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ORIGINAL PAPER

Redressing the Limitations of the Affordable Care Act for Mexican Immigrants Through Bi-National Health Insurance: A Willingness to Pay Study in Los Angeles

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Abstract The 12.4 million Mexican migrants in the United States (US) face considerable barriers to access health care, with 45 % of them being uninsured. The Affordable Care Act (ACA) does not address lack of insurance for some immigrants, and the excluded groups are a large proportion of the Mexican–American community. To redress this, innovative forms of health insurance coverage have to be explored. This study analyses factors associated with willingness to pay for cross-border, bi-national health insurance (BHI) among Mexican immigrants in the US. Surveys were administered to 1,335 Mexican migrants in the Mexican Consulate of Los Angeles to assess their health status, healthcare utilization, and willingness to purchase BHI. Logistic regression was used to identify predictors of willingness to pay for BHI. Having a job, not having health insurance in the US, and relatives in Mexico attending public health services were significant predictors of willingness to pay for BHI. In addition, individuals identified quality as the most important factor when considering BHI. In spite of the interest for BHI among 54 % of the sampled population, our study concludes that this type of coverage is unlikely to solve access to care challenges due to ACA eligibility among different Mexican immigrant populations.

Keywords Willingness to pay · Health Insurance · Mexico · Immigrants · Access to care · Undocumented immigrants · Health reform

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Introduction

From 1970 to 2010, the population of Mexican-born migrants in the United States grew from 1 million to 12.4 million [1]. This population currently accounts for 25 % of all Latinos and is playing increasingly important roles in the economic market, labor sector, and social makeup of the US. Mexican immigrants, however, continue to face significant barriers accessing and utilizing healthcare services, with 45 % of them being currently uninsured [2], in comparison to 11.7 % among non-Latino whites [3]. When compared to this same population, Mexican born immigrants are twice more likely to not have visited a doctor in the past 2 years [4]. For undocumented immigrants, barriers to healthcare access are even more severe with approximately 60 % lacking health insurance coverage [5, 6]. While in general Mexican immigrants are relatively healthy, providing healthcare coverage would help ensure that they maintain their health through preventive care and treatment of serious illnesses [7, 8].

To address some of the barriers to care in the US, some Mexican immigrants in the United States travel across the border to Mexico in order to utilize health services due to financial, cultural, and personal factors [9–11]. Previous research has found that approximately one million adults in California use medical, dental or prescription services in Mexico, of whom nearly half were Mexican immigrants living in the US [10]. In addition, another study found that Mexican migrants in the US tend to return to Mexico to receive hospital care for serious illnesses in response to limited access to care in the US [12]. The main predictors of healthcare use in Mexico are health need, lack of health insurance coverage in the US, employment status, delay seeking care, more recent immigration, limited English proficiency, and prescription drug use [13]. Additionally, cultural factors such as language and provider attitudes influence healthcare utilization south of the border.

Policymakers, healthcare providers and analysts in both the US and Mexico have considered the possibility of implementing diverse bi-national health insurance (BHI) plans to help meet the healthcare needs of Mexican immigrants in the US [14–16]. A small number of formal and informal plans are already in operation in the border states of California, Texas, Arizona, and New Mexico [17]. In the case of California, three private US insurance companies and one insurance group from Mexico are licensed to offer this type of coverage. Providers in California offer a variety of plans with different service options that range from managed care coverage (HMO or PPO) to emergency coverage only [17]. All Mexican health services available through these plans are provided by private hospitals in the border cities of Baja California, Mexico. Providers in Mexico must comply with Mexican regulations as well as regulatory standards established by California authorities.

Mexican immigrants can also purchase in selected Consulates government-run health insurance through the Mexican Social Security Institute (*Instituto Mexicano del Seguro Social*, IMSS). While this program dwindled, in 2010 the government began promoting, also through the Consulates, a less expensive public health plan called *Seguro Popular*, offering an extensive package of services through Ministry of Health facilities in Mexico [18]. Both health plans offer primary, ambulatory, emergency and specialty care to the subscriber and his/her dependents in government-run clinics. Service coverage, however, is only available in Mexico.

Models have been outlined to combine *Seguro Popular* with primary health care in the US through networking with community clinics and health centers and through financial packaging [19]. The main motivation from potential buyers of US–Mexico BHI coverage would be to insure themselves against catastrophic health spending and to access health services that would otherwise be unaffordable. Until now, however, it is uncertain what are the main characteristics associated with the potential demand for these types of plans.

