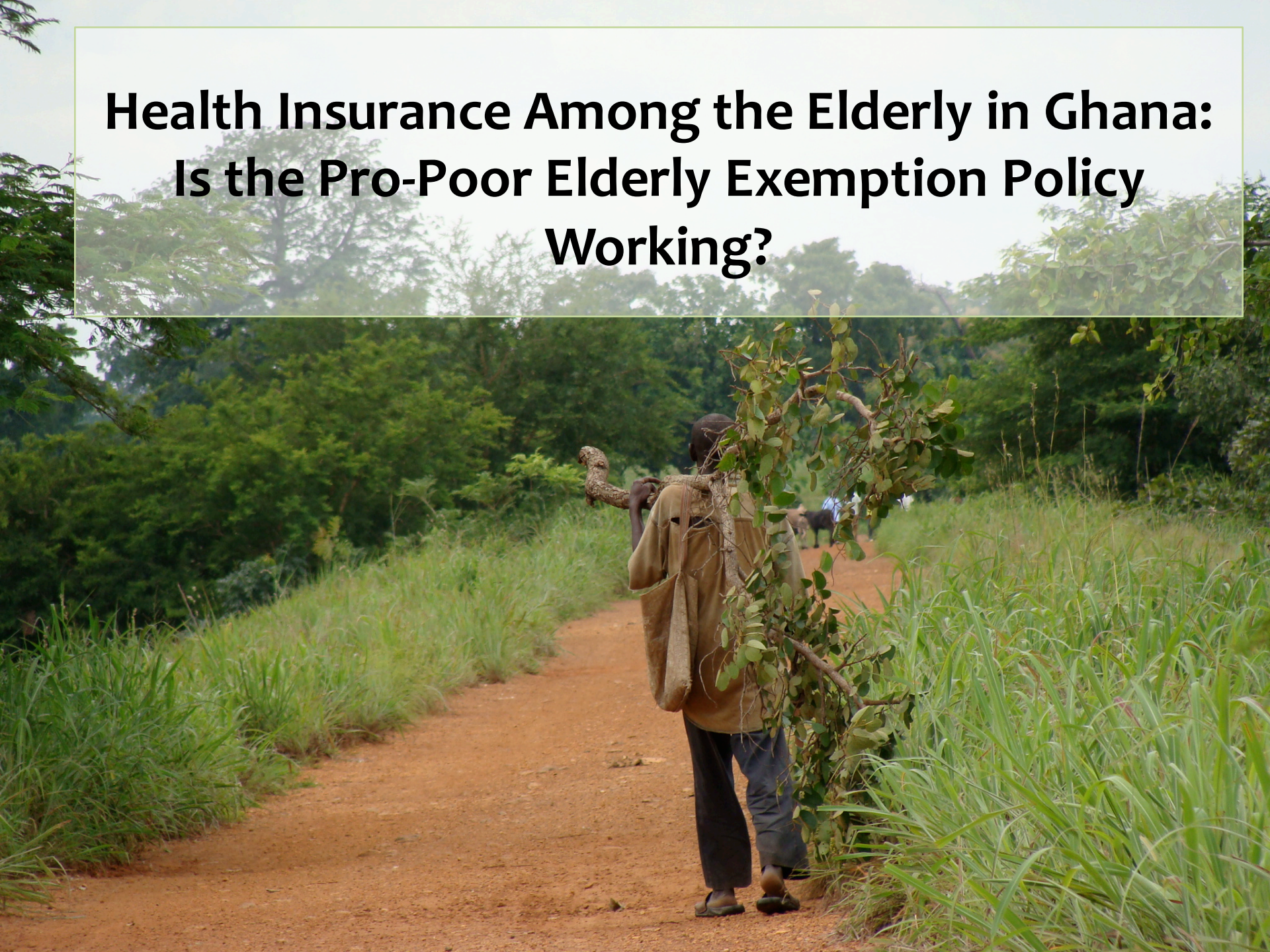# Health Insurance Among the Elderly in Ghana: Is the Pro-Poor Elderly Exemption Policy Working?

