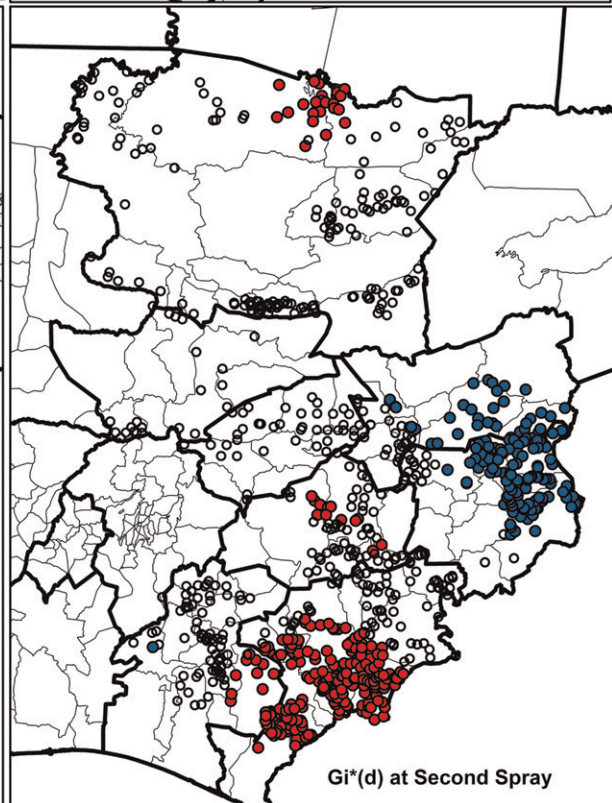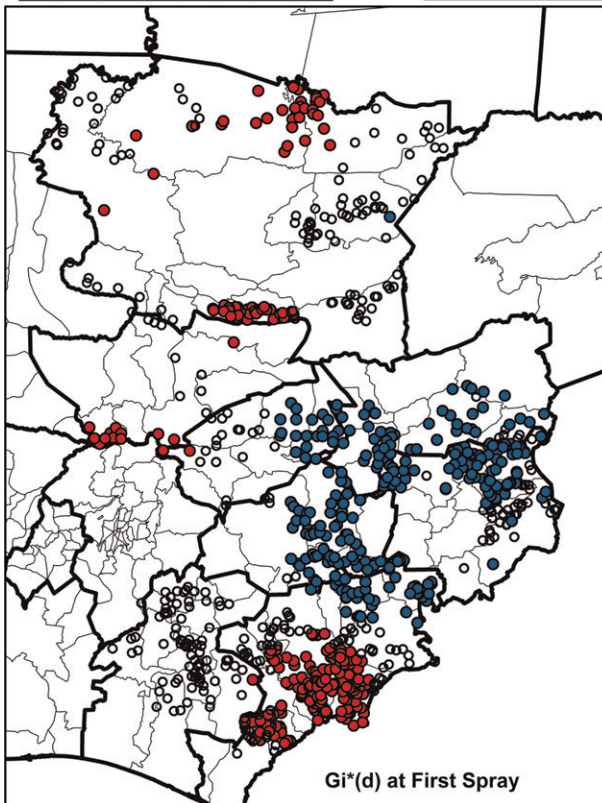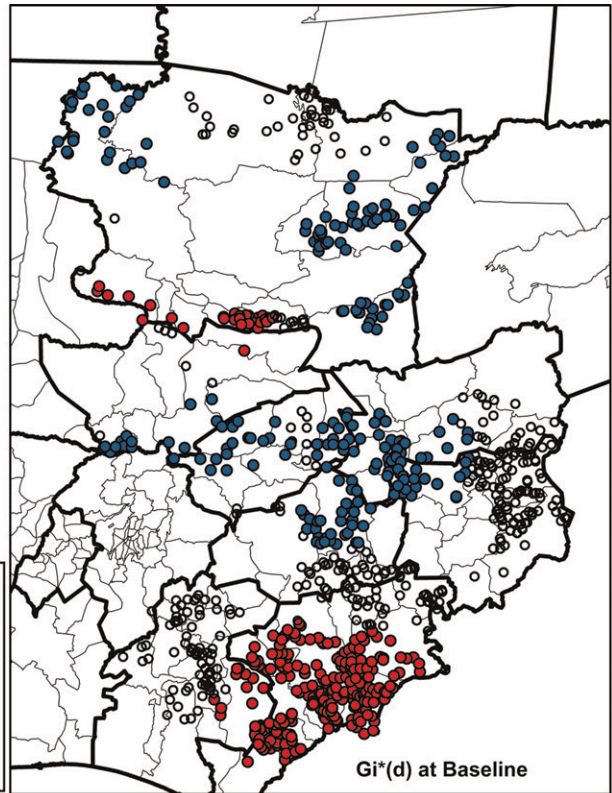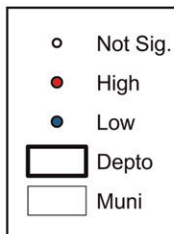Clustering of Triatoma Infestation in Guatemala