Previous research has identified both demographic factors and health insurance plan characteristics that motivate consumers to purchase private non-group health insurance [20–22]. Attitudes towards health coverage and perceived need are important influences where individuals who consider themselves healthy are often less likely to perceive the need for insurance coverage [23]. In addition, affordability of premiums and co-payments is cited as a major predictor of purchasing private health insurance as lower income individuals are sensitive to price increases [24]. Finally, those who are older, have higher educational attainment, and families with children have been shown to purchase private insurance [22]. While little research has explored predictors of the demand for private health insurance among Mexican immigrants in the US, studies have shown that Spanish-speaking Latinos in the US are significantly less likely to purchase non-group insurance when compared to non-Latino whites [20]. Moreover, health insurance data in Los Angeles found that the foreign born and undocumented had lower rates of enrollment in individual private insurance than native born respondents [25]. Cost, perceived need, and accessibility have been implicated as the major factors for why Mexican immigrants do not purchase non-group insurance plans. BHI plans could potentially meet these gaps by providing affordable and accessible services to Mexican immigrants.

The implementation of the Patient Protection and Affordable Care Act (ACA) in 2014 could also have important implications for the utilization of cross border healthcare by three groups of Mexican immigrants: (a) documented immigrants with more than 5 years of US residency, (b) documented immigrants with 5 years or less of US residency, and (c) undocumented immigrants. The current provisions would require health insurance coverage to all documented immigrants and their children. Subsidized coverage would be available through newly created health insurance exchanges or Medicaid [26]. Recently arrived documented immigrants (less than 5 years of residence in the US), however, are excluded from the expansion of healthcare coverage through Medicaid [21, 22]. Undocumented immigrants are excluded from all ACA provisions.

The ruling of the US Supreme Court that upheld most ACA provisions but allowed state governments to opt out from expanded Medicaid eligibility is likely to affect Mexican immigrants who are eligible for Medicaid benefits. According to the Congressional Budget Office approximately 3 million fewer individuals will have insurance as a result of the court's decision [27]. Thus,

low-income immigrants (133 % FPL or below) who have less than 5 years in the US and those who live in states without expanded Medicaid coverage would face challenges purchasing health insurance coverage as mandated by the ACA. These immigrants would either have to purchase coverage through insurance exchanges or the private market [23].

Without government subsidies or assistance to pay for healthcare coverage, many recently arrived and undocumented Mexican immigrants may elect to remain uninsured and to utilize public clinics and emergency rooms, leading to delay in demand for health care. BHI plans may be an option to provide affordable and quality healthcare for these two groups of Mexican immigrants who will continue to face obstacles accessing healthcare after the ACA is implemented.

This paper presents results of a survey-based study with Mexican migrants attending the Mexican Consulate in Los Angeles to explore the potential role that a US–Mexico cross-border health insurance plan could have to complement ACA entitlements. Few studies have explored Mexican immigrants' interest and willingness to pay for BHI plans [13]. In particular, little is known about the types of individuals who would be interested in purchasing these plans, the main motivations to purchase these plans, as well as the characteristics and costs of insurance plans they would be interested in. Using data collected at the Mexican Consulate in Los Angeles, we sought to explore some of the factors associated with willingness to pay for BHI among Mexican immigrants in the US.

Methods

Study Population and Setting

The survey was conducted at the Mexican Consulate in Los Angeles (LA), which provides services to thousands of individuals of all ages, backgrounds and geographic areas within metropolitan LA. Individuals originate from different regions of Mexico and most of them maintain family connections with their communities of origin. Consulate visitors are more likely to have a close relationship with Mexico than non-visitors. The target population of the study was adult men and women 18 years or older who were born in Mexico and who were living in the US at the time of the survey.

Survey Administration

The survey was conducted between July and December 2010 in the *Ventanilla de Salud* at the Mexican Consulate in Los Angeles. *Ventanilla de Salud* is a health promotion and provider information program offered by the Mexican government through information booths in the waiting rooms of all 52 Consulates in the US. All adult Consulate visitors waiting in the sitting rooms were screened through a set of questions. Approximately 80 % of approached individuals met the inclusion criteria and were invited for the interview in an isolated cubicle, where informed consent was administered. The response rate was 60 %.

