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RESEARCH ARTICLE

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Extending health insurance coverage to the informal sector: Lessons from a private micro health insurance scheme in Lagos, Nigeria

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Summary

Background: As a growing number of low- and middle-income countries commit to achieving universal health coverage, one key challenge is how to extend coverage to informal sector workers. Micro health insurance (MHI) provides a potential model to finance health services for this population. This study presents lessons from a pilot study of a mandatory MHI plan offered by a private insurance company and distributed through a microfinance bank to urban, informal sector workers in Lagos, Nigeria.

Methods: Study methods included a survey of microfinance clients, key informant interviews, and a review of administrative records.

Results: Demographic, health care seeking, and willingness-to-pay data suggested that microfinance clients, particularly women, could benefit from a comprehensive MHI plan that improved access to health care and reduced out-of-pocket spending on health services. However, administrative data revealed declining enrollment, and key informant interviews further suggested low use of the health insurance plan. Key implementation challenges, including changes to mandatory enrollment requirements, insufficient client education and marketing, misaligned incentives, and weak back-office systems, undermined enrollment and use of the plan.

Conclusions: Mandatory MHI plans, intended to mitigate adverse selection and facilitate private insurers' entry into new markets, present challenges for covering informal

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sector workers, including when distributed through agents such as a microfinance bank. Properly aligning the incentives of the insurer and the agent are critical to effectively distribute and service insurance. Further, an urban environment presents unique challenges for distributing MHI, addressing client perceptions of health insurance, and meeting their health care needs.

KEYWORDS

enrollment, health insurance, informal sector, microinsurance, Nigeria, urban environment

1 | INTRODUCTION

Reflecting the global commitment to advance universal health coverage (UHC), a growing number of low- and middle-income countries are implementing health system reforms to reduce financial barriers and increase access to priority health services for all citizens.[1-3] One major challenge for governments and other stakeholders is how to extend coverage to informal sector workers, who typically make up the majority of the population in these countries.[4-8] There is a growing body of evidence on demand for health insurance and its effects on access to health services among the informal sector.[5,9-17] A related body of research has examined supply-side readiness and the design and financing of health insurance benefit plans.[7,8,18,19] However, fewer studies examine the delivery of health insurance to this target population, particularly in urban settings where social and economic factors differ from the rural areas more frequently documented in the literature.[6,20,21]

In countries where government-led coverage initiatives have not yet been designed or effectively implemented for the informal sector, private "micro" health insurance plans may provide a complement, a supplement, or a foundation to scale up UHC initiatives.[4] Micro health insurance (MHI) refers to insurance schemes designed and priced to meet the unique needs of low-income households. Beneficiaries typically receive a limited package of benefits for a low price.[22,23] While MHI is often delivered through private and public-private partnerships, lessons from these schemes are applicable for both public and private sector actors.

This paper shares results and lessons learned from a descriptive evaluation of an MHI partnership targeting urban, informal sector workers in Lagos, Nigeria. In this pilot program, a commercial health insurance provider distributed an unsubsidized MHI plan through a microfinance bank (MFB) to the microfinance clients. We collected quantitative and qualitative data from MFB clients and loan officers, managerial staff at both the MFB and health insurer, and health care providers to better understand the client demand and need for health insurance, as well as the feasibility of extending health insurance to this population. Based on these findings, we reexamine certain assumptions around (1) the health-seeking behavior of the target population, (2) demand for health insurance and the feasibility of mandatory enrollment, and (3) the feasibility of establishing these partnerships between insurers and MFBs. Our findings contribute to the broader discussion around extending access to health insurance for the informal sector and the unique challenges of enrolling this population, particularly in urban settings.

1.1 | Context

Health outcomes in Nigeria remain poor, despite a rapidly growing economy and middle-income country status. Current life expectancy is 53 years for men and 56 years for women.[24] The maternal and child mortality rates are

among the highest in the world.[25] Approximately 72% of all health expenditures are paid out-of-pocket in Nigeria.[26] The Nigerian government established the National Health Insurance Scheme (NHIS) in 1999, but the scheme continues to target primarily formal sector workers. In the southwestern region of Nigeria, which includes Lagos, fewer than 5% of men and 3% of women are covered by any form of health insurance.[25] While the Government of Nigeria has announced its goal to expand coverage to the informal sector as part of its strategy to achieve UHC, action to modify the design of the NHIS to enroll this population has been slow.[27]

The delivery of health insurance to the informal sector presents a unique set of challenges for insurance providers in Nigeria and other countries. Lack of familiarity with the concept of insurance, hesitance to pay for a plan that may not provide a tangible benefit, irregular income flows, and even lack of a formal address for beneficiaries make marketing and distribution of insurance to this population particularly difficult.[28]