Health Insurance Among the Elderly in Ghana: Is the Pro-Poor Elderly Exemption Policy Working?

IMGS, Vancouver British Columbia

Andrea Rishworth
Department of Geography
The University of Waterloo Ontario

Vincent Kuuire
The University of Western Ontario

Isaac Luginaah
The University of Western Ontario

UNIVERSITY OF WATERLOO

Outline

1) Global Aging and Health Care

2) Ghana & National Health Insurance Scheme

3) Research Question

4) Methods

5) Results

6) Discussion & Implications

Aging and Health Care Globally

- Overall decline in fertility rates (last 50 yrs)
- Improved life expectancy in developing countries (Suzman & Beard, 2011; WHO, 2014)

- ~2 billion people over 60 yrs by 2050
  - 80% in low and middle income countries
    - (LMIC's: Africa, Latin America, Caribbean)

- Unique health challenges, heightened risk for poor health
  - Disease, syndromes, sickness, poor regenerative ability

Aging in Low-Middle Income Countries

- Pre-existing health care issues

- Challenges providing age appropriate health care
  - i.e. availability, accessibility, comprehensiveness, quality, efficacy, non-discrimination, and age responsiveness (WHO,2004)

- Implications of rapid demographic shift:
  - Health of elderly, societies, broader health systems

- With projected aging population growth, it's imperative governments implement health policies and services to meet demographic needs

Ghana

- LMIC with one of highest proportions of 60+ in SSA

- Est. growth from 5.2% to 11.9% by 2050 (UN, 2011: UN, 2013)

- Increased demand for age appropriate health care…

- Implemented Policies to aid in health care:
  - NHIS (2004)
  - Elderly Exemption/Social Protection Program (2004)

Table 1.1: Global ageing trends

Region	Percentage of population aged ≥ 60 years				
	1950	**1975**	**2000**	**2015**	**2050**
Asia	6.7	6.6	8.6	14.8	24.4
Europe	12.1	16.5	20.3	27.3	33.6
Latin America/Caribbean	5.6	6.5	8.4	14.9	25.0
North America	12.4	14.6	16.3	24.7	27.0
Oceania	11.2	11.0	13.4	19.1	23.5
Sub-Saharan Africa	5.2	4.8	4.8	5.5	8.3
Ghana	4.1	4.5	5.2	7.2	11.9

Source: World population prospects, the 2010 revision (UN DESA, 2011).

National Health Insurance Scheme (NHIS)

- Means to finance health care in low income countries
- Provide health equity

Previously 'cash and carry' system

- User fees had very regressive impacts on the poor, women, elderly, rural areas

2004 NHIS – "Pro Poor"

- Health for small premium payment
- Exemptions for certain populations
  - i.e. extreme poor (indigents), <u>elderly (65+)</u>, pregnant mothers, children (-18yrs)

NHIS Elderly Exemption

- Social Health Protection (SHP) Program within NHIS (65+)

- Aim: reduce financial barriers associated with accessing health services for elderly
  - Still need to register and renew annually GH¢ 4.00

- National Aging Policy and Aging Action Plan (2010)

