Table 6: Relationship between health system performance and SIA frequency across regions in survey sample.

	Region									
			Keç	jion						
Indicator	North	North	North	South	South	South				
	Central	East	West	East	South	West				
Average total number of SIAs at LGA level	75.81	100.17	113.94	47.07	47.38	50.61				
Full immunisation status (incl. polio) ^a	21.9%	11.7%	8.3%	40.6%	31.5%	33.4%				
Child exposure to SIAs	9.11	13.01	15.06	4.78	4.71	5.34				
Mother's exposure to SIAs in pregnancy	3.28	4.42	5.07	1.89	1.87	2.07				
Mother's average no. of ANC visits	4.68	2.78	2.3	8.16	6.35	10.75				
Average place of delivery: home	49.5%	80.1%	87.2%	17.8%	50.4%	23.2%				
Average place of delivery: private facility	16.5%	1.5%	1.5%	45.5%	15.6%	29.3%				
Average place of delivery: public facility	34.0%	18.4%	11.3%	36.8%	34.0%	47.4%				
Average survival of children under 5 years	91.8%	89.6%	87.4%	91.9%	93.1%	94.1%				
Mothers' average years of education	3.05	1.49	1.16	4.57	4.42	4.25				
Average household wealth index	3.88	2.54	2.93	4.96	4.75	5.1				

Notes. Derived from DHS data. Unweighted statistics aggregated firstly at LGA and secondly at regional level, comprising full sample of children born between Oct 2000 and Dec 2017. ANC = antenatal care; DHS = Demographic and Health Survey; LGA = local government area; SIA = Supplementary Immunisation Activity.

^{a.} Full immunisation status for children aged between 10 and 60 months, including at least 1 dose of BCG, 3 doses of DPT, 1 dose of measles vaccine, and three doses of oral polio vaccine.

Dependent variables: various indicators of routine	sta	immunisation tus		Delivery		Antena	Child surviva	
nmunisation, maternal care and child survival (see right)	Full model	Interaction model	At home	At private facility	At public facility	No. of antenatal care	No. of tetanus injections	Total exposure
EXP_CHI	-0.030***	0.011						
2/1 _0111	[-0.044,-0.016]	-						
EXPxAGE		-0.001***						
EXT XXOL		[-0.001,-0.000]						
EXP_PREG			0.006	-0.057***	0.004	-0.020	-0.003	
EXT _1 11E0			[-0.020,0.032]	[-0.091,-0.024]	[-0.020,0.029]	[-0.060,0.021]	[-0.014,0.007]	
EXP_TOT_nod (total exposure,								-0.013 ^{**}
date approximation)								[-0.024,-0.00
CHI_AGE	0.033***	0.038***						-0.002
OHI_NOE	[0.026,0.039]	[0.031,0.045]						[-0.014,0.00
CHI_AGE2								0.000
0111 <u>7</u> 1022								[-0.000,0.00
CHI_ORD	-0.060***	-0.061***						-0.143 ^{***}
0111_01\0	[-0.088,-0.033]							[-0.170,-0.1
CHI_SEX	-0.007	-0.006						0.245***
OIII_OEX	[-0.090,0.077]	-						[0.157,0.33
MOT_ANC	0.053***	0.053***	-0.133 ^{***}	0.056***	0.061***			0.002
WO1_ANO	[0.043,0.062]	-	[-0.142,-0.125]	[0.047,0.064]	[0.054,0.068]			[-0.010,0.01
MOT_EDM	0.069***	0.069***	-0.064***	0.057***	0.053***	0.105***	0.031***	0.018
MO1_EDM	[0.049,0.089]	[0.049,0.089]	[-0.081,-0.048]	[0.035,0.080]	[0.038,0.069]	[0.079,0.130]	[0.024,0.038]	[-0.006,0.04
MOT EDE	0.006	0.007	-0.028***	0.036***	0.031***	0.090***	0.022***	0.024**
MOT_EDF	[-0.014,0.027]	[-0.013,0.028]	[-0.045,-0.012]	[0.012,0.059]	[0.015,0.047]	[0.068,0.112]	[0.015,0.029]	[0.002,0.04
MOT AWE	2.955***	2.964***	-0.947***	0.289***	1.021***	1.900***	0.631***	
MOT_AWE	[2.821,3.089]	[2.829,3.098]	[-1.029,-0.865]	[0.166,0.411]	[0.936,1.106]	[1.754,2.047]	[0.584,0.677]	
NOT 405	0.025***	0.026***	-0.002	0.001	0.002	0.014***	0.002	0.010**
MOT_AGE	[0.016,0.035]	[0.016,0.035]	[-0.007,0.004]	[-0.007,0.008]	[-0.003,0.007]	[0.007,0.020]	[-0.000,0.004]	[0.000,0.02
5.15	-0.074	-0.076	0.599***	-0.402***	-0.364***	-0.568***	-0.168***	-0.266***
HH_RUR	[-0.191,0.044]	[-0.194,0.042]	[0.498,0.701]	[-0.526,-0.278]	[-0.458,-0.270]	[-0.836,-0.301]	[-0.226,-0.111]	[-0.395,-0.1
HH_REL (ref: Catholic): Other	-0.172**	-0.172**	0.106	-0.042	-0.050	-0.102	-0.037	-0.050
Christian	[-0.329,-0.015]	[-0.330,-0.015]	[-0.029,0.242]	[-0.180,0.096]	[-0.172,0.071]	[-0.348,0.144]	[-0.096,0.022]	[-0.245,0.14
	-0.504***	-0.522***	0.205**	-0.218**	-0.035	-0.177	-0.109***	0.025
HH_REL (ref: Catholic): Islam	[-0.695,-0.313]	[-0.714,-0.330]	[0.040,0.369]	[-0.397,-0.040]	[-0.184,0.113]	[-0.508,0.154]	[-0.189,-0.029]	[-0.204,0.25
HH_REL (ref: Catholic):	-0.596***	-0.600***	1.053***	-0.863***	-0.553***	-0.589**	-0.360***	-0.069
Traditionalist	[-1.025,-0.168]	[-1.029,-0.171]	[0.680,1.426]	[-1.347,-0.380]	[-0.936,-0.171]	[-1.087,-0.091]	[-0.498,-0.221]	[-0.457,0.37
	-0.733	-0.725	-0.555	0.570	0.388	0.096	0.022	-0.324
HH_REL (ref: Catholic): Other	[-2.533,1.067]	[-2.524,1.075]	[-1.634,0.523]	[-0.794,1.933]	[-0.744,1.520]	[-2.104,2.295]	[-0.697,0.741]	[-1.551,0.90
	-1.040***	-1.092***	0.671***	-0.058	-0.744***	-0.764	-0.383***	-0.447
HH_ETH (ref: Ekoi): Fulani	[-1.596,-0.484]	[-1.650,-0.535]	[0.201,1.141]	[-1.098,0.981]	[-1.207,-0.280]	[-2.268,0.740]	[-0.655,-0.110]	[-1.256,0.36
	-0.926***	-1.012***	0.936***	-0.569	-0.806***	-0.504	-0.293**	-0.832**
HH_ETH (ref: Ekoi): Hausa	[-1.459,-0.393]	[-1.547,-0.477]	[0.481,1.391]	[-1.557,0.419]	[-1.254,-0.357]	[-2.005,0.996]	[-0.563,-0.023]	[-1.632,-0.0
	-0.639**	-0.643**	0.296	0.750	-0.263	-0.026	-0.163	-0.777 [*]
HH_ETH (ref: Ekoi): Ibibio	[-1.224,-0.054]	[-1.229,-0.057]	[-0.220,0.811]	[-0.270,1.771]	[-0.767,0.242]	[-1.484,1.433]	[-0.483,0.156]	[-1.650,0.09
	-0.699**	-0.704**	-0.532 [*]	1.440***	0.023	-0.135	0.284*	-0.670
HH_ETH (ref: Ekoi): Igala	[-1.337,-0.061]	[-1.342,-0.065]	[-1.106,0.043]	[0.423,2.456]	[-0.509,0.556]	[-1.689,1.418]	[-0.046,0.615]	[-1.584,0.24
	-0.542**	-0.546 ^{**}	-0.852***	2.114***	-0.601***	1.096	0.078	-0.917**
HH_ETH (ref: Ekoi): Igbo				[1.165,3.064]		[-0.409,2.602]	[-0.184,0.340]	
	-0.654 ^{**}	-0.651 ^{**}	0.819***	0.238	-0.751***	-0.915	-0.150	-0.766 [*]
HL_ETH (ref: Ekoi): ljaw / lzon				[-0.817,1.292]		[-2.502,0.672]	[-0.444,0.145]	[-1.592,0.05
UU ETU (rof: Ekoi): Vancei (-1.146***	-1.232***	1.027***	-0.564	-0.954***	-0.626	-0.286 [*]	-0.628
HH_ETH (ref: Ekoi): Kanuri / Beriberi				[-1.886,0.759]		[-2.148,0.897]	[-0.579,0.007]	[-1.471,0.21
	-0.721**	-0.734**	-0.803***	1.933***	0.111	-1.066	-0.392**	-0.883**

HH_ETH (ref: Ekoi): Tiv								
_ ` '	[-1.334,-0.108]	[-1.347,-0.120]	[-1.314,-0.292]	[0.928,2.937]	[-0.398,0.621]	[-2.636,0.504]	[-0.696,-0.088]	[-1.710,-0.056]
ETH (6 EL 2) V	-0.650 ^{**}	- 0.660**	-0.172	1.441***	-0.422 [*]	2.185***	0.061	-0.429
HH_ETH (ref: Ekoi): Yoruba	[-1.168,-0.132]	[-1.179,-0.141]	[-0.628,0.283]	[0.485,2.397]	[-0.866,0.022]	[0.668,3.702]	[-0.204,0.327]	[-1.231,0.372]
	-0.727***	-0.759***	0.196	1.015**	-0.322	-0.039	-0.054	-0.723 [*]
HH_ETH (ref: Ekoi): Other	[-1.226,-0.228]	[-1.260,-0.259]	[-0.238,0.630]	[0.066,1.963]	[-0.750,0.105]	[-1.520,1.442]	[-0.317,0.209]	[-1.506,0.060]
	-0.015**	-0.015**	0.030***	-0.013	-0.019***	-0.049***	-0.008***	0.135***
HH_SIZ	[-0.029,-0.001]	[-0.029,-0.001]	[0.019,0.041]	[-0.029,0.003]	[-0.030,-0.009]	[-0.064,-0.035]	[-0.013,-0.004]	[0.117,0.153]
	0.155***	0.156***	-0.213***	0.116***	0.138***	0.318***	0.066***	0.012
HH_WEA	[0.133,0.178]	[0.133,0.179]	[-0.232,-0.194]	[0.092,0.140]	[0.120,0.155]	[0.282,0.353]	[0.057,0.076]	[-0.013,0.038]
	0.667***	0.601***	0.001	-0.246**	0.081	-0.658***	-0.098**	0.320***
YEAR (ref: 2003): 2008	[0.402,0.932]	[0.333,0.869]	[-0.185,0.188]	[-0.462,-0.031]	[-0.097,0.259]	[-1.073,-0.242]	[-0.184,-0.013]	[0.123,0.517]
VE15 / 1 0000 0010	0.801***	0.720***	-0.030	-0.406***	0.146	-0.338	-0.036	0.464***
YEAR (ref: 2003): 2013	[0.539,1.064]	[0.453,0.986]	[-0.216,0.156]	[-0.618,-0.194]	[-0.030,0.322]	[-0.769,0.094]	[-0.123,0.052]	[0.258,0.670]
0 4 4	-4.617 ^{***}	-4.787***	2.050***	-3.869***	- 2.399***	3.518***	1.007***	2.723***
Constant	[-5.246,-3.989]	[-5.423,-4.151]	[1.540,2.561]	[-4.878,-2.861]	[-2.900,-1.897]	[1.918,5.118]	[0.716,1.299]	[1.871,3.576]
Multilevel variance parameter:	0.349***	0.348***	0.478***	0.789***	0.499***	0.793***	-1.384***	0.041**
Level 1	[0.265, 0.434]	[0.264,0.432]	[0.381,0.576]	[0.603,0.975]	[0.407,0.590]	[0.696,0.890]	[-1.483,-1.285]	[0.007,0.075]
Multilevel variance parameter: Residual						1.333*** [1.291,1.376]	0.092*** [0.064,0.121]	
Level 1 Observations (child)	20752	20752	29480	29480	29480	29691	31177	34500
Level 2 Observations (LGA)	572	572	574	574	574	574	575	576
Akaike Information Criterion	14663.935	14651.865	21880.73	14443.993	24935.19	164998.875	94979.021	15648.893
Prob. $> X^2$	< 0.001	<0.001	<0.001	< 0.001	<0.001	<0.001	<0.001	<0.001