The questionnaire was administered mostly in Spanish, with an English version available for native English speakers. Interviewers were bilingual and were trained to appropriately address ambiguous questions and avoid oversampling bias of any particular sub-population. Over 95 % of the questionnaires had useful information, resulting in a sample of 1,353 subjects. The survey consisted of five sections: (1) Health status of respondent and their dependents in the US, (2) Insurance status and health care utilization in the US, (3) Dependents in Mexico; (4) Bi-national Health Insurance Plan and (5) Socio-demographic information.

Measuring Preferences

Previous research in environmental services shows important disparities between willingness to pay estimates with actual payments [28, 29]. Different valuation methods that have been developed to reduce the bias from willingness to pay estimates for hypothetical products were applied to our study [30]. Specifically, we used closed-ended format questions and two different values ($50 and $100) to test the strength of preferences for such a product.

The survey first asked participants of their interest in BHI. The proposed plan was based on the guidelines developed by analysts and policymakers based on the research-based proposals by US and Mexican organizations [19]. The plan's description included primary and emergency care for migrants and their families in the US; intensive medical care or continuity of emergency care in Mexico, and transportation for the patient and their dependents if they required follow-up care in Mexico. In separate questions, participants were asked about their willingness to pay $50 and $100 per person per month for the insurance plan.

These values for the BHI proposal were determined from the estimated cost of an insurance package that included primary and emergency care in community clinics and emergency room departments in the US ($40 per person/month) [19] plus the monthly premium of *Seguro Popular* for a family in the fifth income decile ($13 USD). This estimate is lower compared to others used in the previous literature since costs associated to services provided by community clinics in the US and by *Seguro Popular* in Mexico are lower compared to the cost estimates used in previous studies [13].

Respondents were asked a separate question that changed the type of providers in Mexico from public to private. The willingness to pay for a plan with private providers in Mexico was asked to assess respondents' strength of preferences, and the price was calculated similar to previous studies at double the cost of the package with public care ($100 USD) [11]. In addition, participants were asked to identity characteristics of the insurance plan that they would consider important in order to join, including: cost, need, distance, and quality of services.

Statistical Analysis

In a valuation framework with a closed-ended format, the use of a binary (yes/no) dependent variable can be interpreted as the willingness-to-pay probability in a multiple regression model. A similar empirical strategy was applied in this study, although the explanatory variables were fitted into logistic regression models. The dependent variables in these specifications were as follows: (1) Willingness to pay for cross-border health insurance; (2) Willingness to pay $50 for cross-border health insurance in Mexico and; (3) Willingness to pay $100 for cross-border health insurance with private providers in Mexico.

A marginal logit regression analysis was implemented using three different specifications that included all observations in the study sample [31]. The first model compares those who were interested in BHI versus those who were not interested in such a product. The second and third models compare those who responded positively to being willing to pay $50 or $100 for BHI, respectively with all respondents who were not interested in BHI or who were willing to pay a different amount for such a product. All explanatory variables in Table 1 are included in all regression-models as covariates. Only those that are statistically significant are included in Table 3 for brevity, but are available upon request.

Results

Sample Characteristics

The objective of surveying the Mexican born population residing in the US was achieved, as 99.93 % of the sample was born in Mexico. Overall, the sample characteristics were similar to those reported for the Mexican population in California in terms of health status and remittances [24]. However, the sample differed from the population in terms of health insurance status and years of residence in the US, where 34 % (31.25–36.30) were insured and 76 % (73.40–77.98) of respondents reported living in the US for more than 10 years (Table 1).

Some of the descriptive characteristics confirmed known trends about the health status of Mexicans in the US (Table 1) [2, 32]. Approximately, 74 % of respondents reported having dependents in the US while 55 % had dependents in Mexico. In addition, more than half sent remittances to Mexico within the past year, sending approximately $250 on each occasion. In 38 % of cases half or more of the money they sent was used for medical care and expenses, demonstrating that attending to dependents' health problems is one of the main reasons for sending money to Mexico. Half of the sample population was women, while 65 % had a job. Finally, a third of respondents (33 %) reported having legal US documents, which differs from the 45 % reported in other studies for the state of California [2].

