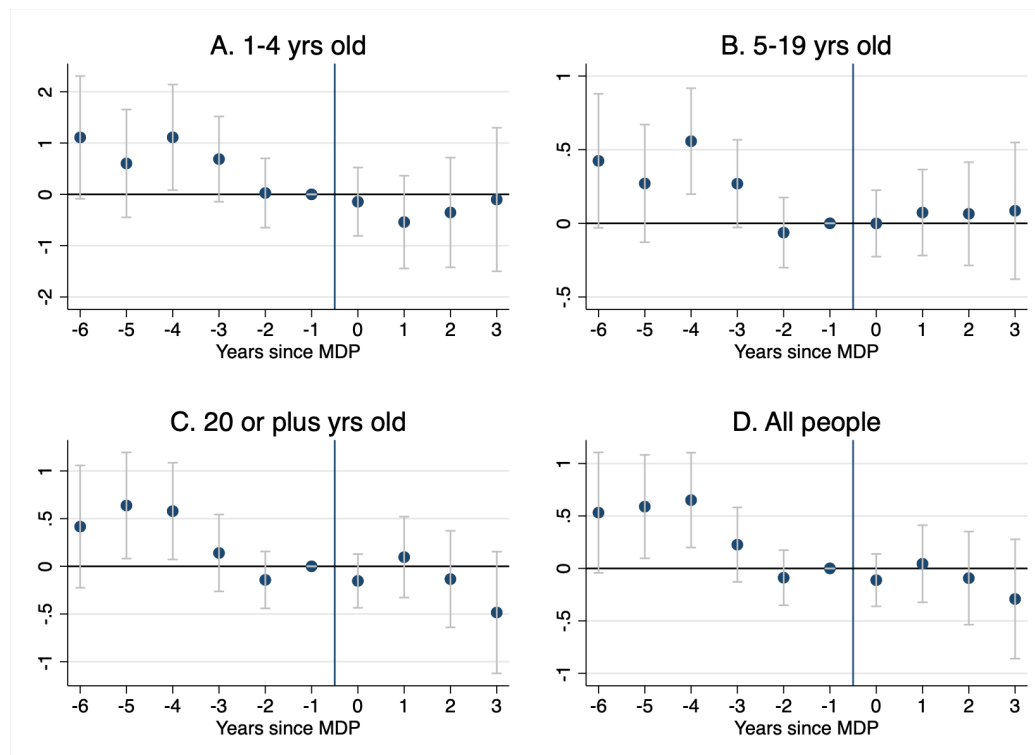
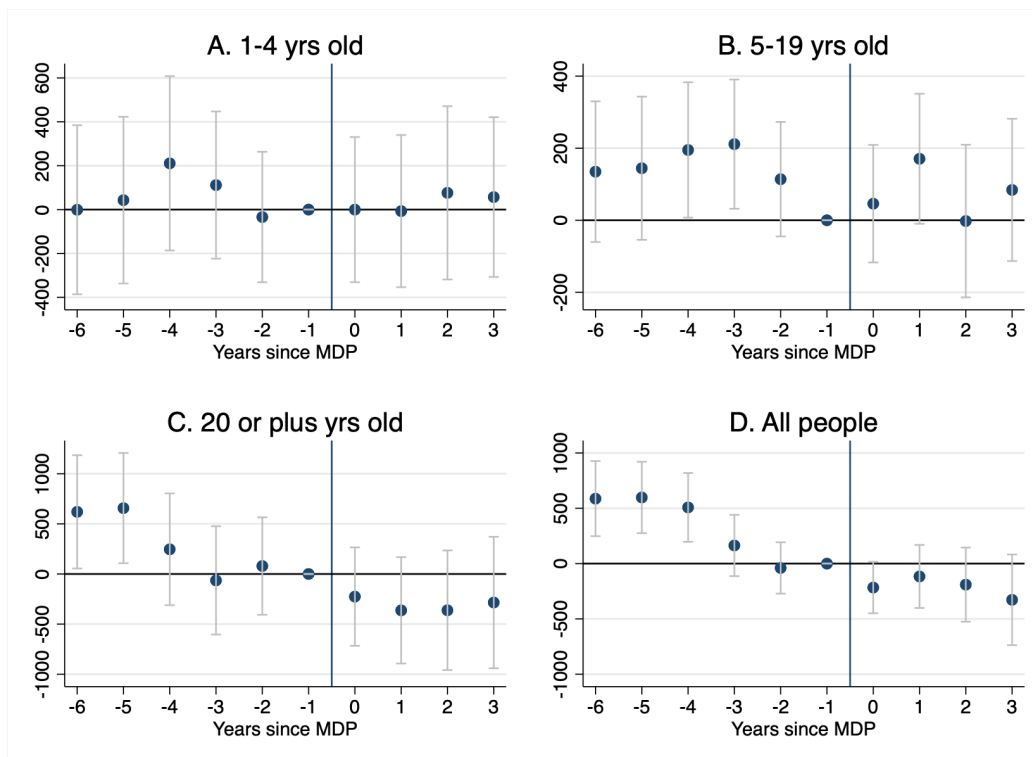


