Federal University of Pelotas
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Pan American Health Organization

Brazilian More Doctors Program

strengthening SUS towards universal health: analysis and prospects

Royal Dublin Society, Lansdowne Suite, 14 November 2017

Fourth Global Forum on Human Resources for Health
13-17 November 2017
Dublin, Ireland

MAIS MÉDICOS PARA O BRASIL

Presentation outline

- The presentation will address

- Characteristics of the Brazilian Unified Health System (SUS) and Family Health Strategy (PHC model)
- Assessment of the More Doctors Program (MDP)
  - How MDP should strengthen SUS towards universal health?
    - Emphasis in access (and quality) at primary health care (PHC)
- Discussion
  - Major advances & challenges of the More Doctors Program
    - Findings from national PHC system information

- Perspectives – to achieve FHS universal coverage
  - Policy & Research & Education to promote better quality care on PHC and Family Health Strategy

Brazil, 2015

Country facts

South America

Area (km^2)

8,456,510 km^2

Population

204.494.908
inhabitants

Brazilian Unified Health System

- 1988 - Unified Health System, **SUS**
  - universal system, funded by public taxes
- to guarantee **health as a right of all and a State duty**
  - a decentralized public system, triple governed by municipal, state and federal authorities

Brazilian Unified Health System

- Principles
  - Universal coverage: free health care for all
  - Comprehensiveness: all kind of care: from PHC to transplants
  - Equity and uniformity: FHS coverage mainly in poorer areas
  - Equivalency of benefits to urban and rural populations

Family Health Strategy

- 1994: six years after its beginning, SUS launched **Saúde da Família - Family Health Strategy (FHS)**
  - A national goal to strengthen primary health care system with organized access to its secondary and tertiary levels
    - Currently, one of the largest PHC experiences in the world
    - One of the most significant innovations in PHC since Alma-Ata

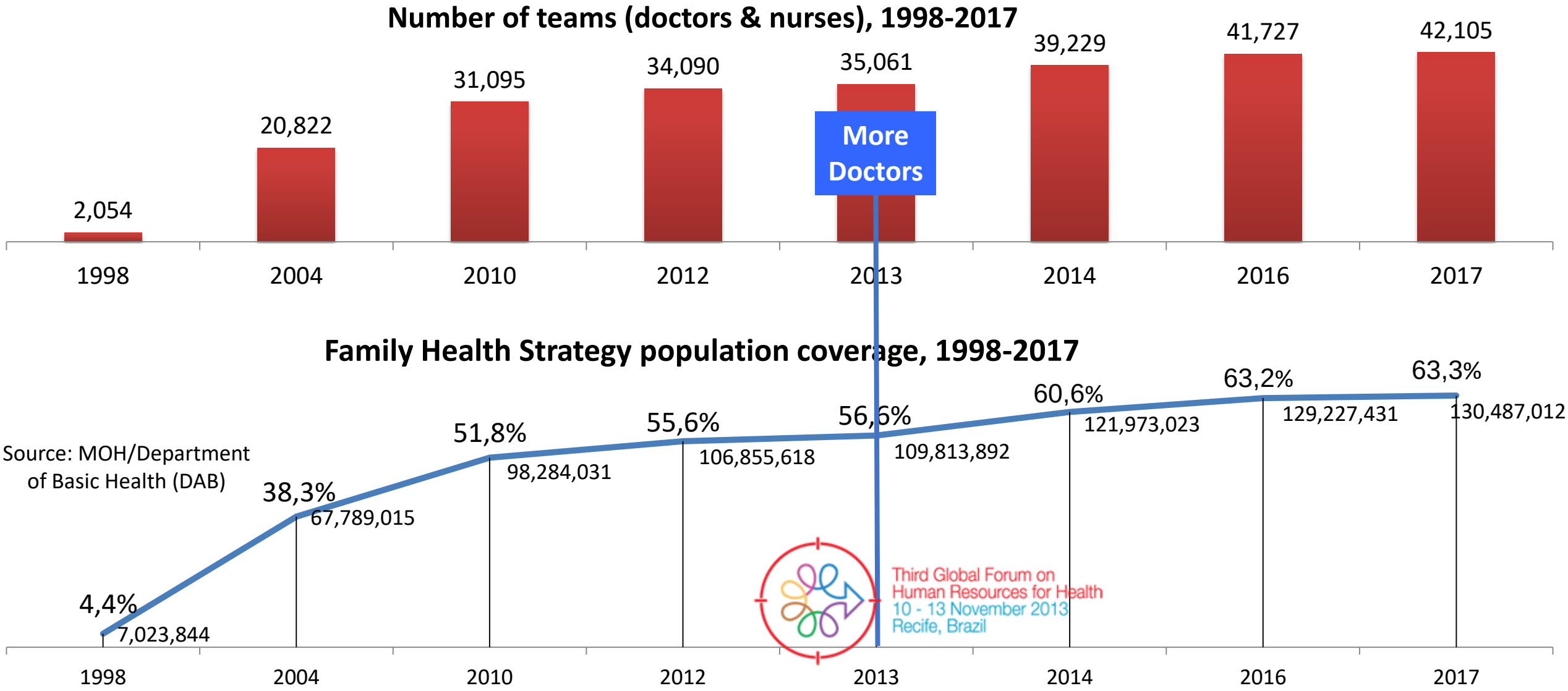
Saúde da Família

Family Health Strategy: Improvement in equity

- 2017 (Sep.): 42,105 family health care teams (≅3,000 persons/ team) – mainly in vulnerable areas
  - About 260,000 community health workers
- Multidisciplinary teams are responsible for specific geographic areas and defined populations, as a first contact for health issues
- 5,451 (98%) municipalities and ≅130,000,000 people
  - (63% of the Brazilian population)

Coverage Extension of the Family Health Strategy 1998-2017

Remarkable improvement in equity! Significant effect of More Doctors!



