

# **U.S.-Mexico Mode 2 Imports and Exports of Health Services**

*Report to the Organisation for Economic  
Cooperation and Development*

**by David C. Warner, Ph.D., and Lauren R. Jahnke, M.P.Aff.  
Lyndon B. Johnson School of Public Affairs  
The University of Texas at Austin  
Austin, Texas, USA**

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## **Introduction**

There is a great deal of interdependence between Mexico and the United States of America in health care as in other areas, since the two countries share a 1,950-mile border. It is difficult to determine when much of the health care consumption is Mode 2 Trade in Health Services and when it is not. There are complicating factors in some cases such as citizens of one country who have immigrated to the other country temporarily or in some cases illegally, how to count care that is unreimbursed, and how to treat health care bought with remittances sent by U.S. workers to family members in Mexico. In addition, comprehensive data on U.S.-Mexico and Mexico-U.S. expenditures on health services are virtually nonexistent. There have been smaller-scale studies done for certain border cities, health services, and segments of the population, and much discussion in the last decade about cross-border care of both insured and uninsured people, but no data on overall spending. Also, we found most private insurers are reluctant to disclose specific data on their beneficiaries and expenditures, making tracking of this segment difficult.

Data analyzed from the United Nations Service Trade Database show that in 2007, the U.S. reported their exports under Mode 2 in health to Mexico (when Mexican residents cross the border to receiving health care in the U.S.) to be \$434,353,119 (see Appendix A). Figures are not available for U.S. imports from Mexico, or Mexican imports and exports relating to the U.S., but even if they were the numbers in the table are probably not reliable due to the limitations in the database discussed in Appendix B, and are not consistent from country to country. As will be seen below, we believe that this figure is an underestimate of the amount of trade taking place in both directions.

This report represents an effort to quantify the annual Mode 2 health care expenditures between the U.S. and Mexico using an approach of dividing the health care consumption into different related groups, then employing a variety of calculations and estimates for each in the absence of solid data. There are four broad groups of health care recipients that must be studied to get an overall picture of trade in health services between the two countries: 1) natives of one of the countries who are living in the other country due to employment or retirement; 2) border residents and workers who routinely go across the border for health care services; 3) temporary visitors/tourists from one of the countries who incidentally require health care when in the other country; and 4) people who are true medical tourists and travel to the other country (often beyond the borders) specifically for health care services. These four groups are examined in more detail in the following sections.

## **1. Natives of One Country Living in the Other Country**

In 2008 there were an estimated 11.4 million Mexican-born people living in the US<sup>1</sup> and at least one million U.S.-born living in Mexico.<sup>2</sup> This population returns home for some of their health care and consumes substantial amounts of health care in their country of current residence. It is unclear which consumption should be counted. For example, care consumed just by undocumented immigrants to the U.S. in 2000 was estimated to be \$6.5 billion per year of

public, private, and personal money.<sup>3</sup> This population, and especially the much larger group of Mexican immigrants who are permanent residents and citizens, also returns home to Mexico to receive care and may also send money home to family members. People who have retired to Mexico and have Medicare coverage in many cases receive some care in Mexico, but also return to the U.S. for care in large numbers, especially when they have serious conditions. If there are as many as 200,000 who are retired to Mexico after working in the U.S. (both U.S. and Mexican origin populations), many with Medicare, they may spend substantial sums in the U.S. even though they live in Mexico. Those with major \$100,000-\$200,000 health events may move back to the U.S. permanently, so it is difficult to count. This would include TRICARE and VA coverage (mentioned below in #3) when it covers care back in the U.S. for people domiciled in Mexico.

Mexicans in the United States, especially when living in the U.S. border states, have often gone back to Mexico for care. This is because they have often been uninsured in the U.S. and because of language issues as well. And, as do U.S. origin retirees abroad, they often seek care when making annual visits home to see friends and family. It is hard to know how much this amounts to but in all probability these expenditures do not register as Mode 2 expenditures. In the case of the retired Americans coming from Mexico they are paying primarily with Medicare funds, which they cannot use in Mexico, and to the hospital they are considered to be paying with U.S. funds and are seen as Americans even though their place of residence is Mexico. Similarly with Mexicans returning to Mexico, they are usually paying out-of-pocket for care and they are not enumerated as Mode 2 spenders. As the U.S.-Mexico border becomes more tightly controlled, immigrants who are undocumented are increasingly unlikely to return to Mexico for medical care.

