

Análise exploratória

Victor Batista

August 3, 2024

Socioeconômicas

	Unique	Missing Pct.	Mean	SD	Min	Median	Max
Taxa_de_analfabetismo	220	0	9.9	5.7	0.9	9.1	40.2
Taxa_de_desemprego_16a_e+	643	0	4.1	2.7	0.1	3.8	27.8
Gini	898	0	0.5	0.1	0.3	0.5	0.8
PIB_per_capita	1130	0	16374.5	12533.7	3129.3	13963.5	220358.3
população_com renda_j_1/4_SM	934	0	13.9	13.0	0.1	9.9	77.9
Taxa_de_trabalho_infantil	932	0	17.2	10.8	0.3	14.5	72.1
Porcentagem_Homens_Jovens	498	0	12.5	1.5	7.9	12.4	26.7

Homicídios

	Unique	Missing Pct.	Mean	SD	Min	Median	Max	Histogram
valor-2010	658	0	15.5	18.7	0.0	10.2	147.4	
valor-2011	620	0	14.1	17.3	0.0	9.1	111.1	
valor-2012	648	0	16.1	19.3	0.0	10.9	132.0	
valor-2013	662	0	15.9	19.8	0.0	11.7	183.7	
valor-2014	680	0	16.4	19.0	0.0	11.8	153.9	
valor-2015	671	0	16.5	19.1	0.0	11.8	137.1	
valor-2016	690	0	18.2	20.7	0.0	13.2	155.1	
valor-2017	706	0	19.6	22.2	0.0	14.6	222.0	
valor-2018	678	0	16.9	20.3	0.0	12.4	211.0	
valor-2019	657	0	15.5	19.2	0.0	10.9	176.7	

Outros crimes

	Unique	Missing Pct.	Mean	SD	Min	Median	Max	Histogram
feminicidio_pc	156	0	1.4	6.5	0.0	0.0	101.7	
hom_doloso_pc	621	0	31.7	263.5	0.0	6.0	8203.4	
lesao_pc	74	0	0.9	6.9	0.0	0.0	169.5	
mandado_pc	625	0	98.5	173.8	0.0	21.1	1285.4	
transito_pc	588	0	20.1	86.6	0.0	3.2	2474.6	
esclarecer_pc	531	0	58.4	1096.0	0.0	0.0	36508.5	
latrocinio_pc	138	0	1.7	11.4	0.0	0.0	305.1	
tentativa_hom_pc	570	0	26.8	164.6	0.0	2.3	4678.0	

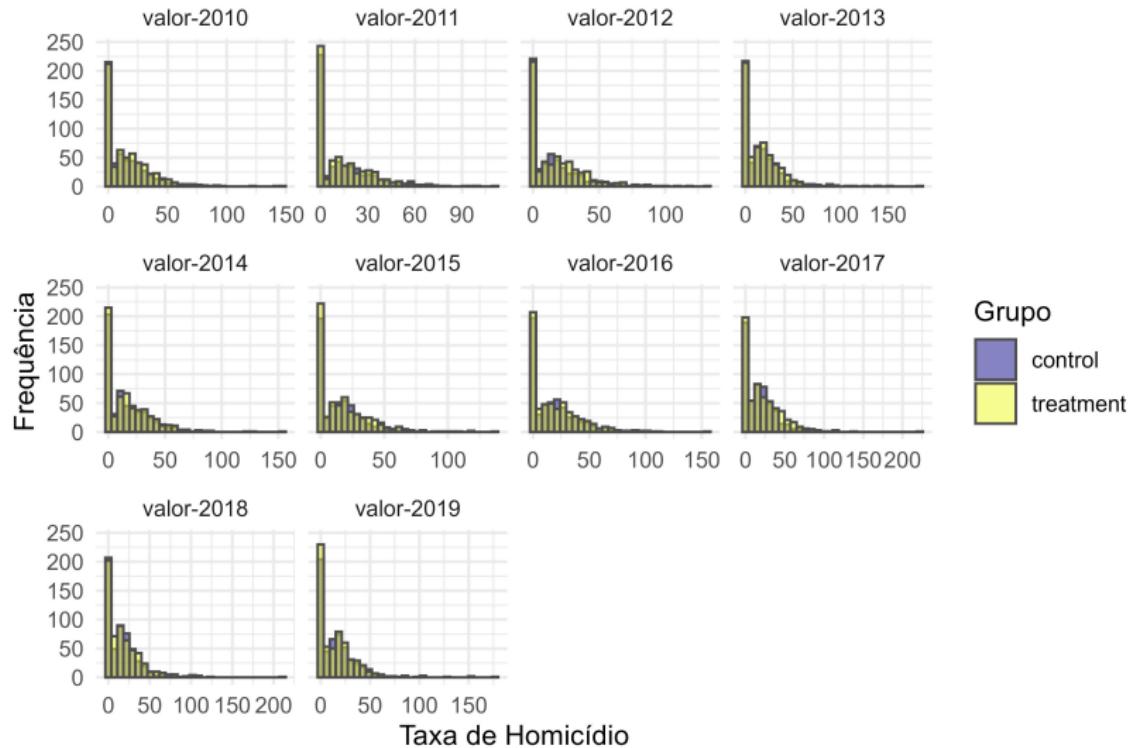
Categóricas

		N	%
name_state			
	Acre	22	1.9
	Amapá	15	1.3
	Amazônas	32	2.8
	Mato Grosso	57	5.0
	Mato Grosso do Sul	66	5.8
	Pará	7	0.6
	Paraná	297	26.2
	Rio Grande do Sul	413	36.5
	Rondônia	52	4.6
	Roraima	15	1.3
	Santa Catarina	144	12.7
	São Paulo	12	1.1

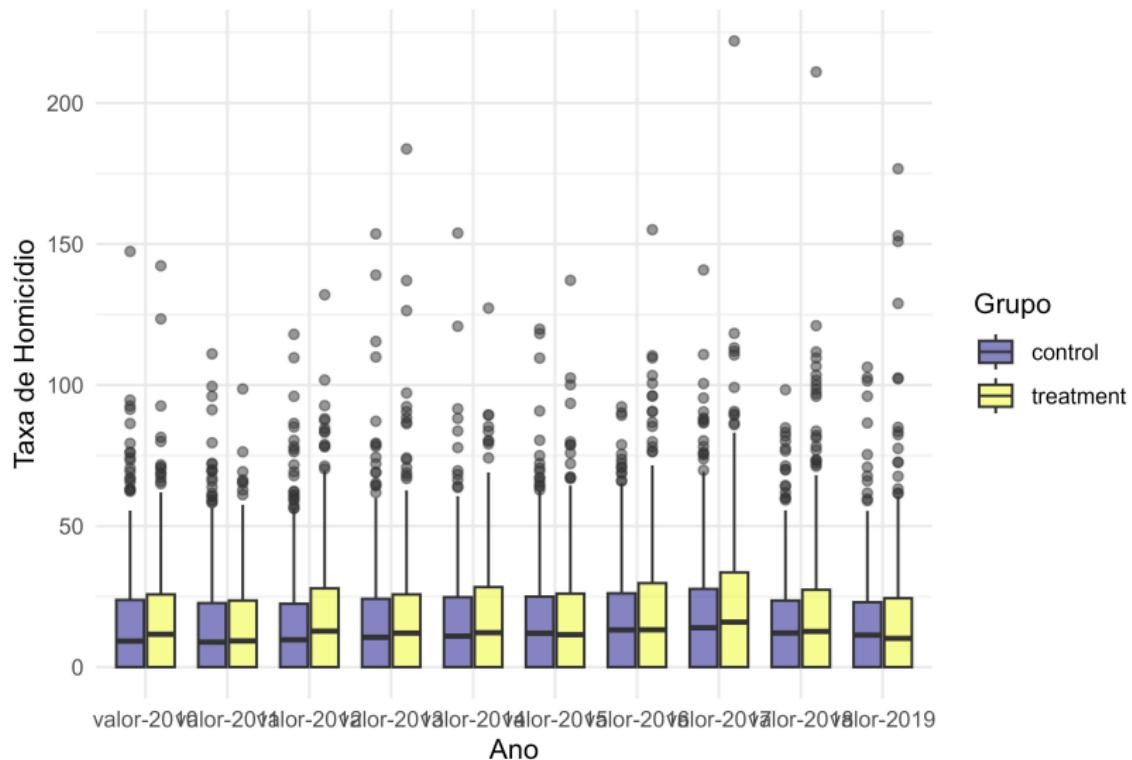
Categóricas

		N	%
name_region	Centro Oeste	123	10.9
	Norte	143	12.6
	Sudeste	12	1.1
	Sul	854	75.4
groups	control	544	48.1
	treatment	588	51.9
arcos	Arco Central	175	15.5
	Arco Norte	91	8.0
	Arco Sudeste	12	1.1
	Arco Sul	854	75.4

