



Extending Health Insurance to Informal Sector Workers in Nicaragua

INTRODUCTION

Health insurance programs for poor and vulnerable populations can increase access to priority health services and protect families from catastrophic health care costs. Uptake of voluntary health insurance among informal and low-income workers is typically low, however. Moreover, collecting premium payments from this population is challenging (Abel-Smith 1992), and insurers are concerned that insuring the poor will attract a less healthy clientele.

Microfinance institutions (MFIs) may be a promising and innovative delivery agent to extend health insurance to low-income and other vulnerable groups. Because strong linkages exist between the delivery of financial and health services, MFIs can easily integrate health savings or insurance products into their menu of financial services and may improve their own financial stability by helping workers to avoid defaulting on loans due to health crises. MFIs are increasingly adding health insurance products to respond to client demand, to maintain client loyalty, and to improve clients' ability to repay loans by improving their access to health care (Dror and Preker 2002). In addition, economies of scale may exist for collection of premium payments through MFIs in settings where MFI penetration is high (Churchill and Cohen 2006; Churchill 2003).

Nicaragua presented an excellent context to explore this model, given its large informal

sector and well-organized MFI presence. In January 2007, the government of Nicaragua initiated a demonstration project that extended the Nicaraguan Social Security Institute's (INSS') formal sector health insurance program to informal sector workers using MFIs as delivery channels. By offering the INSS' basic package of services and medications to the informal sector, the program aimed to positively impact health outcomes, including reproductive health and family planning (RH/FP), as well as improve financial protection in health for this vulnerable population. This brief presents findings of a randomized evaluation of that pilot project, implemented during 2007–2008 (Hatt et al. 2009). The USAID-funded Private Sector Partnerships-One (PSP-One) project and the Global Development Network cofunded the evaluation activity.

HEALTH CARE OPTIONS FOR INFORMAL SECTOR WORKERS IN NICARAGUA

Nicaragua has an estimated 1.2 million informal sector workers (street and market vendors, small business owners, and other self-employed workers), representing 66 percent of the working population. Facing a family health crisis can put these workers at risk of impoverishment. Often they must divert resources from essential consumption, savings, and investment to meet immediate health care needs, and these tradeoffs can negatively impact both current and future





Vendor of local rosquillas in Managua. (Photo by Barbara Magnoni)

household income flow as well as future business growth. Health insurance can serve a vital risk protection function for these families and their businesses and can also increase access to priority health services.

Basic health care is theoretically available for free to all Nicaraguans at the Ministry of Health (MINSa) clinics, and individuals can also pay out of pocket for private care. But MINSa clinics are under-resourced and lack the infrastructure, staff, and medications needed to respond adequately to the population's health needs. Many families go directly to pharmacies for their basic care rather than wait in long lines at MINSa facilities.

THE INSS DEMONSTRATION PROJECT

Health insurance provided through INSS extends quality care to its formal sector subscribers (salaried workers and government employees) and is based on mandatory payroll and employer contributions. Prior to January 2007, informal sector workers and the unemployed were not eligible for INSS insurance. This changed in 2007 when the INSS health insurance package was

made available for purchase by informal sector workers through a voluntary program known as *Seguro Facultativo de Salud*. Insured individuals and eligible dependents (children under 12 and pregnant spouses of the insured) can now pay a flat monthly premium for a generous package of covered services. The monthly fee is higher in the first two months, at approximately US\$18 per month, and falls to approximately US\$15 per month thereafter. No copays are charged at the time of service. The government hoped that increasing access to INSS insurance might reduce some of the burden on the free MINSa clinics, while improving the quality of care available to informal workers.

