

**Utilization of Physician Health Care Services in Mexico  
By Border Residents in Laredo, Texas**

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**ABSTRACT**

One of the most controversial topics in the U.S. is the issue of accessibility to health services by U.S. residents. This issue is most critical to the U.S. residents living along the U.S. - Mexico border who have been identified as having low health standards and low socio-economic conditions when compared to the rest of the state and the country. The availability of lower cost health services across the border in Mexico is, therefore, perceived as a viable economic alternative source of health care. This study is based upon a pioneering representative primary data and analysis of 1,100 household residing in Laredo, Texas and their health needs. Laredo is the largest land port along the 2,000-miles long U.S. - Mexico border. The results of this study indicate that about 41.2 percent of the Laredo population is utilizing cross border physician health care services in Mexico.

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Acknowledgment: The authors wish to acknowledge the City of Laredo Health Department and the U.S. Department of Health & Human Services Office of Minority Health for funding Grant No. D52MP94008-01 and a research grant of the Texas Center for Border Economics and Enterprise Development at Texas A&M International University. An abstract of this report appeared in the June 2001 issue of the *Western Hemispheric Trade Digest*, Volume I, No. 3.

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**Introduction**

The United States purportedly has one of the best health care systems in the world and judging by the extent of the research and technological equipment available in the major medical centers, it certainly leads most countries of the developed world. The United States spends more on health as a percent of its gross domestic product than any other country in the world. Weirs and Lonnquist (1957, p. 286) report that the “U.S. has the most expensive health care system in the world reaching \$884.2 billion dollars in 1993, forty percent more per person than Canadians, 80 percent more per person than Germans and 120 percent more than the Japanese”. Expenditures are projected to increase to \$2.2 trillion by the year 2008 (Organization for Economic Cooperation and Development 1999). However, limited access to health care services and lower utilization of services by segments of the U.S. minority populations stifle the stature of its delivery system.

Access to health care refers to the process of admittance or entry to the health care system and includes the availability and affordability of the service. Some researchers specify access to mean having a personal physician at the patient's regular source of care (Trevino et al. 1996). Other researchers define access with a more complex framework, which includes components such as socioeconomic, demographic and cultural characteristics of the population and of the health care system, including the utilization of services and the assessment of the health care received (GiacheIlo 1988; Gordon 1996; Sullivan 1988). The study of access and utilization of health services were initially developed by Andersen (1968) and have since been

expanded modified and are still in use. The concerns over access and utilization of services have been the central topic of study for several decades (Clark 1959; Andersen et al. 1981; Giachello 1988; Hoppoe et al. 1975; Trevino et al. 1996).

The barriers to accessing health services most noted in the literature are a combination of social structural factors and institutional impediments. Some of these barriers include: having no health insurance (Amey 1995; Park 1997; Valdez et al. 1993), a lack of knowledge of community services (COSMHO 1995), language barrier (Brenner 1997, Schur et al. 1996), a low level of education and low socioeconomic status (Andersen et al. 1981), place of residence (Weinick 1996), and occupations without health coverage or sick days (Ginzberg 1991). These barriers describe the situational characteristics for many Hispanics.

Hispanics, also referred to as Latinos in some of the literature, are the fastest growing ethnic minority and the second largest minority in the United States. In the year 2000, 11.4% of the U. S. population was identified as Hispanic versus 12.9% black, but the projections of the U.S. Bureau of the Census are that by the year 2010, 13.8 % of the population will be Hispanic and 13.5 % will be black and for the year 2050, the Hispanic population is projected to be 24.5 % versus a black population of 15.4 % (Day, 1996). In Texas, Hispanics are the largest ethnic minority with 23.3 percent of the population. This percentage is expected to grow to 24.18% by the year 2005 and 25.46 percent by the year of 2015 (Projected state populations 1995-2025).

Health insurance is usually provided as an occupational fringe benefit. However, it is estimated that about thirty-nine percent (39 %) of Mexican-Americans have no health insurance because they are employed in low-skilled occupations where health insurance is not included in the fringe benefits package (Valsiez et al. 1993). According to Valdez, et al. (1993, p. 889)

“Latinos have the worst health insurance coverage of any ethnic group in the country. Approximately 39 % of Latinos are uninsured compared with 13.8 % for the Anglo and 24 % for the black population”. In a more recent study conducted by the University of California at Los Angeles, El Paso, Texas was reported to have the highest uninsured rate among 85 metropolitan cities surveyed with 49 percent of the population lacking job-based coverage (Roberts 2000).

