

## Annex

Table A1: Multilevel regression of HIV related stigma among people living without HIV

	(1) Stigmatizing behavior		(2) Discriminatory attitude		(3) Prejudice	
	OR	(90% CI)	OR	(90% CI)	OR	(90% CI)
<i>Level 1</i>						
Age group: (15-24 years)						
25-34 years	0.67***	(0.63-0.71)	0.73***	(0.67-0.81)	0.79***	(0.74-0.84)
35-44 years	0.59***	(0.55-0.64)	0.65***	(0.59-0.71)	0.66***	(0.62-0.70)
45 years +	0.63***	(0.56-0.71)	0.52***	(0.44-0.61)	0.68***	(0.60-0.77)
Sex:(Female)						
Male	0.88***	(0.81-0.95)	1.06	(1.00-1.13)	1.06	(0.99-1.13)
Education: (Less than primary)						
Primary	0.52***	(0.49-0.56)	0.57***	(0.52-0.62)	0.86**	(0.77-0.95)
Secondary level or higher	0.23***	(0.21-0.27)	0.31***	(0.28-0.36)	0.71***	(0.63-0.80)
Wealth quintile: (Lowest)						
Second	0.90	(0.80-1.02)	0.82***	(0.73-0.92)	0.97	(0.88-1.07)
Middle	0.76***	(0.69-0.85)	0.70***	(0.62-0.79)	0.85***	(0.78-0.93)
Fourth	0.58***	(0.51-0.66)	0.61***	(0.54-0.70)	0.80***	(0.71-0.89)
Highest	0.45***	(0.40-0.51)	0.53***	(0.44-0.63)	0.77***	(0.68-0.87)
Urban area:(No)						
Yes	0.87*	(0.77-0.99)	0.82***	(0.73-0.93)	0.83***	(0.75-0.93)
<i>Level 2</i>						
Subnational HIV prevalence: (Low)						
Mid	0.80**	(0.68-0.96)	0.87*	(0.78-0.98)	0.84*	(0.71-0.99)
High	0.65***	(0.53-0.80)	0.64***	(0.56-0.73)	0.60***	(0.45-0.80)
Proportion with secondary educ. or higher	1.01	(1.00-1.01)	1.02***	(1.01-1.03)	1.03***	(1.03-1.04)
Proportion in highest wealth quintile	1.00	(0.99-1.00)	0.99***	(0.99-1.00)	0.98***	(0.97-0.99)
Country fixed-effects						
Yes			Yes		Yes	
<i>Random component</i>						
Level 2 variance, 2 (SE)	0.06	(0.01)	0.02	(0.01)	0.14	(0.03)
Level 2 intra-class correlation	0.02		0.01		0.4	

Note: Reference category is in parentheses. Significance levels: \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. p are nominal p-values and have not been corrected for multiple-hypothesis testing. OR.: Odds ratios, CI: confidence interval. All the estimations are weighted using PHIA individual or knowledge module weights. Reference category in parentheses.

Table A2: Multilevel regression of HIV related stigma among people living with HIV