INSS contracts with for-profit, not-for-profit, and public sector health facilities called Clinics for the Insured (formerly *Empresas Médicas Previsionales* and referred to here as EMPs). INSS purchases services from these facilities on a capitated basis. The INSS insurance provides all beneficiaries with a comprehensive package of preventive, diagnostic, and curative health services, including primary and specialist care, medication and laboratory exams, hospitalization, 24-hour emergency care, prenatal care, childbirth and post-natal care, infant care and vaccinations, child wellness visits through age 5, voluntary family planning counseling and contraception, breast and cervical cancer screenings, HIV and sexually transmitted disease counseling, and prevention and treatment of dengue fever and malaria. An INSS subscriber's dependent children up to the age of 12 are covered. During pregnancy and the postpartum period, the subscriber's wife is also eligible for maternity services, including delivery care.

Since an estimated one-third of small business owners in Managua have a loan with an MFI (Thornton et al. 2008), INSS hypothesized that it would be convenient for informal sector workers to make health insurance payments and payments on their MFI loans simultaneously. To test this hypothesis, the government initiated a demonstration project that allowed three MFIs in Managua to market the insurance, register

subscribers, and collect premiums. The MFIs signed a one-year contract with INSS and received a small fee from INSS for each enrolled worker. Beginning in January 2007, individuals could sign up for the insurance at any branch of these participating MFIs. Monthly payments could also be paid at any participating MFI as well as through most banks in the country.

EVALUATION OF THE DEMONSTRATION PROJECT: OBJECTIVES AND METHODS

PSP-One conducted an evaluation of this demonstration project during 2007–2008. The main goals were to assess the effectiveness of offering government health insurance to informal sector workers both with and without the assistance of MFIs, and to measure the impact of insurance on access to affordable health care for this population. The impact on utilization of RH/FP services was of particular interest. The key research questions were the following:

- What are the determinants of health insurance enrollment among informal sector workers in Nicaragua?
- What is the impact of health insurance on utilization (especially of maternal and child health [MCH] services and RH/FP) and expenditures within this population?
- What are the determinants of retention in the insurance program?



Surveyor observes as survey respondent randomly selects a “lottery ticket,” Mercado Oriental, Managua, March 2007. (Photo by Barbara Magnoni)

The evaluation employed several data collection methods, including the following:

- A baseline survey, conducted in 2007, with 4,002 market vendors in seven open-air markets in Managua, gathering information on demographic and socioeconomic characteristics, health care utilization and expenditures, FP knowledge and use, and awareness of available insurance products
- A follow-up survey, conducted in 2008, with 2,608 of the same market vendors to assess insurance enrollment, retention, and changes in baseline variables
- Nine focus group discussions and 60 key informant interviews with survey respondents to enhance qualitative understanding of survey results.

Because self-selection into the insurance program could lead to a biased measurement of insurance impact, the study introduced an experimental component in which individuals were allocated health insurance subsidies of varying amounts by a “lottery.” After the baseline survey interview was completed, respondents were randomly awarded different prizes: an informational brochure about the insurance, a two-month subsidy for insurance, a six-month subsidy, or nothing. Individuals were also randomly assigned to sign up for the insurance at the main INSS office or at one of the three participating MFIs; a subset of 175 vendors were given the opportunity to register “on the spot” at their market booth. The introduction of this randomization component allowed for the use of instrumental variable regression, an econometric method that uses statistical adjustment to overcome selection bias. Please see full report for further details of this evaluation (Hatt et al. 2009).

Contextual factors affecting implementation and interpretation of findings

Several external factors affected the roll-out and ongoing management of the INSS demonstration project, and these must be considered when interpreting evaluation results presented below. Perhaps most important was

a change in Nicaragua's political administration in January 2007, which delayed project start-up. Government-wide budget cuts also prevented the INSS from committing any additional resources to the project, including funds for communications materials to support the MFIs' direct marketing of the voluntary INSS insurance. In October 2007, the three MFIs participating in this demonstration project did not have their contracts with INSS renewed, which in essence cut short the project by several months, although registered participants were able to remain in the program. The political transition likely affected both enrollment and retention since the program was not marketed as planned and no innovative approaches were taken to address issues of concern such as convenient registration procedures and options or locations for payment.

