

# **ACQUISITION OF PRESCRIPTION MEDICATION ACROSS THE TEXAS-MEXICAN BORDER IN THE PORT OF LAREDO: AN EXPLORATORY INTERNATIONAL TRADE PERSPECTIVE**

*Cecilia Garza*

*Texas A &M International University*

*Michael Landeck*

*Texas A &M International University*

## **ABSTRACT**

The objective of this paper is to expand on previous medical-oriented research regarding the purchase of prescription medications by U.S. citizens and residents across the Texas-Mexican border, and to extend those studies by estimating the dimension and the market value in this area of international trade in Laredo, Texas, the largest land port along the U.S.-Mexico border. Using an exploratory research methodology, the analysis provides stunning results that identify an over \$134 million dollar prescription medication Mexico-U.S. cross border market.

## **INTRODUCTION**

The U.S. medical community and the popular press have focused on a number of research papers [Casner & Guerra 1992; McKeithan & Shepherd 1996; Valdez, Mata, Codina & Kaplan 1997; Valdez & Sifaneck 1997] and popular publications [McCann 1997; Conian 1997; Gebhart 1996; Calvo 1997; Gorman 1996] on the issue of U.S. citizens acquiring prescription drugs during their visits across the border to Mexico. The major concerns of the above medical-oriented researchers centered on the issues of health-related dangers resulting from the lack of control regarding the quantities and the potency of the prescription medications that are being used without sufficient supervision of the U.S. doctors.

The phenomenon of acquiring Mexican medications by U.S. citizens has not only health-related aspects, but it also has international trade and international marketing-related perspectives. This paper will show that the extent of U.S. citizens and residents purchasing medications in Mexico is a multimillion-dollar market and that documentation on the market loss to U.S. pharmaceutical companies has been underestimated. Chief executive officers, managers, producers, and wholesalers of specific pharmaceuticals (See Table 1) and pharmacies on both sides of the U.S.-Mexican border should be highly interested in the magnitude of this "pharmaceutical trade" between the two nations. Information on this issue could enable the interested entities to improve their international trade and marketing strategies. This managerial international trade aspect of

the cross border medication activities has not yet been formally addressed in the academic literature and is the focus of this paper.

**Table One:** *Top 15 Pharmaceutical products declared by tourists returning to Laredo, Texas from Mexico*

Grp*	Rank and Drug Product	Mexican Brand Name	Total No. Declarations	Total No. Units
1	Diazepam	Valium	3923	928,800
1	Flunitrazepam	Rohypnol	2393	338,760
1	Alprazolam	Tafil	1316	284,130
2	Diethylpropion	Tenuate Dospan	1013	111,060
3	Oxycodone	Neopercodan	862	42,550
2	Phentermine	Diminex	849	79,140
2	Clobenzorex	Asenlix	596	92,760
3	Codeine/APAP	Tylox	503	16,230
3	Propoxyphene	Darvon	467	37,940
3	Nalbuphine	Nubain	362	1,810
1	Diazepam/propoxyphen	Qual	227	13,800
1	Triazolam	Halcion	217	16,470
2	Methylphenidate	Ritalin	159	13,380
1	Lorazepam	Ativan	145	15,000
1	Carisoprodol/naproxen	Somalgesic	110	10,890
Source: McKeithan and Sheperd, 1996				
*Grp=Group 1=sedatives; Group 2=stimulants; Group 3=analgesics				

## LITERATURE REVIEW

The popular press had documented a number of reports with alarming titles on the issue of American "drug tourists" purchasing licit and illicit medications in Mexico [Calvo 1997; Conian 1997; Gebhardt 1996; Gorman 1996; Hilts 1992; McCann 1997; Ramirez 1995]. Most of these reports describe to their readers the process by which people can purchase prescription medications. These journalists appear surprised with the impudence with which the Mexican pharmacies market their products and offer for example, "winter Texan specials" [Conian 1997: 44]. The lower cost of all of the medications compared to the cost in the U.S., and the easy access to them is a common theme throughout these reports. Another approach used by journalists is to attempt to discredit the quality of the medications sold in Mexico [Calvo 1997] or to alarm the public regarding the potential problems they may encounter with U.S. customs officials [Conian 1997]. However, these

reports seem to have minimal impact in changing the behavior of American "drug tourists".