Within this context, the Partnership for Transforming Health Systems Phase II (PATHS2) project, with funding from the UK Department for International Development, facilitated the design of a low-cost private MHI plan to be delivered via a partnership between a local private health insurer and an MFB in Lagos. The pilot program was an example of the "partner-agent" model of MHI.[23,28] Under this model, the "partner" (health insurance underwriter) selects "agents" (distribution channels such as MFBs or nongovernmental organizations) that have regular interactions with the low-income labor market. Typically, the partner is in charge of insurance plan design, including market research, pricing, and organization of a provider network. The agent may be responsible for marketing the plan, enrolling clients, collecting premiums, and managing other processes requiring direct client engagement.

1.2 | Pricing and Design of the Benefits Plan

In 2011, with the support of the Nigerian government, PATHS2 partnered with 3 insurers and 3 MFBs in Lagos, each of which had expressed interest in establishing a partnership.* PATHS2 supported the design and pricing of MHI plans specifically targeting clients of the partnered MFBs. The insurers and the MFBs were chosen on the basis of a number of criteria, which included the size and reach of the partners inside Lagos State, as well as their presence in several other states so as to facilitate the expansion of this health insurance model to other parts of Nigeria. Insurers had to have a current contract to underwrite for the NHIS, signaling that their experience underwriting health insurance, existing infrastructure, and established relationships with providers would help secure their role as reliable and financially viable insurance providers.

PATHS2 focused significant resources on the design and pricing of the MHI plan. Local and international actuaries and health finance specialists with expertise in microinsurance designed benefit plans and calculated individual pricing recommendations and models for each insurer. The pricing recommendations did not include premium subsidies to ensure the long-term viability of the scheme.

As preparatory work to inform the design and pricing of the benefits plan to meet the preferences of the target MFB clients, PATHS2 conducted a joint market research and WTP survey, in January 2012, with support from WTP experts at the University of Nigeria, College of Medicine in Enugu. The survey was conducted among a sample of 1239 group loan clients from the 3 MFBs, including the insurer and MFB examined in this study. The majority of clients in the sample were female (90%), employed outside of the formal sector (93%), and had a loan under 50 000 Naira or US$300 (70%); the overall median loan size was 40 000 Naira (US$240). Data were collected on the health services used by clients, how they financed that care, and their self-reported WTP for different MHI plans including (1) inpatient services only, (2) outpatient services only, (3) both inpatient and outpatient services, (4) medication only, and (5) maternity only.

The market research revealed that only 38% of respondents had ever heard of insurance, and just 14% of respondents had ever used any form of insurance. In order to elicit WTP, enumerators first provided a brief explanation of

*All conversions of willingness-to-pay (WTP) values from Naira to US dollar are calculated based on the conversion rate at the time of the survey in January 2012. All conversions of premiums from Naira to US dollar are calculated based on the conversation rate at the time of the pilot launch in 2013.

insurance and presented specific scenarios in a bidding game format to ask respondents about their 3 most preferred benefits plans, explaining that the premium represented a monthly amount to be paid for individual insurance coverage for a specific benefits plan. A double-bounded contingent valuation method with varying starting points was used, meaning that the starting amount that respondents were asked to consider was randomly varied between 400 Naira per month (US$2.50), 500 Naira per month (US$3.10), and 700 Naira per month (US$4.30).[†]

The results from these surveys revealed that, when given a choice among 5 health benefit plans, 28% of respondents ranked the outpatient-only benefit plan as their most preferred plan, while 19% of respondents ranked comprehensive inpatient and outpatient coverage as their most preferred plan. Despite the fact that the median age of the study sample was 38, 20% of respondents ranked maternity care as their most preferred plan. On average, clients were willing to pay 695 Naira per month (US$4.20) for outpatient-only coverage, 802 Naira per month (US$4.80) for inpatient-only coverage, and 972 Naira per month (US$5.80) for maternity coverage. The strong preference for plans that included outpatient care may be attributed to the fact that outpatient visits are relatively more frequent, therefore more salient to the respondents.

In September 2012, PATHS2 used the findings from the market research and WTP study in conjunction with individualized actuarial data and pricing assumptions for each insurer to design and price both individual and family benefit plans that provided access to a basic package of inpatient and outpatient health services, including maternity care.[‡] Services could be accessed at predesignated public and private health facilities, with no formal waiting periods. The insurer that underwrote the plan examined in this study ultimately agreed with the MFB to set the premium for 1 year of individual coverage at 6000 Naira (US$37).[§] MFB clients could pay the premium in installments as they repaid their loans—a perceived benefit of the partner-agent distribution model.

