A "Politically Robust" Experimental Design for Public Policy Evaluation, with Application to the Mexican Universal Health Insurance Program

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Joint work with Emmanuela Gakidou, Nirmala Ravishankar, Ryan T. Moore, Jason Lakin, Manett Vargas, Martha María Téllez-Rojo, Juan Eugenio Hernández Ávila, Mauricio Hernández Ávila, Héctor Hernández Llamas

The First Results of our Evaluation (Effect of Random Assignment on One Mexican)

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Before Treatment

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After Treatment

(Manett's) Arturo Vargas

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- Our plan: fail-safe research design components

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  - Politically Infeasible: local officials want benefits for their favored areas first

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  - Evaluation: affiliating makes you sick!
  - This is the problem of "selection bias"
- If politicians (in a democracy) decide which areas get MAOs
  - Privileged areas get affiliation first
  - Political favorites are affiliated early
  - Even if SP has no effect, areas with SP will be healthier

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  - Methodological: Drop areas where affiliation had already started

Remaining in study: 148 clusters in 7 states

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- Without an evaluation, choices would still be made, but would be arbitrary choices made by local government officials

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- We need estimators robust not merely to statistical assumptions but to real world problems

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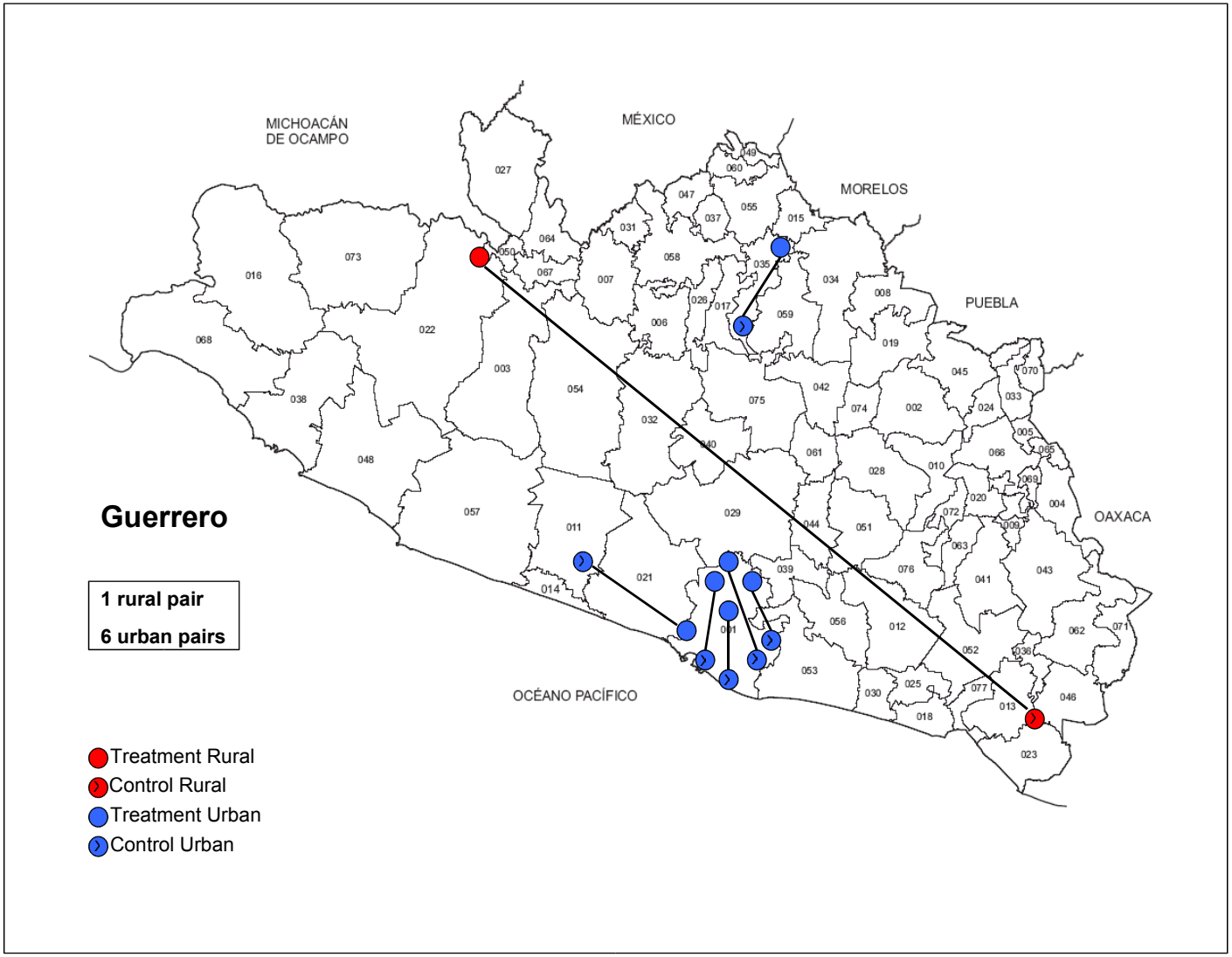
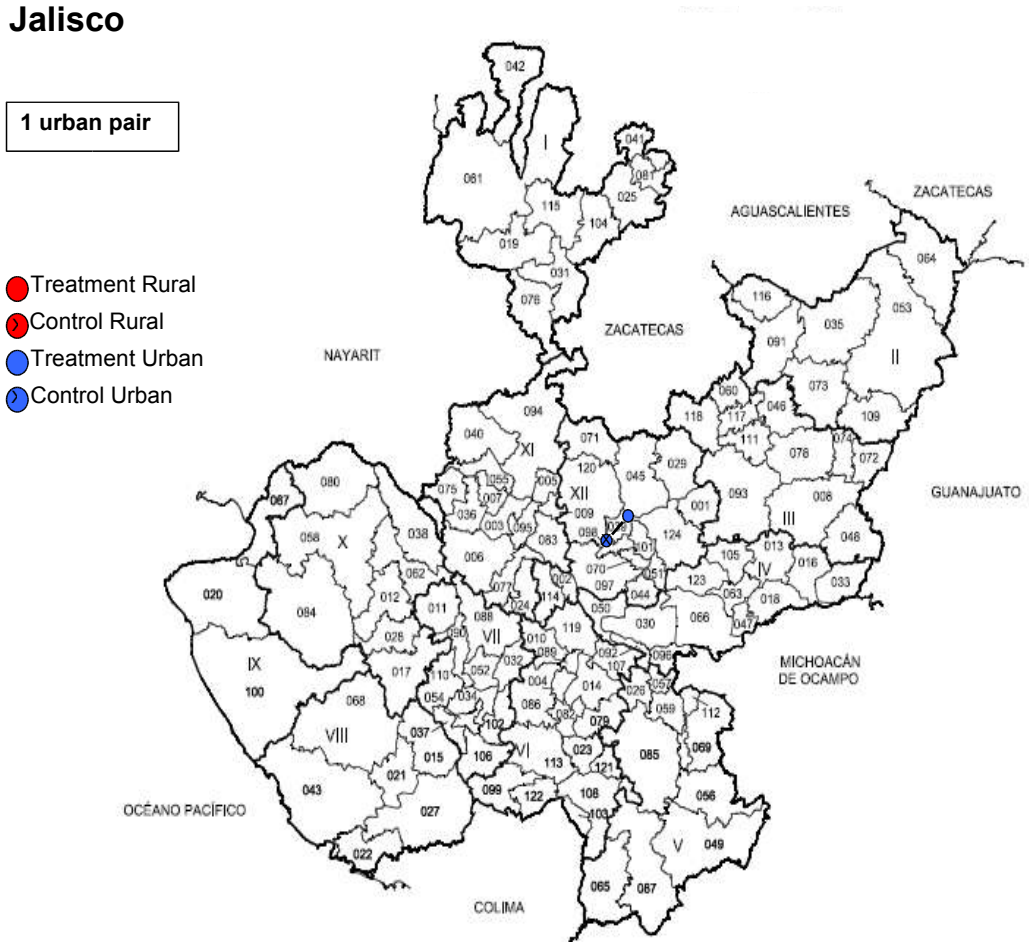
- 74 matched treatment-control pairs in the evaluation: 55 rural and 19 urban in 7 states

State	Rural Pairs	Urban Pairs	Total
Guerrero	1	6	7
Jalisco	0	1	1
México	35	1	36
Morelos	12	9	21
Oaxaca	3	1	4
San Luis Potosí	2	0	2
Sonora	2	1	3
Total	*55*	*19*	*74*

