



Migrant recently returned from the United States is interviewed about his health history.

8 The Migrant Health Paradox Revisited

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The binational environment that migrants inhabit fosters unforeseen health implications for themselves and for their nonmigrating counterparts. Migration's impacts on disease, nutrition, work-related injuries, and use of health-care facilities are all important determinants of migrant and nonmigrant health, and there is heated debate among experts regarding whether being a migrant improves or imperils health. Our research yielded three findings that help resolve this issue. First, the migrants in our sample are healthier than their nonmigrant counterparts. Second, migrants with more exposure to the United States are not likely to report an increased number of infirmities, suggesting that longer stays in the United States do not necessarily lead to a decline in health. And third, in attempting to understand why migrants report being healthier than nonmigrants, we found that the obstacles to migration constitute a filtering effect, and only healthier Tlacuitapeños decide to make the journey north.

THE LATINO HEALTH PARADOX

At the core of the debate about the health of migrants in the United States is what is known as the Latino health paradox.¹ The Latino health paradox compares the overall health of Latinos living in the United States with that of other populations. Most Hispanic groups are classified as being of low socioeconomic status, yet they have relatively good health compared to other groups at similar economic levels. According to Patel et al. (2004, 707), "This mortality advantage is commonly considered a paradox both because socioeconomic standing is a well-established determinant of mortality and because Hispanics (primarily Mexican-Americans) have

1. We use Latino and Hispanic interchangeably in this chapter.

an elevated prevalence of several risk factors for mortality, including diabetes and obesity.” In effect, despite health factors that should operate against them, Mexico-born Hispanics who reside in the United States actually enjoy better health than other ethnic groups living under similar economic constraints.

However, after controlling for age and other factors, the health of Hispanic immigrants reportedly deteriorates with time spent in the United States. “As immigrants adopt traditional American health behaviors over time, their health status begins to converge with that of the general U.S. population” (Kandula et al. 2004, 362). Following modernization theory, one would expect that the advanced health-care system and relatively healthy environment of the United States would make migrants healthier over time,² but the Latino health paradox asserts the contrary. As migrants continue living in the United States, they adapt to the U.S. lifestyle and begin to develop health profiles similar to those of native-born residents.

There are two competing explanations for this paradox, which are discussed throughout this chapter: the salmon bias and the healthy migrant effect. The salmon bias suggests that, because Mexican or other Latino migrants have a strong tendency to return to their home country after working temporarily in the United States or upon retiring or becoming ill, their illnesses and deaths are not captured in U.S. morbidity and mortality statistics, creating the *illusion* of a healthier migrant population.³ The artificially depressed mortality rates for Hispanics may erroneously suggest that Mexican migrants are healthier than the native population (Paloni and Arias 2004). According to the second explanation, the healthy migrant effect, the difficulty of migrating prohibits all but healthy individuals from coming to the United States, and this selected-out cohort naturally displays better health levels overall compared to other groups.

Both the salmon bias and the healthy migrant effect emphasize the inherent difficulty involved in obtaining an accurate picture of overall migrant health. U.S.-Mexico migrants are a binational population by definition, and hence they are affected by factors on both sides of the border. Moreover, migrants’ continuous movement across the border makes it difficult to draw a truly random sample of the population and hinders

2. For more information on modernization theory, see Inglehart and Welzel 2005.

3. This is a reference to the behavior of salmon, which return to their birthplace to spawn and die.

efforts to demonstrate a causal relationship between migration and health (Palloni and Ewbank 2004).⁴

Our study of health issues in Tlacuitapa necessarily suffers from some unavoidable limitations. First, a single community cannot be representative of all migrant-sending communities. Second, our data regarding migrants' health were self-reported, which may be less accurate than biometric survey data in representing an individual's actual health condition. Finally, the non-longitudinal nature of our study hinders our ability to prove a cause-and-effect relationship between migration and health outcomes. While we are mindful of these limitations, our results nevertheless engage the debate about the Latino health paradox and other contemporary questions on health and migration. Self-reported survey data, combined with qualitative interviews with migrants and public health professionals in the sending community, allow us to identify the variables associated with both migrant and nonmigrant outcomes.

In the following pages we present background information on health-care facilities in the sending community and examine the prevalence of self-reported infirmities among nonmigrants, active migrants, and returned migrants. We then analyze three logistic regressions that control for age and other factors in order to determine health differences between migrants, returned migrants, nonmigrants, and U.S.-based migrants. We also look at several factors that affect the health of migrants and nonmigrants, including nutrition, depression, labor accidents, access to health care, and the relationship between remittances and health-care expenditures.

HEALTH CARE FACILITIES IN TLACUITAPA

The most popular health facility in Tlacuitapa is the health clinic and adjoining pharmacy, which are overseen by Dr. Héctor Salvador López León. The clinic treats common illnesses and infections and also monitors the town's diabetic population. Cases that Dr. López León is not equipped to treat are referred to clinics in neighboring Lagos de Moreno, León, San Juan, or Guadalajara.

4. This problem is currently being addressed by the Centro de Investigación y Docencia Económicas (CIDE) and the Universidad Iberoamericana (UIA) in a joint longitudinal study, the Mexican Family Life Survey, which measures health indicators in the same population over time. For more on the Mexican Family Life Survey, go to <http://www.radix.uia.mx/ennvih/main.php?lang=en>.

Second in popularity among the people of Tlacuitapa is the public health center, the Centro de Salud, directed by Dr. Antonio Gallardo, a medical student doing his residency. He is assisted by a trained nurse, who is a permanent resident of Tlacuitapa. Town residents who are unable to pay for treatment go to the public health center for free medications such as basic antibiotics or cold medicines. These medicines, which are provided through government funding, typically run out before the next shipment arrives. A frustrated Dr. Gallardo talked about his center's shortcomings: "I cannot help a pregnant woman who is in an emergency situation. If the delivery is complicated, I cannot help her. This situation is very dangerous; I have no way to treat such patients." While the government's stated goal is to offer health services for everyone in need, this public facility clearly lacks many standard amenities.

