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Remittances and Healthcare Expenditure Patterns of Populations in Origin Communities: Evidence from Mexico

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REMITTANCES AND HEALTHCARE EXPENDITURE PATTERNS OF POPULATIONS IN ORIGIN COMMUNITIES: EVIDENCE FROM MEXICO

Catalina Amuedo-Dorantes*

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Susan Pozo***

I. INTRODUCTION

Workers' remittances to Mexico have grown to US\$ 14.5 billion during 2003 (Lee [2003]; Thompson [2003]). This figure represents one of Mexico's most important sources of foreign income, only second to petroleum sales (US\$ 18.6 billion).¹ In fact, even if in relative terms remittances only represent 2% of Mexico's Gross Domestic Product (GDP) in 2003, remittance flows from Mexican migrant workers to their relatives, friends, and origin communities back in Mexico have been recognized to play a significant role in economic growth and in the well being of their recipients (for example, Keely and Tran [1989] pp. 500-525; Taylor and Wyatt [1996] pp. 899-912; Rozelle *et al.* [1999] pp.287-291). In particular, it has been estimated that each "migradollar" (a dollar sent by a Mexican worker working abroad) increases GDP by US\$ 2.9 dollars (Durand *et al.* [1996] pp.423-445).

In a country where median annual household income is less than US\$ 5,000,² these money inflows can also make a significant impact at the individual level. Almost 6% of Mexican households,³ a large fraction of them residing in rural areas, receive remittances from abroad. A significant fraction of remittances appears to be sent back to Mexico to finance the purchase of food, clothing, housing, and educational expenses of younger siblings and children left home, as well as to finance land and businesses investments (for example, Durand [1996]; Durand *et al.* [1996]; Massey and Parrado [1994]). However, the single largest category reported in migrant surveys with a detailed breakdown of the intended use of migrants' remittances has been health expenses. Indeed, according to the Mexican Migration Project (MMP) 93 (Table 1) approximately 46% of remitters declare health expenses as the primary purpose for their remittances. This percentage is significantly higher than the ones reported for any of the other most prominent categories, including food or maintenance (30%), construction or repair of a

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¹ Sales of crude petroleum and others = 18.6b; crude petroleum alone = 16.8b in 2003. Information obtained from the website of Mexico's Central Bank on July 9th, 2004. (<http://www.banxico.gob.mx>).

² According to 2002 data from the National Institute of Statistics, Geography and Information of Mexico (INEGI).

³ Tabulated by the authors, *INEGI - Encuesta Nacional de Ingresos y Gastos de los Hogares* [2002]).

house (7.5%), debt payment (5%), and purchase of consumer goods (4.5%).⁴⁵ Yet, despite the significant fraction of migrants declaring to be sending funds home to cover family health expenses, relatively little attention has been paid to assessing the relationships between remittances and healthcare access of the Mexican population in origin communities.

TABLE 1
REASON FOR REMITTING FUNDS TO MEXICO

Reason	Share
Health Expenses	46.18
Food and Maintenance	29.79
Construction or Repair of House	7.47
Debt Payment	5.42
Purchase of Consumer Goods	4.46
Other	2.38
Savings	1.39
Purchase of House or Lot	1.02
Start/Expand a Business	0.46
Purchase of Agriculture Inputs	0.36
Education Expenses	0.36
Purchase of Livestock	0.33
Recreation	0.30
Purchase of Vehicle	0.03
Finance a Special Event	0.03

Note: Author's tabulations using the MMP93.

There are various reasons for advocating the need to carefully examine the implications of international transfers on the healthcare access of communities in Mexico. First, as noted by Appleton ([1996] pp. 1811-1827), health -often-conditioned on adequate access to healthcare- is a crucial dimension of people's well being. To properly evaluate and track economic progress we need to understand healthcare access. Second, a variety of studies have emphasized the potential effects of migration on health through two channels that may directly impact healthcare access and lifestyles (Kanaiaupuni and Donato [1999] pp. 339-353). One is through the flow of monetary funds in the form of *remittances* as these can serve to relieve income constraints when seeking appropriate healthcare. A second channel involves the exchange of *informational resources* that occurs. Social and migration networks may facilitate informational exchanges and

⁴ Other individual level surveys that provided information on the uses of remittances (such as the *Encuesta de Emigración a la Frontera Norte de México - EMIF*) do not separate health expenditures from other general household expenditures. Overall, respondents in the EMIF declare that 64 percent of their remittances are spent on general household expenditures, approximately 20% on housing, and the remaining 16% on the acquisition of businesses, cars, or tools.

⁵ Note, however, that despite the fact that 46% of respondents claim that health expenses are a primary motive for remitting, it does not follow that 46% of remittances are used to this end. It is possible that health expenditures are frequent but represent only a small fraction of total remittance expenditures.

the adoption of either more or of less healthy lifestyles. Both channels are particularly important in Mexico, a country with a deep-rooted tradition of US migration.⁶ A third reason for focusing on the health implications of international transfers involves the wide disparities observed in health outcomes within the Mexican population (Frenk *et al.* [1989] pp. 29-39). What role do remittances play in increasing or decreasing these disparities? Given that migrants tend to originate from economically disadvantaged families, and given that an estimated 50.3 million Mexicans (approximately 50% of the population) were uninsured as of the year 2002 (*Secretaría de Salud* [2002]), it is of interest to understand how families' healthcare access in Mexico is affected by these remittance flows.

In this paper, we attempt to measure the elasticity or responsiveness of healthcare use to remittances. Do remittances increase healthcare use by a large or a small percent? Is the responsiveness of healthcare use to remittances dependent on the type of healthcare being sought—whether it is for financing routine healthcare purchases, or hospitalization? We make use of the *Encuesta Nacional de Ingresos y Gastos de los Hogares* (ENIGH) to examine the relationships that exist between the receipt of international remittances and healthcare access. This study may help inform Mexican policy-makers on the role of the repatriated incomes from Mexican migrants in the US in affecting healthcare expenses of family members left back home.

⁶ As of the year 2002, approximately 8 million illegal migrants resided in the U.S., of whom more than half came from Mexico (Griswold [2002]).

II. THE POTENTIAL ROLE OF REMITTANCES IN IMPROVING HEALTHCARE

For a variety of reasons, we view current access to healthcare on the part of the Mexican population as suboptimal. Mexico spends 5.7% of its GDP on health, a figure low even by Latin American standards, where spending on health as a percentage of GDP is on average 6.1%. Mexico's lagging health investments become particularly notable when we consider the fact that the country ranks second in Latin America in *per capita* income (Economist [2004]). Furthermore, approximately 42% of the dollar amount spent on health in Mexico comes from public funds, while 58% is funded through private funds, in the form of co-payment fees and purchases of medicines (*Secretaría de Salud* [2003]). According to the World Health Organization (WHO), out-of-pocket expenses are among the least optimal for financing healthcare because out-of-pocket financing discourages the use of preventive services. Additionally, such a system significantly reduces access to healthcare by the poorest segment of the population who are often uninsured. Finally, *per capita* public health spending in Mexico is 35% lower in institutions that attend to the uninsured (that is the Ministry of Health) than in the institutions comprising the Social Security System which service those employed in the formal sector. Therefore, it is not surprising to find that Mexico ranks 144 in financial contribution fairness among 191 countries (WHO [2000]).

