

Electoral Incentives to Combat Mosquito-Borne Illnesses: Experimental Evidence from Brazil

Appendix

Taylor C. Boas

F. Daniel Hidalgo

Department of Political Science

Department of Political Science

Boston University

MIT

September 17, 2018

1 Treatment Delivery Fliers

Examples of the fliers used to deliver treatment information are contained in Figure 1 (a relatively good performer) and Figure 2 (a relatively bad performer).

2 Confidence in the State Accounts Court of Pernambuco

Our study was conducted in partnership with the State Accounts Court of Pernambuco (Tribunal de Contas do Estado de Pernambuco, TCE-PE), an agency responsible for auditing municipal governments; the TCE-PE was presented as the conveyor of treatment information about mosquito control. As shown in Figure 3, respondents' confidence in the TCE-PE was significantly higher than in the federal government, the justice system, or their municipal government.

3 Secret Ballot for Measuring Vote Intention

An example of the secret ballot used to measure vote intention is contained in Figure 4.

4 Main Results in Tabular Form

Results summarized graphically in the main text are presented numerically in Table 1.

5 Results with Covariate Adjustment

In Figure 5, we present results from regressions that control for the following pretreatment covariates, in addition to block fixed effects:

- Age
- Years of education

- Perceived relative wealth compared to other Brazilians (5 point scale)
- Vote for the current incumbent in 2012
- Assessment of local government’s prevention of mosquito-borne illnesses (5 point scale)
- Uncertainty over assessment of local government’s prevention of mosquito-borne illnesses (4 point scale)
- Pretreatment assessment of municipality’s rank on the “Ratio of Agents Hired to Agents Federally Funded” metric
- Gender
- Evaluation of the incumbent administration (5 point scale)
- Evaluation of the incumbent’s party (5 point scale)

6 Treatment Effects with a Continuous Interaction

In the main text, we present heterogeneous treatment effects according to whether a municipality was above or below the statewide median ratio of anti-endemic disease agents hired to those federally funded. Here, we graphically summarize the average marginal effect of treatment by municipality rank, the continuous metric communicated to respondents; lower numbers correspond to better performance (e.g., 1st place). Results are similar to those that obtained when dichotomizing this ranking. For the full sample of respondents, the treatment information has a null effect that does not vary with a municipality’s relative performance on mosquito abatement (Figure 6). For respondents who know someone with a child affected by microcephaly or the Zika virus (Figure 7), we find that marginal effects vary in the expected direction, though estimates are insignificant, likely due to the small size of this subsample. Standard errors are calculated using the non-parametric bootstrap with 1000 bootstrap replicates.

In addition to the linear interaction, each figure plots treatment effects in three equally sized bins, where the bin thresholds are the first and second tercile of the municipality rank. This “binning” approach suggests that, among respondents who know someone affected by microcephaly, treat-

ment effect heterogeneity may be non-linear, with the most pronounced effects occurring among the worst performers.

7 Bad News Treatment Effects by Incidence of Microcephaly

We obtained data from Brazil's Ministry of Health on the number of cases of congenital Zika syndrome in each municipality of Pernambuco from the start of the outbreak through July 1, 2016, when our survey went the field. When we subset on poor performing municipalities (those ranked worse than the statewide median) and interact our treatment indicator with the logged incidence of microcephaly, estimated conditional effects are in the expected direction but insignificant, as summarized in Figure 8.

Tribunal de Contas
ESTADO DE PERNAMBUCO

Escola de Contas Públicas
PROFESSOR BARRETO GUIMARÃES

TCE/PE

INFORMAÇÃO AO CIDADÃO

O presente formulário faz parte de uma pesquisa internacional, realizada em parceria com universidades brasileiras e do exterior, que busca melhorar a transparência na gestão pública. As informações nele contidas foram extraídas e estão disponíveis no site "Tome Contas" ou outras fontes de acesso público.

INFORMAÇÕES PARA O MUNICÍPIO DE
ARARIPINA

INFORMAÇÕES PARA O MUNICÍPIO DE
ARARIPINA



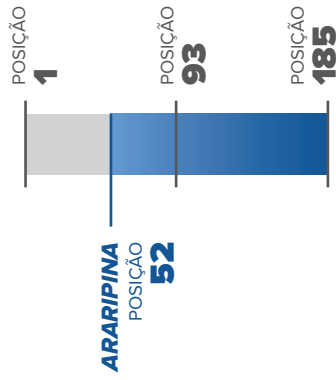
COMBATE A DOENÇAS

Em 2016, o município de **ARARIPINA** ficou na **posição 52** no ranking estadual de Agentes de Combate às Endemias. Isso significa que Araripina se saiu melhor do que **72%** dos municípios de Pernambuco na contratação de profissionais para lutar contra a zika, a dengue e a chikungunya.