More Doctors Program Assessment

Constraints to FHS coverage expansion before MDP

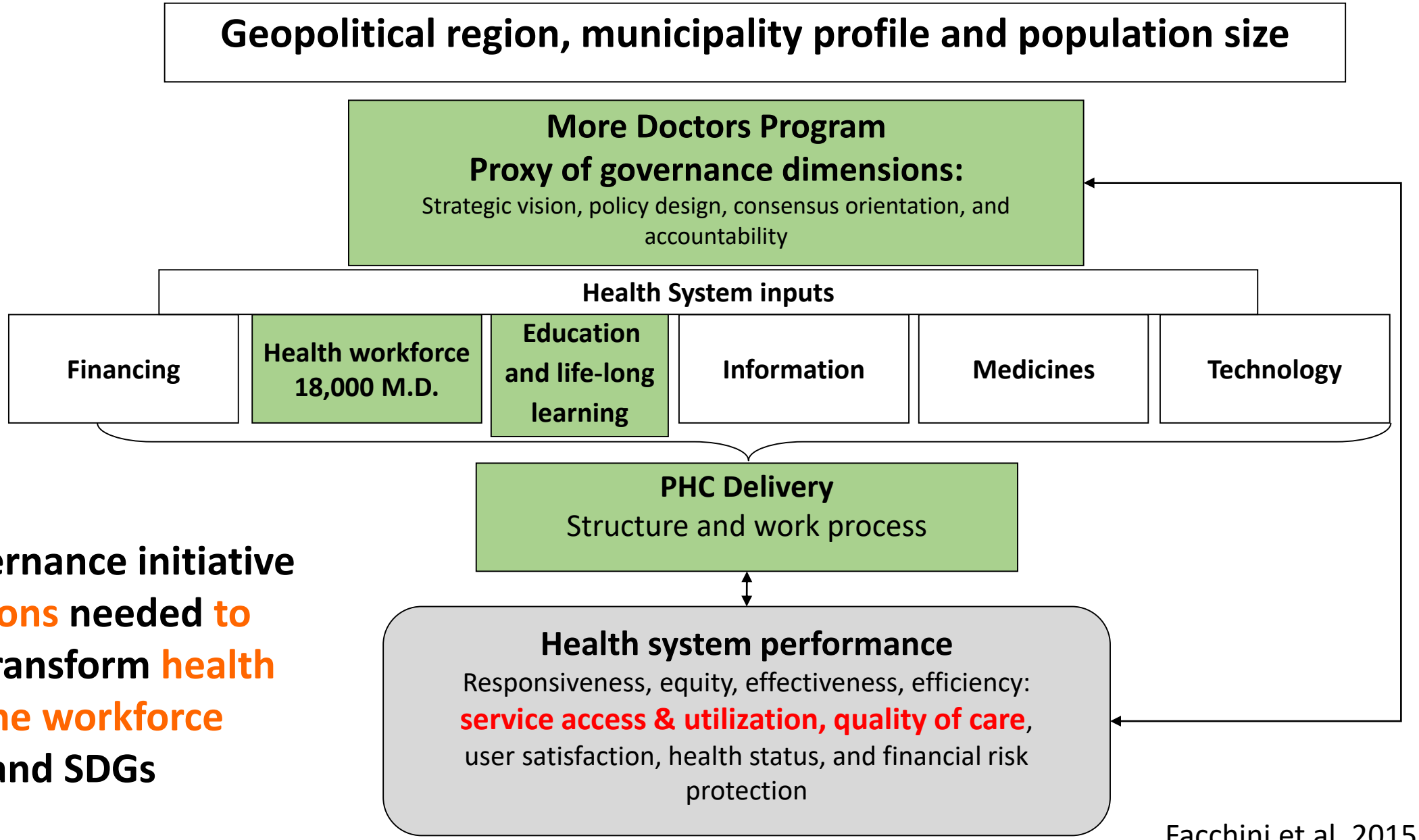
- Medical shortage & high turnover in remote, poorer, and small cities, “favelas”, and suburban areas
- Very low national average of doctors: 1.8 doctors / 1,000 inhabitants
- 22 states (82%) were below the national average - 5 states had less than 1/1000

How MDP should strengthen SUS towards universal health?

Theoretical Framework is a key issue

- Improving fair access and quality at PHC
- Providing doctors to care for the population health needs in underserved municipalities and vulnerable areas
- Promoting education and technical supervision of doctors to address population health needs

Theoretical Framework



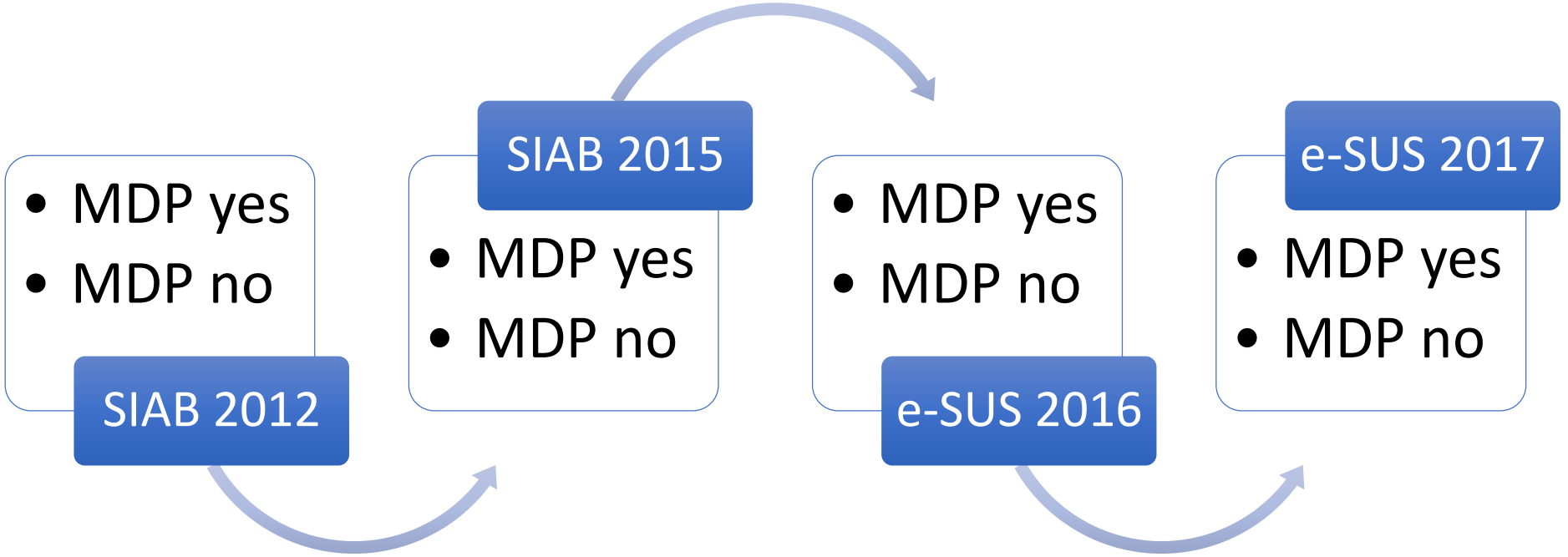
MDP as a governance initiative addresses actions needed to develop and transform health systems and the workforce towards UHC and SDGs

Facchini et al, 2015

Study Design

Relationship between More Doctors Program and PHC performance. Brazil, SIAB 2012-2015 e e-SUS 2016-2017

"quasi-experimental" study (White, 2010)



- Access/Quality = medical consultation at PHC (FHS services) to vulnerable and priority groups
  - Quality = service organization/management + content of professional care to improve access to pregnant women, children, and people with chronic conditions

Data source in the assessment of MDP

SIAB – PHC information system – is a national routine facility-based health information system on provision and use of PHC services

- time series of four years, with periods before (2012-2013) and after (2014-2015) the MDP to be launched

Sample size of FHS teams: after applying criteria of completeness, regular submission, and consistency of registered data: 2012 = 30.000 teams & 2015 = 20.000 teams

Analysis of medical consultation in MDP

It compares the pattern and the time trend of access and utilization of PHC services, using indicators of average and proportion of medical consultation by user from the population registered in each PHC team

Difference-in-difference analysis

To estimate attributable changes to MDP: the difference-in-difference analysis allows to establish the causal inference of non-randomized interventions (White, 2010; Basu, 2017; Craig, 2017; Reeves, 2017).