Among the institutional barriers to accessing health care services are: unavailability of medical service providers, remote location of facilities or away from public transportation, and fee-for-service system excluding Medicare or Medicaid public insurance. A large majority of Hispanics, over seventy percent, live in the most populous states, of California, Texas, New York, Florida, New Jersey and Illinois. Unfortunately, states like Texas and Florida have very restrictive eligibility guidelines to participate in the public insurance programs, which accounts, in part, for the low insurance coverage for Hispanics (Amey et al. 1995). Medical providers are not required to accept public insurance for payment, which defeats its purpose of reaching the poor and vulnerable: populations. These medical providers claim that they do not accept reimbursement from the government because the required documentation is too cumbersome and payments are not prompt (Weitz 1996).

Hispanics are also said to have lower utilization of health services partly because of the problems of access to the health delivery system described above. Various researchers, such as Trevino et al. (1996), Giachello (1988), Ginzberg (1991), Andersen et al. (1981) have documented the lower utilization of health services among Hispanics. Thus, if we accept these findings that the utilization of health services among Hispanics is low, then an interesting

question is to find out what alternatives people are resorting to for their health care needs outside of the U.S. formal system of health care.

Hispanics, most of whom are Mexican-Americans, living in a poor border community are an ideal population to study this question. Several reports account for the regularity with which Americans frequent Mexican border towns for the purpose of purchasing prescribed medications (Casher and Guerra 1992; Copian 1997; Families USA 1992; Gorman 1996; Korf 1994; McKeithan and Shepherd 1996; Skolnik 1995; Warner 1991). Anecdotal reports and common knowledge exists regarding the fact that U.S. residents utilize physician services in Mexico, but there are no representative scientific studies that have measured this phenomenon. The only study regarding U.S. - Mexico cross border physician utilization was done by Guendelman and Jasis (1990) in Tijuana, Mexico and found that only 2.5% of the Mexican population in Tijuana used health care services in the United States.

The importance of the U.S.- Mexico border, with a population of over ten million, has been underestimated and Sharp's (1998, p. 13) concern about this area was described as “growth without prosperity”. The area poses a challenge to the two nations and multiple opportunities for enhancing the geo-physical infrastructure and for developing economic enterprises.

Although the existence of a variety of health-related problems including those of accessibility to health services along the U.S. Mexico border was hypothesized, there is very limited data available measuring the health- related problems in this area, and a representative primary data set and analysis was non-existent in the published literature. It is in this perspective that the importance of the health needs assessment study done on behalf of the City of Laredo should be regarded and the federal Department of Health and Human Services that

provided the financial resources be complimented. This study addresses one of the issues, namely the accessibility to physician health care and therefore, contributes for the first time, evidence that quantitatively represents the magnitude of this problem along the U.S.- Mexico border.

### **Methodology**

In addition to demographic data derived from secondary sources, the primary data utilized for this research is from a study requested by the City of Laredo Health Department to identify and measure the health risk factors of its population and to conduct a needs assessment survey of existing health care services. The U.S. Department of Health and Human Services Office of Minority Health funded the twelve-month study. The City of Laredo, Texas, which is the focus of this study, is one of the largest metropolitan cities located on the U.S. - Mexico border. Laredo is growing rapidly and ranks second in the nation in its growth rate. On the U.S. side of the border in Laredo, live approximately 200,000 residents 94% of whom are Hispanic, whereas about 400,000 live in the Mexican neighboring city of Nuevo Laredo (Sharp 1998).

The cities of Laredo, Texas and Nuevo Laredo, Mexico are divided by political boundaries marked by the Rio Grande River and connected by five bridges and extensive familial, social, cultural, and economic ties. The continuous stream of over 48 million individuals crossing between the two countries and the over two million trucks that crossed the Laredo-Nuevo Laredo border in 1999 (Texas Center for Border Economic and Enterprise Development 2000) invariably impact both cities. Although these two cities could be model

cities since they are the front door to their respective countries, they, in fact, share a depressed economy as well as grave environmental and health problems.

The data was obtained through personal interviews conducted with 1,100 households within the City of Laredo. Households were proportionately and randomly selected from Laredo's nineteen statistical census tracts. The interviewers were specifically hired and trained for this research. The individuals interviewed identified themselves as the household decision-makers for health related purposes. The interviews, based upon 143 questions, lasted almost 1 hour per household. Participation in this study was voluntary and interviewees were guaranteed confidentiality.