COMBATE A DOENÇAS

Uma das responsabilidades das prefeituras municipais é contratar Agentes de Combate às Endemias para lutar contra doenças como a **zika, a dengue e a chikungunya.**

Você sabe onde seu município fica no ranking estadual de Agentes de Combate às Endemias? Veja alguns dados.



Estas informações estão sendo fornecidas no contexto de uma pesquisa acadêmica conduzida por professores da **Universidade Federal de Pernambuco**, o **Instituto Tecnológico de Massachusetts** e a **Universidade de Boston**, em parceria com a **Escola de Contas Públicas Barreto Guimarães do TCE-PE.**

PARA MAIS DETALHES, VISITE WWW.METAKETA.ORG/ACE

Figure 1: Good Performance Flier





INFORMAÇÃO AO CIDADÃO

O presente formulário faz parte de uma pesquisa internacional, realizada em parceria com universidades brasileiras e do exterior, que busca melhorar a transparência na gestão pública. As informações nele contidas foram extraídas e estão disponíveis no site "Tome Contas" ou outras fontes de acesso público.

INFORMAÇÕES PARA O MUNICÍPIO DE
ABREU E LIMA

INFORMAÇÕES PARA O MUNICÍPIO DE
ABREU E LIMA



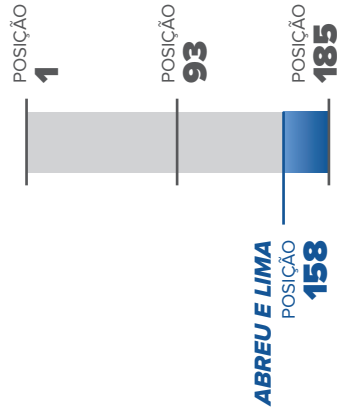
COMBATE A DOENÇAS

Em 2016, o município de **ABREU E LIMA** ficou na **posição 158** no ranking estadual de Agentes de Combate às Endemias. Isso significa que Abreu e Lima se saiu pior do que **85%** dos municípios de Pernambuco na contratação de profissionais para lutar contra a zika, a dengue e a chikungunya.



Uma das responsabilidades das prefeituras municipais é contratar Agentes de Combate às Endemias para lutar contra doenças como a zika, a dengue e a chikungunya.

Você sabe onde seu município fica no ranking estadual de Agentes de Combate às Endemias? Veja alguns dados.