Americans living in Mexico probably spend at least \$100-300 million on medical care in the U.S. In a 2007 survey of over 1,000 American retirees in Mexico, respondents had spent more time in Mexican hospitals than U.S. hospitals (20% had spent at least one day in a Mexican hospital and 17% at least one day in a U.S. hospital in the last three years). Respondents had also visited doctors in Mexico more (slightly over 50% had visited Mexican doctors 1-5 times and 40% had visited doctors in the U.S. in the last three years).<sup>4</sup> On average, those surveyed had a little less than half a hospital day and at least one physician visit per year in the U.S. This would amount to about \$500-\$1,000 per person. And although many of the one million American citizens living in Mexico never come to the U.S. for care it would seem that an average expenditure of \$100-300 is reasonably conservative.

Mexicans from the U.S. probably spend comparable sums in Mexico for medical care—given that Mexican-born residents of Los Angeles, Phoenix, Orange County, Dallas, San Antonio, Austin, and Houston are not included in our border calculations below this number is probably conservative. They also often send money back to relatives in Mexico, some of which is used for health care—estimates have ranged from 1% used for medical care in a study in rural Oaxaca to almost 50% in a survey of migrant households.<sup>5</sup> Overall remittances from U.S. workers to families in Mexico are estimated to have been \$26 billion in 2007, \$25.1 billion in 2008, and 21.2 billion in 2009 (decreasing due to the economic downturn).<sup>6</sup> When Mexican families' wage-earners work in the U.S., the family in Mexico is unlikely to have the comprehensive social insurance that families of people employed in the formal sector in Mexico have.

## **2. Border Residents Routinely Crossing to the Other Country**

The U.S.-Mexico border region sees many people from the U.S. crossing into Mexico for medical care, dental care, and pharmaceutical purchases due to significantly lower prices and other factors. There are no comprehensive figures available, but there are piecemeal estimates. On the Texas side of the border, the 2007 Behavioral Risk Factor Surveillance Survey (BRFSS) asked two questions regarding cross-border care, 1) how many people in the household bought medications in Mexico in the last year, and 2) how many people sought medical care in Mexico in the past year. These were asked to a representative sample of people in the 32 border and border-area counties of Texas, and we applied the resulting percentages to the whole border population of those counties to get the estimated number of people crossing the border for pharmaceuticals and medical care in 2007 (see Appendix C for results and counties).

Overall, 29.4% of the 2,462,832 people from Texas border counties bought medications in Mexico one or more times in the previous year, and 19.9% sought out medical care in Mexico one or more times.<sup>7</sup> When the percentages were broken out into “none,” “one time,” “two times”, and “three or more times” as shown in Appendix C, and the population was multiplied accordingly to get the totals for each, we estimate that there were 2,228,863 trips by residents of Texas border counties to buy medications in Mexico in one year (total visits), and that 1,258,507 people from these counties sought medical care in Mexico in one year (again total visits, not unduplicated). The estimated number of visits multiplied by an estimate of \$15-\$25 for medications per visit (given that many people buy more than one medication per visit) and \$25-\$50 per doctor/dentist visit would give us an estimate of \$33.4-\$55.7 million spent for medications in 2007 and \$31.5-62.9 million spent for medical visits, for an estimated \$64.9-\$118.6 million in spending of Texas border residents on health-related products and services in Mexico in 2007. More Americans not living near the border also drive or fly from the U.S. to the Mexican border for medical or dental care or pharmaceuticals,<sup>8</sup> but these numbers should be captured in sections 1 and four of this report.

There are other studies of border areas, such as a study published in 2009 that estimated that 33% of residents of El Paso, Texas, crossed the border for medications in the previous year, 9.4% for dental services, and 7% for physician services, but these studies are geared toward demographic, economic, and cultural findings, and not number of visits or spending levels.<sup>9</sup> This particular study also analyzed a survey of residents of Ciudad Juarez, the sister city in Mexico across the border from El Paso, and found that significantly fewer residents of that city crossed the border to obtain medications, dental services, and physician services in El Paso during the same time period than vice versa—5.2%, 0.4%, and 1% of Ciudad Juarez residents respectively.<sup>10</sup>

In 2008, there were 7.081 million people living in the 24 counties in California, Arizona, New Mexico, and Texas that directly touch the Mexico border; nine of the counties and 4.78 million of this population are in the three states other than Texas.<sup>11</sup> If we take the population of the Texas border and border-area counties in the BRFSS shown above (2,462,832), and their estimated spending across the border in Mexico (\$65-\$119 million), and apply the same ratio to the remaining border states, it gives an estimate of \$126-\$231 million in spending for New Mexico, Arizona, and California. This gives a total rough estimate of \$191-\$350 million per year for border residents of all four border states.