Health and Insurance Status in the US

Only 34 % of respondents reported having health insurance in the US, compared to 55 % reported by other studies of Mexican migrants in California [2]. Approximately 68 % of the sample reported that they or a dependent living in the US had at least one event of illness at home in the previous year. Almost 80 % reported taking home remedies regularly, while half attended a community clinic and only a third visited the emergency room in the previous year. 10 % of the sample reported having trouble paying for medical care.

Health and Insurance Status of Dependents in Mexico

Approximately two-thirds of respondents' relatives in Mexico were affiliated with *Seguro Popular*. Dependents in Mexico were more likely to use private medical services rather than public services, which is consistent with figures reported by previous studies [13]. It is of interest to note that 11 % of respondents with dependents in Mexico reported that their relatives had trouble paying for medical care.

Predictors of US–Mexico Health Insurance Coverage

From the bivariate analysis in Table 2, when we compare the willingness to pay for cross border health across certain variables of interest, we found that those more likely to be willing to pay have the following characteristics: do not have health insurance in the US, attend community clinics, have dependents in Mexico, and send remittances to Mexico. These findings are consistent with other studies in California [13]. Respondents' who had a higher willingness to pay for bi-national health insurance included individuals who used a greater share of remittances for health care. In addition, individuals whose relatives in Mexico had health

Table 1 Characteristics of survey participants, willingness to pay study, Los Angeles, 2010 (n = 1335)

Variables	%	Mean	95 % CI	SD
Health status and utilization of respondent/dependents in the US				
Had dependents in the US	74		71.18–75.89	
Reported being sick/ill in the past year	68		65.65–70.63	
Took home remedies	53		50.77–56.09	
Visited a traditional/cultural/folk healer	1		0.77–2.03	
Took medications from Mexico	8		6.94–9.90	
Visited a community clinic in the past year	33		30.38–35.40	
Visited an emergency medical service in the past year	21		18.39–22.70	
Insurance status of respondent/dependents in the US				
Has health insurance in the US	34		31.25–36.30	
Had problems paying for healthcare in the past year	10		8.17–11.34	
Dependents in Mexico				
Has dependents in Mexico	55		52.11–57.42	
Visited a private healthcare provider in the past year	28		25.47–30.26	
Visited a public healthcare provider in the past year	20		17.47–21.71	
Enrolled in *Seguro Popular*	41		37.96–43.20	
Visited the same healthcare provider throughout the year	9		7.56–10.62	
Pays out of pocket for healthcare costs	5		3.93–6.27	
Had problems paying for healthcare in the past year	6		4.79–7.33	
Bi-national health insurance				
Interested in a bi-national health insurance plan	54		51.56–56.58	
Willing to pay $50/person/month	47		44.63–49.96	
Willing to pay $100/person/month	18		15.91–20.00	
Characteristics of plan considered important in order to enroll				
Cost	55		52..33–57.64	
Need	34		31.76–36.82	
Distance	37		34.09–39.23	
Quality	40		37.81–43.04	
Respondent				
Visited Mexico in the past year	16		14.29–18.22	
Visited a healthcare service provider in the past year	5		3.73–6.03	
Purchased medications in the past year to take to the US	5		3.99–6.36	
Sent money to Mexico	53		50.18–55.51	
Average amount of money sent to Mexico per occasion		271		435
Percentage of remittance used for healthcare cost[a]				
0 %	15		12.58–18.34	
10 %	19		15.80–22.03	
20 %	13		10.16–15.95	
30 %	12		8.97–14.06	
40 %	8		5.60–9.86	
50 %	16		13.33–19.22	
More than 50 %	17		14.25–20.28	
Age		37		11
Gender (male)	50		47.66–53.00	
Married	44		41.55–46.84	
Years of education		9		4
Region of origin in Mexico				
North	14		12.40–16.13	

Table 1 continued

Variables	%	Mean	95 % CI	SD
Central	71		68.60–73.45	
South	15		12.82–16.60	
Years of residence in the US				
<1 year	1		0.13–0.90	
1–5 years	7		5.99–8.79	
6–10 years	16		14.43–18.39	
>10 years	76		73.40–77.98	
Employed	65		62.87–67.95	
Annual income[b]		17,079		20,892
Has US identification	33		30.31–35.32	

Source Survey administered in the Consulate of Mexico, Los Angeles, CA in 2010

[a] Includes only those who reported sending remittances to Mexico

[b] Average of the sample including the 267 respondents who reported having no income

problems in the previous year, out-of-pocket costs for health care, and affiliation to *Seguro Popular* were also more willing to pay for BHI. The region of origin in Mexico had no significant difference in the willingness to pay for BHI.