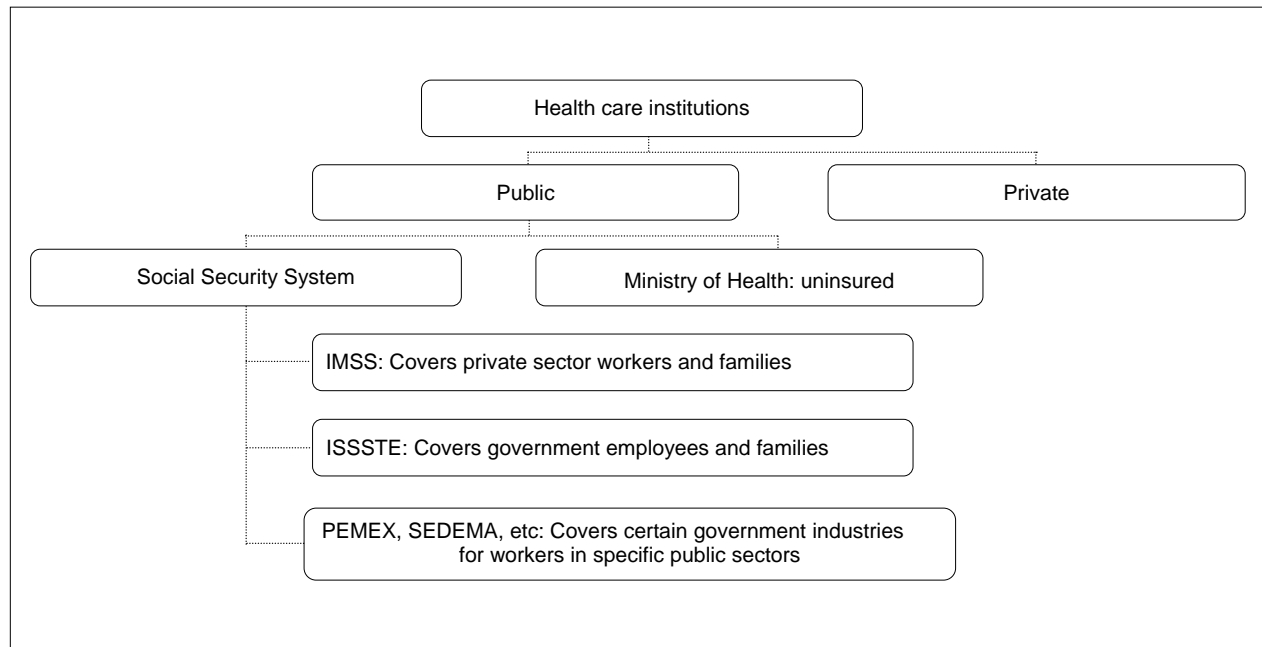
To better analyze and appreciate the potential role of remittances on the healthcare insurance and healthcare use of Mexicans, it is imperative to understand the healthcare system in Mexico and the constraints it faces. Who does the system cover? Who is left uninsured? How many are uninsured? Where do they reside? How can remittances contribute to healthcare?

The basic organization of the Mexican healthcare insurance system, which predominately falls under the public sector, is described in Figure 1. Formal sector employees (and retirees from that sector) along with their dependents and elders are covered under what is referred to as the Social Security System. The Social Security System consists of numerous institutions; its largest and most important being the Mexican Institute of Social Security (*Instituto Mexicano del Seguro Social* - IMSS), which was established in 1943 to address the needs of workers in the private sector and their dependents. The IMSS is funded through government tax revenue, as well as employers' and employees' contributions. Next in importance is the Institute for Governmental Workers (*Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado* - ISSSTE), founded in 1960 to accommodate government employees and their families. Other smaller public systems within the Social Security System are *Petroleros Mexicanos* (PEMEX), *Secretaría de Defensa Nacional* (SEDENA) and *Secretaría de Marina* (SECMAR), which provide medical services to employees of the national oil company, the national defense ministry, and the navy ministry, respectively. All the Social Security System's institutions providing healthcare services to public sector employees are funded exclusively through government tax revenues. The institutions providing health care to private sector employees are funded through a combination of tax revenues, employer and employee contributions.

In contrast, the Ministry of Health concerns itself with the needs of informal sector workers. Individuals covered through one of the Social Security System's institutions or through private insurance are referred to as insured. The remaining population, composed of non-contributing informal sector workers, the self-employed, agriculture workers, the unemployed, retired informal sector workers and their dependent, are labeled uninsured. In theory, the Mexican

healthcare system guarantees free or low-cost health care to the uninsured. However, in practice, the ability of this universal system to ensure access to preventive and treatment services is limited. Families in rural areas with healthcare services limited to primary care may need to travel to Mexico City for specialized care and for surgery. While the Ministry of Health will cover for the care obtained in the city, these families will still need to finance their trip to Mexico City and, in some instances, contribute toward the costs via a co-pay.

**FIGURE 1
ORGANIZATION OF HEALTHCARE COVERAGE**

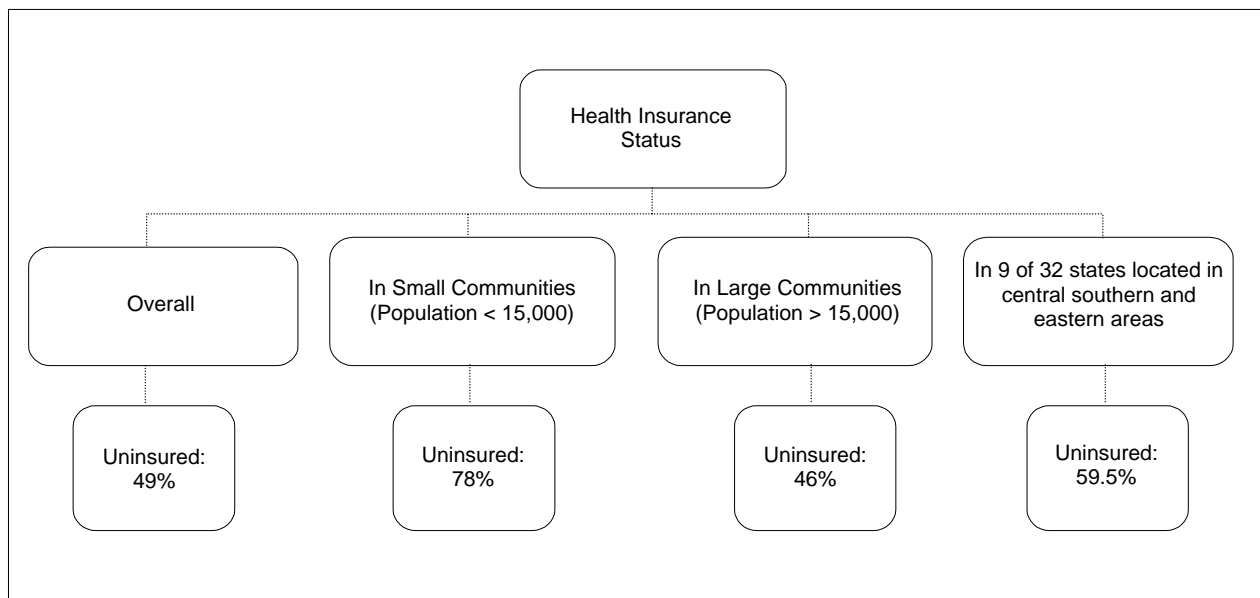


Finally, and in addition to the public institutions offering primary and specialized healthcare services, there is a private market for medical services both at the bottom and at the top of the income distribution (Roemer [1991], Getzen [2003]). Only a small minority of Mexicans-around 1% of the population- receive healthcare paid for through private health insurance.