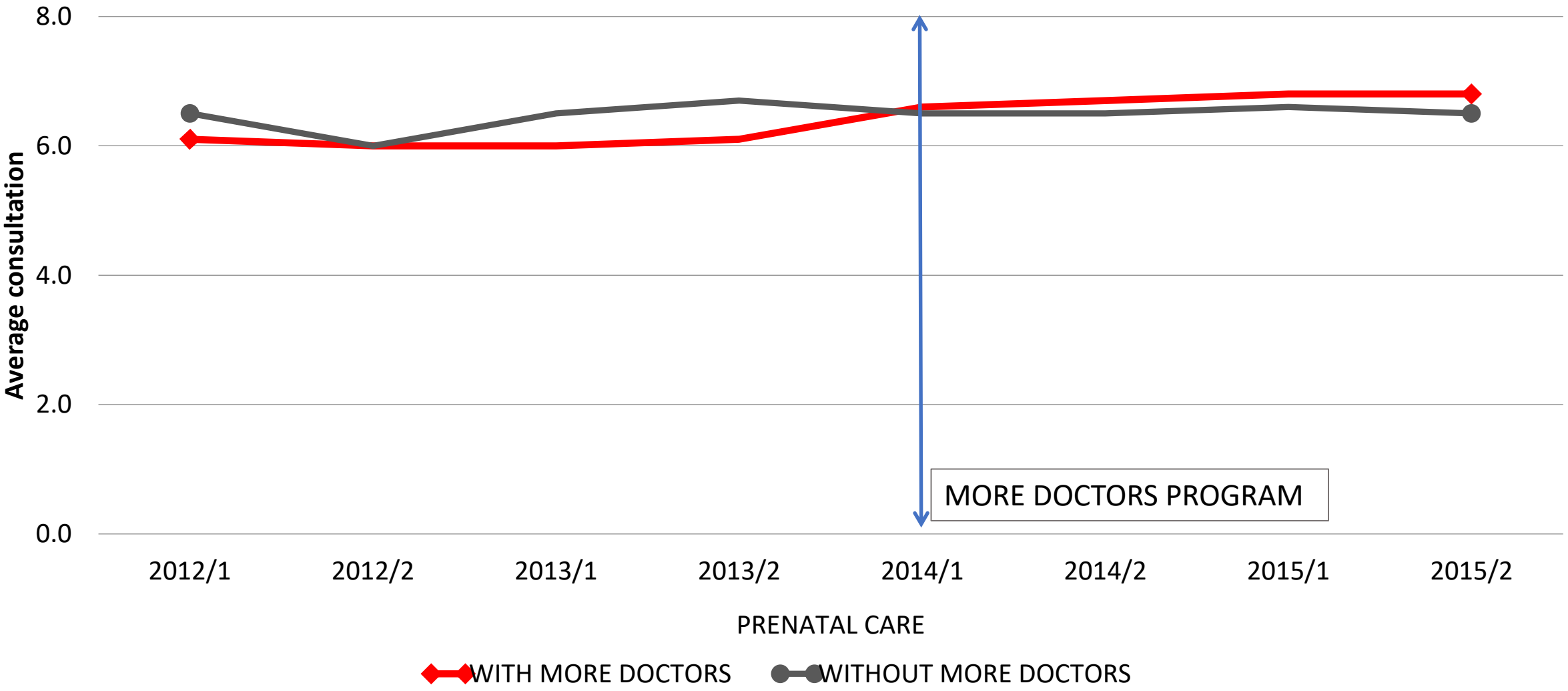
Compares the differences between the intervention group (exposed to More Doctors Program) and the group not exposed, before and after its beginning.

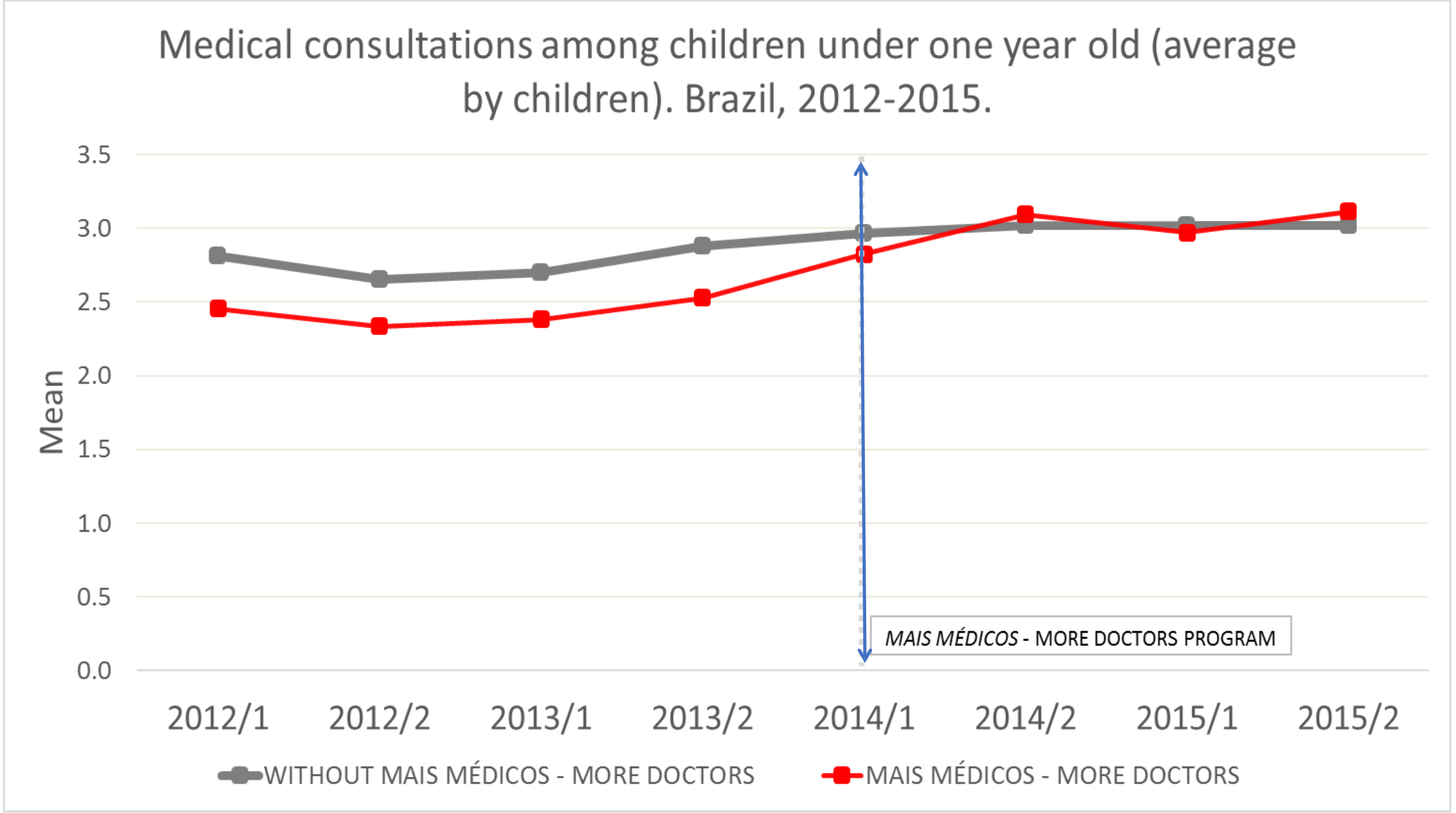
Theoretically, the difference-in-differences increases the causal inference controlling variables that are not measured and are common to the groups. (Hu, 2016; Rosenthal, 2016; Wei, 2015).