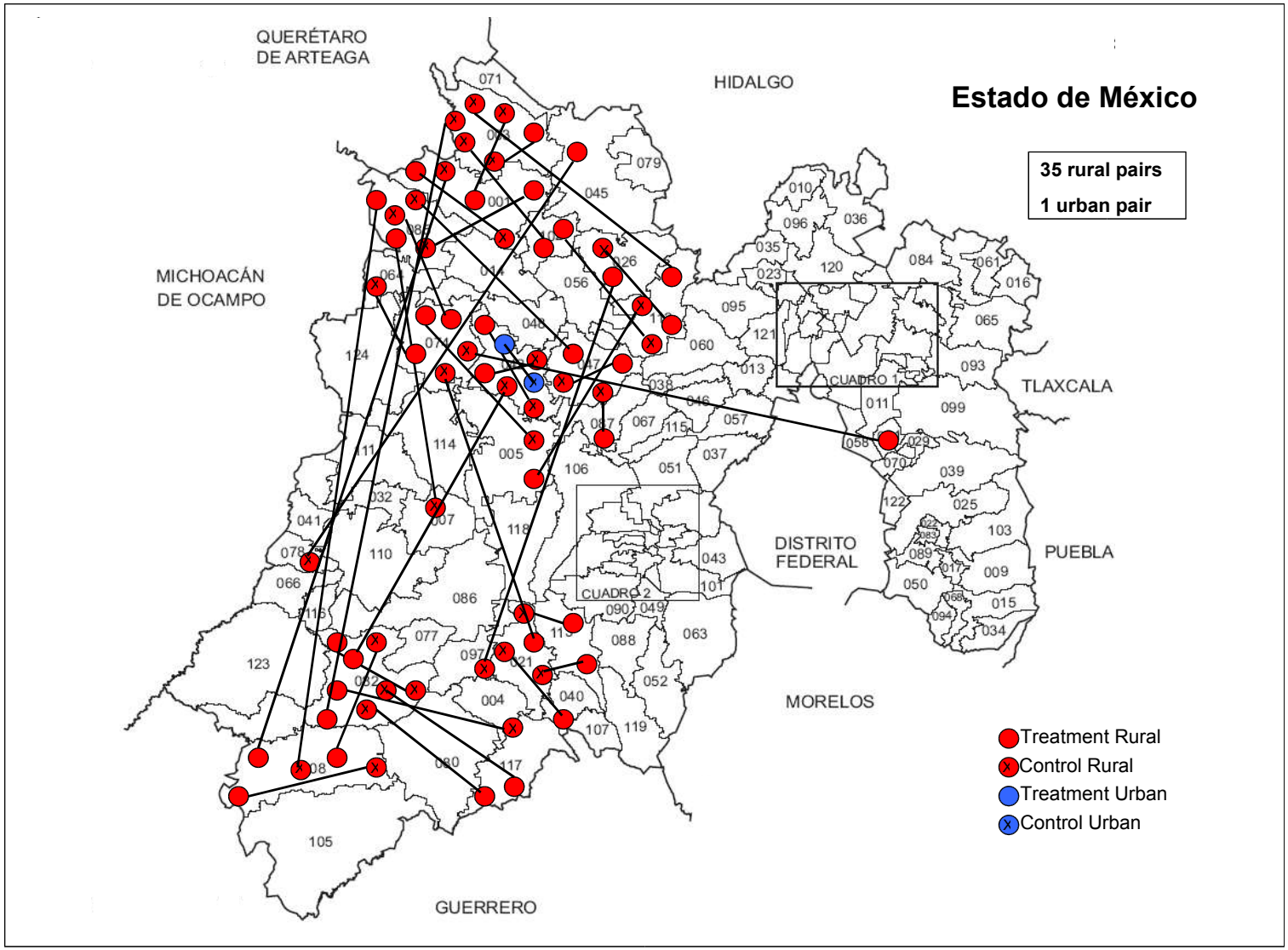
Matched Pairs, Guerrero



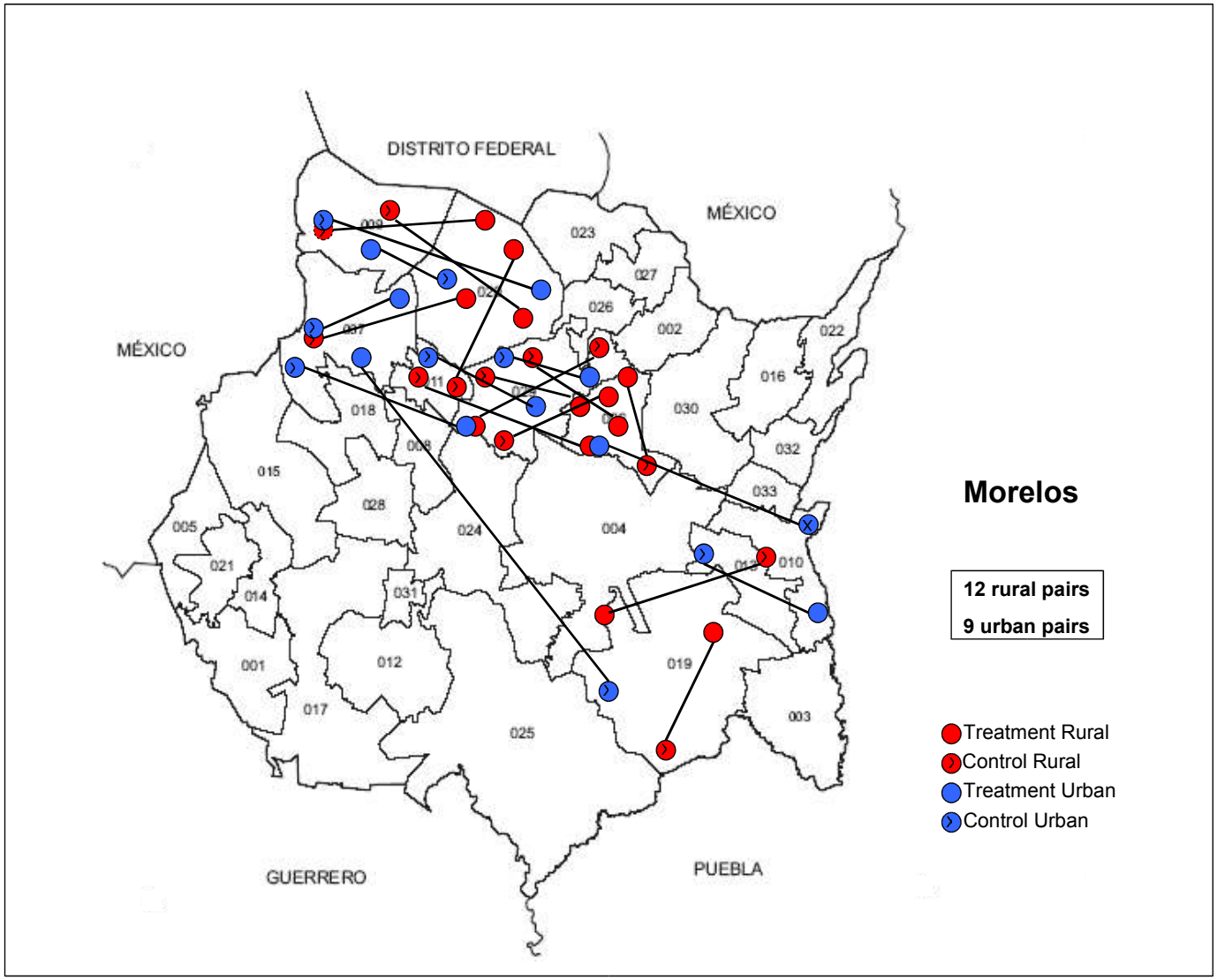
Matched Pairs, Jalisco



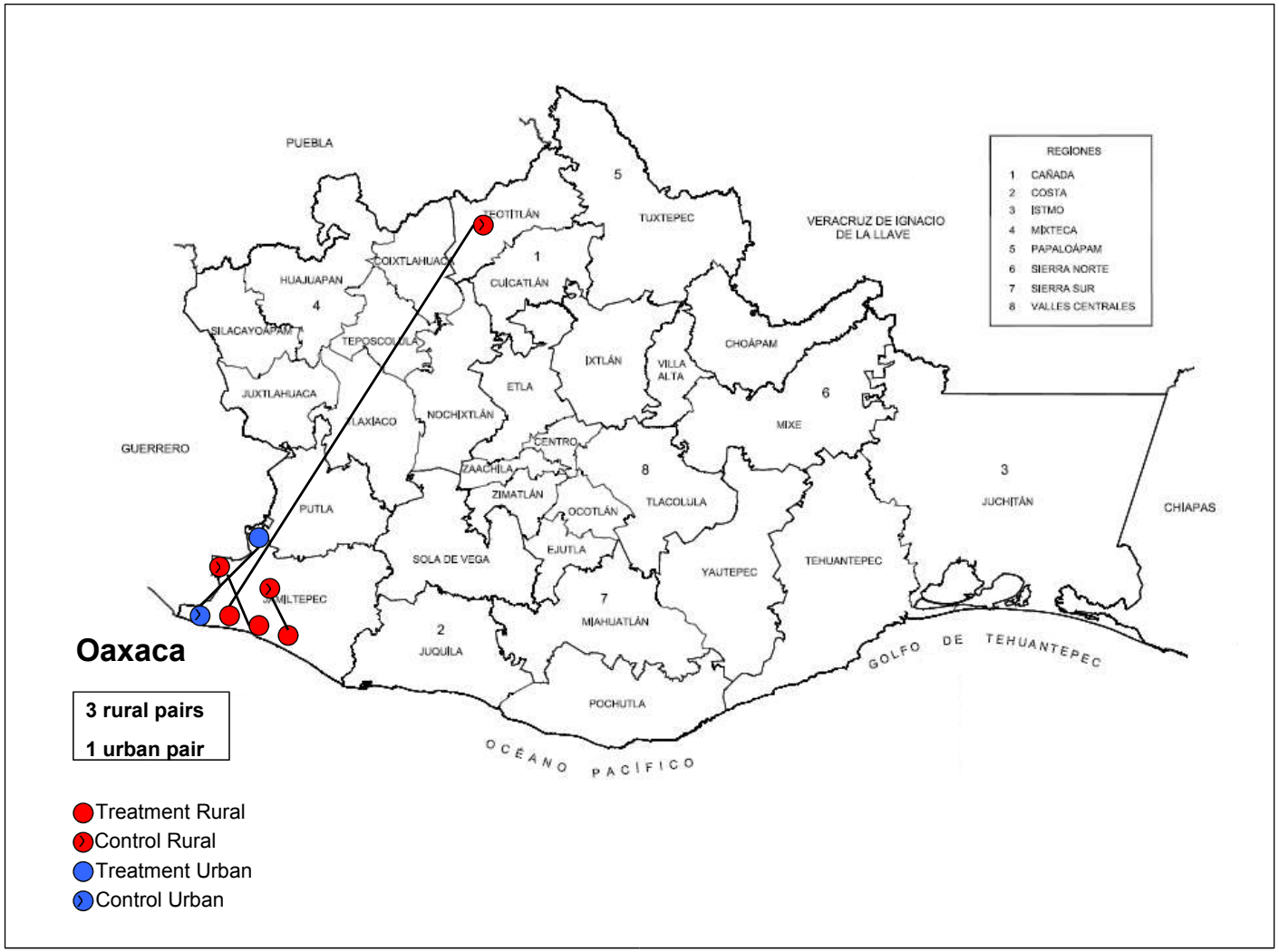
Matched Pairs, Estado de México