How can remittances make a difference in healthcare utilization in the context of this system? While in theory the healthcare institutions within the Social Security System do not charge for their services nor for medical prescriptions, often enough these entities are unable to provide the required services and medications required for treatment, subjecting the insured to seek treatment elsewhere and imposing additional costs on families seeking healthcare. As for the Ministry of Health services, despite being inexpensive, they do require small co-payments on the part of the patient who are expected to self-finance the purchase of prescribed medications. Furthermore, due to the difficulty of accessing public health care and due to its poor quality, many Mexicans across all socioeconomic classes prefer to use private services, requiring even greater out-of-pocket expenses. Under such circumstances, remittances may play a vital role in increasing healthcare access to these families by filling in for the shortfalls in the healthcare resources available to them due, in part, to the limited public funds dedicated to health (WHO [2000]).

How large is the uninsured population in Mexico and who are they? Although the percentage of the population that is uninsured varies greatly depending on the source of the information, all estimates concur that a high percentage are uninsured. Official records of the Social Security System institutions claim that about 40% of the population is uninsured, while results from the national census indicate that this percentage is as high as 60%. Official estimates from the Ministry of Health claim that out of the 102.4 million inhabitants of the country in 2002, 50.3 million were uninsured -amounting to 49.1% of the population (*Secretaría de Salud* [2002]). One of the reasons for this large figure is that while the Social Security System provides insurance to the employees of private or public companies, their families, and retirees, it does not cover a large number of Mexicans who work in the informal sector nor those who are self-employed or unemployed (Frenk *et al.* [2003] pp. 1667-1671). These exclusions affect, by and large, the most vulnerable sectors of society; that is, individuals in rural communities and those belonging to the lowest income percentiles. Indeed, according to Figure 2, approximately 78% of the people living in communities with less than 15,000 inhabitants are uninsured, while only 46% of larger community dwellers are uninsured (*Instituto Nacional de Salud Pública* [2000]). The states with greater percentages of insured individuals are largely located in the north (with the exception of Mexico City and the small western states of *Colima* and *Aguascalientes*). Overall, less than 30.5% of the population is insured in 9 of the 32 Mexican states. These states are located in central, southern and eastern Mexico. It is for these uninsured individuals that remittances can make an important difference, enabling them to pay for medical bills given their low incomes (*Instituto Nacional de Salud Pública* [2000]).

FIGURE 2
HEALTH INSURANCE STATUS CONDITIONAL ON GEOGRAPHIC LOCATION



III. BRIEF LITERATURE REVIEW ON MIGRATION, REMITTANCES AND HEALTH

There is a small literature addressing a variety of health outcomes among non-migrating household members, with some studies concluding that the migration of household members contributes to the deterioration of health outcomes for the non-migrating family members, while others measure ultimate improvements.

In this vein, using data consisting of 150 to 200 households from the MMP, Kanaiaupuni and Donato ([1999] pp. 339-353) find that the migration of family members is initially associated with increases in infant mortality. The disruptive effect of family separations is thought to explain this outcome. This pessimistic view of the impacts of migration on health outcomes may be reinforced by the detrimental impacts of some "social remittances", that is, the transmission of habits and lifestyles that are incompatible with good health (Levitt [1997] pp. 509-526). Additionally, migration may contribute to poor health outcomes in communities that experience much out-migration by facilitating the importation and dissemination of disease, as in the case of tuberculosis (Perez-Stable *et al.* [1986] pp. 643-646). Similarly, the transmission of HIV by migrant workers in sub-Saharan Africa to their families residing elsewhere is an important example of the potentially negative impact that migration can impose on the health of certain communities (Economist [2000] p. 48).

While some studies speak to the unfavorable impacts of migration on health outcomes, most also note that migration has the potential to improve health outcomes for the families that remain behind once we account for other long-run dynamic impacts of migration. For example, Kanaiaupuni and Donato [1999] argue that, despite the initial disruptive effects of family separations, over time, as migration becomes "institutionalized" and the household receives monetary remittances, infant mortality drops by a significant amount. Using a representative sample of Mexican household from the 1997 *Encuesta Nacional de la Dinámica Demográfica*, Frank and Hummer ([2002] pp. 746-765) also find evidence of improved health outcomes (measured as higher birth weights) for all families with a migrant member relative to non-migrant families.

In addition, monetary transfers or remittances relieve liquidity constraints that might otherwise constraint healthcare use and may result in improved health (Levitt [1997]). López-Córdova [2004] considers the impact of international remittances on infant mortality rates in Mexico by taking advantage of variation in the rates of remittance receipt by municipalities. He asks, do municipalities that are known to receive large inflows of remittances experience different levels of infant mortality when compared with municipalities for which the remittance receipt rates are known to be lower? After controlling for other determinant of infant mortality and the endogeneity of remittance receipt with health outcomes, he concludes that remittances do lower infant mortality rates. Sumata ([2002] pp. 619-628) and Martin *et al.* ([2002] pp. 83-102) also report on these links by noting the large contributions that emigrants have made toward the construction of hospitals and clinics in the Democratic Republic of Congo and in Mali.

Hildebrandt and McKenzie [2004] also find overall improved health outcomes in migrant families. Of particular interest is their method for attributing these gains to distinct by-products

of migration- increases in monetary resources and increases in health knowledge. They show that both contribute to increasing birth weights and to reducing infant mortality rates.

In an attempt to further understand the channels by which migration affects health, Duryea *et al.* [2005] link remittances to the acquisition of healthier conditions (for example, improved housing and water, refrigeration of food). They show that decreases in infant mortality rates due to remittances can be further explained as resulting from the acquisition of these better infrastructures through monetary remittances.

We are aware of only one study that undertakes a comprehensive effort to measure the impact of remittances on healthcare demand. Murrugarra ([2002] pp. 25-47) focuses in Armenia and finds that, if we are willing to assume that remittances are exogenous, they do not have an impact on healthcare utilization. Murrugarra further examines the crowding-out effect of public transfers on remittances, finding out that a one-unit increase in public transfers reduces (or crowds-out) remittances by about one-quarter to one-third unit.