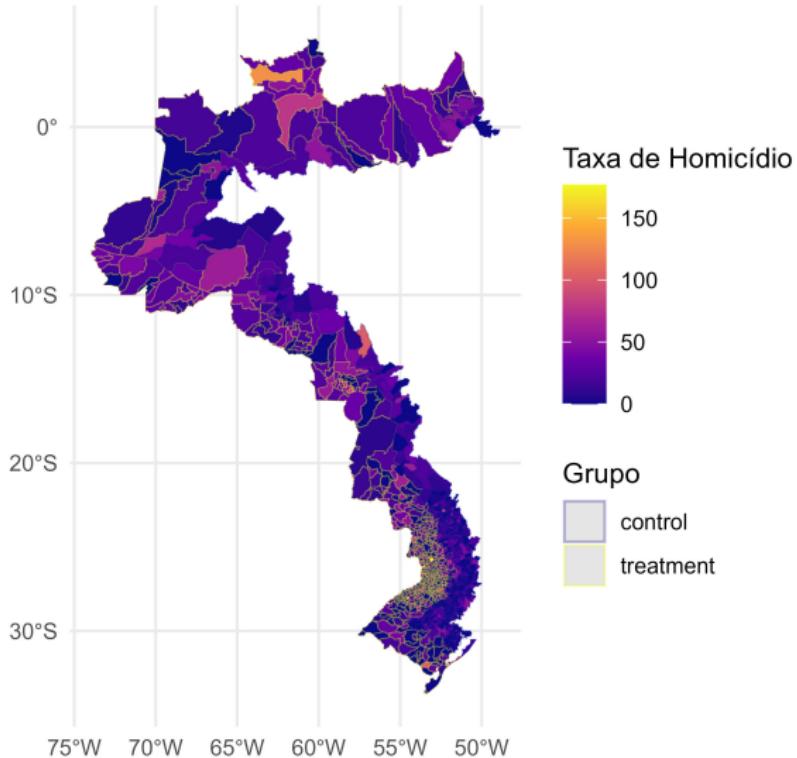
Distribuição das Taxas de Homicídio de 2010 a 2019



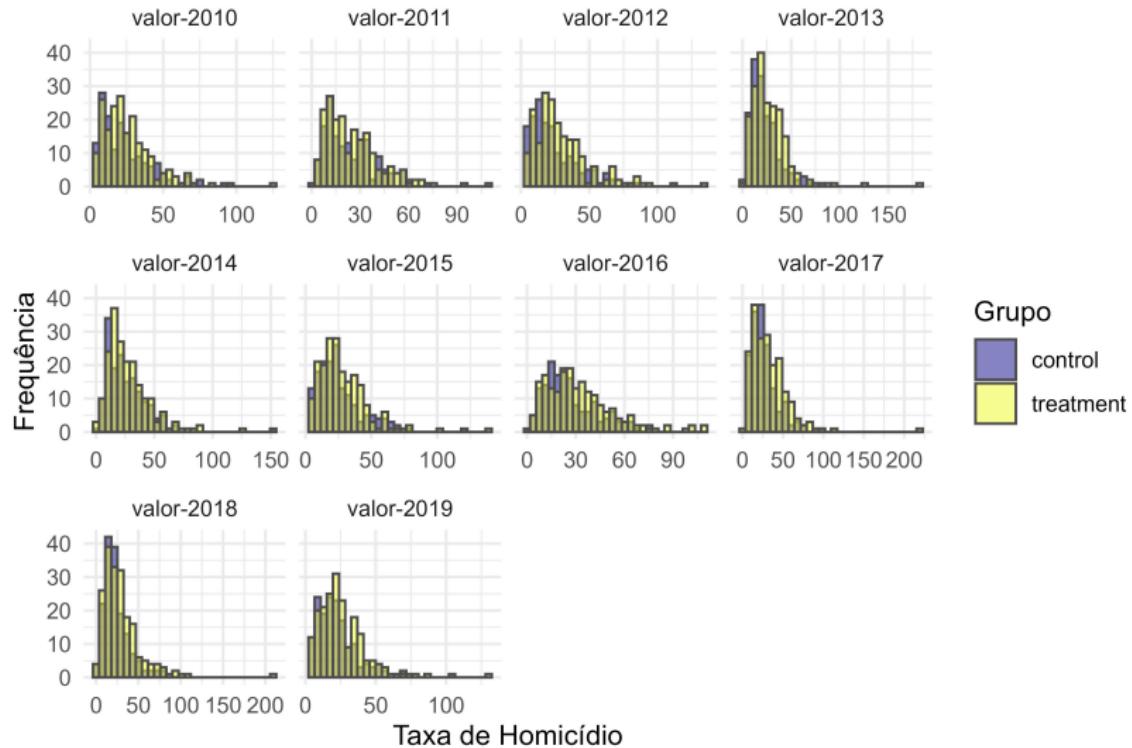
Comparação das Taxas de Homicídio de 2010 a 2019 por Grupo



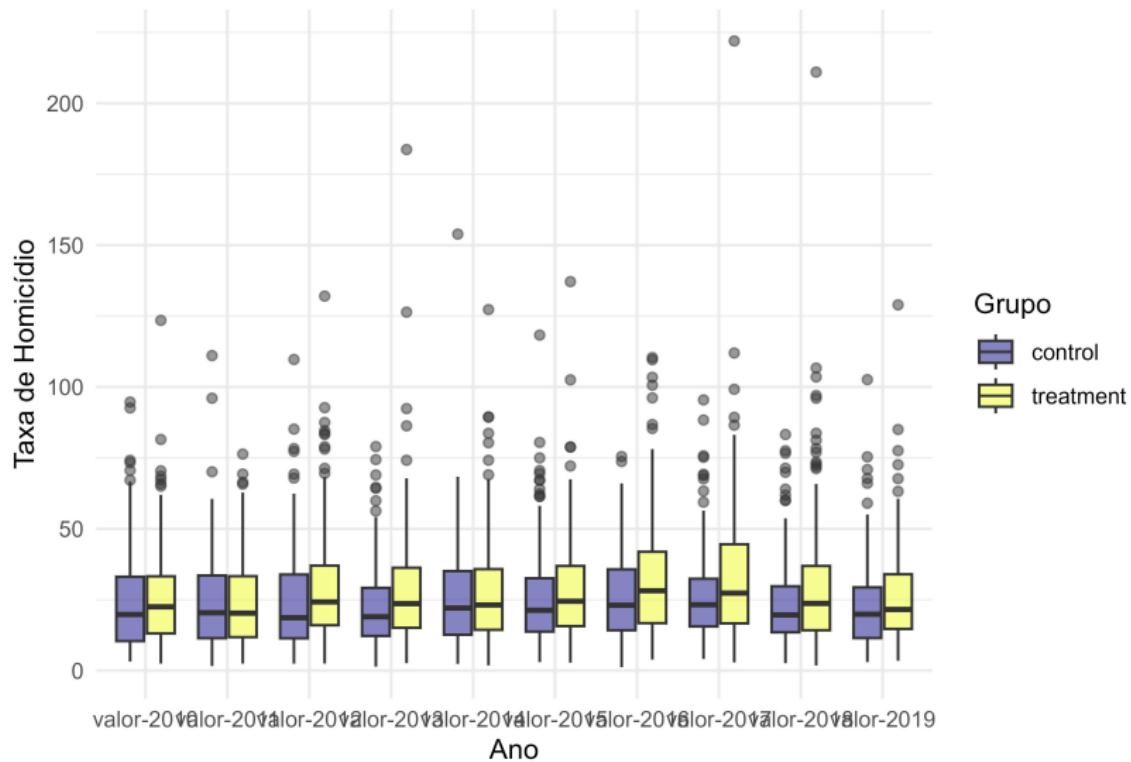
Taxa de Homicídios por Município em 2019



