“A Military Approach is Required”: The Political Logic Of Disease Control on a Warming Planet

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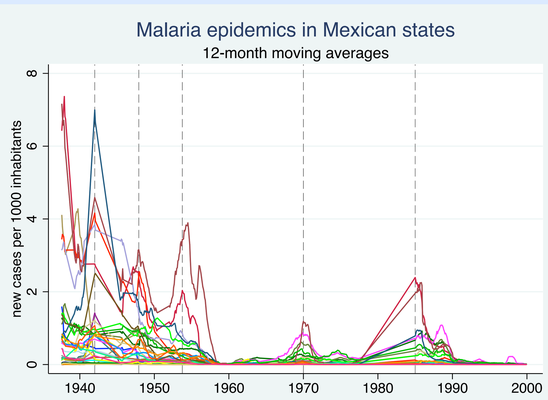
Motivation

- Malaria is a major source of mortality in the developing world, and some scholars believe it is a cause of persistent poverty.
- Global climate change may increase the burden of malaria and other climate-sensitive diseases (Patz 2005, McMichael 2006).
- The extent of this human impact of climate change will depend in part on the strategies of disease control pursued by public authorities.
- Historical accounts of eradication campaigns imply that to control diseases like malaria, governments must exercise a form of absolute authority over populations and territory.
- As one prominent malariologist recently put it, in order to eliminate malaria, “a military approach is required.”
- This conventional wisdom leaves us with a puzzle. Are some institutional arrangements better suited to controlling disease than others?
- Moreover, existing studies of malaria eradication campaigns have largely ignored the role of national and sub-national political institutions.
- This poster presents two ongoing research efforts focused on political institutions and public health.

Data and Methods

A team from the National Autonomous University of Mexico and the University of California, San Diego are collecting data on malaria transmission and the malaria control activities that took place in Mexico and the United States in the 20th century. The author is currently conducting archival research for this project.

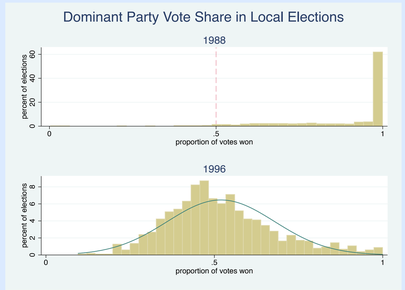


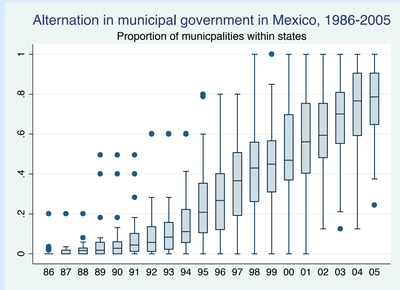
Trajectory of malaria before and after the large-scale campaign to eradicate the disease. Dashed lines denote sharp increases in incidence. Outbreaks recorded in the 70s and 80s indicate pockets of the disease persisted long after the campaign.

A team from the Center for US-Mexican Studies at UCSD is collecting data on public health outcomes and governance in Mexico. This effort will lead to a fully-interactive online atlas, designed to make a broad array of information available to policy makers and advocates in Mexico.

Mexico’s Democratic Transition

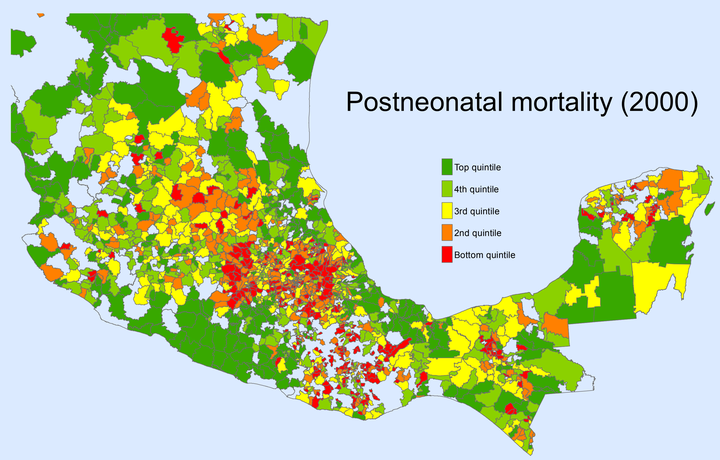
- For over seventy years, Mexico was governed by a single political party, the PRI.
- This dominant party held nearly all elected offices, especially at the local level.
- Over the past two decades, the PRI has lost its grip on power and competition between political parties has proliferated.
- As a measure of competitiveness in local elections, we generate an indicator of whether a municipality has ever been governed by a political party other than the PRI. Where another party has governed, we say the municipality has experienced alternation.
- This democratic transition provides an illuminating example of continuously held elections that were uncompetitive at first, and then became competitive at different times in different places.
- The uneven nature of the democratic transition allows us to test hypotheses about how competitive elections influence the performance of government agents.





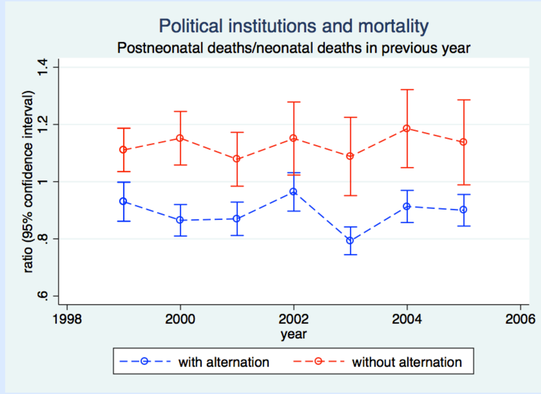
Distribution of Child Mortality

- Concurrently with the democratic transition, Mexico experienced a major transition in mortality, specifically a shift away from infectious to chronic diseases (Stevens 2008)
- Thus we see local-level variation in both spread of competitive elections and changes in outcomes such as child mortality.



Preliminary Findings

The presence of political competition is associated with improved public health outcomes. The figure shows mean estimates and 95% confidence intervals of a measure of mortality that may be closely linked to government performance. It is the count of deaths among children aged 1 month to 1 year over the count of deaths among children between birth and 1 month. The figures are aggregated at the municipality level.



Municipalities that have not experienced a transition in power away from the dominant party consistently report a greater proportion of postneonatal relative to neonatal deaths. We are currently developing more sophisticated models to account for the importance of other variables. We use factor analysis to generate a measure of poverty for Mexican municipalities that is comparable over time, improving on existing measures that were taken differently for different temporal cross sections. We are also developing a geospatial analysis that incorporates additional information about the distribution of disease and spatial autocorrelation between municipalities. This ongoing work will be reflected in the online atlas, and in the papers commissioned for the project. Our hope is to share the data and analysis with policy makers and advocates in Mexico.

Future Research

My future research will tie together the two lines of inquiry presented here. The political environment in the United States during the era of malaria shares many features in common with the Mexican political system before and during the democratic transition. Spatial data on the distribution of disease and disease control efforts will be combined with data on electoral participation and election results to determine the link between political competition and the intensity and effectiveness of government action. I will also examine the influence of political competition on the public health agencies charged with eradicating diseases. The insights gain will help us understand which governments are best prepared to meet the challenges of disease control on a warming planet.

References

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Acknowledgements

Supported by NSF IGERT Grant #0903551 and by the Hewlett Foundation. Data on Mexican elections was compiled from material provided CIDAC. Data on malaria in Mexico was provided by Rodolfo Acuña Soto.