The practice of purchasing medications continues and by our accounts, the incidence and magnitude of this type of activity is much greater than what the U.S. pharmaceutical industry believes [Conian 1997]. The focus of the existing academic studies is primarily a concern over the public health issues and the potential danger which may ensue as a result of individuals who are self-administering medications without medical supervision or who are taking these medications for non-medical purposes [Casner & Guerra 1992; McKeithan & Shepherd 1996; Valdez & Sifaneck 1997].

Drug tourism is not limited to the U.S.-Mexico border. According to Valdez and Sifaneck [1997], the use of the term "drug tourism" initiated with Korf [1994] to describe foreigners travelling to the Netherlands because of the liberal drug policies there. Currently, the term is applied, in general, to describe a location that attracts individuals because of the availability and easy access to drugs. Another valuable contribution of the existing academic literature is the identification of the most commonly purchased medications (See Table 1).

The practice of purchasing prescription drugs has been referred to as a "gray market" [Valdez & Sifaneck 1997] because it operates on the fringes of what is considered legal. Currently, U.S. law permits the purchase of a 90-day supply of medications for the holder of a medical prescription [U.S. Customs 1997]. The enforcement of the 90-day limit is overwhelming for U.S. Customs officials, which further facilitates the practice of purchasing medications. There are not enough personnel to track all of the declarations and the quantities reported by each individual. The literature includes many accounts on the ease of acquiring the medical prescriptions and the medications from pharmacies with or without prescriptions [Casner & Guerra 1992; Valdez & Sifaneck 1997; McKeithan & Shepherd 1996].

## **LIMITATIONS OF PREVIOUS STUDIES**

A significant dimension lacking in the existing body of knowledge is the missing quantification of the magnitude and value of the market involved in the tourist importation of medical prescription medications from Mexico to the U.S. The existing medical-oriented academic studies are adequate for meeting the objective of identifying the types and quantities of medications being purchased. However, these studies are deficient if the objective is to estimate the total dollar value of the market or to determine the total magnitude of the number of consumers of prescription medications purchased in Mexico. The existing medical oriented academic studies are adequate for meeting the objective of identifying the types and quantities of medications being purchased. However, these studies are deficient if the objective is to estimate the total dollar value of the market or to determine the total magnitude of the number of consumers of prescription medications purchased in Mexico.

Previous studies have been done with samples of limited populations. For example, McKeithan and Shepherd [1996] analyzed 5,624 U.S. Customs declaration forms collected in Laredo, Texas between July 1994 and June 1995. The difference between the number of pedestrians crossing this border, totaling 3,708,747 and the 7,384,798 drivers of vehicles (See Table 2), that crossed the Laredo-Mexico border during this period, compared to the number of individuals making declarations upon their return from Mexico during the same period, totaling 5,624, is totally disparate. In addition, the quantifiable measure of cross border flow in Table 2 indicate that over ten million individuals are crossing per year in Laredo only. This can be said to be a conservative figure because we are counting only one person per vehicle. The Immigration and Naturalization Service has a rough estimate of about 2.4 individuals per vehicle [Martinez 1998].

**Table Two:** *Number of Pedestrians and Vehicles crossing into Laredo, Texas from Nuevo Laredo, Mexico*

<b>Month</b>	<b>Number of Pedestrians</b>	<b>Number of Vehicle Drivers</b>	<b>Total Number People Crossing</b>
July 1994	324,941	637,799	962,740
August 1994	318,501	634,145	952,646
September 1994	304,640	611,077	915,717
October 1994	318,272	643,673	961,945
November 1994	329,820	623,720	953,540
December 1994	414,114	672,064	1,086,178
January 1995	278,385	604,170	882,555
February 1995	248,577	554,303	802,880
March 1995	300,237	593,002	893,239
April 1995	296,317	588,691	885,008
May 1995	294,316	618,309	912,625
June 1995	280,627	603,845	884,472
<b>Total</b>	<b>3,708,747</b>	<b>7,384,798</b>	<b>11,093,545</b>
Source: Institute for International Trade, TAMIU Laredo U.S. Customs, Laredo Texas Immigration and Naturalization Service, Laredo			

Valdez and Sifaneck [1997] also utilized customs declaration forms in their studies conducted over a three-month period when a random sample of 2,005 declaration forms were analyzed. Casner and Guerra [1992] refer in their study to a nonsystematic sample of seventy-nine patients who visited a clinic in El Paso within a one-month period of time.