One other health-care option in Tlacuitapa is to seek help from practitioners of traditional medicine, which run the gamut from a *huesero* (bone-setter) to an herbalist. Although traditional medicine is less popular since the population has become increasingly exposed to Western medicine, it remains available to returned migrants and nonmigrants alike. The *huesero* sets bones that have been dislocated or broken and treats sprains and general body aches, combining physical manipulation of bones (much like a chiropractor or physical therapist) with herbal remedies to manage pain. *Curanderos* use herbs in combination with a supernatural or spiritual element in order to treat their patients.

PRIMARY HEALTH ISSUES FOR TLACUITAPEÑOS

Tlacuitapa's general health profile is on par with those of communities of similar economic standing throughout Mexico (see Tapia Conyer 2006). Yet, according to the three individuals who provide health services in the town (Dr. López León, Dr. Gallardo, and the town's nurse), past and current migration patterns have altered the health landscape of this particular community.

The town's three health-care providers voiced similar concerns when asked about the general health of the community. Gastrointestinal infection was the most common complaint, but many Tlacuitapa residents suffer from more serious ailments, such as diabetes and high blood pressure. This is in line with health profiles across Mexico, where more than

seventeen million people suffer from high blood pressure, and diabetes has become the third-most-common cause of death (Tapia Conyer 2006, 601, 559).

Diabetes and high blood pressure are major health concerns for migrants as well. The California Agricultural Worker Health Survey (CAWHS) reported in 1999 that just over half of the male subjects showed at least one of three clinical risk factors for diabetes (obesity, high blood pressure, or high serum cholesterol). Nearly one in five showed at least two of the three (Villarejo et al. 2000, 22).⁵ While comparatively higher than numbers for the general U.S. population, these results appear to be in line with reported findings in Mexico, a fact that may indicate that health issues emerging in Mexico are also affecting Mexican migrants in the United States.

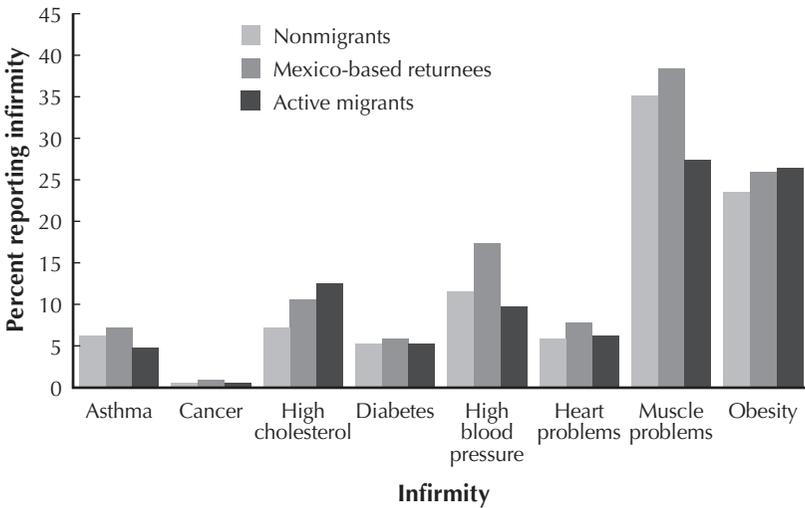
We found no consistent pattern among nonmigrants, active U.S.-based migrants, and returned migrants in terms of the prevalence of infirmities (see figure 8.1). Both U.S.-based and Mexico-based migrants are more likely than nonmigrants to report obesity and high cholesterol, pointing to the possible dangers of migration-related changes in dietary habits. Yet U.S.-based migrants are not consistently sicker than nonmigrants. For example, U.S.-based migrants report lower incidences of asthma, high blood pressure, and muscle problems. When assessing whether returned migrants are sicker than migrants still in the United States, the picture is clearer. Returned migrants report higher rates of asthma, high blood pressure, heart problems, and muscle problems than do migrants who stay in the United States, and they are only slightly less likely to report obesity or high cholesterol.

To determine the extent to which migration to the United States is associated with these infirmities, we must control for several factors via logistic regressions. The logistic regression models presented below assess whether migration experience is associated with health problems after controlling for sex, age, marital status, self-report of being overweight, times per week that respondent consumes fast food, and employment in construction or agriculture. In models 1 through 3 in table 8.1, "migrant" is a dummy variable that indicates whether the respondent has ever

5. Unlike our self-reported data, these results are based on a physical exam and full blood chemistry analysis.

migrated to the United States. In models 4 through 6 (table 8.2), “time in U.S.” is a continuous independent variable that records the number of years the respondent has spent in the United States. The dependent variable in models 1 and 4 measures whether the respondent reported suffering from any of seven infirmities, including asthma, cancer, high cholesterol, diabetes, high blood pressure, muscle problems, and heart problems. In models 2 and 5, the dependent variable is a self-reported heart condition. In models 3 and 6, the dependent variable is a self-reported back or muscle problem.

Figure 8.1 Self-Reported Infirmities among Tlacuitapa Nonmigrants, U.S.-Based Migrants, and Returned Migrants, 2007



N = 849.

In the first three models, age is consistently significant in predicting negative health outcomes, which is to be expected; older people are more likely to be sick. A high consumption of fast food is positively correlated with all infirmities and with back problems, which is consistent with an expected health decline when consuming foods that are high in fat and sugar. Being a woman and working in agriculture predict back problems, which is consistent with physically demanding labor. Most important from a theoretical standpoint, migrants were significantly less likely to

report one of the basket of infirmities or back problems, which concurs with the argument that the explanation for the Latino health paradox is the fact that migrants are healthier than their compatriots who stay in Mexico.

