

Table 3: Main results: Link between SIA exposure and routine childhood immunisation uptake

<i>Dependent variable: non-polio full immunisation status</i>	Full model	Interaction model (EXPxAGE)	Exposure decomposition
EXP_CHI	-0.024*** [-0.036, -0.012]	0.012 [-0.009, 0.034]	
EXP_CHI_RI		-0.024* [-0.048, 0.000]	
EXP_CHI_FU		-0.024** [-0.037, -0.010]	
EXPxAGE		-0.001*** [-0.001, -0.001]	
EXPxYR [yr = 2008]			
EXPxYR [yr = 2013]			
EXPxYR [yr = 2018]			
AGExYR [yr = 2008]			
AGExYR [yr = 2013]			
AGExYR [yr = 2018]			
EXPxAGExYR [yr = 2008]			
EXPxAGExYR [yr = 2013]			
EXPxAGExYR [yr = 2018]			
CHI_AGE	0.078*** [0.063, 0.093]	0.038*** [0.031, 0.044]	0.078*** [0.063, 0.093]
	-0.001***		-0.001***
CHI_AGE2			
Level 1 Observations (child)	24381	24381	24381
Level 2 Observations (LGA)	684	684	684
Akaike Information Criterion	18030.298	18055.959	18032.469
Prob. > χ^2	<0.001	<0.001	<0.001

95% confidence intervals in brackets

* p < 0.10, ** p < 0.05, *** p < 0.01

Table 3a: Detailed results: Link between SIA exposure and routine childhood immunisation uptake

Dependent variable: non-polio full immunisation status	Main results				Robustness checks: reporting				
	Full model	Interaction model (EXPxAGE)	Exposure decomposition	Year-Interaction models		Full model		Interaction model (EXPxAGE)	
				(EXPxYR)	(EXPxAGExYR)	Only health card reported vaccines (VAC_norep)	Date approximation (EXP_CHI_nod)	Only health card reported vaccines (VAC_norep)	Date approximation (EXP_CHI_nod)
EXP_CHI	-0.024*** [-0.036, -0.012]	0.012 [-0.009, 0.034]		-0.053 [-0.217, 0.112]	-0.551 [-1.460, 0.359]	-0.002 [-0.021, 0.018]	-0.025** [-0.036, -0.015]	0.036** [0.002, 0.070]	0.004 [-0.014, 0.022]
EXP_CHI_RI				-0.024* [0.048, 0.000]					
EXP_CHI_FU				-0.024** [-0.037, -0.010]					
EXPxAGE				-0.001*** [-0.001, -0.001]		0.020 [-0.032, 0.072]		-0.001*** [-0.002, -0.000]	-0.001*** [-0.001, -0.000]
EXPxYR				0.010 [0.154, 0.174]	0.531 [-0.379, 1.440]				
[yr = 2008]				0.027 [0.027, 0.570]					
EXPxYR				-0.137 [0.137, 0.190]	0.190 [-0.339, 1.479]				
[yr = 2013]				0.041 [0.041, 0.711]					
EXPxYR				-0.124 [0.124, 0.205]	0.205 [-0.203, 1.626]				
[yr = 2018]				-0.062 [0.062, 0.251]					
AGExYR				-0.058 [0.058, 0.246]					
[yr = 2008]				-0.060 [0.060, 0.246]					
AGExYR				-0.020 [0.020, 0.249]					
[yr = 2013]				-0.021 [0.021, 0.073]					