Summarizing, the small literature on this topic appears to have focused on the link between remittances and health outcomes, ignoring other health related issues, such as healthcare utilization (with the exception of the Murrugarra paper referred to above). We will address this gap in the literature with an analysis of the links between remittances and healthcare expenditures incurred by Mexican households that takes into account the potential endogeneity of remittance income.

IV. DATA

The empirical analysis uses data from the ENIGH, a nationally representative survey carried out by the Mexican statistical institute (*Instituto Nacional de Estadística, Geografía e Informática - INEGI*) with the purpose of providing information on the size, structure, and distribution of Mexican households' income and expenditures. The survey is intended to be nationally representative and distinguishes between households in rural areas (with fewer than 2,500 inhabitants) and urban areas (with more than 2,500 inhabitants). The ENIGH began in 1984 and, from 1992 onwards, has been carried out biennially. In this project we use the 2002 survey, which is rich in its coverage of healthcare expenditures.

In addition to general socio-demographic and employment information on household members, the survey collects detailed information on all income flows received monthly by the household, including international remittances. Figures on the magnitude of these flows are provided in Table 2. About 6% of households were recipients of international remittances in 2002, with the average peso figure for this transfer reaching 5,786.

TABLE 2
SOURCES OF HOUSEHOLD INCOME

Number of Households Reporting	Count	As a Percent of All Households
Total Number of Households	17,167	-
Job Earnings	12,448	72.50
Business Earnings	7,400	43.11
Property Returns	587	3.42
Income Transfers	7,127	41.51
Capital Returns	3,542	20.63
Remittances from Abroad	1,009	5.88
Household Sources of Income:	Average Amount in pesos	
Total Income	19,272	
Job Earnings	15,731	
Business Earnings	9,454	
Property Returns	7,413	
Income Transfers	4,853	
Capital Returns	5,727	
Remittances from Abroad	5,786	

Notes: Figures correspond to 3rd quarter, 2002.

Source: INEGI [2002].

Additionally, the ENIGH contains detailed information on a variety of household expenditures. Of interest to this study are health expenditures. The ENIGH collects data on the costs of preventive and treatment medical services received by families, as well as on expenditures on

non-prescribed medicines, hearing, dental and vision aids and prescription drugs per quarter. The figures in Table 3 provide an estimate of the number of families reporting any healthcare expenses during that period. Over a 3 month period in 2002, about 57% of the households reported some type of medical expense. However, due to the availability of public medical services, medical costs only accounted for approximately 5% of total household expenditures. Nonetheless, hospitalization expenditures as a percentage of total income are much higher, on average 27% of total income.

TABLE 3
HOUSEHOLD HEALTH CARE EXPENDITURES

Number of Households Reporting	Count	As a Percent of All Households
Total Number of Households	17,167	-
Household Healthcare Expenditures	9,900	57.67
Primary Healthcare Expenditures	5,618	32.73
Hospitalization Expenditures	331	1.93
Pregnancy and Delivery Expenditures	502	2.92
Expenditures on Non-prescribed Medicines	4,867	28.35

Household Expenditures	Mean Expenditures in pesos	As a Percent of Average Total Income
Total Income	19,272	-
Household Healthcare Expenditures	871	4.52
Primary Healthcare Expenditures	489	2.54
Hospitalization Expenditures	5,170	26.83
Pregnancy and Delivery Expenditures	1,707	8.86
Expenditures on Non-prescribed Medicines	107	0.56

Notes: Figures are in pesos and correspond to 3rd quarter, 2002.

Source: INEGI [2002].

Table 4 describes health usage by different categories of families. Families in rural areas and female-headed households are less likely to report any healthcare expense. In addition, health expenditures are lower among female-headed and rural households.

TABLE 4
HOUSEHOLD HEALTHCARE EXPENDITURES BY DEMOGRAPHIC CHARACTERISTICS

Likelihood of Incurring Healthcare Expenditures	Proportion	t-statistic
<i>By Area where Household is Located</i>		
Household is located in rural area	0.53	-
Household is not located in rural area	0.60	8.24
<i>By Head of Household</i>		
Household is female-headed	0.54	-
Household is not female-headed	0.58	4.26

TABLE 4 (continued)

Average Healthcare Expenditures	Mean Expenditures in pesos	t-statistic
<i>By Area where Household is Located</i>		
Household is located in rural area	711	-
Household is not located in rural area	926	3.62
<i>By Head of Household</i>		
Household is female-headed	669	-
Household is not female-headed	917	5.56

Notes: Figures correspond to expenditures during 3rd quarter, 2002.

Source: INEGI [2002].

Preliminary descriptive statistics on the likelihood of incurring any healthcare expense conditional on remittance receipt are displayed in Table 5a. In 2002, the proportion of households who incurred some healthcare expenses given that the household reported receiving remittances was 69%, relative to 57% for non-recipient households. This pattern continues to hold as we examine different subcategories of healthcare services. With the sole exception of pregnancy and delivery expenditures, households receiving remittance transfers from abroad are more likely to incur healthcare expenditures.

**TABLE 5A
LIKELIHOOD OF INCURRING A PARTICULAR TYPE OF HEALTHCARE EXPENDITURE
CONDITIONAL ON REMITTANCE RECEIPT**

Likelihood of Incurring Healthcare Expenditures	Proportion	t-statistic
<i>Likelihood of Incurring Any Healthcare Expenditure</i>		
Household receives remittances	0.69	-
Household does not receive remittances	0.57	-8.27
<i>Likelihood of Incurring Primary Healthcare Expenditures</i>		
Household receives remittances	0.43	-
Household does not receive remittances	0.32	-6.95
<i>Likelihood of Incurring Hospitalization Expenditures</i>		
Household receives remittances	0.03	-
Household does not receive remittances	0.02	-2.20
<i>Likelihood of Incurring Pregnancy and Delivery Expenditures</i>		
Household receives remittances	0.03	-
Household does not receive remittances	0.03	-0.64
<i>Likelihood of Incurring Expenditures on Non-prescribed Medicines</i>		
Household receives remittances	0.34	-
Household does not receive remittances	0.28	-4.17

Notes: Figures correspond to 3rd quarter, 2002.

Source: INEGI [2002].

Table 5b displays average healthcare expenditures in remittance-recipient and non-recipient households. Overall, households who receive remittances spend about 1,203 *pesos* per quarter relative to 846 *pesos* spent per quarter by non-recipient households. Despite the fact that the overall numbers suggest that recipient households spend on average 357 *pesos* more per quarter and that this difference is statistically different from zero, it is worth noting that the disaggregated numbers suggest otherwise. In fact, only in the case of pregnancy/delivery expenses do we find a statistically significant difference in expenditures between remittance-receiving and non-receiving households. Furthermore, in that instance, non-recipient households experience greater expenditures than their remittance-receiving counterparts.