Table 8.1 Factors Contributing to Health Problems (coefficients are reported as the odds ratio)

	Model 1 All Infirmities	Model 2 Heart Problems	Model 3 Back Problems
Migrant	0.733* (.128)	1.116 (.239)	0.684** (.128)
Time in U.S.			
Male	0.835 (.140)	0.787 (.170)	0.591** (.138)
Age	1.047*** (.007)	1.064*** (.008)	1.027*** (.006)
Married	0.746 (.145)	0.881 (.216)	0.978 (.193)
Overweight	1.991*** (.342)	2.066*** (.404)	1.563*** (.271)
Fast food	1.101** (.047)	1.081 (.065)	1.082* (.047)
Construction			1.423 (.410)
Agriculture			1.751** (.490)
Chi-square	81.03	91.99	37.83
Pseudo-R ²	.0761	.1353	.0396
N	797	789	798

* 90%, ** 95%, *** 99% confidence levels; robust standard errors in parentheses. Note: In models not shown here, controls for levels of education and wealth did not have significant effects on health.

Models 4 through 6 (table 8.2) test whether there is a correlation between length of migration and migrant health after controlling for the same factors as in the first three models. In this case, time in the United States correlated significantly with reporting one of the basket of infirmities and back problems, but the effect was negligible (odds ratio = 0.991, where 1.0 would be no correlation). In effect, contrary to the prevailing

view of the Latino health paradox, more time spent in the United States did not change migrants' self-reported health. Age was once again a significant predictor that an illness would be reported. Being overweight also increased the likelihood that time in the United States would increase the probability of reporting an illness. Being overweight and consuming fast food are robustly associated with negative health outcomes.

Table 8.2 Time in the United States and Health Outcomes

	Model 4 All Infirmities	Model 5 Heart Problems	Model 6 Back Problems
Migrant			
Time in U.S.	0.991** (.009)	0.996 (.010)	0.996** (.010)
Male	0.811 (.173)	0.830 (.220)	0.782** (.244)
Age	1.051*** (.010)	1.062*** (.012)	1.036*** (.009)
Married	0.651* (.192)	1.053 (.394)	0.873 (.277)
Overweight	1.978*** (.457)	2.251*** (.002)	2.063*** (.496)
Fast food	1.073** (.050)	1.111 (.064)	1.050* (.064)
Construction			1.163 (.382)
Agriculture			1.232 (.470)
Chi-square	41.46	44.35	38.80
Pseudo-R ²	.0768	.1231	.0403
N	430	426	798

* 90%, ** 95%, *** 99% confidence levels; robust standard errors in parentheses.

The results of these first two sets of models show two general trends in our sample after applying various controls. The first set of models demonstrates that migrants are less likely than nonmigrants to report an infirmity. This suggests that people who have migrated are healthier than those who have never migrated. There are three possible explanations for this: migrants are positively selected for their health (the healthy migrant

effect), sick migrants return to Mexico (the salmon bias), or—contrary to the Latino health paradox and in support of modernization theory—migrants become healthier with more exposure to more advanced medicine in the United States. The results from the second set of models show that, after applying proper controls, migrants are *not* more or less likely to report an infirmity as their time spent in the United States increases. This suggests that exposure to the United States is not associated per se with overall health outcomes.

Finally, in order to test if migrants are indeed positively selected by their health status or if the salmon bias is at work in our population, we constructed a third logistic regression using the same variables but adding a “returned migrant” independent variable (table 8.3).⁶ The three dependent variables are the same as in the first two regressions.

Table 8.3 Factors Contributing to the Health of Returned Migrants

	Model 7 All Infirmities	Model 8 Heart Problems	Model 9 Back Problems
Returned migrant	.650* (.162)	0.450** (.157)	1.028 (.267)
Male	0.722 (.166)	0.675 (.189)	0.780 (.188)
Age	1.045*** (.010)	1.055*** (.011)	1.036*** (.010)
Married	.756 (.253)	1.240 (.530)	0.746 (.263)
Overweight	2.120*** (.525)	2.607*** (.711)	1.917*** (.476)
Fast food	1.061 (.052)	1.131** (.058)	1.041 (.066)
Chi-square	41.94	43.74	23.75
Pseudo-R ²	.0853	.1432	.0513
N	380	376	380

* 90%, ** 95%, *** 99% confidence levels; robust standard errors in parentheses.

Table 8.3 shows that returned migrants are *less* likely than U.S.-based migrants to report an infirmity, indicating that they are relatively healthy.

6. A returned migrant was defined as someone who had migrated to the United States but was living in Mexico in 2006.

This is strong evidence against the salmon bias as an explanation for the better health outcomes of the migrant population and tends, rather, to support the “healthy migrant effect” explanation. After controlling for age and sex, Tlacuitapeño migrants living in the United States are healthier, apparently because they were selected for their overall health by the rigors of migration.

This table shows further that self-reporting of being overweight is a consistently significant factor in the reporting of health conditions, along with increased consumption of fast food. These issues, coupled with the assertion that migration changes dietary habits, form a link between health and migration that is important for migrants and nonmigrants alike.

NUTRITIONAL CHANGES RESULTING FROM IMMIGRATION

Several studies have shown that migration to the United States produces changes in dietary habits, which can translate into a decline in migrant health. Two especially significant studies in this area focused, respectively, on dietary acculturation (Romero-Gwynn et al. 1993) and migrants’ health indicators (Kandula et al. 2004). Though it is difficult to demonstrate a cause-and-effect relationship between nutrition and health within the migrant population due to selection biases and dynamic consumption patterns on both sides of the border, there are changes in nutritional patterns that occur upon migration that could potentially be linked with a decline in health. Medical anthropologist Seth Holmes argues that there is a significant decrease in the nutritional value of a migrant’s diet within the first year of migration to the United States (Holmes 2006, 1778). Our study looks at the various ways in which nutrition has changed with migrants’ time in the United States and compares those eating habits to those of nonmigrants.