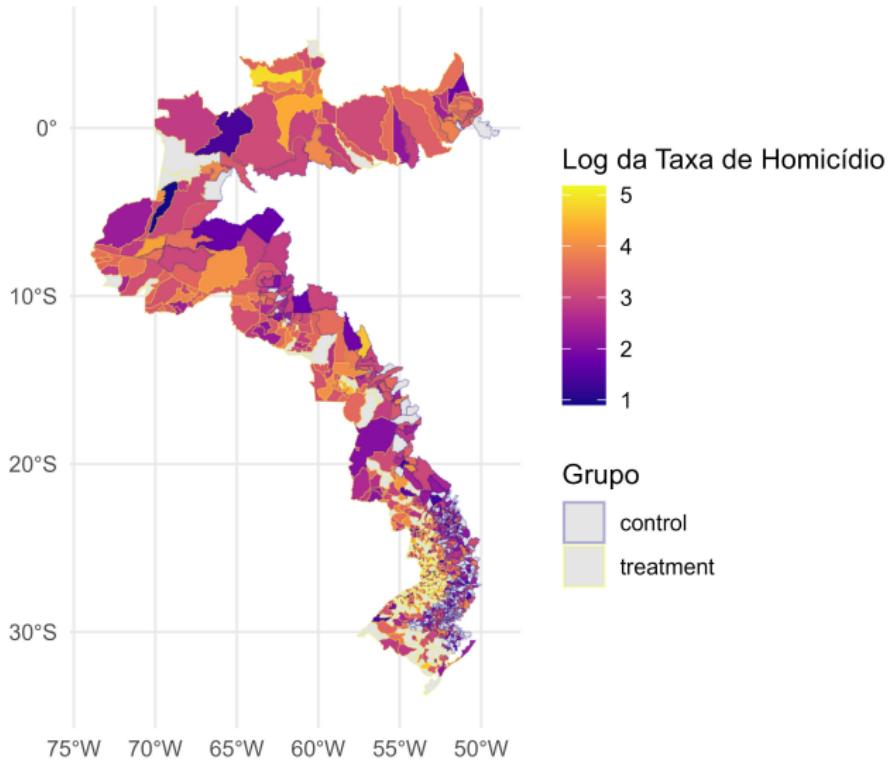
Distribuição das Taxas de Homicídio de 2010 a 2019 (non-zero)



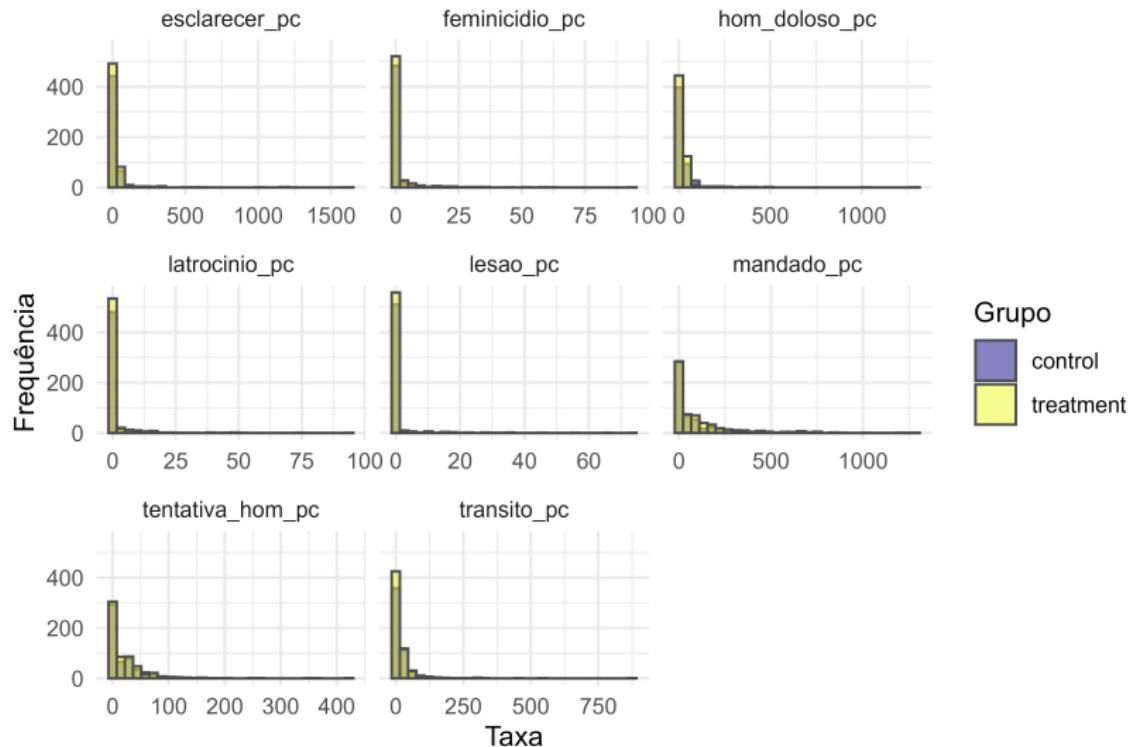
Comparação das Taxas de Homicídio de 2010 a 2019 por Grupo (non-z)



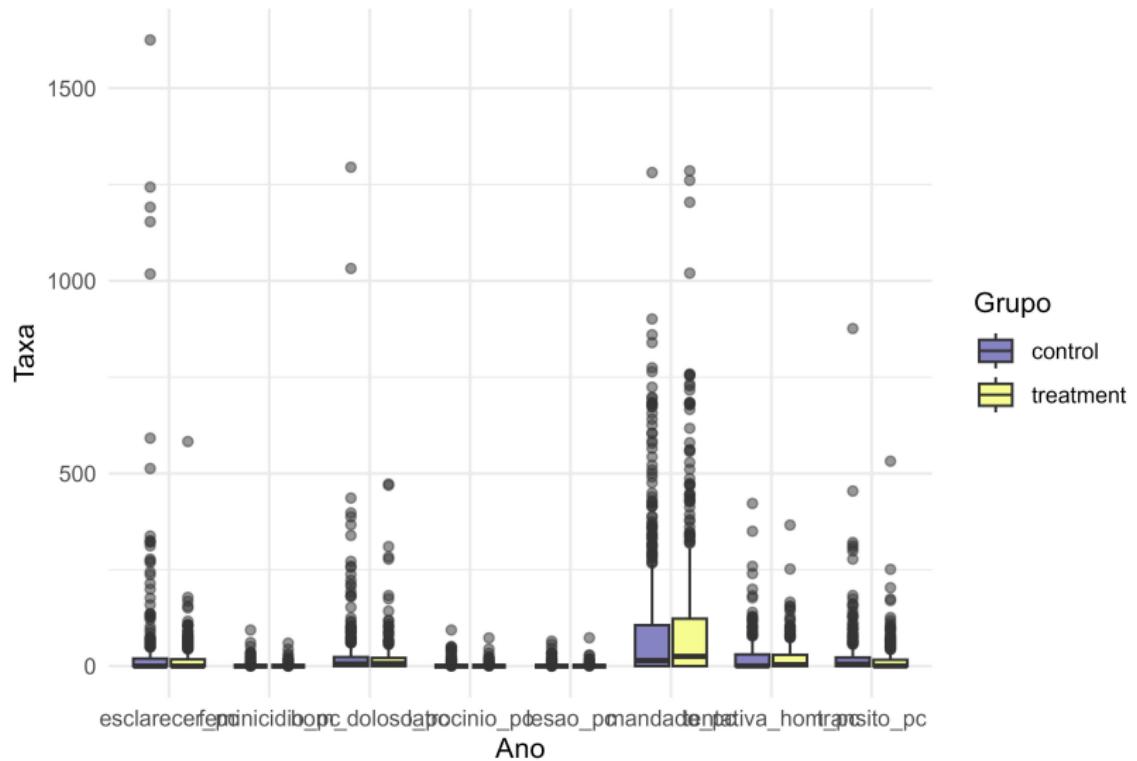
Taxa de Homicídios por Município em 2019 (non-zero)