Matched Pairs, Morelos



Matched Pairs, Oaxaca



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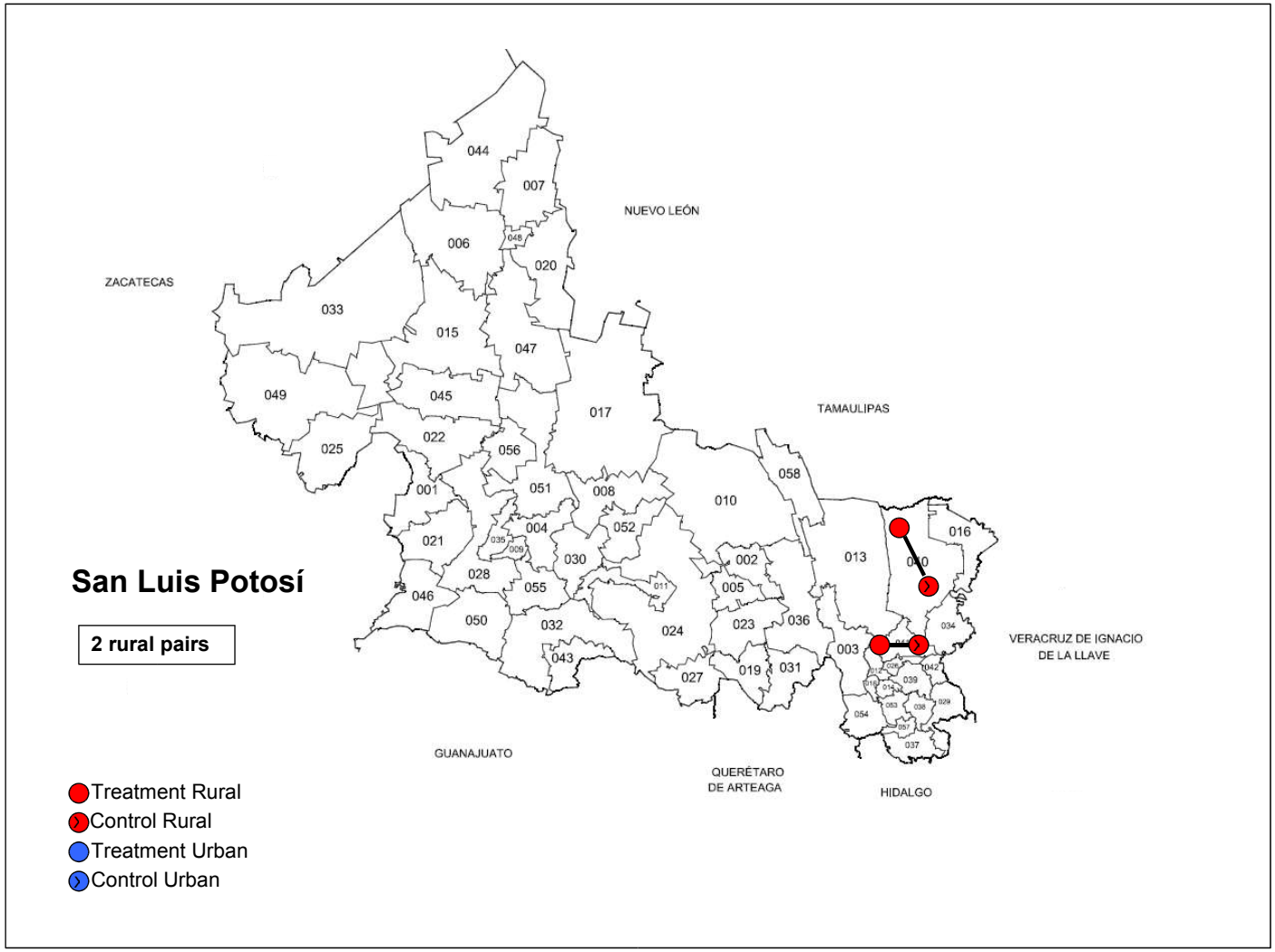
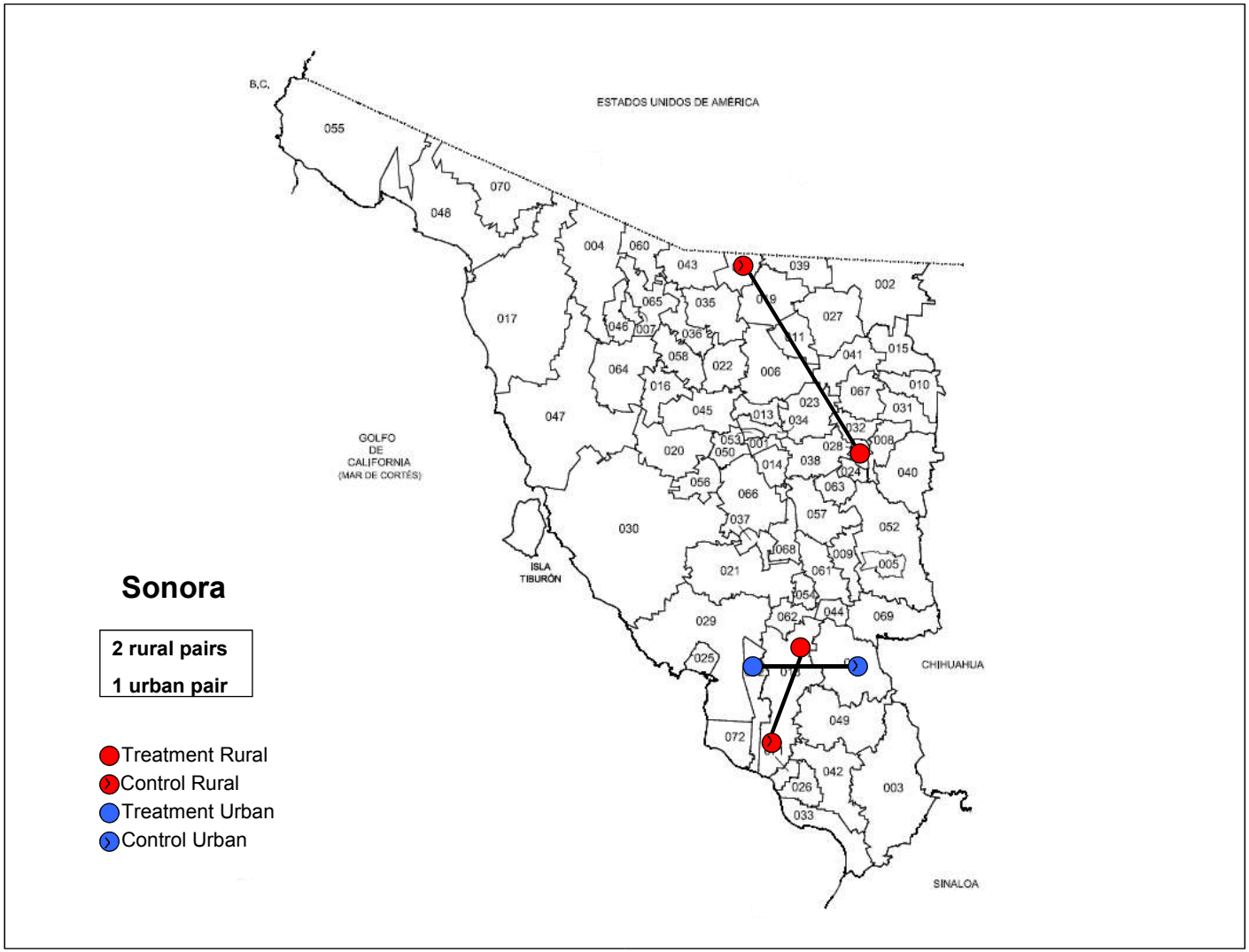