A traditional Mexican meal consists mainly of “corn tortillas, beans, rice, potatoes, eggs, tomatoes, and chili peppers” (Kaiser et al. 2004, 1377). Most Tlacuitapeños consume this traditional diet; those with greater economic means commonly add a serving of meat. When asked about her food consumption, town resident María de Jesús stated, “We eat what we make at home—soup, beans. And when we have meat, we eat meat.” When migrants come to the United States, they are exposed to new foods, new ways of preparing food, and an overall food “culture” that is dramatically different from their own.

One comparison that highlights the relationship between migrants' and nonmigrants' nutritional practices is their consumption of fast food. In our survey in Tlacuitapa, we asked, "How many times per week do you consume fast food?" In general, migrants reported consuming more fast food than nonmigrants; 53 percent of migrants consume fast food at least once a week, compared to 33 percent of nonmigrants. This suggests that migrants to the United States have become participants in America's fast-food culture, which could initiate a health decline among this population.

Several factors help explain the migrants' new eating habits. Fast food is quick and readily available. This is important to workers who simply do not have time to prepare balanced meals for consumption at the workplace. Héctor, a native of Tlacuitapa who now resides in Oklahoma City, told us it was simply easier to consume fast food because of his job. Héctor works in construction and patronizes whichever fast-food retailer is nearby. Another possible explanation for the popularity of fast food among this group is a lack of nutritional education. Perhaps if migrants were more aware of the negative effects of fast foods and snack foods, they would replace these products with more healthy options.

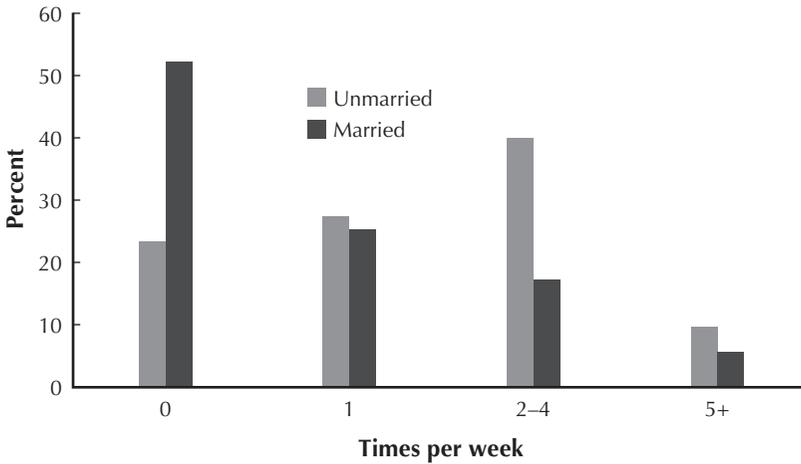
Consumption of fast food also varies by marital status: 77 percent of nonmarried migrants reported eating fast food at least once a week, compared to only 48 percent of married migrants (see figure 8.2). When they arrive in the United States, most male migrants must provide meals for themselves, something that in Mexico was done by their mothers, sisters, and wives. Absent the supporting structure of a traditional Mexican home, many migrant men avoid taking on new culinary responsibilities by opting for the convenience of fast food.

Finally, migrants' desire to assimilate can lead them to adopt poor eating habits. There were some 222,000 fast-food outlets in the United States in 2001, with combined sales of over \$125 billion (Paeratakul et al. 2003, 1332). Mexican migrants quickly emulate the host society's preference for a quick and easy meal.⁷ A study that analyzed the diets of Mexican Americans in different stages of the transition "from traditional Mexican diets to more mainstream American diets" found that "with increased acculturation and time in the United States, migrants consume fewer complex carbohydrates and more highly processed convenience foods that are high

7. Fast-food consumption has also been increasing in Mexico. The U.S. Department of Commerce reports that the fast-food industry in Mexico takes in about US\$2 billion per year (<http://www.buyusa.gov/mexico/en/250.pdf>).

in sugar and fats” (Kandula et al. 2004, 361). These dietary changes can exacerbate deleterious aspects of the traditional Mexican diet that are not that healthy to begin with, such as the heavy use of oil and lard, dependence on starchy foods, and high consumption of sodas and other heavily sugared drinks.

Figure 8.2 Fast Food Consumption among Tlacuitapeños, by Marital Status



N = 391.

Consumption of fast food and other foods of low nutritional value can cause serious health problems. Rapid weight gain and obesity have been linked to heart problems and diabetes. In our survey, we asked, “After being in the United States, would you say you weigh more, weigh less, or weigh the same?” Fifty-nine percent of migrants reported weighing more after being in the United States. Only 8 percent reported weighing less; 33 percent reported weighing the same.

Obesity is prevalent among both migrants and nonmigrants from Tlacuitapa. In our survey, 25 percent of nonmigrants reported obesity problems, along with 26 percent of migrants.⁸ Kaplan et al. (2004) found that “the prevalence of obesity among those with 0 to 4, 5 to 9, 10 to 14, and ≥ 15 years of residence in the United States was 9.4 percent, 14.5 percent,

8. In Tlacuitapa, 35 percent of females and 22 percent of males reported being overweight. According to the World Health Organization, nearly 45 percent of females and 30 percent of males over 30 years of age in Mexico suffer from obesity (WHO 2005).