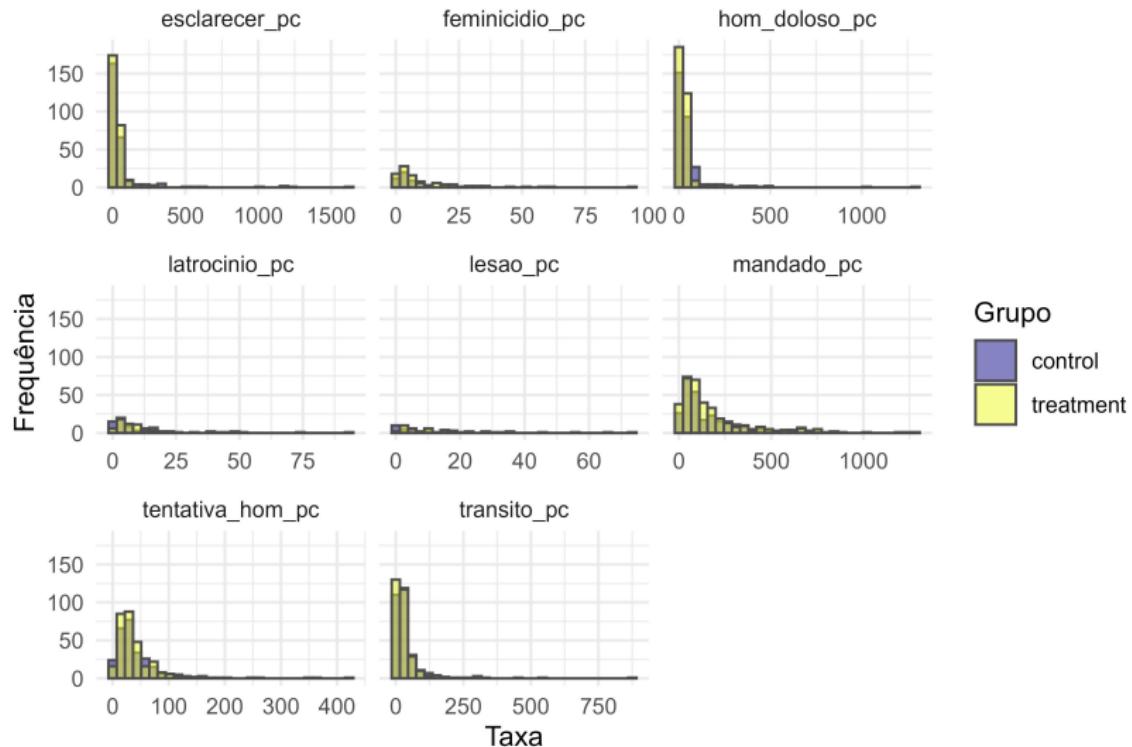
Distribuição das taxas de outros crimes em 2019



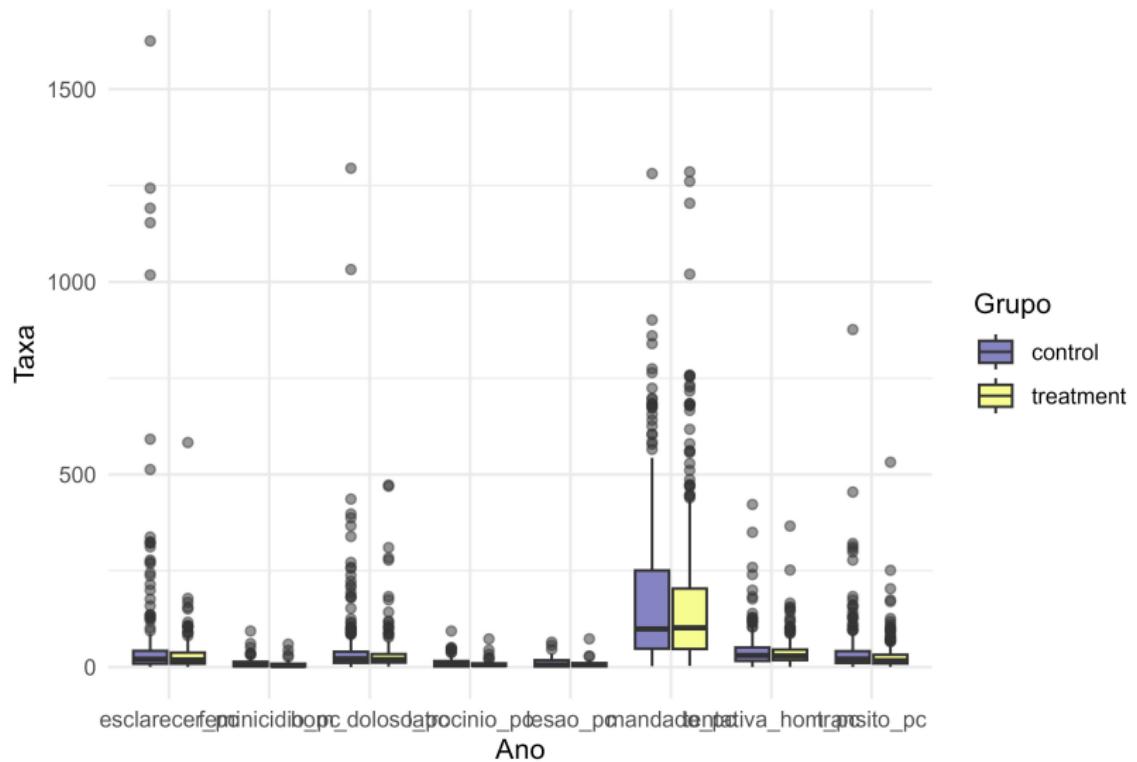
Comparação das taxas de outros crimes em 2019 por Grupo