Prob. > X^2 95% confidence intervals in brackets * p < 0.10, ** p < 0.05, *** p < 0.01

able 6b-1: Additional robustness Dependent variable: non-polio full	_	Full r	nodel		In		del (EXPxAG	
immunisation status	2003	2008	2013	2018	2003	2008	2013	2018
EXP_CHI	-0.040	-0.051***	-0.026***	-0.027	-0.086	-0.042	0.027*	0.111*
_,0	[-0.289,0.209]	[-0.079,-0.023]	[-0.043,-0.010]	[-0.065,0.010]	[-1.046,0.874]	[-0.093,0.009]	[-0.003,0.058]	[-0.012,0.233
EXPxAGE					0.003	0.000	-0.001***	- 0.005 ^{**}
		***			[-0.051,0.057]	[-0.001,0.001]	[-0.002,-0.001]	[-0.009,-0.00]
CHI_AGE	0.117**	0.035***	0.035***	0.036***	0.109	0.036***	0.043***	0.042***
5 <u>-</u>	[0.017,0.218]	[0.025,0.046]	[0.026,0.043]	[0.016,0.056]	[-0.087,0.305]	[0.024,0.049]	[0.033,0.052]	[0.021,0.062
CHI ORD	0.018	-0.037 [*]	-0.076***	-0.069 ^{**}	0.018	-0.037 [*]	-0.076***	-0.070 ^{**}
5 <u>-</u> 55	[-0.153,0.188]	[-0.080,0.007]	[-0.113,-0.039]	[-0.129,-0.008]	[-0.153,0.188]	[-0.081,0.006]	[-0.113,-0.039]	[-0.131,-0.00
CHI_SEX	0.031	0.010	-0.027	0.030	0.031	0.010	-0.025	0.029
5 <u>_</u> 5	[-0.464,0.526]	[-0.126,0.145]	[-0.137,0.083]	[-0.146,0.206]	[-0.464,0.526]	[-0.126,0.145]	[-0.135,0.085]	[-0.147,0.20
MOT_ANC	0.095***	0.061***	0.044***	0.074***	0.094***	0.061***	0.045***	0.075***
	[0.045,0.144]	[0.045,0.077]	[0.032,0.056]	[0.049,0.100]	[0.044,0.144]	[0.045,0.077]	[0.032,0.057]	[0.050,0.10
MOT_EDM	0.074	0.064***	0.075***	0.041	0.074	0.064***	0.076***	0.044
<u> </u>	[-0.036,0.185]	[0.031,0.096]	[0.048,0.101]	[-0.003,0.085]	[-0.036,0.185]	[0.031,0.096]	[0.049,0.103]	[-0.000,0.08
MOT_EDF	-0.035	0.026	-0.009	0.028	-0.035	0.026	-0.007	0.029
_	[-0.159,0.088]	[-0.007,0.059]	[-0.037,0.018]	[-0.015,0.071]	[-0.159,0.088]	[-0.007,0.059]	[-0.035,0.020]	[-0.014,0.07
MOT_AWE	2.968***	2.453***	3.411***	3.131***	2.971***	2.455***	3.422***	3.132***
_	[1.880,4.056]	[2.255,2.650]	[3.217,3.605]	[2.779,3.484]	[1.881,4.061]	[2.257,2.652]	[3.228,3.615]	[2.779,3.484
MOT_AGE	0.012	0.021***	0.027***	0.033***	0.012	0.021***	0.027***	0.034***
_	[-0.046,0.070]	[0.006,0.037]	[0.014,0.040]	[0.012,0.054]	[-0.046,0.070]	[0.006,0.037]	[0.015,0.040]	[0.013,0.05
HH_RUR	-0.056	-0.031	-0.168 ^{**}	-0.232 [*]	-0.054	-0.030	-0.176 ^{**}	-0.235 ^{**}
	[-0.680,0.569]	[-0.244,0.181]	[-0.321,-0.015]	[-0.467,0.002]	[-0.680,0.571]	[-0.243,0.182]	[-0.329,-0.022]	[-0.469,-0.00
HH_REL (ref: Catholic): Other	-0.189	-0.269**	-0.099	0.011	-0.188	-0.270 ^{**}	-0.099	0.018
Christian	[-0.895,0.517]	[-0.532,-0.007]	[-0.310,0.112]	[-0.320,0.342]	[-0.894,0.518]	[-0.532,-0.007]	[-0.311,0.112]	[-0.313,0.34
HH REL (ref: Catholic): Islam	-0.258	-0.540***	-0.474***	-0.432 ^{**}	-0.257	-0.543***	-0.504***	-0.438 ^{**}
_ , ,	[-1.035,0.519]	[-0.864,-0.216]	[-0.729,-0.218]	[-0.848,-0.015]	[-1.034,0.520]	[-0.868,-0.219]	[-0.760,-0.248]	[-0.854,-0.02
HH_REL (ref: Catholic):	-0.325	-0.481	-0.757**	-0.168	-0.322	-0.481	-0.774**	-0.105
Traditionalist	[-2.215,1.565]	[-1.089,0.126]	[-1.411,-0.104]	[-1.807,1.470]	[-2.212,1.568]	[-1.089,0.127]	[-1.428,-0.119]	[-1.755,1.54
HH REL (ref: Catholic): Other	0.000	-0.531	0.000	0.162	0.000	-0.526	0.000	0.191
· · · · <u>-</u> · · - · (· · · · · · · · · · · · · · ·	[0.000,0.000]	[-2.432,1.370]	[0.000,0.000]	[-1.319,1.642]	[0.000,0.000]	[-2.428,1.377]	[0.000,0.000]	[-1.290,1.67
HH_ETH (ref: Ekoi): Fulani	0.000	-1.277***	0.058	-0.712	0.000	-1.289 ^{***}	0.034	-0.771
_	[0.000,0.000]	[-2.032,-0.522]	[-1.523,1.640]	[-2.074,0.650]	[0.000,0.000]	[-2.046,-0.531]	[-1.549,1.617]	[-2.133,0.59
HH_ETH (ref: Ekoi): Hausa	-0.297	-1.227***	0.249	-0.635	-0.287	-1.245***	0.170	-0.691
	[-2.094,1.500]	[-1.956,-0.498]	[-1.314,1.812]	[-1.952,0.682]	[-2.098,1.524]	[-1.978,-0.511]	[-1.395,1.734]	[-2.008,0.62
HH_ETH (ref: Ekoi): Ibibio	0.000	-0.898**	0.426	-0.712	0.000	-0.899**	0.469	-0.721
<u></u> (re <u></u>	[0.000,0.000]	[-1.695,-0.101]	[-1.174,2.027]	[-2.124,0.700]	[0.000,0.000]	[-1.697,-0.101]	[-1.134,2.071]	[-2.133,0.69
HH_ETH (ref: Ekoi): lgala	-0.403	-1.279 ^{***}	0.926	-1.062	-0.399	-1.284 ^{***}	0.987	-1.073
···· <u>-</u> ····(·oo.)ga.a	[-2.844,2.038]	[-2.159,-0.399]	[-0.719,2.571]	[-2.652,0.528]	[-2.844,2.046]	[-2.165,-0.404]	[-0.660,2.633]	[-2.664,0.51
HH ETH (ref: Ekoi): Igbo	0.510	-0.827**	0.569	-0.415	0.512	-0.828**	0.611	-0.433
Tin_ETTT (ren. Eiter). Igbe	[-1.416,2.435]	[-1.481,-0.173]	[-0.981,2.120]	[-1.695,0.865]	[-1.418,2.442]	[-1.482,-0.174]	[-0.941,2.164]	[-1.712,0.84
HH ETH (ref: Ekoi): ljaw / lzon	0.219	-1.426 ^{***}	0.894	0.126	0.212	-1.425 ^{***}	0.943	0.110
THI_ETTY (101: ER01): 1jaw / 12011	[-2.879,3.317]	[-2.240,-0.611]	[-0.696,2.484]	[-1.326,1.578]	[-2.892,3.316]	[-2.239,-0.610]	[-0.649,2.535]	[-1.342,1.56
HH_ETH (ref: Ekoi): Kanuri /	0.000	-1.606 ^{***}	0.072	-0.521	0.000	-1.622***	-0.019	-0.615
Beriberi	[0.000,0.000]	[-2.589,-0.624]	[-1.584,1.727]	[-2.060,1.018]	[0.000,0.000]	[-2.607,-0.636]	[-1.677,1.640]	[-2.154,0.92
HH_ETH (ref: Ekoi): Tiv	0.636	-0.966**	0.299	-0.453	0.640	-0.972**	0.347	-0.511
TITI_LTTT (Tell. EROI). TIV	[-1.631,2.903]	[-1.777,-0.155]	[-1.325,1.924]	[-1.861,0.955]	[-1.632,2.912]	[-1.784,-0.161]	[-1.280,1.973]	[-1.920,0.89
HH ETH (ref: Ekoi): Yoruba	1.185	-0.572 [*]	0.193	-0.550	1.185	-0.576 [*]	0.228	-0.566
TIII_ETTT (Tel. Ekol). Toluba	[-0.686,3.055]	[-1.252,0.108]	[-1.360,1.746]	[-1.852,0.753]	[-0.689,3.060]	[-1.256,0.105]	[-1.327,1.783]	[-1.868,0.73
HH ETH (rof: Ekoi): Othor	0.094	-0.999***	0.430	-0.390	0.098	-1.008 ^{***}	0.438	-0.448
HH_ETH (ref: Ekoi): Other	[-1.703,1.892]	[-1.651,-0.347]	[-1.113,1.973]	[-1.670,0.890]	[-1.705,1.902]	[-1.661,-0.354]	[-1.107,1.982]	[-1.728,0.83
UU CIZ	0.005	-0.026**	-0.009	-0.012	0.005	-0.026**	-0.008	-0.012
HH_SIZ	[-0.080,0.090]	[-0.049,-0.004]	[-0.027,0.010]	[-0.043,0.019]	[-0.080,0.090]	[-0.049,-0.004]	[-0.027,0.011]	[-0.043,0.01
1 H 1 NA/E A	0.083	0.170***	0.156***	0.099***	0.083	0.170***	0.157***	0.101***
HH_WEA	[-0.035,0.201]	[0.130,0.209]	[0.127,0.185]	[0.056,0.142]	[-0.035,0.201]	[0.131,0.209]	[0.127,0.186]	[0.058,0.14
Constant	-7.031 ^{***}	-3.237***	-5.320***	-4.308 ^{***}	-6.896***	-3.286***	-5.704***	-4.474**
Constant	[-9.848,-4.214]	[-4.034,-2.439]	[-6.931,-3.709]		[-10.781,-3.011]		[-7.327,-4.081]	[-5.974,-2.97
ıltilevel variance parameter: Level	0.000	0.520***	0.295***	0.398***	0.000	0.520***	0.292***	0.396***
1	[-0.000,0.000]	[0.347,0.692]	[0.198,0.392]	[0.200,0.596]	[-0.000,0.000]	[0.347,0.692]	[0.196,0.389]	[0.198,0.59
vel 1 Observations (child)	648	8163	11924	3629	648	8163	11924	3629
vel 2 Observations (LGA)	138	369	370	504	138	369	370	504
aike Information Criterion	450.792	5772.355	8366.43	3393.899	452.782	5774.188	8351.201	3390.50
ob. > X^2	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001

95% confidence intervals in brackets * p < 0.10, ** p < 0.05, *** p < 0.01

Table 6b-2: Additional robustness checks: year-wise stratification to detect time trends - delivery