Much of the hospital care given along the border in the U.S. for people from Mexico is uncompensated. A study by MGT of American calculated that about 25%, or \$190 million, of the total uncompensated care in hospitals in the four U.S. border states was given to undocumented immigrants for emergency medical treatment in 2000.<sup>12</sup> One hospital in Arizona lost an estimated \$6-8 million in uncompensated care to international patients in 2000, saying that most of them were from Mexico but not all of them, and most had severe trauma and were sent to this hospital since it is a level 1 trauma center.<sup>13</sup> Reports such as these helped lead to \$1 billion being set aside in the Medicare Modernization Act of 2003, which allocated \$250 million a year for four years to hospitals for uncompensated care for undocumented immigrants.<sup>14</sup> Many of these people from Mexico are living in the U.S. so those cases do not count at Mode 2 travel.

For Mexican patients treated on the U.S. side of the border on an outpatient basis, an older, more comprehensive study showed that of 502 physicians and dentists along the Texas border who completed a survey, 387 (77%) reported treating patients from Mexico, and the total averages of patients seen per week for these patients were 1,834 paying patients, 765 partial-pay patients, and 283 patients who did not pay (which were primarily seen in hospitals and clinics outside of the providers' private practices).<sup>15</sup> Given that the 40 percent of those who did not respond to the survey probably treated fewer patients from Mexico, and adjusting for the fact that only about 60 percent of all doctors on the border were surveyed, would imply that the true figure in 1990 was at least 2 times these figures for the Texas border counties. Thus we could estimate about 6,000 paying and partially paying patients per week or 312,000 patient visits annually just for the Texas border counties, which is a significant amount. This was when there were substantially fewer people living on the Mexican side of the border and fewer doctors and dentists on the U.S. side, so numbers would be expected to be higher now, except for the fact that the border has become less permeable over the last two decades, although persons of means from the Mexican side still do not have much trouble coming across for day visits. A more recent complication is that with increasing violence in the border towns, some Mexicans with means are moving to the U.S. side of the border for increased safety. Extrapolating these figures to the entire border would yield an estimate of 571,990 physician and dentist visits from the Mexican border to U.S. border towns.<sup>16</sup> The average charge for such visits is probably in the \$50-\$100 range with possible additional charges for services such as lab and x-ray.

In addition to visiting physicians, many Mexicans on the border are paying customers of U.S. hospitals on the border. Indeed they are often referred and treated by these same physicians. It would seem that Mexican border residents are likely to be spending from \$50-\$200 million annually in U.S. border care and products.

People cross the U.S.-Mexico border for many reasons, and a study in California in the early 1990s revealed some interesting facts about people crossing between Tijuana and San Diego (driving or on foot). The findings show that 800,000 crossings were made each month by 40,000 people going from Tijuana and other nearby areas of Mexico to their jobs in San Diego, which accounted for 24% percent of the total crossings to the north. The highest percentage of crossings to San Diego was for shopping, at 42%, while 11% were for social visits, 4% were for tourism, and 19% were for all other purposes (which could include health care). It was estimated that of the 40,000 people crossing per month from Mexico to San Diego for work, 25% were

U.S. citizens who lived in Mexico, and the rest were Mexican citizens.<sup>17</sup> An earlier draft of the report showed that of the estimated 5-6 million monthly northbound crossings from Tijuana to San Diego, about 250,000 of them were people returning from purchasing medical care or pharmaceuticals.<sup>18</sup> Many of the people crossing from San Diego to Tijuana are tourists from outside the San Diego area so are not border residents, so they should be included in categories 1 and 4.

Regarding cross-border health care that is covered by insurance, several Health Maintenance Organizations (HMOs) in California have offered cross-border health insurance plans to employers since the state approved such plans in 1999. The plans cover workers who live or at least work in the U.S. to obtain some health care services in Mexico. Some workers have family members who live on the Mexico side of the border who can be covered under the plans. Exact figures do not exist, but there are several models of plans with varying enrollments.

Access Baja is owned by Blue Shield of California and it provides coverage to enrollees who choose the plan based on a dual choice option provided by their employers. If they choose the Access Baja option they are restricted to seeking care in Mexico through a network Access Baja contracts with that is connected to a major Mexican insurer. There are options available to enrollees in case of emergency on the U.S. side or to cover some specialty care in the U.S. According to a knowledgeable source Access Baja currently has about 3,000 subscribers. It appears that a high proportion of the enrollees in Access Baja live in Mexico or have dependents who do. Access Baja has a requirement that enrollees live within 50 miles of the California-Mexico border.<sup>19,20</sup>

Salud con Health Net is a Preferred Provider Organization (PPO) that has a network that includes several Hispanic-oriented clinics in Los Angeles as well as the SIMNSA network in Mexico (in Tijuana, Mexicali, Tecate, and Rosarito). Salud con Health Net has over 35,000 subscribers in five southern California counties who have the Mexico option.<sup>21</sup> Most do not use it too much, and in some cases it may just be used by dependents who live in Tijuana. They also have about 1,000 subscribers to their plan that requires use of care in Mexico—those subscribers must live within 50 miles of the Mexican border.<sup>22</sup> Aetna is apparently developing a PPO similar to Salud con Health Net and United Health has also developed a contract with SIMNSA to provide care to their enrollees in Mexico.

