Reducing Petty Corruption in Health Care with Better Informed Patients: Experimental Evidence from Ghana

Kathrin Durizzo[1,2]; Edward Asiedu[3]; Isabel Günther[2]
[1]Harvard University, [2]ETH Zurich; [3]University of Ghana

Introduction

Social health insurance is expected to reduce financial barriers to essential care. Ghana's National Health Insurance Scheme (NHIS) is one of Africa's earliest and most comprehensive schemes, covering **~95% of outpatient and inpatient services** and substantially reducing out-of-pocket health expenditures (OOPE) overall.[1]

Yet **unauthorized fees for covered services and drugs persist** in Ghana and other LMICs.[2-4] Weak oversight and asymmetric information allow frontline providers to impose informal payments on patients who depend on them for access.

A central explanation lies in **petty corruption** in the form of **rent-seeking individuals or cost-recovery mechanisms** for health facilities due to delayed or inadequate funding.[4,5]

Patient health insurance literacy[6] (knowledge of their coverage rights) may act as a **bottom-up accountability mechanism**, particularly in contexts with strong information frictions.[3]

Research Question: Can improving patients' knowledge of their NHIS benefit package reduce unauthorized out-of-pocket payments in primary healthcare?

Data & Methods

We conduct a **randomized controlled trial** (RCT) involving **2,284 patients** across **41 primary health facilities** in Southern Ghana.

Figure 1. Patient at Primary Health Facility

Sample: Patients are predominantly low-income **women and children** (80% insured, 71% female, 80% low education; ~1/3 children, ~1/3 pregnant women).

Design: Before entering a health facility, patients are **randomly assigned to an informational message about their NHIS coverage** or to a placebo message unrelated to health insurance. Randomization was by weekday to avoid spillover within the facility. To avoid weekday bias, the order of the messages was randomized across facilities.

Data: After the visit, enumerators conducted a **patient exit survey** on (i) type and costs of received health services and drugs, (ii) satisfaction and quality, (iii) health insurance literacy, and (iv) socioeconomic characteristics**.**

Analysis: We estimate the causal effect of **the information message on OOPE and health insurance literacy**. To unpack mechanisms, we examine effects on access to and quality of care and estimate separate models for insured and uninsured patients to test for cost-shifting.

Baseline Patterns

High OOPE and **low health insurance literacy** (Figure 2)

- **65% of insured patients** pay for services or drugs that should be free.
- Insured patients pay **GHS 22** (≈$2.10) per visit on average, compared to **GHS 44** for uninsured patients. Although lower than for the uninsured, these amounts are high enough to be **catastrophic for the poorest households**.
- Patients **overestimate their insurance literacy**: 76% of the insured patients say they know their benefit package, but only 28% can correctly state the coverage.

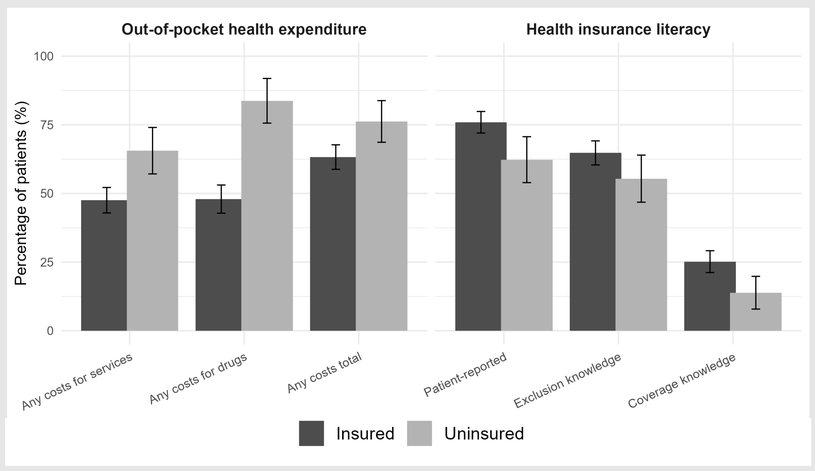

Figure 2. Summary statistic

Notes: Figure shows means and 95% CIs for key OOPE and health insurance literacy outcomes. "Any costs for services/drugs" = 1 if the patient paid anything for any service or drug received during the visit. "Patient-reported literacy" indicates whether the patient reports knowing the NHIS benefit package. "Exclusion knowledge" = 1 if the patient can name at least one service or drug not covered. "Coverage knowledge" = 1 if the patient correctly states that NHIS covers ~95% of disease conditions.