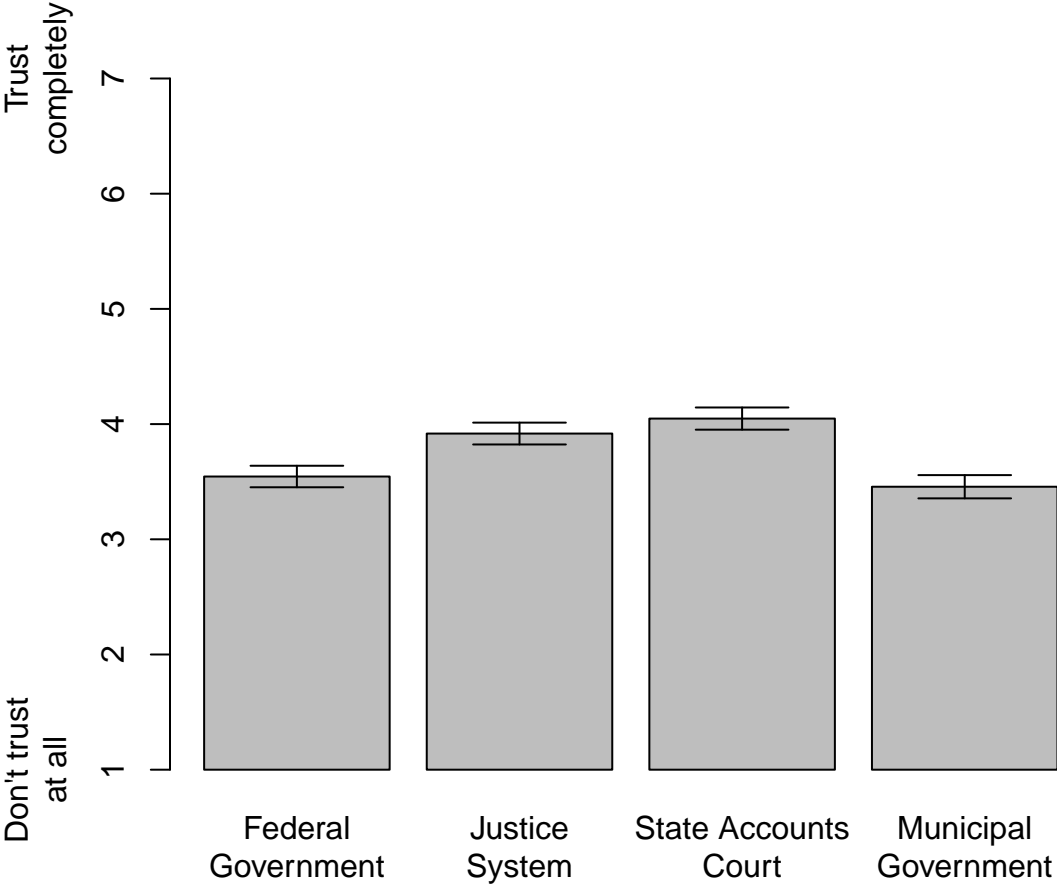


Estas informações estão sendo fornecidas no contexto de uma pesquisa acadêmica conduzida por professores da **Universidade Federal de Pernambuco**, o **Instituto Tecnológico de Massachusetts** e a **Universidade de Boston**, em parceria com a **Escola de Contas Públicas Barreto Guimarães do TCE-PE**.

PARA MAIS DETALHES, VISITE WWW.METAKETA.ORG/ACE

Figure 2: Bad Performance Flier

Figure 3: Confidence in Institutions in Pernambuco






NOTE: Lines give 95% confidence intervals.

Figure 4: Secret Ballot for Measuring Vote Choice

PARA PREFEITO DE
ABREU E LIMA

MARCAR
COM X:

	MARCOS JOSÉ DA SILVA	<input type="checkbox"/>
	OUTRO CANDIDATO	<input type="checkbox"/>
	NENHUM / BRANCO / NULO	<input type="checkbox"/>

		<i>Dependent variable:</i>				
		Vote for Incumbent				
	All	Baby: No	Baby: Yes	Know Microcephalic Child: No	Know Microcephalic Child: Yes	
	(1)	(2)	(3)	(4)	(5)	
Treatment	-0.020 (0.036)	-0.002 (0.043)	-0.121 (0.137)	-0.027 (0.040)	0.104 (0.127)	
Treatment x Better Than Median Rank	0.002 (0.051)	-0.033 (0.062)	0.183 (0.203)	0.041 (0.056)	-0.481** (0.212)	
Observations	1,005	761	94	883	65	

