Limitations in resources require health agencies to work closely to share knowledge and services so that the complex needs of the migrant population can be met. The project demonstrated how establishment of communication between the two systems of care, the migrant health center and the Title V maternal and child health programs, enriched the services available to migrant farmworker women and children and improved their health status.

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Measuring Tijuana Residents' Choice of Mexican or U.S. Health Care Services

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Synopsis

There is growing concern that the indigent health care burden in the southwestern United States may be caused partly by Mexican residents who cross the border to use U.S. health services. This article describes the first attempt to measure the extent of this use by border residents. It also compares factors associated with their use of health care services in both the United States and Mexico.

Data were obtained from a household survey conducted in Tijuana, Mexico, near the California border, using a random, stratified analytic sample of 660 households that included a total of 2,954 persons. The

dependent variables—extent and volume of contacts with health professionals—were examined according to sociodemographic characteristics, insurance coverage, payment modality, type of visit, and health care setting.

The results indicate that 40.3 percent of the Tijuana population used health services exclusively in Mexico during a 6-month period, compared with only 2.5 percent who used services in the United States. Of the Mexican users of U.S. services, the largest proportion appeared to be older people, lawful permanent residents or citizens of the United States who are living in Mexico, and persons from high- or middle-income sectors. In addition to the low level of use of U.S. health services, the findings show that more than 84 percent of the visits were to providers in the private sector and, for 59 percent of the visits, a fee for services was implied.

Overall, this border population does not seem to be a drain on the U.S. public health system. The findings must remain tentative, given some methodological constraints of the study; they point to the need for further assessments of the demand for specific services by distinct segments of the border population. Furthermore, since health care financing is a critical issue for Mexico as well, more studies are needed that examine the behavior of U.S. residents who use Mexican health services.

BECAUSE THE NUMBERS of uninsured and under insured people continue to grow, medical care for indigent patients is a major issue facing public health providers and policy makers. In the southwestern United States, a sizable proportion of the indigent population consists of immigrants, with people from Mexico making up the largest segment. According to several public opinion polls, many American citizens believe that Mexican immigrants burden U.S. health and social resources (*1–3*). These feelings persist despite accumulating evidence that, even after adjustment for socioeconomic status and documentation, Mexican Americans have much lower health care use rates than the overall population and are underrepresented on U.S. welfare rolls (*4–7*).

Recently, concerns have focused on residents of Mexico who temporarily cross the border to the United States. It has been suggested that perhaps their geographic proximity, coupled with a long-standing tradition of multiple use of services across the border and inducements to consume American products, may account for a disproportionate share of medical care provided to the indigent. Moreover, in time, temporary migrants learn to use the system and, by extending their stay in the United States, increase the demand for health services.

There are estimates that 360 million crossings occur annually along the 2,000-mile U.S.–Mexican border. Out of this voluminous traffic, about 2 million Hispanics remain long enough to require U.S. health services (*8*). When the number of Mexican nationals crossing the U.S. border for care was small, and the expanding U.S. health care system could readily absorb them, this trend went largely unnoticed. But in recent years, the rapid population spurt and cost containment efforts on both sides of the border seem to make the U.S. health system less tolerant of the increasing volume of Mexican users. Health professionals suspect that the increase in access barriers to health services in Mexico are pushing many people to seek care across the border. Nevertheless, these perceptions are largely anecdotal, given the paucity of data documenting the extent of U.S. health service use by border residents of Mexico.

Since the 1982 recession, the Mexican Government has cut back public expenditures for health and social security, leaving many services out of people's financial reach (*9*). In the Mexican health care system, several institutions function autonomously to provide coverage to the population. The private sector is represented by physicians working in solo or hospital practices. The public sector includes the Ministry of Health (SSA), Integral Family Development Institute (DIF), and Social Security Health Insurance. The latter mechanism consists of separate health systems for employees and dependents of private businesses (IMSS), for Federal Government employees (ISSSTE), and for state government employees (ISSSTECALI). Whereas SSA and DIF serve free of charge or at discount prices anyone who demands their services, but primarily the uninsured, the other institutions require social security coverage. Although all public services have experienced cutbacks since the recession, budgetary deficits have particularly affected SSA and DIF, the two institutions that provide services to the population in greatest need.