Supplementary Material**Figure S1: The effects of MDP on the number of age-standardized ambulatory admissions (1,000 people) for 1-4 years old, 5-19 years old, 20 and plus years old and all people**

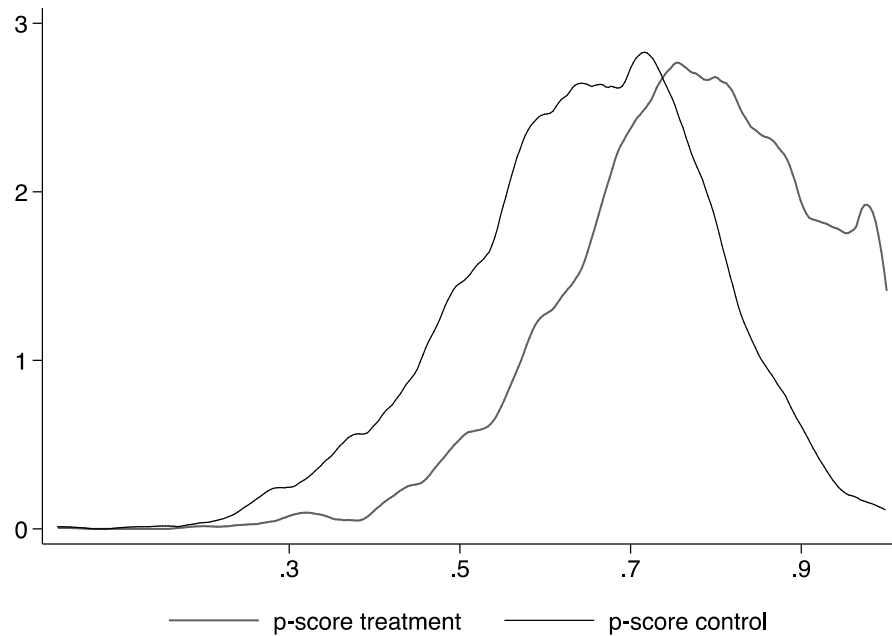
Notes: The table presents coefficient estimates of the effects of MDP on the number of age-standardized ambulatory admissions in treated (MDP) and non treated (no MDP) municipalities over time from 2008 to 2017, by age group: the top-left panel (A) includes children under 5 years old; top-right panel (B) includes children between 5 and 19 years old; the bottom-left panel (C) includes adult (20 or plus years old), and the bottom-right panel (D) includes all people. The estimates are from the difference-in-differences estimation in equation 2. “MDP” is an indicator for whether the municipality has at least a MDP doctor.