The variables selected for this physician services related study are based upon Andersen's (1975) Behavioral Model of Health Services Utilization that has been explained and updated by Wolinsky (1988). This model has three major theoretical constructs that purport to explain consumer's health service' utilization. The constructs are: 1) predisposing factors, 2) enabling factors and 3) need factors. Predisposing factors or the propensity to use services have three subsets: a) the demographic variables such as age, sex and marital status, b) social structure variables such as level of education, type occupation, and ethnicity and c) health beliefs such as religion, attitudes, and the belief that the medical service can produce positive results. Included in the enabling factors are: a) family resources such as household income and place of residence and b) community resources such as transportation, population size, cost of service, and the availability of the medical facilities and health care providers. The need factors include: a) the perceived need that encompasses the subjective assessment of illness and b) the evaluated need that includes clinical diagnoses.

For purposes of this study, we are limiting our focus to Wolinsky's (1988) modified predisposing factors and specifically on the theorized explanatory demographic variables of age, gender, level of education, income, and insurance coverage.

The data was statistically analyzed in a set of descriptive cross tabulations utilizing the statistical package for the social sciences (SPSS) version 10.1 (1999) and a conditional forward regression model utilizing binary logistic analysis (SPSS 1999).

## **Findings**

The population of Laredo, Texas is characterized as: young, with an average age of 25 years; mostly Hispanic (94%), low income with a median annual income of \$11,402. compared with \$21,118. for the state's per capita income; with a low level of educational attainment, and a high rate of unemployment (Sharp 1998). According to the federal poverty level, about thirty-eight percent (38%) of Webb County residents live at or below the poverty level. Over 90% of Webb County's population resides in the City of Laredo. In contrast to many other parts of the State of Texas and the nation, the cities along the U.S.- Mexico border are some of the poorest urban centers in the United States. These despairing demographics translate into problems of access to quality and preventive health care services for a large segment of the residents of the U.S. - Mexico border including Laredo, Texas.

"The City of Laredo Health Department reports a shortage of health care medical providers for its population size. The availability of health care providers impacts a population's ability to access services. For example, the ratio of medical family practitioners per number of patients is 1:8,771 and for an OB/GYN practitioner, the ratio is 1:4,726,



compared to the state of Texas ratio of 1:4,404 and 1:2,559, respectively (City of Laredo Health Department 1995).

The results of the primary data research regarding the utilization of Mexican physicians by Laredo, Texas residents reported in Table 1, Utilization of Mexican Physicians by Laredo Residents Results of Descriptive Analysis, indicate that a significant segment of the population 41.2% is crossing the border to receive health care in Mexico.

***SEE TABLE 1***

As documented in Table 1, 47.6% of the younger group (age <29) and 4b.2% of the middle-aged group (age 30-59) of the citizens of Laredo are the primary users of these cross border Mexican health services whereas only 25.7 % of the elder group do so. We believe that the lower utilization by the elder residents is in part explained by the fact that Medicare or Medicaid provides insurance to the eider U.S. citizens. The main Laredo users of Mexican physicians come from the low income group (48.8%) followed closely by the somewhat more affluent group (\$20-35,000) at 46.3 % and only 21.5 % of the upper income Laredo group ( > \$35,000) utilize physician care in Mexico.

The utilization of these services declines with increased education levels. Whereas 49.6% of the residents with elementary level education and 45.8% of the high school graduates utilize these cross border medical services, only 25.8% of those that have a college degree do so. The difference in utilization of this service does not differ significantly between the genders at an Alpha .05 level.

The most significant difference is evident, as hypothesized, between those who do and do not have insurance. Whereas 27.2% of the insured Laredo citizens still prefer to obtain services from physicians across the border in Mexico, the majority i.e., 72.8 % of those who do not have health insurance, seek physician services in Mexico. Table 2, Utilization of Mexican Physicians by Laredo Residents Results of Binary Logistic Conditional Forward Regression Analysis, was generated utilizing the regression module of SPSS, specifically the binary logistic regression analysis. We have chosen the conditional forward method that allows the inclusion of variables in the model if they exceed a significance level of alpha greater than .05 level.

***SEE TABLE 2***

The variables of income and gender did not fulfill the conditions of inclusion into the model and have to be regarded as not having sufficient significant explanatory power in the model. The educational level, the age group and especially the issue of having or not having health insurance have proven to be significant and must be regarded as the major explanatory variables of why Laredo residents utilize the services of Mexican physicians across the border.

