

Increasing Ghana's National Health Insurance Scheme's Enrollment and Retention: Pro-rata Premium Payment as the Answer

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By;

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Outline

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Introduction

- ▶ Health Insurance was introduced to provide financial risk against catastrophic health care expenditure as well as affordable health care for all
- ▶ Since its introduction more than a decade ago, enrollment/retention rate is about 36% (NHIS, 2013) which is low.
- ▶ Why the low enrollment or retention
 - Premium not affordable due to lumpsum payment; (Kusi, et al, 2015)
 - Characteristics of potential members; (Owusu_Sekyere & Chiaraah, 2014)

- What has not received much attention is the registration process or payment mode
- Currently people have to line up for hours to enroll or renew membership. High time cost.

A different method of Payment or registration?

- ▶ A new method of payment or registration that does not require long waiting time and lump-sum payment is urgently needed
- ▶ Payment by mobile phone for registration or **renewal**?
 - Automatic Deduction Payment System (ADPS)
 - Mobile Money Payment System (MMPS)
- ▶ Can significantly reduce long line ups to both new and existing members.
- ▶ Used in Kenya: M-pesa health insurance => significant increase in enrollment and retention rates

Mobile Phone Penetration in Ghana

- ▶ 2015 – total mobile phone subscribers = 34,400,153
Population = 27,409,893
per capita mobile phones = 1.26
- ▶ 2016 – total mobile phone subscribers = 35,008,387
Population = 28,033,375
Per capita mobile phones = 1.25
- ▶ Common service: Mobile money, mobile banking

Objective of the Study

- ▶ To estimate the magnitude of the effect of paying health insurance premium on pro-rata with mobile phone on retention rate of Ghanaian National Health Insurance by the insured individual
- ▶ To estimate the magnitude of the effect of paying health insurance premium on pro-rata with mobile phone on enrollment on Ghanaian National Health Insurance Scheme by the uninsured individual

Methodology

- Study Area: Kumasi Metropolis, Atwima Nwabiagya and Sekyere Central, All in Ashanti region of Ghana
- Study Design: Quantitative Cross-sectional Community level Survey
- Economic Model: Logistic Regression
- Sampling Technique: Cluster Sampling
- Data Collection Technique: E-structured questionnaire