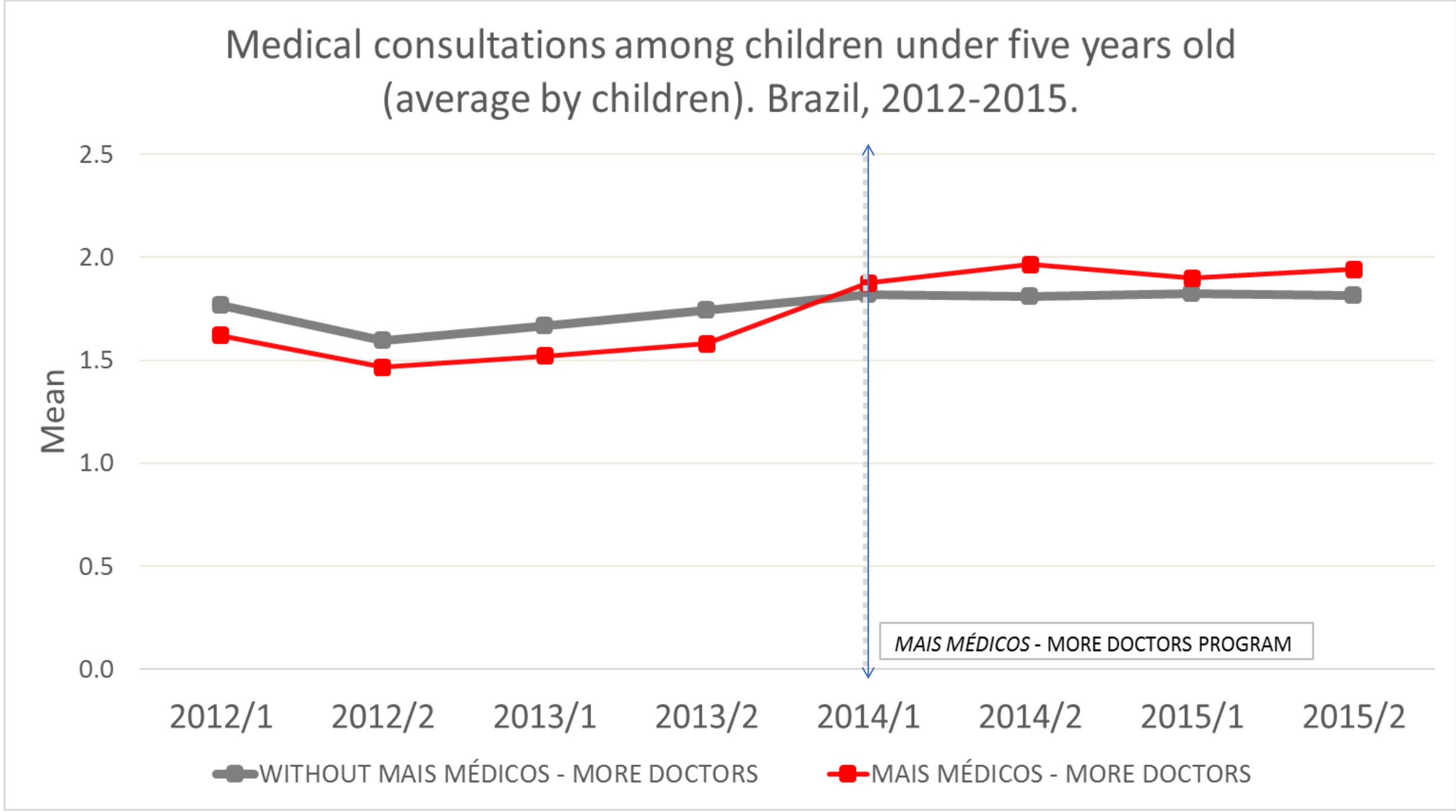
More Doctors Program impact assessment: some findings

Teams with MDP x Teams without MDP

Prenatal care visits (average by pregnant). Brazil, SIAB, 2012-2015




Medical consultations among children under one year old (average by children). Brazil, 2012-2015.
Mean
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2012/1
2012/2
2013/1
2013/2
2014/1
2014/2
2015/1
2015/2
MAIS MÉDICOS - MORE DOCTORS PROGRAM
WITHOUT MAIS MÉDICOS - MORE DOCTORS
MAIS MÉDICOS - MORE DOCTORS