**Conclusion**

For the first time, in published literature, we believe to have provided scientific based evidence that a significant portion, 41.2%, of a U.S. border city's population is utilizing physician health care services in Mexico. We have no doubts that the U.S. health care system, the greatest in the world by many accounts, requires reforms when large portions of its population, especially those living along the U.S. Mexican border, cross the border in order to

obtain health care services in Mexico. The cost of health care in the U.S. is proven to be prohibitive for many citizens and residents, particularly those who are uninsured. The topic of affordable and accessible health care is a focal current issue at the local, state and federal levels and will undoubtedly continue to be debated until some relief is implemented for the approximate 34 million uninsured U.S. residents. The alternative of traveling to Mexico for health care is a desperate measure to overcome the health related accessibility barriers limiting U.S residents, especially Hispanic border residents, from receiving local U.S. health care and should not be acceptable as a permanent solution.

**Table 1**  
**Utilization of Mexican Physicians by Laredo Residents**  
**Results of Descriptive Analysis**

<b>Variable</b>	<b>% Utilizing Mexican Physician</b>	<b>% Not Utilizing Mexican Physician</b>	<b>Chi-square Statistics</b>	<b>Cramer's V</b>
Total	41.2	58.8		
<b>Age Group</b>			.000	.000
Young <29	47.6	52.4		
Middle 30-59	46.2	53.8		
Old >59	25.7	74.3		
<b>Income Group</b>			.000	.000
Low <\$15,000	48.8	51.2		
\$20,000-35,000	46.3	53.7		
High > \$35,000	21.5	78.5		
<b>Education Level</b>			.000	.000
Elementary	49.6	50.4		
High School	45.8	54.2		
College	25.8	74.2		
<b>Gender</b>			.041	.038
Male	35.9	64.1		
Female	43.0	57.0		
<b>Health Insurance</b>			.000	.000
Have	27.2	72.8		
Do not have	63.8	36.2		

**Table 2**  
**Utilization of Mexican Physicians by Laredo Residents**  
**Results of Binary Logistic Conditional**  
**Forward Regression Analysis**

Variable	Standard Error	P - Value	Wald Value
Insurance	0.149	0.000	73.027
Education Level	0.094	0.000	22.030
Age Group	0.11	0.000	17.011

Note: Table includes only variables accepted into the model at the .05 Alpha level.

## References

- Amey, Cheryl, Karen Seccombe, R. Paul Duncan (1995), "Health Insurance Coverage of Mexican American Families in the U.S", *Journal of Family Issues*, 16, (4), 488-510.
- Andersen, Ronald (1968), *A Behavioral Model of Families' Use of Health Services*. Chicago: Center for Health Administration Studies.
- Andersen, Ronald, Joana Kravits and Odin Anderson (1975), *Equity in Health Services*. Cambridge: Ballinger.
- Andersen, Ronald, Sandra Zelman Lewis, Aida L. Giaehello, Lu Ann Aday, and Grace Chiu (1981), *Journal of Health and Social Behavior*. 22 (March), 78-79.
- Brenner, Paul R. (1997), "Issues of Access in a Diverse Society," *The Hospice Journal*, 12 (2), 9-16.
- Casner, Paul R. and Luis G. Guerra. 1992. "Purchasing Prescription Medication in Mexico without a Prescription, the Experience at the Border." *Western Journal of Medicine* 156 (5): 512-16.
- City of Laredo Health Department (1995), *Laredo: The People Speak Out. Health Risk Factors and Needs Assessment*. Research funded by the U.S. Department of Health & Human Services Office of Minority Health Grant No. D52MP94008-01, Laredo, Texas.
- Clark, Margaret (1959), *Health in the Mexican-American Culture*. Berkeley: University of California Press.
- Conian, Michael F. 1997. "Border Pharmacy: down Mexico way, Rx prices are low and Americans are loading up." *Drug-Topics* 141: 42-54.
- COSSMHO, National Coalition of Hispanic Health and Human Services Organizations (1995), "Meeting the Health Promotion Needs of Hispanic Communities," *American Journal of Health Promotion*, 9 (4), 300-11.
- Families USA Foundation (1992), *Crossing to Mexico: Priced out of American health care*. Washington, DC: Families USA Foundation.
- Giaehello, Aida L. (1988), "Hispanics and Health Care" Pp. 159-194 in *Hispanics in the United States*, Pastora San Juan Cafferty and William C. McCready, Editors. New Brunswick, New Jersey: Transaction Books.
- Ginzberg, Eli (1991), "Access to Health Care for Hispanics," *Journal of the American Medical Association*. 265 (January), (2), 238-41.