Source: National Chagas Disease Program, Ministry of Health

Global mean indices of infestation (*n* = 838):

(1) Baseline = 27.01
(2) Spray 1 = 5.52
(3) Spray 2 = 4.17

A McNemar test for correlated proportions found a statistically significant difference in the proportion of houses infested between baseline and spray 1 (*P* < 0.001) and between sprays 1 and 2 (*P* < 0.001). In addition, a Friedman test showed that the mean indices of infestation were statistically significantly different across all three time points (*P* < 0.001).

Regression Analyses

TABLE A1

Relationship between reinfestation after first residual insecticide spray and time lapse during first spray

Model 1 (*N* = 811)	Odds ratio	95% CI	*P* value
Time lapse 180–360 days	1.65	1.09–2.50	0.019
Time lapse > 360 days	3.33	2.19–5.05	< 0.001
High cluster at baseline	1.04	0.76–1.42	0.799
Quarter 2 vs. quarter 1	0.69	0.46–1.03	0.069
Quarter 3 vs. quarter 1	1.08	0.72–1.62	0.711
Quarter 4 vs. quarter 1	0.64	0.39–1.04	0.070

CI = confidence interval; quarter 1 = January to March; quarter 2 = April to June; quarter 3 = July to September; quarter 4 = October to December.

TABLE A2

Relationship between reinfestation after second residual insecticide spray and time lapse during second spray

Model 2 (*N* = 663)	Odds ratio	95% CI	*P* value
Time lapse 180–360 days	1.37	0.96–1.58	0.084
Time lapse > 360 days	1.17	0.81–1.68	0.411
Reinfested after spray 1	2.12	1.50–3.01	< 0.001
Quarter 2 vs. quarter 1	1.10	0.68–1.80	0.699
Quarter 3 vs. quarter 1	0.80	0.477–1.34	0.400
Quarter 4 vs. quarter 1	1.32	0.74–2.33	0.346

CI = confidence interval; quarter 1 = January to March; quarter 2 = April to June; quarter 3 = July to September; quarter 4 = October to December.

TABLE A3

Relationship between falling in a high infestation cluster after first residual insecticide spray and time lapse during first spray

Model 3 (*N* = 838)	High cluster after spray 1	95% CI	*P* value
Time lapse 180–360 days	6.91	3.68–12.97	0.000
Time lapse ≥ 360 days	5.79	3.10–10.82	0.000
High cluster at baseline	17.98	12.09–26.74	0.000

CI = confidence interval.

TABLE A4

Relationship between falling in a high infestation cluster after second residual insecticide spray and time lapse during second spray

Model 4 (*N* = 838)	High cluster after spray 2	95% CI	*P* value
Time lapse 180–360 days	2.64	1.78–3.39	0.000
Time lapse ≥ 360 days	0.70	0.51–0.96	0.030
Reinfested after spray 1	2.92	2.09–4.07	0.000

CI = confidence interval.