NHIS

- Despite pro-poor elements of the NHIS, the poor are less likely to enroll and benefit from health care services
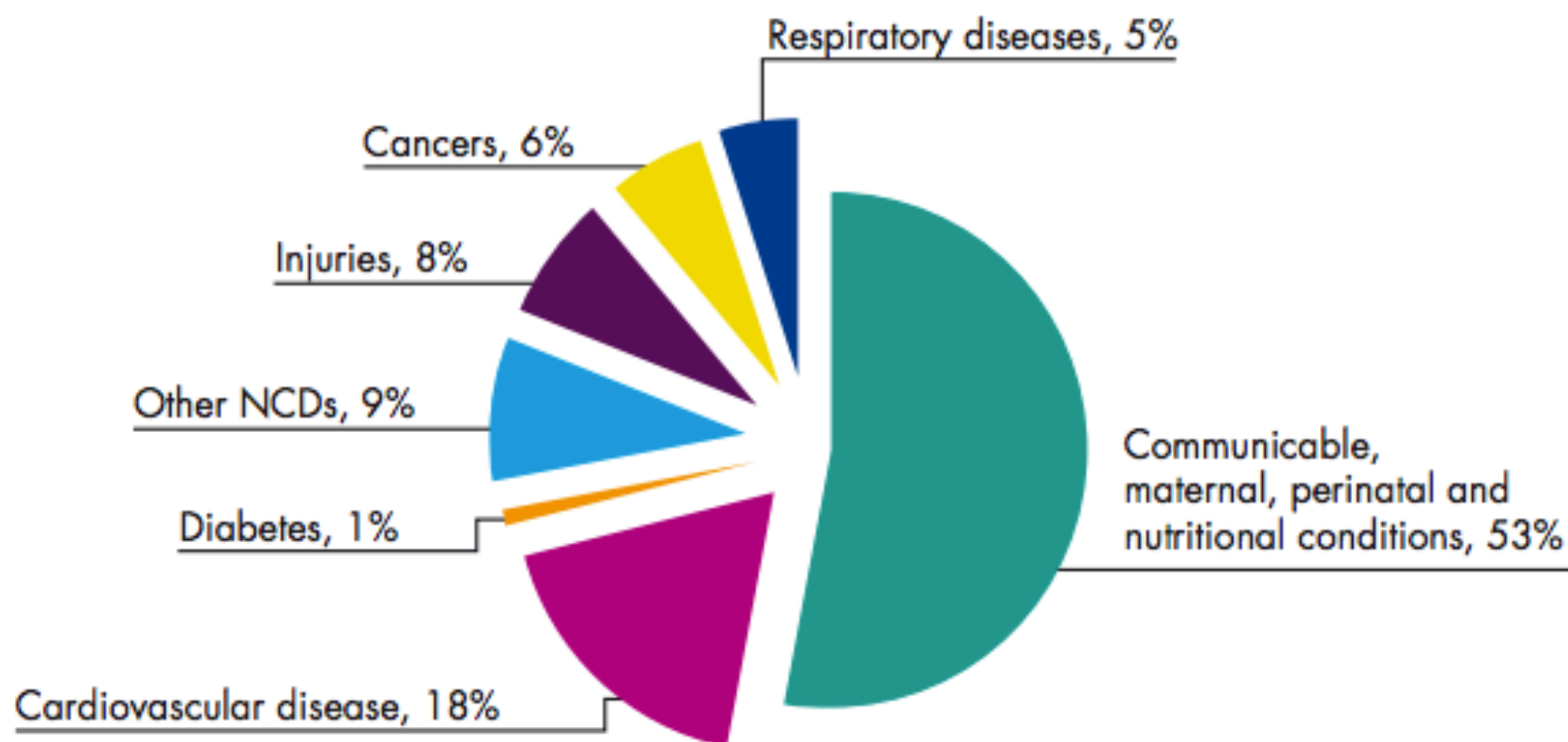
(see: Amoako Johnson, et al. 2015; Dixon, et al. 2013; Parmar, et al. 2014),

Ghana

- Population: ~24.6 million people

- Employment: Informal Economy 86.1%, Public Sector: 6.3% (GSS, 2011)

- Increased life expectancy

- Aging population is outpacing socioeconomic development

- Common chronic diseases:
  - Hypertension, stroke, heart disease, diabetes, respiratory problems (asthma, chronic lung disease, COPD)

- Hypertension most prevalent co-morbid condition for all chronic diseases
(Biritwum et al., 2013)

Figure 2.1: Proportional mortality (% of total deaths, all ages) in Ghana

Respiratory diseases, 5%

Cancers, 6%

Injuries, 8%

Other NCDs, 9%

Diabetes, 1%

Cardiovascular disease, 18%

Communicable, maternal, perinatal and nutritional conditions, 53%

Context – Ghana

Question

- Ghana represents an interesting case study:
  - Elderly population increase more than 7 fold from 1960-2010 (213, 477➜1, 643, 381)
  - Rise in non-communicable diseases (NCDS) among aging population
  - Fee exemption for 65+

- So we ask:

Does Ghana's pro poor mandate translate into elderly health enrollment?