In light of the constraints affecting the health systems on each side of the border, in this study we explore the extent to which border residents living in Mexico seek health services in the United States. We describe the use patterns of Tijuana residents, comparing use of services in Mexico and California. This information

allows us to estimate whether Mexican border populations who temporarily cross over burden the system's public health services in the United States or whether there is little evidence to support the perception of burden.

Methods

Sample. Tijuana was selected as the study site because it is the border city with the largest population, about 788,000, and the busiest cross-over point to the United States. A community survey was conducted since it allows for greater generalizability of the results on access to care than studies based on clinic data (*10*). A computerized geographic information system carrying data on Tijuana's dwellings was used to generate a random sample of 660 households. Using Universal Transverse Mercator grid cells, this system locates street points on superimposed maps containing information on residential areas and on population densities (*11*). The sample size was heuristically determined since no accurate estimates exist on which to base power calculations.

Because of the marked social class differentials in access to care, the sample was stratified by socioeconomic sectors. Due to the large proportion of people working in the informal and underground sector of the economy, income is not considered a good socioeconomic indicator for the border population. Instead, residential sectors were defined as high, middle, or low socioeconomic status according to objective urban planning criteria that consider the quality of housing, availability of services, rates of vandalism, and the condition and location of neighborhoods. These three strata correspond to easily identifiable residential areas that have shown consistency in previous Mexican surveys (*12, 13*).

Consistency was further verified by the interviewers who assessed each house according to these criteria and through statistical analysis. For example, we found that uncollected garbage was almost twice as likely to be present in the low-income Tijuana neighborhoods as in the middle-income neighborhoods and six times more likely than in the high-income ones. Vandalism rates were almost 3 times higher in the low-income than in the middle-income sectors and 28 times higher than in the high-income sector. As for local school and health services, high- and middle-income neighborhoods were twice as likely to have them as the low-income neighborhoods. These data support the need to consider socioeconomic status as a key variable in health services research.

To allow for socioeconomic comparisons, we oversampled the high-income sector and selected an equal number of households (N = 220) in each of the three sectors. We subsequently used population weights in generating our estimates to reflect the actual population of Tijuana. Recent estimates indicate that 14.7 percent are classified as high income, 46.3 percent as middle income, and 38.9 percent as low income (*13*). There are difficulties, however, in obtaining a representative sample since no reliable data on population size are available for the city. A recent survey estimates the number of permanent residents at 787,508 (*14*), but this estimate excludes the transient segment of the population. Approximately 28,000 to 30,000 people are weekly floaters (*15*). Hence, population estimates must be interpreted with caution.

'There are estimates that 360 million crossings occur annually along the 2,000-mile U.S.-Mexico border. Out of this voluminous traffic, roughly 2 million Hispanics remain in the United States long enough to require health services. When the number of Mexican nationals crossing the U.S. border for care was small, and the expanding U.S. health care system could readily absorb them, this trend went largely unnoticed.'

Initially, 711 households were contacted, and 51 of these were eliminated. The 7 percent nonresponse rate was due to faulty listings, vacant dwelling units, and refusals to participate. Most refusals came from the high-income sector allegedly because of a lack of time or interest. Since the surveyors queried all respondents living in each household, the total number of persons in the sample was 2,954.

Variables and data collection instrument. The dependent variable, use of health care services, was measured in two ways: (*a*) as the presence or absence of contact with a health provider in the United States and in Mexico during the 6-month interval preceding the interview and (*b*) as the volume or total number of visits to physicians, nurses, dentists, or allied health professionals among users in each country.