Matched Pairs, Sonora



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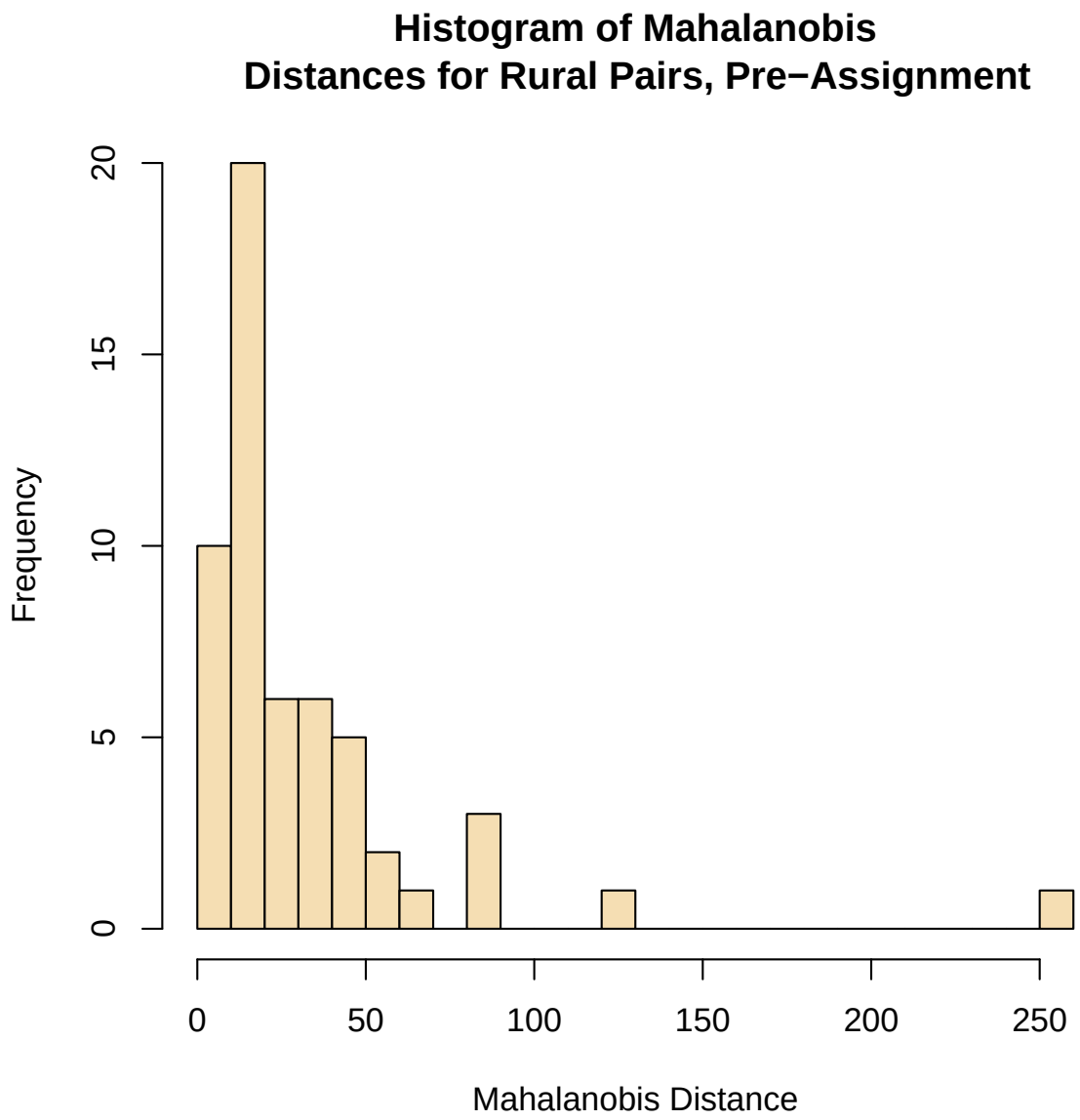
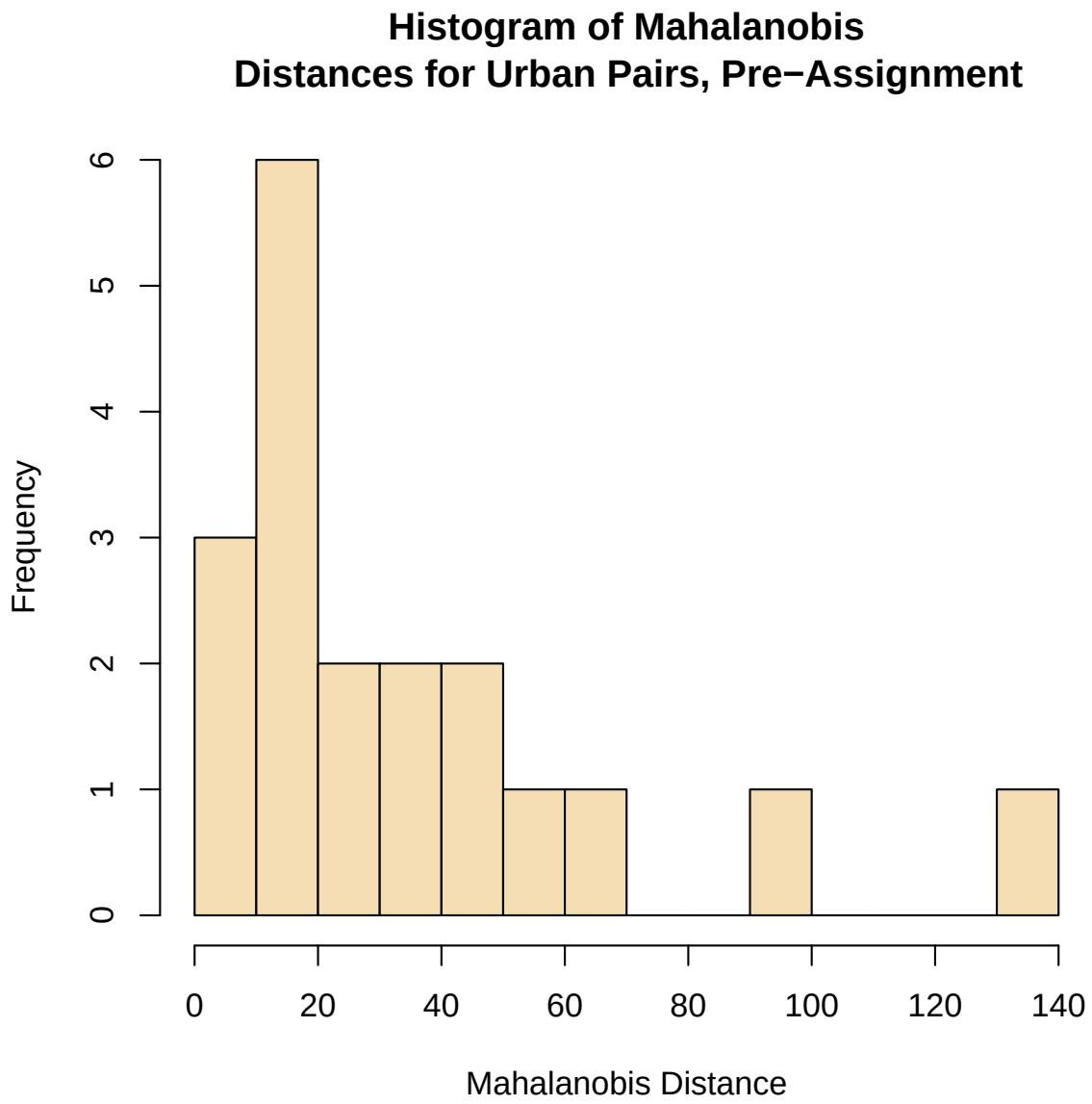
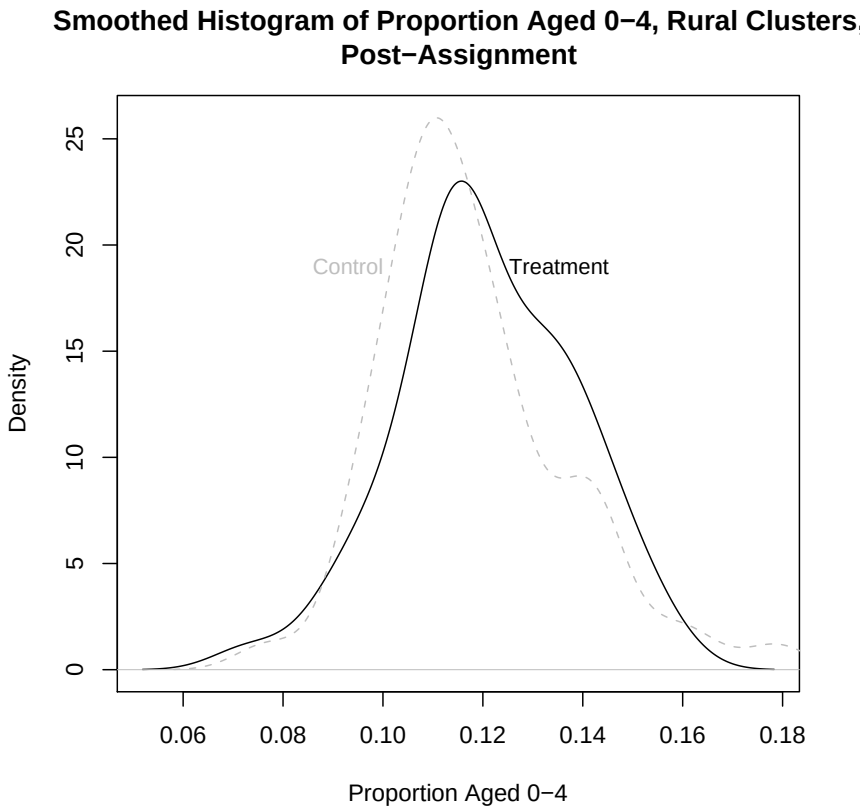
Total Multivariate Distances Within All 55 Rural Pairs