AGExYR				-0.026 [0.026, 0.078]					
[yr = 2018]				-0.026 [0.026, 0.078]					
EXPxAGExYR				0.078*** [0.063, 0.093]	0.038*** [0.031, 0.044]	0.078*** [0.063, 0.093]	0.033*** [0.027, 0.039]	0.098 [0.090, 0.286]	0.069*** [0.046, 0.091]
[yr = 2008]				-0.001*** [-0.001, -0.001]				-0.001*** [-0.001, -0.001]	
EXPxAGExYR				-0.001*** [-0.001, -0.001]				-0.001*** [-0.001, -0.001]	
[yr = 2013]				-0.001*** [-0.001, -0.001]				-0.001*** [-0.001, -0.001]	
EXPxAGExYR				-0.001*** [-0.001, -0.001]				-0.001*** [-0.001, -0.001]	
[yr = 2018]				-0.001*** [-0.001, -0.001]				-0.001*** [-0.001, -0.001]	
CHI_AGE	0.078*** [0.063, 0.093]	0.038*** [0.031, 0.044]	0.078*** [0.063, 0.093]	0.033*** [0.027, 0.039]	0.098 [0.090, 0.286]	0.069*** [0.046, 0.091]	0.070*** [0.057, 0.083]	0.033*** [0.023, 0.043]	0.036*** [0.030, 0.042]
CHI_AGE2	-0.001*** [-0.001, -0.001]		-0.001*** [-0.001, -0.001]			-0.001*** [-0.001, -0.001]		-0.001*** [-0.001, -0.001]	
CHI_ORD	-0.060*** [-0.085, -0.036]	-0.061*** [-0.086, -0.037]	-0.061*** [-0.085, -0.036]	-0.061*** [-0.085, -0.036]	-0.062*** [-0.086, -0.037]	-0.083*** [-0.121, -0.046]	-0.076*** [-0.098, -0.055]	-0.083*** [-0.121, -0.046]	-0.077*** [-0.099, -0.055]
CHI_SEX	-0.003 [-0.078, 0.071]	-0.004 [-0.079, 0.070]	-0.003 [-0.078, 0.071]	-0.007 [-0.081, 0.068]	-0.006 [-0.081, 0.069]	-0.036 [-0.146, 0.074]	0.014 [-0.050, 0.079]	-0.037 [-0.147, 0.073]	0.013 [-0.051, 0.078]
MOT_ANC	0.055*** [0.046, 0.064]	0.056*** [0.047, 0.064]	0.055*** [0.046, 0.064]	0.055*** [0.047, 0.064]	0.055*** [0.025, 0.049]	0.059*** [0.051, 0.067]	0.037*** [0.025, 0.050]	0.059*** [0.051, 0.067]	
MOT_EDM	0.061*** [0.043, 0.079]	0.061*** [0.044, 0.079]	0.061*** [0.043, 0.079]	0.061*** [0.044, 0.080]	0.062*** [0.023, 0.077]	0.050*** [0.041, 0.072]	0.049*** [0.022, 0.076]	0.050*** [0.041, 0.072]	
MOT_EDF	0.010 [-0.008, 0.028]	0.010 [-0.008, 0.028]	0.010 [-0.008, 0.028]	0.009 [-0.009, 0.028]	0.009 [-0.009, 0.028]	-0.021 [-0.049, 0.007]	0.008 [-0.008, 0.024]	-0.021 [-0.049, 0.008]	0.008 [-0.008, 0.024]
MOT_AWE	2.972*** [2.848, 3.096]	2.969*** [2.846, 3.093]	2.972*** [2.848, 3.096]	2.957*** [2.833, 3.080]	2.965*** [2.841, 3.089]	0.000 [0.000, 0.000]	2.990*** [2.882, 3.099]	0.000 [0.000, 0.000]	2.986*** [2.878, 3.095]