Results

Information intervention **increases health insurance literacy** and **reduces OOPE** for insured patients, with **no evidence of cost-shifting** to uninsured patients (Table 1).

- On average, treated insured patients incur about **25% lower total costs per visit** (a reduction of GHS 5.50).
- However, the intervention does **not change the probability** of making any payment for covered services and drugs, suggesting that it lowers the amount paid as petty corruption rather than eliminating petty corruption altogether.
- Reductions in OOPE for insured patients were **not driven by a general decline in individual petty corruption** (i.e., informal fees charged to all patients).

Table 1. Impact of the information treatment on OOPE and health insurance literacy outcomes

	Out-of-pocket health expenditure			Health insurance literacy	
	Costs services (in GHS)	Costs drugs (in GHS)	Total costs (in GHS)	Patient-reported knowledge (binary)	Exclusion list knowledge (binary)
	(1)	(2)	(3)	(4)	(5)
Panel A: NHIS insured patients					
Information treatment					
(ref. control message)	-2.19**	-3.87**	-5.50***	0.05**	0.09***
	(0.94)	(1.61)	(1.78)	(0.02)	(0.03)
Constant	10.48***	14.70***	22.36***	0.76***	0.65***
	(0.85)	(1.53)	(1.66)	(0.02)	(0.02)
Observations	1,914	1,532	1,921	1,953	1,953
R^2	0.003	0.01	0.01	0.003	0.01
Panel B: Non-NHIS insured patients					
Information treatment					
(ref. control message)	3.90	0.80	3.25	0.12**	0.13***
	(2.99)	(4.43)	(5.32)	(0.05)	(0.05)
Constant	19.26***	38.14***	44.27***	0.62***	0.55***
	(2.44)	(3.65)	(4.4)	(0.04)	(0.04)
Observations	405	268	414	443	443
R^2	0.004	0.0001	0.001	0.01	0.02

Notes: the table shows OLS regression results measuring the effect of the information treatment on OOPE and health insurance literacy. Regional cluster robust standard errors are shown in parentheses. Significance levels: * p<0.1, ** p<0.05, *** p<0.01. Panel A consists of all NHIS insured patients and Panel B of all non-NHIS insured patients. "Patient-reported knowledge" is a dummy variable based on the question "What services are not covered by NHIS? (binary, 0= does not know), "Exclusion list knowledge" is based on the question "What services are not covered by NHIS? (binary, 1= at least one item mentioned from the exclusion list correctly).

The effects are **not driven by reduced access or quality of care**. Availability of services and drugs and patient satisfaction with them are unchanged, ruling out rationing or lower-quality care as explanations.

The effects do not vary by patient characteristics (e.g., literacy, income, maternal or child services). This means the reductions in petty corruption **are consistent across patient groups**, rather than concentrated among those who are more empowered or better informed.

The effects also **do not vary across facility characteristics** (staff benefit-package knowledge, NHIA claim rejection rates). Combined with results using facility fixed effects, this pattern points to **individual rent-seeking behavior** rather than facility-level cost-recovery practices as the main channel.

Conclusion

This study shows that in **Ghana's National Health Insurance Scheme (NHIS)**, patient-level information can **strengthen bottom-up accountability and reduce petty corruption** in public primary healthcare.

A simple, **low-cost message about NHIS coverage** raises insurance literacy and lowers OOPE for insured patients, without reducing access or quality and without shifting costs to the uninsured. These results suggest that better-informed patients can more effectively assert their entitlements and **limit providers' ability to charge unauthorized fees.**

However, because 65% of insured patients still report paying for covered services after the intervention, **information alone is not sufficient** to eliminate petty corruption.

Lasting progress in Ghana and similar settings will require **complementary system-level reforms** to strengthen provider accountability and protect households from informal fees.

References

[1] Navarrete et al. (2019). doi: 10.1093/heapol/czz093
[2] Akewongo et al. (2021). doi: 10.1186/s12913-021-06401-8
[3] Dupas and Jain (2023). doi:10.1016/j.jpubeco.2023.104841
[4] Macha et al. (2012). doi: 10.1093/heapol/czs024
[5] Lewis (2006). https://www.cgdev.org/sites/default/files/5967_file_WP_78.pdf
[6] Paez et al. (2014). doi: 10.1080/10810730.2014.936568

Contact: Kathrin Durizzo, PhD ● Email: kdurizzo@hsph.harvard.edu ● Website: www.kathrindurizzo.com