SIMNSA (Sistemas Medicos Nacionales S.A.) was the first Mexican HMO licensed to operate in California.<sup>23</sup> Besides other plans that contract with them to use their network in Mexico, SIMNSA sells its own health plans to Mexican nationals who are legal residents of the U.S., American citizens of Mexican ancestry, and dual nationals, as well as split-family coverage for workers in the U.S. to have coverage through one of their partners in the U.S. and the family in Mexico to use SIMNSA providers.<sup>24</sup> SIMNSA plans offer routine medical care in Mexico and emergency and urgent care in the U.S. if needed. At the end of 2003, SIMNSA had about 12,300 enrollees.<sup>25</sup> SIMNSA's 2008 annual regulatory filing with the state of California shows an enrollment of 19,405, of which 1,437 are contracted from other plans, and medical/hospital expenses of \$15,786,751.<sup>26</sup>

Some estimates have shown the total number of California workers with cross-border health insurance plans to be 150,000-200,000, with most plans through farming associations such as Western Growers Association.<sup>27</sup> Western Growers Assurance Trust (WGAT) provides customized health plans for its member companies that include the Anthem Blue Cross network, Blue Cross Blue Shield of Arizona network, and an optional rider called the Mexico Panel for care in Mexico.<sup>28</sup> In 2004, WGAT had 110,000 enrollees in all health plans, and at least 95,000 of them had the Mexican Panel option, though most did not use it. In 2002, 29,368 claims were paid for Mexico Panel care, 3,244 claims were paid for surgery, and 77,965 claims were paid for pharmaceuticals, totaling \$5,868,815.<sup>29</sup>

In sum it would appear that border Mode 2 health care expenditures are substantial, with both U.S. and Mexican residents on the border spending well in excess of \$100 million a year on medical services and products on the other side of the border.

### **3. Temporary Visitors Not Traveling for Health Care**

Besides the explicitly cross-border plans mentioned above, there are other types of insurance plans that cover care in Mexico, though most cover urgent or emergency care only, or other limited situations. Apparently some do not cover care in other countries at all,<sup>30</sup> while others cover care in some instances,<sup>31</sup> and there does not seem to be data available on how many do or not cover such care and how much. People traveling to other countries for business, vacation, or to visit friends and relatives may not have traveled for the purpose of health care but still may require health care services in the other country due to an illness or accident.

Insurance sources for temporary travelers include private employer plans, Medicare supplemental insurance (such as Medigap plans C-J or other sources), Medicare Advantage plans (HMOs, as traditional Medicare covers virtually no foreign care), special travel health insurance to be used just on trips and not at home, and the Veteran's Administration and TRICARE health plans.

A major insurance plan for public employees in the U.S. stated that for the fiscal year from September 2008 through August 2009, it paid \$109,321 for claims in Mexico for 262 people for both emergency and non-emergency care (\$224,987 in total international claims for 441 people). This is compared to total benefit payments of \$1.7 billion during that time period, so claims in Mexico represented only 0.0064% of all claims.<sup>32</sup> These figures do not include out-of-pocket payments for pharmaceuticals or physician visits or unapproved claims, which are still payments for services while in Mexico.

In 2006, there were 39.8 million Medicare beneficiaries; 19% of them were enrolled in Medicare Advantage plans (Medicare Part C), 35% were enrolled in the traditional fee-for-service (FFS) plan plus employer-sponsored supplemental insurance, 18% were enrolled in FFS plus self-purchased Medigap policies, 16% were enrolled in FFS plus Medicaid, 11% were in the FFS plan only, and 1% were in FFS plus other public or private supplemental care.<sup>33</sup> Medigap plans C-J cover urgent care during at least the first 60 days abroad as do the Medicare Advantage plans and some of the employer-sponsored supplemental insurance plans. We have been unable to find a source that details these expenditures.