Another major deficiency with the existing studies is the lack of current primary data on the number of U.S. tourists who are purchasing medications. Contemporary research articles are using the estimate of twenty-five percent as the number of U.S. tourists believed to be purchasing prescription medications [McKeithan and Shepherd 1996; Valdez and Sifaneck 1997]. Tracing these references we found that the twenty-five percent derives from a source publication compiled by the University of California at Los Angeles Center for Latin American Studies [Lorey 1993]. Further investigation revealed that the reference by Lorey [1993] is from a 1983 report whereby estimates are given on a series of items purchased by U.S. tourists among which are medications [Review of Economic Situation of Mexico 1983].

The limitations of the existing medical-oriented studies compel us to use the data which other studies have accepted and lead us to extend this research with a methodological approach, explained in the following section, that facilitates calculating a dollar value to the "international trade" of prescription medications purchased in Mexico by U.S. tourists.

## **METHODOLOGY**

Our methodology is based upon an exploratory approach. This strategy allows treading into uncharted territory in order to determine if there are sufficient grounds for pursuing a more thorough investigation and analytical study. Malhorta [1996] concurs there are valuable insights gained from using a more flexible, less structured exploratory design. Exploratory research is characteristically used to analyze existing studies and to help "define a problem more precisely and to isolate key variables for further examination" [Malhorta 1996:88].

Utilizing the study conducted by McKeithan and Shepherd [1996], this research expands on their results and augments the study by searching more precisely for the numerical account of the estimate of the American population who is purchasing prescription medications in Mexico. Additionally, a strength and contribution of this study is that it places a dollar value on this market.

McKeithan and Shepherd [1996] chose Laredo Texas as the port of entry in which they conducted their research. This paper builds upon this study and focuses therefore, on Laredo as well. The reasons for choosing Laredo for this kind of study are depicted in this city's international trade statistics, and its unique, strategic geographic location.

The Port of Laredo, Texas is located on the United States/Mexico border and is one of the oldest cities in the U.S., founded in 1755. It is the fastest growing city in Texas and the major international crossing inland port. Laredo is 150 miles south of San Antonio, 150 miles west of Corpus Christi, and 156 miles north of Monterrey, Mexico's third largest city. Because of the city's geographic location and major highways on both sides, there is a significant flow of people across the U.S./Mexico border shown in Table 2.

The U.S./Mexico border area, including Laredo, has indicator variables which are significantly different from regional, state and national statistical data. These differences make the border area a unique "binational, bicultural, and bilingual subculture" [Sharp 1998:1] with greater similarities to other border regions than to their respective nations. In 1997, the port of Laredo handled \$18 billion dollars in U.S. exports to Mexico and \$24 billion dollars in U.S. imports from Mexico [Laredo Development Foundation 1997]. The port of Laredo, a city with a population of 162,122, is indeed uniquely positioned as these figures show. Laredo handles thirty-five percent (35%) of the total U.S.-Mexico ground transportation trade, forty-eight percent (48%) of the total trade through the state of Texas and sixty-four percent (64%) of the total trade through all of South Texas [Laredo Development Foundation 1997].

The volume of vehicular and pedestrian traffic in what used to be described as a sleepy town is anything but that! For example, 16,627,159 vehicles crossed the port of Laredo in 1997 [Laredo Development Foundation 1997]. Additionally, according to Alfredo Martinez, Intelligence Officer with the Immigration and Naturalization Service, 41,095,415 individuals crossed the Laredo-Mexico border in 1997, of whom they estimate 33,126,201 were not U.S. citizens and 7,969,214 were U.S. citizens.