	(1) Internalized stigma		(2) Experienced discrimination		(3) Anticipated stigma	
	OR	(90% CI)	OR	(90% CI)	OR	(90% CI)
<i>Level 1</i>						
Age group: (15-24 years)						
25-34 years	0.62**	(0.43-0.89)	0.99	(0.34-2.89)	0.85	(0.55-1.30)
35-44 years	0.65*	(0.44-0.96)	0.78	(0.31-1.97)	0.66*	(0.44-0.99)
45 years +	0.68*	(0.47-0.99)	1.07	(0.40-2.85)	0.58**	(0.39-0.86)
Sex:(Female)						
Male	1.00	(0.79-1.27)	1.36	(0.81-2.26)	0.99	(0.74-1.32)
Education: (Less than primary)						
Primary	0.67*	(0.48-0.95)	0.53*	(0.31-0.91)	0.84	(0.57-1.22)
Secondary level or higher	0.36***	(0.20-0.66)	0.57	(0.26-1.22)	0.88	(0.63-1.24)
Wealth quintile: (Lowest)						
Second	0.74	(0.53-1.02)	1.70	(0.75-3.86)	0.84	(0.55-1.27)
Middle	0.72	(0.50-1.03)	1.61	(0.71-3.66)	0.82	(0.55-1.21)
Fourth	0.78	(0.52-1.17)	1.10	(0.41-2.92)	1.07	(0.70-1.63)
Highest	1.31	(0.81-2.12)	1.65	(0.58-4.67)	1.77**	(1.13-2.78)
Urban area:(No)						
Yes	0.55***	(0.41-0.73)	1.25	(0.70-2.23)	0.80	(0.58-1.09)
<i>Level 2</i>						
Subnational HIV prevalence: (Low)						
Mid	0.88	(0.67-1.15)	1.42	(0.75-2.71)	1.30	(0.97-1.76)
High	1.48*	(1.02-2.14)	0.93	(0.42-2.08)	1.25	(0.84-1.86)
Proportion with secondary educ. or higher	0.99	(0.97-1.02)	1.00	(0.96-1.03)	0.98	(0.97-1.00)
Proportion in highest wealth quintile	1.01	(0.99-1.02)	1.00	(0.98-1.03)	1.01*	(1.00-1.02)
Country: (Zambia)						
Malawi	0.40**	(0.21-0.74)	0.81	(0.30-2.16)	0.30***	(0.19-0.49)
Tanzania	0.71	(0.42-1.20)	1.28	(0.61-2.67)	0.99	(0.69-1.43)
Country fixed-effects						
	Yes		Yes		Yes	
<i>Random component</i>						
Level 2 variance, 2 (SE)	0.00	(0.00)	0.16	(0.03)	0.31	(0.03)

Level 2 intra-class correlation                      0.00    0.05    0.01

Note: Reference category is in parentheses. Significance levels: \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. p are nominal p-values and have not been corrected for multiple-hypothesis testing. OR.: Odds ratios, CI: confidence interval. All the estimations are weighted using PHIA individual or knowledge module weights. Reference category in parentheses.

Table A3: Logistic regression of HIV related stigma among people living without HIV with continuous variable of HIV prevalence.

	(1) Stigmatizing behavior		(2) Discriminatory attitude		(3) Prejudice	
	OR	(90% CI)	OR	(90% CI)	OR	(90% CI)
Age group: (15-24 years)						
25-34 years	0.67***	(0.61-0.73)	0.74***	(0.68-0.81)	0.76***	(0.70-0.83)
35-44 years	0.61***	(0.55-0.66)	0.62***	(0.55-0.70)	0.64***	(0.58-0.71)
45 years +	0.64***	(0.56-0.74)	0.58***	(0.49-0.69)	0.67***	(0.58-0.76)
Sex:(Female)						
Male	0.90**	(0.83-0.97)	1.05	(0.97-1.14)	1.13***	(1.06-1.20)
Education: (Less than primary)						
Primary	0.50***	(0.45-0.56)	0.58***	(0.52-0.64)	0.82***	(0.74-0.91)
Secondary level or higher	0.23***	(0.20-0.26)	0.32***	(0.28-0.37)	0.65***	(0.57-0.75)
Wealth quintile: (Lowest)						
Second	0.82***	(0.73-0.91)	0.74***	(0.66-0.84)	0.96	(0.86-1.06)
Middle	0.69***	(0.62-0.78)	0.65***	(0.57-0.75)	0.86*	(0.76-0.98)
Fourth	0.54***	(0.47-0.62)	0.60***	(0.51-0.70)	0.81**	(0.70-0.94)
Highest	0.42***	(0.35-0.50)	0.51***	(0.41-0.62)	0.80**	(0.68-0.94)
Urban area:(No)						
Yes	0.85*	(0.74-0.98)	0.74***	(0.64-0.85)	0.76***	(0.68-0.85)
Regional HIV prevalence	0.96***	(0.95-0.98)	0.96***	(0.95-0.98)	0.98***	(0.96-0.99)
Proportion with secondary educ. or higher	1.00	(0.99-1.01)	1.01**	(1.00-1.02)	1.01***	(1.00-1.02)
Proportion in highest wealth quintile	1.00	(1.00-1.01)	1.00	(0.99-1.00)	0.99***	(0.99-1.00)
Country: (Zambia)						
Malawi	0.26***	(0.21-0.33)	0.56***	(0.45-0.70)	0.82**	(0.70-0.97)
Tanzania	0.72***	(0.59-0.87)	0.96	(0.80-1.16)	0.87	(0.75-1.02)