TABLE 5B
REMITTANCE RECEIPT AND HOUSEHOLD HEALTHCARE EXPENDITURES IN 2002

Average Healthcare Expenses	Mean Expenditures in pesos	t-statistic
<i>All Healthcare Expenditures</i>		
Household receives remittances	1,203	-
Household does not receive remittances	846	-2.52
<i>Primary Healthcare Expenditures</i>		
Household receives remittances	542	-
Household does not receive remittances	484	-0.99
<i>Hospitalization Expenditures</i>		
Household receives remittances	7,116	-
Household does not receive remittances	4,969	-0.90
<i>Pregnancy and Delivery Expenditures</i>		
Household receives remittances	1,075	-
Household does not receive remittances	1,752	2.34
<i>Expenditures on Non-prescribed Medicines</i>		
Household receives remittances	111	-
Household does not receive remittances	107	-0.27

Notes: Mean expenditures are in *pesos* and correspond to 3rd quarter, 2002.

Source: INEGI [2002].

While the data give rise to the notion that remittance receipt leads to greater healthcare expenses, it is unclear how remittances impact the level of medical expenditures. It is important to note that these results are solely conditioned on household remittance receipt, thus ignoring other concurrent household characteristics. The possibility exists that remittance recipient households embody a variety of characteristics that give rise to differential healthcare expenditure patterns relative to non-recipient households. In the following section, we describe the modeling used in this paper to disentangle the various determinants of household healthcare expenses.

V. METHODS

As with other production and investment activities (Stark [1982] pp. 63-70; Taylor [1992] pp.187-208; Rozelle *et al.* [1999] pp. 287-291), healthcare expenses (**HCE**) are constrained, by remittance income (**R**), other household non-remittance income and, in particular, adequate health insurance coverage, as important elements helping the household overcome this constraint; all of which are included in the vector **Z** along with other pertinent household characteristics. Therefore, household healthcare expenses can be modeled as follows:

$$(1) HCE = \alpha_0 + \alpha_1 R + \alpha_2 Z_{HCE} + \varepsilon_{HCE}.$$

However, the coefficient estimate for remittance income in equation (1) may be biased in the event of any correlation between the household remittance receipt and the error term. There are two potential sources for this noted correlation. The first source originates in the presence of unobserved heterogeneity and omitted variable bias, while the second one is endogeneity or reverse causality. Household remittance income may be related to household wealth or even the existence of family genetic problems affecting household employment, income, and, in turn, correlated to the healthcare expenses incurred by the household. This correlation may result in biased estimates of the impact of household remittance income on healthcare expenses. The second source of potential correlation between household remittance income and the error term in equation (1) results from the likely joint determination of household remittance income and healthcare expenses. In other words, household remittance income may be dependent on the household's healthcare needs as reflected by its household expenses, along with other household characteristics, including other sources of household income and the household demographic composition. Therefore, household remittance income and household healthcare expenses may be endogeneous.

In order to address the potential omitted variable biases and the joint determination of household remittance income and its corresponding healthcare expenses, we instrument remittance income in equation (1) using information on the percent of migrants in the state of residency and on the *per capita* count of Western Union offices in the state during the previous year. These regional variables are interacted with the household composition variables (the percentage of children 6 years of age or younger and the percentage of resident household members 65 years of age or older) in order to guarantee the variability of the instrument at the household level. Our instrumental variables are inspected to ascertain their significant correlation with monthly *per capita* remittance income. Additionally, we test for the exogeneity of the instruments used to model remittance income following Wooldridge ([2003] p. 507). Overall, the estimated coefficient α_1 allows us for an assessment of the responsiveness of household healthcare expenditures to changes in remittance income.

Finally, given the marked differences in healthcare expenses displayed by households according to residency in urban versus rural areas and according to whether the household is female or male-headed in Table 4, we carry out the analysis separately for each of these household categories. Likewise, we break up the analysis of overall healthcare expenses to distinguish between what may be considered primary healthcare expenses, which include non-prescribed medicines, primary care, and pregnancy/delivery expenses, as distinct from hospitalization expenses.

VI. RESULTS

The results from estimating equation (1) with and without instrumental variable techniques are presented in Tables 6 through 9 for the four subcategories of health expenditures under consideration in this study. Overall, the estimated coefficients are signed as expected and display plausible magnitudes. For instance, turning first to the non-IV estimates of primary care healthcare expenditures for the entire sample (column 1 in Table 6), female headed households and households with insurance coverage incur lower primary care expenditures. In contrast, even after controlling for the size of the household, primary healthcare expenditures rise with the number of educated, working, or elderly individuals residing in the household. Likewise, non-remittance income appears to increase primary healthcare expenditures by the household, although by a very small amount (half a cent per additional *peso*).

The main variable of interest to us, however, is remittance income. Therefore, in what follows, we will focus on the estimated coefficient for this variable in the various specifications of each healthcare expense category being examined. In the case of primary healthcare expenditures, the non-IV estimate for remittance income suggests that remittance income raises households' primary health expenditures. However, due to the endogeneity of remittances and healthcare expenditures, we may not be able to base our inferences in these Ordinary Least Squares (OLS) estimates. We thus test for the exogeneity of remittance income for the overall sample at the bottom of Tables 6 through 9. The test statistics exceed the 5% critical values, thus rejecting the null hypothesis of exogeneity of the remittance income variable with respect to household healthcare expenditures. Therefore, we instrument remittance income using information on the percent of migrants in the state of residency and on the *per capita* count of Western Union offices in the state during the previous year, both highly correlated with remittance income. We also interact our two instruments with household composition variables in order to guarantee the variability of the instrument at the household level. To the extent that we have more than one instrumental variable, we test whether some of them are uncorrelated with the error term. This is done with the over-identification tests included at the bottom of Tables 6 through 9. Our test statistics do not exceed the 5% critical values and, as such, we accept the null hypothesis and conclude that our instruments are exogenous to the extent that the error terms in the equations predicting monthly *per capita* remittance income and healthcare expenses are uncorrelated. As a result, we center our attention on the IV estimates hereafter which, as is commonly the case when we use instruments, increase in magnitude. In this particular case, the estimated coefficient for the impact of remittance income on the household primary care expenses fluctuates between 0.06 and 0.09 depending on whether we are examining the entire sample or distinguishing according to the gender of the household head or the household's region of residence. As a result, with the exception of rural households, each additional peso in an international remittance transfer raises households' primary healthcare expenditures anywhere between 6 to 9 cents. When compared to the estimated impact of other sources of household income, remittances appear to be more responsive to emerging healthcare needs.

Table 7 reports on households' hospitalization expenditures. As with primary care expenditures, the IV estimates for the overall sample indicate that families endowed with greater levels of education and with a greater number of elderly members, as well as families residing in areas with a greater concentration of doctors *per capita* (as of the previous year), spend more on

hospitalization services. In contrast, female headed households, households residing in rural areas, and households with insurance coverage are more likely to spend less on hospitalization. When focusing on our variable of interest, remittance income, we find that each additional peso received through international transfers dramatically raises households' spending on hospitalization. Specifically, each additional peso increases households' hospitalization expenditures anywhere between 12 and 20 cents; the exception being female-headed households, for whom remittance income does not seem to have a significantly different from zero impact on their hospitalization expenditures.

