

Odisha Pilot - Sampling Variation of Diarrhea Outcome

Alex Lehner

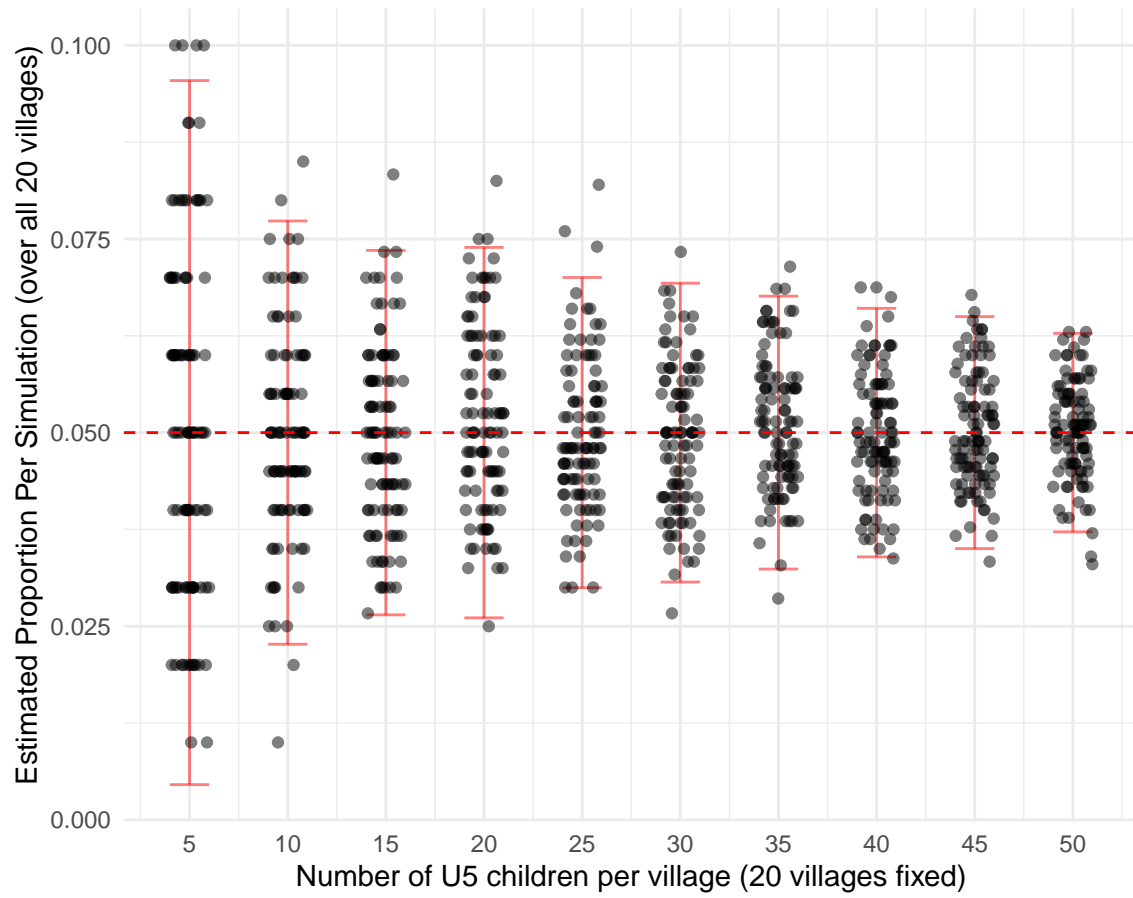
2023-08-14

The ILC Pilot in Odisha will have a fixed sample of 20 villages. We want to get a sense for how precise and informative diarrhea prevalence estimates from an endline census in all villages will be. The assumed diarrhea prevalence is **five percent** as per the latest NFHS survey at a district level.

There will be substantial sampling variation depending on the size of the villages. Therefore I show the variation of the prevalence rate across different village sizes from 5 to 50 U5 children per village in increments of 5. Vaishnavi mentioned that a total village size of 500 people might be already too big because their water systems might get complex. Therefore, 50 U5 children might already be too high of an upper bound.

For each village size, the graphic displays the average total prevalence over all 20 villages. 100 simulations within each village size category are displayed and 95 percent confidence intervals are displayed with red errorbars. These confidence intervals are printed in a separate table below the plot for every village size category.

Simulated Diarrhia Rates Across Village Sizes (U5 Children)



18

Table 1: 95percent confidence intervals for every village size (U5 children) as displayed by the errorbars in the plot above

GroupSize	CI_lower	CI_upper
5	0.005	0.095
10	0.023	0.077
15	0.026	0.074
20	0.026	0.074
25	0.030	0.070
30	0.031	0.069
35	0.032	0.068
40	0.034	0.066
45	0.035	0.065
50	0.037	0.063