Table 6b-2: Additional robustness Dependent variables: various	checks: year		cation to dete	ct time trend	s - delivery	Δt nrivat	te facility			At nubli	c facility	
indicators of delivery (see right)	2003	2008	2013	2018	2003	2008	2013	2018	2003	2008	2013	2018
	0.104	0.004	0.019	0.023	-0.138	-0.065**	-0.060***	-0.108***	0.038	0.005	-0.005	0.014
EXP_PREG	[-0.113,0.320]	[-0.042,0.050]	[-0.014,0.051]	[-0.012,0.058]	[-0.391,0.116]	[-0.123,-0.007]	[-0.103,-0.018]	[-0.160,-0.056]	[-0.176,0.252]	[-0.039,0.048]	[-0.035,0.026]	[-0.019,0.047]
	-0.112***	-0.155***	-0.124***	-0.179***	0.029*	0.083***	0.049***	0.069***	0.071***	0.070***	0.054***	0.071***
MOT_ANC	[-0.150,-0.075]	-0.155 [-0.171,-0.140]	-0.124 [-0.136,-0.113]	[-0.205,-0.152]	[-0.004,0.062]	[0.067,0.098]	[0.039,0.060]	[0.046,0.092]	[0.040,0.103]	[0.057,0.083]	[0.045,0.063]	[0.051,0.090]
	-0.129***	-0.056***	-0.061***	-0.085***	0.076*	0.057***	0.056***	0.047*	0.102***	0.041***	0.055***	0.088***
MOT_EDM	-0.129 [-0.201,-0.058]	[-0.083,-0.028]	[-0.082,-0.040]	-0.065 [-0.122,-0.047]	[-0.008,0.159]	[0.020,0.094]	[0.026,0.086]	[-0.004,0.098]	[0.030,0.174]	[0.014,0.068]	[0.034,0.075]	[0.053,0.124]
	-0.012	-0.039***	-0.023**	-0.041**	0.029	0.027	0.046***	0.028	0.009	0.043***	0.024,0.073	0.051***
MOT_EDF	[-0.084,0.060]	-0.039 [-0.066,-0.011]	-0.023 [-0.045,-0.002]	-0.041 [-0.078,-0.004]	[-0.061,0.119]	[-0.012,0.065]	[0.014,0.078]	[-0.027,0.082]	[-0.065,0.083]	[0.016,0.069]	[0.004,0.045]	[0.016,0.087]
	-0.746***			-0.765***	-	0.327***		0.238	0.848***	0.990***	1.075***	***
MOT_AWE	-0.746 [-1.124,-0.368]	-0.934	-0.982*** [-1.092,-0.872]		0.229	[0.128,0.526]	0.259***					0.809***
		[-1.072,-0.795]		[-0.966,-0.564]	[-0.229,0.688]		[0.088,0.430]	[-0.061,0.537]	[0.446,1.249]	[0.846,1.133]	[0.962,1.188]	[0.609,1.010]
MOT_AGE	-0.013 [-0.039,0.013]	-0.001 [-0.010,0.008]	- 0.001 [-0.009,0.006]	- 0.006 [-0.019,0.007]	-0.005 [-0.035,0.026]	0.002 [-0.010,0.015]	-0.001 [-0.010,0.009]	0.002 [-0.014,0.019]	0.018 [-0.008,0.044]	0.000 [-0.009,0.009]	0.003 [-0.004,0.009]	0.005 [-0.007,0.016]
	0.476**	0.641***	0.709***	0.450***	-0.086	-0.329***	-0.592***		-0.526**	-0.436***		
HH_RUR	0.476 [0.034,0.919]			0.450 [0.227,0.672]	[-0.548,0.375]	-0.329 [-0.570,-0.089]		-0.431***		-0.436 [-0.623,-0.248]	-0.356***	-0.241**
HH_REL (ref: Catholic): Other		[0.448,0.835]	[0.572,0.846]				[-0.758,-0.426]	[-0.686,-0.176]	[-0.960,-0.092]		[-0.479,-0.233]	[-0.443,-0.039]
Christian	-0.228	0.055	0.199**	0.176	0.514**	0.266**	-0.283***	-0.391***	-0.370	-0.278**	0.090	0.203
Cillistian	[-0.756,0.299]	[-0.176,0.285]	[0.008,0.390]	[-0.132,0.485]	[0.018,1.010]	[0.019,0.512]	[-0.467,-0.099]	[-0.669,-0.113]	[-0.876,0.136]	[-0.493,-0.063]	[-0.073,0.254]	[-0.054,0.461]
HH_REL (ref: Catholic): Islam	0.347	-0.047	0.411***	0.416**	0.171	0.270*	-0.558***	-0.348	-0.467	-0.191	0.066	-0.052
	[-0.211,0.905]	[-0.333,0.239]	[0.182,0.640]	[0.030,0.802]	[-0.382,0.724]	[-0.049,0.589]	[-0.798,-0.319]	[-0.737,0.042]	[-1.002,0.068]	[-0.454,0.073]	[-0.134,0.267]	[-0.388,0.284]
HH_REL (ref: Catholic):	2.659**	1.275***	0.673**	0.535	0.000	-0.624*	-0.779**	-1.217	-1.795	-1.044***	-0.099	0.332
Traditionalist	[0.237,5.081]	[0.678,1.872]	[0.148,1.198]	[-0.915,1.985]	[0.000,0.000]	[-1.326,0.077]	[-1.488,-0.070]	[-3.410,0.976]	[-4.091,0.500]	[-1.706,-0.383]	[-0.608,0.410]	[-1.031,1.696]
HH_REL (ref: Catholic): Other	0.000	-1.175	0.003	-0.456	0.000	1.580**	0.000	0.000	0.000	0.330	0.489	1.074
· · · · <u>-</u> · · · · · (· · · · · · · · · · · · ·	[0.000,0.000]	[-2.618,0.269]	[-2.187,2.194]	[-1.750,0.838]	[0.000,0.000]	[0.067,3.094]	[0.000,0.000]	[0.000,0.000]	[0.000,0.000]	[-1.066,1.726]	[-1.708,2.685]	[-0.143,2.291]
HH_ETH (ref: Ekoi): Fulani	0.000	1.075***	0.369	0.357	0.000	-0.040	-0.898	-0.153	0.000	-1.106 ^{***}	-0.403	-0.625
(,,	[0.000,0.000]	[0.394,1.756]	[-0.914,1.651]	[-0.785,1.498]	[0.000,0.000]	[-1.341,1.262]	[-3.171,1.375]	[-1.943,1.638]	[0.000,0.000]	[-1.798,-0.414]	[-1.644,0.839]	[-1.722,0.471]
HH_ETH (ref: Ekoi): Hausa	0.924**	1.371***	0.590	0.759	-1.297	-1.110 [*]	-0.953	-0.675	-0.617	-1.075 ^{***}	-0.514	-0.770
<u>_</u> ([0.152,1.696]	[0.719,2.023]	[-0.682,1.862]	[-0.351,1.869]	[-2.864,0.271]	[-2.374,0.154]	[-3.152,1.247]	[-2.384,1.035]	[-1.391,0.158]	[-1.736,-0.415]	[-1.745,0.717]	[-1.834,0.295]
HH_ETH (ref: Ekoi): Ibibio	-0.948	0.178	0.484	0.610	0.744	0.846	-0.114	-0.010	1.351	-0.198	-0.248	-0.492
()	[-2.910,1.014]	[-0.575,0.931]	[-0.832,1.800]	[-0.601,1.821]	[-1.904,3.391]	[-0.451,2.142]	[-2.351,2.123]	[-1.848,1.828]	[-0.631,3.333]	[-0.943,0.546]	[-1.521,1.024]	[-1.656,0.673]
HH_ETH (ref: Ekoi): Igala	-1.208	-0.841 [*]	-0.481	-0.705	1.997**	1.364**	0.878	1.585	0.324	0.288	-0.001	-0.234
· · · · <u>-</u> _ · · · · (· o · · _ · · o · · · · · · · · · · · ·	[-2.662,0.247]	[-1.703,0.020]	[-1.845,0.882]	[-2.034,0.624]	[0.298,3.695]	[0.074,2.654]	[-1.350,3.106]	[-0.224,3.394]	[-1.053,1.702]	[-0.516,1.093]	[-1.297,1.296]	[-1.495,1.027]
HH_ETH (ref: Ekoi): Igbo	-0.910 [*]	-1.046 ^{***}	-0.853	-0.730	2.503***	2.415***	1.396	1.515 [*]	-0.728	-0.660 ^{**}	-0.459	-0.554
TIT_ETTT (Tell. Excit): 1950	[-1.907,0.088]	[-1.669,-0.424]	[-2.124,0.418]	[-1.824,0.364]	[1.109,3.896]	[1.271,3.559]	[-0.776,3.568]	[-0.123,3.153]	[-1.717,0.261]	[-1.289,-0.031]	[-1.685,0.767]	[-1.596,0.487]
HH_ETH (ref: Ekoi): ljaw / Izon	0.012	0.996**	0.881	1.401**	0.257	0.102	-0.448	-0.270	0.377	-0.640	-0.825	-1.319 ^{**}
1111_E111 (161. EKOI). IJAW / 12011	[-1.949,1.973]	[0.218,1.775]	[-0.435,2.196]	[0.175,2.628]	[-2.349,2.862]	[-1.229,1.434]	[-2.713,1.817]	[-2.136,1.597]	[-1.539,2.292]	[-1.437,0.157]	[-2.099,0.448]	[-2.502,-0.135]
HH_ETH (ref: Ekoi): Kanuri /	0.656	1.330***	0.663	0.511	0.000	-0.880	-0.741	-0.448	0.131	-1.285 ^{***}	-0.555	-0.644
Beriberi	[-0.672,1.983]	[0.557,2.102]	[-0.674,1.999]	[-0.775,1.797]	[0.000,0.000]	[-2.734,0.975]	[-3.228,1.745]	[-2.686,1.790]	[-1.139,1.402]	[-2.060,-0.510]	[-1.848,0.738]	[-1.890,0.602]
HH ETH (rof: Ekoi): Tiv	-1.588 ^{**}	-0.853**	-0.951	-1.013 [*]	2.493***	2.198***	1.302	1.892**	-0.041	-0.025	0.358	0.062
HH_ETH (ref: Ekoi): Tiv	[-3.085,-0.091]	[-1.559,-0.146]	[-2.279,0.378]	[-2.218,0.191]	[0.804,4.181]	[0.960,3.437]	[-0.924,3.527]	[0.164,3.621]	[-1.477,1.395]	[-0.756,0.706]	[-0.931,1.647]	[-1.090,1.215]
IIII ETII (nof: Ekoi): Vonubo	-0.659	-0.370	-0.137	-0.332	1.967***	1.501**	0.855	1.004	-0.462	-0.288	-0.408	-0.334
HH_ETH (ref: Ekoi): Yoruba	[-1.615,0.297]	[-1.011,0.271]	[-1.409,1.134]	[-1.443,0.779]	[0.601,3.333]	[0.341,2.661]	[-1.318,3.029]	[-0.650,2.657]	[-1.400,0.476]	[-0.933,0.357]	[-1.636,0.820]	[-1.390,0.722]
IIII ETII (nof: Eksi): Othor	-0.001	0.307	0.015	-0.015	1.369**	0.946	0.373	0.781	-0.441	-0.414	-0.089	-0.337
HH_ETH (ref: Ekoi): Other	[-0.779,0.777]	[-0.299,0.913]	[-1.243,1.274]	[-1.092,1.062]	[0.075,2.663]	[-0.200,2.092]	[-1.795,2.541]	[-0.858,2.421]	[-1.240,0.359]	[-1.033,0.204]	[-1.308,1.129]	[-1.370,0.695]
1111 017	0.030	0.022**	0.038***	0.044***	-0.043	-0.006	-0.021 [*]	-0.035 [*]	0.003	-0.014	-0.026***	-0.021 [*]
HH_SIZ	[-0.018,0.078]	[0.004,0.040]	[0.023,0.052]	[0.019,0.069]	[-0.104,0.018]	[-0.032,0.020]	[-0.044,0.002]	[-0.072,0.002]	[-0.045,0.051]	[-0.032,0.004]	[-0.039,-0.012]	[-0.045,0.002]
	-0.247***	-0.264***	-0.186***	-0.183***	0.177***	0.143***	0.106***	0.150***	0.082**	0.174***	0.118***	0.086***
HH_WEA	[-0.334,-0.160]	[-0.299,-0.230]	[-0.210,-0.161]	[-0.222,-0.145]	[0.090,0.264]	[0.101,0.186]	[0.075,0.137]	[0.103,0.196]	[0.003,0.160]	[0.142,0.206]	[0.096,0.140]	[0.051,0.121]
	2.344***	2.386***	1.702**	1.973***	-3.864***	-4.914***	-3.104***	-3.415***	-2.637***	-2.205***	-2.397***	-2.225***
Constant	[0.986,3.702]	[1.683,3.089]	[0.396,3.008]	[0.767,3.180]	[-5.696,-2.032]	[-6.157,-3.670]	[-5.323,-0.886]	[-5.192,-1.639]	[-3.998,-1.277]	[-2.916,-1.493]	[-3.658,-1.136]	[-3.372,-1.079]
Multilevel variance parameter: Level	0.733***	0.652***	0.490***	0.619***		1.004***	0.814***	0.606***	0.846***	0.761***	0.473***	0.639***
1	0.733 [0.226,1.240]	0.652 [0.466,0.839]	[0.368,0.612]	[0.402,0.835]	0.439 [*] [-0.014,0.892]	[0.672,1.335]	[0.584,1.045]	0.606 [0.351,0.861]	[0.332,1.360]	[0.570,0.952]	0.473 [0.364,0.581]	[0.442,0.836]
Level 1 Observations (child)	1395	11609	16475	5233	1346	11609	16467	5211	1395	11609	16475	5233
Level 2 Observations (LGA)	153	370	370	510	153	370	370	510	153	370	370	510
Akaike Information Criterion	1147.831	7880.9	12731.565	4519.37	901.306	5217.905	8321.506	3169.365	1222.345	8804.345	14843.344	5370.273
Prob. $> X^2$	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.001	<0.001	< 0.001	<0.001	<0.001	<0.001
05% confidence intervals in breakets		-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001