Figure S2: The effects of MDP on the costs of age-standardized ambulatory admissions (in BRL, per 1,000 people) for 1-4 years old, 5-19 years old, 20 and plus years old and all people



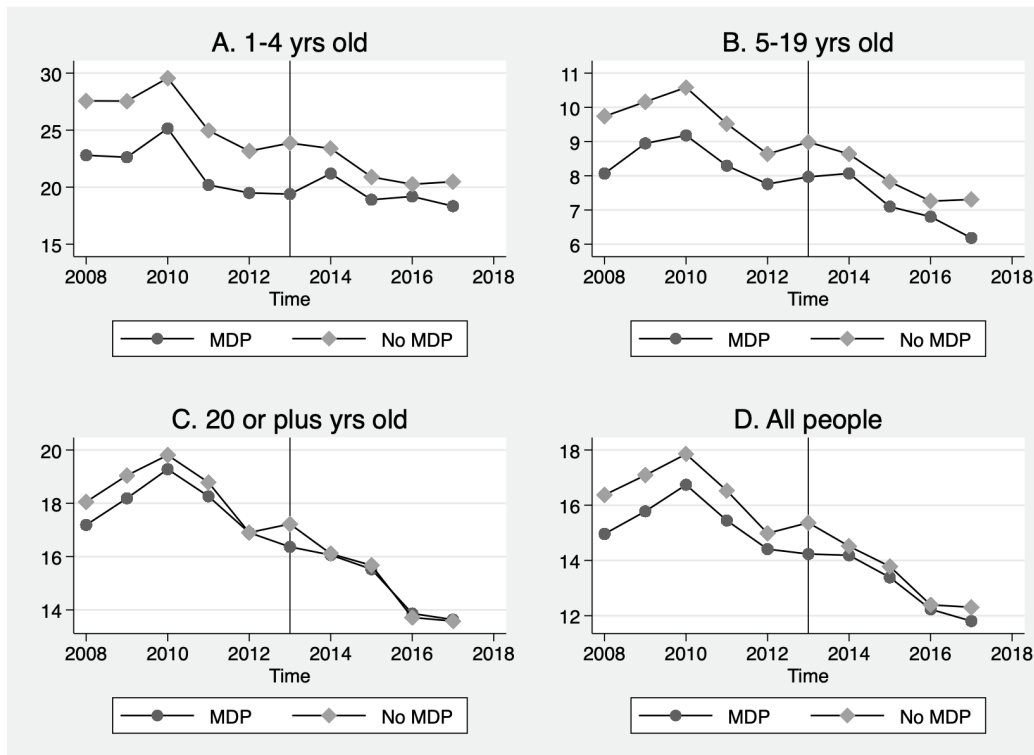
Notes: The table presents coefficient estimates of the effects of MDP on the costs of age-standardized ambulatory admissions in treated (MDP) and non treated (no MDP) municipalities over time from 2008 to 2017, by age group: the top-left panel (A) includes children under 5 years old; top-right panel (B) includes children between 5 and 19 years old; the bottom-left panel (C) includes adult (20 or plus years old), and the bottom-right panel (D) includes all people. The estimates are from the difference-in-differences estimation in equation 2. “MDP” is an indicator for whether the municipality has at least a MDP doctor.

Figure S3: Distribution of the probability of treatment for treated (treatment) and untreated (control) municipalities, after matching



