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Online Appendix

Do Rural Health Worker Incentive Schemes Work? Evidence from Thailand

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Appendix A1

Figure A1 presents the trends for treatment and control provinces through time. We observe similar trends before the treatment, and trends diverging after the treatment, especially after 2011.

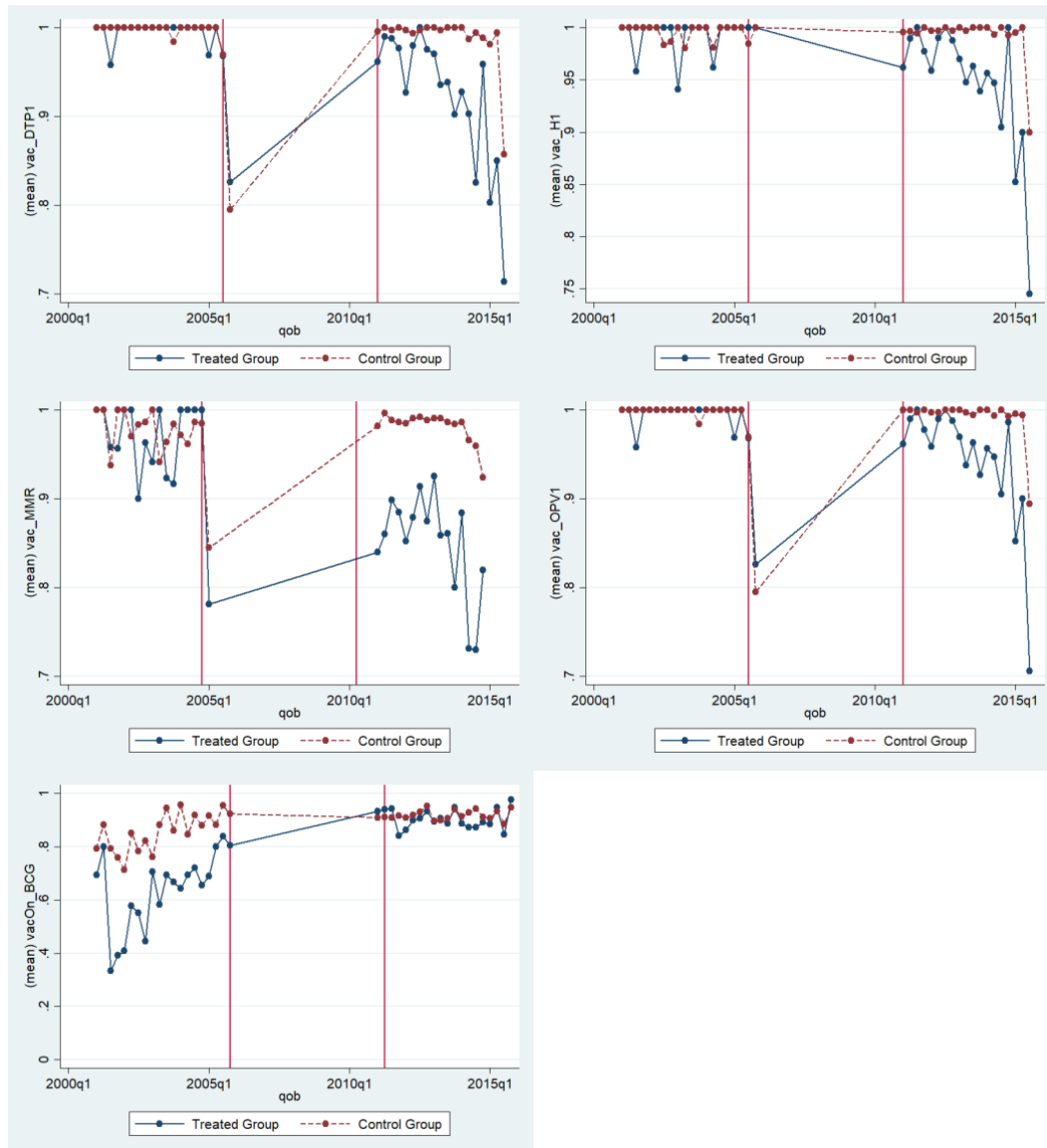


Figure A1: The graphs show the trends in vaccination rates before and after the treatment for the treated and control provinces. The bolded lines depict the staggered nature of the policy with the cumulative policy effect in 2011.