95% confidence intervals in brackets * p < 0.10, ** p < 0.05, *** p < 0.01

indicators of maternal care and child survival (see right) EXP_PREG EXP_TOT_nod (total exposure, date approximation) CHI_AGE CHI_AGE2 CHI_ORD CHI_SEX MOT_ANC	2003 0.015 [-0.239,0.270]	2008 -0.051 [-0.113,0.010]	tal care visits 2013 -0.024 [-0.074,0.025]	2018 -0.054*** [-0.086,-0.022]	2003 0.014 [-0.056,0.084]	2008 -0.012 [-0.030,0.006]	2013 -0.005 [-0.018,0.008]	2018 0.006 [-0.008,0.019]	2003	Total ex 2008	cposure 2013	2018
EXP_PREG EXP_TOT_nod (total exposure, date approximation) CHI_AGE CHI_AGE2 CHI_ORD CHI_SEX	0.015	-0.051	-0.024	-0.054***	0.014	-0.012	-0.005	0.006	2003	2006	2013	2016
EXP_TOT_nod (total exposure, date approximation) CHI_AGE CHI_AGE2 CHI_ORD CHI_SEX	[-0.239,0.270]	[-0.113,0.010]	[-0.074,0.029]	[-0.060,-0.022]	[-0.030,0.084]	[-0.030,0.000]	[-0.016,0.006]	[-0.006,0.019]				
CHI_AGE2 CHI_ORD CHI_SEX									-0.087 [-0.267,0.092]	- 0.038 ^{***} [-0.061,-0.015]	-0.006 [-0.021,0.009]	-0.037*** [-0.052,-0.021]
CHI_ORD CHI_SEX									-0.122 [*] [-0.249,0.004]	0.007 [-0.011,0.026]	0.001 [-0.016,0.017]	-0.003 [-0.019,0.014]
CHI_SEX									0.005 [*] [-0.001,0.011]	0.000 [-0.000,0.000]	0.000 [-0.000,0.000]	0.000 [*] [-0.000,0.000]
									-0.159*** [-0.276,-0.043]	-0.142*** [-0.183,-0.102]	-0.138*** [-0.178,-0.099]	-0.171*** [-0.212,-0.131]
MOT_ANC									0.182	0.283*** [0.149,0.418]	0.224*** [0.098,0.350]	0.151 ^{**} [0.027,0.275]
									0.043 [*] [-0.007,0.093]	-0.009 [-0.027,0.010]	0.006 [-0.010,0.022]	-0.005 [-0.025,0.015]
MOT_EDM	0.122 ^{**} [0.000,0.244]	0.123*** [0.084,0.162]	0.088*** [0.055,0.121]	0.074*** [0.024,0.123]	0.047*** [0.016,0.078]	0.033*** [0.023,0.043]	0.028*** [0.017,0.038]	0.035*** [0.018,0.051]	0.066	0.007	0.023	0.003
MOT EDE	0.094	0.075*** [0.040,0.109]	0.093*** [0.064,0.121]	0.025	0.010 [-0.018,0.038]	0.020*** [0.010,0.031]	0.026*** [0.016,0.036]	0.023*** [0.009,0.038]	0.092** [0.009,0.176]	0.035** [0.003,0.068]	0.003 [-0.028,0.034]	0.035** [0.006,0.064]
MOT AWE	2.141*** [1.525,2.757]	1.721*** [1.483,1.959]	1.955*** [1.752,2.158]	1.553*** [1.328,1.779]	0.750*** [0.563,0.937]	0.582*** [0.511,0.654]	0.640*** [0.579,0.700]	0.576*** [0.505,0.647]				
MOT AGE	0.035** [0.003,0.067]	0.005	0.016*** [0.008,0.025]	0.006	0.007	0.002	0.001	-0.005** [-0.009,-0.000]	0.041 [*] [-0.006,0.088]	0.013 [*] [-0.002,0.028]	0.003 [-0.012,0.017]	0.007
HH RUR	-0.486	-0.456 [*]	-0.726***	-0.717***	-0.115	-0.199***	-0.171***	-0.117***	-0.067	-0.236**	-0.365***	-0.049
HH REL (ref: Catholic): Other	[-1.276,0.305] 0.320	[-0.941,0.030] - 0. 156	[-1.070,-0.381] -0.057	[-1.048,-0.387] 0.309	[-0.253,0.023] 0.197	[-0.300,-0.098] -0.051	[-0.248,-0.095] -0.049	[-0.205,-0.029] -0.085	[-0.560,0.427] 0.083	[-0.439,-0.033] 0.041	[-0.550,-0.181] -0.247	[-0.219,0.121] -0.412**
_ ` ,	[-0.579,1.220]	[-0.492,0.179]	[-0.424,0.310]	[-0.086,0.704]	[-0.048,0.443]	[-0.143,0.040]	[-0.133,0.034]	[-0.190,0.021]	[-0.578,0.745]	[-0.263,0.345]	[-0.546,0.052]	[-0.739,-0.086]
HH_REL (ref: Catholic): Islam	0.058 [-1.035,1.151]	-0.153 [-0.614,0.308]	-0.203 [-0.690,0.284]	-0.025 [-0.545,0.495]	0.004 [-0.227,0.236]	-0.135 ** [-0.259,-0.010]	-0.125 ** [-0.231,-0.019]	-0.083 [-0.228,0.061]	0.682** [0.021,1.344]	0.195 [-0.167,0.557]	-0.303 [°] [-0.657,0.052]	-0.369 [°] [-0.748,0.009]
	-1.539*** [-2.633,-0.445]	-0.418 [-1.022,0.186]	-0.582 [-1.401,0.238]	-1 .368** [-2.474,-0.262]	0.075 [-0.669,0.820]	-0.440*** [-0.623,-0.257]	-0.357*** [-0.585,-0.128]	-0.213 [-0.621,0.194]	-0.160 [-1.352,1.031]	-0.059 [-0.591,0.472]	-0.187 [-0.876,0.501]	1.121 [-0.914,3.155]
HH_REL (ref: Catholic): Other	-4.444 *** [-5.625,-3.264]	1.812 [-0.963,4.587]	-1.774*** [-2.603,-0.946]	0.433 [-1.236,2.102]	-0.814*** [-1.099,-0.529]	0.288 [-0.732,1.307]	-0.541 [-1.258,0.176]	-0.017 [-0.660,0.627]	0.000 [0.000,0.000]	-0.835 [-2.150,0.481]	0.000 [0.000,0.000]	0.000 [0.000,0.000]
HH ETH (ref: Ekoi): Fulani	0.000	-0.658	0.567	-0.490	0.000	-0.541***	-0.336***	-0.281**	0.000	-0.356	0.302*	0.472
HH ETH (ref: Ekoi): Hausa	0.074	[-2.000,0.683] -0.617	[-2.267,3.401] 1.027	0.037	[0.000,0.000]	[-0.881,-0.201] -0.539***	-0.179**	-0.164	[0.000,0.000] -0.577	[-1.217,0.505] -0.598	[-0.012,0.617] -0.163	[-0.516,1.461] 0.263
HH ETH (ref: Ekoi): Ibibio	[-0.470,0.619] 1.244	[-1.948,0.714] 1.024	[-1.798,3.852] 0. 716	[-1.542,1.616] 0.064	[-0.137,0.260] 0.364	[-0.875,-0.202] -0.255	[-0.355,-0.003] -0.199	[-0.419,0.090] 0.119	[-1.324,0.169] -2.494***	[-1.448,0.252] -0.137	[-0.389,0.064] -0.204	[-0.710,1.235] 0.185
_ , , ,	[-1.726,4.213] 3.934***	[-0.267,2.314] 0.215	[-2.289,3.721] 0.941	[-1.630,1.758] 0.854	[-0.397,1.126] 2.076***	[-0.619,0.110] 0.024	[-0.444,0.047] 0.189	[-0.247,0.485] 0.193	[-4.324,-0.664] -1.161	[-1.235,0.961] -0.713	[-0.758,0.351] 0.528	[-0.906,1.275] 0.114
HH_ETH (ref: Ekoi): Igala [[2.295,5.573]	[-1.301,1.731]	[-1.957,3.838]	[-0.935,2.642]	[1.699,2.453]	[-0.375,0.424]	[-0.112,0.491]	[-0.241,0.628]	[-2.970,0.648]	[-1.709,0.282]	[-0.403,1.459]	[-1.020,1.247]
HH_ETH (ref: Ekoi): Igbo	2.564*** [1.360,3.768]	1.493** [0.169,2.818]	2.530 [*] [-0.338,5.398]	2.459*** [0.844,4.073]	0.657*** [0.299,1.015]	-0.077 [-0.404,0.250]	0.103 [-0.043,0.249]	0.301*** [0.072,0.530]	-0.783 [-1.910,0.345]	-0.654 [-1.467,0.159]	-0.409*** [-0.695,-0.122]	0.289 [-0.675,1.252]
HH_ETH (ref: Ekoi): ljaw / lzon	1.149 [-1.180,3.478]	-0.127 [-1.742,1.488]	0.263 [-2.656,3.183]	-0.052 [-2.106,2.002]	0.201 [-0.240,0.641]	-0.184 [-0.601,0.233]	-0 .198 [*] [-0.422,0.025]	- 0.183 [-0.541,0.174]	-1.101 [-3.020,0.818]	-0.575 [-1.472,0.323]	-0.179 [-0.592,0.234]	1.357** [0.109,2.605]
HH_ETH (ref: Ekoi): Kanuri /	1.003**	-0.914	1.163	-0.290	0.223	-0.534***	-0.157	-0.234	-0.102	-0.529	0.231	0.571
Beriberi [[0.009,1.996]	[-2.320,0.491]	[-1.701,4.028]	[-1.924,1.345]	[-0.507,0.953]	[-0.911,-0.157]	[-0.405,0.091]	[-0.611,0.143]	[-1.519,1.315]	[-1.434,0.377]	[-0.391,0.854]	[-0.493,1.636]
HH_ETH (ref: Ekoi): Tiv	- 0.068 [-1.797,1.661]	-0.978 [-2.399,0.443]	0.077 [-2.858,3.012]	0.280 [-1.475,2.036]	0.326 [-0.395,1.047]	-0.565*** [-0.929,-0.202]	-0.375** [-0.669,-0.082]	-0.197 [-0.461,0.068]	-0.327 [-1.976,1.322]	-0.847 [*] [-1.710,0.016]	-0.142 [-0.698,0.415]	0.856 [-0.246,1.959]
HH_ETH (ref: Ekoi): Yoruba	5.942*** [4.397,7.488]	2.849*** [1.460,4.238]	3.553** [0.695,6.412]	3.056*** [1.428,4.685]	0.767*** [0.436,1.098]	-0.071 [-0.401,0.258]	0.049 [-0.110,0.208]	-0.027 [-0.263,0.208]	-1.234 [*] [-2.477,0.009]	-0.103 [-0.951,0.745]	0.168 [-0.141,0.476]	0.808 [-0.178,1.794]
HH_ETH (ref: Ekoi): Other	1.491*** [0.544,2.437]	0.149 [-1.149,1.447]	1.326 [-1.484,4.137]	0.679 [-0.884,2.242]	0.556*** [0.259,0.852]	-0.211 [-0.536,0.114]	-0.040 [-0.186,0.106]	0.059 [-0.168,0.285]	-0.829 [*] [-1.679,0.021]	-0.570 [-1.378,0.238]	0.000 [0.000,0.000]	0.466 [-0.489,1.421]
HH SIZ	-0.070** [-0.140,-0.001]	-0.031*** [-0.052,-0.010]	-0.066*** [-0.086,-0.047]	-0.036** [-0.064,-0.008]	-0.009 [-0.024,0.006]	-0.003 [-0.009,0.002]	-0.014*** [-0.020,-0.007]	-0.001 [-0.011,0.009]	0.059 [*] [-0.001,0.118]	0.134*** [0.107,0.161]	0.153*** [0.127,0.180]	0.133*** [0.108,0.157]
HH WEA	0.348***	0.356*** [0.306,0.405]	0.297*** [0.250,0.345]	0.221***	0.076*** [0.045,0.108]	0.073****	0.063***	0.037***	0.109 ^{**} [0.000,0.217]	-0.018 [-0.060,0.024]	0.018	0.015
	0.814	2.695***	2.145	2.444***	0.054	1.125***	1.010***	1.074***	2.191***	2.852***	2.839***	2.454***
	[-0.905,2.534]	[1.257,4.132]	[-0.805,5.095]	[0.707,4.182]	[-0.379,0.487]	[0.765,1.485]	[0.806,1.215]	[0.766,1.383]	[0.564,3.818]	[1.933,3.771]	[2.295,3.383]	[1.373,3.536]
	0.446*** [0.139,0.754]	0.674*** [0.535,0.812]	0.881*** [0.773,0.988]	0.382*** [0.215,0.548]	-1.847*** [-2.590,-1.104]	-1.260*** [-1.389,-1.131]	-1.339 *** [-1.463,-1.216]	-1.244*** [-1.420,-1.068]	0.269 [-0.119,0.658]	0.035 [-0.022,0.092]	0.079 ^{**} [0.013,0.145]	0.066 ^{**} [0.005,0.127]
Multilevel variance parameter: Residual	1.395**** [1.266,1.523]	1.270 ^{***} [1.213,1.327]	1.350*** [1.298,1.402]	1.173*** [1.122,1.225]	0.126*** [0.031,0.222]	0.041 [*] [-0.005,0.086]	0.114*** [0.078,0.150]	0.036 [*] [-0.006,0.079]				
Level 1 Observations (child)	1400	11781	16510	5328	1437	12654	17086	5408	1921	14275	18276	17857
Level 2 Observations (LGA)	153	370	370	511	154 4511 606	370	370	512	158	370	370	515
Akaike Information Criterion Prob. $> X^2$	8042.517 <0.001	64196.451 <0.001	92468.14 <0.001	28199.742 <0.001	4511.606 <0.001	37408.855 <0.001	52854.597 <0.001	16072.681 <0.001	1014.205 <0.001	6786.461 <0.001	7863.049 <0.001	8003.619 <0.001