1.3 | MHI delivery model

In the fall of 2012, following the pricing and benefit design activities, PATHS2 facilitated an event that brought together the 3 MFBs and 3 insurers interested in forming partnerships. The most promising partnership was selected to pilot test the MHI plan, with commitments from the management of both the MFB and the insurer to invest the time and resources necessary to launch the MHI plan.

When the health insurance pilot was launched in early 2013, the partner-agent model was perceived as promising for the partners and MFB clients. The insurer would benefit by reaching a new, virtually untapped group of individuals who have an existing relationship with the MFB. Loan officers responsible for collecting loan repayments in installments could locate and regularly engage with transient clients, and clients' trust in the loan officers could facilitate market entry for the insurer. Since existing MFB clients have a loan repayment history, they were also good “risks” for the insurer. The MFB would benefit by offering a new plan that, if designed properly, should offer value to its existing clients and potentially attract new clients. Further, the MFB might benefit from having clients insured against catastrophic health risks, reducing the possibility of loan defaults. Finally, clients could obtain immediate coverage while also mitigating their cash flow constraints because the MFB could structure premium collection through loan repayments. “Cashless” benefits (where the insurer pays the health care provider directly for services received by the client) would allow clients to access timely care without using savings or borrowing money.

[†]The starting point variation was used to prevent any possible anchoring of respondents' answers or to avoid leading them to give answers close to the numbers provided by enumerators. If respondents were unwilling to pay the starting amount, enumerators asked if they would pay 200 Naira per month (US$1.25). Conversely, if respondents accepted the starting amount, they were asked if they would be willing to pay 1000 Naira per month ($8.75). Lastly, respondents were asked their maximum WTP, given their income and household expenses, to elicit more specific WTP values that would not be bounded by the values used in the first 2 questions.

[‡]The pricing model calculates the insurance risk premium and the margins resulting from chosen sales volumes and premium charged.

[§]This amount was lower than the premium recommended by the actuaries to cover expenses and profit. PATHS2 allowed the insurers to decide if the margins were sufficient to cover their expected expenses and profit requirements for the plan. In 2014, this value equaled approximately US$30.

1.4 | Distribution of the insurance plan

Initially, enrollment in the MHI plan was voluntary for clients of the MFB. Starting in the spring and summer of 2013, trained insurance sales agents shadowed the MFB loan officers as they visited each MFB client. The loan officer introduced the insurance sales agent to the client to increase trust, while the insurance agent educated clients about the plan and enrolled interested clients. In subsequent weeks, the loan officers collected insurance premium payments along with loan repayments.

However, neither the insurer nor the MFB was fully satisfied with the voluntary enrollment model. The MFB felt that the insurance agents slowed down the loan officers, making it difficult for them to maintain their usual schedule. The insurer noted that voluntary enrollment was low and observed potential adverse selection, 2 challenges well documented in the literature.[6,29] As a result, the partners decided to make insurance enrollment mandatory starting in October 2014. A formal partnership agreement signed by the MFB and the insurer mandated that all MFB clients with individual loans above a threshold of 100 000 Naira (approximately US$500) would be automatically enrolled in the insurance when they received or renewed their loan. Clients with individual loans beneath this threshold and group loan clients could still enroll in the plan voluntarily, but the plan was not marketed to them directly. All clients were also eligible to voluntarily enroll themselves plus a spouse, and up to 4 biological children under the age of 21 for a total of 40 500 Naira ($253) paid over the loan period. To improve efficiency and minimize costs, the MFB loan officers became responsible for enrolling clients and educating them about plan benefits and policies, instead of insurance sales agents.

2 | RESEARCH METHODS

With funding from the US Agency for International Development, the Health Finance and Governance project conducted an evaluation of the MHI pilot program in 2014. The study used mixed methods to analyze (1) the demographic and socioeconomic profile of the target population for the MHI plan, (2) beneficiaries' self-reported use of health services prior to enrolling in the MHI plan (to better understand the needs of the target population), and (3) initial experiences of insurance providers delivering the insurance plan and of beneficiaries using the insurance plan. The research methodology, survey instruments, and participant recruitment and remuneration were reviewed and approved by the Abt Associates Institutional Review Board as well as the Nigeria Institutes for Medical Research Institutional Review Board. All survey participants provided informed consent prior to completing the survey.