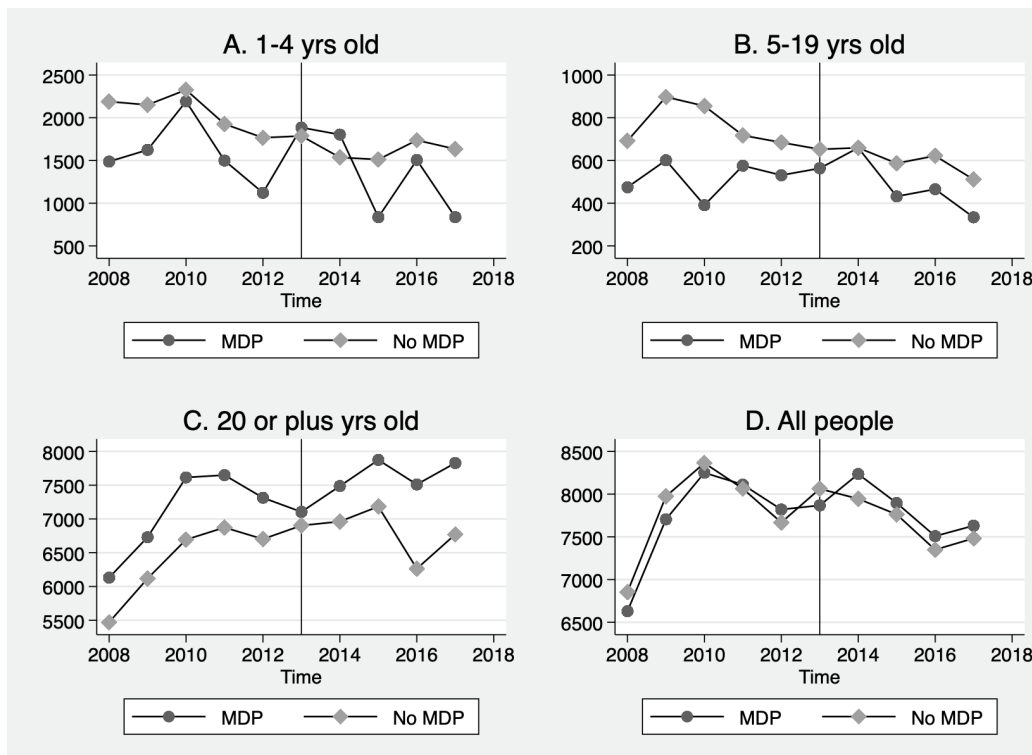
Notes: The figure represents the distribution of the probability for the treated (treatment) and untreated (control) municipalities, after the propensity score matching approach.

Figure S4: Pre-trends of the number of age-standardized ambulatory admissions (1,000 people) for 1-4 years old, 5-19 years old, 20 and plus years old and all people for the sub-sample of municipalities with priority



Notes: The figure represents the number of age-standardized ambulatory admissions in treated (MDP) and non treated (no MDP) municipalities over time from 2008 to 2017, by age group: the top-left panel (A) includes 1-4 years old; top-right panel (B) includes 5-19 years old; the bottom-left panel (C) includes 20 or plus years old, and the bottom-right panel (D) includes all people. The sample of municipalities is restricted to the sample of municipalities which were given priority in the implementation of MDP: (i) municipalities who have at least 20% of the population in extreme poverty, and (ii) municipalities were among the 100 with more than 80,000 inhabitants, with lowest level of per capita public revenue and high social vulnerability of inhabitants.

Figure S5: Pre-trends of the costs of age-standardized ambulatory admissions (in BRL, per 1,000 people) for 1-4 years old, 5-19 years old, 20 and plus years old and all people for the sub-sample of municipalities with priority



Notes: The figure represents the costs of age-standardized ambulatory admissions in treated (MDP) and non treated (no MDP) municipalities over time from 2008 to 2017, by age group: the top-left panel (A) includes 1-4 years old; top-right panel (B) includes 5-19 years old; the bottom-left panel (C) includes 20 or plus years old, and the bottom-right panel (D) includes all people. The sample of municipalities is restricted to the sample of municipalities which were given priority in the implementation of MDP: (i) municipalities who have at least 20% of the population in extreme poverty, and (ii) municipalities were among the 100 with more than 80,000 inhabitants, with lowest level of per capita public revenue and high social vulnerability of inhabitants.