Medical consultations among children under five years old (average by children). Brazil, 2012-2015.
Mean
2.5
2.0
1.5
1.0
0.5
0.0
2012/1
2012/2
2013/1
2013/2
2014/1
2014/2
2015/1
2015/2
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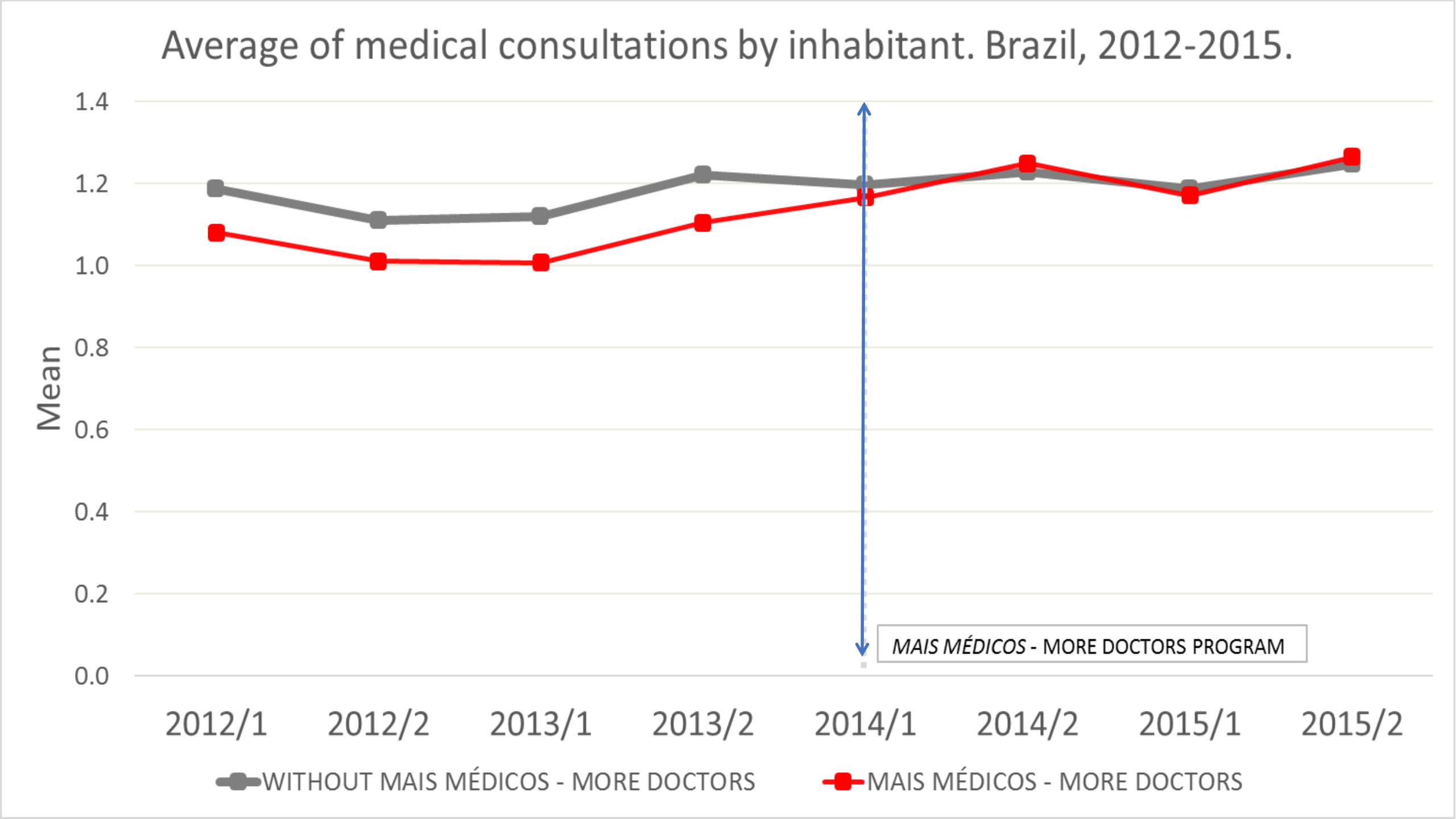
Average of medical consultations by inhabitant. Brazil, 2012-2015.
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Mean
2012/1
2012/2
2013/1
2013/2
2014/1
2014/2
2015/1
2015/2
MAIS MÉDICOS - MORE DOCTORS PROGRAM