95% confidence intervals in brackets * p < 0.10, ** p < 0.05, *** p < 0.01

Dependent variable: non-polio/-		Interaction			Full model	(by region)				Interact	tion model (E	XPxAGE) (by	region)	
measles full immunisation status	Full model	model (EXPxAGE)	North Central	North East	North West	South East	South South	South West	North Central	North East	North West	South East	South South	South Wes
EXP_CHI	-0.020***	-0.032***	0.028*	-0.061***	-0.045	0.051	-0.019	-0.064	0.025	-0.065***	-0.041	0.057	-0.063	-0.085
- -	[-0.033,-0.008]	[-0.054,-0.010] 0.000	[-0.003,0.059]	[-0.094,-0.028]	[-0.118,0.029]	[-0.100,0.202]	[-0.131,0.093]	[-0.154,0.026]	[-0.022,0.072] 0.000	[-0.110,-0.019] 0.000	[-0.116,0.034] 0.000	[-0.157,0.271] - 0.001	[-0.245,0.118] 0.001	[-0.213,0.043] 0.000
EXPxAGE		[-0.000,0.001]							[-0.001,0.001]	[-0.001,0.001]	[-0.001,0.001]	[-0.004,0.003]	[-0.002,0.003]	[-0.002,0.002]
CHI_AGE	0.026***	0.016***	0.009	0.049**	0.051	0.022	0.008	0.041**	-0.003	0.034***	0.033	0.007	0.011	0.032***
0111 4050	[0.010,0.042] 0.000	[0.009,0.023]	[-0.023,0.041] 0.000	[0.008,0.091] 0.000	[-0.015,0.117] 0.000	[-0.029,0.072] 0.000	[-0.031,0.048] 0.000	[0.005,0.078] 0.000	[-0.019,0.014]	[0.011,0.056]	[-0.015,0.081]	[-0.028,0.042]	[-0.015,0.038]	[0.009,0.055]
CHI_AGE2	[-0.000,0.000]		[-0.001,0.000]	[-0.001,0.000]	[-0.001,0.000]	[-0.001,0.001]	[-0.001,0.001]	[-0.001,0.000]						
CHI_ORD	-0.046***	-0.046***	-0.018	-0.081***	-0.038	0.003	-0.071**	-0.056	-0.018	-0.082***	-0.038	0.004	-0.071**	-0.056
OLU OEV	[-0.071,-0.020] -0.006	[-0.071,-0.020] - 0.006	[-0.072,0.036] -0 .050	[-0.142,-0.020] -0.038	[-0.102,0.026] 0.048	[-0.072,0.078] - 0.026	[-0.136,-0.005] 0.158	[-0.131,0.020] -0.073	[-0.072,0.037] -0.048	[-0.143,-0.021] - 0.039	[-0.101,0.026] 0.045	[-0.071,0.079] - 0.026	[-0.137,-0.005] 0.158	[-0.131,0.019 - 0.072
CHI_SEX	[-0.084,0.072]	[-0.084,0.072]	[-0.208,0.108]	[-0.222,0.146]	[-0.149,0.244]	[-0.279,0.228]	[-0.045,0.362]	[-0.266,0.121]	[-0.206,0.110]	[-0.223,0.144]	[-0.151,0.242]	[-0.280,0.228]	[-0.045,0.362]	[-0.266,0.122
MOT_ANC	0.061***	0.061***	0.100***	0.135***	0.070***	0.027*	0.044***	0.041***	0.100***	0.135***	0.071***	0.027*	0.044***	0.041***
=5	[0.052,0.071] 0.056***	[0.052,0.071] 0.056***	[0.077,0.123] 0.054***	[0.101,0.169] 0.049**	[0.035,0.106] 0.073***	[-0.000,0.055] 0.073**	[0.022,0.066] 0.046*	[0.025,0.057] 0.044 [*]	[0.077,0.123] 0.054***	[0.101,0.169] 0.049**	[0.035,0.106] 0.073****	[-0.001,0.054] 0.074**	[0.023,0.066] 0.045*	[0.025,0.058] 0.044*
MOT_EDM	[0.037,0.074]	[0.037,0.074]	[0.019,0.090]	[0.008,0.091]	[0.027,0.119]	[0.005,0.142]	[-0.007,0.098]	[-0.006,0.094]	[0.019,0.089]	[0.007,0.091]	[0.027,0.118]	[0.006,0.143]	[-0.008,0.098]	[-0.006,0.094
MOT_EDF	0.024**	0.024**	0.035*	0.014	0.044**	0.014	0.024	-0.033	0.035*	0.014	0.044**	0.013	0.024	-0.034
	[0.006,0.043] 3.124***	[0.006,0.043] 3.121***	[-0.002,0.072] 2.731***	[-0.026,0.055] 2.920***	[0.002,0.085] 3.684***	[-0.057,0.085] 3.059***	[-0.034,0.082] 2.965***	[-0.086,0.020] 3.248***	[-0.002,0.072] 2.730***	[-0.026,0.055] 2.920***	[0.003,0.085] 3.683***	[-0.058,0.084] 3.053***	[-0.034,0.082] 2.964***	[-0.086,0.019 3.240***
MOT_AWE	[3.008,3.240]	[3.005,3.237]	[2.505,2.956]	[2.644,3.196]	[3.415,3.953]	[2.682,3.436]	[2.649,3.281]	[2.892,3.604]	[2.505,2.955]	[2.644,3.196]	[3.414,3.952]	[2.677,3.430]	[2.648,3.280]	[2.885,3.595]
MOT_AGE	0.021***	0.021***	0.011	0.031***	0.033***	0.016	0.023**	0.015	0.011	0.031***	0.033***	0.015	0.023**	0.015
	[0.012,0.030] -0.150***	[0.012,0.030] -0.150***	[-0.007,0.029] -0.045	[0.008,0.054] -0.214	[0.008,0.058] -0.172	[-0.012,0.043] -0.073	[0.001,0.045] - 0.037	[-0.007,0.036] -0.377***	[-0.007,0.029] -0.044	[0.008,0.054] -0.214	[0.008,0.057] - 0.1 73	[-0.012,0.043] -0.072	[0.001,0.046] - 0.036	[-0.007,0.037] -0.376***
HH_RUR	[-0.260,-0.040]	[-0.259,-0.040]	[-0.279,0.188]	[-0.490,0.063]	[-0.484,0.140]	[-0.374,0.228]	[-0.299,0.226]	-0.377 [-0.645,-0.109]	[-0.278,0.190]	[-0.491,0.062]	[-0.485,0.138]	[-0.374,0.229]	[-0.298,0.226]	-0.376 [-0.644,-0.108
HH_REL (ref: Catholic): Other	-0.187**	-0.188 ^{**}	-0.111	-0.611 [*]	0.389	-0.263 [*]	-0.345 [*]	-0.132	-0.112	-0.616 [*]	0.387	-0.261 [*]	-0.350 [*]	-0.132
Christian	[-0.343,-0.031]	[-0.344,-0.032]	[-0.387,0.164]	[-1.272,0.051]	[-0.330,1.108]	[-0.542,0.016]	[-0.726,0.036]	[-0.710,0.447]	[-0.387,0.163]	[-1.276,0.044]	[-0.332,1.106]	[-0.540,0.018]	[-0.730,0.031]	[-0.710,0.447]
HH_REL (ref: Catholic): Islam	-0.575*** [-0.761,-0.389]	-0.571*** [-0.757,-0.385]	-0.448*** [-0.759,-0.137]	-1.070 *** [-1.744,-0.396]	-0.348 [-1.166,0.470]	-0.342 [-3.017,2.333]	-0.101 [-0.916,0.714]	-0.464 [-1.059,0.131]	-0.446*** [-0.758,-0.135]	-1 .080*** [-1.752,-0.407]	-0.348 [-1.166,0.469]	-0.336 [-3.009,2.336]	-0.103 [-0.917,0.712]	-0.463 [-1.057,0.132
HH_REL (ref: Catholic):	-0.757***	-0.756***	-0.964*	-1.116 [*]	-0.812	-0.562	-0.866*	-0.025	-0.953*	-1.136 [*]	-0.789	-0.557	-0.872*	-0.044
Traditionalist	[-1.166,-0.347]	[-1.165,-0.346]	[-2.082,0.155]	[-2.434,0.202]	[-2.396,0.773]	[-1.235,0.110]	[-1.896,0.163]	[-1.378,1.327]	[-2.070,0.163]	[-2.452,0.180]	[-2.370,0.792]	[-1.230,0.115]	[-1.903,0.158]	[-1.393,1.305]
HH_REL (ref: Catholic): Other	-0.098 [-1.149,0.952]	-0.106 [-1.156,0.943]	-0.138 [-2.341,2.065]	0.000 [0.000,0.000]	0.000	0.000 [0.000,0.000]	-0.301 [-1.596,0.994]	0.447 [-3.479,4.372]	-0.137 [-2.338,2.065]	0.000 [0.000,0.000]	0.000 [0.000,0.000]	0.000 [0.000,0.000]	-0.306 [-1.600,0.989]	0.436 [-3.479,4.350]
HH_ETH (ref: Ekoi): Fulani	-0.847***	-0.833***	-0.261	-0.138	0.316	0.000		-0.881	-0.252	-0.142	0.319	0.000		-0.863