We administered a client survey in early 2014 as the MHI plan was being rolled out to all branches of the MFB.[¶] We conducted stratified random sampling of the existing pool of microfinance clients eligible for mandatory insurance, with clients stratified at the branch office level to ensure geographic representation of all branches. However, inconsistencies in MFB record keeping (such as clients with multiple entries, businesses, and names) and challenges in physically locating clients constrained our ability to recruit all sampled clients. In total, we identified 639 individual loan clients who were to be enrolled in the mandatory health insurance scheme by the end of June 2014 and were able to survey 464 of them (73%). We present here selected findings from this survey; more detailed findings from these data are reported elsewhere.[30] Data were collected on client demographic and socioeconomic characteristics, health status, and recent health events, as well as their preinsurance access to health services, spending on health care for inpatient services in the past year, and outpatient services during the last month. No follow-up survey was planned due to a lack of funding.

Over the course of 2014, we reviewed administrative data from the insurer and the MFB to assess uptake of insurance among eligible MFB clients. Evidence of declining enrollment suggested process challenges. In October

[¶]The timing of the survey overlapped with the rollout of the insurance plan, which meant that a small number of clients had already had the insurance premium deducted from their account at the time of the survey. However, few clients had received their benefit cards and none of the individuals in the sample had registered an insurance claim as of January 1, 2014, so survey responses regarding use of health services should not yet have been affected by the insurance rollout.

2014, we conducted 33 key informant interviews using a semistructured interview guide to explore the operationalization of the health insurance partnership and identify lessons learned about pricing, benefits, enrollment, and policies for accessing health services. Key informants included a range of stakeholders: management staff from the insurer (3) and from the MFB (3), loan officers from the MFB (8), sales representatives from the insurer who interacted directly with clients (8), technical advisors and consultants from donor-funded projects who provided technical assistance to the implementing partners (2), insured MFB clients (3) and uninsured MFB clients eligible for the health insurance (3), and private health care providers contracted to provide health services for the MHI scheme (3). The qualitative data were analyzed and classified based on themes that emerged in many or most of the interviews. In Section 3, we selected illustrative quotations from key stakeholders that reflected typical responses and sentiments, except where otherwise noted.

3 | RESULTS

3.1 | Clients' access to health services and health spending prior to insurance enrollment

3.1.1 | Use of inpatient and outpatient services prior to insurance enrollment

Summary statistics show that 55% of the clients in the sample were female (Table 1), as compared with 90% of clients surveyed for the market research and WTP study. This difference is likely the result of the decision taken by the MFB to limit insurance enrollment during the pilot period to clients with the largest individual loans. While male clients represented a minority of all MFB clients, they were disproportionately more likely to receive the larger loans offered by the MFB. Aside from this difference, clients were largely similar to those surveyed for the market research and WTP study. On average, clients in the survey sample were 42 years old; most were married, had completed secondary school, and self-identified as household head. Almost all clients were self-employed in the informal sector (92%).

Health service use prior to insurance enrollment was significantly higher among female clients than among male clients: 83% of those who used inpatient services in the last year and 68% of those who used outpatient services in the last 4 weeks were female. Almost 20% of clients who experienced a minor illness in the previous 4 weeks reported having foregone care.

The majority of clients (nearly 60%) who received inpatient or outpatient services sought care in private health facilities. Similarly, almost all deliveries in the last year (10 of 11) occurred in private health facilities, and all were assisted by a skilled health provider.

3.1.2 | Health care spending prior to insurance enrollment

Prior to this insurance pilot, nearly all surveyed MFB clients who reported health events stated that they financed their health care by paying out-of-pocket, as shown in Table 1. On average, clients who sought inpatient care in the past year spent almost 96 000 Naira (US$585)[#] or 96% of average estimated monthly household income, and those who sought outpatient care in the past 4 weeks spent almost 5000 Naira (US$25) equal to 3.6% of average estimated monthly household income. Average spending on deliveries was approximately 53 000 Naira (US$323) or 60% of average estimated monthly household income. Clients primarily financed access to health services by using cash from family members and drawing on savings.

Across the sample, estimated annual health spending prior to the insurance program was 8793 Naira (US$44). By way of comparison, the insurance premium for 1 year of coverage (US$30 for individual coverage) was equivalent to only 68% of average estimated total health expenditures. This suggests that on average, MFB clients would spend 32% less on health care by enrolling in the insurance plan. For women, the premium was 53% of their average health

[#]All conversions of survey data from Naira to US dollar are calculated based on the conversion rate at the time of the survey in February 2014.