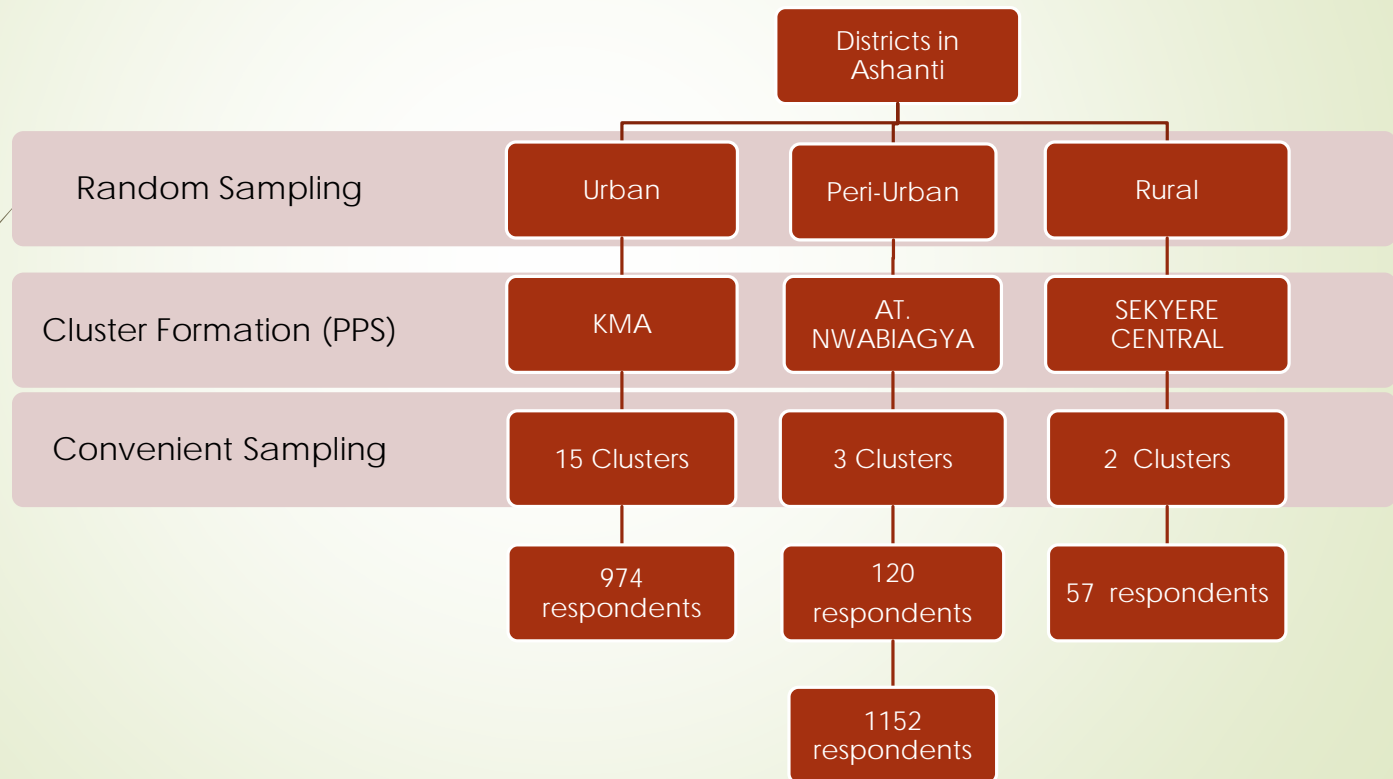
Sample Size Determination

- Sample Size Calculation – Using the formular

$$n = z^2 * \frac{p(1-p)}{d^2 + (z^2 * p(1-p) / N)}$$

- n=1152
- P= 75% from pre-test
- d=0.025 (two-tailed)
- N= 2,255,321 (population of 3 districts)
- Z= 1.96 for 95% C.I.

Overview Of Cluster Sampling Process



Data Analysis And Plan

- **Descriptive Analysis-** The Proportion of respondents' Willingness to Pay with mobile phone and payment preferences were summarized using standard descriptive statistics. These descriptive analysis was displayed with the frequency distribution table.
- **Inferential Analysis-**Two inferential analyses were conducted in this study Logit regression models
- For all inferential analyses, a p-value less than 5% was considered significant.

Model Specification – Logistic Regression Model

$$\begin{aligned} NHIS = \ln\left(\frac{P}{1-P}\right) = & \beta_0 + \beta_1 PRO - RATA + \beta_2 MIDAGE + \beta_3 OLDAGE + \beta_4 SEX + \beta_5 DIVORCED + \beta_6 MARRIED \\ & + \beta_7 SEPARATED + \beta_8 SINGLE + \beta_9 WIDOWED + \beta_{10} PRIM + \beta_{11} JHS + \beta_{12} SHS \\ & + \beta_{13} TERT + \beta_{14} GOVTEMP + \beta_{15} SELFEMP + \beta_{16} DEPEN + \beta_{17} AMTRGE + \varepsilon \end{aligned}$$

RESULTS & DISCUSSION

Distribution of WTP NHIS Premium with Mobile Phone

Variable	Category	Frequency	Percentage
Pay with Mobile Phone	No	93	7.78
	Yes	1,103	92.22
MPPS Preferences	ADPS	883	74.45
	CPS	84	7.08
	MMPS	219	18.47