Table S1: Summary Statistics for treatment and outcomes variables (2014-2017) on the sample of 22,280 year-municipalities (5,570 municipalities per year)

	Mean	SD	Min	Max
Priority municipality	30%	46%	0%	100%
Ever received MDP	74%	44%	0%	100%
Ever received at least 1 MDP doctor	68%	47%	0%	100%
Ever received at least 2 MDP doctors	41%	49%	0%	100%
Number of MDP doctors	273%	743%	0	293
Population covered by MDP	9407.6	25642.4	0	1010850
% population covered by MDP	38%	35%	0%	100%
ACSH for 1-4 years old	19.6	23	0	527.6
ACSH for 5-19 years old	7.08	8.49	0	128.9
ACSH for 20 or more years old	16.2	12.9	0	191.2
ACSH for all people	14.2	11.6	0	173.4
Cost of ACSH for 1-4 years old (BRL)	1248	6033.5	0	204145.2
Cost of ACSH for 5-19 years old (BRL)	445.4	2040.6	0	123420.7
Cost of ACSH for 20 or more years old (BRL)	11635.3	11257.9	0	293350.2
Cost of ACSH for all people (BRL)	11329	8071.1	0	195225.6

Notes: This table presents summary statistics for treatment and outcomes variables (2014-2017) on the sample of 22,280 year-municipalities (5,570 municipalities per year). ACSH refer to ambulatory admissions for sensitive conditions. MDP refers to the More Doctor Program. Population covered by MDP is constructed as the number of MDP doctors in each municipality multiplied by 3450 people, which is the population assigned to each primary care team in Brazil, as defined by the National Policy of Primary Care. See http://bvsm.s.saude.gov.br/bvs/saudelegis/gm/2017/prt2436_22_09_2017.html.

Table S2: Summary statistics for unmatched and matched sample by propensity score approach and statistical test for percentage reduction in bias.

Covariates (2008)	(1) Unmatched Matched	(2) Mean Treated	(3) Mean Control	(4) % bias	(5) % red bias	(6) t-test t	(7) t-test p> t	(8) Variance(T)/ Variance(C)
GDP per capita (log)	U	9.9164	11.66	-13.8		-15.55	0	0.52*
	M	9.7967	10.038	-1.9	86.2	-2.82	0.005	0.67*
Expenditures (log)	U	14.83	14.855	-0.5		-0.54	0.589	1.47*
	M	14.767	14.849	-1.8	-222.3	-2.21	0.027	1.06*
Transfers (log)	U	14.039	13.841	4.5		4.44	0	1.51*
	M	13.942	13.998	-1.3	71.3	-1.62	0.105	1.05*
Exports (log, million)	U	0.84712	0.49979	23.6		23.08	0	1.73*
	M	0.65113	0.63085	1.4	94.2	1.85	0.065	0.99
Infant mortality (1,000)	U	15.875	15.498	2.4		2.67	0.008	0.56*
	M	15.872	15.598	1.7	27.3	2.54	0.011	1.19*
Under-weight births (1,000)	U	75.402	77.089	-4.5		-4.89	0	0.70*
	M	75.341	76.5	-3.1	31.3	-4.45	0	0.92*
Premature births (1,000)	U	60.95	63.532	-5.6		-5.93	0	0.91*
	M	61.874	63.052	-2.6	54.4	-3.22	0.001	0.85*
Low APGAR score (1,000)	U	30.021	27.133	9.5		9.85	0	1.06*
	M	29.625	29.037	1.9	79.6	2.57	0.01	1.23*
Births with anomalies (1,000)	U	6.0985	6.1938	-1		-1.1	0.27	0.47*
	M	6.1951	6.1579	0.4	61	0.55	0.584	0.86*
Expenditures – health (log)	U	13.744	13.728	0.4		0.37	0.709	1.49*
	M	13.662	13.773	-2.5	-577.3	-3.22	0.001	1.05*
No. health facilities (100,000)	U	83.246	81.481	3.5		3.57	0	1.31*
	M	83.62	85.567	-3.9	-10.3	-4.79	0	0.94*
No. health staff (100,000)	U	200.84	228.21	-22.6		-23.37	0	1.03*
	M	197.37	201.08	-3.1	86.4	-4.2	0	0.97*
No. doctors (100,000)	U	100.56	116.44	-24.1		-25.37	0	0.89*
	M	99.066	102.05	-4.5	81.2	-6.35	0	0.95*
No. nurses (100,000)	U	44.031	49.112	-21.9		-23.93	0	0.67*
	M	44.241	43.949	1.3	94.3	1.88	0.061	0.97*
Expenditures – infrastructure (log)	U	12.68	12.773	-2.1		-2.11	0.035	1.49*
	M	12.598	12.627	-0.7	68.2	-0.84	0.4	1.02
Expenditures – energy (log)	U	3.5856	3.4767	2		2.1	0.035	1.06*
	M	3.5953	3.5422	1	51.2	1.27	0.205	1
Expenditures – education (log)	U	13.993	13.887	2.4		2.39	0.017	1.50*
	M	13.904	13.978	-1.7	29.8	-2.13	0.033	1.06*
Expenditures – welfare (log)	U	12.325	12.356	-0.8		-0.79	0.428	1.48*
	M	12.273	12.355	-2.1	-159.4	-2.63	0.009	1.06*
Expenditures – agriculture (log)	U	10.646	10.829	-4.2		-4.21	0	1.38*

