

Additional file 4: Validation statistics

The correlation, mean absolute error (MAE) and root mean square (RMSE) from the cross-validation exercise in the spatio-temporal modelling framework. The blue-coloured cells show high correlation (≥ 0.7), grey -moderate correlation (≥ 0.5 but < 0.7) and white low correlation (≥ 0.4 but < 0.5).

	ID	Factor	Correlation	MAE	RMSE
Maternal Factors	1	Less than primary school (maternal)	0.95	6.32	9.05
	2	Maternal literacy	0.69	12.2	16.6
	3	Female household head	0.56	6.04	9.05
	4	Short Birth interval	0.65	5.32	7.06
	5	Modern contraceptives use	0.66	5.94	12.12
	6	High parity	0.74	5.8	8.9
Child factors	7	Underweight	0.72	5.51	6.90
	8	Wasted	0.67	2.88	4.05
	9	Stunted	0.55	6.4	8.9
	10	Breastfed within 1st hour of birth	0.70	10.41	12.63
	11	Exclusive breastfeeding	0.99	3.78	5.17
	12	Continued breastfeeding	0.87	4.02	4.91
Household factors	13	Low Birthweight	0.42	3.91	4.82
	14	Poor household	0.61	14.21	20.18
	15	Improved Sanitation	0.89	3.41	6.41
	16	Improved and intermediate sanitation	0.87	7.6	12.6
	17	Improved water	0.85	8.88	13.27
Healthcare Utilization	18	Improved and intermediate water	0.76	12.0	16.3
	19	ANC1	0.64	8.46	13.76
	20	ANC4	0.64	8.66	11.79
	21	Skilled birth attendance	0.76	9.76	12.56
	22	Health facility births	0.90	7.10	10.02
	23	Diarrhoea treatment-seeking	0.61	9.48	12.39
Child health interventions	24	Fever treatment-seeking	0.52	12.13	15.29
	25	BCG	0.65	6.60	12.11
	26	DPT3	0.75	6.36	8.64
	27	Polio3	0.82	8.88	11.13
	28	Measles	0.66	8.76	13.12
	29	Fully immunized	0.64	10.29	13.61
	30	ORS use	0.44	12.38	15.81
	31	Vitamin A- children	0.89	9.80	11.54
	32	Child ITN use	0.82	10.81	14.42
Maternal health interventions	33	recommended antimalarials	0.55	10.60	14.02
	34	Two doses of tetanus toxoid	0.67	10.61	13.02
	35	IPTp1	0.62	13.29	15.88
	36	IPTp2	0.51	10.80	16.56
	37	Iron supplement mothers	0.79	10.41	11.87
	38	Vitamin A mothers	0.83	9.44	11.59