TABLE 1 Use and financing of health services prior to insurance eligibility or enrollment

	Mean	Total Number of Respondents[a]
Demographics of survey respondents		
Female	55%	464
Age in years	42	460
Completed secondary school	79%	464
Married	89%	464
Self-identified as head of household	88%	463
Any living children	88%	462
Number of household members	4.8	464
Self-employed in informal sector	92%	456
Use of health services by survey respondents		
Inpatient services		
Received maternity services (last 12 months)	6%	193
Received other nonmaternity inpatient services (last 12 months)	7%	446
Percent female (among those receiving nonmaternity inpatient care)	83%	29
Received care in a private facility for delivery	91%	11
Received care in private facility for other inpatient services	58%	29
Outpatient services		
Received outpatient services (last 4 weeks)	17%	446
Percent female (among those receiving outpatient services)	68%	77
R care in private facility for outpatient services (%)	59%	75
Spending on health services by survey respondents		
Facility-based normal delivery	52 700 Naira ($265)	5
Percentage of average monthly household income	60%	
Inpatient services (nonmaternity)	95 730 Naira ($481)	13
Percentage of average estimated monthly household income	96%	
Outpatient services	4984 Naira ($25)	43
Percentage of average estimated monthly household income	3.6%	
Mechanisms for financing health services for survey respondents[b]		
Inpatient services		29
Savings	38%	
Cash from family members	55%	
Loan from any source	11%	
Reduced spending on other commodities	7%	
Outpatient services		73
Savings	52%	
Cash from family members	38%	
Loan from any source	5%	
Reduced spending on other commodities	4%	

[a]Total number of respondents who answered the survey question.

[b]Respondents were given the option of reporting multiple mechanisms for financing health services.

expenditures prior to the insurance program, suggesting an even greater savings if covered by insurance. For male clients, the ratio of the health insurance premium to estimated annual health spending was 3.51 for inpatient expenditure and 1.47 for outpatient expenditure, suggesting that the insurance may not have been as valuable for men based

on their use of health services at the time of the survey. These ratios do not reflect the value of foregone care, since clients may use more health services once insured, or improved quality of care, since clients may gain access to timelier and better quality of care through the MHI plan.

3.2 | Uptake of health insurance

By September 2014, 1 year after health insurance enrollment was declared mandatory for certain MFB clients, uptake was lower than expected. Administrative data from the insurer showed that 366 individuals enrolled in the scheme between October 2013 and September 2014, as compared with the 639 individuals that the research team identified as subject to mandatory enrollment during that period. Approximately 75% of the insured clients had been registered in the first 5 months. Further, only 5% of the insured clients voluntarily enrolled at least one additional family member in the insurance during this period. Administrative data suggests that up to 80% of insured clients did not reenroll in the MHI plan. The number of clients enrolling in the MHI plan continued to decline in 2015 and 2016; most of the clients who enrolled or reenrolled in the MHI plan did so voluntarily, increasing the threat of adverse selection. No clients enrolled in the MHI plan in 2017.

Key informants provided 3 main reasons for the low uptake of the MHI plan: challenges distributing insurance benefit cards, the decision to use loan officers to enroll clients, and competition from other MFBs without mandatory insurance.

First, MFB loan officers identified administrative delays in distributing insurance cards as the most significant barrier to enrolling the informal sector workers:

> *The insurer needs to issue insurance cards more rapidly. Two weeks and sometimes four weeks is too long of a wait for our customers. (MFB manager)*

> *We have some serious technology gaps … automating the process could shorten the delivery of insurance cards to our customers. We need to have a system that will allow all partners to see when a client has been enrolled at the bank and provide coverage right away without any delay. (Insurance company manager)*

By 2015, the insurer began issuing preprinted insurance cards with the logos of both organizations, which helped to reduce delays in accessing services. However, field observations revealed ongoing administrative bottlenecks inside both the MFB and the insurer that were exacerbated by a reliance on hand-written records and a lack of coordination between the 2 partners. For example, both the insurer and the MFB used their own identifiers for each client instead of creating a common identification number.

Second, while MFB loan officers were given the responsibility of enrolling clients, they did not receive incentives for doing so (even though the MFB ultimately did collect a 4% commission). Despite efforts to train loan officers, some struggled to provide clear responses to common questions asked by clients including (1) "What benefits are covered?" (2) "Which healthcare providers can enrollees visit?" and (3) "How long does coverage last?" Loan officers grew to resent the additional responsibilities of filling out enrollment paperwork, collecting premium payments, and educating clients about the insurance plan:

> *Our challenge is to tell our customers about how health insurance can help them, when they have come to see us for a loan. They get confused and we have to keep explaining the benefits to them, but most of them do not see it yet. (MFB loan officer)*

> *It is hard to sell, especially when clients have known us as loan officers, not insurance agents. (MFB loan officer)*

Similar comments from loan officers included the following: "Our customers do not understand health insurance," "No incentive for me—it is all about the bank," and "Too much additional work—they need to find the right people to

sell insurance." However, 1 loan officer highlighted potential benefits for the MFB and the loan officers as well: "For me, I realized that it is important to sell insurance also because if my clients get well then they will be able to work and pay their loan to the bank, then I can keep my job."