Information was obtained from a household questionnaire with 113 items that took approximately 40 minutes to administer. It was patterned after two similar instruments previously applied in Mexico (*16, 17*). The surveyors queried respondents about the health status and service use by each household member during the 6 months preceding the interview. Evidence suggests that a 6-month recall period is suited for classifying individuals according to their experiences with health events (*18*). It was also considered preferable to a 12-month

Table 1. Sociodemographic characteristics of the sample of 2,954 Tijuana residents, 1987

Characteristics	Number	Weighted percent
Sex:		
Female	1,520	51.2
Male	1,434	48.7
Age:		
0–5 years	313	11.3
6–12 years	437	15.3
13–18 years	459	15.5
19–44 years	1,140	38.5
45–64 years	485	15.5
65 years and older	120	3.8
Marital status (1,828 persons 18 years and older):		
Single	576	31.4
Married	1,038	56.0
Divorced or separated	51	2.5
Free union	83	5.6
Widowed	80	4.4
Length of residence in Tijuana (660 heads of households):		
Less than 5 years	93	13.5
5–9 years	53	7.8
10 or more years	513	78.6
Crossings to the U.S. per year $\bar{x}$, (SD)	48.5 (38.3)	40.6 (36.2)
Documentation:		
No documents	925	36.1
Local, border pass	1,663	52.4
U.S. residents or citizens	225	6.8
Other (tourist, student, working visa)	141	4.5
Education: (1,332 persons 25 and older):		
No or incomplete primary school	353	26.5
Complete primary school	308	23.1
Incomplete high school	154	11.6
High school or vocational diploma	263	19.8
Complete college	213	16.0
Missing	41	3.0

recall since use of the longer period estimates tends to capture the healthy population and underestimate the high users (*19*).

The independent variables examined were the reason for each visit, that is, whether for illness, physical examination, reproductive health, dental care, injury, or surgical care, and the setting for the visit, that is, whether public or private facility. Information on the demographic characteristics of the household members included age, sex, and martial status. Socioeconomic status was measured by residential location stratified as high, medium, or low. Insurance coverage was defined as private-third party, health maintenance organization membership, Medicare-Medicaid, or no coverage. Primary payment modality included out of pocket, insurance, or no payment. Immigration history consisted of variables on legal status in the United States and number of years of residency in Tijuana and in the United States.

The instrument was initially piloted with more than 50 households to test for validity and reliability. An experienced field coordinator and 12 interviewers carried out the data collection. All interviewers were Mexican medical students from the University of Baja California. They received 5 days of field training and were supervised during both the pretest and data collection phase. The data were collected between June 19 and 30, 1987.

Interviews were conducted in people's homes. Household heads were the usual respondents to demographic, socioeconomic, and immigration questions. Health status and use of services questions were asked separately of each adult member in the household. Mothers served as proxy respondents for children under 18 years. All received the same health interview schedule except for women in the reproductive years who were asked additional questions on maternal and child health and related use of services. Participants appeared to respond openly to the interviewers' questions.

In comparing our sample with Mexican Ministry of Health population data, we found similar sex distributions (51.2 percent females in our study compared with 51.3 percent in reference *20*). We oversampled the 45–64 age group (15.5 percent in our study compared with 10.8 percent). This oversampling may result from skewing the sample towards the long-term permanent residents rather than newcomers or transients living in Tijuana. It may also result from oversampling the high-income sector and undersampling the low-income sector.

Statistical analysis. To address the research questions, frequency distributions and descriptive statistics were generated for each variable. The dependent variable was treated as a dichotomous variable measuring entry into the health system and as a continuous variable measuring the volume of contracts. Subsequently, the dependent variables were examined by the independent variables through successive bivariate analyses. To compare health care users in Mexico and the United States, differences in proportions and means between the two groups were examined for each variable. We performed chi-square tests for the categorical variables and Student's two-sample *t* tests for the continuous variable. All summary statistics were weighted, using a multiplicative factor reflecting the actual socioeconomic distribution of Tijuana's population.