21.0 percent, and 24.4 percent respectively” (p. 323). Obesity rates appear to rise with time spent in the United States, and this is directly linked to an increased risk of heart attack. We spoke with an informant who had suffered a heart attack because of a clogged artery. When asked the cause of his heart attack, he replied: “Food! A lot of Coca-Cola.” He reported eating fast food almost daily because the work schedule at his construction job did not allow him time to eat elsewhere.

Immigration to the United States affects not only the habits of migrants but also those of town residents who remain in Tlacuitapa. A hot dog stand and pizza delivery truck now provide weekly service to local residents, and there has been an infiltration of new food products. American products line the shelves of the town’s small grocery stores; one of the most prevalent items is Maruchan Cup o’ Noodles.⁹ According to Nazario, a grocery store owner, “The migrants ask for ‘maruchan,’ a soup from over there, so now I try to stock them.” This product, high in sodium and fat, is one of the snacks most frequently requested by migrants and non-migrants alike. It is important to note that remittances also support the popularity of such food products. Absent remittances, many nonmigrants in Tlacuitapa could not afford them. These processed food products have infiltrated the traditional Mexican diet, changing the nutrition of entire communities and making food habits among Tlacuitapeños relatively unhealthy on both sides of the border.

Of course, migrants’ consumption of fast food is only one of several factors accounting for obesity among the Mexican population. Rivera et al. (2002) report that the Mexican population in general performs less physical activity as it has become more urban and has easier access to “inexpensive but high energy–dense foods” (p. 113). Further, nutritional changes are not the only threats posed by migration. Migration also affects the mental health of both migrants and nonmigrants, an issue that concerns health professionals on both sides of the border.

DEPRESSION

Although our questionnaire did not specifically address depression, we became aware of this issue when Tlacuitapa’s health professionals spoke

9. Though Maruchan is a Japanese company, we classify its product as American because it has become part of U.S. snack-food culture and because migrants first encounter it in the United States.

of its pervasiveness. According to Dr. López León, anti-depressants are the most frequently prescribed medication for both migrants and non-migrants, and Dr. Gallardo said he observes signs of depression in some 40 percent of his patients, mostly among young wives of migrants. These patients complain of a variety of symptoms, which Dr. Gallardo identifies as signs of depression, such as tension headaches, anxiety, nervousness, and an overall desire for someone to listen. "They miss their loved ones who have migrated to the United States and are overwhelmed by loneliness, the lack of housework or something to keep them busy."

This was true for Leticia, a resident of Tlacuitapa whose husband left to work in the United States six years previously. After his departure she developed headaches and insomnia, for which she was prescribed sedatives. After seven months working in the sun as a construction worker, her husband developed a skin allergy and returned to Tlacuitapa, and in the years since her husband's return, Leticia's symptoms of depression have receded. Tlacuitapa is transformed during the annual fiestas, but the town is quiet and deserted during the rest of the year, and it is then that permanent residents like Leticia suffer from the absence of their loved ones.

We found that depression was prevalent among the migrant population as well. Many Tlacuitapeño migrants who had returned to their hometown for a short visit spoke of their distress when leaving their family behind and the strain of having to shoulder responsibility for supporting their many dependents. According to Dr. López León, migrants who arrive from the United States have elevated stress levels brought on by their responsibilities as family provider. Moreover, migration alters the traditional family structure, which also places a migrant at risk of becoming depressed. A study on the effects of transnational family relationships identified three areas that cause increased risk for depression upon migration: new definitions of family life, various forms of relational stress that begin in the preparatory stages of migration, and acculturative stress manifested in gender and generational relationships after migration (Falicov 2007, 5). A migrant who is separated from loved ones loses his or her access to emotional support.¹⁰ Given the migrants' financial anxiety and

10. These findings are consistent with those from a 2005 study in Tunkás, Yucatán. Depression among migrants was provoked by the change in their social conditions and isolation from their traditional family unit. See Prelat and Maciel 2007.

uncertain future, depression rates continue to rise among Tlacuitapa migrants and nonmigrants.

LABOR ACCIDENTS AND THEIR ROLE IN THE IMMIGRATION EXPERIENCE

Moving away from the primary conditions that afflict our population, we also examined health complications that arise through work-related accidents and limitations on access to health care. As our earlier analysis shows, workers are affected by the physical demands of their occupations, a factor that further complicates migrants' health landscape and constitutes an additional obstacle for them to overcome after arriving in the United States.

Most male migrants from Tlacuitapa work in construction in the United States, a sector prone to work-related accidents. A serious accident may force a migrant to return home permanently or, at minimum, for a lengthy period of rehabilitation. We consider two categories of work-related injuries—nonfatal injuries and fatal injuries.

Nonfatal Injuries

The most common nonfatal occupational injuries are sprains and strains, accounting for nearly 44 percent of all work injuries in 2001 (U.S. Bureau of Labor Statistics 2004). Such injuries can have emotional as well as physical consequences. In our research, we met one person who had been injured at a car factory and another, Juan Pablo, who had suffered a back injury after falling thirty feet at a construction site. Juan Pablo was left with a broken nose, a laceration that extended from his eyebrow down his cheek, a broken arm, and several fractures in his hands. Juan Pablo said he did not receive appropriate medical attention; he was bandaged up and given medication at a local emergency room, but there was no follow-up care or evaluation. He later discovered that he would need extensive treatment. He required several operations, which kept him out of work for nearly a year. Many injured migrants are forced to return to Mexico in order to receive treatment or simply to wait while their injuries heal. Such timeouts imply huge costs that extend beyond the expenditures for health care because they also affect migrants' ability to provide financially for themselves and their families.

