**Supplemental Table S1.** Association between sociodemographic factors (by municipalities and departments) and two-dose vaccination coverage (%) by municipalities in Guatemala (N = 336). SARS-CoV-2 case and vaccination data are from February 13, 2020 to October 1, 2021.

| | BIVARIATE MODEL | | | | | FULL MULTIVARIABLE MODEL | | | | | SIMPLIFIED MULTIVARIABLE MODEL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coefficient | 95% Confidence Interval | | Marginal $R^2$ | Conditional $R^2$ | Coefficient | 95% Confidence Interval | | Marginal $R^2$ | Conditional $R^2$ | Coefficient | 95% Confidence Interval | | Marginal $R^2$ | Conditional $R^2$ |
| Null multi-level model | 43.766 | 39.645 | 47.949 | 0.000 | 0.239 | | | | | | | | | | |
| Municipal level variables | | | | | | | | | | | | | | | |
| % Mayan | -0.151 | -0.206 | -0.095 | 0.120 | 0.342 | 0.026 | -0.028 | 0.081 | | | - | - | - | | |
| % Rural residence | -0.188 | -0.251 | -0.127 | 0.111 | 0.246 | -0.001 | -0.067 | 0.062 | | | - | - | - | | |
| % Educational level primary school or above | 1.400 | 1.184 | 1.616 | 0.400 | 0.451 | 1.046 | 0.714 | 1.386 | | | 0.877 | 0.613 | 1.138 | | |
| % Female sex | 2.527 | 1.022 | 4.026 | 0.036 | 0.281 | 1.793 | 0.398 | 3.169 | | | 2.154 | 0.959 | 3.354 | | |
| % in 0 – 17 age group | -1.813 | -2.158 | -1.470 | 0.296 | 0.388 | 0.599 | -0.015 | 1.218 | | | - | - | - | | |
| % in 60 or older age group | 4.538 | 3.566 | 5.485 | 0.218 | 0.412 | 2.369 | 1.114 | 3.678 | | | 1.628 | 0.656 | 2.571 | | |
| % tested for SARS-CoV-2 | 0.521 | 0.431 | 0.613 | 0.314 | 0.460 | 0.242 | 0.112 | 0.370 | | | 0.253 | 0.154 | 0.356 | | |
| | | | | | | | | | 0.512 | 0.583 | | | | 0.494 | 0.560 |
| % died due to COVID-19 | 1.171 | 0.939 | 1.406 | 0.249 | 0.406 | 0.188 | -0.124 | 0.491 | | | - | - | - | | |
| Departmental level variables | | | | | | | | | | | | | | | |
| Under-5 childhood mortality rate | -0.087 | -0.461 | 0.268 | 0.003 | 0.249 | 0.188 | -0.064 | 0.431 | | | - | - | - | | |
| % reporting difficulty accessing healthcare facility due to distance | -0.822 | -1.121 | -0.532 | 0.176 | 0.249 | -0.043 | -0.466 | 0.377 | | | - | - | - | | |
| % 12-23 month olds receiving third | 0.653 | 0.201 | 1.106 | 0.073 | 0.244 | 0.110 | -0.301 | 0.522 | | | - | - | - | | |

| Pentavalent vaccine | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gini coefficient | -0.619 | -1.195 | -0.084 | 0.052 | 0.245 | -0.201 | -0.682 | 0.270 | | | - | - | - |