TRICARE, the U.S. Department of Defense health insurance for active-duty and reserve military personnel and their families, retired military and their families, and others who are entitled, provided data for 2008 that includes Mexico and non-Mexico residents receiving care in Mexico in the TRICARE Overseas program and the TRICARE for Life program (people over 65), and data on the number of people under 65 and claims in Mexico in the Tricare South region (North and West make up the other two regions out of the three TRICARE regions in the U.S.). Adding all the non-Mexico residents with care received in Mexico in 2008 together totals 388 people with \$640,072 in claims. There were 176 Mexico residents that received care paid for by TRICARE in 2008, for an additional \$917,647 in claims.<sup>34</sup>

The U.S. Veteran's Administration paid for \$130,294 of health care in Mexico out of \$222,000 billed in federal fiscal year 2008; this was for 33 Mexican residents, and the VA could not get the numbers for people currently living in the U.S. and traveling to Mexico who might have received covered care in Mexico, but estimated that it would be a very small number since the VA only covers care for service-connected disabilities.<sup>35</sup>

Regarding overall visitors to each country, the U.S. Department of Commerce stated that 5,899,363 U.S. citizens flew on airlines to Mexico in 2008.<sup>36</sup> A newspaper article reports 19.4 million overnight visits by Americans to Mexico in 2007, which presumably counts both flights and driving trips, but not people who walk or drive across for day-shopping.<sup>37</sup> The U.S. Department of Commerce reported that 13,317,000 people from Mexico visited the U.S. in 2006, with that number projected to increase to 14,127,000 in 2008 and 14,529,000 in 2009.<sup>38</sup>

Spending by some of these visitors is captured in the other categories in this report, but to estimate incidental health care spending, if we take the 19.4 million overnight visits to Mexico multiplied by \$10-20 a visit for medical spending, it gives \$194-\$388 million, which we think is a reasonable estimate given that while not everyone spends money on health care, many need to buy pharmaceuticals while they are in Mexico and some may spend much more than this if they need a doctor or hospital.

It is much more difficult to calculate Mexican expenditures in the U.S. on health care in this category. They are far less likely to have private insurance that would cover them in case of medical emergency, and the public coverage offered through the IMSS (which all workers in the formal sector and their families have) and the Seguro Popular health program do not cover care abroad. Less than 5 percent of the population has private insurance and that does not cover care abroad in all cases.

#### **4. Medical Tourists Traveling Specifically for Health Care**

Deloitte Consulting estimated that 417,000 patients from foreign countries spent an estimated \$4.5 billion for healthcare in the U.S. in 2007, and 430,000 people spent \$4.7 billion in 2008. Most foreign patients are from the Middle East, South America, and Canada. Foreign patients come to U.S. hospitals for the perception of higher quality care and for shorter waiting times, not for less expensive care. The border areas have a greater number of patients from Mexico, some of whom travel for emergency care or to obtain U.S. citizenship for their babies born in the

U.S.<sup>39</sup> Regarding outbound travel by U.S. residents, an updated report from Deloitte states that 750,000 people from the U.S. traveled abroad for health care in 2007, and 540,000 in 2008 (fewer people due to the economic downturn).<sup>40</sup>

A 2008 study by McKinsey & Company estimated that out of all international hospital patients receiving care in other countries, 25-30% can be subtracted for expatriates seeking care in their current country of residence, and 30-35% can be subtracted for travelers receiving unplanned emergency care, leaving 35-45% of the total as true medical tourists who travel to other countries specifically seeking health care. The report estimated this number to be 60,000 to 85,000 inpatients per year that are true medical tourists (outpatients were not analyzed), and acknowledged that this estimate is much lower than some others.<sup>41</sup> (This number also excludes people traveling to contiguous countries for the closest available care, since they do not consider other locations.) It also estimated that of all the medical tourists originating from North American, 45% travel to Asia, 27% go to other North American countries, 26% go to Latin America, and 2% go to the Middle East, but it does not give numbers.<sup>42</sup>

The U.S. Department of Commerce conducts annual surveys on a representative sample of airline passengers traveling internationally, and the 2008 survey showed that 1% of respondents said that health treatment was their main reason for traveling from the U.S. to another country, and that 30,789,000 people flew overseas that year.<sup>43</sup> Thus, it can be estimated that 307,890 people from the U.S. flew overseas for health treatment in 2008. Destinations are not provided, and this number does not include travelers who drive or walk across the border when traveling to contiguous countries. Reed reported that the 2004 U.S. Department of Commerce airline data showed that 46% of the medical travelers were U.S. citizens who had been born outside the United States, 36% were non-citizens, and only 17% were U.S.-born U.S. citizens.<sup>44</sup>

Most U.S. hospitals don't keep track of or publish how many international patients they have, but Johns Hopkins Health System in Baltimore, Maryland, reported 40 patients from Mexico out of 2,292 international patients in FY2006, so Mexico represented only 1.75% of patients from other countries.<sup>45</sup>