MOT_AGE	0.026*** [0.018, 0.035]	0.026*** [0.018, 0.035]	0.026*** [0.018, 0.035]	0.026*** [0.017, 0.035]	0.027*** [0.018, 0.050]	0.037*** [0.024, 0.039]	0.031*** [0.024, 0.050]	0.037*** [0.024, 0.050]	0.032*** [0.024, 0.039]
HH_RUR	-0.087*** [-0.190, 0.016]	-0.090*** [-0.193, 0.013]	-0.087*** [-0.190, 0.016]	-0.093*** [-0.195, 0.010]	-0.098*** [-0.201, 0.005]	-0.182*** [-0.324, -0.039]	-0.094*** [-0.186, -0.002]	-0.184*** [-0.326, -0.042]	-0.097*** [-0.189, -0.005]
HH_REL (ref: Catholic): Other Christian	-0.126* [-0.267, 0.015]	-0.128* [-0.269, 0.013]	-0.126* [-0.267, 0.015]	-0.130* [-0.271, 0.011]	-0.124* [-0.265, 0.017]	-0.131 [-0.318, 0.056]	-0.105* [-0.230, 0.020]	-0.133 [-0.320, 0.054]	-0.107* [-0.232, 0.018]
HH_REL (ref: Catholic): Islam	-0.472*** [-0.644, -0.300]	-0.481*** [-0.653, -0.308]	-0.472*** [-0.645, -0.300]	-0.467*** [-0.639, -0.295]	-0.476*** [-0.649, -0.304]	-0.460*** [-0.697, -0.222]	-0.427*** [-0.580, -0.275]	-0.472*** [-0.709, -0.234]	-0.434*** [-0.586, -0.281]
HH_REL (ref: Catholic): Traditionalist	-0.546*** [-0.954, -0.139]	-0.543*** [-0.950, -0.137]	-0.546*** [-0.954, -0.139]	-0.552*** [-0.959, -0.146]	-0.559*** [-0.967, -0.152]	-0.470 [-1.121, 0.182]	-0.513*** [-0.892, -0.135]	-0.474 [-1.126, 0.178]	-0.508*** [-0.886, -0.129]
HH_REL (ref: Catholic): Other	-0.228 [-1.246, 0.789]	-0.222 [-1.236, 0.792]	-0.229 [-1.246, 0.805]	-0.207 [-1.198, 0.827]	-0.185 [-2.528, 0.616]	-0.956 [-0.927, 0.611]	-0.158 [-2.528, 0.614]	-0.957 [-0.927, 0.608]	-0.160 [-0.927, 0.608]
HH_ETH (ref: Eko): Fulani	-0.930*** [-1.438, -0.422]	-0.958*** [-1.467, -0.450]	-0.931*** [-1.438, -0.423]	-0.866*** [-1.374, -0.358]	-0.900*** [-1.411, -0.390]	-0.782*** [-1.430, -0.133]	-0.961*** [-1.423, -0.499]	-0.799*** [-1.448, -0.149]	-0.983*** [-1.445, -0.521]
HH_ETH (ref: Eko): Hausa	-0.851*** [-1.337, -0.365]	-0.892*** [-1.379, -0.404]	-0.852*** [-1.339, -0.365]	-0.777*** [-1.263, -0.290]	-0.828*** [-1.318, -0.339]	-0.983*** [-1.585, -0.382]	-0.771*** [-1.217, -0.325]	-1.018*** [-1.621, -0.414]	-0.798*** [-1.245, -0.352]
HH_ETH (ref: Eko): Ibibio	-0.636*** [-1.171, -0.101]	-0.629*** [-1.165, -0.094]	-0.636*** [-1.171, -0.101]	-0.589*** [-1.123, -0.055]	-0.579*** [-1.115, -0.044]	-0.704*** [-1.360, -0.047]	-0.622*** [-1.117, -0.126]	-0.696*** [-1.354, -0.038]	-0.620*** [-1.115, -0.124]
HH_ETH (ref: Eko): Igala	-0.660*** [-1.245, -0.075]	-0.659*** [-1.245, -0.073]	-0.660*** [-1.246, -0.075]	-0.610*** [-1.194, -0.026]	-0.600*** [-1.186, -0.014]	-0.540 [-1.326, 0.246]	-0.519*** [-1.058, 0.020]	-0.532 [-1.320, 0.255]	-0.521*** [-1.061, 0.018]