Note: *p<0.1; **p<0.05; ***p<0.01

Table 1: Average Treatment Effects on Intended Vote for Incumbent Mayor

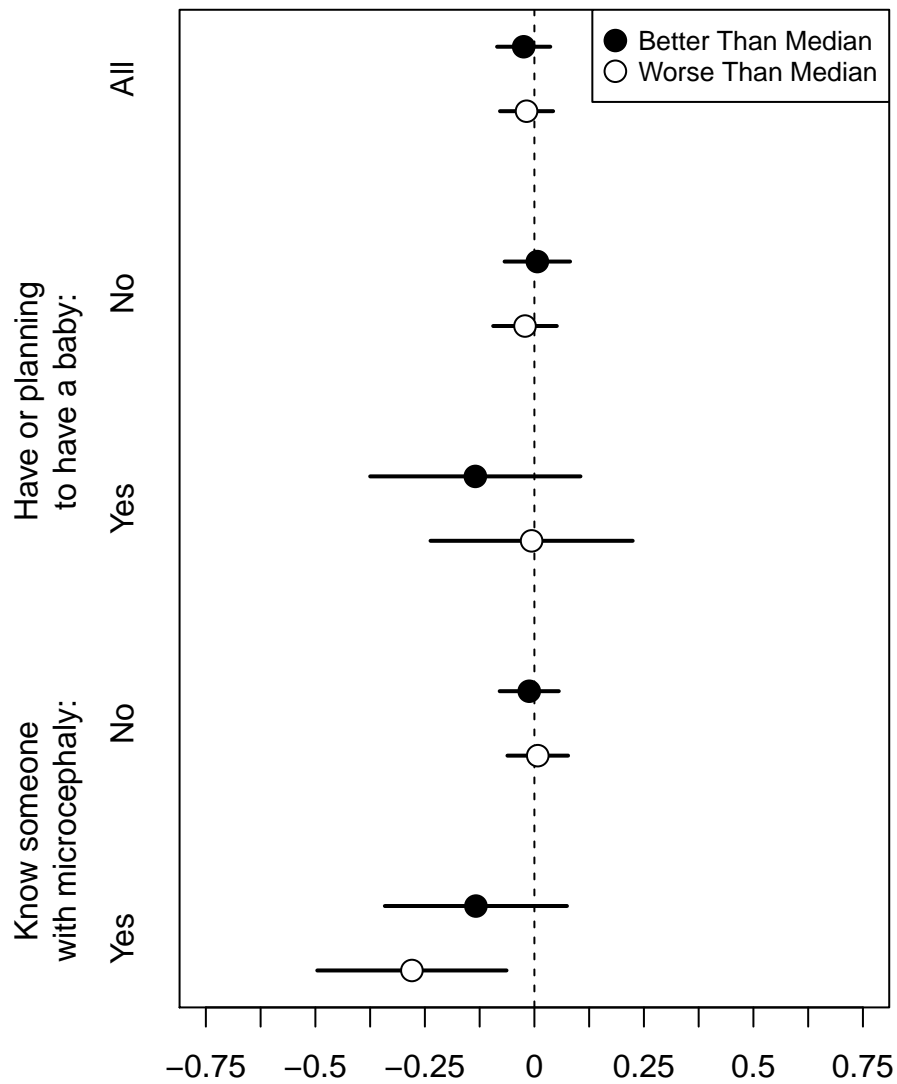


Figure 5: Average Treatment Effects on Intended Vote for Incumbent Mayor, with Covariate Adjustment

NOTE: Dots give point estimates and lines give two-sided 90% confidence intervals.