Data

- First wave WHO Study on Global Ageing and Adult Health (SAGE) from Ghana
  - Collected Jan. 2007-Dec 2008

- SAGE: nationally representative multi-country study
  - China, Ghana, India, Mexico, Russia, South Africa
  - Aimed to respond to health needs of aging

- 235 Enumeration Areas selected

- From this: 1534 participants (65+ yrs)

Methods

- STATA 12 SE was used to run multivariate analysis,
  - Specifically involving binary logit regression

- Controlled for clustering

- Two multivariate models are built to examine the relationship between health insurance coverage and wealth status

- In Model 1: control for respondents' socioeconomic and demographic factors

- Model 2: control for self-reported chronic conditions.

Methods

- Dependent variable: Health insurance enrollment
  - Dichotomized into "yes insured" coded as 1 or "no, uninsured" coded as 0

- Focal Independent Variable: Wealth Status
  - Dichotomized into 5 categories: poorest, poorer, middle, richer and richest

- Other theoretically relevant variables:
  - Model 1: age, gender, education, ethnicity, religion, location of residence,
  - Model 2: arthritis, angina, hypertension, stroke, diabetes, asthma

Table 1: Distribution of elderly health insurance status by selected explanatory factors (n=1,534)

	Total Percent %	Uninsured Percent%	Insured Percent %	P-value
Income quintile				P<0.001
Richest	16	11.8	20.7	
Richer	18.4	14.2	23	
Middle	21.2	22.6	19.7	
Poorer	22.6	25.1	20	
Poorest	21.8	26.4	16.7	
Gender				P>0.05
Male	44.3	44	44.7	
Female	55.7	56	55.3	
Marital Status				P<0.05
Married	41.3	38.6	44.3	
Separated/divorced	12.1	13.9	10.2	
Widowed	44.7	45.9	43.5	
Never married	1.8	1.6	2	
Educational level				P<0.01
No formal education	75.5	79.2	71.5	
Primary	13.8	12.3	15.4	
Secondary	9.3	7.9	10.9	
college/Uni	1.4	0.6	2.3	
Main Occupation				P<0.05
Self-employed	74	76.4	71.3	
Public sector	6.9	5.8	8.2	
Private sector	2.2	2.6	1.8	
Informal Sector	16.9	15.2	18.8	
Ethnicity				P<0.001
Akan	44	39	49.5	
Ewe	7.1	7.3	6.9	
Ga-Adangbe	9.3	10.5	8	
Gruma	3.8	3.9	3.7	
Mole-Dagbani	2.3	3.3	1.2	
Other	33.5	36.1	30.7	

Univarariate Results

Table 1: Distribution of elderly health insurance status by selected explanatory factors (n=1,534)

	Total Percent %	Uninsured Percent%	Insured Percent %	P-value
Religion				P<0.001
Christian	60.1	52.8	68.1	
Muslim	14.7	15.7	13.6	
Traditional	11.3	15.7	6.7	
Other	8.9	9	8.8	
None	5	6.9	2.9	
Location				P<0.001
Urban	37.5	31.8	43.8	
Rural	62.5	68.2	56.3	
Arthritis				P<0.05
No	82.6	85	80	
Yes	17.4	15	20	
Angina				P>0.05
No	96.1	96.7	95.4	
Yes	3.9	3.3	4.6	
Hypertension				P<0.001
No	86	89.8	81.9	
Yes	14	10.2	18.1	
Stroke				P>0.05
No	96.5	97	96.1	
Yes	3.5	3	3.9	
Diabetes				P<0.01
No	96.5	97.9	95.1	
Yes	3.5	2.1	4.9	
Asthma				P<0.05
No	95.3	96.6	93.9	
Yes	4.7	3.4	6.1	