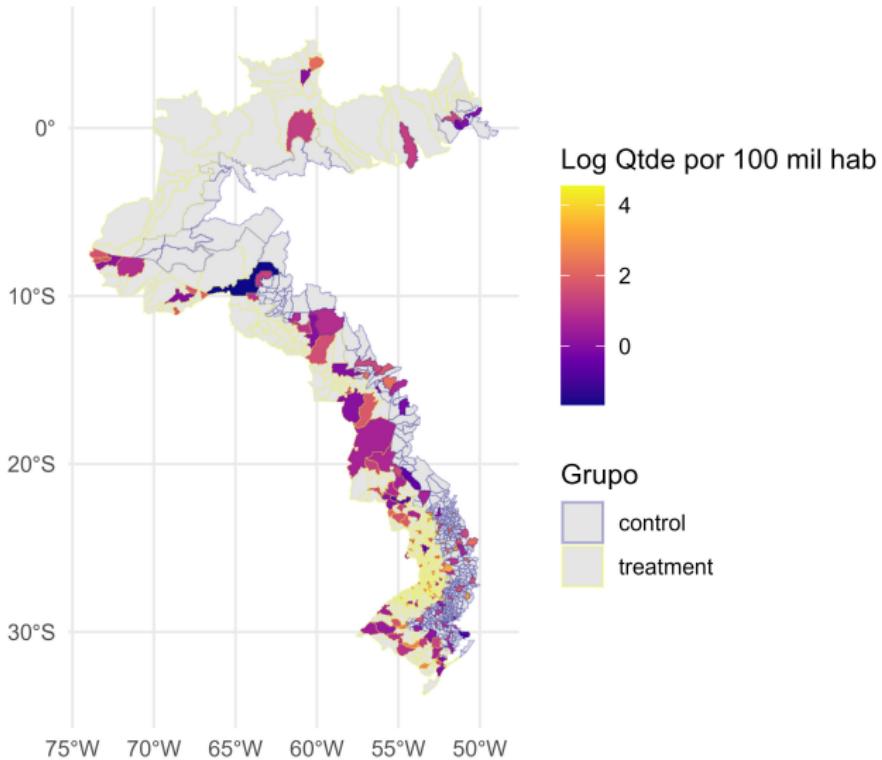
Distribuição das taxas de outros crimes em 2019



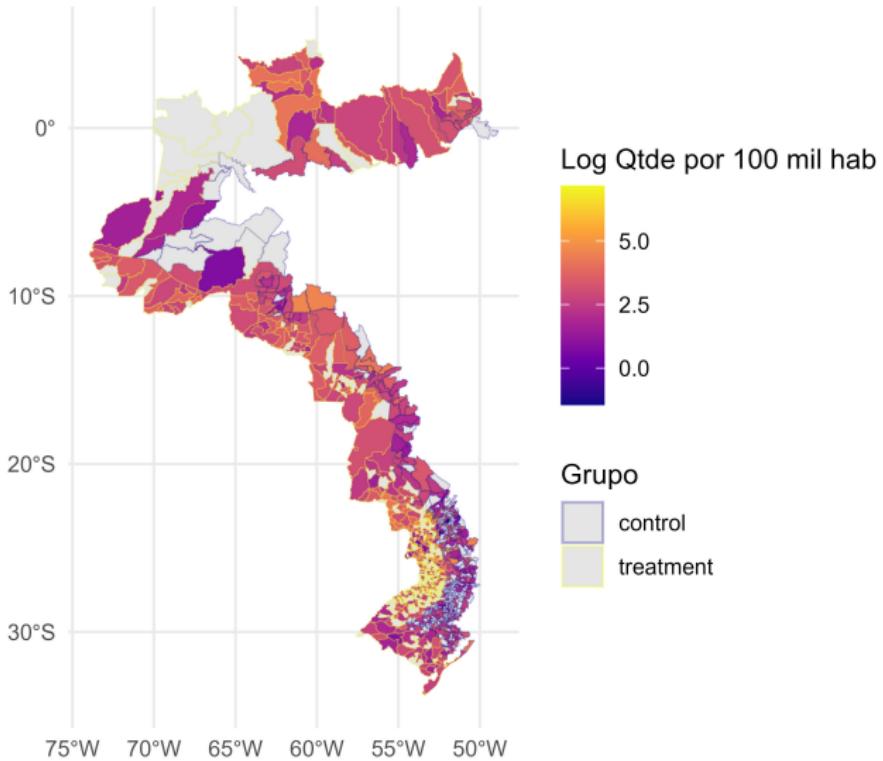
Comparação das taxas de outros crimes em 2019 por Grupo



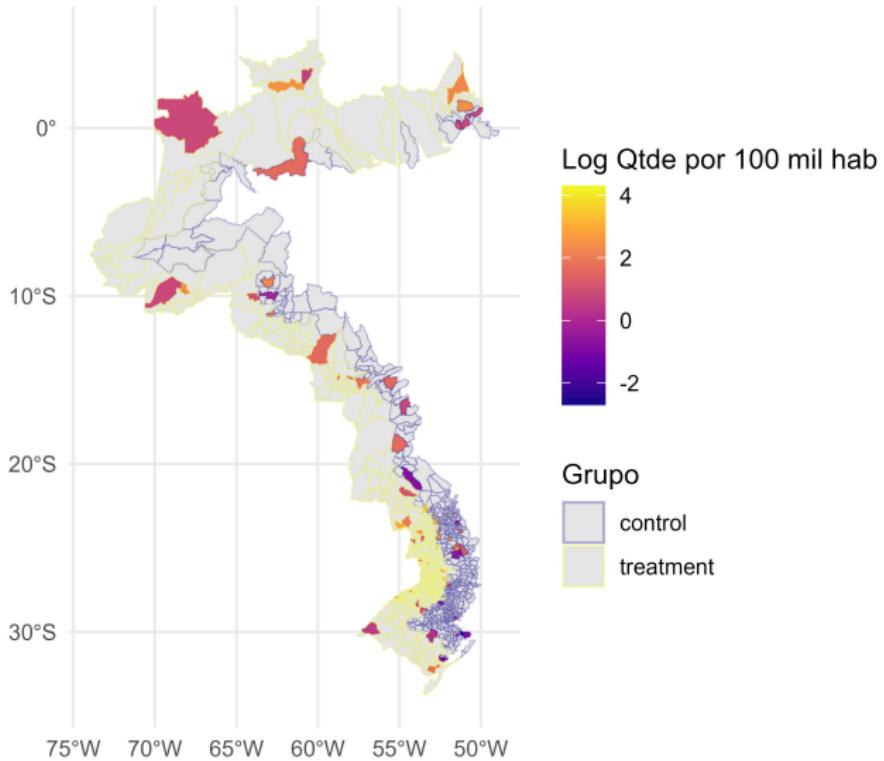
Número de Feminicídios por Município em 2019



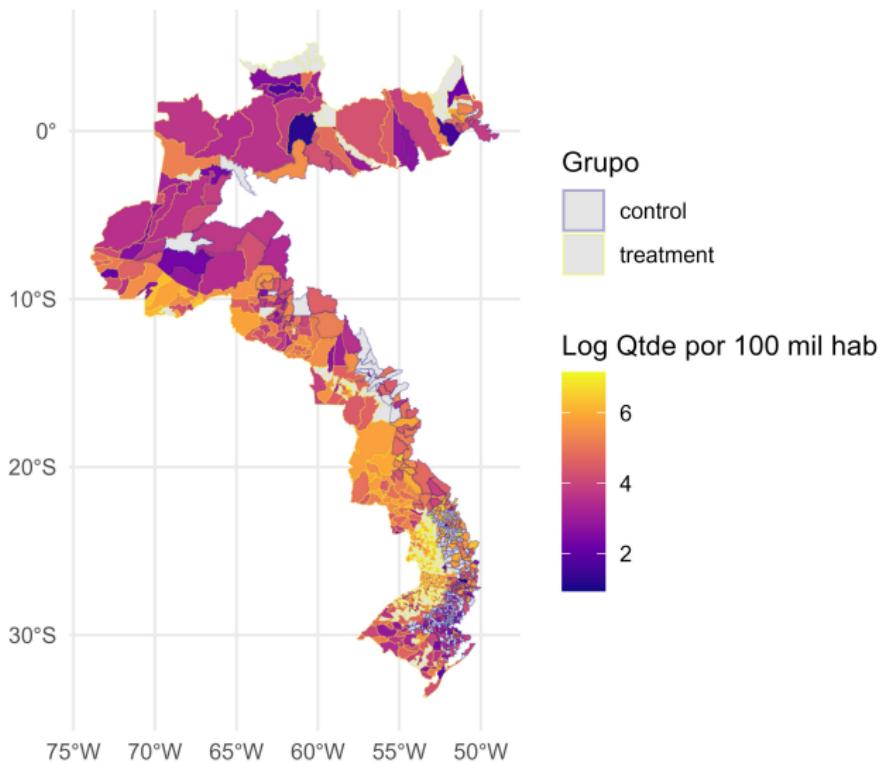
Número de Homicídios dolosos por Município em 2019