Results

Sociodemographic characteristics of the sample. Table 1 shows the sociodemographic characteristics of

Tijuana residents based on weighted sample data. The age distribution indicates that 42.1 percent were children under age 19 years, 54 percent adults between 19 and 64, and 3.8 percent seniors 65 and older. The average number of household members was 4.5 (SD = 2.4). Among adults 56 percent were married. Of the household heads, 78.6 percent reported having lived in Tijuana for at least 10 years, suggesting that the sample captured the long-term residents. Only 53 percent had ever crossed the border to the United States. The average number of annual crossings for this groups was 41, which amounts to less than 1 visit per week.

Border residents frequently hold border passports that allow unlimited entries as tourists, 140 miles into the United States. A local border passport was held by 52.4 percent. Another 6.8 percent were legal U.S. residents or citizens. Both border pass holders and U.S. residents or citizens are referred to in this study as legal or documented people. More than one-third had no legal documents allowing them to cross the border. They are referred to as undocumented. Educational attainment levels were low. Of the subjects older than 25, 49.6 percent had primary school education or less, whereas only 19.8 percent had a high school or vocational diploma, and 16 percent had finished college.

Given this social profile of the study group, what was the extent of their use of health services in each country?

Extent of health services use in each country. Health services utilization in the United States was extremely low. As shown in figure 1, only 2.5 percent of Tijuana's population used services across the border during the 6-month period prior to the interview. Those in the high socioeconomic sector used U.S. services one and a half times more than the middle sector and three times more than the low sector.

Age-linked utilization was characterized by a U-shaped pattern, in which seniors older than 64, followed by children under age 6, used the most services, while school-age children were the least likely service seekers in the United States. Men (53 percent) were somewhat more likely users of U.S. services than women, perhaps because more men are employed across the border. Yet, sex differences varied by socioeconomic sector. For instance, in the high SES group, the ratio of users was 1.2 females per male. In the other groups this ratio was reversed: 1 female per 1.1 male in the middle SES group and 1 female per 1.3 males in the low SES sector.

As expected, compared with the United States, the extent of health service use in Mexico was much greater ($P = .000$). Figure 1 indicates that 40.5 percent of the population used services exclusively in Tijuana. In fact,

Figure 1. Use of health services in the United States and Mexico by 2,908 Tijuana residents in a 6–month interval, by socioeconomic status

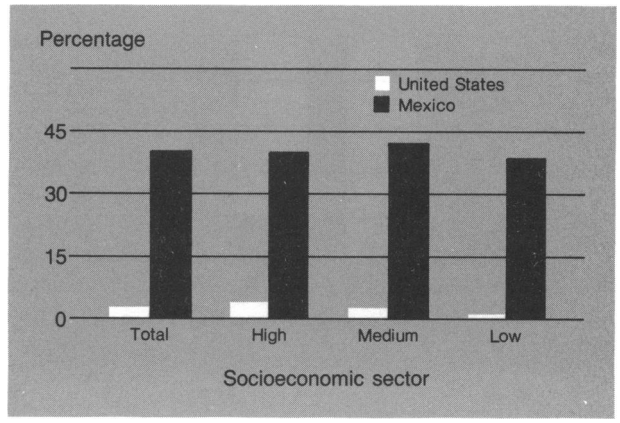
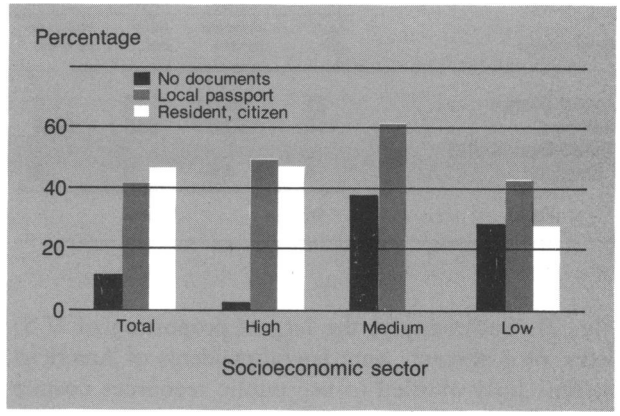


Figure 2. Users of health services in the United States, by documentation and socioeconomic sector, of Tijuana residents



for every 16 users of services in Mexico, only 1 used services across the border. Furthermore, socioeconomic differentials were significantly less among those seeking care in Mexico than in the United States ($P = .0006$).