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Appendix A2

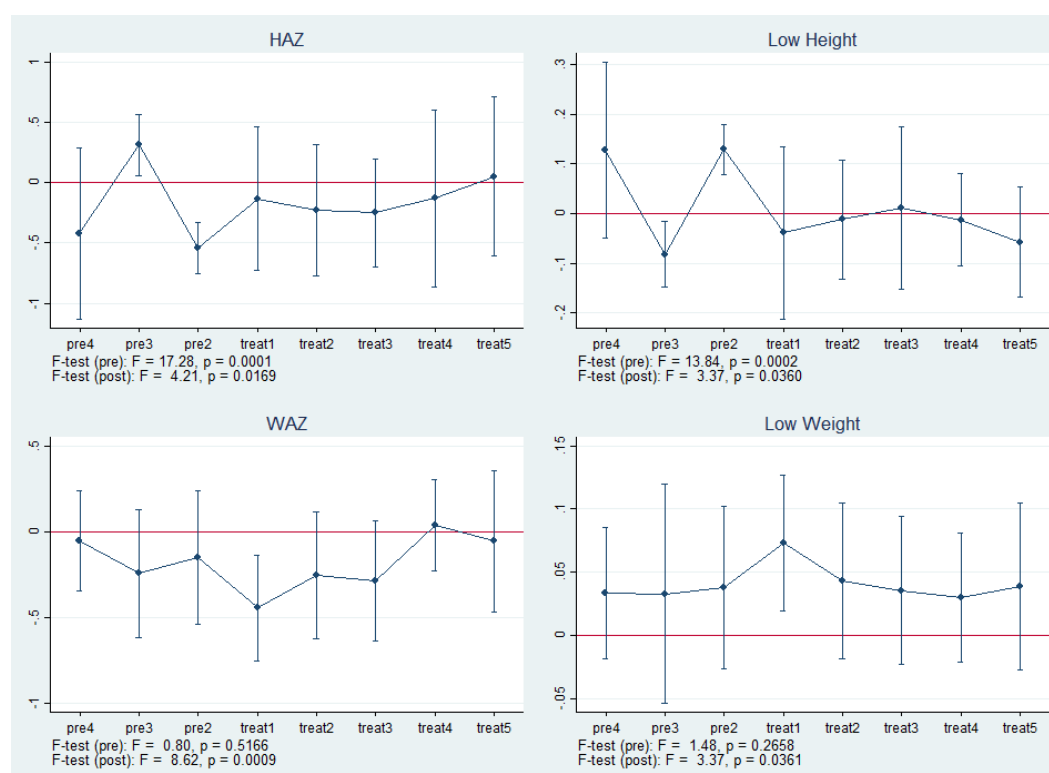


Figure A2: The graphs show the trends in child anthropometric measures before and after the treatment. For each time period, we show a point estimate for the effect as well as a 95% confidence interval constructed from province-clustered standard error. The F-statistics for pre and post period are noted below in the graph.

Table A2

	(1)	(2)	(3)	(4)
Dependent Variable	Low Weight	WAZ	Low Height	HAZ
Treat 1	0.0292 (0.114)	-0.0077 (0.973)	0.0549 (0.334)	-0.274** (0.020)
Treat 2	0.0067 (0.681)	-0.0559 (0.580)	-0.0499 (0.311)	0.0067 (0.970)
Explanatory Variables	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
Province FE	NO	NO	NO	NO
Household Cohort FE	YES	YES	YES	YES
Control provinces	All	All	All	All
Observations	9482	8932	9482	8932

Note: p-values in parentheses. Control covariates include caretaker's age, sex, education, and household income level.

*** Significant at 1% level, ** significant at 5% level, * significant at 10% level.

Event study graphs for anthropometric outcomes like HAZ scores, WAZ Scores, wasting, and stunting are presented in Figure A2. We cannot rule out pre-trends in the height variables. Cumulatively, we do observe some effects of the policy on WAZ. Table A1 presents the results of the effect of the policy on these health outcome variables. We observe a slight decrease in HAZ after the first period of the policy implementation. However, since we cannot eliminate pre-trends, these results should be interpreted with caution.

Appendix A3

Tables A3 and A4 illustrate full results for the regressions in tables 2 and 3, respectively.