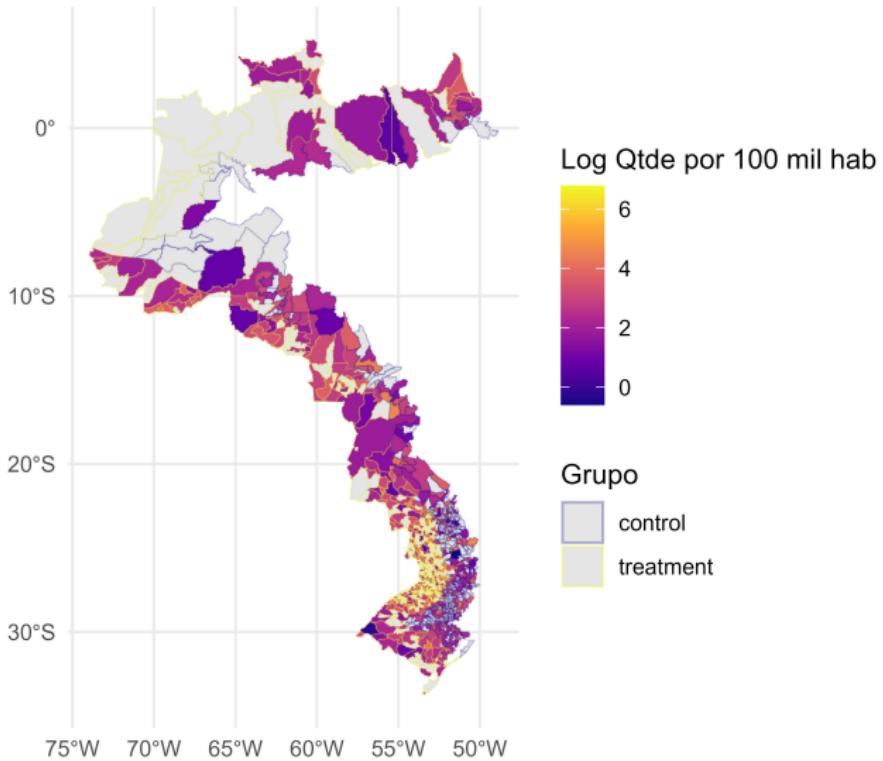
Número de Lesão Corporal seguida de morte por Município em :



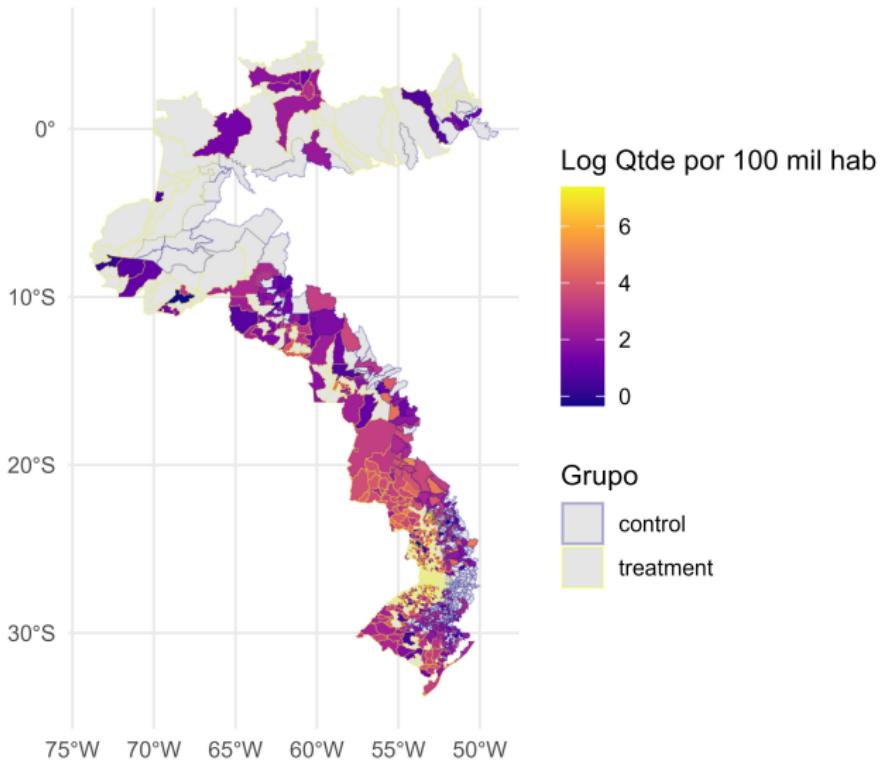
Número de cumprimentos de Mandados de Prisão por Município



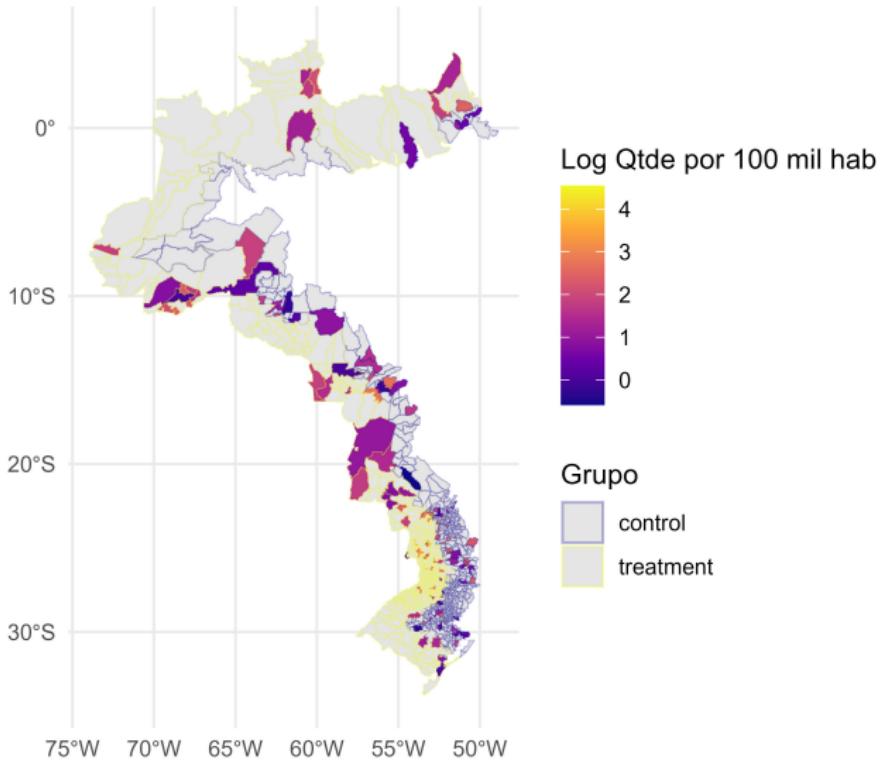
Número de mortes do trânsito por Município em 2019