	M	10.667	10.715	-1.1	73.5	-1.42	0.155	1.12*
Employment (%)	U	0.17352	0.19346	-13.9		-15.14	0	0.70*
	M	0.17087	0.17516	-3	78.5	-4.16	0	0.85*
Employment (% male)	U	0.20205	0.23345	-15		-16.71	0	0.57*
	M	0.1974	0.20245	-2.4	83.9	-3.57	0	0.84*
Employment (% female)	U	0.14507	0.15298	-8.4		-8.66	0	1.01
	M	0.14396	0.1476	-3.8	54	-4.82	0	0.88*
Monthly payroll (BRL)	U	491.61	487.64	0.9		0.84	0.399	2.40*
	M	473.5	481.73	-1.8	-107.1	-3.15	0.002	0.27*
No. plants	U	643.28	224.75	12		10.51	0	12.53*
	M	307.83	297.32	0.3	97.5	1.3	0.194	1.01
No. firms	U	559.43	186.01	12.1		10.6	0	12.54*
	M	260.58	252.93	0.2	98	1.08	0.28	0.97*
Population	U	42400	13612	16.6		14.58	0	10.95*
	M	20562	19699	0.5	97	2.17	0.03	0.83*
Population (female)	U	21146	6673.6	16.2		14.25	0	11.42*
	M	10045	9626.6	0.5	97.1	2.1	0.036	0.84*
Population (male)	U	20342	6673	17.1		15.02	0	10.87*
	M	9997.1	9628.5	0.5	97.3	2.01	0.045	0.82*
Working-age population (male)	U	13617	4443.2	16.6		14.57	0	11.19*
	M	6614.2	6369.5	0.4	97.3	1.93	0.053	0.85*
Working-age population (female)	U	14235	4453.3	15.7		13.82	0	11.25*
	M	6662.5	6368.4	0.5	97	2.1	0.035	0.85*
Working-age population	U	27853	8896.5	16.1		14.18	0	11.22*
	M	13277	12738	0.5	97.2	2.02	0.043	0.85*
Population 1-4 yrs old	U	3566.3	1126.2	18.9		16.64	0	10.16*
	M	1769.9	1678.3	0.7	96.2	2.94	0.003	0.86*
Population 5-19 yrs old	U	11278	3631.5	18.7		16.46	0	10.00*
	M	5629.6	5380	0.6	96.7	2.54	0.011	0.82*
Population 20plus yrs old	U	27046	8642.6	15.5		13.56	0	13.64*
	M	12881	12387	0.4	97.3	1.96	0.05	0.91*
Total fertility rate	U	1811.2	1672.5	28.3		28.88	0	1.16*
	M	1775.3	1784.3	-1.8	93.5	-2.38	0.017	1.08*
Crude birth rate	U	14.955	13.377	36.8		37.48	0	1.18*
	M	14.513	14.543	-0.7	98.1	-0.9	0.368	1.10*
Crude death rate	U	5.4084	5.7187	-17.7		-18.72	0	0.88*
	M	5.4749	5.4684	0.4	97.9	0.49	0.625	1.04*
No. health facilities (private, 100,000)	U	29.575	21.315	19.2		19	0	1.55*
	M	27.007	28.95	-4.5	76.5	-5.35	0	0.83*
No. health facilities (public 100,000)	U	51.653	58.254	-21.2		-22.23	0	0.92*
	M	54.453	54.39	0.2	99.1	0.27	0.787	1.30*