Remaining Insured and Pro-rata

Remain Insured	OR	S.E	Z	P>z	95	C.I.
PRORATA	2.2946	0.6900	2.76	0.0060	1.2727	4.1370
Middle Age	2.1628	0.6828	2.44	0.0150	1.1649	4.0156
Old Age	5.8941	4.5318	2.31	0.0210	1.3061	26.5996
Sex	0.5814	0.1299	-2.43	0.0150	0.3753	0.9008
Divorced	1.3070	0.9778	0.36	0.7200	0.3016	5.6633
Married	1.9985	0.7817	1.77	0.0770	0.9285	4.3018
Separated	2.0654	1.2916	1.16	0.2460	0.6063	7.0358
Single	0.9336	0.3127	-0.21	0.8370	0.4843	1.7998
Widowed	3.0382	3.4309	0.98	0.3250	0.3322	27.7861
Primary Education	3.7299	2.4368	2.01	0.0440	1.0366	13.4213
JHS	2.6330	1.4263	1.79	0.0740	0.9106	7.6131
SHS	4.8580	2.6398	2.91	0.0040	1.6747	14.0925
Tertiary Education	5.1345	3.0248	2.78	0.0050	1.6182	16.2912
Government Employee	4.0967	2.3380	2.47	0.0130	1.3386	12.5378
Private employee	1.3731	0.3930	1.11	0.2680	0.7836	2.4063
Self Employed	2.1156	0.6873	2.31	0.0210	1.1192	3.9993
Dependant	0.8729	0.0603	-1.97	0.0490	0.7623	0.9995
Amount for Recharge	1.0251	0.0258	0.99	0.3240	0.9758	1.0769
Talk time	1.0391	0.0280	1.42	0.1550	0.9856	1.0956
Constant	0.3855	0.2636	-1.39	0.1630	0.1009	1.4726
No. of Observation	= 1118					
R²	= 0.1355					
Test	Categories	X²	P-value			
Overall model evaluation	Likelihood ratio test	-334.94528	<0.0001			
	Hosmer & Lemeshow	10.19	0.8954			

Remaining Uninsured and Pro-rata

Remain Uninsured	OR	S.E	Z	P>z	95	C.I.
PRORATA	0.4358	0.1311	-2.76	0.0060	0.2417	0.7857
Middle Age	0.4624	0.1460	-2.44	0.0150	0.2490	0.8584
Old Age	0.1697	0.1304	-2.31	0.0210	0.0376	0.7657
Sex	1.7200	0.3842	2.43	0.0150	1.1101	2.6649
Divorced	0.7651	0.5724	-0.36	0.7200	0.1766	3.3155
Married	0.5004	0.1957	-1.77	0.0770	0.2325	1.0770
Separated	0.4842	0.3028	-1.16	0.2460	0.1421	1.6493
Single	1.0711	0.3587	0.21	0.8370	0.5556	2.0648
Widowed	0.3291	0.3717	-0.98	0.3250	0.0360	3.0102
Primary Education	0.2681	0.1752	-2.01	0.0440	0.0745	0.9647
JHS	0.3798	0.2057	-1.79	0.0740	0.1314	1.0982
SHS	0.2058	0.1119	-2.91	0.0040	0.0710	0.5971
Tertiary Education	0.1948	0.1147	-2.78	0.0050	0.0614	0.6180
Government Employee	0.2441	0.1393	-2.47	0.0130	0.0798	0.7470
Private employee	0.7283	0.2084	-1.11	0.2680	0.4156	1.2762
Self Employed	0.4727	0.1536	-2.31	0.0210	0.2500	0.8935
Dependant	1.1456	0.0792	1.97	0.0490	1.0005	1.3119
Amount for Recharge	0.9755	0.0245	-0.99	0.3240	0.9286	1.0248
Talk time	0.9623	0.0260	-1.42	0.1550	0.9128	1.0146
Constant	2.5943	1.7741	1.39	0.1630	0.6791	9.9111
No. of Observation	= 11183					
R²	= 0.1173					
Test	Categories	X²	P-value			
Overall model evaluation	Likelihood ratio test	-335.76402	<0.0001			
	Hosmer & Lemeshow	14.35	0.4991			

Conclusion

- The study found out that about 92% of the surveyed population are willing to pay health insurance premium with their mobile phones.
- That greater proportion of the respondents representing about 74.45% prefer the ADPS to both MMPS and the CPS
- The insured individual is about 2 times more likely to remain on the NHIS while the uninsured is less likely to remain uninsured when payment is on pro-rata.
- Factors such as *age, sex, educational background and employment status* of respondents were found to significantly influence individuals' enrollment or retention onto NHIS.

Recommendation

- The paper finds that instituting a Mobile Phone Payment System (MPPS) and pro rata payment method would increase enrollment and retention, and therefore the policy recommendation is that the mobile phone payment system be considered as an alternate payment system.
- Policies regarding the consideration of the mobile phone payment system in Ghana should not neglect the socio-economic characteristics of individuals