TIT_ETT (TOIL EROI). Falam	[-1.388,-0.305]	[-1.375,-0.292]	[-0.817,0.295]	[-0.430,0.154]	[-0.343,0.975]	[0.000,0.000]	0.400	[-1.937,0.175]	[-0.807,0.303]	[-0.434,0.150]	[-0.339,0.978]	[0.000,0.000]	0.404	[-1.918,0.193]
HH_ETH (ref: Ekoi): Hausa	-0.804*** [-1.328,-0.281]	-0.784*** [-1.307,-0.260]	-0.461** [-0.849,-0.073]	-0.137 [-0.433,0.158]	0.410 [-0.106,0.925]	-0.677 [-3.000,1.646]	-0.163 [-2.964,2.638]	-0.110 [-1.047,0.828]	-0.459 ** [-0.848,-0.071]	-0.137 [-0.432,0.159]	0.412	-0.660 [-2.980,1.660]	-0.164 [-2.970,2.643]	-0.113 [-1.050,0.825]
HH_ETH (ref: Ekoi): Ibibio	-0.582**	-0.582**	-1.077	0.000	0.000	-0.764	-0.963***	0.727	-1.082	0.000	0.000	-0.748	-0.960***	0.734
HH_ETH (Tel. Ekol). IDIDIO	[-1.158,-0.006]	[-1.158,-0.006]	[-3.132,0.979]	[0.000,0.000]	[0.000,0.000]	[-3.466,1.937]	[-1.527,-0.399]	[-0.674,2.128]	[-3.140,0.977]	[0.000,0.000]	[0.000,0.000]	[-3.447,1.951]	[-1.522,-0.397]	
HH_ETH (ref: Ekoi): Igala	-0.733 ** [-1.359,-0.106]	-0.731 ** [-1.358,-0.105]	-0.423** [-0.832,-0.014]	0.000	0.000	-1.131 [-3.896,1.635]	-1.242 [-3.919,1.435]	1.297 [-0.300,2.894]	-0.428 ** [-0.837,-0.019]	0.000 [0.000,0.000]	0.000	-1.134 [-3.897,1.630]	-1.257 [-3.956,1.441]	1.306 [-0.293,2.905]
IIII ETII (nof: Eksi), labo	-0.031	-0.031	-0.312	0.195	0.011	-0.421	-0.199	0.848***	-0.305	0.206	0.013	-0.411	-0.198	0.850***
HH_ETH (ref: Ekoi): Igbo	[-0.543,0.480]	[-0.542,0.481]	[-0.873,0.248]	[-1.479,1.868]	[-1.068,1.090]	[-1.915,1.074]	[-0.831,0.433]	[0.231,1.465]	[-0.865,0.255]	[-1.466,1.877]	[-1.065,1.091]	[-1.904,1.081]	[-0.829,0.433]	[0.233,1.466]
HH_ETH (ref: Ekoi): Ijaw / Izon	-0.418	-0.419	0.000			0.000	-0.772***	-1.020	0.000			0.000	-0.767***	-1.030
HH_ETH (ref: Ekoi): Kanuri /	[-1.001,0.166] -0.940***	[-1.002,0.165] -0.915***	[0.000,0.000] - 0.903	-0.278	0.270	[0.000,0.000]	[-1.306,-0.238] 0.000	[-2.616,0.577] 2.526 [*]	[0.000,0.000] -0.891	-0.272	0.279	[0.000,0.000]	[-1.300,-0.234] 0.000	[-2.626,0.567] 2.558 [*]
Beriberi	[-1.569,-0.312]	[-1.544,-0.286]	[-2.583,0.778]	[-0.722,0.166]	[-0.982,1.522]		[0.000,0.000]	[-0.454,5.506]	[-2.572,0.791]	[-0.716,0.172]	[-0.973,1.530]		[0.000,0.000]	[-0.428,5.545]
HH_ETH (ref: Ekoi): Tiv	-0.529*	-0.525 [*]	-0.187	-0.336	0.000	0.000	0.000	1.480	-0.189	-0.360	0.000	0.000	0.000	1.493
	[-1.122,0.064] -0.398	[-1.118,0.068] -0.395	[-0.574,0.200] 0.162	[-1.274,0.603] - 0.053	[0.000,0.000] 0.949	[0.000,0.000]	[0.000,0.000] -2.229***	[-0.382,3.342] 0.313 [*]	[-0.576,0.198] 0.163	[-1.298,0.579] - 0.042	[0.000,0.000] 0.945	[0.000,0.000] 0.000	[0.000,0.000] -2.222***	[-0.363,3.349] 0.313 [*]
HH_ETH (ref: Ekoi): Yoruba	[-0.916,0.120]	[-0.913,0.123]	[-0.192,0.516]	[-1.510,1.403]	[-0.456,2.355]	[0.000,0.000]	[-3.204,-1.254]	[-0.007,0.633]	[-0.191,0.517]	[-1.498,1.414]	[-0.452,2.341]	[0.000,0.000]	[-3.196,-1.248]	
HH_ETH (ref: Ekoi): Other	-0.499 [*]	-0.490 [*]	0.000	0.000	0.000	0.000	-0.852***	0.000	0.000	0.000	0.000	0.000	-0.850***	0.000
_ ` ` '	[-0.999,0.001] -0.014**	[-0.989,0.010] -0.014**	[0.000,0.000] - 0.012	[0.000,0.000] -0.021*	[0.000,0.000] - 0.010	[0.000,0.000] - 0.037	[-1.356,-0.347] -0.013	[0.000,0.000] 0.004	[0.000,0.000] -0.013	[0.000,0.000]	[0.000,0.000] - 0.009	[0.000,0.000] -0.037	[-1.353,-0.346] -0.013	[0.000,0.000] 0.004
HH_SIZ	-0.014 [-0.027,-0.001]	-0.014 [-0.027,-0.001]	[-0.038,0.014]	-0.02 I [-0.046,0.003]	[-0.038,0.019]	[-0.083,0.009]	[-0.059,0.033]	[-0.047,0.055]	[-0.038,0.013]	-0.021 [-0.046,0.003]	[-0.037,0.019]	[-0.083,0.008]	[-0.059,0.033]	[-0.047,0.055]
HH_WEA	0.132***	0.132***	0.140***	0.112***	0.120***	0.152***	0.107***	0.121***	0.139***	0.112***	0.120***	0.152***	0.107***	0.122***
	[0.111,0.153]	[0.111,0.153]	[0.095,0.184]	[0.059,0.165]	[0.067,0.173]	[0.090,0.214]	[0.057,0.157]	[0.064,0.179]	[0.095,0.184]	[0.059,0.165]	[0.067,0.173]	[0.090,0.214]	[0.057,0.157]	[0.065,0.179]
YEAR (ref: 2003): 2008	0.784*** [0.524,1.044]	0.812*** [0.551,1.073]	1.026*** [0.528,1.525]	0.798** [0.030,1.567]	1.350*** [0.502,2.198]	1.354*** [0.679,2.029]	0.961*** [0.237,1.685]	-0.273 [-0.981,0.436]	1.044*** [0.543,1.545]	0.826** [0.054,1.598]	1.352*** [0.501,2.203]	1.355*** [0.680,2.029]	0.952*** [0.228,1.676]	- 0.237 [-0.948,0.473
VEAR (ref. 2002); 2012	1.032***	1.064***	0.870***	1.389***	1.696***	1.767***	1.833***	-0.659 [*]	0.894***	1.419***	1.673***	1.787***	1.859***	-0.617 [*]
YEAR (ref: 2003): 2013	[0.773,1.290]	[0.804,1.324]	[0.375,1.365]	[0.625,2.153]	[0.745,2.647]	[1.092,2.442]	[1.113,2.552]	[-1.375,0.056]	[0.397,1.391]	[0.652,2.186]	[0.725,2.621]	[1.111,2.463]	[1.137,2.582]	[-1.333,0.099
YEAR (ref: 2003): 2018	1.237***	1.252***	1.389***	1.753***	1.447***	2.088***	1.779***	-0.572	1.410***	1.789***	1.490***	2.084***	1.711***	-0.585
	[0.970,1.505] -4.445***	[0.985,1.518] -4.303***	[0.874,1.904] -4.563***	[0.978,2.528] -5.058***	[0.609,2.285] -7.592***	[1.281,2.896] -4.376***	[0.959,2.599] -3.903***	[-1.341,0.197] -3.203***	[0.896,1.923] -4.425***	[1.014,2.563] -4.860 ***	[0.659,2.322] -7.380***	[1.257,2.911] -4 .239***	[0.864,2.559] -3.851***	[-1.356,0.186 -3.074***
Constant	[-5.084,-3.806]	[-4.926,-3.680]	[-5.376,-3.750]	[-6.190,-3.926]	[-8.962,-6.223]	[-6.286,-2.466]	[-5.111,-2.694]	[-4.375,-2.032]	[-5.190,-3.660]	[-5.941,-3.779]	[-8.692,-6.067]	[-6.113,-2.365]	[-5.017,-2.685]	
Multilevel variance parameter:	0.354***	0.353***	0.213***	0.250***	0.695***	0.305***	0.045	0.296***	0.214***	0.252***	0.692***	0.304***	0.043	0.293***
	10 07 4 0 40 41	[0 272 0 422]	[0.085,0.342]	[0.097, 0.402]	[0.394,0.996]	[0.085, 0.525]	[-0.049,0.138]	[0.118,0.475]	[0.085, 0.342]	[0.098, 0.405]	[0.392,0.992]	[0.084, 0.524]	[-0.050,0.136]	[0.116,0.471]
Level 1 Level 1 Observations (child)	[0.274,0.434] 24367	[0.273,0.433]	4346	5015	7248	2034	2511	3195	4346	5015	7248	2034	2511	3195

