' YES ' NO
If YES, how many (male) persons living with you in your home have had a PROSTATE EXAM in the past year? _____

ACCESS TO HEALTH CARE

29. When you need *medical services*, where do you **USUALLY** go?
(Check one only)
' 1. Big Bend Family Health Center (in Terlingua)
' 2. Big Bend Regional Medical Center Hospital (in Alpine)
' 3. Texas Department of Health (TDH) clinic (in Alpine, Marfa, or Presidio)
' 4. private physician in Texas. In what city? _____
' 5. private physician in Mexico. In what city? _____
' 6. do not go to a physician
' 7. other: please specify _____

30. How satisfied are you with the actual medical care provided in your area?
(Check one only)
' 1. very satisfied
' 2. satisfied
' 3. unsatisfied. Why? _____
' 4. do not use/know of services provided in the community

31. In what city do you USUALLY buy prescribed medications?

(Check one only)

- ' 1. Alpine
- ' 2. Marfa
- ' 3. Ojinaga
- ' 4. Other city. Please list the city. _____

32. Do you know of any health services that are needed in your community? ' YES ' NO

If YES, please list them: _____

33. When you need *dental care*, where do you USUALLY go?

(Check one only)

- ' 1. dentist in Texas. In what city? _____
- ' 2. dentist in Mexico. In what city? _____
- ' 3. TDH mobile dental clinic
- ' 4. do not go to a dentist

34. Do you prepare or buy natural/herbal remedies? (Not prescribed) ' YES ' NO

35. Are you or anyone living with you covered by "Medicaid" or "Medicare"? ' YES ' NO

If YES, how many persons are covered? _____

36. Are you or anyone living with you covered by other health insurance (NOT "Medicare" or "Medicaid")? ' YES ' NO

If YES, how many persons are covered? _____

37. What do you think is the MOST IMPORTANT **health** problem in your community? _____

38. What do you think is the MOST IMPORTANT **environmental** problem in your community? _____

LIFESTYLE:

39. Does anyone living in your house smoke? ' YES ' NO

If YES, how many persons? _____

How many under 18 years of age? _____

40. Does anyone living in your house consume alcoholic beverages on a daily basis? ' YES ' NO

If YES, how many persons? _____

How many under 18 years of age? _____

41. Does anyone living in your house have an abuse problem regarding prescribed medications or other substances? ' YES ' NO

If YES, how many persons? _____

How many under 18 years of age? _____

42. Has anyone living in your house ever been diagnosed by a physician as having a mental illness? ' YES ' NO

If YES, how many persons? _____

How many under 18 years of age? _____

PLEASE REVIEW THE QUESTIONNAIRE AND MAKE SURE YOU DID NOT SKIP ANY QUESTIONS, EXCEPT FOR THE ONES THAT YOU DID NOT WANT TO RESPOND TO. THANK YOU FOR YOUR COOPERATION AND TIME.

Do you have a **telephone** number where we can reach you in case of any question? _____

If you have any questions related to this survey, please call **1-800-693-6699** Monday thru Friday between 8am and 5pm MST (9am thru 6pm CST)

"If you have any questions about your rights in regards to this survey, please contact the Texas Department of Health Institutional Review Board at 1-888-777-5037."

Evaluación de Salud Comunitaria en el Condado de Brewster

Cuestionario _____

1. ¿Vive usted normalmente en el área del Condado de Brewster todo el año? ' SI ' NO
Si es SI, ¿cuántos años ha vivido en el área del condado de Brewster? _____Años (Si menos de un año, escriba 0)
Si es NO, ¿aproximadamente cuántos meses del año vive usted en el Condado de Brewster? _____Meses

2. ¿En dónde vivía inmediatamente antes de cambiarse a esta área?
(Marque sólo uno)
 - ' 1. siempre he vivido en esta área
 - ' 2. otra ciudad de Texas. ¿En que ciudad? _____
 - ' 3. otro estado. ¿En que estado? _____
 - ' 4. otro país. ¿En que país? _____