- Gorman, Christine. 1996. "Border bargains." *Time* 147 (54).
- Gordon, Audrey K. (1996), "Hospice and Minorities: A National Study of Organizational Access and Practice," *The Hospice; Journal*, 11 (1), 49-70.
- Guendelman, Sylvia. and M. Jasis (1990), "Measuring Tijuana residents' choice of Mexican or U.S. health care services," *Public Health Reports*, 105 (6), 575-84.
- Hoppoe, Sue K. and Peter L. Heller (1975), "Alienation, Familism and the Utilization of Health Services by Mexican-Americans," *Journal of Health and Social Behavior* 1b (3), 304-14.
- Korf, D.J. 1994. "Drug tourists and drug refugees." In E. Leuw and I. H. Marshall, editors, *Between prohibition and Legalization: the Dutch experiment in Drug Policy*. Amsterdam/New York: Kugler Publications.
- Magidson, Jay (1998), *GOLDMineR 2.0*. Belmont, MA: Statistical Innovations Inc.
- McKeithan, E. Kristin and Marvin D. Shepherd. 1996. "Pharmaceutical products declared by U.S. residents on returning to the United States from Mex co." *Clinical Therapeutics* 18 (6): 1242-51.
- Murdock, Steve H., MD. Nazrul Hoque, Martha Michael, Steve White, and Beverly Pecotte (1997), *The Texas Challenge: Population Change and the Future of Texas*. College Station, Texas: Texas A&M University Press.
- Organization for Economic Cooperation and Development (1999) *Health Data 99*. Paris, France: Organization for Economic Cooperation and Development.
- Park, J. and Buechner, J.S. (1997) *Race, Ethnicity, and Access to Health Care*. *Journal of Health & Social Policy*, 9, 1, 1-14.
- Roberts, Chris (2000), *El Paso has highest uninsured rate among surveyed cities*. Associated Press: *Corpus Christi Caller Times* (August) 26, 1.
- Schur, Claudia L. and Leigh Ann Altiers (1996), "Language, sociodemographics, and health care use of Hispanic adults," *Journal of Health Care for the Poor & Underserved*, 7 (2), 140-58.
- Sharp, John (1998), *Bordering the future: challenge and opportunity in the Texas border region*. Texas Comptroller of Public Accounts. Austin, Texas.
- Skolnick, Andrew A. (1995), "Crossing 'Line on the Map' In Search of Hope," *Journal of the American Medical Association*, 173 (21), 1646-48.

SPSS Advanced Models 10.0 (1999), Chicago, IL: TableLook, SPSS Inc.

Sullivan, Teresa A. (1988), "A Demographic Portrait," in Hispanics in the United States, Pastora San Juan Cafferty and William C. McCready, Editors. New Brunswick, New Jersey: Transaction Books.

Texas Center for Border Economic and Enterprise Development (2000) Texas A&M International University, Laredo, Texas.

Trevino, Robert P., Fernando M. Trevino, Rolando Medina, Gilbert Ramirez, and Robert R. Ramirez (1996), "Health care access among Mexican Americans with different health insurance coverage," *Journal of Health Care for the Poor & Underserved*, 7 (2), 112-21.

Valdez, R. Burciaga, Hal Morgenstern, E. Richard Brown, Roberta Wyn, Chao Wang, and William Cumberland (1993), "Insuring Latinos Against the Costs of Illness," *Journal of the American Medical Association*, 2;69 (February 17), 7, 889-94.

Warner, David C. (1991), "Health Issues at the U.S.-Mexican Border," *Journal of the American Medical Association*, 2:65 (January 9), 2, 242-47.

Weinick, R. M. and Drilea, S. K.. (1996) Usual sources of health care and barriers to care. *Statistical Bulletin Metropolitan Insurance Company*, 79, 1, 11-70.

Weiss, Gregory L. and Lynne E. Lonnquist (1997), *The Sociology of Health, Healing, and Illness*. Second Edition. New Jersey: Prentice Hall.

Weitz, Rose (1996), *The Sociology of Health, Illness, and Health Care. A Critical Approach*. Belmont, CA: Wadsworth Publishing Company.

Wolinsky, Fredrick D. (1988), *The Sociology of Health Principles, Practitioners, and Issues*, 2nd Edition. Belmont, California: Wadsworth Publishing Company.