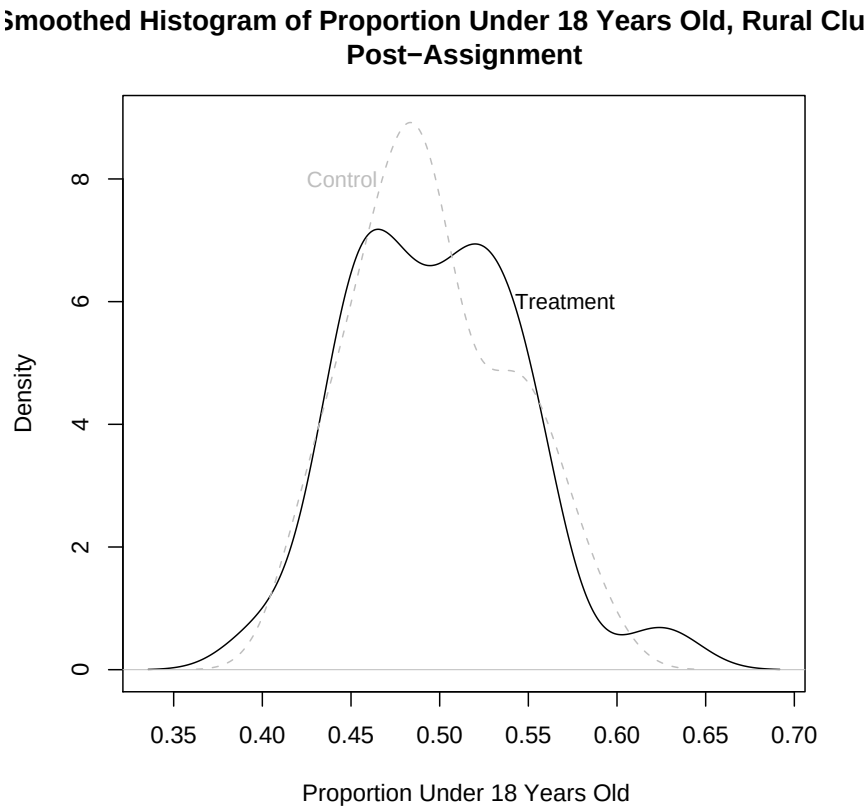


Total Multivariate Distances within All 19 Urban Pairs



Rural Age Balance After Randomization





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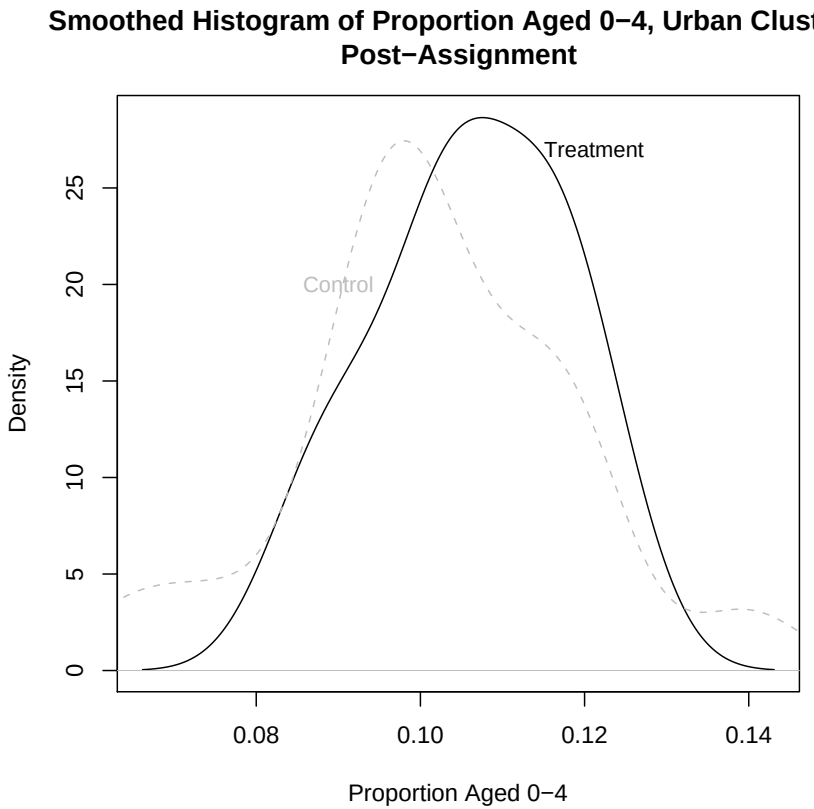
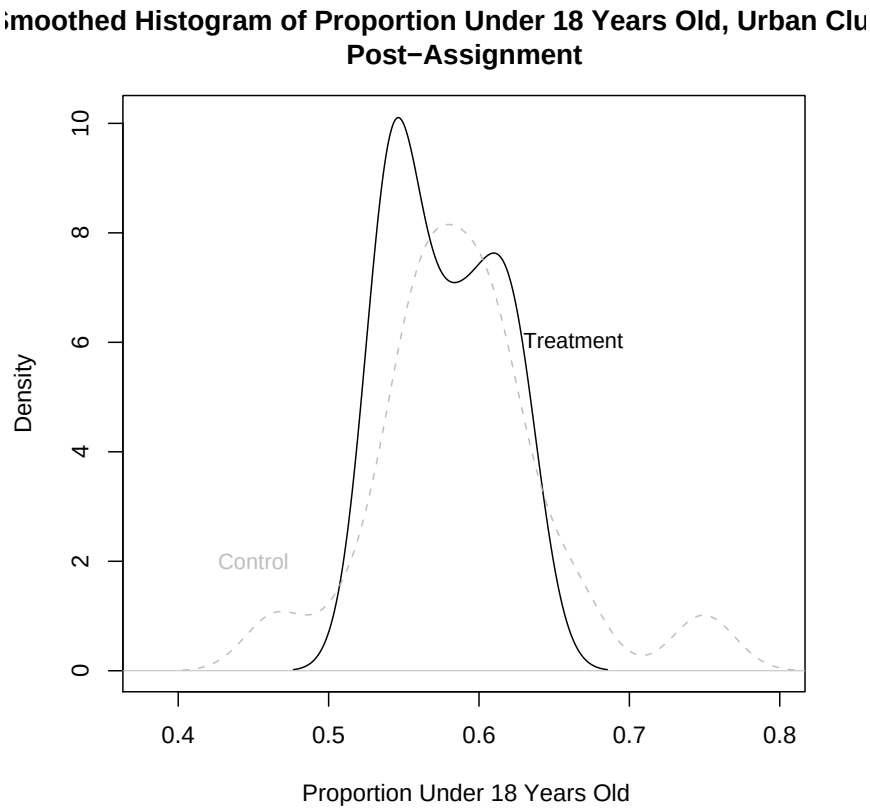
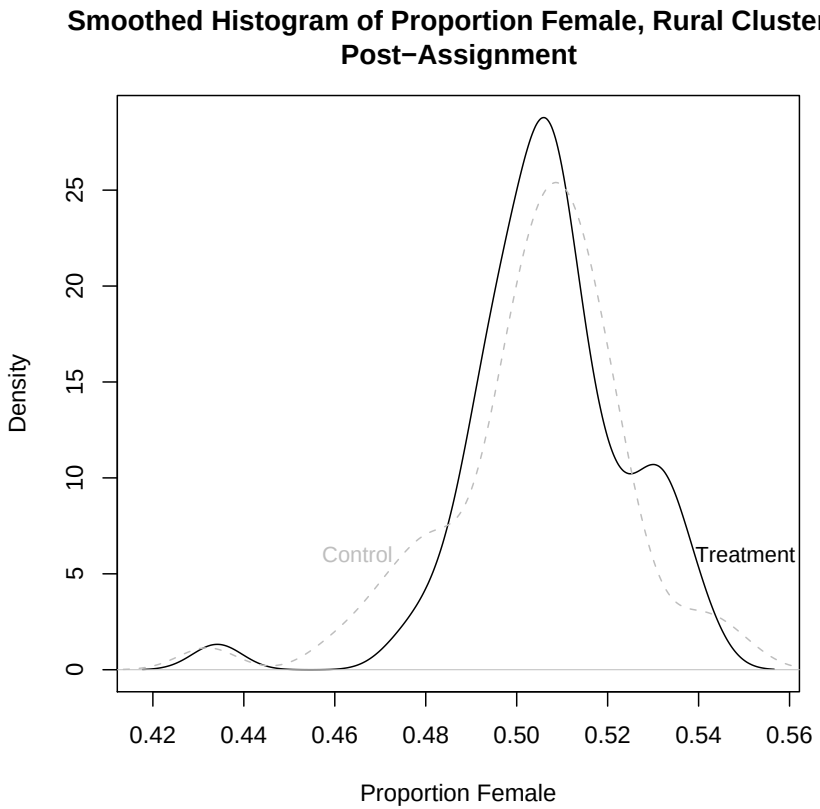
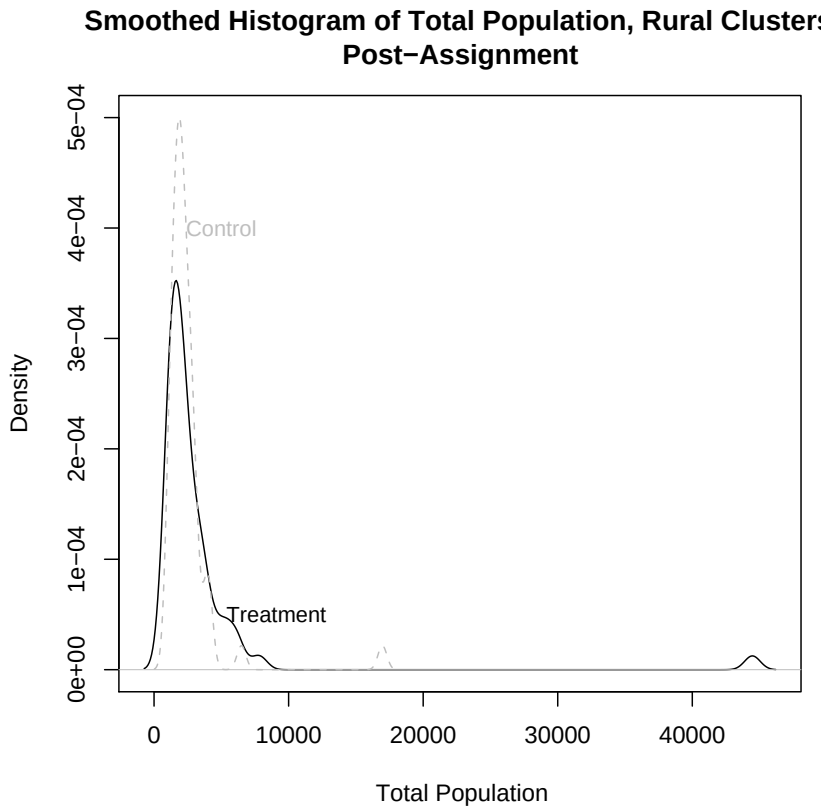