3. Si usted se cambió a esta área, ¿cuál fue la razón **principal** para cambiarse? _____

4. ¿Cuál es la fuente principal de su **agua para beber**?
(Marque sólo uno)
 - ' 1. servicio de agua público (por tubería a su casa)
 - ' 2. pozo particular en su propiedad
 - ' 3. la obtienen del vecino
 - ' 4. agua embotellada
 - ' 5. máquina distribuidora de agua
 - ' 6. otro (especifique) _____

5. ¿A dónde van sus **aguas negras**?
(Marque sólo uno)
 - ' 1. al sistema de alcantarillado
 - ' 2. al sistema séptico
 - ' 3. al pozo negro/pozo a cielo abierto/letrina
 - ' 4. otro (especifique) _____

6. ¿Qué hace usted con los **desechos sólidos / basura**?

(Marque sólo uno)

- ' 1. los recoge la ciudad
- ' 2. acarreo particular
- ' 3. los entierro
- ' 4. los quemo
- ' 5. otro (especifique) _____

7. ¿Incluyendo usted, cuántas personas (adultos y niños) viven con usted en su casa? _____

8. Empezando **por usted mismo(a)**, anote la siguiente información **para cada persona que vive con usted** ahora en su casa. Use letra de molde o (IMPRESA) por favor.

Primer nombre únicamente	Edad	Género	Raza/Etnicidad:	Ocupación principal:	Nivel más alto de educación:
(a)		<ul style="list-style-type: none"> ' Masculino ' Femenino 	<ul style="list-style-type: none"> ' Blanco ' Afroamericano ' Hispano / Mexicanoamericano ' Indígena Americano ' Asiático ' Otro _____ 	<ul style="list-style-type: none"> ' Estudiante ' Retirado ' Trabaja (tiempo completo o parcial) ' No está trabajando ' Ama de casa ' Incapacitado(a) ' Otro _____ ' No es aplicable 	<ul style="list-style-type: none"> ' Menor que preparatoria ' Algo de preparatoria ' Se graduó preparatoria o GED ' Algo de enseñanza superior ("college") ' Se recibió de la universidad ("college") ' Estudios de postgrado ' No es aplicable

Primer nombre únicamente	Edad	Género	Raza/Etnicidad:	Ocupación principal:	Nivel más alto de educación:
(b)		' Masculino ' Femenino	' Blanco ' Afroamericano ' Hispano / Mexicanoamericano ' Indígena Americano ' Asiático ' Otro _____	' Estudiante ' Retirado ' Trabaja (tiempo completo o parcial) ' No está trabajando ' Ama de casa ' Incapacitado(a) ' Otro _____ ' No es aplicable	' Menor que preparatoria ' Algo de preparatoria ' Se graduó preparatoria o GED ' Algo de enseñanza superior ("college") ' Se recibió de la universidad ("college") ' Estudios de postgrado ' No es aplicable

Primer nombre únicamente	Edad	Género	Raza/Etnicidad:	Ocupación principal:	Nivel más alto de educación:
(c)		' Masculino ' Femenino	' Blanco ' Afroamericano ' Hispano / Mexicanoamericano ' Indígena Americano ' Asiático ' Otro _____	' Estudiante ' Retirado ' Trabaja (tiempo completo o parcial) ' No está trabajando ' Ama de casa ' Incapacitado(a) ' Otro _____ ' No es aplicable	' Menor que preparatoria ' Algo de preparatoria ' Se graduó preparatoria o GED ' Algo de enseñanza superior ("college") ' Se recibió de la universidad ("college") ' Estudios de postgrado ' No es aplicable

Primer nombre únicamente	Edad	Género	Raza/Etnicidad:	Ocupación principal:	Nivel más alto de educación:
(d)		<ul style="list-style-type: none"> ' Masculino ' Femenino 	<ul style="list-style-type: none"> ' Blanco ' Afroamericano ' Hispano / Mexicanoamericano ' Indígena Americano ' Asiático ' Otro _____ 	<ul style="list-style-type: none"> ' Estudiante ' Retirado ' Trabaja (tiempo completo o parcial) ' No está trabajando ' Ama de casa ' Incapacitado(a) ' Otro _____ ' No es aplicable 	<ul style="list-style-type: none"> ' Menor que preparatoria ' Algo de preparatoria ' Se graduó preparatoria o GED ' Algo de enseñanza superior ("college") ' Se recibió de la universidad ("college") ' Estudios de postgrado ' No es aplicable