HH_ETH (ref: Eko): Igbo	-0.453* [-0.922, 0.016]	-0.449* [-0.919, 0.020]	-0.453* [-0.922, 0.016]	-0.409* [-0.876, 0.059]	-0.404* [-0.874, 0.065]	-0.804*** [-1.362, -0.245]	-0.428* [-0.864, 0.009]	-0.804*** [-1.364, -0.245]	-0.427* [-0.864, 0.009]
HH_ETH (ref									

Table 3b: Robustness Check (3-Level models): Link between SIA exposure and routine childhood immunisation uptake

Dependent variable: non-polio full immunisation status	Main results				Robustness checks: reporting			
	Full model	Exposure decomposition	Interaction model (EXPxAGE)	Year-Interaction models		Full model		Interaction model (EXPxAGE)
				(EXPxYR)	(EXPxAGExYR)	Only health card reported vaccines (VAC_norep)	Date approximation (EXP_CHI_nod)	Only health card reported vaccines (VAC_norep)
EXP_CHI	-0.020*** [-0.033, -0.006]		0.023* [0.001, 0.047]	-0.067 [-0.231, 0.098]	-0.453 [-1.359, 0.453]	0.001 [-0.021, 0.022]	-0.022** [-0.034, -0.011]	0.043** [0.007, 0.079]
EXP_CHI_RI		-0.020 [-0.046, 0.005]						0.010 [-0.009, 0.030]
EXP_CHI_FU		-0.020*** [-0.034, -0.005]						
EXPxAGE			-0.001*** [-0.001, -0.001]		0.015 [-0.037, 0.066]			-0.001*** [-0.002, -0.000]
EXPxYR				0.028 [0.135, 0.191]	0.449 [-0.456, 1.354]			-0.001*** [-0.001, -0.000]
[yr = 2008]				0.043 [0.043, 0.481]				
EXPxYR				[0.120, 0.206]	0.481 [-0.424, 1.386]			
[yr = 2013]				0.057 [0.057, 0.624]				
EXPxYR				[0.107, 0.220]	0.624 [-0.286, 1.534]			
[yr = 2018]					-0.071 [-0.259, 0.117]			
AGExYR					0.067 [-0.259, 0.117]			
[yr = 2008]					0.067 [-0.255, 0.121]			
AGExYR					0.070 [-0.259, 0.118]			
[yr = 2013]					0.015 [-0.067, 0.037]			
AGExYR					0.016 [-0.068, 0.036]			
[yr = 2018]					-0.021 [-0.073, 0.032]			
CHI_AGE	0.076*** [0.061, 0.091]	0.076*** [0.061, 0.091]	0.036*** [0.029, 0.042]	0.032*** [0.025, 0.038]	0.106 [-0.082, 0.294]	0.068*** [0.045, 0.091]	0.069*** [0.055, 0.082]	0.032*** [0.022, 0.043]
CHI_AGE2	-0.001*** [-0.001, -0.001]	-0.001*** [-0.001, -0.001]				-0.001*** [-0.001, -0.000]	-0.001*** [-0.001, -0.000]	0.034*** [0.028, 0.040]
CHI_ORD	-0.060*** [-0.085, -0.036]	-0.060*** [-0.085, -0.036]	-0.061*** [-0.086, -0.036]	-0.061*** [-0.086, -0.036]	-0.061*** [-0.086, -0.037]	-0.082*** [-0.120, -0.045]	-0.075*** [-0.097, -0.054]	-0.082*** [-0.120, -0.045]