No. health facilities (other 100,000)	U	2.1763	2.2064	-0.5		-0.58	0.56	0.75*
	M	2.3465	2.4314	-1.5	-182.2	-1.98	0.048	0.89*
No. health staff (private 100,000)	U	56.863	37.21	20.4		19.72	0	2.01*
	M	49.425	50.599	-1.2	94	-1.56	0.12	1.09*
No. health staff (public 100,000)	U	585.54	675.9	-37.7		-40.65	0	0.73*
	M	598.51	594.59	1.6	95.7	2.43	0.015	1.24*
No. health staff (other 100,000)	U	2.1763	2.2064	-0.5		-0.58	0.56	0.75*
	M	2.3465	2.4314	-1.5	-182.2	-1.98	0.048	0.89*

Notes: This table presents summary statistics for unmatched and matched sample by propensity score approach, by treatment status (columns 2 and 3) for all covariates (2008) used in the approach. It also presents the standardized percentage bias before and after matching (column 4), together with the achieved percentage reduction in bias (column 5). The standardized % bias is the % difference of the sample means in the treated and untreated (full or matched) sub-samples as a percentage of the square root of the average of the sample variances in the treated and untreated groups. T statistic (column 6) and p-value (column 7) of the statistical test for percentage reduction in bias are presented. The variance ratio of treated over untreated is also presented (column 8). This ratio should equal 1 if there is perfect balance. An asterisk is displayed for variables that have variance ratios that exceed the 2.5th and 97.5th percentiles of the F-distribution with (number of [matched] treated minus 1) and (number of [matched] treated minus 1) degrees of freedom.

Table S3: The effects of MDP on the number of age-standardized ambulatory admissions (1,000 people) and costs (1,000 people, in BRL) for 1-4 years old, 5-19 years old, 20 and plus years old and all people, for the sub-sample of municipalities without priority

Dep. Var.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Admissions				Costs of admissions (BRL)			
	1-4 yrs old	5-19 yrs old	20 or plus yrs old	All people	1-4 yrs old	5-19 yrs old	20 or plus yrs old	All people
POSTXMDP	-0.528 (0.532)	-0.155 (0.181)	-0.384 (0.287)	-0.347 (0.251)	-42.735 (129.408)	-21.895 (54.912)	-331.403 (246.722)	-302.331* (166.145)
2014XMDP	-0.201 (0.446)	-0.081 (0.156)	-0.390* (0.207)	-0.303 (0.185)	135.900 (163.756)	-26.847 (56.723)	-530.851* (271.455)	-407.750*** (148.909)
2015XMDP	-0.539 (0.567)	-0.033 (0.182)	-0.155 (0.284)	-0.150 (0.246)	-78.083 (174.711)	79.790 (60.879)	-593.780** (294.304)	-292.957 (180.277)
2016XMDP	-0.028 (0.581)	-0.013 (0.204)	-0.275 (0.328)	-0.208 (0.285)	64.836 (178.958)	-141.638 (91.383)	-378.721 (327.072)	-270.314 (203.425)
2017XMDP	0.032 (0.772)	-0.139 (0.263)	-0.538 (0.396)	-0.408 (0.348)	-80.369 (184.356)	-33.258 (74.563)	-18.356 (387.782)	-289.967 (254.094)
Observations	38,800	38,800	38,800	38,800	38,800	38,800	38,800	38,800
R-squared	0.652	0.705	0.786	0.785	0.180	0.139	0.465	0.680
Mean Dep.Var.	20.99	7.752	18.74	16.24	1232	452.9	12555	12129
No. of clusters	3882	3882	3882	3882	3882	3882	3882	3882