Rural Demographic Balance After Randomization





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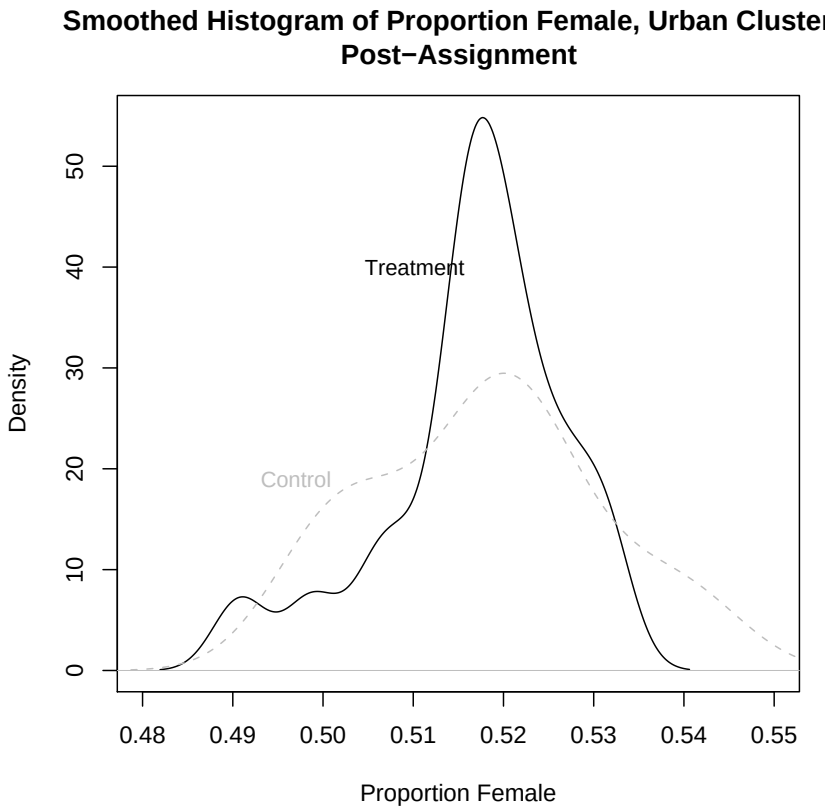