In the marginal logit regression model in Table 3, the main predictors of willingness to pay for BHI were having a job, not having health insurance in the US, relatives in Mexico attending public health services, and age. Adults with health insurance were 8 % less likely to be willing to pay for BHI. Respondents whose dependents in Mexico visited public healthcare providers in the previous year were 7 % more likely to be willing to pay for BHI. Each year of age was associated with a reduced likelihood by 1 % to be willing to pay for BHI. Employed individuals were 5 % more likely to be willing to pay for BHI.

When willingness to pay $50 per person per month was measured, the associated characteristics were not having health insurance in the US, age, years of schooling, employment status and marital status. Adults with health insurance were 9 % less likely to be willing to pay $50 for BHI. Each year of age was associated with a reduced likelihood by 2 % to be willing to pay $50 for BHI. Married individuals were 9 % more likely to pay $50 for BHI. Each year of education was associated with being 5 % more likely to pay $50 for BHI and employed individuals were 6 % more likely to be willing to pay $50 for BHI.

In the analysis of predictors for those who were willing to pay $100, the statistically significant variables were age, having US documents and annual income. Each year of age was associated with a reduced likelihood by 2 % to be willing to pay $100 for BHI. Respondents with higher incomes were willing to pay $100 for BHI by 2 %. Individuals with US documents were 4 % more likely to pay $100 for BHI (Table 3).

In the three WTP models, offering quality of services is the most important consideration for enrollment in BHI. Table 3 shows the respondents' preference for particular plan characteristics' with distance as the reference category. Respondents who were willing to pay for BHI were more likely to declare quality, need and cost as the main consideration for enrollment in a BHI plan by 36, 15 and 11 % (relative to distance), respectively. Individuals who were willing to pay $50 for BHI were less likely to identify cost and need as the main consideration for enrollment in such a BHI by 20 and 11 % (relative to distance), respectively. By contrast quality was the main consideration for enrollment by 9 %. Likewise, adults who were willing to pay $100 for BHI were 3 % less likely to identify cost; however, they were 13 % more likely to identify quality as the main consideration for enrollment (relative to distance).

Discussion

Health care reform in the US is likely to reduce the number of uninsured Mexicans, particularly among documented immigrants. However, waiting periods for subsidized health insurance coverage for legal immigrants and exclusion of undocumented immigrants from insurance subsidies means that health insurance coverage is likely to remain unattainable for millions of low-income immigrants. Cross-border health insurance represents an option for both legal and undocumented immigrants, particularly with the availability of *Seguro Popular* and the Mexican government's willingness to support the affiliation of migrants and their families.

An advantage of our study was the in-depth assessment of willingness to pay and motivations to purchase US–Mexico health insurance coverage in the largest and most

Table 2 Bivariate analysis of willingness to pay for bi-national health insurance, willingness to pay study, Los Angeles, 2010 (n = 1335)