The two hospitals of the Angeles Health International hospital chain in Mexico that see the most Americans, in Tijuana and Juarez, report that that they serve an average of 1,600 American patients per year with an average cost of \$7,200 per procedure (mainly weight-loss surgeries).<sup>46</sup> Thus an estimated \$11,520,000 per year is spent by Americans at these hospitals. The Christus Health hospital chain has hospitals in eight U.S. states and six Mexican states,<sup>47</sup> and reported that their seven hospitals in Mexico have an average of 6 American inpatients per day, resulting in an estimated \$2-4 million per year spent in those hospitals.<sup>48</sup>

Thus there does not seem at present to be a major market in Mexico for medical tourists from the United States, except for the substantial number (until recently possibly) of people from outside the border who go across the border to Mexico for dental work and pharmaceuticals that are significantly cheaper than in the U.S. Violence in some Mexican border towns as well as the implementation of Part D of Medicare that covers prescription drugs have both reduced that trade.

The amount spent by Mexicans in the U.S. at referral hospitals is likely greater than the amounts spent by Americans in Mexico who are true medical tourists. In terms of verifiable medical tourists the plurality seems to be people seeking explicit treatments such as bariatric surgery. There have been some developments in new employer insurance plans that incentivize people to get procedures in countries where it costs less, but those have certainly not materialized in a big way yet.<sup>49</sup> On the other hand there are clearly a number of affluent Mexicans who are going to M.D. Anderson, Mayo Clinic, and a number of other costly locations as well as private hospitals in San Diego, San Antonio, Houston, Miami, and other large U.S cities. Historically there have been a number of Mexican physicians who have trained in the U.S. who return to Mexico and refer patients to institutions they are familiar with in the U.S. With changes in how residency positions are allocated to foreign medical graduates and with the increase in the number of JCI-accredited hospitals in Mexico (eight accredited since 2007<sup>50</sup> and a number more on the way), it is likely that import substitution which keeps those who formerly went abroad for care at home is more likely to be a factor.

### **Conclusions and Areas for Future Study**

This paper is an exercise in estimation and been based on limited sources and information. We divided Mode 2 trade in health services between the U.S. and Mexico into four separate groupings because we believe that they are distinct and can be studied individually. It is worth looking at each to determine how the estimates might be improved.

1. The best source for studying how many Mexicans domiciled in the U.S. return to Mexico for care and how many American citizens domiciled in Mexico return to the U.S. for care and how much each group spends is surveys of individuals in these groups. This is because hospitals and physicians perceive these patients as their own countrymen and not treating individuals from abroad. Ironically, when those physicians or hospitals treat immigrants who are domiciled in their country, they do see that as treating people who have come from abroad. It is only by improving surveys of the individuals themselves that the impact their behavior has on trade can be assessed.
2. Border healthcare utilization has been a subject of considerable interest. Several surveys of households on the U.S. side as well as surveys of border crossers have documented the high level of use of pharmacy and dental services in Mexico as well as some use of physician and hospital services. Surveys of the Mexican side have been somewhat more limited. One of the difficulties of estimates of “uncompensated care” or total care given to Mexican origin populations is that they do not distinguish appropriately between those who are domiciled in Mexico and those who are domiciled in the U.S. Because of changing immigration policy and a changing border it would be valuable to update some of these studies in order to have a better idea of developments.
3. Incidental use of medical services by travelers is also not well studied. Medical evacuations from Mexico are not uncommon. When there are as many trips in both directions as there are, it is inevitable that there will be a great deal of medical care use and pharmaceutical purchases in the other country. Here surveys of providers, insurers who cover urgent and emergency care out of network, and even ambulance and medical evacuation firms might yield some information. Also, randomized surveys of border

crossers as well as those returning by air could shed some additional light on the medical care consumption patterns of tourists who incidentally needed or chose to obtain care.

4. True medical tourists are probably best measured by surveying providers and insurance companies. It is important to distinguish between these and the group in the first category, which is likely to be inadequately captured. This is a category in which Mexican policymakers have high expectations for growth, but it is likely that import substitution will be a bigger economic factor.

Further study of all of these categories will be important to better understand the true service flows between the two nations.

## **Endnotes**

<sup>1</sup> U.S. Census Bureau, 2008 American Community Survey 1-Year Estimates, "Place of Birth for the Foreign-Born Population," Table B05006. Online at <http://www.census.gov/acs/www/Products/>.

<sup>2</sup> Bill Masterson, "How Many Americans Live in Mexico?" Feb. 2002. Online at <http://www.peoplesguide.com/pages/retire/work/bil-maste/%232americans.html>.