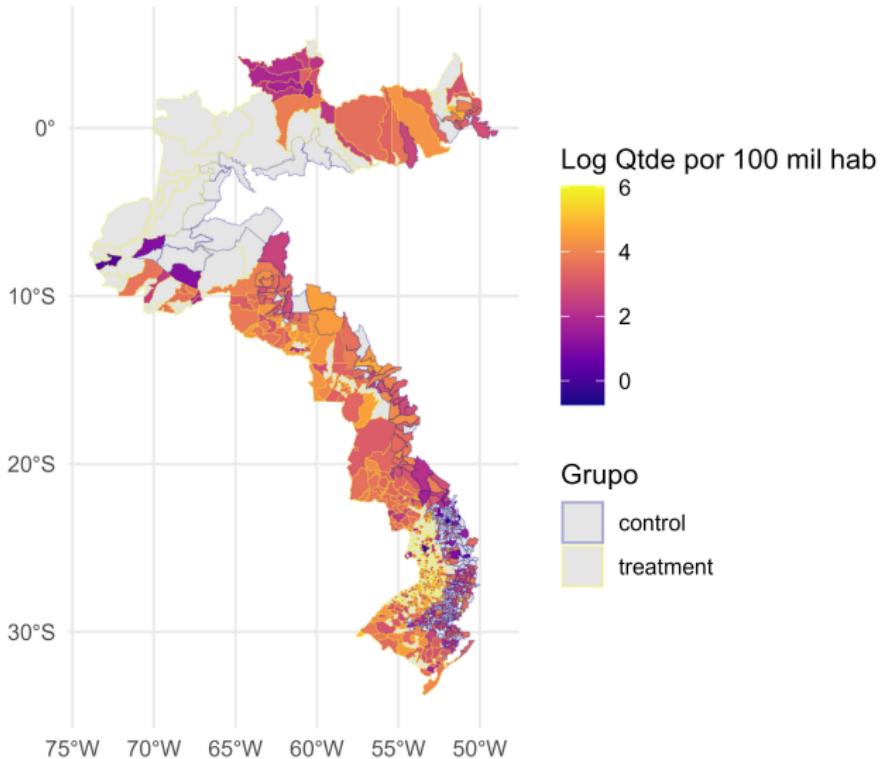
Número de mortes a esclarecer por Município em 2019



Número de Latrocínios por Município em 2019



Número de tentativas de homicídio por Município em 2019



Homicídios

	In hom 2010	In hom 2011	In hom 2012	In hom 2013	In hom 2014
(Intercept)	2.946*** (0.039)	2.959*** (0.039)	2.963*** (0.040)	2.989*** (0.038)	2.991*** (0.038)
treatedTRUE	0.056 (0.054)	-0.009 (0.054)	0.123* (0.054)	0.041 (0.052)	0.064 (0.053)
Num.Obs.	705	662	694	705	717
R2	0.002	0.000	0.007	0.001	0.002
R2 Adj.	0.000	-0.001	0.006	-0.001	0.001
AIC	1527.4	1410.2	1507.8	1477.4	1545.4
BIC	1541.1	1423.7	1521.5	1491.0	1559.2
Log.Lik.	-760.717	-702.104	-750.912	-735.680	-769.720
F	1.100	0.026	5.074	0.615	1.436
RMSE	0.71	0.70	0.71	0.69	0.71

+ p > 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Homicídios

	In hom 2015	In hom 2016	In hom 2017	In hom 2018	In hom 2019
(Intercept)	3.029*** (0.037)	3.076*** (0.039)	3.094*** (0.037)	2.969*** (0.039)	2.972*** (0.038)
treatedTRUE	0.018 (0.052)	0.060 (0.054)	0.118* (0.051)	0.069 (0.053)	0.032 (0.052)
Num.Obs.	713	728	749	737	700
R2	0.000	0.002	0.007	0.002	0.001
R2 Adj.	-0.001	0.000	0.006	0.001	-0.001
AIC	1501.5	1597.3	1586.5	1616.8	1476.2
BIC	1515.3	1611.1	1600.4	1630.6	1489.9
Log.Lik.	-747.772	-795.667	-790.257	-805.398	-735.105
F	0.127	1.241	5.351	1.692	0.362
RMSE	0.69	0.72	0.69	0.72	0.69

+ p > 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Homicídios x estados

	In hom 2010	In hom 2011	In hom 2012	In hom 2013	In hom 2014
(Intercept)	2.685*** (0.178)	3.009*** (0.164)	2.839*** (0.162)	3.085*** (0.158)	2.808*** (0.160)
treatedTRUE	0.067 (0.053)	-0.020 (0.053)	0.133* (0.054)	0.033 (0.052)	0.062 (0.052)
abbrev_stateAM	-0.213 (0.224)	-0.457* (0.205)	-0.298 (0.208)	-0.393+ (0.203)	-0.286 (0.204)
abbrev_stateAP	0.548* (0.260)	0.131 (0.236)	0.406+ (0.239)	0.167 (0.245)	0.575* (0.242)
abbrev_stateMS	0.368+ (0.192)	0.171 (0.181)	0.324+ (0.178)	-0.016 (0.173)	0.247 (0.176)
abbrev_stateMT	0.563** (0.198)	0.244 (0.186)	0.369* (0.186)	0.268 (0.182)	0.650*** (0.182)
abbrev_statePA	-0.492 (0.347)	-0.621+ (0.364)	0.205 (0.374)	-0.525 (0.333)	-0.303 (0.315)
abbrev_statePR	0.442* (0.178)	0.184 (0.165)	0.320* (0.162)	-0.016 (0.158)	0.238 (0.160)
abbrev_stateRO	0.554** (0.200)	0.050 (0.187)	0.201 (0.186)	-0.039 (0.180)	0.524** (0.183)
abbrev_stateRR	0.336 (0.248)	-0.025 (0.235)	0.312 (0.243)	0.270 (0.232)	0.575* (0.241)
abbrev_stateRS	0.103 (0.178)	-0.241 (0.166)	-0.099 (0.163)	-0.147 (0.159)	0.083 (0.161)
abbrev_stateSC	-0.075 (0.187)	-0.454* (0.177)	-0.214 (0.176)	-0.490** (0.170)	-0.112 (0.171)
abbrev_stateSP	-0.034 (0.351)	-0.579 (0.368)	-0.023 (0.345)	-0.609 (0.416)	-0.326 (0.374)
Num.Obs.	705	662	694	705	717
R2	0.112	0.129	0.110	0.078	0.108
R2 Adj.	0.097	0.113	0.094	0.062	0.093
AIC	1466.7	1340.4	1454.2	1442.4	1487.1
BIC	1530.6	1403.4	1517.8	1506.2	1551.1
Log.Lik.	-719.373	-656.222	-713.108	-707.187	-729.532
F	7.278	8.044	6.996	4.909	7.091
RMSE	0.67	0.65	0.68	0.66	0.67