Primer nombre únicamente	Edad	Género	Raza/Etnicidad:	Ocupación principal:	Nivel más alto de educación:
(e)		<ul style="list-style-type: none"> ' Masculino ' Femenino 	<ul style="list-style-type: none"> ' Blanco ' Afroamericano ' Hispano / Mexicanoamericano ' Indígena Americano ' Asiático ' Otro _____ 	<ul style="list-style-type: none"> ' Estudiante ' Retirado ' Trabaja (tiempo completo o parcial) ' No está trabajando ' Ama de casa ' Incapacitado(a) ' Otro _____ ' No es aplicable 	<ul style="list-style-type: none"> ' Menor que preparatoria ' Algo de preparatoria ' Se graduó preparatoria o GED ' Algo de enseñanza superior ("college") ' Se recibió de la universidad ("college") ' Estudios de postgrado ' No es aplicable

Primer nombre únicamente	Edad	Género	Raza/Etnicidad:	Ocupación principal:	Nivel más alto de educación:
(f)		' Masculino ' Femenino	' Blanco ' Afroamericano ' Hispano / Mexicanoamericano ' Indígena Americano ' Asiático ' Otro _____	' Estudiante ' Retirado ' Trabaja (tiempo completo o parcial) ' No está trabajando ' Ama de casa ' Incapacitado(a) ' Otro _____ ' No es aplicable	' Menor que preparatoria ' Algo de preparatoria ' Se graduó preparatoria o GED ' Algo de enseñanza superior ("college") ' Se recibió de la universidad ("college") ' Estudios de postgrado ' No es aplicable

Primer nombre únicamente	Edad	Género	Raza/Etnicidad:	Ocupación principal:	Nivel más alto de educación:
(g)		' Masculino ' Femenino	' Blanco ' Afroamericano ' Hispano / Mexicanoamericano ' Indígena Americano ' Asiático ' Otro _____	' Estudiante ' Retirado ' Trabaja (tiempo completo o parcial) ' No está trabajando ' Ama de casa ' Incapacitado(a) ' Otro _____ ' No es aplicable	' Menor que preparatoria ' Algo de preparatoria ' Se graduó preparatoria o GED ' Algo de enseñanza superior ("college") ' Se recibió de la universidad ("college") ' Estudios de postgrado ' No es aplicable

Primer nombre únicamente	Edad	Género	Raza/Etnicidad:	Ocupación principal:	Nivel más alto de educación:
(h)		' Masculino ' Femenino	' Blanco ' Afroamericano ' Hispano / Mexicanoamericano ' Indígena Americano ' Asiático ' Otro _____	' Estudiante ' Retirado ' Trabaja (tiempo completo o parcial) ' No está trabajando ' Ama de casa ' Incapacitado(a) ' Otro _____ ' No es aplicable	' Menor que preparatoria ' Algo de preparatoria ' Se graduó preparatoria o GED ' Algo de enseñanza superior ("college") ' Se recibió de la universidad ("college") ' Estudios de postgrado ' No es aplicable

Primer nombre únicamente	Edad	Género	Raza/Etnicidad:	Ocupación principal:	Nivel más alto de educación:
(i)		' Masculino ' Femenino	' Blanco ' Afroamericano ' Hispano / Mexicanoamericano ' Indígena Americano ' Asiático ' Otro _____	' Estudiante ' Retirado ' Trabaja (tiempo completo o parcial) ' No está trabajando ' Ama de casa ' Incapacitado(a) ' Otro _____ ' No es aplicable	' Menor que preparatoria ' Algo de preparatoria ' Se graduó preparatoria o GED ' Algo de enseñanza superior ("college") ' Se recibió de la universidad ("college") ' Estudios de postgrado ' No es aplicable

CONDICIONES DE SALUD:

9. ASMA:

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con ASMA?

' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

10. ENFISEMA:

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con ENFISEMA?
' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

11. BRONQUITIS CRÓNICA:

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con BRONQUITIS CRÓNICA? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

12. OTRAS CONDICIONES CRONICAS DE LOS PULMONES:

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con OTRAS CONDICIONES CRONICAS DE LOS PULMONES? ' SI ' NO

Si es SI, favor de escribir lo siguiente:

(a) primer nombre _____, la edad _____, condición _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, condición _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, condición _____, año en que le diagnosticaron. _____

13. ALERGIAS DE TEMPORADA O FIEBRE DE HENO (HAY FEVER):

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con ALERGIAS DE TEMPORADA O FIEBRE DE HENO (HAY FEVER)? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

14. HIPERTENSIÓN / ALTA PRESIÓN ARTERIAL:

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con HIPERTENSIÓN / ALTA PRESIÓN ARTERIAL? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

15. COLESTEROL ALTO:

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con COLESTEROL ALTO?
' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

16. DIABETES (QUE REQUIERE INSULINA):

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con DIABETES (QUE REQUIERE INSULINA)? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

17. DIABETES (QUE NO REQUIERE INSULINA):

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con DIABETES (QUE NO REQUIERE INSULINA)? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

18. CÁNCER:

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con CÁNCER?
' SI ' NO

Si es SI, favor de escribir lo siguiente:
(a) primer nombre _____, la edad _____, tipo de cáncer _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, tipo de cáncer _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, tipo de cáncer _____, año en que le diagnosticaron. _____

19. FALLA DEL RIÑÓN (REQUIERE DIÁLISIS):

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con FALLA DEL RIÑÓN (REQUIERE DIÁLISIS)? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

20. ARTRITIS (DEBIDO A EDAD AVANZADA):

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con ARTRITIS DEGENERATIVA (DEBIDO A EDAD AVANZADA)? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

21. ARTRITIS REUMATOIDE (DEBIDO A INFLAMACIÓN):

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con ARTRITIS REUMATOIDE (DEBIDO A INFLAMACIÓN)? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

22. ESCLEROSIS MÚLTIPLE;

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con ESCLEROSIS MÚLTIPLE? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

23. SENSIBILIDAD MÚLTIPLE A SUBSTANCIAS QUÍMICAS;

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con SENSIBILIDAD MÚLTIPLE A SUBSTANCIAS QUÍMICAS? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

24. HEPATITIS VIRAL O INFECCIOSA (TIPO A):

¿Ha sido diagnosticado usted o algún miembro de su familia que vive en su casa por un médico o por personal de salud con HEPATITIS VIRAL O INFECCIOSA (TIPO A)? ' SI ' NO

Si es SI, favor de escribir lo siguiente: (a) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, año en que le diagnosticaron. _____

25. ¿Tiene usted u otros miembros de su familia que viven con usted en su casa problemas de salud que no incluimos en la lista?

Si es SI, favor de escribir lo siguiente:

(a) primer nombre _____, la edad _____, condición _____, año en que le diagnosticaron. _____
(b) primer nombre _____, la edad _____, condición _____, año en que le diagnosticaron. _____
(c) primer nombre _____, la edad _____, condición _____, año en que le diagnosticaron. _____

26. ¿Le han hecho a usted o algún otro miembro de su familia que vive con usted en su casa un MAMOGRAMA en los últimos 2 años?

' SI ' NO

Si es SI, ¿a cuántas mujeres que viven con usted en su casa se le hicieron el MAMOGRAMA? _____

27. ¿Le han hecho a usted o algún otro miembro de su familia que vive con usted en su casa una prueba de PAPANICOLAU en el último año?

' SI ' NO

Si es SI, ¿a cuántas mujeres que viven con usted en su casa se le hicieron la prueba de PAPANICOLAU? _____

28. ¿Le han hecho a usted o algún otro miembro de su familia que vive con usted en su casa un EXAMEN DE PRÓSTATA en el último año?