Third, there was competition from other MFBs for the partner MFB clients. Some clients threatened to leave the MFB for a competitor that did not mandate the purchase of health insurance. They felt that the cost of the premium outweighed the benefit of access to credit through the MFB:

> *For now, we are not doing well with enrollment. We have been losing clients …. They have not renewed their loan because they believe that we take their money for a service that they do not need. (MFB manager)*

> *I do not need insurance. They can take my money for now. I will not come back when my loan is paid. (Insured MFB client)*

> *I keep paying for something that I do not need, and I am not too happy about it. But I need the loan so I have to do what the bank says. (Insured MFB client)*

Marketing from other heavily subsidized MHI plans may also have influenced client perceptions of this pilot. While the MFB clients in this pilot were not eligible for these other plans, some knew the plans by name. They did not necessarily realize that up to 90% of the premium for these plans was subsidized. As a result, these clients perceived they were being overcharged for the mandatory MHI.

Ultimately, the extent to which insurance enrollment was truly "mandatory" for MFB clients was questionable. In late 2013, fearing the loss of valuable clients, the MFB management narrowed the pool of clients subject to mandatory enrollment by raising the loan threshold that triggered mandatory enrollment from 100 000 to 200 000 Naira ($1005). The change was made unilaterally, without consulting the insurance partner. Field observations and administrative data collected by the insurer suggest that clients with loans above the new threshold continued to be allowed to opt out of the mandatory insurance if they threatened to leave the MFB. Survey data further suggests that, on average, active MFB clients who received loans above the mandatory enrollment threshold yet declined to enroll or who had not yet been enrolled in the MHI plan had larger loans and greater self-reported income than active MFB clients who were enrolled in the plan, suggesting that the mandatory requirement was being waived.

3.3 | Use of insurance to seek health care

In contrast to findings from the WTP study, some MFB clients reported hesitancy to seek outpatient services covered by the health insurance plan. While some uninsured clients cited cultural beliefs ("When I save money for health, I get sick …. I would rather pay out of my pocket for [traditional] healthcare"), many insured and uninsured clients expressed concerns regarding the opportunity cost of their time seeking outpatient care. Time spent while traveling to the clinic, sitting in traffic, or waiting to see a health care provider could result in a loss of business, given competition in urban markets:

> *Most patients simply believe that driving or taking a bus or taxi to go to the doctor's office is a waste of precious time. They believe that they are losing money while they are sitting at the doctor's office. They also believe that the chemist will end up giving them the same drugs that the doctors will give them, and at a cheaper price. Plus they do not have to make an appointment, wait before they get seen by a chemist. … Most of them buy health insurance when they are expecting a baby. Then, they stop their coverage sometime after the baby is born and seek help from the traditional healers and chemists. (Private health care provider)*

> *The main question is do we understand how clients want to interact with our healthcare delivery system. Can we mimic the traditional healers and chemists and be everywhere in the street, marketplace, and provide evidence based care? Can we make ourselves [doctors] as accessible as our competitors do? (Private health care provider)*

Some MFB clients expressed greater interest in purchasing health insurance if insurance providers would include services such as health fairs and free checkups near the markets to minimize other barriers to accessing care. One of the uninsured client suggested "Having a mobile clinic at the market would be better than insurance. I do not have to just leave my business and go to the hospital."

3.4 | Perceptions of insurance and health care quality

This study did not observe patient-provider interactions or assess structural quality measures at covered facilities. However, client and provider reports on quality of care warrant further investigation. For instance, 1 private health care provider reported:

> *I do spend more time with people who are part of the [health insurance] program because they need more care in the initial contact. Most of them have not seen a doctor in years, so it is a good thing when they do finally come to us …. (Private health care provider)*

Some insured clients who sought outpatient care and received tangible benefits, including medical advice, reported positively on the quality of care they accessed as a result of having insurance:

> *The doctor I visited took good care of me. He gave me good advice about how to take care of my blood pressure. I am glad I have insurance. (Insured MFB client)*

Others had less positive experiences:

> *I would rather pay more [for insurance] to get better care and attention from my doctor. During my last hospital visit, they made me sit for a long time before they took care of me …. I do not feel safe sharing space with three or more patients in one room, and using the same bed. (Insured MFB client)*

Finally, some MFB clients did not perceive value in the risk protection provided by the insurance, especially if they remained healthy:

> *I have not been sick for many years now, and I do not need any insurance. If I get sick, I know that the chemist can help me. (Uninsured MFB client)*

> *They took my money for six months, but I did not even use their insurance. And they do not want to give me my money back or allow my sister to use it [when she needed to be hospitalized]. (Insured MFB client)*