Table 8 reports on the impact of remittance income on yet another category of healthcare expenditures: pregnancy and delivery charges. The IV estimates for the overall sample indicate that, as is the case with other healthcare expenditures, female-headed households spend less on these services than their male-headed counterparts. However, education and income seem to promote greater spending on this healthcare category, although by a very small amount in the case of non-remittance household income. Even remittance income appears to have a limited impact, with each additional peso received as an international transfer rising household spending on pregnancy/delivery services by 5 cents among male-headed households.

Lastly, Table 9 informs on household spending on non-prescribed medicines. As is often the case with other healthcare expenditures, spending on non-prescribed medicines is larger among households with a larger number of elderly or college-educated members. Additionally, households with greater income levels (excluding remittances), households with insurance coverage, and households residing in areas with a greater concentration of doctors *per capita* exhibit higher spending levels on non-prescribed medicines. Only in the case of households with a larger number of young children or households residing in rural areas do we find the spending on this healthcare category to be significantly smaller. At any rate, it is worth noting that each additional peso of remittance income raises households' spending on non-prescribed medicines anywhere between 2 and 4 cents, depending on whether the household is female or male headed and depending on the household's region of residence.

TABLE 6
IMPACT OF REMITTANCE INCOME ON PRIMARY CARE EXPENDITURES
(S.E. in Parentheses)

	All		Urban		Rural		Female Headed		Non-female Headed		
	No IVs	IVs	No IVs	IVs	No IVs	IVs	No IVs	IVs	No IVs	IVs	
Remittance Income	0.009*** (0.003)	0.089*** (0.027)	0.007** (0.003)	0.094* (0.050)	0.008 (0.005)	0.049 (0.032)	0.012*** (0.003)	0.062* (0.034)	0.008** (0.003)	0.089*** (0.033)	
Female Headed Household	-36.173** (14.558)	-49.528*** (15.592)	-41.289** (16.255)	-54.676*** (18.318)	-14.794 (32.175)	-25.320 (33.431)	-	-	-	-	
Household Size	-18.928*** (5.546)	-18.360*** (6.683)	-23.875*** (6.699)	-26.206*** (6.994)	-11.580 (10.056)	-8.925 (10.342)	-13.329 (7.965)	-17.579** (8.726)	-19.493*** (6.542)	-17.150** (6.741)	
No. of Young Kids	7.554 (8.453)	1.499 (8.901)	18.187* (10.262)	11.443 (11.197)	-10.175 (14.932)	-13.698 (15.298)	-3.505 (13.557)	-24.495 (19.966)	9.201 (9.788)	7.652 (10.007)	
No. of Elderly Members	58.549*** (11.006)	58.917*** (11.274)	84.503*** (13.583)	88.867*** (14.144)	10.826 (18.967)	8.531 (19.209)	60.357*** (15.427)	69.640*** (17.149)	58.264*** (13.015)	56.193*** (13.307)	
No. of Members with College	72.759*** (9.665)	80.184*** (10.218)	75.365*** (9.956)	82.723*** (11.029)	99.534** (43.458)	114.703** (45.336)	31.719** (14.520)	45.287*** (17.605)	77.307*** (11.355)	83.706*** (11.866)	
No. of Members with HS	17.490*** (5.847)	16.314*** (6.002)	20.780*** (6.737)	21.480*** (6.918)	1.505 (12.219)	1.083 (12.327)	4.109 (8.450)	0.592 (9.059)	18.999*** (6.894)	19.233*** (7.036)	
No. of Working Memb. in Mexico	14.580** (6.448)	16.356** (6.632)	15.235** (7.650)	19.142** (8.151)	11.106 (12.012)	10.912 (12.115)	8.644 (9.095)	21.603* (12.865)	15.431** (7.629)	13.691* (7.816)	
Income Excluding Remittances	0.004*** (2.136e-04)	0.004*** (2.479e-04)	0.004*** (2.182e-04)	0.004*** (2.53e-04)	0.010*** (9.046e-04)	0.009*** (0.001)	0.007*** (0.001)	0.006*** (8.843e-04)	0.004*** (2.369e-4)	0.004*** (2.645e-4)	
Rural Household	-5.902 (14.082)	-22.963 (15.554)	-	-	-	-	-0.888 (19.631)	-20.111 (24.118)	-6.123 (16.683)	-21.376 (18.083)	
Insurance Coverage	-50.160*** (12.916)	-29.488** (14.992)	-49.526*** (14.157)	-29.451 (18.458)	-80.484** (31.651)	-60.343* (35.438)	-41.689** (17.276)	-23.64 (21.645)	-54.122*** (15.481)	-34.352 (17.664)	
Doctors <i>per capita</i>	-0.026 (0.114)	0.090 (0.124)	-0.060 (0.121)	0.038 (0.136)	0.022 (0.339)	0.191 (0.366)	-0.206 (0.143)	-0.103 (0.164)	0.017 (0.139)	0.1253 (0.148)	
Observations	17,167	17,167	12,405	12,405	4,762	4,762	3,368	3,368	13,799	13,799	
F-statistic	60.04	57.26	53.15	50.55	17.03	16.72	24.35	21.87	49.25	47.52	
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
<i>Endogeneity Tests: H₀: Regressor is exogenous</i>			<i>Over Identification Tests: H₀: IVs are uncorrelated with error term</i>								
Wu-Hausman F test statistic	F(1,17153)	9.014	Sargan N*R ² test statistic					Chi-sq(5)	1.514		
Durbin-Wu-Hausman Chi2 test statistic	Chi-sq(1)	9.017	Sargan (N-L)*R ² test statistic					Chi-sq(5)	1.513		
			Sargan Pseudo-F test statistic					F(5,17154)	0.303		

Notes: *** Signifies statistically different from zero at the 1% level or better, **at the 5% level or better, *at the 10% level or better. The regression includes a constant.

TABLE 7
IMPACT OF REMITTANCE INCOME ON HOSPITALIZATION EXPENDITURES
(S.E. in Parentheses)