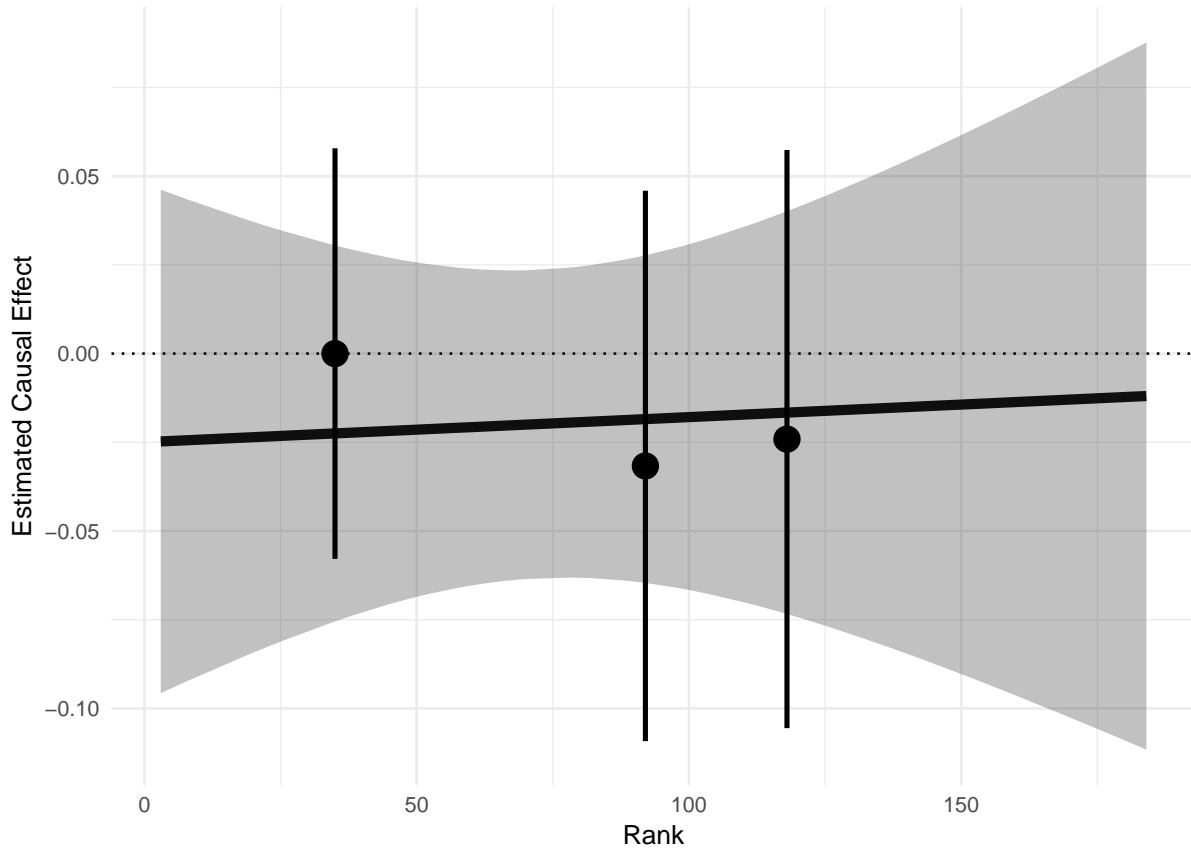


Figure 6: Marginal Treatment Effects on Intended Vote for Incumbent Mayor (All Respondents)

NOTE: The black line represents the marginal effect of the treatment by the municipality’s performance rank. The grey ribbon represents a 90% confidence interval based on bootstrapped standard errors. Dots give point estimates and vertical lines give two-sided 90% confidence intervals for equal-sized strata. The histogram shows the marginal distribution of respondents by performance rank.

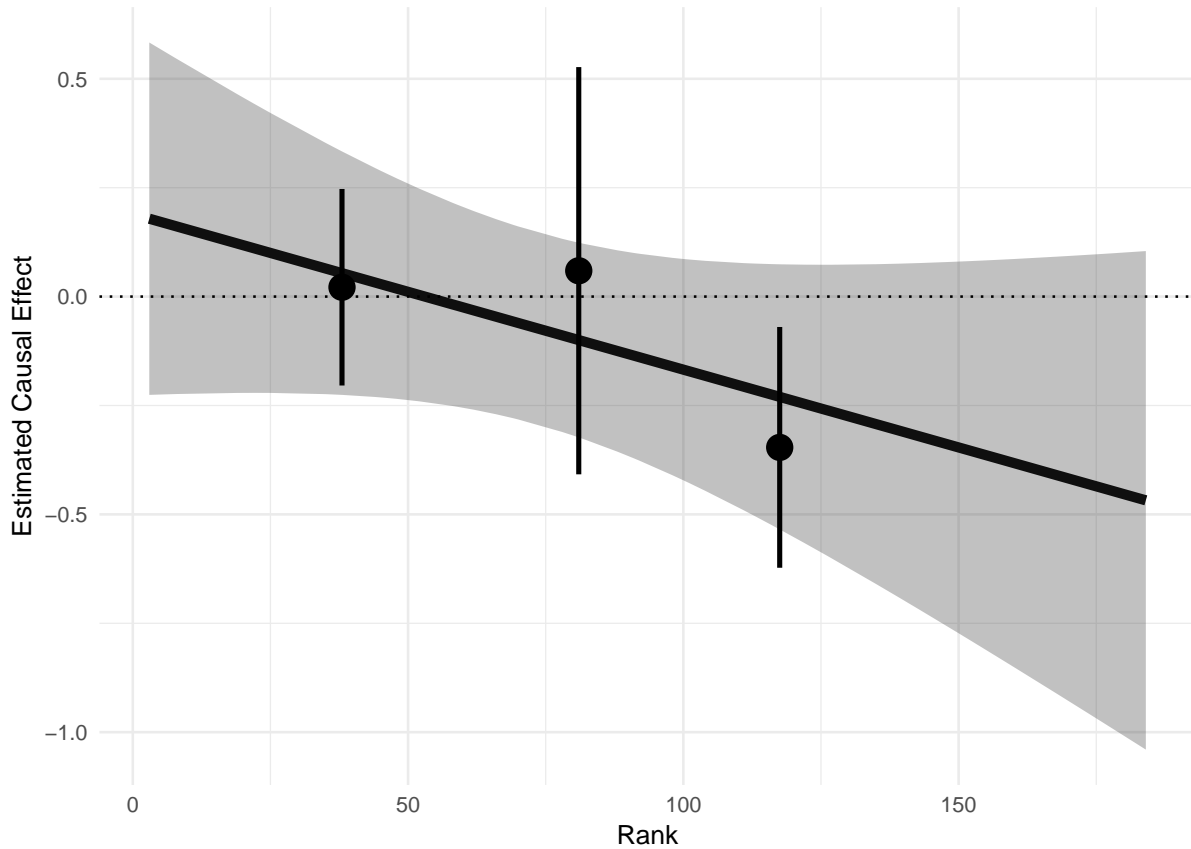


Figure 7: Marginal Treatment Effects on Intended Vote for Incumbent Mayor (Respondents Who Know a Child Affected by Microcephaly)

NOTE: The black line represents the marginal effect of the treatment by the municipality’s performance rank. The grey ribbon represents a 90% confidence interval based on bootstrapped standard errors. Dots give point estimates and vertical lines give two-sided 90% confidence intervals for equal-sized strata. The histogram shows the marginal distribution of respondents by performance rank.