EVALUATION OF THE DEMONSTRATION PROJECT: FINDINGS

Sample characteristics

The survey sample in the Managua open-air markets ($N=2,608$ interviewed at both baseline and follow-up) had an average age of 38 years. An estimated two-thirds were female, most were married, and they had on average 9.3 years of education. Of those surveyed, 38 percent were MFI clients, with an additional 20 percent having a loan of some kind. Respondents and their spouses earned about US\$274 per month at baseline, which was substantially higher than the national average household income of US\$140. The most commonly reported health problems were the flu or common cold, headaches, fevers, back pain, kidney problems, cough, hypertension, dizziness, psychological problems, and allergies.

Knowledge of INSS voluntary insurance

Survey respondents had poor knowledge of the INSS insurance program for informal sector workers and of the program benefits. At baseline, only 12 percent of respondents were aware of some type of insurance product available to them. This amount increased to 22 percent at the follow-up survey. Knowledge of the benefits



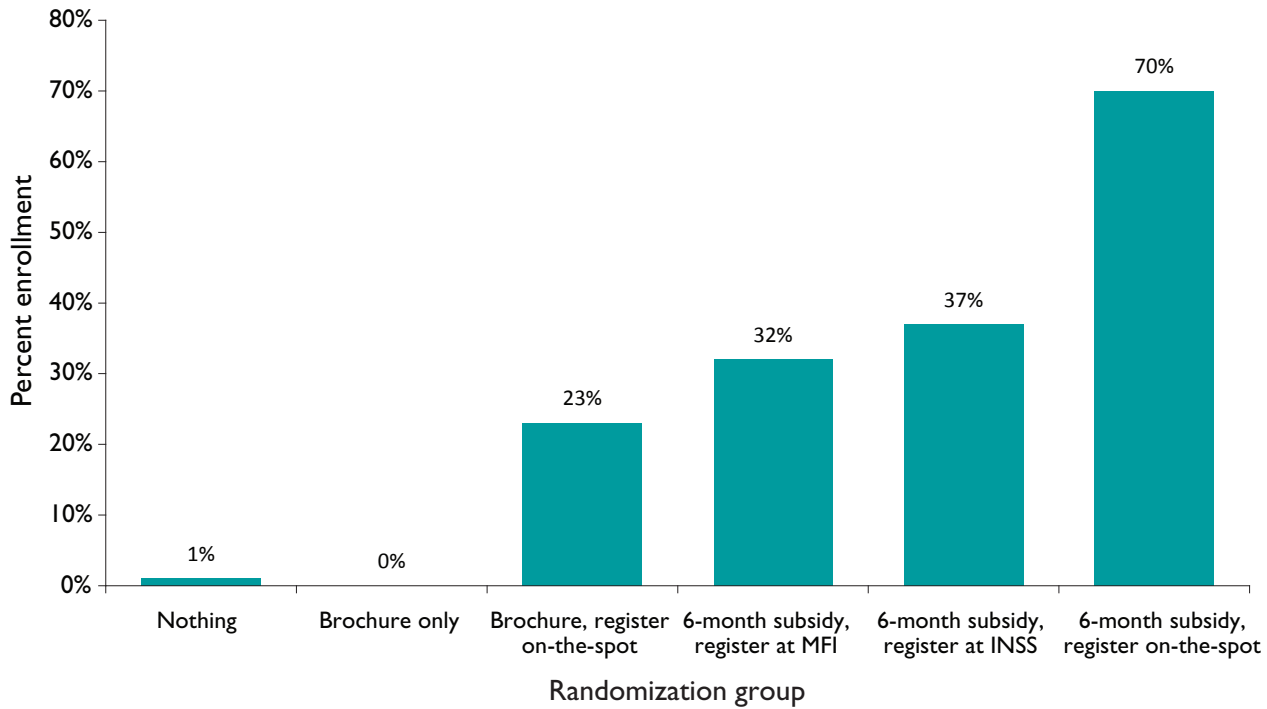
Survey respondents who "won" six months of free health insurance attend an informational session about INSS insurance at ProCredit, March 2007. (Photos by Barbara Magnoni)