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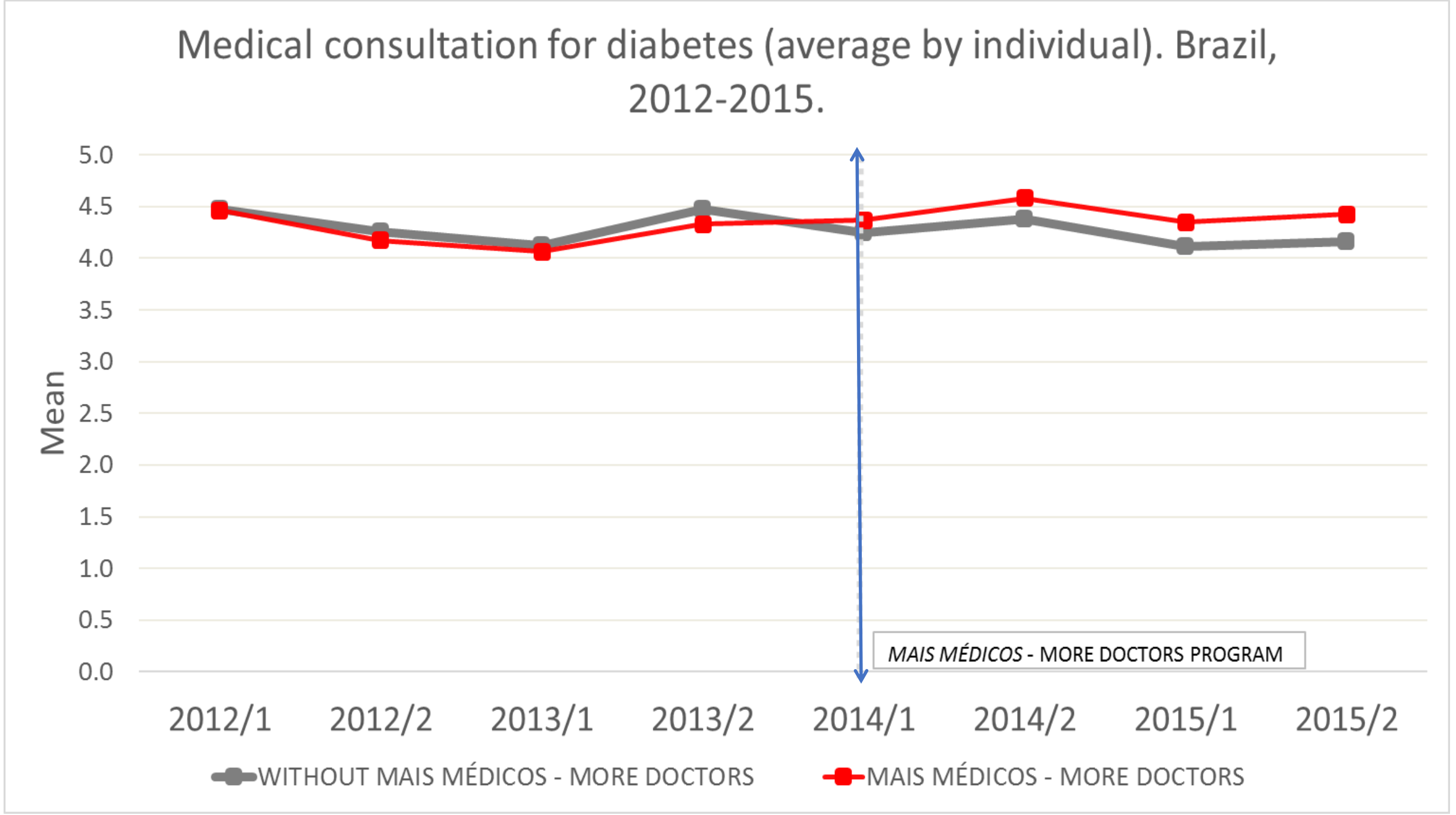
Medical consultation for diabetes (average by individual). Brazil, 2012-2015.
Mean
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2012/1
2012/2
2013/1
2013/2
2014/1
2014/2
2015/1
2015/2
MAIS MÉDICOS - MORE DOCTORS PROGRAM
WITHOUT MAIS MÉDICOS - MORE DOCTORS
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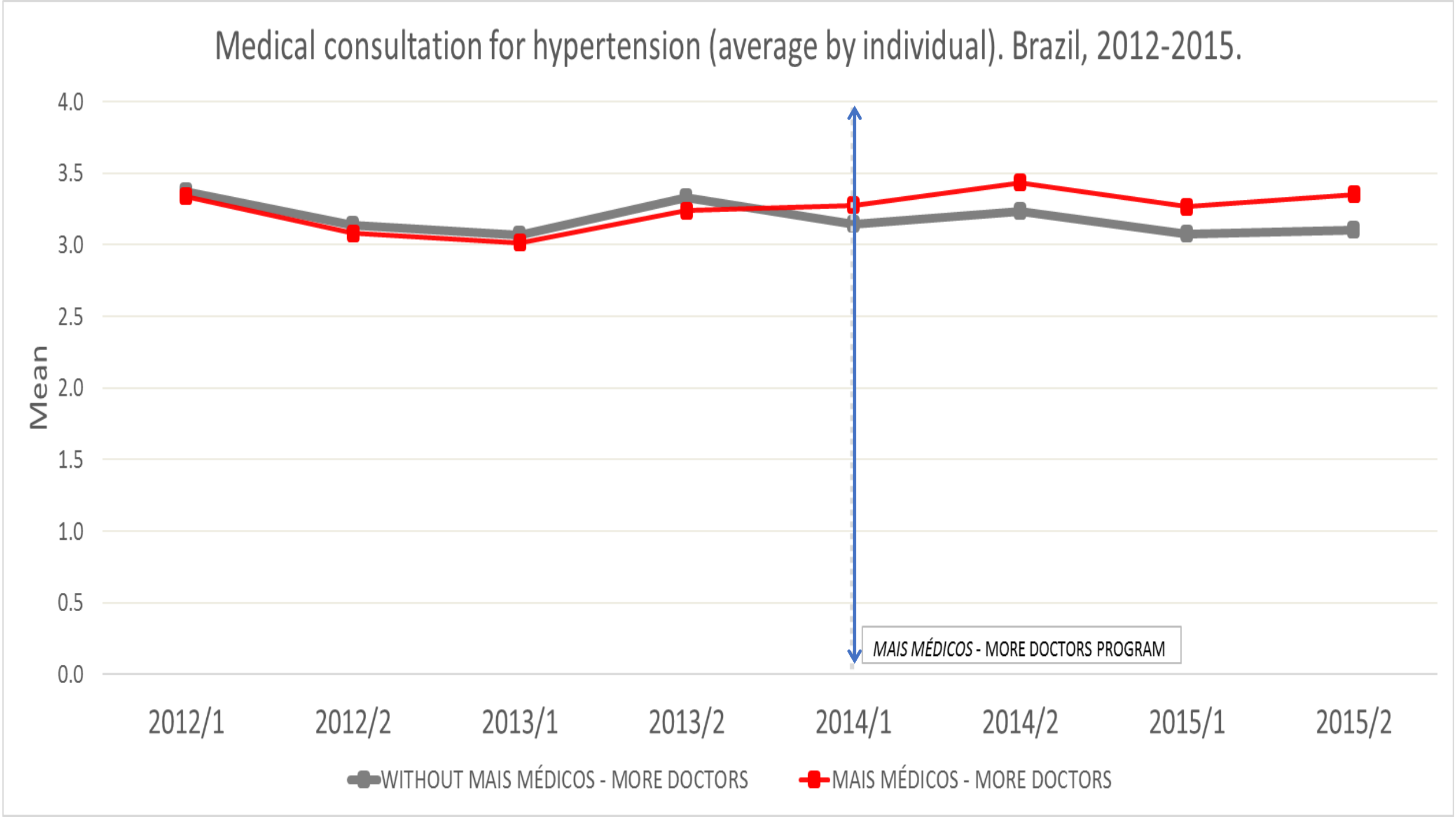
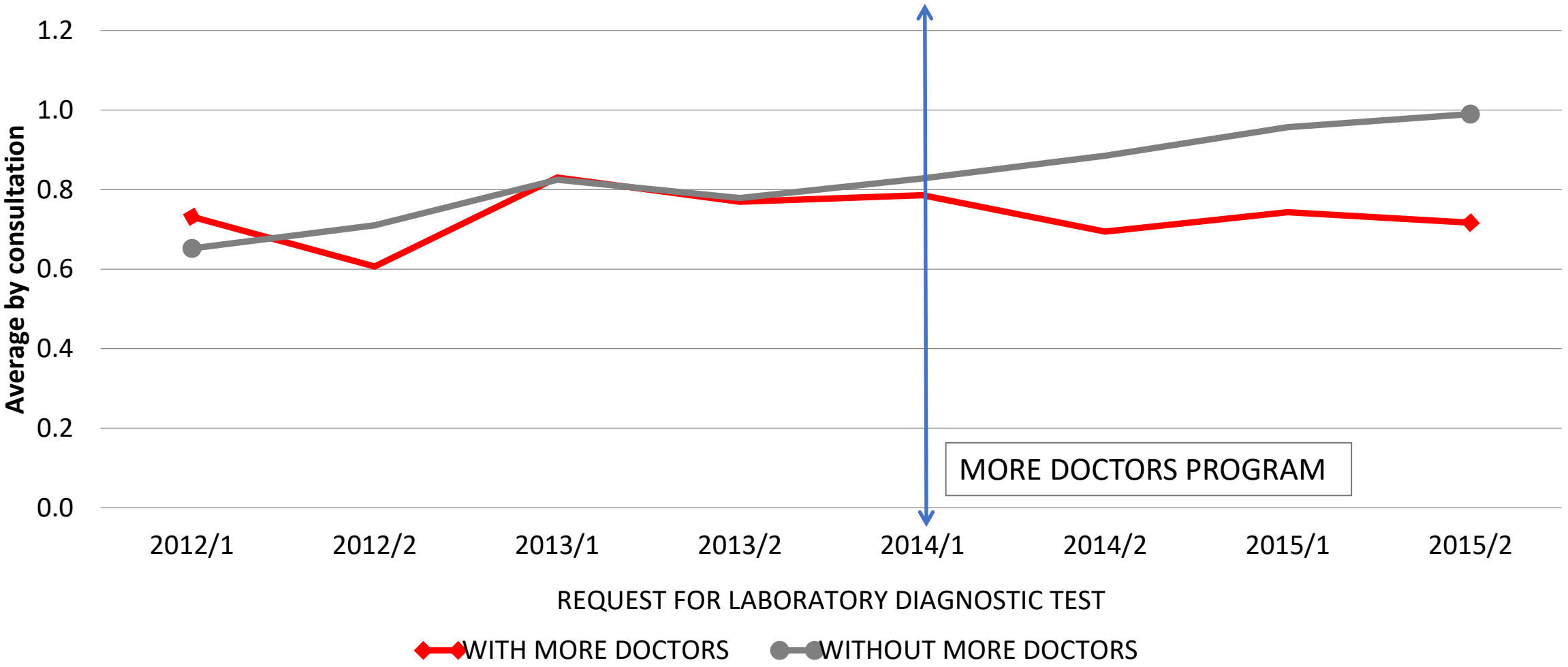
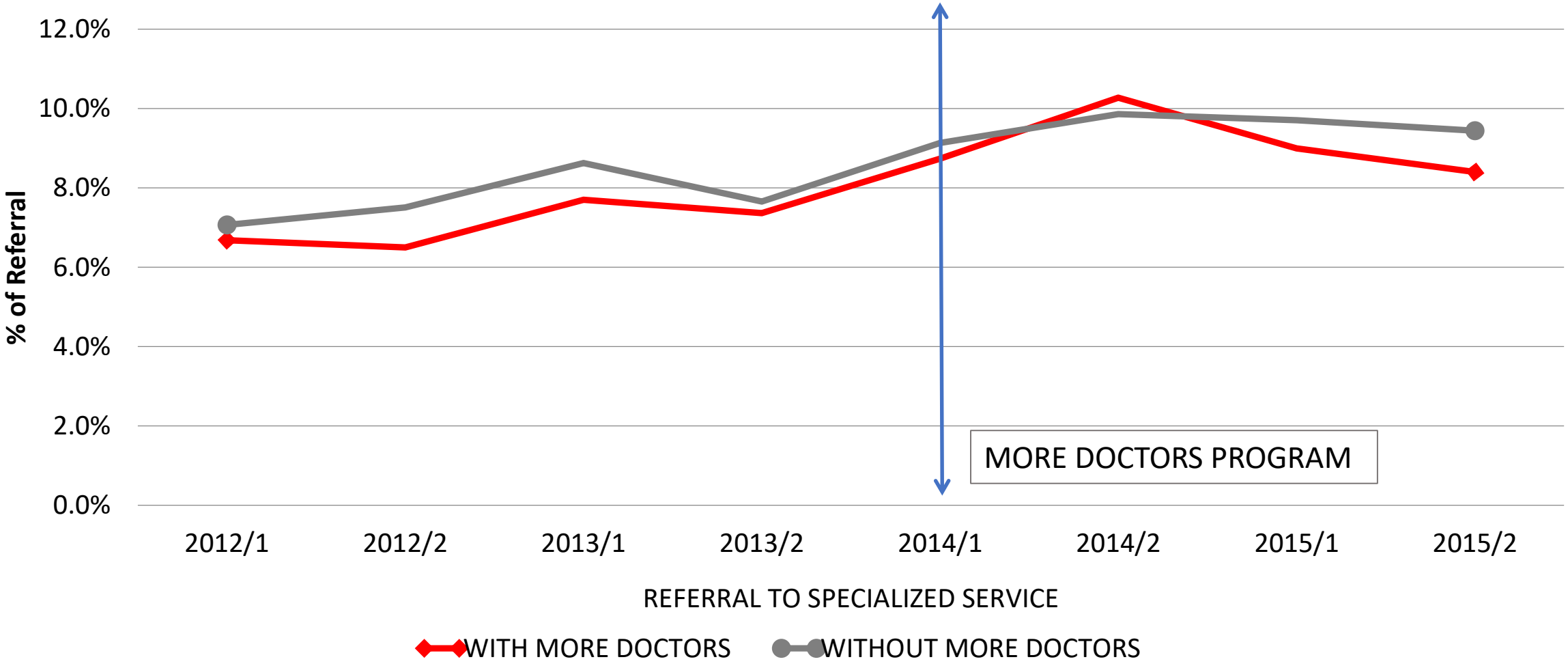