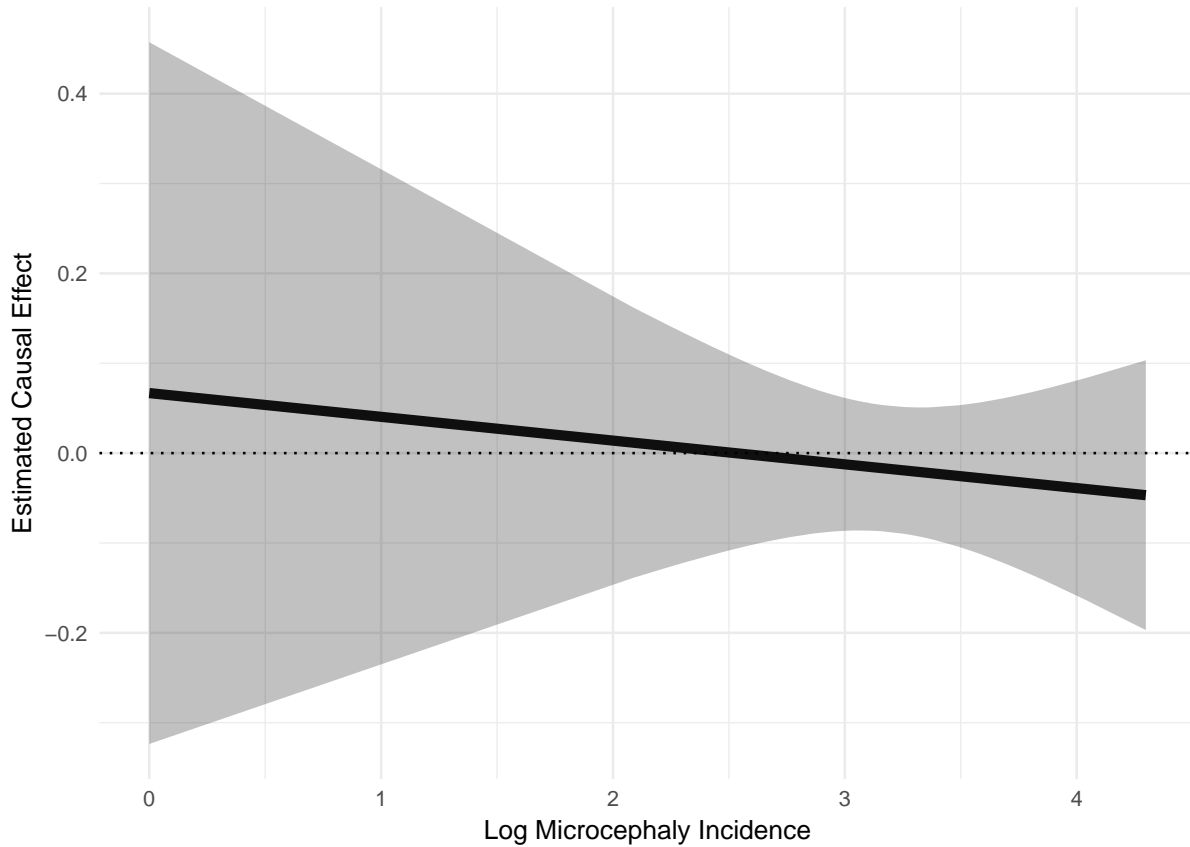


Figure 8: Marginal Treatment Effects on Intended Vote for Incumbent Mayor (Municipalities Performing Worse than Statewide Median)

NOTE: The black line represents the marginal effect of the treatment by the logged incidence of Microcephaly. The grey ribbon represents a 90% confidence interval based on bootstrapped standard errors. The sample is restricted to municipalities ranked worse than the statewide median on our measure of mosquito abatement effort. The histogram shows the marginal distribution of respondents by logged incidence of Microcephaly.