Fatal Injuries

Fatal injuries, though far less common, obviously result in much greater trauma for a migrant's family and community. In 2004, 5,703 workers died from fatal injuries in the United States (U.S. Bureau of Labor Statistics 2004). Latinos accounted for nearly 16 percent of the 2004 deaths, and from 1999 to 2002, Latino men accounted for an average of 94 percent of work-related fatalities among Latino workers in the United States. The risk factors associated with work in physically demanding economic sectors have a direct effect on migrants' health and family life. "They work in dangerous settings, and a variety of factors such as lack of training, inadequate safety equipment, and economic pressures further increase their risk for work injury" (Walter et al. 2002). Thrown into an unfamiliar work environment, migrants become even more vulnerable and prone to injury.

The death of Héctor Muñoz's father speaks to the possibility that a migrant will meet a tragic end. Héctor's father worked on a road-building crew and was repairing his machine when he was caught beneath it. As Héctor recalls, "I saw him, just saw pieces of him. She [Héctor's mother] doesn't know; that's why I'm talking in English. She thinks my dad's body was whole, but that wasn't true. It was just pieces; three or four bags of them." When we asked Héctor how the accident affected his family, he talked of the financial and emotional repercussions. The company gave the family minimal compensation, which only covered funeral expenses. Héctor's family filed a lawsuit, primarily to win some financial support for the mother. When speaking of the emotional strain, Héctor added, "You feel like the whole world is coming down on you."

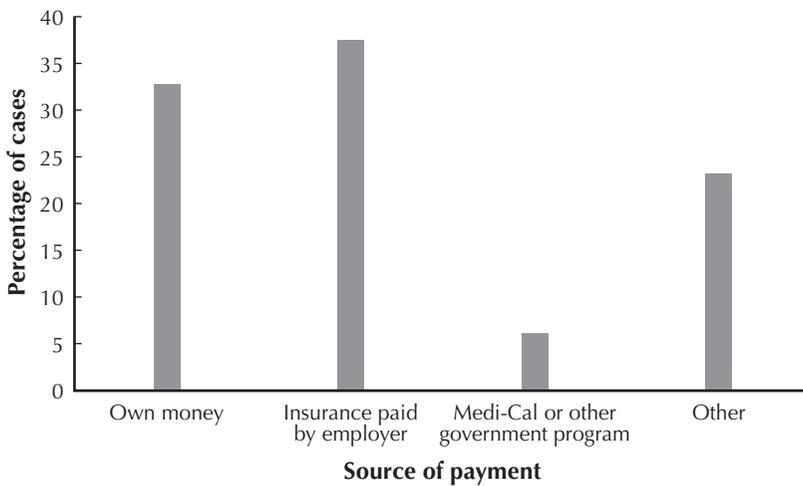
ACCESS TO HEALTH CARE

The findings reported in table 8.2, along with our qualitative results, suggest that migrants are no more or less likely to report an infirmity with increased exposure to the United States. One possible explanation for this is that migrants are not accessing the U.S. health-care system.

Many migrants are unable or unwilling to take advantage of the U.S. health-care system, in part because of fear and in part because of a general lack of knowledge. Migrants in the United States have been blamed for "leeching" off of government aid programs (Smith and Edmonston 1998),

and such accusations may decrease migrants' willingness to participate in social services and health care. Our research found that only four of the sixty-two migrants who became sick and received treatment in the United States over the past two years reported using Medi-Cal or another government program. The majority (38 percent) had their treatment covered by their employer, and 33 percent paid for treatment out of pocket (see figure 8.3).

Figure 8.3 How Do Tlacuitapeño Migrants Pay for Treatment in the United States?



N = 64.

Both migrants and nonmigrants from Tlacuitapa view the U.S. health-care system as difficult to access. For nonmigrants, this constitutes one more obstacle that family members and friends must overcome if they decide to go to the United States. And migrants may be unsure whether their undocumented status means they have no right to access services in the United States, and they are often unaware of the steps to follow to obtain care. Marco San Román, the president of a labor union in the San Francisco Bay area, commented on the difficulty his fellow migrants experience when trying to maneuver their way through the health-care system: “A lot of them don’t understand the system, how it works. I know, because I just went through it and it is crazy. . . . I don’t know what to

do, I don't know where to go. I don't know how to follow the law. Even people who have been there for a while don't know, not only the undocumented." This generalized lack of knowledge has caused many migrants to seek out providers of traditional health care or to stock up on medications when they visit Mexico.

Other factors that deter migrants from seeking health care are the comparative complexity of the U.S. system and the language barrier. María Luisa, a nonmigrant from Tlacuitapa, said she had heard that the U.S. medical system was simply too difficult to navigate: "They have to make appointments over there. Here, as soon as somebody comes in, they are seen. They don't have to make appointments. It's even harder if you don't speak English."

This sense of inaccessibility, which dissuades migrants from seeking health care in the United States, is not restricted to migrants from Tlacuitapa. According to the California Immigrant Policy Center and National Immigration Law Center (2006), "Undocumented immigrants have very little access to publicly funded health care programs and are reluctant to use services because of fear, and confusion over eligibility rules." The Mexican Health Ministry recently reported that "there are 2.1 million Mexican immigrants without medical insurance living in California, a third of all uninsured Mexican immigrants in the entire country" (Zúñiga et al. 2006, 29). Even *with* documentation, many Mexican migrants find the health-care system intimidating: "immigrants are much less likely to use primary and preventive medical services, hospital services, emergency medical services, and dental care than are citizens, even after controlling for the effects of race/ethnicity, income, insurance status, and health status" (Ku and Papademetriou 2007, 91). The lack of insurance and access to treatment makes the migrant community even more vulnerable.