and costs of the voluntary INSS insurance was limited and was correlated with receipt of an informational brochure or subsidy obtained through our evaluation. Correct knowledge was not correlated with being an MFI client, a finding that indicates MFIs did very little marketing of the voluntary insurance program. Focus group discussions confirmed that respondents were confused about what benefits the insurance covered, and they had difficulty obtaining clear information about the program, particularly from the MFIs.

Determinants of insurance enrollment

Beneficiaries are more likely to enroll directly with the INSS rather than an MFI. Overall, we found that 20 percent of our panel sample signed up for insurance. Receiving an informational brochure alone did not cause workers to enroll (0 percent enrollment), while receiving 6 months of free insurance coverage induced about one-third of respondents (34 percent) to sign up. In contrast to our expectations, subsidy winners assigned to enroll at the INSS office were more likely (37 percent) to sign up than those assigned to enroll at an MFI (32 percent) – the difference was marginally statistically significant ($p=0.08$). Focus group discussants confirmed this preference for enrolling directly with INSS, rather than through intermediary MFIs. Discussants perceived INSS to be a stable institution, whereas they perceived

Figure 1. Insurance Enrollment by Randomization Group and Assigned Enrollment Location



MFI's to be potentially vulnerable to bankruptcy and possibly less trustworthy. Respondents noted that health insurance was the regular “business” of INSS, whereas MFIs were not experts in health or health insurance. Several discussants expressed concern that MFIs were liable to charge hidden fees or interest for providing insurance services.

“Convenience subsidies” were a powerful motivator for enrolling in insurance. Among those in the sample who were offered the opportunity to register “on the spot” without leaving their market booths, more than half signed up. This included 23 percent of those who received only an informational brochure and no monetary subsidy ($N=61$) and 70 percent of those who received a six-month subsidy ($N=103$) (Figure 1). Thus, facilitating the preparation of documents needed to enroll and minimizing the time costs associated with registering at INSS or an MFI office doubled the impact of a monetary subsidy in increasing enrollment rates.

Several other factors, such as the following, were associated with insurance enrollment:

- being an MFI client
- having children under age 12
- having a self-reported chronic or commonly recurring disease, such as diabetes or hypertension, although uptake was only marginally significant (p -value = 0.10) (this finding may indicate some adverse selection in the voluntary insurance program, but this was not found to be a widespread or substantial issue).

Age, gender, education, and income were not significant predictors of insurance enrollment.

Use of general health services

Enrollment in health insurance did not lead to a dramatic increase in the use of health services.

We found that enrolling in health insurance did not lead to an overall increase in the probability of seeking health care.¹ Having health insurance increased a respondent’s total number of health care visits by about 0.8 visits per year—a result that was not statistically significant. Having the insurance, however, did lead to substantial substitution away from use

¹We conducted an instrumental variable regression analysis, which controls for self-selection into the insurance program (Hatt et al. 2009).

of public and private facilities into EMP facilities covered by the INSS insurance. Those who were insured were 38 percentage points more likely to have attended an INSS-contracted EMP in the past year, 11 percentage points less likely to have visited a private clinic, and 9 percentage points less likely to have visited a public health center compared to the uninsured.