Medical consultation for hypertension (average by individual). Brazil, 2012-2015.
Mean
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2012/1
2012/2
2013/1
2013/2
2014/1
2014/2
2015/1
2015/2
MAIS MÉDICOS - MORE DOCTORS PROGRAM
WITHOUT MAIS MÉDICOS - MORE DOCTORS
MAIS MÉDICOS - MORE DOCTORS

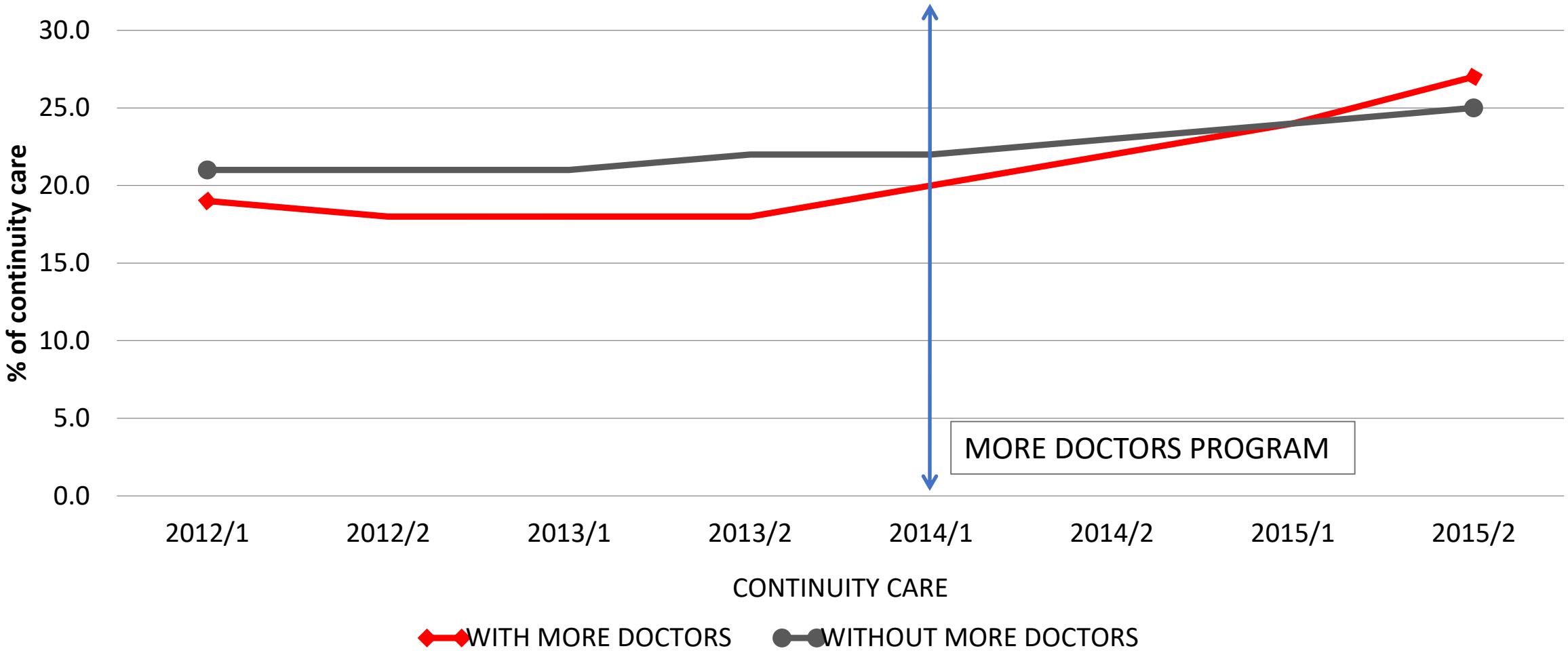
Request for laboratory diagnostic test (average by consultation). Brazil, SIAB, 2012-2015