Table A3

Dependent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	DTP1	OPV1	H1	DTP1	OPV1	H1	MMR
Treat*Post1	0.00353 (0.945)	0.00312 (0.953)	0.00039 (0.964)	-0.0171 (0.758)	-0.0203 (0.719)	-0.0206* (0.051)	-0.0964 (0.209)
Treat*Post2	-0.0675*** (0.000)	-0.0488*** (0.000)	-0.0461*** (0.000)	-0.0840*** (0.000)	-0.0748*** (0.000)	-0.0682*** (0.000)	-0.179*** (0.000)
Treat	0.0185 (0.183)	0.0150* (0.073)	0.0138 (0.141)				
Post1	-0.290** (0.002)	-0.291** (0.001)	0.00555 (0.245)	-0.283** (0.002)	-0.283** (0.002)	0.0135* (0.066)	-0.00119 (0.988)
Post2	-0.282** (0.003)	-0.286** (0.002)	0.0212** (0.042)	-0.272** (0.004)	-0.275** (0.003)	0.0313** (0.029)	-0.210** (0.004)
Female	0.000453 (0.769)	0.000799 (0.607)	0.00106 (0.472)	-0.000212 (0.885)	0.000353 (0.831)	0.000692 (0.656)	0.00688 (0.245)
Age	0.0166* (0.055)	0.0157** (0.042)	0.0118** (0.039)	0.0169* (0.055)	0.0155** (0.045)	0.0118** (0.040)	0.0554** (0.005)
Birth order: 2nd	0.00109 (0.622)	0.0012 (0.187)	-0.000326 (0.898)	0.00122 (0.614)	0.000806 (0.519)	-0.000465 (0.869)	0.000582 (0.939)
Birth order: 3rd	-0.00865 (0.676)	-0.0103 (0.643)	-0.00836 (0.705)	-0.00902 (0.680)	-0.01 (0.670)	-0.00796 (0.733)	-0.0344 (0.187)
Birth order: 4th	0.0297 (0.144)	0.0264 (0.163)	0.0271 (0.165)	0.00325 (0.902)	0.00815 (0.756)	0.0116 (0.659)	0.149** (0.010)
CT's age	0.0000843 (0.641)	0.000216 (0.197)	0.0000789 (0.636)	0.0000813 (0.636)	0.000194 (0.221)	0.0000568 (0.723)	0.000393 (0.179)
Female CT	0.00389 (0.567)	0.00692 (0.309)	0.00515 (0.381)	0.00372 (0.605)	0.00615 (0.390)	0.00443 (0.473)	0.00943 (0.376)
CT's edu: elementary	0.00535 (0.459)	0.00327 (0.531)	-0.00173 (0.695)	0.00558 (0.451)	0.00348 (0.519)	-0.00106 (0.811)	-0.0147 (0.187)
CT's edu: secondary	0.0125 (0.234)	0.0125 (0.156)	0.00338 (0.598)	0.0131 (0.212)	0.0122 (0.154)	0.00387 (0.533)	0.000297 (0.986)
CT's edu: college or higher	0.0172* (0.075)	0.0170* (0.071)	0.0109* (0.094)	0.0174* (0.072)	0.0158* (0.075)	0.0104* (0.092)	0.00921 (0.398)
CT's edu: unknown	0.000322 (0.971)	-0.00734 (0.384)	-0.0150** (0.019)	-0.00441 (0.517)	-0.0124* (0.094)	-0.0185** (0.008)	-0.118*** (0.000)
Rural	-0.00886* (0.096)	-0.00538 (0.210)	-0.00573 (0.201)	-0.00834 (0.112)	-0.00454 (0.275)	-0.00517 (0.250)	-0.000269 (0.973)
Thai HHH	0.0160* (0.084)	0.0118** (0.027)	0.00880* (0.073)				
Low income	-0.00931** (0.032)	-0.0112*** (0.001)	-0.0114*** (0.000)				
Constant	0.920***	0.927***	0.957***	0.928***	0.932***	0.958***	0.763***

	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N	8,589	8,616	8,616	8,589	8,616	8,616	7,843
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	No	No	No	No
HH cohort FE	No	No	No	Yes	Yes	Yes	Yes

Note: p-values in parentheses. *** Significant at 1% level, ** significant at 5% level, * significant at 10% level.