Utilization in Mexico also differed by age and sex. Whereas seniors were the most frequent users in the United States, young children tended to be the highest users in Mexico. The mean age of users was 34.0 in the United States and 28.4 in Mexico ($P = .03$). The proportion of users who were female (60.6 percent) was some what higher in Mexico than in the United States, a ratio observed across socioeconomic groups.

To assess further the likely seekers of U.S. health care, use in the United States was analyzed by legal migratory status and insurance coverage. As expected, utilization was found to be closely related to the border crossing documentation that individual residents hold

Figure 3. Proportional use of services by insurance coverage and legal status in the United States of Tijuana residents

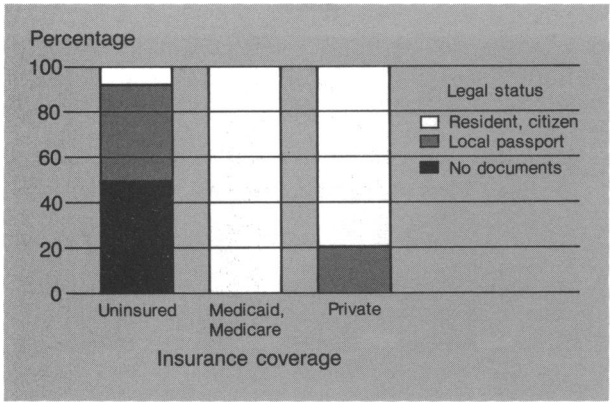


Table 2. Use of services in the United States and Mexico by persons with public or private health insurance, 1987

Site of service	U.S. insurance		Mexican insurance	
	Number	Weighted percent	Number	Weighted percent
United States	27	65.0	15	1.4
Mexico	15	30.5	550	98.2
United States and Mexico	4	4.4	3	.3
Total	46	...	568	...

(fig. 2). Surprisingly, the largest proportion of U.S. users, 46.8 percent, were lawful residents or American citizens fully entitled to use public resources despite their living in Mexico. Another 41.6 percent were holding a border passport that allows for short-term visits in U.S. territory. Approximately 11 percent of the users had crossed the border without migration documents.

We also found sharp differences in the legal status of users, after controlling for socioeconomic status. For instance, as shown in figure 2, most undocumented alien users in the United States were from the low socioeconomic sector, whereas the largest percentage of lawful residents and citizens of the United States were from the middle sector. However, it must be noted that only a small proportion of documented people from Mexico use U.S. health services. Only 4.2 percent in the high-income sector, 4 percent in the middle, and 2.4 percent in the low actually crossed the border to use health services.

In light of the marked socioeconomic differentials in legal migratory status, this variable was further examined according to insurance coverage in the United States. Figure 3 points out two important findings: first, all the undocumented persons were in the uninsured category. Second, no undocumented persons were in the public insurance category. On the contrary, all the recipients of Medicare and Medicaid were legal U.S. residents or citizens. Similarly, more than 70 percent of the privately insured in the United States were legal residents or citizens.

Of those who sought care in the United States, almost 12 percent had public insurance. The reason we see this high pattern of public coverage is that many users had lived in the United States 18 to 30 years and thereby had become eligible for Social Security benefits before moving back to Mexico. Approximately 25 percent of them had private insurance or belonged to a health maintenance organization. All of those covered by private insurance had lived in the United States for at least 4 years. Whereas, more than 95 percent of the high- and middle-sector users had lived in the United States and, therefore, were familiar with this health care system, 43 percent of the low-sector users never resided in this country.