	All		Urban		Rural		Female Headed		Non-female Headed	
	No IVs	IVs	No IVs	IVs	No IVs	IVs	No IVs	IVs	No IVs	IVs
Remittance Income	0.001 (.005)	0.159*** (0.051)	0.004 (0.007)	0.209* (0.096)	-0.005 (0.008)	0.120** (0.055)	0.003 (0.005)	0.082 (0.053)	0.001 (0.006)	0.175*** (0.062)
Female Headed Household	-70.146*** (26.903)	-96.434*** (28.902)	-85.688*** (31.146)	-117.264*** (35.535)	-22.847 (54.015)	-54.266 (57.134)	-	-	-	-
Household Size	15.214 (10.248)	16.332 (10.535)	12.967 (12.836)	7.470 (13.568)	10.018 (16.881)	17.942 (17.675)	-25.258** (12.438)	-32.084** (13.653)	23.878** (12.202)	28.887** (12.652)
No. of Young Kids	-13.252 (15.621)	-25.162 (16.499)	-17.438 (19.663)	-33.347 (21.721)	-1.733 (25.068)	-12.250 (26.145)	-14.572 (21.172)	-48.286 (31.240)	-10.209 (18.256)	-13.521 (18.782)
No. of Elderly Members	100.866*** (20.340)	101.596*** (20.898)	146.688*** (26.026)	156.980*** (27.439)	20.673 (31.842)	13.823 (32.829)	14.779 (24.092)	29.690 (26.831)	117.872*** (24.276)	113.446*** (24.976)
No. of Members with College	43.990** (17.861)	58.596*** (18.942)	43.631** (19.076)	60.988*** (21.396)	41.259 (72.958)	86.538 (77.480)	24.961 (22.675)	46.754* (27.545)	48.782** (21.179)	62.463*** (22.271)
No. of Members with HS	8.257 (10.806)	5.944 (11.127)	0.528 (12.909)	2.179 (13.421)	38.636 (20.513)	37.376* (21.068)	36.640*** (13.197)	30.990** (14.173)	2.056 (12.859)	2.556 (13.205)
No. of Working Memb. in Mexico	-10.272 (11.917)	-6.779 (12.294)	-6.960 (14.658)	2.256 (15.812)	-11.098 (20.166)	-11.677 (20.706)	31.001** (14.204)	51.815*** (20.128)	-20.600 (14.229)	-24.320* (14.669)
Income Excluding Remittances	0.001*** (3.948e-04)	0.001 (4.596e-04)	0.001*** (4.181e-04)	0.001 (4.907e-04)	0.004*** (0.002)	9.230e-06 (0.002)	0.001 (0.001)	-0.001 (0.001)	0.001*** (4.419e-04)	0.001* (4.963e-04)
Rural Household	-31.718 (26.024)	-65.277** (28.832)	-	-	-	-	29.564 (30.657)	-1.313 (37.735)	-46.698 (31.118)	-79.307** (33.939)
Insurance Coverage	-92.483*** (23.868)	-51.820* (27.790)	-100.171*** (27.126)	-52.817 (35.807)	-42.253 (53.136)	17.868 (60.564)	10.684 (26.980)	39.668 (33.869)	-119.077*** (28.876)	-76.811** (33.152)
Doctors <i>per capita</i>	0.308 (0.211)	0.537** (0.229)	0.312 (0.231)	0.543** (0.263)	0.008 (0.569)	0.512 (0.625)	-0.200 (0.223)	-0.035 (0.256)	0.472* (0.258)	0.704** (0.278)
Observations	17,167	17,167	12,405	12,405	4,762	4,762	3,368	3,368	13,799	13,799
F-statistic	7.28	7.7	7.92	7.75	1.94	2.24	1.84	1.91	7.38	7.74
Prob > F	0.000	0.000	0.000	0.000	0.030	0.011	0.042	0.034	0.000	0.000
<i>Endogeneity Tests: H₀: Regressor is exogenous</i>			<i>Over Identification Tests: H₀: IVs are uncorrelated with error term</i>							
Wu-Hausman F test statistic	F(1,17153)	10.213	Sargan N*R ² test statistic						Chi-sq(5)	2.406
Durbin-Wu-Hausman Chi2 test statistic	Chi-sq(1)	10.216	Sargan (N-L)*R ² test statistic						Chi-sq(5)	2.404
			Sargan Pseudo-F test statistic						F(5,17154)	0.481

Notes: *** Signifies statistically different from zero at the 1% level or better, ** at the 5% level or better, * at the 10% level or better. The regression includes a constant.

TABLE 8
IMPACT OF REMITTANCE INCOME ON PREGNANCY/DELIVERY EXPENDITURES
(S.E. in Parentheses)

	All		Urban		Rural		Female Headed		Non-female Headed	
	No IVs	IVs	No IVs	IVs	No IVs	IVs	No IVs	IVs	No IVs	IVs
Remittance Income	1.5e-04 (0.003)	0.045* (0.025)	0.001 (0.004)	0.076 (0.052)	-0.001 (0.002)	0.021 (0.013)	0.004* (0.002)	0.002 (0.022)	-0.001 (0.003)	0.054* (0.030)
Female Headed Household	-21.573 (13.318)	-29.060** (14.053)	-27.019 (17.155)	-38.527** (19.174)	0.227 (13.110)	-5.110 (13.684)	-	-	-	-
Household Size	-16.984*** (5.073)	-16.666*** (5.123)	-23.701*** (7.070)	-25.704*** (7.321)	-1.674 (4.097)	-0.328 (4.233)	-0.142 (5.264)	0.006 (5.577)	-19.640*** (6.082)	-18.071*** (6.207)
No. of Young Kids	61.876*** (7.732)	58.481*** (8.022)	73.865*** (10.831)	68.067*** (11.720)	38.824*** (6.084)	37.038*** (6.262)	35.982*** (8.960)	36.710*** (12.760)	64.779*** (9.099)	63.742*** (9.214)
No. of Elderly Members	0.488 (10.068)	0.694 (10.161)	3.901 (14.336)	7.653 (14.805)	-5.462 (7.728)	-6.626 (7.863)	0.582 (10.196)	0.260 (10.960)	0.249 (12.099)	-1.138 (12.252)
No. of Members with College	24.144*** (8.841)	28.307*** (9.210)	27.498*** (10.507)	33.823*** (11.545)	13.118 (17.707)	20.810 (18.557)	3.273 (9.596)	2.803 (11.251)	28.059*** (10.556)	32.344*** (10.925)
No. of Members with HS	10.917** (5.349)	10.257* (5.410)	12.308* (7.110)	12.910* (7.242)	8.748* (4.979)	8.534* (5.046)	6.891 (5.585)	7.013 (5.789)	11.371* (6.409)	11.528* (6.478)
No. of Working Memb. in Mexico	4.632 (5.899)	5.628 (5.978)	10.422 (8.074)	13.781 (8.532)	-8.871* (4.894)	-8.969* (4.959)	-6.475 (6.011)	-6.924 (8.222)	6.812 (7.092)	5.647 (7.196)
Income Excluding Remittances	0.001*** (1.954e-04)	0.001*** (2.235e-04)	0.001*** (2.303e-04)	0.001*** (2.648e-04)	0.001*** (3.686e-04)	-5.190e-05 (5.942e-04)	0.001*** (3.578e-04)	7.717e-04 (5.652e-04)	0.001*** (2.203e-04)	0.001*** (2.435e-04)
Rural Household	-12.086 (12.882)	-21.650 (14.019)	-	-	-	-	10.650 (12.974)	11.317 (15.414)	-16.630 (15.509)	-26.844 (16.649)
Insurance Coverage	-10.671 (11.815)	0.918 (13.513)	-11.944 (14.941)	5.314 (19.321)	-13.118 (12.896)	-2.905 (14.506)	14.012 (11.418)	13.386 (13.835)	-16.041 (14.392)	-2.802 (16.263)
Doctors <i>per capita</i>	0.063 (0.104)	0.128 (0.111)	0.022 (0.127)	0.106 (0.142)	0.382*** (0.138)	0.467*** (0.150)	-0.028 (0.095)	-0.031 (0.104)	0.090 (0.129)	0.163 (0.136)
Observations	17,167	17,167	12,405	12,405	4,762	4,762	3,368	3,368	13,799	13,799
F-statistic	11.49	11.56	9.24	9.13	5.35	5.42	3.54	3.29	9.99	10.07
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	1.000e-04	2.000e-04	0.000	0.000
<i>Endogeneity Tests: H₀: Regressor is exogenous</i>			<i>Over Identification Tests: H₀: IVs are uncorrelated with error term</i>							
Wu-Hausman F test statistic	F(1,17153)	3.3845	Sargan N*R ² test statistic					Chi-sq(5)	1.513	
Durbin-Wu-Hausman Chi2 test statistic	Chi-sq(1)	3.3866	Sargan (N-L)*R ² test statistic					Chi-sq(5)	1.512	
			Sargan Pseudo-F test statistic					F(5,17154)	0.302	