Table A4

Dependent Variables	(1) BCG	(2) BCG	(3) BCG	(4) BCG
Treat*Post1	0.234** (0.001)	0.249*** (0.001)	0.277*** (0.000)	0.285*** (0.000)
Treat*Post2	0.197*** (0.001)	0.213*** (0.001)	0.231** (0.001)	0.237** (0.002)
Treat	-0.229*** (0.000)	-0.231*** (0.000)		
Post1	-0.832*** (0.000)	-0.847*** (0.000)	-0.856*** (0.000)	-0.879*** (0.000)
Post2	-0.828*** (0.000)	-0.849*** (0.000)	-0.848*** (0.000)	-0.877*** (0.000)
Female	-0.00516 (0.591)	-0.00466 (0.636)	-0.00593 (0.548)	-0.00612 (0.545)
Age	-0.01000 (0.607)	-0.00980 (0.677)	-0.0106 (0.564)	-0.0110 (0.623)
Birth order: 2nd	0.000637 (0.952)	-0.00720 (0.513)	-0.00129 (0.907)	-0.00961 (0.403)
Birth order: 3rd	0.0201 (0.465)	0.0207 (0.528)	0.0107 (0.704)	0.0148 (0.657)
Birth order: 4th	0.154*** (0.000)	0.126*** (0.000)	0.129*** (0.000)	0.128*** (0.000)
CT's age	0.000344 (0.317)	0.000440 (0.246)	0.000225 (0.477)	0.000337 (0.323)
Female CT	0.0250 (0.273)	0.0218 (0.398)	0.0229 (0.323)	0.0191 (0.461)
CT's edu: elementary	0.0225 (0.428)	0.0110 (0.714)	0.0205 (0.434)	0.00751 (0.783)
CT's edu: secondary	0.0394 (0.229)	0.0308 (0.396)	0.0370 (0.226)	0.0277 (0.414)
CT's edu: college or higher	0.0178 (0.582)	0.00433 (0.898)	0.0167 (0.576)	0.00172 (0.955)
CT's edu: unknown	0.00550 (0.866)	0.000533 (0.988)	0.0572* (0.064)	0.0414 (0.188)
Rural	-0.00432 (0.736)	-0.0137 (0.305)	-0.00167 (0.900)	-0.0132 (0.305)
Thai HHH	0.0620** (0.014)	0.0723** (0.008)		

Low income HH	-0.0211 (0.107)	-0.0164 (0.229)		
Constant	0.941*** (0.000)	0.935*** (0.000)	0.932*** (0.000)	0.940*** (0.000)
N	8,179	6,901	8,179	6,901
Time FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	No	No
HH cohort FE	No	No	Yes	Yes
Sample	All	All but south	All	All but south

Note: p-values in parentheses. *** Significant at 1% level, ** significant at 5% level, * significant at 10% level.

Appendix A4

Table A5₃ exhibits regression results for vaccines given at 2 months and one year using two alternative specifications for cohort fixed effects. CFE1 contains specific location (province + rural), household head's ethnicity, and household income level. CFE2 includes all variables in CFE1 plus caretaker's characteristics including education, age, and sex. Both specifications yield similar results to those in table 2.

Table A5

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	DTP1	OPV1	H1	MMR	DTP1	OPV1	H1	MMR
Treat*Post1	-0.0314 (0.682)	-0.0304 (0.695)	-0.0284 (0.156)	-0.0928 (0.217)	-0.0171 (0.761)	-0.0205 (0.720)	-0.0207** (0.048)	-0.0844 (0.445)
Treat*Post2	-0.109*** (0.000)	-0.0957*** (0.000)	-0.0868*** (0.000)	-0.163*** (0.000)	-0.0837*** (0.000)	-0.0746*** (0.000)	-0.0680*** (0.000)	-0.120*** (0.001)
N	8,589	8,616	8,616	7843	8,589	8,616	8,616	7843
Explanatory variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HH Cohort FE	CFE1	CFE1	CFE1	CFE1	CFE2	CFE2	CFE2	CFE2
Control provinces	All	All	All	All	All	All	All	All

Note: p-values in parentheses. Control covariates include child's sex and birth order. Columns 1-4 also controls for caretaker's age, sex, education, and household income level. *** Significant at 1% level, ** significant at 5% level, * significant at 10% level.

³ Full regression results available upon request.