Bivariate Results

VARIABLES	Bivariate Analysis OR (Robust Std.Err)
Income quintile	
Richer	1.077(0.230)
Middle	0.576(0.119)**
Poorer	0.557(0.114)**
Poorest	0.445(0.0910)***
Age	0.997(0.00885)
Gender (ref: Male)	
Female	0.867(0.101)
Marital Status (ref: Married)	
Separated/divorced	0.606(0.115)**
Widowed	0.801(0.105)
Never married	0.837(0.360)
Educational level (ref: No formal education)	
Primary	1.252(0.223)
Secondary	1.409(0.295)
College/Uni	2.091(1.219)
Main Occupation (ref: Self-employed)	
Public sector	1.227(0.295)
Private sector	0.612(0.252)
Informal Sector	1.256(0.202)
Ethnicity (ref: Akan)	
Ewe	0.723(0.169)
Ga-Adangbe	0.520(0.112)**
Gruma	0.655(0.205)
Mole-Dagbani	0.434(0.203)
Other	0.710(0.0998)*

VARIABLES	Bivariate Analysis OR (Robust Std.Err)
Religion (ref: Christian)	
Muslim	0.711(0.127)
Traditional	0.332(0.0707)***
Other	0.732(0.155)
None	0.322(0.0948)***
Location (ref: Urban)	
Rural	0.624(0.0798)***
Arthritis (ref: No)	
Yes	1.297(0.211)
Angina (ref: No)	
Yes	0.978(0.316)
Hypertension (ref: No)	
Yes	1.596(0.284)**
Stroke (ref: No)	
Yes	1.538(0.491)
Diabetes (ref: No)	
Yes	2.026(0.650)*
Asthma (ref: No)	
Yes	1.856(0.528)*

Multivariate

Dependent Variable: Insurance Enrolment

VARIABLES	Bivariate Analysis	Multivariate Analysis	
		Model (1)	Model (2)
	OR (Robust Std.Err)	AOR (Robust Std.Err)	AOR (Robust Std.Err)
Income quintile			
Richer	1.077(0.230)	1.122(0.246)	1.117(0.248)
Middle	0.576(0.119)**	0.606(0.135)*	0.622(0.140)*
Poorer	0.557(0.114)**	0.670(0.150)	0.681(0.156)
Poorest	0.445(0.0910)***	0.572(0.132)*	0.584(0.138)*
Age	0.997(0.00885)	0.895(0.121)	0.895(0.120)
Gender (ref: Male)			
Female	0.867(0.101)	1.008(0.168)	0.974(0.166)
Marital Status (ref: Married)			
Separated/divorced	0.606(0.115)**	0.561(0.124)**	0.548(0.124)**
Widowed	0.801(0.105)	0.764(0.134)	0.759(0.135)
Never married	0.837(0.360)	0.795(0.350)	0.806(0.362)
Educational level (ref: No formal education)			
Primary	1.252(0.223)	0.999(0.186)	0.955(0.180)
Secondary	1.409(0.295)	0.970(0.250)	0.939(0.247)
College/Uni	2.091(1.219)	1.076(0.738)	1.012(0.688)
Main Occupation (ref: Self-employed)			
Public sector	1.227(0.295)	0.833(0.240)	0.858(0.250)
Private sector	0.612(0.252)	0.519(0.244)	0.504(0.241)
Informal Sector	1.256(0.202)	1.606(0.346)*	1.660(0.362)*
Ethnicity (ref: Akan)			
Ewe	0.723(0.169)	0.832(0.207)	0.830(0.207)
Ga-Adangbe	0.520(0.112)**	0.598(0.135)*	0.590(0.134)*
Gruma	0.655(0.205)	0.563(0.192)	0.551(0.192)
Mole-Dagbani	0.434(0.203)	0.552(0.276)	0.543(0.261)
Other	0.710(0.0998)*	1.009(0.209)	1.072(0.227)
Religion (ref: Christian)			
Muslim	0.711(0.127)	0.644(0.152)	0.638(0.153)
Traditional	0.332(0.0707)***	0.391(0.0922)***	0.393(0.0939)***
Other	0.732(0.155)	0.443(0.142)*	0.464(0.150)*
None	0.322(0.0948)***	0.350(0.114)**	0.356(0.117)**
Location (ref: Urban)			
Rural	0.624(0.0798)***	0.745(0.108)*	0.760(0.112)