CHI_SEX	-0.002 [-0.076, 0.073]	-0.002 [-0.076, 0.073]	-0.003 [-0.077, 0.072]	-0.004 [-0.079, 0.070]	-0.004 [-0.078, 0.070]	-0.040 [-0.150, 0.069]	0.014 [-0.050, 0.079]	-0.041 [-0.151, 0.069]
MOT_ANC	0.057*** [0.048, 0.066]	0.057*** [0.048, 0.066]	0.057*** [0.048, 0.066]	0.056*** [0.048, 0.065]	0.056*** [0.048, 0.066]	0.038*** [0.025, 0.051]	0.060*** [0.052, 0.068]	0.060*** [0.052, 0.068]
MOT_EDM	0.060*** [0.042, 0.078]	0.060*** [0.042, 0.078]	0.060*** [0.042, 0.078]	0.060*** [0.042, 0.078]	0.061*** [0.043, 0.079]	0.049*** [0.022, 0.076]	0.056*** [0.040, 0.071]	0.056*** [0.040, 0.071]
MOT_EDF	0.009 [-0.010, 0.027]	0.009 [-0.010, 0.027]	0.009 [-0.010, 0.027]	0.008 [-0.010, 0.027]	0.008 [-0.010, 0.027]	-0.023 [-0.051, 0.005]	0.007 [-0.008, 0.023]	-0.023 [-0.051, 0.005]
MOT_AWE	2.962*** [2.838, 3.086]	2.962*** [2.838, 3.086]	2.960*** [2.836, 3.084]	2.946*** [2.822, 3.070]	2.955*** [2.831, 3.079]	0.000 [0.000, 0.000]	2.991*** [2.882, 3.100]	2.987*** [2.878, 3.096]
MOT_AGE	0.027*** [0.018, 0.035]	0.027*** [0.018, 0.035]	0.027*** [0.018, 0.036]	0.027*** [0.018, 0.035]	0.027*** [0.019, 0.036]	0.037*** [0.024, 0.050]	0.037*** [0.024, 0.050]	0.032*** [0.024, 0.039]
HH_RUR	-0.165, 0.040 [-0.165, 0.040]	-0.165, 0.040 [-0.165, 0.040]	-0.168, 0.038 [-0.168, 0.038]	-0.170, 0.035 [-0.170, 0.035]	-0.175, 0.031 [-0.175, 0.031]	-0.160* [-0.320, -0.033]	-0.093 [-0.159, 0.026]	-0.163* [-0.323, -0.037]
HH_REL (ref: Catholic): Other Christian	-0.112 [-0.254, 0.030]	-0.112 [-0.253, 0.030]	-0.114 [-0.256, 0.028]	-0.116 [-0.257, 0.025]	-0.109 [-0.251, 0.033]	-0.160* [-0.349, 0.029]	-0.093 [-0.218, 0.033]	-0.094 [-0.352, 0.026]
HH_REL (ref: Catholic): Islam	-0.429*** [-0.605, -0.254]	-0.429*** [-0.605, -0.254]	-0.433*** [-0.608, -0.257]	-0.430*** [-0.605, -0.255]	-0.432*** [-0.607, -0.256]	-0.437*** [-0.680, -0.194]	-0.392*** [-0.548, -0.237]	-0.394*** [-0.690, -0.204]
HH_REL (ref: Catholic): Traditionalist	-0.498** [-0.906, -0.091]	-0.498** [-0.906, -0.090]	-0.493** [-0.901, -0.085]	-0.503** [-0.910, -0.096]	-0.509** [-0.918, -0.101]	-0.476 [-1.127, 0.176]	-0.459** [-0.840, -0.079]	-0.480 [-1.131, 0.172]
HH_REL (ref: Catholic): Other	-0.318 [-1.344, 0.709]	-0.318 [-1.345, 0.708]	-0.316 [-1.339, 0.708]	-0.292 [-1.312, 0.729]	-0.280 [-1.302, 0.742]	-1.100 [-2.685, 0.485]	-0.212 [-0.986, 0.562]	-0.215 [-2.689, 0.478]