One final factor that may deter migrants from using health-care facilities in the United States is their sense of being victims of ethnic discrimination. For example, when discussing health-care options available in Texas, Pablo said that being Mexican would prevent him from receiving treatment there: "Discrimination never ends for us." Eight of ten Tlacuitapeños surveyed said there was a lot of discrimination against Mexicans in the United States. There seems to be some basis for their belief: "Migrants not perceived to be a health threat to their host communities

would be less exposed to discrimination and xenophobia, and more likely to be included as equal participants" (International Dialogue on Migration 2005, 24). The perception of discrimination has been a key point in studies of health care for minority groups. In examining the disparities that exist in the health care provided across different minority populations, the Institute of Medicine found that "ethnic disparities, whether real or perceived, are experiences that minority patients are likely to bring to the clinical encounter, and are thereby likely to shape their expectations, attitudes, and behaviors toward providers and health systems" (Smedley et al. 2003, 102). While our research does not provide conclusive support for this claim, the issue of discrimination and its effect on access to health care is one plausible explanation for migrants' low use of health-care facilities in the United States.

Many of our informants recognize the advantages that health insurance confers, and they lament the lack of health insurance in Mexico. María Luisa noted how vulnerable her family would be if her husband, a bricklayer, were injured at work: "If somebody suffers an accident here . . . there's nothing." For the people of Tlacuitapa, especially those who work at physically demanding jobs, knowing that their ability to make a living depends on not becoming ill or injured is cause for great concern. Feliciano Claudio, the local *huesero*, also expressed this vulnerability: "We don't have medical insurance here, no help from the government. . . . We just go along by the grace of God, with the little we earn here and there, or with help from our children."

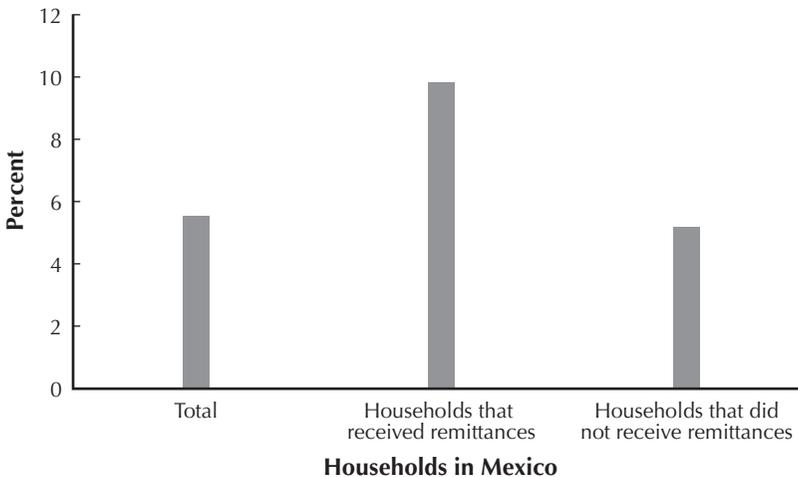
Contrary to a widespread misperception, migrants do not come to the United States to exploit the U.S. health-care system. Our data suggest that many migrants are deterred from seeking health care in the United States for a variety of reasons, including unfamiliarity with the system, the language barrier, and fear of discrimination. And when they do seek health care, they are likely to pay for the services out of pocket or with help from their employer. Relying on their good health to endure, migrants do not allow their lack of health care to change their decision to remain in the United States to work. For many nonmigrants, having healthy relatives in the United States has become a crucial factor in their *own* health status; the remittances migrants send home have altered the way in which nonmigrants seek health care.

REMITTANCES AND HEALTH CARE

Though the medical facilities in Tlacuitapa are modest, migration has increased the likelihood that local residents will receive health care. In the years before remittances began flowing into the local economy, Tlacuitapeños were less likely to see a doctor or to use Western medicine, simply because they did not have the means to pay for such treatment. They relied instead on traditional medicine and natural remedies. Now, the inflow of remittances permits more extensive health coverage. In our survey, we asked recipients of remittances to identify the ends to which these funds were directed. Almost 30 percent listed medical expenses among the top three.

Across Mexico, the connection between remittances and health expenditures implies that major sending communities reap health advantages. According to a research team led by Elena Zúñiga, “there is evidence that remittances are encouraging greater expenditure on treating illnesses and meeting other health needs. Households that receive remittances spend an average of about 50 percent more of their financial resources on covering health expenses than households that do not receive any” (Zúñiga et al. 2006). Households in Tlacuitapa that receive remittances spend nearly 10 percent of their total household expenditures on health care, nearly twice as much as households that do not receive remittances (see figure 8.4).

Figure 8.4 Percent of Total Expenditures Used for Health Care among Households in Mexico, 2004



Source: INEGI 2004.

The ability to direct more money toward health care in the sending community may well improve efforts to control illnesses such as diabetes and high blood pressure. Thus, though migrants are reluctant to utilize health services while they are in the United States, the money they earn and send home has served to expand access to health services in Mexico.

CONCLUSION

Even though migrants in the United States face a number of health stressors—including changing food habits, depression, work-related accidents, and restricted access to the U.S. health-care system—our findings suggest that migrants are, nevertheless, a relatively healthy population. Yet they are at risk from some factors that affect health: Changing nutritional habits mean increased consumption of fast foods and a move away from the traditional Mexican diet for both migrants and nonmigrants. The mental health of both migrants and nonmigrants suffers from the effects of migration, with both populations showing a growing propensity toward depression. The dangerous working conditions in the labor-intensive jobs our population is likely to fill threaten the workers' ability to earn the wages that support them in the United States and their families in Mexico. Migrants in the United States show a reluctance to use health services, though this threat to their health is somewhat offset by the fact that their remittances serve to buy health care for family members in Mexico.