Extent of binational utilization. To assess the extent of binational use, we examined crossover patterns of use of the health care systems of the two countries. These results are reported in table 2. They show that of all 46 users with either public or private health insurance coverage in the United States, only 65 percent sought services exclusively in the United States, 4.4 percent chose services in both countries, while 30.5 percent chose services solely in Mexico. Among those who sought Mexican services, the majority turned to the public sector (65 percent to SSA and DIF), generating approximately 38 visits. In sharp contrast, among those 568 users who reported having insurance coverage in Mexico, more than 98 percent used Mexican health services exclusively. Only 1.7 percent sought services across the border. This small group generated about 23 visits to the U.S. health system, predominantly (78 percent) in the private sector. These comparisons, based on the total number of insured users and visits, indicated that the burden of support for health care appears to fall more heavily on the Mexican than on the U.S. health system.

Volume of visits. Use patterns were subsequently analyzed in terms of the number of visits generated by persons who had gained entry into the health system in each country. Weighted estimates show that users made an average of 2.6 (SD=2.7) visits in the United States and 3.9 (SD=6.0) in Mexico.

Of the visits to the U.S. health system, 84 percent were in the private sector, and only 15.4 percent were in the public sector (fig. 4). We found an inverse relationship between public sector visits and socioeconomic status. Almost six times more visits to the public sector

were made by the low-income compared with the high-income group.

In Mexico, the proportion of visits in the private sector was also very large: 59.4 percent compared with 39.3 percent in the public sector and an additional 1.1 percent that used services in both settings (fig. 4). Compared with U.S. visits, significantly more visits were in the public sector in Mexico ($P = .001$).

In examining the total number of visits generated in a 6-month period, we found that almost 90 percent of all the visits in the United States were for illness, physical examinations, and reproductive health care. For every 100 visits to the Mexican health care system, 5 visits were made in the U.S. health system (table 3). The most frequent motive for care seeking across the border was reproductive health. For every 100 visits in Mexico for perinatal care, family planning, or gynecological care, 14 visits were made in the United States. The ratio of U.S. to Mexican health system visits for the total sample was also quite high for surgery (.08) and for physical examinations (.05).

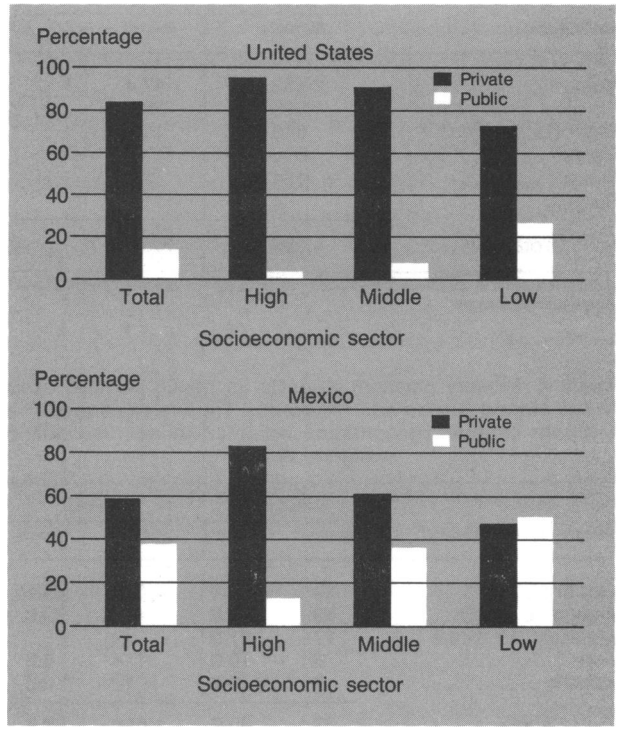
Finally, with respect to primary payment modalities in the United States, 39 percent of all the visits were paid for out of pocket, including money borrowed from friends, relatives, or employers (table 4). Third-party insurance or HMO membership paid for almost 20 percent of the visits. Another 32 percent were financed through public funds, mostly Medicare or Medicaid (21.9 percent) or by obtaining free services in county facilities or community clinics. No attempt was made, however, to compare the costs of visits in the public and private sector.