4 | DISCUSSION AND CONCLUSIONS

The MHI plan piloted in this study was designed specifically for informal sector workers in Lagos and distributed by local insurers and MFBs, with the goals of ensuring long-term viability and eventually scaling up the plan. While the clients selected by the MFB for the pilot had higher income and larger loans than the clients surveyed for the market research and WTP research, the pilot survey sample remained representative of the target population for a private, unsubsidized MHI plan; workers who are excluded from formal financial institutions and health insurance programs, yet should have sufficient resources to be able to pay a small premium for health insurance coverage. More than 90% of survey respondents self-identified as informal sector workers who were otherwise excluded from other health insurance plans. Most clients identified as the head of household, suggesting that they would have a role in decision-making about health care.

Prior to the insurance rollout, there was a clear need for greater financial protection among MFB clients who sought health care. Spending on an inpatient care episode equaled 1 month of estimated household income, on average, and spending on a delivery was equivalent to half of monthly household income. Women reported substantially higher health care spending (both inpatient and outpatient) than men. Clients financed their care through out-of-pocket payments, relying primarily on savings and cash from family and neighbors, suggesting they might be unable to finance care for a health event requiring large payments up-front. In contrast, annual health insurance premiums were approximately two-thirds of the estimated average yearly health expenditure across the sample and one-half of the estimated average annual total health expenditure for women. The comparison suggests that the clients, particularly women, would spend less on health care by purchasing insurance than facing the expected costs of care out-of-pocket.

Although the above findings would suggest that the MHI plan would meet a need for financial risk protection and expand access to care among informal sector workers in Lagos, enrollment remained low. Based on our analyses of data from the clients as well as key informant interviews, we draw the following conclusions, several of which challenge assumptions around MHI. Following each lesson learned, we propose a potential solution to address these issues.

4.1 | MFB clients observed willingness to enroll in insurance with comprehensive benefits including outpatient care was less than their self-reported WTP

The results from the WTP study revealed that, when given a choice among 5 hypothetical MHI plans, respondents ranked the outpatient-only benefit plan as their most preferred plan followed closely by the comprehensive inpatient-outpatient plan. Microinsurance experts anticipate similar demand for outpatient coverage, suggesting it may be more salient for clients than insurance for inpatient care.[31] Nevertheless, enrollment in the MHI plan priced at levels for which clients had previously reported WTP remained low. A growing body of research suggests that WTP surveys frequently underestimate actual willingness or ability to pay, yet administrative data and key informant interviews suggested other factors may ultimately limit interest and use of outpatient services.[32,33] For example, few clients reported seeking care from outpatient providers covered by the health insurance, citing lost time, transportation costs, and the opportunity costs of lost income. To address this challenge, emerging literature supports findings from the qualitative interviews suggesting that tangible value-added services such as free checkups or increased preventive services may amplify client interest in insurance and promote health.[34]

Nevertheless, more proximal and tangible services may be insufficient to address demand-side issues. The insured clients interviewed for this study did not understand that the MHI plan was primarily designed to reduce financial barriers to access and provide financial risk protection against potentially catastrophic health care costs. Beyond free checkups, clients hoped for reduced wait times, greater provider choice, or access to private rooms, instead of benefits such as reductions in out-of-pocket spending and increased access to services. Key informant interviews with clients and health care providers also highlighted cultural barriers to the uptake and use of insurance. Other qualitative data showed that clients only valued the insurance plan if they ended up using it. These perceptions underscore a need for better educating clients about risk pooling, as well as the expected benefits (in terms of financial risk protection, access to care, and quality of care) of the plan. In addition to health fairs focused on insurance education and preventative health services (eg, free blood pressure screenings), 1 potential strategy to address this challenge is to provide health insurance coverage to the individual agents (loan officers) responsible for enrolling informal sector workers in the MHI program. This can improve their understanding of MHI and their ability to provide accurate details on the benefit package and empaneled service providers, increasing their efficiency as de facto salespersons for the program.

4.2 | Mandatory insurance plans, though intended to mitigate adverse selection, present challenges when delivered through private sector agents

Churchill et al state that adopting mandatory enrollment can help to minimize adverse selection and promote financial sustainability.[29] We find that mandatory enrollment can be challenging to implement in a partner-agent model.