Notes: *** Signifies statistically different from zero at the 1% level or better, ** at the 5% level or better, * at the 10% level or better. The regression includes a constant.

TABLE 9
IMPACT OF REMITTANCE INCOME ON NON-PRESCRIBED MEDICINE EXPENDITURES
(S.E. in Parentheses)

	All		Urban		Rural		Female Headed		Non-female Headed	
	No IVs	IVs	No IVs	IVs	No IVs	IVs	No IVs	IVs	No IVs	IVs
Remittance Income	4.1e-04 (0.001)	0.025*** (0.006)	0.001 (0.001)	0.042*** (0.012)	-3.8e-04 (0.001)	0.014** (0.006)	0.001 (0.001)	0.013 (0.010)	2.2e-04 (0.001)	0.027*** (0.007)
Female Headed Household	3.306 (3.118)	-0.866 (3.426)	3.518 (3.599)	-2.911 (4.406)	2.895 (6.316)	-0.749 (6.678)	-	-	-	-
Household Size	-1.241 (1.188)	-1.064 (1.249)	-1.127 (1.483)	-2.246 (1.682)	-1.255 (1.974)	-0.336 (2.066)	-2.221 (2.383)	-3.241 (2.580)	-0.965 (1.355)	-0.189 (1.439)
No. of Young Kids	-1.832 (1.810)	-3.723* (1.956)	-2.195 (2.272)	-5.434** (2.693)	-0.730 (2.931)	-1.950 (3.056)	-2.046 (4.056)	-7.080 (5.903)	-1.786 (2.027)	-2.299 (2.136)
No. of Elderly Members	4.971** (2.357)	5.086** (2.477)	5.833 (3.007)	7.929** (3.402)	3.078 (3.723)	2.283 (3.837)	6.004 (4.615)	8.230 (5.070)	4.807 (2.696)	4.121 (2.840)
No. of Members with College	12.451*** (2.070)	14.771*** (2.245)	11.955*** (2.204)	15.489*** (2.653)	24.477*** (8.531)	29.729*** (9.056)	0.863 (4.343)	4.117 (5.205)	14.356*** (2.352)	16.477*** (2.533)
No. of Members with HS	2.507** (1.252)	2.140 (1.319)	1.891 (1.492)	2.227 (1.664)	2.520 (2.399)	2.374 (2.462)	2.281 (2.528)	1.437 (2.678)	2.372 (1.428)	2.449 (1.502)
No. of Working Memb. in Mexico	1.778 (1.381)	2.333 (1.457)	2.282 (1.694)	4.159** (1.960)	0.413 (2.358)	0.346 (2.420)	2.357 (2.721)	5.464 (3.803)	1.594 (1.580)	1.018 (1.668)
Income Excluding Remittances	2.516e-04*** (4.58e-05)	1.448e-04 *** (5.450e-05)	2.179e-04 *** (4.830e-05)	1.181e-04* (6.080e-05)	0.001*** (1.776e-04)	2.957e-04 (2.899e-04)	0.001*** (1.619e-04)	3.194e-04 (2.614e-04)	2.307e-04 *** (4.910e-05)	1.419e-04** (5.640e-05)
Rural Household	-1.771 (3.016)	-7.101** (3.148)	-	-	-	-	-4.871 (5.872)	-9.481 (7.130)	-1.000 (3.455)	-6.055 (3.860)
Insurance Coverage	1.224 (2.766)	7.682** (3.294)	1.281 (3.135)	10.922** (4.439)	-4.540 (6.213)	2.434 (7.079)	1.990 (5.168)	6.317 (6.400)	0.843 (3.206)	7.395** (3.770)
Doctors <i>per capita</i>	0.049** (0.024)	0.086** (0.027)	0.023 (0.027)	0.070** (0.033)	0.237*** (0.067)	0.295*** (0.073)	-0.015 (0.043)	0.010 (0.048)	0.066** (0.029)	0.102*** (0.032)
Observations	17,167	17,167	12,405	12,405	4,762	4,762	3,368	3,368	13,799	13,799
F-statistic	12.66	12.90	8.79	8.19	6.16	6.27	2.67	2.63	11.83	12.07
Prob > F	0.000	0.0000	0.000	0.000	0.000	0.000	0.0021	0.0024	0.000	0.000
<i>Endogeneity Tests: H₀: Regressor is exogenous</i>			<i>Overidentification Tests: H₀: IVs are uncorrelated with error term</i>							
Wu-Hausman F test statistic	F(1,17153)	19.193	Sargan N*R ² test statistic					Chi-sq(5)		2.335
Durbin-Wu-Hausman Chi2 test statistic	Chi-sq(1)	19.187	Sargan (N-L)*R ² test statistic					Chi-sq(5)		2.333
			Sargan Pseudo-F test statistic					F(5,17154)		0.467

Notes: *** Signifies statistically different from zero at the 1% level or better, **at the 5% level or better and *at the 10% level or better. The regression includes a constant.

VII. FINAL REMARKS

Overall, our findings indicate that healthcare expenditures rise in response to the receipt of remittances. Hospitalization expenditures display the largest responsiveness to remittance income received by the household, possibly a by product of the higher cost of these medical services. However, primary care expenditures are also significantly higher among households with higher remittance inflows, which spend between 5 and 9% of remittance receipts on primary care services. To the extent that primary care expenditures are likely to have significant impacts on health outcomes given their preventative-type nature, remittance income can play an important policy role in partially financing the healthcare expenditures of migrants' families back home.

Our findings also uncover the differential impact that remittance income has on spending on health relative to other sources of income. Specifically, while positive, the effect of increases in non-remittance income on household healthcare expenditures is considerably smaller than the impact of remittance income. The possibility exists that remittance inflows embody both monetary as well as social remittances, with the latter shifting households' spending priorities towards human capital investments in the form of healthcare. Alternatively, the differential impact of remittance income relative to other sources of household income may reflect households' greater flexibility to redirect remittance income towards unplanned household expenses, as is often the case with healthcare expenditures. As such, remittances may play a crucial role in supplementing any deficiencies in the public provision of medical services.

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