

Supplementary Table 1. Variance inflation factor (VIF) and 1/VIF

Variable	VIF	1/VIF
Wealth status	3.31	0.301875
Residence	2.13	0.470377
Internet exposure	1.76	0.567467
TV exposure	1.73	0.578035
Education Level	1.68	0.594892
Age groups	1.50	0.665472
Marital status	1.38	0.723263
Working status	1.36	0.736990
Health insurance	1.32	0.757220
Sex	1.29	0.777386
Smoking Status	1.26	0.793168
Alcohol use status	1.24	0.806960
Radio exposure	1.23	0.813767
Newspaper exposure	1.14	0.876266
Region	1.13	0.882640
Hypertension status	1.06	0.939098
Religion	1.01	0.993123
Mean VIF	1.50	

Supplementary Table 2. Akaike's information criterion (AIC) and Bayesian information criterion (BIC) Comparison for multilevel logistic regression models

Model	N	ll(null)	ll(model)	df	AIC	BIC
Model 1	26,508	-10387.65	-9457.201	12	18,938.4	19,036.62
Model 2	26,508	-10387.65	-9254.042	19	18,546.08	18,701.6
Model 3	26,508	-10387.65	-9163.799	29	18,385.6	18,622.97
Model 4	26,508	-10387.65	-9122.383	32	18,308.77	18,570.69
Model 5	26,508	-10387.65	-9089.470	36	18,250.94	18,545.61

Supplementary Table 3: Multi-level Analysis Diagnostics

	Null Model	Model 1	Model 2	Model 3	Model 4
Random effects					
Cluster variance (SE)	0.5624 (0.0520)	0.3134 (0.0360)	0.2504 (0.0301)	0.2046 (0.0264)	0.1964 (0.0269)
Model diagnostics					
ICC	0.1459953	0.0869786	0.0707302	0.0585458	0.0563265
Log Likelihood	-10007.983	-9082.402	-9834.087	-9845.038	-9004.323
AIC	20019.97	18210.8	1968.17	1972.08	18090.65
BIC	20036.34	18399.06	1972.9.29	1985.3.04	18426.24

Supplementary Table 4: Multi-level logistic regression results

Variable	Model 0 (Null)	Model 1 (Individual)	Model 2 (Household)	Model 3 (Community)	Model 4(Full)
Fixed Effects	OR (95% CI)	aOR (95% CI)	aOR (95% CI)		aOR (95% CI)
Sex					
Female		1	—		1
Male	—	0.65(0.59,0.71) ***	—		0.68 (0.62, 0.74) ***
Age					
15-24	—	1	—		1
25-34	—	1.71 (1.52,1.93)***	—		1.69 (1.49, 1.90)***
35-44	—	2.52(2.22, 2.87)***	—		2.45 (2.16, 2.79)***
45+	—	3.56 (3.08,4.10)***	—		3.42 (2.96,3.94)***
Education level					
No formal	—	1	—		1
Primary	—	1.21 (0.99, 1.48)	—		1.20 (0.98, 1.46)
Secondary	—	1.43 (1.16, 1.76)**	—		1.33 (1.08, 1.64)**
Higher	—	2.02(1.57, 2.59)***	—		1.85 (1.44, 2.39)***

Marital status					
Not in union		1			1
In union	–	1.38(1.25, 1.52)***	–		1.43 (1.30, 1.57)***
Religion					
Catholic	–	1	–		1
Protestant	–	1.00 (0.90,1.13)	–		1.00 (0.89,1.11)
Muslim		1.11 (0.66, 1.88)	–		0.98 (0.59, 1.64)
Other		0.94(0.56,1.56)	–		0.91(0.54,1.51)
Working status					
Not working	–	1	–		1
Informal work	–	1.09 (0.99, 1.21)	–		1.13 (1.02, 1.25) *
Formal work	–	1.21 (1.06, 1.39) **	–		1.21 (1.06, 1.39) **
Wealth status					
Poorest	–	–	1		1
Poorer	–	–	1.28(1.11,1.49)**		1.05 (0.90, 1.22)
Middle	–	–	1.58(1.36,1.83)***		1.06 (0.90, 1.25)
Richer	–	–	2.31(1.98,2.68)***		1.01 (0.82, 1.24)
Richest	–	–	4.11(3.53,4.79)***		1.13 (0.89, 1.44)
Health insurance					
Not covered	–	1	–		1
Covered	–	1.81(1.59,2.05) ***	–		1.74 (1.53, 1.97) ***
Residence					
Urban	–	–	–	1	1
Rural	–	–	–	1.01 (0.83,1.24)	1.06(0.86, 1.30)
Region					
Lusaka	–	–	–	1	1
Central	–	–	–	0.76 (0.61,0.95)*	0.70 (0.56, 0.88) **
Copperbelt	–	–	–	0.66(0.54,0.82)***	0.62(0.50, 0.77)***
Eastern	–	–	–	0.87 (0.69,1.10)	0.92 (0.73, 1.17)
Luapula	–	–	–	0.64 (0.50,0.83)**	0.62 (0.48, 0.81)***
Muchinga	–	–	–	0.67(0.51,0.87)**	0.69 (0.53, 0.90)**
Northern	–	–	–	0.48 (0.38,0.64)***	0.47 (0.36, 0.62)***
North western	–	–	–	1.03(0.80,1.32)	1.06 (0.82, 1.35)
Southern	–	–	–	0.64 (0.51,0.79)***	0.61 (0.48 0.76)***
Western				0.43 (0.33,0.57)***	0.43 (0.32, 0.58)***
Smoking status					
Not smoking	–	1	–	–	1
Smoking	–	0.79 (0.68, 0.93) **	–	–	0.80 (0.69, 0.94) **
Alcohol status					
Never consumed	–	1	–	–	1
Consumed	–	1.06 (0.96, 1.17)	–	–	1.05 (0.95, 1.15)
Hypertension Status					
Normotensive		1	–	–	1
Hypertensive		1.72(1.52, 1.93)***	–	–	1.69 (1.50, 1.90)***

Exposure to newspaper or magazine					
Not exposed	–	1	–	–	1
Exposed	–	1.21(1.09,1.34) ***	–	–	1.24(1.12, 1.37) ***
Exposure to radio					
Not exposed	–	1	–	–	1
Exposed	–	1.20(1.10, 1.31)***	–	–	1.19 (1.09, 1.31)***
Exposure to television					
Not exposed	–	1	–	–	1
Exposed	–	1.12 (1.02, 1.24)*	–	–	1.02 (0.91, 1.13)
Exposure to the internet					
Not exposed	–	1	–	–	1
Exposed	–	1.45(1.30,1.61) ***	–	–	1.32 (1.18, 1.47) ***
Cluster poverty level					
Low	–	–	1	1	
Moderate	–	–	0.74(0.59,0.92)**	0.79 (0.63, 0.97)*	
High	–	–	0.55(0.41,0.74)***	0.64(0.47, 0.87) **	
Proportion of uneducated					
Low	–	–	1	1	
Moderate	–	–	0.63 (0.53,0.75)***	0.89 (0.74, 1.07)	
High	–	–	0.54 (0.43,0.68)***	0.82 (0.65, 1.04)	

1 = Reference category, _ = No input

Bold: Statistically significant: * p-value ≤ 0.05, **p-value < 0.01, *p-value < 0.001**

12

13

14