Multivariate

Dependent Variable: Insurance Enrolment

VARIABLES	Bivariate Analysis	Multivariate Analysis	
	OR (Robust Std.Err)	Model (1) AOR (Robust Std.Err)	Model (2) AOR (Robust Std.Err)
Arthritis (ref: No)			
Yes	1.297(0.211)		1.308(0.225)
Angina (ref: No)			
Yes	0.978(0.316)		0.965(0.336)
Hypertension (ref: No)			
Yes	1.596(0.284)**		1.131(0.227)
Stroke (ref: No)			
Yes	1.538(0.491)		1.207(0.389)
Diabetes (ref: No)			
Yes	2.026(0.650)*		1.658(0.552)
Asthma (ref: No)			
Yes	1.856(0.528)*		1.841(0.562)*
Log pseudo-likelihood		-663233.32	-658808.43
Model significance (Wald x^2)		80.05***	88.56***
Pseudo R^2		0.0589	0.0652
Constant		2.513(0.645)***	2.197(0.579)***
Observations		1,534	1,534

Discussion

1) Poverty Remains Barrier to NHIS/Exemption Enrolment

- Registration fee (~$1.00 CAD/ GH¢ 4.00)

- Cost of registration only fraction of entire cost
  - (i.e. Transport, unofficial payment, yearly renewals)

- Wealth and Location (i.e. Urban Vs. Rural)

- Proximity to health center/registration point
  - Poor infrastructure hinders benefits of exemption (i.e. Roads, electricity, health facility, drinking water)

Discussion

2) Informal Economy

- Large elderly workforce
  - Contributions of elderly in labour force 8.8% higher than national population of 6.7% (Badasu & Forson, 2013)

- 30% of elderly (65+) involved in informal economy
  - (Ahadzie, Dohn, 2009)

- Rural elderly more economically active compared to urban counterparts (63% and 46% respectively) (Badasu & Forson, 2013)

Discussion

3) Spousal Support and Health

- Important influence on enrolment, health service use

- Marital dissolution associated with worsened mental, physical health (Prigerson, Maciejewski, Rosenheck, 1999; Sammy, 2009)

- Spouse: supportive relations, financial resources, encouraging health use, communal networks, trust in health service (Laporte, et al., 2008; Lucumí 2014; Parmar, et al., 2014; Ramlagan, et al, 2013)

Discussion

4) Chronic health conditions and NHIS

- Knowledge of signs and symptoms of chronic conditions (i.e. Asthma compared to hypertension, diabetes, angina, stroke) (BeLue et al., 2009; Biritwum et al., 2013)

- Onset of conditions (early vs late life)

- Weak health infrastructure: poor screening, detection, treatment (Addo et al., 2012)

- Cost of medication (Biritwum et al., 2013)

Conclusion

- Elderly exemption fails to meet needs of the most vulnerable poorest aging

- Exemptions in Ghana repeatedly exclude most vulnerable (poor, women, children, rural) from enrolment and access

- Calls for broader discussions of exemptions in Ghana

- Barriers beyond initial enrolment
  - Consider broader systemic issues of health infrastructure, distance & cost of transportation, social support and prevention, yearly renewal fees

Policy

- Health equity agenda broader than premium exemption

- Consider infrastructure provision
  - Health facilities, roads, training, personnel, etc.

- Increase awareness of NCDs (hypertension, diabetes, etc.)

- Improve economic diversity, particularly for elderly

- Coverage of transport costs and exemption (Aggarwal, 2010; Parmar, De Allegri, et al., 2014)

Policy

- Growing aging population outpacing socioeconomic development

- Emerging and unrecognized burden of NCDs (WHO, 2014)

ESSENTIAL to direct attention towards needs of elderly or encounter increased burden on health system

Thank you!
Questions?