4014.885

<0.001

3048.749

<0.001

2966.498

<0.001

2826.662

<0.001

Akaike Information Criterion 17045.336

Prob. > X^2 <0.001

95% confidence intervals in brackets

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

17045.336 17044.81

<0.001

4014.257

<0.001

3048.336

<0.001

2966.083

<0.001

1700.836

<0.001

2421.769

<0.001

2421.402

<0.001

2826.912

<0.001

1701.332

<0.001

Dependent variables: various indicators of routine	Non-polio full immu- nisation		Delivery At private At pub		Antena No. of	tal care No. of	Child survival		Non-polio full immunisation status (by region) Full model				
immunisation, maternal care and child survival (see right)	(full model)	At home	At private facility	At public facility	antenatal care visits	tetanus injections	(total exposure)	North Central	North East	North West		South South	South We
EXP_CHI	-0.037**				care visits	Injections		0.008	-0.151***	-0.056	0.038	0.118*	-0.103 [*]
(NIDs and sNIDs) EXP_CHI	[-0.070,-0.004] -0.025***							[-0.063,0.080] 0.043**		[-0.191,0.079] -0.078*	[-0.125,0.202]	[-0.021,0.256] 0.189***	[-0.216,0.01 - 0.072
(IPDs and sIPDs)	[-0.037,-0.012]									[-0.167,0.010]			
EXP_CHI	-0.007							-0.011	0.027	-0.139 ^{**}	0.000	0.000	0.303
(mop-up campaigns) EXP_CHI	[-0.048,0.035] -0.047							[-0.103,0.082] -0.175	-0.102	[-0.247,-0.030] 0.117	-0.034	[0.000,0.000] -0.348***	-0.418,1.02 -0.030
(MNCHW)	[-0.146,0.052]									[-0.197,0.431]			
EXP_PREG (NIDs and sNIDs)		0.014 [-0.018,0.046]	-0.063***	0.003	-0.043 [*] [-0.086,0.000]	0.002							
EXP PREG		0.004	-0.093***	0.020*	-0.059***	-0.007							
(IPDs and sIPDs)		[-0.021,0.029]	[-0.127,-0.058]	[-0.003,0.043]	[-0.095,-0.023]	[-0.017,0.003]							
EXP_PREG		-0.012	-0.021	0.017	0.022	0.013*							
(mop-up campaigns) EXP_PREG		0.088**	0.024	[-0.019,0.053] -0.075**	0.111	0.027							
(MNCHW)			[-0.066,0.114]	[-0.146,-0.004]			***						
EXP_TOT_nod (NIDs and sNIDs)							-0.035*** [-0.057,-0.014]						
EXP_TOT_nod							-0.014***						
(IPDs and sIPDs)							[-0.024,-0.004]						
EXP_TOT_nod (mop-up campaigns)							-0.018 [-0.041,0.005]						
EXP_TOT_nod (MNCHW)							0.040 [-0.052,0.133]						
CHI_AGE	0.079***						-0.004	0.072***	0.082***	0.109***	0.121***	0.100***	0.081**
0111 <u>7</u> 102	[0.062,0.095] -0.001***						[-0.015,0.007]	[0.038,0.107] -0.001***	[0.036,0.129]	[0.034,0.183] -0.001**	[0.075,0.168] -0.002***	[0.059,0.142] -0.002***	[0.043,0.1
CHI_AGE2	-0.001 [-0.001,-0.001]									-0.001 [-0.002,-0.000]			-0.001 (-0.001,-0.0
0.11.000	-0.060***						-0.154***	-0.034	-0.071**	-0.063*	-0.036	-0.074**	-0.087
CHI_ORD	[-0.085,-0.036]							[-0.088,0.019]		[-0.129,0.003]	[-0.099,0.027]	[-0.137,-0.011]	[-0.157,-0.0
CHI_SEX	-0.004						0.212***	-0.075	0.022	0.045	-0.147	0.196**	-0.006
MOT AND	[-0.078,0.071] 0.055***	-0.138***	0.057***	0.062***			-0.001	0.094***	0.145***	[-0.155,0.245] 0.064***	0.031***	[0.003,0.390] 0.041***	0.039
MOT_ANC	[0.046,0.064]	[-0.146,-0.129]	[0.049,0.064]	[0.055,0.069]	***	***	[-0.011,0.009]	[0.072,0.115]	[0.110,0.180]	[0.028,0.101]	[0.008,0.054]	[0.020,0.061]	[0.024,0.0
MOT_EDM	0.061***	-0.065*** [-0.079,-0.050]	0.052***	0.057***	0.097***	0.031***	0.013 [-0.006,0.032]	0.070*** [0.035,0.105]	0.072***	0.067***	0.054*	0.053**	0.043
	0.010	-0.030***	0.033***	0.035***	0.083***	0.023***	0.028***	0.006	0.006	0.029	0.016	0.007	-0.030
MOT_EDF	[-0.008,0.028]	[-0.045,-0.016]	[0.011,0.054]	[0.020,0.049]	[0.063,0.102]	[0.017,0.029]		[-0.030,0.043]	[-0.036,0.048]	[-0.013,0.071]	[-0.046,0.079]	[-0.050,0.063]	[-0.079,0.0
MOT_AWE	2.972*** [2.848,3.096]	-0.916*** [-0.991,-0.840]	0.275*** [0.162,0.387]	0.984*** [0.907,1.061]	1.937*** [1.804,2.069]	0.640*** [0.600,0.680]		2.561*** [2.321,2.800]	2.882*** [2.574,3.189]	3.549*** [3.267,3.831]	2.629*** [2.241,3.018]	2.927*** [2.580,3.273]	2.959 [*] [2.586,3.3
MOT_AGE	0.026***	-0.002	0.001	0.002	0.011***	0.000	0.010**	0.017*	0.031**	0.037***	0.013	0.027**	0.031
	[0.018,0.035] -0.087*	[-0.007,0.003] 0.538***	[-0.005,0.008] -0.375***	[-0.002,0.007] -0.325***	[0.005,0.018] -0.591***	[-0.001,0.002] -0.156***	[0.001,0.018] -0.179***	[-0.001,0.034] -0.038	[0.007,0.054] -0.155	[0.012,0.062] -0.093	[-0.011,0.036] -0.092	[0.006,0.048] -0.038	[0.011,0.0 -0.239
HH_RUR	[-0.190,0.016]						[-0.282,-0.077]			[-0.410,0.224]			[-0.486,0.0
HH_REL (ref: Catholic): Other	-0.126 [*]	0.095	-0.095	0.011	-0.055	-0.047 [*]	-0.137	-0.105	-0.562 [*]	0.465	-0.109	-0.409**	-0.093
Christian		[-0.029,0.218]	[-0.217,0.027]	[-0.098,0.120]	[-0.277,0.167]	[-0.099,0.006]	[-0.303,0.028]		[-1.218,0.094]	[-0.245,1.175]	[-0.337,0.119]	[-0.760,-0.059]	[-0.592,0.4
HH_REL (ref: Catholic): Islam	-0.472***	0.229***	-0.238***	-0.028	-0.167	-0.100***	-0.069	-0.379**	-1.077***	-0.301	-0.073	0.020	-0.403
HH_REL (ref: Catholic):	[-0.644,-0.300] -0.548***	[0.079,0.379] 1.008***	-0.914***	-0.478***	-0.650***	-0.349***	[-0.263,0.126] -0.091	-0.697	-1.628**	-0.649	-0.246	-0.724	-0.920,0.1 -0.190
		[0.650,1.366]											
HH_REL (ref: Catholic): Other	-0.224 [-1.244.0.795]	-0.259 [-1.018,0.500]	0.021	0.383	-0.057 [-1.495.1.382]	-0.135 [-0.672.0.401]	0.573	0.000	0.000	0.000 [0.000,0.000]	0.000	- 0.301 [-1.532,0.929]	0.946
HH_ETH (ref: Ekoi): Fulani	-0.926***	0.673***	-0.070	-0.768***	-0.745	-0.347***	-0.186	-0.085	-0.060	0.110	0.000	,,,	-0.692
	[-1.433,-0.418] -0.847***	[0.240,1.105] 0.945***	[-0.974,0.834] -0.572	[-1.192,-0.343] -0.828***	[-2.016,0.527] -0.437	[-0.587,-0.107] -0.250**	[-0.813,0.440] -0.504	[-0.631,0.460] -0.483**	[-0.361,0.242] -0.073	[-0.568,0.787] 0.361	[0.000,0.000]	-1.657	[-1.755,0.3 -0.229
HH_ETH (ref: Ekoi): Hausa		[0.525,1.364]									[-3.028,0.639]		
HH_ETH (ref: Ekoi): Ibibio	-0.633**	0.372	0.555	-0.301	-0.212	-0.103	-0.477	-0.665	0.000	0.000	-0.358	-0.902***	1.125
	[-1.168,-0.098] -0.657**	[-0.101,0.844] -0.513*	1.298***	[-0.762,0.160] 0.040	[-1.478,1.055] 0.004	[-0.385,0.178] 0.276*	[-1.159,0.204] -0.400	[-2.776,1.446] -0.132	0.000	0.000,0.000]	[-2.952,2.236] -0.644	[-1.429,-0.374] - 0. 76 2	[-0.229,2.4 0.698
HH_ETH (ref: Ekoi): lgala	[-1.243,-0.071]	[-1.038,0.012]	[0.405,2.190]	[-0.448,0.528]			[-1.112,0.313]		[0.000,0.000]		[-3.219,1.932]		[-0.640,2.0
HH_ETH (ref: Ekoi): lgbo	-0.450 [*]	-0.795*** [-1.211,-0.379]	1.881***	-0.568***	1.248*	0.120	-0.528 [*]	-0.163	0.534	0.274	-0.896	-0.502 [*]	0.524 [*]
HH_ETH (ref: Ekoi): ljaw /	-0.486 [*]	0.883***	0.118	-0.806***	-0.696	-0.134	-0.260	0.000	[+0,2.211]	[0.017,1.004]	0.000	-0.656**	-0.636
Izon	[-1.027,0.055]	[0.397,1.369]	-	[-1.282,-0.331]			[-0.915,0.395]	[0.000,0.000]	0.470	0.620	[0.000,0.000]	[-1.158,-0.153]	
HH_ETH (ref: Ekoi): Kanuri / Beriberi	-0 .987*** [-1.591,-0.382]	1.001*** [0.511,1.492]	- 0.518 [-1.659,0.622]	-0 .956*** [-1.436,-0.476]	-0.512 [-1.801,0.777]	-0.237 [*] [-0.500,0.026]	-0.271 [-0.930,0.388]	- 0.661 [-2.271,0.948]	-0.178 [-0.644,0.287]	0.639 [-0.618,1.895]		0.000 [0.000,0.000]	2.778 [°] [-0.171,5.7
HH FTH (ref: Fkoi): Tiv	-0.601**	-0.775***	1.727***	0.134	-0.904	-0.343**	-0.365	-0.104	-0.251	0.000	0.000	0.000	1.786
(101. Enoi). 11V			_				[-1.017,0.287]			[0.000,0.000]	[0.000,0.000]	[0.000,0.000]	[-0.016,3.5
HH_ETH (ref: Ekoi): Yoruba	-0.570** [-1.048 -0.093]	- 0.165 [-0.586,0.257]	1.300***	-0.413**	2.235***	0.059	-0.048 [-0.669.0.574]	0.187	0.329	0.649	0.000	-2.187*** [-3.154,-1.221]	0.292
	-0.616***	0.206	0.912**	-0.349 [*]	0.030	-0.017	-0.361	0.000	0.000	0.000	0.000	-0.887***	0.000
HH_ETH (ref: Ekoi): Other	[-1.077,-0.154]	[-0.196,0.607]	[0.083,1.740]	[-0.744,0.045]	[-1.220,1.279]	[-0.247,0.213]	[-0.967,0.245]	[0.000,0.000]	[0.000,0.000]	[0.000,0.000]	[0.000,0.000]	[-1.357,-0.417]	[0.000,0.0
HH_SIZ	-0.013**	0.033***	-0.017**	-0.020***	-0.043***	-0.006***	0.132***	-0.011	-0.021*	-0.008	-0.011	-0.019	-0.011
_	[-0.026,-0.000] 0.142***	-0.206***	0.120***	[-0.030,-0.011] 0.129***	0.287***	0.059***	0.016	0.149***	0.102***	[-0.036,0.021] 0.132***	[-0.051,0.029] 0.165***	[-0.063,0.025] 0.121***	[-0.058,0.0 0.142**
HH_WEA	[0.122,0.162]	[-0.223,-0.189]	[0.099,0.141]	[0.114,0.145]	[0.256,0.318]	[0.050,0.067]	[-0.004,0.036]	[0.106,0.192]	[0.048,0.155]	[0.078,0.185]	[0.113,0.216]	[0.074,0.168]	[0.090,0.1
YEAR (ref: 2003): 2008	0.578***	0.021	-0.203 [*]	0.056	-0.569*** [-0.967 -0.170]	-0.080 [*]	0.268**	0.808***	0.797*	1.411***	0.666*	0.675 [*] [-0.121,1.472]	-0.271
VEAR (ref. 2002): 2042	0.726***	[-0.164,0.206] -0.033	-0.354***	0.131	-0.217	-0.005	[0.062,0.473] 0.330***	[0.258,1.358] 0.760***	[-0.064,1.659] 1.279***	[0.469,2.352] 1.883***	0.724**	1.410***	-0.820
YEAR (ref: 2003): 2013	[0.457,0.996]	[-0.226,0.159]	[-0.576,-0.132]	[-0.051,0.312]	-	-	[0.110,0.550]	[0.231,1.289]	[0.434,2.125]	[0.837,2.928]	[0.003,1.445]	[0.626,2.195]	[-1.492,-0.1
YEAR (ref: 2003): 2018	0.808*** [0.532,1.083]	-0.228** [-0.417,-0.038]	-0.412 *** [-0.637,-0.188]	0.342*** [0.162,0.522]	-1 .275*** [-1.685,-0.866]	- 0.051 [-0.145,0.043]	0.282*** [0.075,0.488]	1.141*** [0.583,1.699]	1.521*** [0.685,2.356]	1.159 ^{**} [0.248,2.070]	1.034** [0.246,1.823]	1.843 ^{***} [0.981,2.705]	-0.801 [-1.517,-0.0
Constant	-5.234***	2.038***	-3.645***	-2.427***	3.586***	0.980***	2.596***	-5.701***	-5.778 ^{***}	-8.231***	-4.939***	-5.672 ^{***}	-4.425
				[-2.893,-1.961]		[0.718,1.243]				[-9.639,-6.823]			
Multilevel variance parameter: Level 1	0.285*** [0.218,0.352]	0.451*** [0.364,0.538]	0.710*** [0.552,0.868]	0.463*** [0.384,0.543]	0.672*** [0.585,0.759]	-1.437*** [-1.535,-1.340]	0.041***	0.171*** [0.065,0.277]	0.146 ^{**} [0.032,0.261]	0.705*** [0.388,1.021]	0.168**	0.029	0.243
/ultilevel variance parameter: Residual					1.322*** [1.282,1.361]	0.090***		, 5.2.7 1					_ , , , , , , , , , , , , , , , , , , ,
evel 1 Observations (child)	24381	34713	34713	34713	35019	36585	52431	4342	5017	7249	2036	2514	3196
evel 2 Observations (LGA)	684	686	686	686	686	687	689	113	100	166	85	111	121
kaike Information Criterion	18035 652	26423.512	17507 051	30317 164	103631 04	111221 E2	23679.445	4154.682	2852.628	2871.344	2200.745	2604.453	3247.8
Imormation ontenon	10000.002	20720.012	11001.001	50017.104	100001.04	111441.03	20013.443	T104.00Z	2002.020	2011.344	ZZUU.140	2004.400	JZ41.0