Our computational methodology follows a series of sequential and discrete steps. First, using the data from the Immigration and Naturalization Service, we get the total number of U.S. tourists that cross the border from Nuevo Laredo, Mexico to Laredo Texas. Next, using the estimate of twenty-five percent, also used by McKeithan and Shepherd [1996] based on a prior study from the UCLA Latin American Studies Center [1993] regarding the estimate of U.S. tourists who purchase medications, we estimate the number of people who buy prescription medication from those who cross the border. Third, based on McKeithan and Shepherd's [1996] report, we calculate the average consumption of pills per individual. From the list of the top fifteen drugs most purchased in Mexico (Table 1), three major groups are created. The first group of drugs is sedatives, the second group is stimulants and the third group is narcotic analgesics. The fourth step is to determine the total consumption by medication groups. Fifth, we establish the value of the medications in Mexico of each drug by group and reported in U.S. prices. The last step in the series of calculations is to establish the total value of the prescription medications that crossed into the U.S. in 1997 as purchased in Mexican prices and its equivalent in U.S. prices. The total comparable dollar values will provide an indication of the savings in prescribed medications to American shoppers or the loss of the market for American pharmaceutical companies. The next section will clarify the findings and the numerical calculations, which are summarized in Table 3.

## **FINDINGS**

The following results were generated by this study:

1. According to information provided to us by the Laredo Port of the Immigration and Naturalization Services, the total number of individuals crossing northbound from Nuevo Laredo to Laredo in 1997 was estimated at 23,065,956. In that number, 17,299,467 were

identified as non-citizens, and 5,766,489 were identified as U.S. citizens. This number includes pedestrians, drivers, and passengers in vehicles, buses, and trucks.

2. Based upon the information from McKeithan and Shepherd [1996] who quoted the study of the UCLA Center for Latin American Studies, the number of people buying prescription drugs in Mexico was estimated as twenty-five percent of the total number of U.S. citizens crossing the U.S.-Mexican border. Based upon this figure, the estimate for the number of prescription drug buyers for 1997 crossing into the port of Laredo is twenty-five percent of 5,766,489 or 1,441,622.

3. Based upon the study of McKeithan and Shepherd [1997], we have calculated the average number of units or tablets that are estimated to be purchased by U.S. citizens and residents crossing the border to be 193 units per person of sedatives, 185 units per person of stimulants, and 45 units per person of analgesics, totaling 423 units per person.

4. The following medications were chosen to represent each group, and their weighted prices per unit were: \$0.215 per sedative in Mexico; \$0.201 per stimulant; and \$0.325 per analgesic. The prices in Mexico were identified by the authors in a primary research in Nuevo Laredo.

5. Based upon the above, the average dollar value (in U.S. dollars at Mexican prices) of units that each U.S. buyer brings with him/her across the border are: \$41.50 worth of sedatives; \$37.19 worth of stimulants; and \$14.63 worth of analgesics, totaling \$93.32 per person.

6. At Mexican prices, the total dollar yearly value of prescription drugs brought into the country by U.S. citizens is estimated by us to be worth: \$59,827,313. for sedatives; \$53,613,922. for stimulants; and \$ 21,090,930. worth of analgesics, totaling **\$134,532,165**. This is the amount of money we estimate is being spent by U.S. citizens on prescription medications in Nuevo Laredo only in 1997.

The major findings of the study are summarized in the following Table 3.