Surprisingly, despite approximately 55 percent of the population having public or social security coverage in Mexico, significantly more out-of-pocket disbursements were made there compared to the United States ($P = .05$). Almost 64 percent of all visits in Mexico were either totally or substantially self-paid. Only 29 percent of the visits were covered entirely by the social security system or other private insurance mechanisms.

Discussion

It is often argued that unless we curtail access to undocumented Mexican nationals who cross over and use our health resources, cost containment and insurance coverage issues will not get resolved in the Southwest. According to the evidence provided by this study, long-term residents living on the Mexican border account for very little of the health care financing problem. The study results show that only 2.5 percent utilized services in the United States during a 6-month period in 1987. Their use is far below that of other Mexican subpopulations, such as seasonal immigrants (*10, 21*), Mexican residents in San Diego County (*22*),

Figure 4. Visits to public and private health sector providers in the United States and Mexico, by socioeconomic status of Tijuana residents



or Mexican Americans permanently residing in the Southwest (*6*).

Furthermore, most visits that were generated by users in the United States were to the private sector and implied fee for services. These visits mainly were paid directly out of pocket through insurance or health maintenance organization membership.

The findings also indicate that long-term Tijuana residents who gain entry into the U.S. health system have distinct sociodemographic characteristics. The most likely users are persons from high-income groups, seniors ages 64 or older, and males, with the exception of high-income females. In addition, the large majority of users are documented and insured border crossers. Only 11.5 percent are undocumented.

These characteristics suggest that border residents who cross over to seek health care may be different from other Mexicans who are already living and using health services in the United States. For instance, among seasonal immigrants (*10, 21*) and permanent residents of California (*22*), a much higher proportion of users tend to be low income, of young or working age, and undocumented status. These distinctions strongly suggest the need for disaggregating Mexican subgroups and using residency as an important assessment criterion in health policy analysis. Failure to do so

Table 3. Number of Tijuana residents' visits to health providers by main reasons in a 6-month interval: percentages weighted by socioeconomic status, 1987

Main reason	United States and Mexico		United States		Mexico		Ratio of U.S. to Mexico visits
	Number	Percent	Number	Percent	Number	Percent	
Illness	2,152	47.4	61	30.8	2,091	48.0	.03
Physical examination[1]	1,065	22.1	54	28.3	1,011	21.9	.05
Reproductive health[2]	548	12.3	67	30.5	481	11.6	.14
Dental	696	12.8	16	3.8	680	13.1	.02
Injury	154	3.8	2	0.8	152	3.9	.01
Surgery	84	1.6	6	5.7	78	1.5	.08
Total	4,699	100.0	206	99.9	4,493	100.0	.05

[1]Includes medical checkups, prescription requests, X-rays, laboratory workup and miscellaneous reasons.

[2]Includes prenatal care, delivery, post-natal care, family planning, and gynecological examinations.

Table 4. Primary payment modality for health services used in the United States and Mexico by Tijuana residents in a 6-month interval: percentages weighted by socioeconomic status, 1987

Primary payment modality[1]	United States		Mexico	
	Number	Percent	Number	Percent
Out of pocket[2]	44	39.1	1,066	63.5
Insurance, HMO	19	19.9	427	29.0
Medicaid, Medicare	17	21.9	...	...
Free	8	10.0	114	6.8
Missing	5	9.0	12	0.6
Total	93	99.9	1,619	99.9

[1]Refers to main source of payment. Multiple sources of payment such as insurance and self pay are counted according to the source that paid the largest amount.
[2]Includes money borrowed from friends, relatives, and employer.

may perpetuate existing beliefs that all Mexicans abuse U.S. services.