Returning to the challenge of explaining the Latino health paradox, our research argues for the healthy migrant effect, which operates to create a Latino population in the United States that is comparatively healthier than other groups due to their health-based selection from the general population in their community of origin. Migrants returning to Mexico show a strong health profile, demonstrating that the salmon bias is not at work in our sample; if the salmon bias were at work, we would expect to see a population of returned migrants that is substantially sicker than active migrants and nonmigrants. However, our findings also demonstrate that more time spent in the United States does not increase the likelihood that a migrant will report an infirmity, suggesting that healthy migrants make the journey to the United States, are able to maintain their health while there, and then return to Mexico. In the process, they experience a diversity of health environments on both sides of the border.

References

- California Immigrant Policy Center and National Immigration Law Center. 2006. "Immigrants and the U.S. Health Care System." http://www.nilc.org/immspbs/health/Issue_Briefs/imms&ushealthcare_2007-01.pdf.
- Falicov, Celia J. 2007. "Working with Transnational Immigrants: Expanding Meanings of Family, Community, and Culture," *Family Process* 46, no. 2: 157–71.
- Holmes, Seth M. 2006. "An Ethnographic Study of the Social Context of Migrant Health in the United States," *Plos Medicine* 3, no. 10.
- INEGI (Instituto Nacional de Estadística, Geografía e Informática). 2004. *Encuesta Nacional de Ingresos e Gastos de los Hogares*. Mexico: INEGI.
- Inglehart, Ronald, and Christian Welzel. 2005. *Modernization, Cultural Change and Democracy: The Human Development Sequence*. New York: Cambridge University Press.
- International Dialogue on Migration. 2005. *Health and Migration: Bridging the Gap*. Geneva: Migration Policy and Research Program.
- Kaiser, Lucia L., et al. 2004. "Choice of Instrument Influences Relations between Food Insecurity and Obesity in Latino Women," *American Journal of Clinical Nutrition* 80.
- Kandula, Namratha R., et al. 2004. "Assuring the Health of Immigrants: What the Leading Health Indicators Tell Us," *Annual Review of Public Health* 25: 357–76.
- Kaplan, Mark S., et al. 2004. "The Association between Length of Residence and Obesity among Hispanic Immigrants," *American Journal of Preventive Medicine* 27, no. 4.
- Ku, Leighton, and Demetrios G. Papademetriou. 2007. "Access to Health Care and Health Insurance: Immigrants and Immigration Reform." In *Securing the Future: US Immigrant Integration Policy: A Reader*, ed. Michael Fix. Washington, DC: Migration Policy Institute.
- Paeratakul, S., et al. 2003. "Fast-food Consumption among US Adults and Children: Dietary and Nutrient Intake Profile," *Journal of the American Dental Association* 103, no. 10.
- Palloni, Alberto, and Elizabeth Arias. 2004. "Paradox Lost: Explaining the Hispanic Adult Mortality Advantage," *Demography* 41, no. 3 (August): 385–415.
- Palloni, Alberto, and Douglas Ewbank. 2004. "Selection Processes in the Study of Racial and Ethnic Differentials in Adult Health and Mortality." In *Critical Perspectives on Racial and Ethnic Differences in Health in Late Life*, ed. N. B. Anderson, R. A. Bulatao, and B. Cohen. Washington, DC: National Academy Press.

- Patel, Kushang V., et al. 2004. "Evaluation of Mortality Data for Older Mexican Americans: Implications for the Hispanic Paradox," *American Journal of Epidemiology* 159, no. 7: 707–15.
- Prelat, Sonia, and Alejandra Maciel. 2007. "Migration and Health." In *Mayan Journeys: The New Migration from Yucatán to the United States*, ed. Wayne A. Cornelius, David Fitzgerald, and Pedro Lewin Fischer. La Jolla, CA: Center for Comparative Immigration Studies, University of California, San Diego.
- Rivera, Juan, et al. 2002. "Epidemiological and Nutritional Transition in Mexico: Rapid Increase of Non-Communicable Chronic Diseases and Obesity," *Public Health Nutrition* 5.
- Romero-Gwynn, Eunice, et al. 1993. "Dietary Acculturation among Latinos of Mexican Descent," *Nutrition Today* 28, no. 4.
- Smedley, Brian D., et al. 2003. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: Institute of Medicine of the National Academies.
- Smith, James P., and Barry Edmonston, eds. 1998. *The Immigration Debate: Studies on the Economic, Demographic, and Fiscal Effects of Immigration*. Washington, DC: National Academy Press.
- Tapia Conyer, Roberto. 2006. *El Manual de Salud Pública*. 2d ed. México, DF: Intersistemas.
- U.S. Bureau of Labor Statistics. 2004. *Work Health Chart Book 2004. Data from the Census of Fatal Occupational Injuries. Special Tabulation-Number and Rate for Fatal Occupational Injuries by Selected Worker Characteristics, 1992–2002*. Niosh Publication Bo.2004-146. Washington, DC: U.S. Department of Labor, Safety and Health Statistics Program.
- Villarejo, Don, et al. 2000. *Suffering in Silence: A Report on the Health of California's Agricultural Workers*. Davis, CA: California Institute for Rural Studies.
- Walter, Nicholas, Philippe Bourgois, H. Margarita Loinaz, and Dean Schilling. 2002. "Social Context of Work Injury among Undocumented Day Laborers in San Francisco," *Journal of General Internal Medicine* 17, no. 3 (March): 221–29.
- WHO (World Health Organization). 2005. Global InfoBase. http://www.who.int/ncd_surveillance/infobase/web/InfoBasePolicyMaker/CountryProfiles/QuickCompare.aspx?DM=5&Countries=484&Year=2005&sf1=cd.0704&Sex=all&AgeGroup=15-100.
- Zúñiga, Elena, Xóchitl Castañeda, Al Averbach, and Steven P. Wallace. 2006. "Mexican and Central American Immigrants in the United States: Health Care Access." <http://www.healthpolicy.ucla.edu/pubs/publication.asp?pubID=196>.