**Table Three:** *Prescribed Medications Purchased by U.S. Citizens and Cost Estimates*

Grp	Drug Product	Mexican Brand Name	Total No. People Making Declarations	Total No. of Units Declared	Weights	Price in Mexico in U.S. Dollars	Weighted Price	Ave. Pills Per Person	Average Value of Pills (per capita)	Estimate No. of U.S. Buyers of Prescribed Medications	Estimated Total Value of Prescribed Medications Purchased
1	Diazepam	Valium	3923	928,800	0.578	0.15	0.087				
1	Flunitrazepam	Rohypnol	2393	338,760	0.211	0.33	0.070				
1	Alprazolam	Tafil	1316	284,130	0.177	0.26	0.046				
1	Diazepam/Propoxyphene	Qual	227	13,800	0.009	0.70	0.006				
1	Triazolam	Halcion	217	16,470	0.010	0.36	0.004				
1	Lorazepam	Ativan	145	15,000	0.009	0.17	0.002				
1	Carisoprodol/Naproxen	Somalgesic	110	10,890	0.007	0.25	0.002				
<b>1</b>	<b>SEDATIVES</b>		<b>8331</b>	<b>1,607,850</b>	<b>1.000</b>	<b>0.32</b>	<b>0.215</b>	<b>193</b>	<b>\$41.51</b>	<b>1,441,622</b>	<b>\$59,827,313.</b>
2	Diethylpropion	Tenuate Dospan	1013	111,060	0.375	0.05	0.019				
2	Phentermine	Diminex	849	79,140	0.267	0.25	0.067				
2	Clobenzorex	Asenlix	596	92,760	0.313	0.33	0.103				
2	Methylphenidate	Ritalin	159	13,380	0.045	0.26	0.012				
<b>2</b>	<b>STIMULANTS</b>		<b>1604</b>	<b>296,340</b>	<b>1.000</b>	<b>0.22</b>	<b>0.201</b>	<b>185</b>	<b>\$37.05</b>	<b>1,441,622</b>	<b>\$53,613,922.</b>
3	Oxycodone	Neopercodan	862	42,550	0.432	0.40	0.173				
3	Codeine/APAP	Tylen	503	16,230	0.165	0.36	0.059				
3	Propoxyphene	Darvon	467	37,940	0.385	0.20	0.077				
3	Nalbuphine	Nubain	362	1,810	0.018	0.85	0.016				
<b>3</b>	<b>ANALGESICS</b>		<b>2194</b>	<b>98,530</b>	<b>1.000</b>	<b>0.45</b>	<b>0.325</b>	<b>61</b>	<b>\$14.58</b>	<b>1,441,622</b>	<b>\$21,090,930.</b>
	<b>Total</b>								<b>\$93.14</b>		<b>\$134,532,165.</b>
*Grp = Group1=sedatives; Group 2=stimulants; Group 3=analgesics											

To put these figures in perspective it should be noted that according to the Pharmaceutical Market [World Review 1997], the North American Pharmaceutical Market in 1996 was \$103 billion U.S. dollars, of which the U.S. share was \$98.57 billion or 95.7 percent, and the Canadian share was \$4.43 billion or only 4.3 percent. The Mexican pharmaceutical market is estimated at \$2.99 billion in U.S. dollars or 14.4 percent of the \$20.7 billion dollar Latin American Market [World Review 1997]. The estimates of market value in Laredo that we have arrived at in Table 3 are most significant and represent 5.9 percent of the total pharmaceutical market in Mexico.

The findings of this study should be more than stunning to the U.S. pharmaceutical industry, which previously does not seem to have been alarmed by the importation activities of prescription drugs along the U.S.-Mexican border [Conian 1997]. On the other hand, this volume of trade should be very comforting to the Mexican pharmacies

who may even play a much more significant role in the future should they become more active in soliciting U.S. buyers to their pharmacies in Mexico.

Another significant dimension that this analysis underscores is the fact that our health-care system is costly to Americans. Studies such as this one mirror the difficulties individuals are having accessing health care services and acquiring prescription medications [Aday 1993; Birenbaum 1993]. The fact that such a notable number of Americans are travelling to another country to obtain their medications is a reflection of a health care system that is inaccessible to many citizens. The medicalization of the pharmaceutical industry maintains a system of social control that obliges the lay person to seek alternative methods to access medical treatment [Conrad & Schneider 1992].

### **LIMITATIONS OF THE STUDY AND FUTURE RESEARCH PERSPECTIVES**

This study was limited to the estimate of the cross border prescription medication trade that is taking place in the port of Laredo. As we have mentioned, the reasons were that Laredo is by far the largest inland port along the U.S. Mexican border and that it was chosen by McKeithan and Shepherd [1996] and Valdez and Sifaneck [1997] for the same reasons as their focus of research.

We feel strongly that an extension of the study which would cover and estimate the whole Texas-Mexican border and then followed by an estimate of the total U.S.-Mexican border would produce even more spectacular and useful results beyond those presented in this study. Equally important is the fact that there is a critical need to do primary research because the existing studies, as we have reported, have been using data from sources traced to 1983 and these findings certainly need to be updated [Lorey 1993; McKeithan and Shepherd 1996; Review of Economic Situation of Mexico 1983].

The authors further feel that the growing interest and focus of identifying a border region between U.S. and Mexico, specifically in Texas along the Rio Grande River, demands additional study and analysis. A study should be performed to identify whether the border population differs significantly from the total population of tourists that cross the border in their patterns of satisfying their needs and the needs of their families in prescription drugs by acquiring them across an international border. Such results would be most helpful to both the pharmaceutical industry involved as well as health policy makers along the Texas-Mexico border.

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