' SI ' NO

Si es SI, ¿a cuántos hombres que viven con usted en su casa se le hicieron un EXAMEN DE PRÓSTATA? _____

ACCESO A LA ATENCION A LA SALUD

29. Cuando usted necesita *atención médica*, ¿a dónde va más seguido?

(Marque sólo uno)

- ' 1. Big Bend Family Health Center [Centro de Salud Familiar Big Bend] (en Terlingua)
- ' 2. Big Bend Regional Medical Center Hospital [Centro Médico y Hospital Regional Big Bend] (en Alpine)
- ' 3. Texas Department of Health (TDH) clinic [Clínica del Departamento de Salud de Texas (en Alpine, Marfa, o Presidio)
- ' 4. médico particular en Texas. ¿En que ciudad? _____
- ' 5. médico particular en México. ¿En que ciudad? _____
- ' 6. no consulta al médico
- ' 7. otro: favor de especificar _____

30. ¿Qué tan satisfecho(a) está usted con la atención de salud actual que proporcionan en su area?

(Marque sólo uno)

- ' 1. muy satisfecho(a)
- ' 2. satisfecho(a)
- ' 3. insatisfecho(a). ¿Porqué? _____
- ' 4. no usa/conoce los servicios de salud que se prestan en la comunidad

31. ¿En que ciudad compra usted más seguido sus medicamentos recetados?

(Marque sólo uno)

- ' 1. Alpine
- ' 2. Marfa
- ' 3. Ojinaga
- ' 4. otra ciudad. ¿En que ciudad? _____

32. ¿Sabe de cualquier servicio de salud que se necesite en su comunidad? ' SI ' NO

Si es SI, favor de enumerarlos: _____

33. Cuando usted necesita *atención dental*, ¿a dónde va más seguido?

(Marque sólo uno)

- ' 1. dentista en Texas. ¿En que ciudad? _____
- ' 2. dentista en Mexico. ¿En que ciudad? _____
- ' 3. clínica dental móvil del Departamento de Salud de Texas (TDH)' 4. no va al dentista

34. ¿Prepara o compra usted remedios naturales/herbales (NO RECETADOS)? ' SI ' NO
35. ¿Hay alguien que vive en su casa que tiene "Medicaid" o "Medicare"? ' SI ' NO
Si es SI, ¿cuántas personas tienen "Medicaid" o "Medicare"? _____
36. ¿Hay alguien que vive en su casa que tiene otro tipo de seguro de salud (QUE NO SEA "Medicaid" o "Medicare")? ' SI ' NO
Si es SI, ¿cuántas personas tienen otro tipo de seguro de salud (que no sea "Medicaid" o "Medicare")? _____
37. ¿Cuál considera usted que sea el problema **de salud** más IMPORTANTE en su comunidad? _____

38. ¿Cuál considera usted que sea el problema **ambiental** más IMPORTANTE en su comunidad? _____

ESTILO DE VIDA:

39. ¿Fuma alguien de los que viven en su casa? ' SI ' NO
Si es SI, ¿cuántas personas? _____
¿Cuántas personas son menores de 18 años de edad? _____
40. ¿Alguna de las personas que viven en su casa consume bebidas alcohólicas diariamente? ' SI ' NO
Si es SI, ¿cuántas personas? _____
¿Cuántas personas son menores de 18 años de edad? _____
41. ¿Hay alguien de los que viven en su casa que tenga problemas con abuso de medicamentos recetados u otras sustancias? ' SI ' NO
Si es SI, ¿cuántas personas? _____
¿Cuántas personas son menores de 18 años de edad? _____
42. ¿Hay alguien en su casa que haya sido diagnosticado por un médico con alguna enfermedad mental? ' SI ' NO
Si es SI, ¿cuántas personas? _____
¿Cuántas personas son menores de 18 años de edad? _____

FAVOR DE REVISAR EL CUESTIONARIO Y ASEGURARSE DE QUE NO DEJÓ NINGUNA PREGUNTA SIN CONTESTAR, EXCEPTO LAS QUE USTED NO QUIERE CONTESTAR. GRACIAS POR SU COOPERACION Y POR SU TIEMPO.

¿Tiene un número de **teléfono** donde se le pueda localizar en caso de tener alguna pregunta? _____

Si usted tiene alguna pregunta relacionada con esta encuesta, favor llamar al **1-800-693-6699** de lunes a viernes entre 8 am y 5 pm tiempo de la montaña (9am a 6pm, tiempo del centro)

“Si usted tiene alguna pregunta sobre sus derechos relacionados con esta encuesta, favor llamar al Texas Department of Health Institutional Review Board al 1-888-777-5037.”