Use of priority health services – Maternal and Child Health, RH, and FP

As with general health care use, having insurance did not lead to overall increases in use of MCH, RH, and FP services, but it did change where people received these services. Pregnant women with insurance were four times more likely to obtain antenatal care at an EMP and four times more likely to give birth in an EMP compared to those without insurance. There was no difference in the likelihood of use of any modern FP method according to insurance enrollment, although insured women were slightly more likely to use three-month injectables. It should be noted that the sample population in these markets had an average age of 38, a high proportion of women

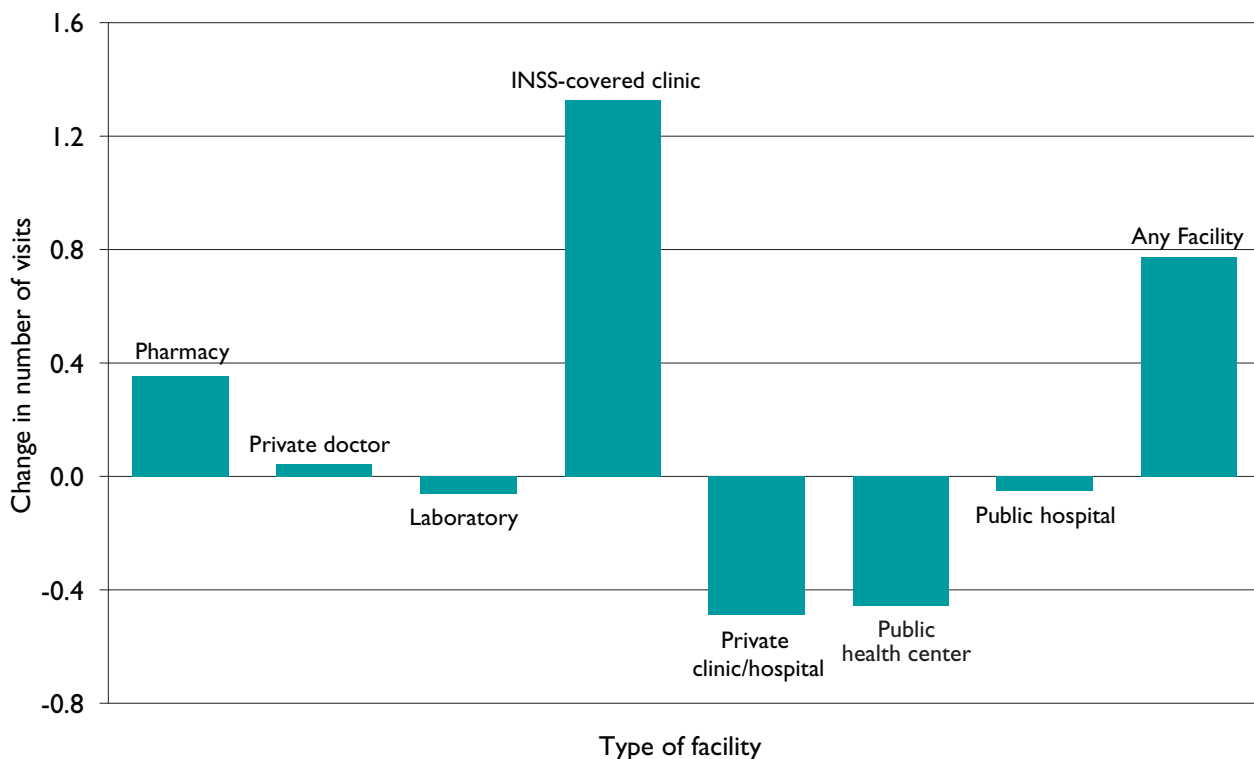
(35 percent) had been sterilized, and the sample had almost no unmet need for contraception.

Few respondents reported receiving FP information or counseling from any service delivery source. Public health centers were the most commonly indicated source of FP information. Less than 1 percent of respondents indicated that they received FP information at an EMP, although those who enrolled in insurance were three times as likely to receive FP information from an EMP as those who did not. Finally, there was no significant difference by insurance status in the likelihood of receiving any RH service (e.g., Pap smear, mammogram, prostate exam, or HIV test), although insured respondents were significantly more likely to utilize an EMP for these services (12 percent) than those who did not enroll in insurance (2 percent).