Note: Reference category is in parentheses. Significance levels: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . p are nominal p-values and have not been corrected for multiple-hypothesis testing. OR.: Odds ratios, CI: confidence interval. All the estimations are weighted All the estimations are weighted using PHIA individual or knowledge module weights. Reference category in parentheses.

Table A4: Logistic regression of HIV related stigma among people living with HIV with continuous variable of HIV prevalence

	(1) Internalized stigma		(2) Experienced discrimination		(3) Anticipated stigma	
	OR	(90% CI)	OR	(90% CI)	OR	(90% CI)
Mainland or Zanzibar indicator						
Age group: (15-24 years)						
25-34 years	0.70	(0.46-1.08)	0.56	(0.20-1.60)	0.80	(0.51-1.25)
35-44 years	0.79	(0.53-1.16)	0.46	(0.18-1.22)	0.63*	(0.41-0.97)
45 years +	0.87	(0.55-1.39)	0.52	(0.18-1.53)	0.54**	(0.33-0.90)
Sex:(Female)						
Male	0.94	(0.72-1.24)	1.29	(0.81-2.05)	0.95	(0.68-1.32)
Education: (Less than primary)						
Primary	0.66*	(0.45-0.95)	0.81	(0.38-1.70)	0.98	(0.64-1.52)
Secondary level or higher	0.38***	(0.24-0.63)	0.73	(0.31-1.72)	0.95	(0.58-1.57)
Wealth quintile: (Lowest)						
Second	0.58**	(0.38-0.88)	0.75	(0.26-2.13)	0.79	(0.46-1.37)
Middle	0.62**	(0.42-0.91)	0.59	(0.21-1.64)	0.89	(0.55-1.47)
Fourth	0.67	(0.43-1.06)	0.38	(0.14-1.05)	1.04	(0.64-1.68)
Highest	0.95	(0.58-1.55)	0.85	(0.31-2.37)	1.85*	(1.08-3.17)
Urban area:(No)						
Yes	0.60**	(0.41-0.87)	1.31	(0.70-2.46)	0.74	(0.50-1.07)
Regional HIV prevalence Proportion with secondary educ. or higher	1.06**	(1.01-1.11)	1.02	(0.95-1.10)	1.04	(0.99-1.09)
	1.00	(0.97-1.02)	1.00	(0.95-1.06)	0.98	(0.95-1.00)

Proportion in highest wealth quintile	1.00	(0.99-1.02)	0.99	(0.97-1.02)	1.02*	(1.00-1.03)
Country: (Zambia)						
Malawi	0.43*	(0.22-0.87)	1.00	(0.28-3.58)	0.25***	(0.12-0.51)
Tanzania	0.87	(0.52-1.47)	1.90	(0.51-7.01)	0.97	(0.54-1.75)

Note: Reference category is in parentheses. Significance levels: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .  $p$  are nominal  $p$ -values and have not been corrected for multiple-hypothesis testing. OR.: Odds ratios, CI: confidence interval. All the estimations are weighted All the estimations are weighted using PHIA individual or knowledge module weights. Reference category in parentheses.