Notes: The table presents estimates of the effects of MDP on the number of age-standardized ambulatory admissions and the costs (in BRL), by age group (1-4 years old, 5-19 years old, 20 and plus years old and all people). The number of admissions and costs are expressed per 1,000 people. The estimates are from a difference-in-differences estimation where "POST" takes value 1 if the year is after 2013 (2014-2017), and "MDP" is an indicator for whether the municipality has at least a MDP doctor. The analysis is restricted to the sample of municipalities which were not given priority in the implementation of MDP. Municipalities with priority are defined as: (i) municipalities who have at least 20% of the population in extreme poverty, and (ii) municipalities were among the 100 with more than 80,000 inhabitants, with the lowest level of per capita public revenue and high social vulnerability of inhabitants. Municipality and time fixed effects are included. Standard errors are clustered at the municipality level. Significantly different than zero at 99 (***), 95 (**), 90 (*) percent confidence.

Table S4: The effects of MDP on the number of age-standardized ambulatory admissions (1,000 people) and costs (1,000 people, in BRL) for 1-4 years old, 5-19 years old, 20 and plus years old and all people. [Adding a linear time trend for each municipality]

Dep. Var.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Admissions				Costs of admissions (BRL)			
	1-4 yrs old	5-19 yrs old	20 or plus yrs old	All people	1-4 yrs old	5-19 yrs old	20 or plus yrs old	All people
POSTXMDP	-0.886* (0.526)	-0.082 (0.183)	0.106 (0.266)	0.004 (0.228)	-126.164 (214.175)	77.117 (118.151)	200.177 (341.717)	179.433 (179.171)
2014XMDP	-0.114 (0.403)	0.050 (0.141)	0.015 (0.193)	0.029 (0.167)	-23.254 (181.774)	10.586 (86.868)	6.909 (280.385)	-3.620 (137.685)
2015XMDP	-0.395 (0.594)	0.212 (0.204)	0.420 (0.300)	0.335 (0.259)	-41.051 (219.381)	152.305 (110.049)	56.258 (339.778)	283.190 (185.395)
2016XMDP	-0.177 (0.757)	0.237 (0.263)	0.279 (0.385)	0.282 (0.334)	25.872 (269.937)	4.819 (141.474)	217.783 (420.763)	368.916 (238.698)
2017XMDP	-0.262 (1.015)	0.184 (0.345)	0.007 (0.487)	0.117 (0.427)	-55.491 (303.291)	117.322 (159.429)	627.007 (502.219)	478.618 (300.859)
Observations	55,679	55,679	55,679	55,679	55,679	55,679	55,679	55,679
R-squared	0.892	0.908	0.955	0.956	0.348	0.285	0.797	0.937
Mean Dep.Var.	21.76	8.033	18.16	15.86	1400	514	10788	10803
No. of clusters	5570	5570	5570	5570	5570	5570	5570	5570

Notes: The table presents estimates of the effects of MDP on the number of age-standardized ambulatory admissions and the costs (in BRL), by age group (1-4 years old, 5-19 years old, 20 and plus years old and all people). The number of admissions and costs are expressed per 1,000 people. The estimates are from a difference-in-differences estimation where "POST" takes value 1 if the year is after 2013 (2014-2017), and "MDP" is an indicator for whether the municipality has at least a MDP doctor. Municipality and time fixed effects are included. A linear time trend for each municipality is also included. Standard errors are clustered at the municipality level. Significantly different than zero at 99 (***) , 95 (**), 90 (*) percent confidence.