HH_ETH (ref: Eko): Fulani	-0.802*** [-1.341, -0.262]	-0.802*** [-1.342, -0.263]	-0.816*** [-1.357, -0.275]	-0.751*** [-1.290, -0.212]	-0.772*** [-1.314, -0.229]	-0.833*** [-1.522, -0.145]	-0.888*** [-1.378, -0.399]	-0.845*** [-1.535, -0.155]
HH_ETH (ref: Eko): Hausa	-0.703*** [-1.227, -0.179]	-0.703*** [-1.227, -0.179]	-0.722*** [-1.248, -0.196]	-0.649*** [-1.172, -0.125]	-0.677*** [-1.205, -0.150]	-1.106*** [-1.756, -0.455]	-0.673*** [-1.152, -0.195]	-0.686*** [-1.783, -0.479]
HH_ETH (ref: Eko): Ibibio	-0.468 [-1.030, 0.095]	-0.468 [-1.030, 0.095]	-0.458 [-1.022, 0.106]	-0.418 [-0.980, 0.144]	-0.419 [-0.983, 0.145]	-0.550 [-1.258, 0.159]	-0.492* [-1.009, 0.026]	-0.489* [-1.247, 0.173]
HH_ETH (ref: Eko): Igala	-0.637** [-1.266, -0.008]	-0.637** [-1.266, -0.009]	-0.639** [-1.268, -0.009]	-0.595* [-1.222, 0.032]	-0.594* [-1.224, 0.036]	-0.651 [-1.495, 0.194]	-0.505* [-1.080, 0.069]	-0.646 [-1.492, 0.200]
HH_ETH (ref: Eko): Igbo	-0.332 [-0.849, 0.185]	-0.332 [-0.849, 0.185]	-0.324 [-0.842, 0.195]	-0.291 [-0.806, 0.225]	-0.294 [-0.812, 0.225]	-0.737** [-1.358, -0.116]	-0.382 [-0.859, 0.095]	-0.382 [-1.354, -0.109]
HH_ETH (ref: Eko): Jawa / Izon	-0.545* [-1.142, 0.053]	-0.545* [-1.142, 0.053]	-0.548* [-1.147, 0.052]	-0.512* [-1.108, 0.084]	-0.507* [-1.106, 0.092]	-1.211** [-1.974, -0.448]	-0.417 [-0.964, 0.130]	-0.418 [-1.966, 0.129]
HH_ETH (ref: Eko): Kanuri / Beriberi	-0.751** [-1.386, -0.116]	-0.751** [-1.387, -0.116]	-0.765** [-1.401, -0.128]	-0.768** [-1.312, -0.043]	-0.729** [-1.367, -0.091]	-1.423** [-2.294, -0.552]	-0.809** [-1.379, -0.240]	-0.821** [-2.322, -0.578]
HH_ETH (ref: Eko): Tiv	-0.556* [-1.178, 0.067]	-0.556* [-1.178, 0.067]	-0.571* [-1.195, 0.053]	-0.530* [-1.151, 0.091]	-0.526* [-1.150, 0.099]	-0.969** [-1.750, -0.188]	-0.482* [-1.052, 0.088]	-0.497* [-1.757, -0.191]
HH_ETH (ref: Eko): Yoruba	-0.428 [-0.950, 0.094]	-0.428 [-0.950, 0.094]	-0.427 [-0.950, 0.097]	-0.386 [-0.907, 0.135]	-0.394 [-0.918, 0.130]	-0.630* [-1.269, 0.009]	-0.371 [-0.853, 0.111]	-0.373 [-1.265, 0.016]
HH_ETH (ref: Eko): Other	-0.526** [-1.020, -0.031]	-0.526** [-1.021, -0.032]	-0.530** [-1.026, -0.034]	-0.475* [-0.969, 0.019]	-0.487* [-0.984, 0.010]	-0.828** [-1.426, -0.230]	-0.496** [-0.952, -0.039]	-0.501** [-1.432, -0.233]
HH_SIZ	-0.014** [-0.027, -0.001]	-0.014** [-0.027, -0.001]	-0.014** [-0.027, -0.					