Proportion of medical referral to specialized service. Brazil, SIAB, 2012-2015



Proportion of medical continuity care (among to the total medical consultation). Brazil, SIAB, 2012-2015



Average medical consultation for hypertension per person registered in PHC, according to the municipality profile. SIAB, Brazil, 2011-2015.

Municipality profile	Participated in More Doctors Program (since 2013/2014)	2011	2012	2013	2014	2015	2015/2011 (%)
≥20% Extreme Poverty	No	3.3	4.7	3.7	3.4	3.6	9.1
	Yes	3.1	3.6	3.5	3.6	4.2	**35.5**
Capital	No	2.6	2.9	2.7	2.7	2.7	3.8
	Yes	1.8	2	5.6	2.2	2.3	**27.8**
G100 - poorer	No	2.5	3.1	3.1	2.9	2.9	16.0
	Yes	2.4	2.9	2.7	2.8	3.2	**33.3**
Metropolitan region	No	2.8	3.2	3.1	2.8	2.8	0.0
	Yes	2.3	2.6	2.7	2.9	2.9	**26.1**

Average medical consultation for diabetes per person registered in PHC, according to the municipality profile. SIAB, Brazil, 2011-2015.

Municipality profile	Participated in More Doctors Program (since 2013/2014)	2011	2012	2013	2014	2015	2015/2011 (%)
≥20% Extreme Poverty	No	4.4	5.0	5.0	4.5	4.8	9.1
	Yes	4.0	4.7	4.8	4.7	5.3	**32.5**
Capital	No	3.9	4	3.9	3.8	3.7	-5.1
	Yes	2.8	2.8	3.2	2.9	3.0	**7.1**
G100 - poorer	No	3.7	4.4	4.5	4.2	4.1	10.8
	Yes	3.9	4.4	3.9	4.1	4.3	**10.3**
Metropolitan region	No	3.9	4.4	4.2	3.8	3.6	-7.7
	Yes	3.1	3.7	3.8	4.0	3.8	**22.6**

Difference-in-difference analysis of average medical consultations for diabetes stratified by geopolitical region, municipality profile and population size. SIAB, Brazil 2012-2015

Categories	Strata	AVERAGE CONSULTATION FOR DIABETES 2012/2 without more doctors	2012/2 with more doctors	2015/2 without more doctors	2015/2 with more doctors	Difference-in-Difference (2015-2/2012-2)	p-Value
Geographic region	**Central Western**	3,505	3,222	3,732	4,005	0,555	0,009
	Northeast	3,233	3,007	3,171	3,176	0,232	0,001
	North	3,979	3,500	3,922	4,024	0,582	0,008
	Southeast	3,254	3,526	3,540	3,913	0,100	0,319
	South	3,191	3,235	3,460	3,565	0,061	0,68
Municipality profile	**≥20% Extreme Poverty**	3,019	2,876	2,991	3,098	0,250	0,002
	Capital	4,439	4,435	4,755	5,289	0,538	0,003
	Other municipalities	2,966	3,027	2,965	3,286	0,260	0,001
	G100 - poorer	3,718	3,786	3,568	3,833	0,197	0,300
	Metropolitan region	3,339	3,406	3,415	3,689	0,207	0,182
Municipality population size	**bigger**	3,946	3,992	4,257	4,598	0,295	0,006
	middle	2,777	2,884	2,856	3,259	0,296	0,014
	smaller	2,970	2,888	2,950	3,069	0,201	0,001

(Positive results (greater than zero) indicate difference in favor of MDP; results in **bold** mean statistically significant association ($p < 0.05$))

Discussion

More Doctors Program

is building the PHC workforce of the Brazilian future

- MDP is a complex intervention
  - with multiple entries of doctors with different profiles, changing over time the total number of professionals and their characteristics
- Despite the short implementation time
  - it seems to promote remarkable systemic effect on SUS – increasing equitable access and quality at PHC

Findings summary

FHS reaches a high standard of utilization, related to prenatal care, medical consultations of children, the general population and people with diabetes and hypertension.

MDP services standards are at least similar, and in some cases better, than that of services without MDP

The effect of MDP is even more effective in poorer municipalities, remote areas and more vulnerable populations

This pattern was reinforced and even improved by the More Doctors Program, composed especially by Cuban doctors, despite barriers related to language, culture, health system, and epidemiological issues.

Discussion

Strengths

More Doctors Program → improves SUS performance in a broad perspective

The analysis used an update information (2012-2015) from national source (related to at least 20,000 FHS teams) – comparing intervention x counterfactual

Trend and DD analysis stratified by region, and municipality profile & size - appropriate to assess the effect of MDP on FHS performance

Weakness

variability of data source (SIAB), particularly related to completeness, regular submission, and consistency, differing according to municipality profile & size and country region

Discussion

Results

Coherence with the hypothesis:

FHS performance improved as a function of MDP, despite contextual differences

Relevance of MDP:

accountable and effective strategy to promote equity, despite the problems regarding structure and work process within the PHC centers

Equity and inclusiveness

Relevance of MDP:

MDP effect was stronger in poorer and remote areas

FHS universal coverage:

to achieve 85% coverage – we need at least more 10,000 doctors (and nurses and dentists)

More Doctors Program Effectiveness

Medical supply or provision – more than 18,000 doctors

- Promoting a productive work and fair income, with better prospects for professional development and equality of opportunity and income for women and men
- Nowadays – MDP reaches at least 63,000,000 people In Brazil

Satisfaction of PHC users after MDP - UFMG / IPESPE

- Increase in number of consultations & services = 58%
- Daily medical care = 33%
- Doctors are more attentive and educated with patients = 37%
- Not improved at all = 6%

Medical education - UNASUS – SUS Open University at Federal University of Pelotas

Specialization in Family Health – distance education course

- aligning education and utilization of skills to optimize workforce performance
- scaling-up high quality education and life-long learning in urban and rural areas
- a learner-centered teaching using student choice to select PHC intervention to improve access and quality

https://dms.ufpel.edu.br/aquares/
https://dms.ufpel.edu.br/site/
https://dms.ufpel.edu.br/p2k

Thank you

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