Out-of-pocket expenditures

Enrollment in the insurance program reduced out-of-pocket (OOP) health expenses, not accounting for the insurance premium. At the time of the baseline survey

Figure 2. Impact of Health Insurance on Respondent’s Number of Health Care Visits in the Past Year, by Type of Facility





Participants in an informational session on INSS insurance at ProCredit, March 2007. (Photo by Barbara Magnoni)

in 2007, average OOP health expenses over the prior year totaled US\$47 for the survey respondent only and US\$85 for the respondent and his or her dependent children. This was less than the equivalent unsubsidized cost of the INSS' health insurance premiums, which is approximately US\$176 per year. At baseline, the bulk of these OOP expenses were incurred mostly at pharmacies, followed by laboratories, private clinics/hospitals, and private doctors (Table I). Expenditure patterns comparing insured and uninsured respondents in 2008 reflect their different patterns of utilization of different facility types. Insured respondents spent less at pharmacies than the uninsured, although the

difference was not statistically significant. They spent significantly less at laboratories than the uninsured, despite a similar likelihood of visiting a laboratory, implying that some laboratory tests were covered by the insurance. Insured respondents reported spending nothing at EMPs, as would be expected, and spent substantially less at private clinics.

At the time of the follow-up survey in 2008, insured respondents' total OOP expenditures in the prior year decreased by an estimated 53 percent ($p=0.11$).² Spending at individual types of facilities decreased significantly: pharmacy spending by 66 percent, laboratory spending by 94 percent, and spending at private hospitals by 73 percent. Public sector facilities, where care is typically free, experienced no change in spending. Total health expenditures for the respondent and his or her dependents in the past year decreased significantly, by 52 percent, while family expenditures on the most recent illnesses were estimated to decrease by 73 percent.

Satisfaction with and retention in the insurance

High dropout rate from the INSS insurance program. Overall retention rates in the INSS voluntary insurance program were minimal after the six-month subsidy expired. Less

Table I. Out-of-Pocket Average Expenditures at Health Facilities Over Prior Year, Among Those with At Least One Visit

Expenditure at (\$US)	2007	2008	2008 uninsured	2008 insured
Pharmacy	42.67	36.37	37.31	32.45
Private doctor	16.97	17.86	17.45	20.22
Laboratory	25.67	18.20	19.73	12.08**
Social Security Health Clinic (EMP)	14.88	0.00	0.00	0.00
Private clinic/hospital	24.04	40.14	43.53	21.70
Public (MINSAs) health center	0.26	0.02	0.02	0.05
Public (MINSAs) hospital	2.33	0.02	0.02	0.05
ANY FACILITY	59.27	58.98	63.78	40.69**

***p<0.001 **p<0.01 *p<0.05

Note: Statistical significance tests cannot be performed comparing 2007 to 2008 samples since different individuals sought care in each time period.

²Results of instrumental variable regression using the natural logarithm of expenditures as the dependent variable, to account for the highly skewed distribution of spending. The effects of being insured were instrumented with the respondent's randomization status, and the models were adjusted for baseline OOP expenditures, age, age squared, gender, education, marital status, MFI client status, number of children, children under age 12, and market location.

than 10 percent of those in our sample who enrolled were still paying for insurance at the time of the follow-up survey one year later, and those receiving the largest subsidies to sign up for health insurance were least likely to be retained over time. There was no difference in retention rates between MFI clients and non-MFI clients. The leading reasons for disenrolling were the inconvenience of making payments and the expense of premiums. Problems with quality of care at INSS-contracted clinics were less commonly reported. Most focus group participants reported that it was “worth it” to pay for health insurance, but almost all indicated a preference for an insurance product with a lower price tag.

DISCUSSION AND POLICY IMPLICATIONS

The study findings provide insights on the delivery and effects of voluntary health insurance for informal sector workers and have a number of implications for policymakers in Nicaragua and other countries.