Willingness to pay for bi-national health insurance	Not willing to pay		Willing to pay		*p* value
Variables	No.	%	No.	%	
Health status and utilization of respondent/dependents in the US					
Had dependents in the US	439	73.0	517	73.7	0.81
Reported being sick/ill in the past year	398	66.2	488	69.5	0.20
Took home remedies	311	51.8	390	55.6	0.17
Visited a traditional/cultural/folk healer	8	1.3	11	1.6	0.72
Took medications from Mexico	46	7.7	65	9.3	0.30
Visited a community clinic in the past year	180	30.0	246	35.0	0.05
Visited an emergency in the past year	117	19.5	153	21.8	0.30
Insurance status of respondent/dependents in the US					
Has health insurance in the US	238	39.6	205	29.2	<0.01
Had problems paying for healthcare in the past year	53	8.8	74	10.5	0.30
Dependents in Mexico					
Has dependents in Mexico	303	50.4	413	58.8	<0.01
Visited a private healthcare provider in the past year	141	23.5	220	31.3	<0.01
Visited a public healthcare provider in the past year	95	15.8	160	22.8	<0.01
Enrolled in *Seguro Popular*	218	36.3	313	44.6	<0.01
Visited the same healthcare provider throughout the year	48	8.0	71	10.1	0.18
Pays out of pocket for healthcare costs	23	3.8	46	6.6	0.03
Had problems paying for healthcare in the past year	42	7.0	39	5.6	0.29
Bi-national health insurance					
Characteristics of plan considered important in order to enroll					
Cost	268	44.6	451	64.3	<0.01
Need	248	41.3	205	29.2	<0.01
Distance	318	52.9	163	23.2	<0.01
Quality	153	25.5	376	53.6	<0.01
Respondent					
Visited Mexico in the past year	78	13.0	133	19.0	<0.01
Visited a healthcare service provider in the past year	17	2.8	49	7.0	<0.01
Purchased medications in the past year to take to the US	22	3.7	48	6.8	0.01
Sent money to Mexico	289	48.1	404	57.6	<0.01
Average amount of money sent to Mexico per occasion	289	237.09	404	295.3	0.062
Percentage of remittance used for healthcare cost[a]					0.03
0 %	48	8.0	59	8.4	
10 %	61	10.2	72	10.3	
20 %	33	5.5	57	8.1	
30 %	31	5.2	45	6.4	
40 %	26	4.3	29	4.1	
50 %	43	7.2	72	10.3	
More than 50 %	48	8.0	70	10.0	
Did not send money	311	51.8	298	42.5	
Age	598	38	706	36	0.50
Gender (male)	281	46.8	383	54.6	<0.01
Married	264	43.9	311	44.3	0.892
Years of education	615	9.3	698	8.7	0.50
Region of origin in Mexico					0.33
North	85	14.1	102	14.5	
Central	440	73.2	492	70.1	

Table 2 continued

Willingness to pay for bi-national health insurance	Not willing to pay		Willing to pay		*p* value
Variables	No.	%	No.	%	
South	76	12.7	108	15.4	
Years of residence in the US					0.94
<1 year	3	0.5	3	0.4	
1–5 years	44	7.3	54	7.7	
6–10 years	96	16.0	120	17.1	
>10 years	458	76.2	525	74.8	
Employed	368	61.2	493	70.2	<0.01
Annual income[b]	601	16,718	702	17,646	0.43
Has US identification	199	33.1	232	33.1	0.98

"Willing to pay" includes respondents who were willing to pay $50 and/or $100

[a] Includes only those who reported sending remittances to Mexico

[b] Average of the sample including the 267 respondents who reported having no income

Table 3 Marginal logit regression analysis of factors associated with willingness to pay for bi-national health insurance, willingness to pay study, Los Angeles, 2010

Predictors	Willing to pay (n = 1353)		Willing to pay $50 (n = 1353)[a]		Willing to pay $100 (n = 1353)[b]	
	Marginal effects (%)	*p* value	Marginal effects (%)	*p* value	Marginal effects (%)	*p* value
Insurance status of respondents/dependents in the US						
Has health insurance in the US	−8	<0.001	−9	<0.001		
Dependents in Mexico						
Visited a public healthcare provider in the past year	7	<0.001				
Bi-national health insurance plan						
Characteristics of plan considered important in order to enroll[a]						
Cost	11	<0.001	−20	<0.001	−3	<0.001
Need	15	<0.001	−11	<0.001		
Quality	36	<0.001	9	<0.001	13	<0.001
Respondent						
Age	−1	<0.001	−2	< 0.001	−2	<0.001
Married			9	<0.001		
Years of education			5	<0.001		
Employed	5	<0.001	6	<0.001		
Annual income[b]					2	<0.001
Has US identification					4	<0.001

All explanatory variables were included in the three regression models. This table only shows variables that were statistically significant for brevity. Coefficients are rounded to the nearest integer

[a] Distance is the reference category

[b] Income was entered into the model dividing by a thousand

important Mexican Consulate in the US at Los Angeles. This was an ideal location to gather relevant data on the possible demand for bi-national coverage, as it is the metropolitan area with the highest number of Mexican nationals in the US, ranking second in the world after Mexico City. Los Angeles is also one of the main gateways for Mexican immigrants into the US.

Several demographic factors were significant predictors of willingness to pay, which can influence the development, and marketing of potential health insurance plans.