MNCHW = Maternal, Neonatal, and Child Health Week; SIA = Supplementary Immunisation Activity. *p < 0.10, ***p < 0.05, ****p < 0.01

Table 6e: Additional robustnes Dependent variables: various	Non-polio full	immunisation		Delivery			tal care	Child
indicators of routine immunisation, maternal care and child survival (see right)	Full model	Interaction model (EXPxAGE)	At home	At private facility	At public facility	No. of antenatal care visits	No. of tetanus injections	Total exposure
EXP_CHI	-0.020** [-0.036,-0.004]							
EXPxAGE		-0.001*** [-0.002,-0.001]						
EXP_PREG			-0.016 [-0.038,0.006]	0.007 [-0.023,0.037]	0.011 [-0.009,0.032]	0.023 [-0.005,0.052]	0.012*** [0.004,0.021]	
EXP_TOT_nod (total exposure, date approximation)								-0.029*** [-0.041,-0.0
CHI_AGE	0.080*** [0.064,0.095]	0.036*** [0.028,0.043]						0.001
CHI_AGE2	-0.001*** [-0.001,-0.001]							0.000
CHI_ORD	-0.059*** [-0.085,-0.034]	-0.060*** [-0.085,-0.034]						-0.148** [*] [-0.171,-0.1
CHI_SEX		-0.003 [-0.080,0.074]						0.212***
MOT_ANC	0.059*** [0.049,0.068]		-0.133*** [-0.142,-0.125]		0.063*** [0.056,0.070]			0.003
MOT_EDM	0.060*** [0.042,0.079]	0.060*** [0.042,0.079]	-0.059*** [-0.074,-0.044]	0.040*** [0.019,0.061]	0.053*** [0.038,0.067]	0.091*** [0.070,0.112]	0.027*** [0.021,0.033]	0.015
MOT_EDF	0.002 [-0.017,0.021]	0.002 [-0.017,0.021]	-0.028*** [-0.043,-0.013]	0.018 [-0.004,0.040]	-	0.078*** [0.059,0.097]	0.019*** [0.014,0.025]	0.033***
MOT_AWE	2.988*** [2.858,3.117]	2.984*** [2.854,3.113]	-0.904*** [-0.982,-0.827]	0.237*** [0.123,0.352]	0.951*** [0.873,1.030]	1.899*** [1.796,2.002]	0.615*** [0.586,0.645]	
MOT_AGE	0.026*** [0.018,0.035]	0.027*** [0.018,0.036]	-0.002 [-0.007,0.004]	-0.002 [-0.009,0.005]	0.002 [-0.002,0.007]	0.010*** [0.003,0.016]	0.000 [-0.002,0.002]	0.008*
HH_RUR	-0.088 [-0.211,0.035]	-0.091 [-0.214,0.033]	0.531*** [0.430,0.632]	-0.261*** [-0.381,-0.141]	-0.368*** [-0.459,-0.276]	-0.527*** [-0.662,-0.391]	-0.169*** [-0.207,-0.131]	-0.174 [*]
HH_REL (ref: Catholic): Other Christian	-0.117 [-0.267,0.032]	-0.119 [-0.268,0.031]	0.036 [-0.093,0.164]	-0.034 [-0.159,0.091]	0.001 [-0.112,0.113]	-0.063 [-0.240,0.113]	-0.029 [-0.079,0.021]	-0.113 [-0.292,0.0
IH_REL (ref: Catholic): Islam	-0.407*** [-0.594,-0.219]	-0.406*** [-0.593,-0.218]	0.150 [*] [-0.009,0.309]	-0.073 [-0.240,0.094]	-0.041 [-0.182,0.100]	-0.041 [-0.258,0.175]	-0.033 [-0.094,0.029]	-0.054 [-0.273,0.1
HH_REL (ref: Catholic): Traditionalist	-0.530** [-0.953,-0.107]	-0.528 ^{**} [-0.951,-0.105]	0.952*** [0.582,1.322]	-0.899*** [-1.369,-0.428]	-0.492*** [-0.864,-0.121]	-0.577*** [-0.985,-0.169]	-0.305*** [-0.421,-0.188]	-0.101 [-0.492,0.2
IH_REL (ref: Catholic): Other	-0.430 [-1.507,0.648]	-0.433 [-1.508,0.641]	-0.411 [-1.197,0.375]	0.109 [-1.200,1.418]	0.395 [-0.393,1.182]	-0.065 [-1.222,1.093]	-0.093 [-0.417,0.231]	0.670 [-0.529,1.8
HH_ETH (ref: Ekoi): Fulani	-0.669** [-1.279,-0.059]	-0.681** [-1.292,-0.071]	0.762*** [0.276,1.248]	0.142 [-0.903,1.187]	-0.693*** [-1.167,-0.219]	-0.693 [*] [-1.442,0.057]	-0.300*** [-0.516,-0.085]	0.219
HH_ETH (ref: Ekoi): Hausa	-0.527 [*] [-1.124,0.069]	-0.537 [*] [-1.134,0.061]	0.919*** [0.440,1.397]	-0.152 [-1.158,0.854]	-0.675*** [-1.140,-0.210]	-0.249 [-0.995,0.496]	-0.149 [-0.363,0.065]	-0.066 [-0.888,0.7
HH_ETH (ref: Ekoi): Ibibio	-0.385 [-1.021,0.251]	-0.388 [-1.025,0.248]	0.236 [-0.298,0.770]	0.322 [-0.712,1.356]	-0.106 [-0.620,0.407]	-0.354 [-1.185,0.477]	-0.180 [-0.418,0.057]	-0.203 [-1.114,0.7
HH_ETH (ref: Ekoi): Igala	-0.482 [-1.206,0.241]	-0.492 [-1.215,0.232]	0.020 [-0.569,0.609]		-0.098 [-0.643,0.448]	-	0.190 [-0.070,0.451]	0.130 [-0.847,1.1
HH_ETH (ref: Ekoi): Igbo			-0.526** [-1.007,-0.045]					
H_ETH (ref: Ekoi): ljaw / lzon	-0.302 [-0.987,0.384]	-0.306 [-0.992,0.380]	0.708 ^{**} [0.147,1.269]	-0.017 [-1.095,1.060]	-	-0.842 [*] [-1.688,0.005]	-0.163 [-0.404,0.078]	0.490 [-0.445,1.4
HH_ETH (ref: Ekoi): Kanuri / Beriberi	-0.488 [-1.194,0.218]	-0.497 [-1.203,0.209]	1.038*** [0.495,1.581]	-0.045 [-1.336,1.246]	_	-		-0.082 [-0.945,0.7
HH_ETH (ref: Ekoi): Tiv	-0.357 [-1.084,0.369]	-0.373 [-1.100,0.354]	-0.297 [-0.841,0.248]		0.087 [-0.447,0.621]	•	-0.362*** [-0.608,-0.116]	0.209
HH_ETH (ref: Ekoi): Yoruba	-		0.291 [-0.194,0.776]	-		-		-
HH_ETH (ref: Ekoi): Other	-0.393 [-0.958,0.171]	-0.395 [-0.960,0.170]	0.372 [-0.083,0.828]	0.595 [-0.372,1.561]	-0.317 [-0.761,0.126]	-0.007 [-0.731,0.717]	-0.006 [-0.214,0.202]	-0.023 [-0.831,0.7

017	- 0.016 ^{**}	- 0.016 ^{**}	0.033***	-0.014 [*]	-0.022***	-0.039***	-0.007***	0.137***
HH_SIZ	[-0.030,-0.003]	[-0.030,-0.003]	[0.023,0.043]	[-0.029,0.001]	[-0.032,-0.013]	[-0.052,-0.027]	[-0.011,-0.004]	[0.123,0.152]
	0.141***	0.140***	-0.204***	0.108***	0.131***	0.276***	0.058***	0.008
HH_WEA	[0.120,0.163]	[0.118,0.161]	[-0.221,-0.186]	[0.086,0.130]	[0.115,0.147]	[0.253,0.299]	[0.051,0.064]	[-0.014,0.030]
VEAD (6 0000) 0000	0.517***	0.495***	0.040	-0.251**	0.087	-0.670***	-0.108***	0.323***
YEAR (ref: 2003): 2008	[0.235,0.799]	[0.211,0.778]	[-0.156,0.236]	[-0.472,-0.030]	[-0.097,0.270]	[-0.921,-0.420]	[-0.180,-0.037]	[0.097,0.549]
VEAD (6 0000) 0040	0.673***	0.635***	-0.042	-0.388***	0.170*	-0.314**	-0.029	0.547***
YEAR (ref: 2003): 2013	[0.394,0.952]	[0.353,0.916]	[-0.237,0.153]	[-0.607,-0.169]	[-0.011,0.351]	[-0.563,-0.065]	[-0.100,0.043]	[0.313,0.780]
VEAD (6 0000) 0040	0.800***	0.890***	-0.267***	-0.385***	0.391***	-1.272***	-0.059	0.314***
YEAR (ref: 2003): 2018	[0.512,1.087]	[0.603,1.177]	[-0.468,-0.066]	[-0.617,-0.153]	[0.203,0.578]	[-1.530,-1.013]	[-0.133,0.016]	[0.094,0.535]
Observations	24381	24381	34713	34713	34713	35019	36585	52431
Akaike Information Criterion	18032.806	18053.939	26153.968	17075.688	29973.334	192578.24	111031.373	24062.176
Prob. > X^2	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Hausman test	0.068	0.023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

^{95%} confidence intervals in brackets. 774 LGA-level fixed effects estimators omitted from reporting. * p < 0.10, ** p < 0.05, *** p < 0.01