- ***Subsidies brought informal sector workers into the insurance program, but did not contribute to long-term retention.***

In evaluating the INSS demonstration project, we found that subsidies of both price and convenience (in the form of on-the-spot registration) could play an important role in bringing informal sector workers into a voluntary insurance scheme. Once both time and monetary costs were covered, 70 percent of those approached enrolled in the insurance program. Both monetary and time dimensions of cost were important for Nicaraguan informal sector workers, and similar subsidies may be necessary to bring a new health insurance program to scale and broaden the risk pool. Subsidies did not increase long-term retention, however, which was influenced by overall willingness to pay for insurance, premium pricing, convenience of making payments, and perceived quality and convenience of covered care. Reasons against participation in the program varied, although two popular arguments were that the premium was too high and that the insurance was not worth

it because it did not cover children over the age of 12. High premium (relative to income) is a common deterrent against enrolling in any insurance scheme and needs to be addressed when designing insurance schemes to cover the poor.

To increase enrollment, benefits packages should be designed to balance informal workers’ preference for convenience and quality of care with their limited disposable income. Education about the value of insurance may also help increase the willingness of informal sector workers to pay into a program, as they may not fully understand the risk management benefits of the protection included in insurance against the high cost of rare accidents or severe illnesses.

- ***For informal sector workers, time and convenience costs matter almost as much as monetary costs.***

Time is money to informal sector market vendors, whose income relates directly to the amount of time they are present in their market booths. Simply providing information and the ability to enroll on the spot at their market booths in Managua had about two-thirds of the enrollment impact (23 percent enrollment) as did providing a six-month monetary subsidy without on-the-spot enrollment (34 percent enrollment). This implies that streamlined, efficient enrollment, registration, and administrative processes are essential for distribution of insurance to informal workers. There may be scope to test automated registration procedures through handheld personal digital assistants and other remote devices, as well as paperless billing through mechanisms such as text messages on cell phones.

- ***The INSS insurance had only modest impacts on already high use of RH/FP and MCH services.***

Enrollment in insurance did not increase use of FP in general or awareness of individual FP methods. However, it is important to note that prior to this demonstration, this sample had almost no reported unmet need for contraception, an already very high use of antenatal care services (92 percent), and a high rate of facility-based

delivery (95 percent). The substantial supply of free RH/FP services provided by NGOs and public sector clinics in Nicaragua may have limited women's incentive to switch to INSS-covered clinics for these services, especially over a limited six-month period when most of the survey respondents were enrolled in the insurance program. For both antenatal and delivery care, we did observe substantial switching from public and private clinics into INSS-contracted clinics among those with insurance, as expected.

- ***The INSS insurance reduced OOP expenditures for informal sector workers but not by enough to cover the cost of the premium for most individuals.***

Expenditures at pharmacies, laboratories, and private clinics all dropped significantly as a result of insurance enrollment. These three types of facilities, especially pharmacies, were the main contributors to OOP spending for our sample at baseline. At follow-up, total health expenditures in the past year for the insured respondent and his or her eligible dependents were 52 percent lower, while expenditures on the most recent illness episode were 73 percent lower. However, it is important to note that the amount insureds spent in the absence of insurance was still less than the equivalent full cost of INSS premiums, for all but 13 percent of sample respondents. This pricing structure is generally in line with insurance premium pricing in other contexts, but it likely functioned as a disincentive to remain enrolled in the insurance once subsidies expired. For informal sector workers, greater market segmentation in premium pricing according to socioeconomic status may be needed to encourage lower income workers to purchase insurance.

- ***Initial hopes that MFIs could increase insurance enrollment and retention were not met, but the potential of MFIs could not be rigorously evaluated in this study.***

In this evaluation, respondents who received a subsidy and were assigned to enroll at an MFI

were less likely to enroll in the insurance than those who were assigned to enroll at the central INSS office. Focus group discussants indicated a preference for interacting with INSS directly for enrollment and insurance payments, rather than working through intermediary MFIs. Some expressed doubts about the expertise of MFIs in dealing with health-related issues, and others were suspicious that the MFIs would try to profit from the arrangement.