<sup>3</sup> Kaiser Health News, "Cost of Uncompensated Care for Undocumented Immigrants Difficult to Calculate, Experts Say," Daily Report, Sep. 22, 2008. Online at <http://www.kaiserhealthnews.org/Daily-Reports/2008/September/22/dr00054581.aspx>.

<sup>4</sup> David C. Warner, Project director, *Medicare in Mexico: Innovating for Fairness and Cost Savings*, Policy Research Project Report no. 156, LBJ School of Public Affairs, The University of Texas at Austin, 2007, pp. 117-118.

<sup>5</sup> Reanne Frank, Oswaldo Palma-Coca, Juan Rauda-Esquivel, Gustavo Olaiz-Fernandez, Claudia Diaz-Olavarrieta, and Dolores Acevedo-Garcia, "The Relationship between Remittances and Health Care Provision in Mexico," *American Journal of Public Health* vol. 99, no. 7 (July 2009), pp. 1227-1231. Online at <http://ajph.apha.org/publications.org.ezproxy.lib.utexas.edu/cgi/reprint/99/7/1227>.

<sup>6</sup> Inform, "Mexico sees record 15.7 percent annual drop in money sent home by migrants," Feb. 22, 2010. Online at <http://inform.com/business/mexico-sees-record-157-pct-drop-remittances-834675a>.

<sup>7</sup> E-mail from Anna Vincent, Research Specialist, Center for Health Statistics, Texas Department of State Health Service, Austin, Texas, to Lauren Jahnke, Feb. 22, 2010; also see source in Appendix C.

<sup>8</sup> The Washington Post, "Discount Dentistry, South of the Border," June 18, 2007. Online at <http://www.washingtonpost.com/wp-dyn/content/article/2007/06/17/AR2007061701297.html>.

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<sup>10</sup> Ibid.; another study on El Paso crossings is Byrd, Theresa L., and Jon G. Law, "Cross-border utilization of health care services by United States residents living near the Mexican border," *Pan American Journal of Public Health*, vol. 26, no. 2 (Aug. 2009), pp. 95-100.

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## Appendix A

### Mode 2 Health-Related Expenditure Imports and Exports by Border Trading Partners (Self-Reported)

USA								
	2000	2001	2002	2003	2004	2005	2006	2007
	US\$ value							
<i>Imports from:</i>								
Global	n/a							
Canada	n/a							
Mexico	n/a							
<i>Exports to:</i>								
Global	1,497,000,000	1,479,000,000	1,460,000,000	1,571,000,000	1,660,000,000	1,964,000,000	2,168,000,000	2,308,000,000
Canada	n/a	n/a	n/a	4,526,001	87,899,772	108,958,448	136,079,662	160,053,707
Mexico	n/a	n/a	n/a	3,394,501	74,969,678	94,032,634	445,305,931	434,353,119
Mexico								
	2000	2001	2002	2003	2004	2005	2006	2007
	US\$ value							
<i>Imports from:</i>								
Global	51,500,000	78,000,000	71,300,000	56,100,000	68,000,000	64,100,000	72,700,000	49,600,000
USA	n/a							
Canada	n/a							
<i>Exports to:</i>								
Global	87,500,000	126,000,000	217,000,000	172,000,000	214,000,000	274,000,000	258,000,000	311,000,000
USA	n/a							
Canada	n/a							
Canada								
	2000	2001	2002	2003	2004	2005	2006	2007
	US\$ value							
<i>Imports from:</i>								
Global	213,400,000	237,700,000	231,800,000	249,000,000	263,500,000	283,100,000	304,200,000	322,900,000
USA	198,546,238	221,518,987	215,868,569	231,894,399	245,101,806	263,288,214	283,043,823	300,521,027
Mexico	n/a							
<i>Exports to:</i>								
Global	63,265,581	63,291,139	63,678,044	73,492,686	81,444,487	90,789,039	100,500,000	117,200,000
USA	48,458,743	49,728,752	50,942,435	59,222,262	63,772,570	69,329,812	75,831,055	86,527,726
Mexico	n/a							

Source notes: Health-related expenditure data (Extended Balance of Payments Services Classification 2.2.1) was extracted in January 2010 from the United Nations (UN) Service Trade Database by Kate Chambers. All health-related import and export data were extracted using an express selection data query command and analyzed in Stata. The data represented in these tables are direct values as they exist in the database. The UN Service Trade Database is online at <http://unstats.un.org/unsd/servicetrade/default.aspx>. (See following page for more information about the database.)