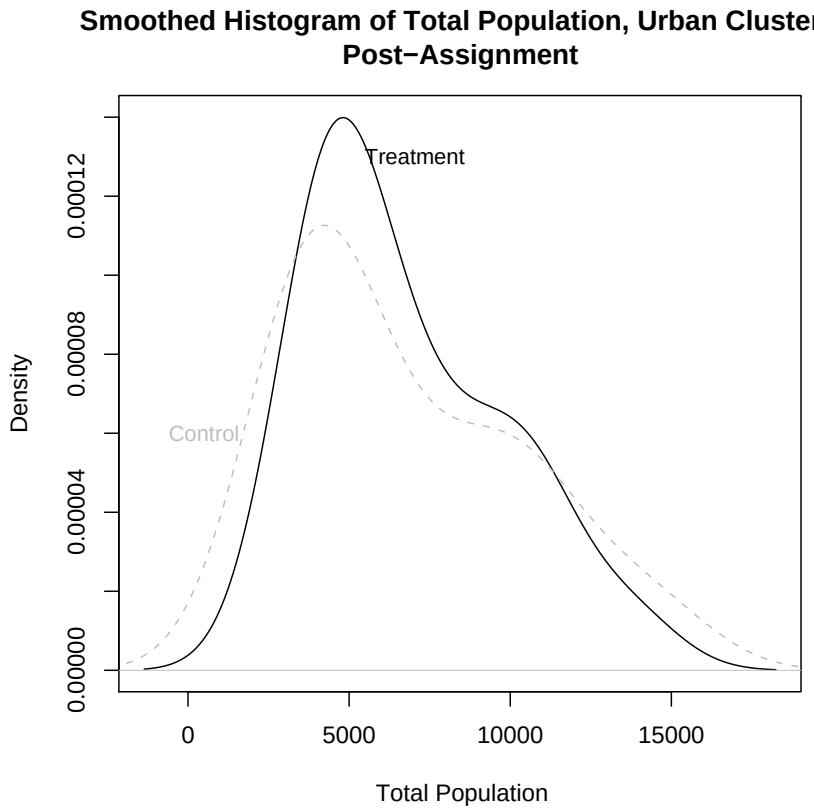
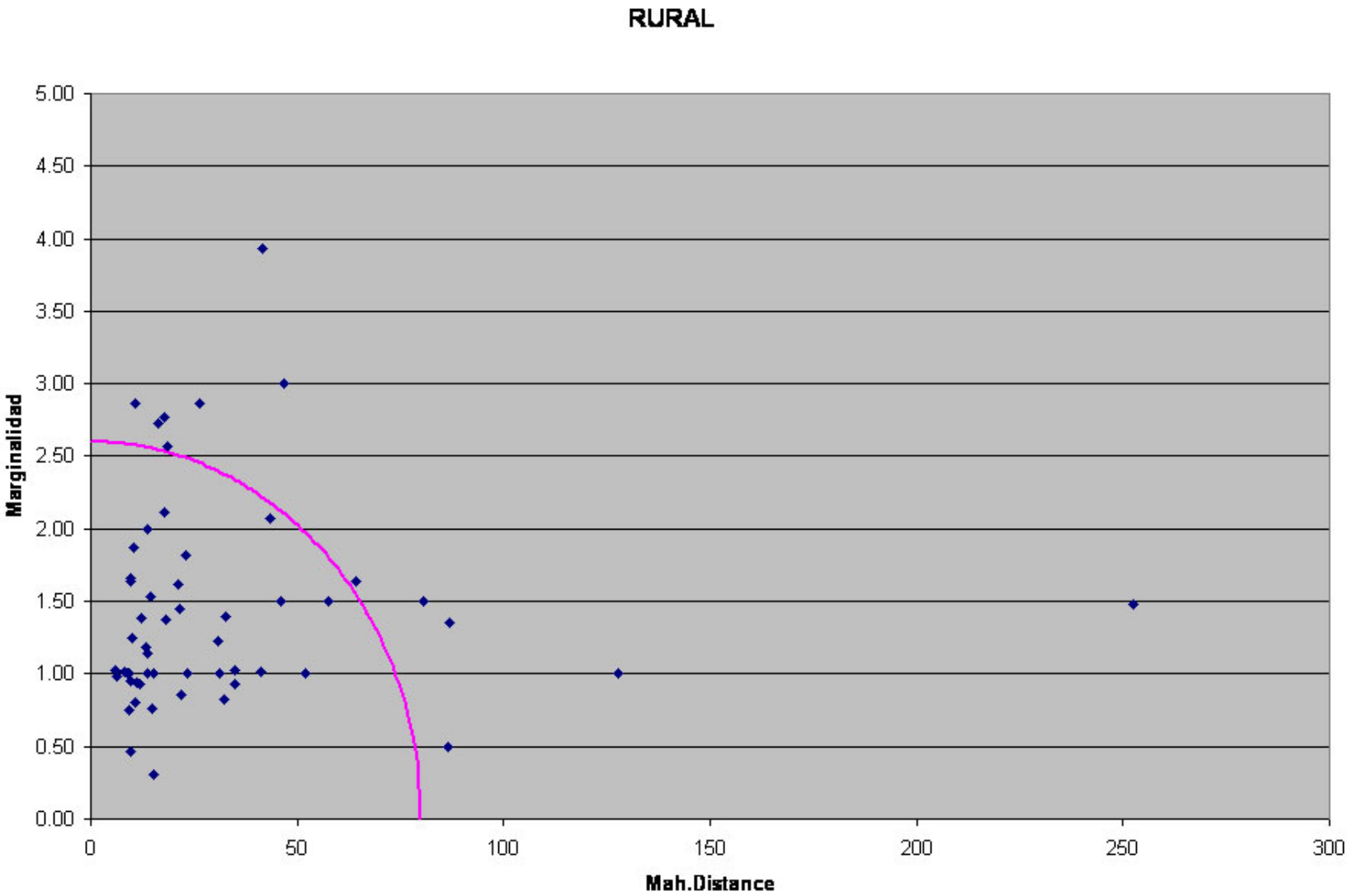
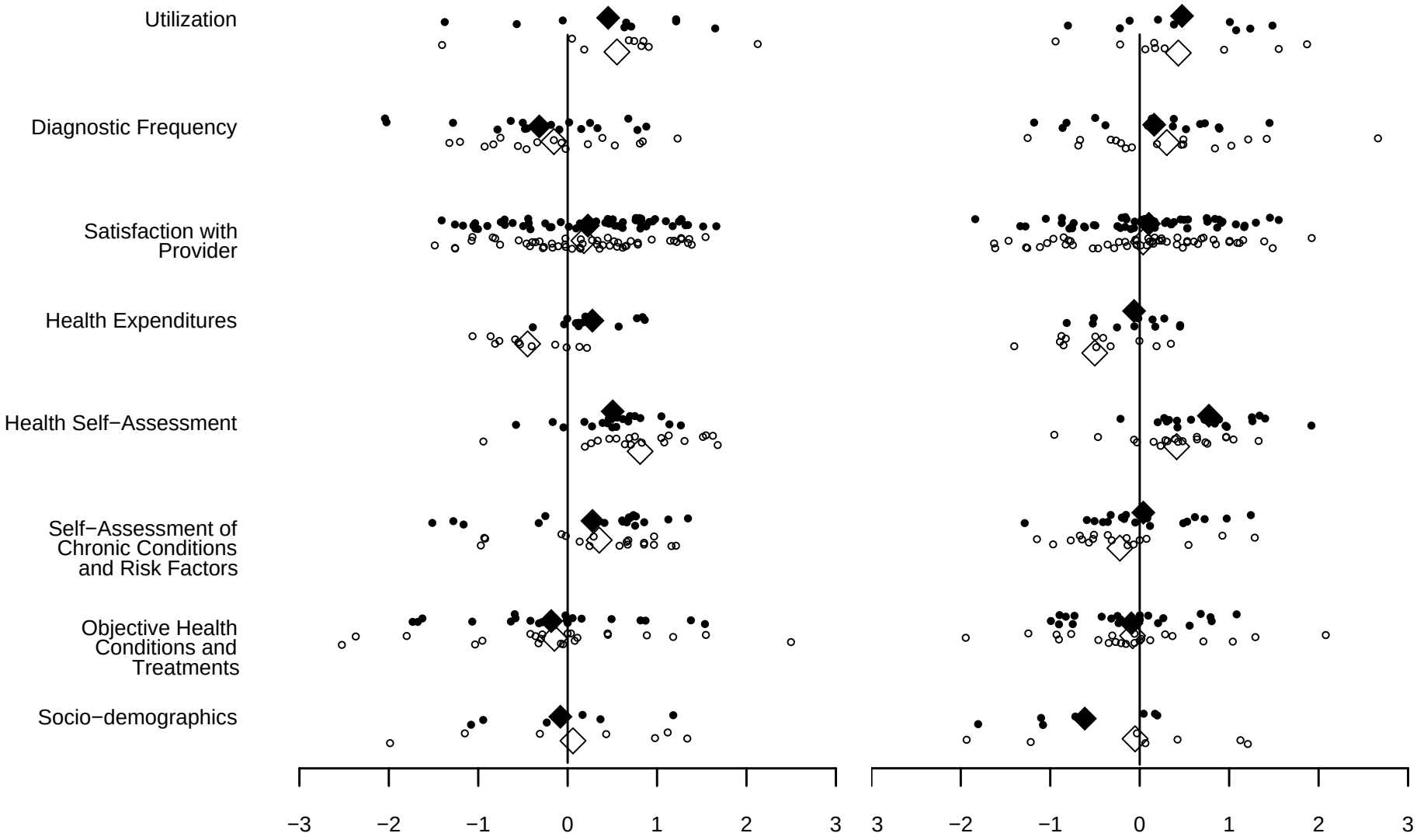