Consistent with previous research, those without health insurance in the US were more willing to pay for BHI [10, 11]. The employed population was more interested or willing to pay $50 for BHI. Promoting the benefits and accessibility of health insurance plans and services, such as BHI, among those with higher levels of incomes and with jobs that may not provide health insurance coverage could improve uptake. In addition, age was a negative predictor of willingness to pay for bi-national health insurance perhaps since those who are older have stronger ties to the US or are less able to travel to Mexico for health services due to physical limitations. However, recent and undocumented Mexican immigrants who would benefit most from these plans tend to be younger, so age would have less of an influence on their decision to purchase bi-national health insurance.

It is important to acknowledge that while our sample includes Mexican immigrants with stronger links (e.g. economic, family related) with Mexico in the Los Angeles Metropolitan Area, it is not representative of the overall Mexican–American population in California or the United States. Our study, however, is potentially informative since individuals with stronger connections with Mexico would be more likely to purchase US–Mexico health insurance coverage not only because of their familiarity with the Mexican health system, but also because part of their families may still reside in Mexico. Potential BHI plans that include *Seguro Popular* coverage in Mexico are also likely to be marketed primarily through the Mexican consular network. Our findings suggest these factors may play an important role in predicting willingness to pay since respondents who had family in Mexico that visited public providers were more interested in BHI.

Our study is the first to provide information on the main motivations that potential buyers of BHI would have to purchase this US–Mexico health insurance coverage. This survey is the first that to our knowledge explores the characteristics that an individual would consider important in order to buy BHI. Quality of services was the most important consideration that potential buyers would have to purchase BHI among respondents in all willingness to pay models compared to cost, distance or need factors. As highlighted by several studies, Mexican immigrants, both documented and undocumented, continue to face significant quality of care barriers in the US and are less likely to purchase individual health insurance [20]. BHI could potentially meet Mexican migrants' need for quality care through culturally competent providers and services.

Study participants who were uninsured were more willing to purchase BHI, demonstrating their recognition for the need for health insurance. Lack of health insurance coverage, however, did not predict willingness to pay in the $100 model, suggesting that uninsured individuals are more sensitive to the cost of potential plans. These findings are consistent with previous research and suggest that income is closely related to willingness to pay for health insurance coverage [13]. In order to be successful, BHI plans need to be particularly mindful of pricing to meet the needs of Mexican migrants.

Despite the findings from this study, there are important obstacles for BHI that should be considered when developing potential plans for both documented and undocumented Mexican immigrants. Specifically, managing bi-national health services will provide unique challenges for ensuring effective care, minimizing fraud, and coordinating financing systems [18]. Both documented and undocumented immigrants may also forgo or delay traveling to receive advanced treatments in Mexico due to family and employment commitments in the US. More importantly, while undocumented immigrants may have access to primary care services in the US through these cross border health initiatives, they would risk the possibility of never returning to the US if they needed advanced treatments in Mexico. This potential barrier was reflected in our finding where those without documentation in the US were less willing to purchase BHI.

Study Limitations

This study has some limitations. First, we use a convenience sample, limiting the ability to draw causal inferences from the study results. Second, self- reported data might be subject to measurement error. Third, although we use a set of socioeconomic and demographic measures employed in the previous literature to identify the undocumented, it is still possible that the legal status of a few respondents is not precisely identified. The study setting limits the external validity of our study findings.

Conclusions

The ACA measures that will be implemented in 2014 will not fully meet the healthcare needs of many Mexican immigrants. BHI could serve as a potential method of providing quality and affordable health care for some Mexican immigrants. BHI, however, is unlikely to solve access to care challenges due to ACA eligibility among different Mexican immigrant populations. The study findings show that the market for BHI is weak since half of the study sample of primarily immigrants with more ties to Mexico was not interested in this type of coverage.

The results from this study can be used to inform future policy initiatives to develop bi-national health insurance plans for Mexican immigrants. Policymakers, healthcare providers and researchers in both US and Mexico should

continue to explore potential opportunities to expand the availability of BHI plans. Future research should explore willingness to pay for cross-border health insurance among Mexican immigrants outside of California and should use decision models that compare BHI with ACA-related insurance coverage. Finally, with a large population of undocumented Mexican immigrants in the US, comprehensive immigration reform could provide opportunities for these migrants to travel from Mexico to the US and utilize BHI.

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