## **Appendix B**

### **The United Nations Service Trade Database**

The UN Service Trade Database was launched on June 1, 2007, and collects service trade data known as Extended Balance of Payments Services (EBOPS) directly from participating countries. Country-specific data collection methodology is not currently available.

The UN Service Trade Database is a product of the Manual on Statistics of International Trade in Services (MSITS) developed by the Task Force on International Trade in Services. The Task Force represents The Statistical Office of the European Commission (Eurostat), the International Monetary Fund (IMF), the Organization for Economic Co-Operation and Development (OECD), the United Nations (UN), the United Nations Conference on Trade and Development (UNCTAD), and the World Trade Organization (WTO).

Although historically the IMF, Eurostat, WTO, and OECD have data on service trade, it is difficult to parse out the related expenses by mode or sector. To address this issue, the Task Force on International Trade in Services developed a disaggregated categorical system that would encourage countries to collect more detailed service trade data and allow researchers to better understand the service trade flows. Known as EBOPS (Extended Balance of Payments Services), from these categories you are able to distinguish service trade modes and sector, and more specifically, mode 2 health-related trade.

Due to several circumstances unique to collecting data across many countries with varying degrees of capability, the database has some limitations:

- Data is not yet available on trading partners; that is, data on export and imports is by service, but not by trading country (i.e. you can see all health-related exports, but not where they come from or where the patients come from).
- Not all countries are using the EBOPS classification system yet, as there is a “phased rollout” on using these categories.
- There are major gaps, for instance the U.S. has export data but not import data and several prominent Asian countries do not provide export data.

Data for the UN Service Trade Database between the years 2000-2005 were collected retrospectively from countries in 2006. Data from 2006 forward is collected annually. While also voluntary for countries to submit data to the UN Service Trade Database, the emphasis placed on collecting and recording data on trade in services by the Task Force on International Trade in Services since its’ inception in 2002 could have led to an increase in accuracy, and definitely an increase in countries reporting service trade data.

## Appendix C

### Prevalence of Seeking Health Care in Mexico, Survey of 32 Border Counties of Texas Adults 18 Years of Age and Over, Texas BRFSS, 2007

	Q1. In the Last Year, How Often Did Your Household Buy Any Medications in Mexico?				Q2. How Many Times in The Last Year Did You Seek Medical Care in Mexico?			
			95% CI				95% CI	
	Sample Size	Percent (%)	Lower	Upper	Sample Size	Percent (%)	Lower	Upper
	3,925				3,951			
<b>One Time</b>		4.9	4.2	5.7		6.3	5.3	7.5
<b>Two Times</b>		6.4	5.5	7.3		4.6	3.8	5.7
<b>Three or More Times</b>		18.2	16.9	19.6		8.9	7.7	10.3
<b>None</b>		70.6	68.9	72.2		80.1	78.2	81.9

Source: Texas Behavioral Risk Factor Surveillance System, Statewide BRFSS Survey, 2007.

Prepared by: Texas Behavioral Surveillance System, Center for Health Statistics, Texas Department of State Health Services, <http://www.dshs.state.tx.us/chs/brfss>, February 24, 2010.

Notes: All reported rates are weighted for Texas demographics and the probability of selection. Prepared using complex sample design from SPSS v17.

### Methodology of Estimating Texas Border Crossings from Above Data

2007 Population of the 32 border counties: **2,462,832** (Source: Texas State Data Center, 2007 County Population Estimates as of July 1, <http://txsdc.utsa.edu/tpepp/txpopest.php>.)

Calculations using percentages multiplied by 2007 border population to get number of people, then multiplied by number of crossings to get totals.

	<i>Question 1</i>	<i>Question 2</i>		<i>Question 1</i>	<i>Question 2</i>
	<b>2007 Pop.</b>	<b>2007 Pop.</b>		<b>2007 Visits</b>	<b>2007 Visits</b>
One Time	120,679	155,158	One Time (pop. x1)	120,679	155,158
Two Times	157,621	113,290	Two Times (pop. x2)	315,242	226,581
Three or More Times	448,235	219,192	Three or More Times (pop. x4 as a proxy)	1,792,942	876,768
None	1,738,759	1,972,728	None (pop. x0)	0	0
			<b>TOTALS</b>	<b>2,228,863</b>	<b>1,258,507</b>

**Texas border counties surveyed:** Brewster, Brooks, Cameron, Crockett, Culberson, Dimmit, Duval, Edwards, El Paso, Frio, Hidalgo, Hudspeth, Jeff Davis, Jim Hogg, Kenedy, Kinney, La Salle, Maverick, McMullen, Pecos, Presidio, Real, Reeves, Starr, Sutton, Terrell, Uvalde, Val Verde, Webb, Willacy, Zapata, Zavala.