+ p > 0.1, * p > 0.05, ** p > 0.01, *** p > 0.001

Homicídios x estados

	In hom 2015	In hom 2016	In hom 2017	In hom 2018	In hom 2019
(Intercept)	2.949*** (0.155)	3.334*** (0.163)	3.568*** (0.154)	3.444*** (0.170)	3.228*** (0.159)
treatedTRUE	0.002 (0.052)	0.043 (0.053)	0.089+ (0.051)	0.019 (0.052)	-0.007 (0.053)
abbrev_stateAM	-0.386+ (0.198)	-0.641** (0.206)	-0.719*** (0.196)	-0.486* (0.210)	-0.160 (0.199)
abbrev_stateAP	0.427+ (0.233)	0.045 (0.247)	-0.139 (0.237)	-0.264 (0.241)	0.090 (0.235)
abbrev_stateMS	0.109 (0.173)	-0.162 (0.180)	-0.377* (0.171)	-0.399* (0.187)	-0.281 (0.177)
abbrev_stateMT	0.462* (0.180)	0.066 (0.190)	-0.164 (0.177)	-0.115 (0.192)	0.112 (0.184)
abbrev_statePA	-0.104 (0.335)	-0.769* (0.321)	-0.809** (0.310)	-1.226*** (0.306)	-0.149 (0.312)
abbrev_statePR	0.144 (0.156)	-0.155 (0.163)	-0.450** (0.155)	-0.432* (0.171)	-0.253 (0.160)
abbrev_stateRO	0.315+ (0.180)	0.011 (0.186)	-0.305+ (0.177)	-0.432* (0.194)	-0.163 (0.183)
abbrev_stateRR	0.442+ (0.232)	0.104 (0.240)	-0.224 (0.231)	0.430+ (0.240)	0.328 (0.234)
abbrev_stateRS	0.014 (0.157)	-0.302+ (0.164)	-0.440** (0.155)	-0.459** (0.171)	-0.240 (0.160)
abbrev_stateSC	-0.126 (0.168)	-0.745*** (0.175)	-0.913*** (0.165)	-0.910*** (0.181)	-0.644*** (0.171)
abbrev_stateSP	-0.569 (0.370)	-0.882* (0.381)	-1.003** (0.336)	-1.060** (0.383)	-0.565+ (0.317)
Num.Obs.	713	728	749	737	700
R2	0.073	0.108	0.098	0.113	0.076
R2 Adj.	0.057	0.093	0.083	0.098	0.060
AIC	1469.6	1537.7	1536.5	1552.0	1442.9
BIC	1533.5	1602.0	1601.1	1616.4	1506.6
Log.Lik.	-720.776	-754.847	-754.235	-761.999	-707.461
F	4.600	7.185	6.676	7.697	4.737
RMSE	0.66	0.68	0.66	0.68	0.66

+ p > 0.1, * p > 0.05, ** p > 0.01, *** p < 0.001

Outros crimes

	In feminicidio	In hom doloso	In lesao	In mandado
(Intercept)	1.797*** (0.144)	3.173*** (0.062)	1.736*** (0.237)	4.636*** (0.068)
treatedTRUE	-0.398* (0.194)	-0.180* (0.085)	-0.026 (0.355)	-0.052 (0.091)
Num.Obs.	155	623	72	626
R2	0.027	0.007	0.000	0.001
R2 Adj.	0.020	0.006	-0.014	-0.001
AIC	990.6	5682.8	514.8	7711.0
BIC	999.7	5696.1	521.6	7724.4
Log.Lik.	-247.646	-920.847	-130.240	-967.972
F	4.201	4.462	0.005	0.327
RMSE	1.20	1.06	1.48	1.14

+ p > 0.1, * p > 0.05, ** p > 0.01, *** p > 0.001

Outros crimes

	In transito	In esclarecer	In latrocínio	In tentativa
(Intercept)	3.091*** (0.061)	3.120*** (0.078)	1.816*** (0.141)	3.339*** (0.058)
treatedTRUE	-0.234** (0.086)	-0.249* (0.110)	-0.046 (0.213)	-0.012 (0.080)
Num.Obs.	587	532	136	571
R2	0.013	0.010	0.000	0.000
R2 Adj.	0.011	0.008	-0.007	-0.002
AIC	5208.2	4948.2	934.9	5374.2
BIC	5221.3	4961.0	943.6	5387.2
Log.Lik.	-855.702	-878.376	-220.270	-781.120
F	7.437	5.153	0.047	0.023
RMSE	1.04	1.26	1.22	0.95

+ p > 0.1, * p > 0.05, ** p > 0.01, *** p > 0.001

Outros crimes x estados

	In feminicidio	In hom doloso	In lesao	In mando
(Intercept)	1.398** (0.429)	3.273*** (0.255)	1.252 (1.040)	4.797*** (0.204)
treatedTRUE	-0.205 (0.192)	-0.156+ (0.085)	0.276 (0.359)	0.079 (0.073)
abbrev_stateAP	-0.960 (0.760)	0.037 (0.366)	0.355 (1.226)	-0.553 (0.337)
abbrev_stateMS	-0.393 (0.472)	-0.252 (0.282)	0.198 (1.134)	0.173 (0.221)
abbrev_stateMT	-0.215 (0.502)	0.041 (0.294)	0.036 (1.209)	-0.223 (0.250)
abbrev_statePA	-0.161 (1.169)	-0.407 (0.482)		-1.184** (0.404)
abbrev_statePR	1.057* (0.436)	0.287 (0.256)	1.206 (1.040)	1.090*** (0.213)
abbrev_stateRO	-0.856 (0.590)	-0.193 (0.286)	0.009 (1.226)	-0.481* (0.230)
abbrev_stateRR	-0.066 (0.736)	-0.045 (0.364)	-0.039 (1.381)	-1.931*** (0.362)
abbrev_stateRS	0.182 (0.421)	-0.319 (0.256)	-0.685 (1.050)	-0.949*** (0.204)
abbrev_stateSC	0.817 (0.513)	-0.556* (0.283)	-0.263 (1.381)	-0.158 (0.208)
abbrev_stateAM		-1.007* (0.393)	-0.179 (1.393)	-1.182*** (0.251)
abbrev_stateSP		-1.077* (0.489)		0.678* (0.323)
Num.Obs.	155	623	72	626
R2	0.253	0.100	0.259	0.425
R2 Adj.	0.201	0.082	0.138	0.413
AIC	967.6	5643.9	511.1	7387.5
BIC	1004.1	5705.9	538.5	7449.6
Log Lik.	-227.151	-890.379	-119.432	-795.195
F	4.874	5.626	2.137	37.681
RMSE	1.05	1.01	1.27	0.86

+ p > 0.1, * p > 0.05, ** p > 0.01, *** p < 0.001

Outros crimes x estados

	In transito	In esclarecer	In latrocínio	In tentativa
(Intercept)	2.909*** (0.267)	1.331** (0.448)	1.612*** (0.440)	2.670*** (0.317)
treatedTRUE	-0.155+ (0.087)	-0.227* (0.103)	-0.018 (0.215)	0.022 (0.080)
abbrev_stateAM	-1.179* (0.567)	0.124 (0.797)	0.230 (0.858)	-1.126+ (0.616)
abbrev_stateAP	-0.188 (0.387)	0.159 (0.727)	-0.164 (0.632)	0.944* (0.436)
abbrev_stateMS	-0.144 (0.292)	2.314*** (0.461)	-0.459 (0.528)	0.631+ (0.329)
abbrev.stateMT	-0.077 (0.312)	1.104* (0.493)	-0.231 (0.500)	1.014** (0.344)
abbrev.statePA	-1.480** (0.564)		-1.068 (1.171)	0.579 (0.464)
abbrev.statePR	0.493+ (0.270)	2.246*** (0.448)	1.022* (0.434)	0.566+ (0.323)
abbrev.stateRO	-0.079 (0.308)	0.872+ (0.484)	-0.672 (0.591)	0.980** (0.339)
abbrev.stateRR	-0.560 (0.437)	0.873 (0.642)	-0.035 (0.665)	-0.314 (0.414)
abbrev.stateRS	0.195 (0.266)	1.592*** (0.447)	-0.283 (0.455)	0.692* (0.316)
abbrev.stateSC	-0.012 (0.284)		-0.528 (0.642)	0.648* (0.326)
abbrev.stateSP	-0.228 (0.490)	0.991 (0.650)	-0.322 (1.171)	-0.500 (0.492)
Num.Obs.	587	532	136	571
R2	0.092	0.188	0.287	0.084
R2 Adj.	0.073	0.173	0.218	0.064
AIC	5181.1	4860.2	910.9	5346.3
BIC	5242.3	4911.6	951.6	5407.2
Log.Lik.	-831.140	-825.400	-197.266	-756.183
F	4.836	12.100	4.131	4.246
RMSE	1.00	1.14	1.03	0.91

+ p | 0.1, * p | 0.05, ** p | 0.01, *** p | 0.001