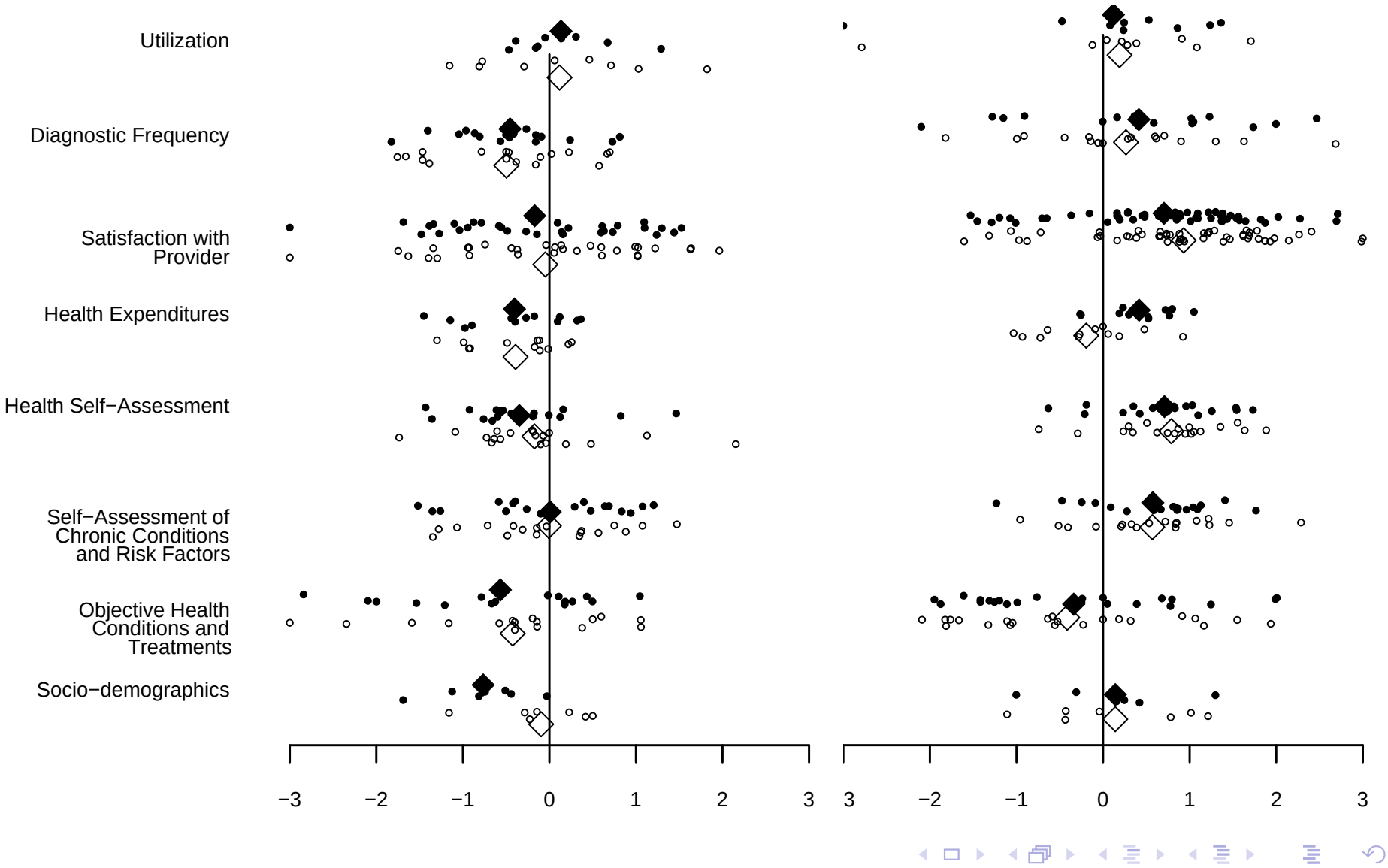
Choosing Pairs for the Survey



ITT on Outcome Measures at Baseline, for all families (left) and poor families, in Oportunidades (right)



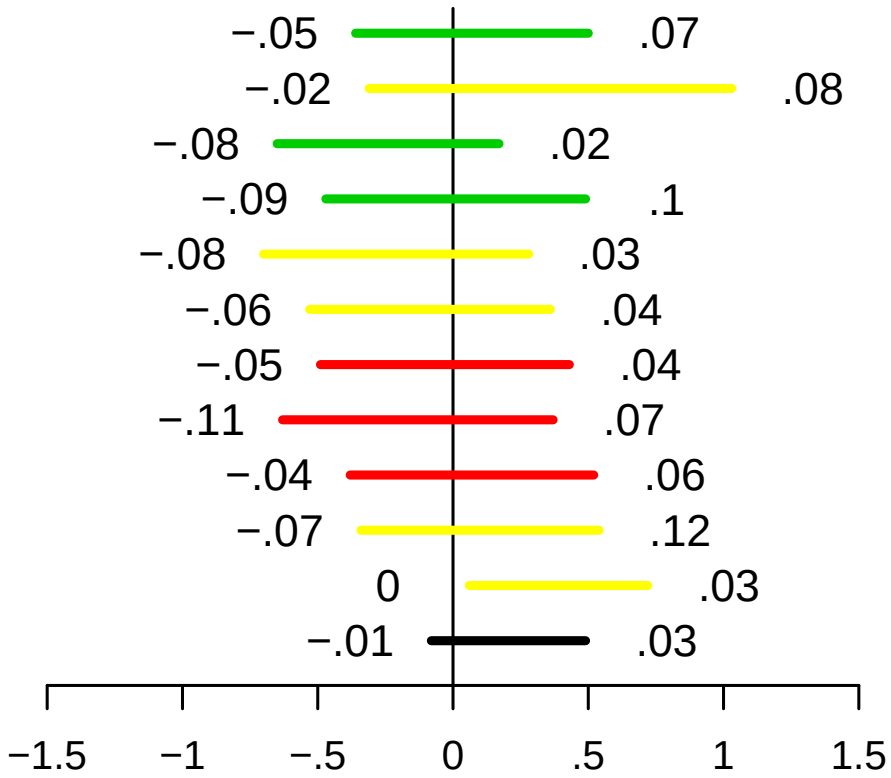
ITT on Outcome Measures at Baseline, for wealthy families (left) and middle income families (right)



Effect of SP Rollout at Baseline: 1 of many

(Expected effects at 10 months: small, medium, large)

Dependent Variable [mean; SD]	Confidence Interval (95%)
Skilled birth attendance [0.9; 0.13]	−.05 .07
Cholesterol cov. [0.07; 0.08]	−.02 .08
Diarrhea children [0.86; 0.12]	−.08 .02
Resp Infection children [0.64; 0.2]	−.09 .1
Cervical exam [0.22; 0.11]	−.08 .03
Papsmear [0.29; 0.12]	−.06 .04
Flu vaccine [0.19; 0.1]	−.05 .04
Diabetes [0.46; 0.18]	−.11 .07
Hypertension cov. [0.33; 0.11]	−.04 .06
Antenatal care [0.51; 0.22]	−.07 .12
Mammography [0.05; 0.04]	0 .03
Glasses [0.13; 0.07]	−.01 .03



For more information

http://GKing.Harvard.edu

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