As for the border population, we can conclude that, despite its geographic proximity to the United States, its exposure to binational health care markets, and the continuous cultural reinforcement of American values through mass media (three factors that could be considered strong incentives for utilization in the United States), the actual use is extremely low. In fact, the findings show that Tijuana residents turn predominantly to the Mexican health care system when they have health problems. The extent of use in Mexico was 16 times higher than that in the United States. Furthermore, if the ratio of insured people in California and Tijuana found in our sample is representative of Tijuana's population, it is another indication that Mexican border residents seek more services in Mexico than in the United States. Specifically, more than 10 times the number of Mexicans covered by American insurance used services in Mexico than those covered by Mexican insurance did in the United States.

Preference for seeking care in the United States lies in the use of reproductive health services, particularly by high-income women who choose to deliver their infants across the border. Care is also sought, predominantly by males and seniors, for diagnostic purposes involving illness, physical examinations, and surgery. Further research is needed to determine the factors that motivate people to seek U.S. health care. Our preliminary findings suggest that a reliance on better laboratory and other technical equipment is an important determinant. Those who have access to public health coverage in the United States could presumably be considered as getting free services. But then, as the findings indicate, they have mostly earned their benefits by working in the United States and contributing taxes.

The biggest burden on the U.S. health system seems to come from the undocumented. The data show that, although this group constitutes a small proportion of users, it makes up the largest category of uninsured. They are also the most likely users of public services in county hospitals and community clinics, accounting for all the services that were rendered free of charge. In this study 10 percent of all services were uncompensated. Furthermore, since most undocumented users were from the low-socioeconomic sector, one would expect that their low educational level and unfamiliarity with the health system requires many facilities to add costly support services for translating and monitoring health care experiences.

This evidence, however, must be carefully interpreted, noting that although undocumented users represent a sizable burden compared with documented users, their overall incidence of use is small. Whereas in this study 36 percent were undocumented, only 11.5 percent used U.S. services. In contrast, the two-thirds that were documented accounted for 88.5 percent of the users. Moreover, although all free services were rendered to the undocumented, 81 percent paid out of pocket for health visits in the private sector.

Compared with persons who cross to use U.S. health services, users in Mexico are younger and their volume of visits is higher. This suggests that the barriers to access to U.S. services may not only lie with the con-

sumers seeking entry into care, but also with providers scheduling subsequent visits once entry into the system is gained.

In summary, this study indicates that, although there might be heavy patterns of demand concentrated in specific facilities along the U.S. border, the population living on the Mexico border does not seemingly represent a drain on the U.S. public health system. The findings nonetheless, must remain tentative, given some methodological constraints of this study. First, this pilot research is based on a small sample that is skewed towards the older age groups. Future studies that do not oversample these groups may show even lower rates of U.S. health system utilization. Since there are no precise current estimates of the age distribution of Tijuana's population, weights did not adjust for this factor. Second, the results were weighted according to available estimates of the socioeconomic distribution of Tijuana's population. Due to the difficulties in estimating these parameters, measurement errors cannot be discounted. Larger surveys on binational utilization are needed on which to base strong policy recommendations.

More research is also warranted to determine whether a burden is placed on specific services, such as obstetrics, diagnostic, and surgical procedures. Furthermore, we need to monitor the impact of the new Amnesty Program. With opportunities to legalize their residency status, many families will now be eligible for U.S. public services, even though they may choose to live in Mexico.

Finally, health care financing is a critical issue for Mexico as well, yet little is known about the reverse phenomenon; that is, use of Mexican health services by U.S. residents, primarily of Mexican descent. Recent evidence suggests that among a sample of the indigent population in Texas, 26 percent reported using a Mexican health care service during the year, according to an unpublished 1988 report of the Lower Rio Grande Development Council and the University of Texas Health Science Center, "Report on the Valley Primary Care Review." In the future, a balanced focus must be cast on this truly binational phenomenon by conducting health services research on both sides of the border.

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