As described above, many clients included in the pilot did not perceive value in the MHI plan, associating the premium with an additional fee on their loan. A substantial number of these clients—among the most valuable to the MFB—threatened to take their business to another bank if the MFB mandated their enrollment in the MHI plan, while others left the MFB after they repaid their loan. The experience of losing clients willing to forgo an established source of credit to avoid enrolling in MHI is documented elsewhere in the literature.[35] Nevertheless, facing a threat to its core business and the potential loss of long-term clients, the MFB in this pilot relaxed the mandatory requirement. Allowing high-value clients to "opt out" of the MHI plan undermined the ability of the MFB to enforce mandatory enrollment with the rest of the client pool and reintroduced the possibility of adverse selection. While private sector agents offer a number of unique benefits, such as their proximity to clients and the potential to amortize premium payments, the potential risks when incentives between the partner and agent are not aligned are high. Partners may want to examine how their interests are aligned with the interests of the agent and the level of incentives or training necessary to achieve an appropriate balance.[36] In the case of this MHI program, there was a need for more direct engagement between the partner and the loan officers in the form of ongoing, specialized training and individual-level compensation beyond the semiregular meetings with MFB leadership and the commission shared with the MFB.

4.3 | While process ownership is critical for the long-term viability of an MHI plan distributed through a partner-agent model, ongoing engagement and support is necessary

As a time-limited, targeted development initiative, PATHS2 prioritized scalability and long-term viability in the design of the MHI plan. Resources were primarily invested in market research and benefit plan design to develop a high quality MHI plan as well as recruitment of well-established insurers and agents committed to growing the MHI plan beyond the duration of PATHS2. The insurers and agents were encouraged to develop their own partnerships to distribute the MHI plan and take ownership of processes. However, while both the insurer and the agent examined in this study were committed to the MHI plan, they did not have sufficient resources or infrastructure in place to align their incentives and their processes. Challenges with inadequate client education and awareness of the MHI plan and the mandate for loan officers to manage enrollment could have been addressed by providing better training and compensation to the MFB loan officers. Similarly, investments in back-office systems and technical assistance to standardize enrollment processes may have helped to prevent a number of the issues identified in this study, such as the delays in processing and distributing health insurance benefit cards, which undermined both the partner-agent relationship and client trust. Our study, along with others, has highlighted the limited awareness of health insurance among informal sector workers and the organizations that regularly engage with them. One potential solution to promote the viability of these approaches is through ongoing subsidization of the operational cost of the plan in addition to support from external partners with insurance expertise and knowledge of the local market.

4.4 | An urban environment presents unique challenges for distributing health insurance to informal sector populations

It is critical to explore how best to insure informal sectors workers in urban areas, given growing urbanization in Nigeria, and other fast-growing countries, yet there is limited research focusing on the challenges specific to this group. First, locating and enrolling individuals in the informal sector can be particularly challenging in an urban setting, as they may not work close to where they reside or live near biological family members. Second, although MFB loan officers can effectively locate their clients during business hours, any time spent educating potential clients about insurance represent opportunity costs for both the loan officer and the client—especially if, as was the case in this pilot, loan officers are not adequately compensated for time spent educating clients about insurance. Third, as indicated earlier, the competitive financial services environment, more common in urban settings, offers informal sector workers an opportunity to compare services from various providers.[37] Add-ons such as mandatory insurance can

act as powerful differentiator when clients select which organizations to join or leave. Finally, availability of other private MHI plans (for which clients may not be eligible) presents challenges in densely populated urban settings where clients may be aware of MHI plans offered to other targeted low-income populations, even if they are not eligible for them. When such competing plans are heavily subsidized, as was the case in Lagos, clients may perceive that they were being overcharged for the mandatory MHI plan. This not only undermines their trust in the health insurance plan for which they are eligible but may ultimately undermine their trust in the MFB, which provides access to other financial services and potential connections to the formal sector. This finding also underscores the value of engaging with public sector actors to ensure that MHI programs that fill an unmet need in the short-term align with a long-term national or state-level strategy to educate informal sector workers about insurance, maximize access to health insurance and minimize fragmentation in health insurance coverage.

One of the main limitations of this study relates to the sample of clients that we were able to survey. The same challenges, which make urban, informal sector workers difficult to insure—the transient nature of the population, lack a formal address, and, in many cases, limited connections to formal groups or organizations—also limited our ability to locate clients, which constrained the sample size. Further, as a result of the changes to the distribution of the MHI plan, the eligible sample of clients in this study was better educated and reported higher household income and better indicators of socioeconomic status than the overall pool of MFB clients, which affects the inferences that can be made.

In conclusion, this study provides an insight into the challenges of providing health insurance to the urban informal sector, despite the potential benefits from insuring this particular population. There is a need for more rigorous evidence on the optimal design of health insurance schemes covering urban, informal sector workers and how best to implement these schemes in resource-poor contexts. As half of the global population now lives in urban settings, additional research on how these populations can access health care without risking financial ruin will be central in achieving UHC.

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