“INSS knows the benefits, what’s not covered, while the MFI is a lending institution and doesn’t understand [health]. Health is not its specialty; its thing is money.”

– MFI client that enrolled [Oriental market]

“INSS is more flexible because it is part of the government, it is an institution that will never go bankrupt...”

– Non-MFI client that enrolled [Oriental market]

However, a variety of factors limit the extent to which we can draw broader conclusions about the potential of MFIs from this study. As mentioned earlier, a political transition was occurring simultaneously in Nicaragua when the insurance demonstration program was rolled out. The new government embarked upon a policy of promoting the government's free clinic system and substantially deemphasized working with the private sector, including MFIs. Overall, there was very limited coordination between INSS and the MFIs, and INSS provided limited administrative support to the MFIs. This in turn discouraged MFIs from promoting the insurance extensively or consistently, and MFIs stopped prioritizing the insurance product as they became aware that it required additional investment in time and resources. This may have resulted in reduced awareness and understanding about the insurance pilot program, and affected both enrollment and retention in the program.

- ***There may be potential for further market segmentation in voluntary insurance for the informal sector.***

The hypothesis that extending the INSS health insurance to informal sector workers would free up Ministry of Health resources was not founded, since few informal sector workers voluntarily enrolled and remained in the program. At baseline, informal sector workers in our sample were already more likely to use private sector providers than public sector providers. Enrolling in INSS health insurance resulted in significant switching from using *both* public and private facilities to EMP services. Segmentation of the informal sector may identify those lower income brackets most likely to use public sector resources. These lower income workers may not otherwise be able to pay for comprehensive private services, but they may be able to pay smaller premiums for complementary insurance or for basic prepaid private service packages in convenient locations. For those workers on the higher end of the income spectrum, who are already using private health facilities and pharmacies, insurance programs need to take great care to differentiate themselves in terms of price, convenience, and quality in order to ensure retention.

CONCLUSION

This rigorous evaluation of the INSS voluntary insurance demonstration project significantly aided in understanding the impact of insurance, determinants of enrollment, and consumer (i.e., informal sector workers) behavior. We found that both monetary and convenience subsidies effectively increased informal sector workers' enrollment in the voluntary insurance, although allowing them to register at MFIs did not increase their enrollment rates. Insurance did not result in increased overall service utilization but, as expected, resulted in a switching to EMPs from other facilities not covered by the insurance program. We also found that the subsidized insurance significantly reduced enrollees' OOP health expenditures, not accounting for the insurance premium. Once subsidies for the premium expired, however, the insurance program experienced low retention rates.

Using MFIs as delivery channels may be useful when government programs have limited outreach and infrastructure. However, it is important not to underestimate the complexity involved in making this type of public-private partnership work. In Nicaragua, any formal decision to implement this program on a larger scale will require a very strong commitment from the INSS, MINSAs, and higher political levels to ensure that sufficient resources and political weight support the roll-out. In addition, the program design will need to be revisited in light of these evaluation results—particularly premium pricing, ease of registration, and bill payment. Finally, program managers will need to implement marketing and awareness-raising activities to inform the poor about the program and its benefits.

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About PSP-One

The PSP-One project is USAID’s flagship project, funded under Contract No. GPO-I-00-04-00007-00, to increase the private sector’s provision of high-quality reproductive health and family planning (RH/FP) and other health products and services in developing countries. PSP-One is led by Abt Associates Inc. and implemented in collaboration with eight partners:

Banyan Global	IntraHealth International
Dillon, Allman and Partners, LLC	O’Hanlon Health Consulting
Family Health International	Population Services International
Forum One Communications	Tulane University School of Public Health and Tropical Medicine

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