




Geographical inequalities in the implementation of the More Doctors Program in a Brazilian state

Desigualdades geográficas na implantação do Programa Mais Médicos em um estado brasileiro

Desigualdades geográficas en la implementación del Programa Más Médicos (Programa Mais Médicos) en un estado brasileño

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Abstract

Introduction: The More Doctors Program (*Programa Mais Médicos* — PMM) arises from the need to enforce the universal right of access to the Brazilian public health system (*Sistema Único de Saúde* — SUS) and to make health care more equitable in Brazil. **Objective:** The study analyzed the first cycle (2013–2016) of PMM implementation in 78 municipalities of the state of Espírito Santo. **Methods:** This is a quantitative study based on secondary data collected from the State Health Secretariat, the National Record of Health Facilities, the Brazilian Institute of Geography and Statistics, and the Jones dos Santos Neves Institute. Municipalities of Espírito Santo were grouped by population size, with the unit of analysis corresponding to the aggregate population and geographic space of each municipality. Data were analyzed using descriptive and inferential statistics. **Results:** The results of this study showed that the PMM implementation in Espírito Santo contributed to strengthening primary care, increasing the number of physicians and establishing them in both smaller and larger cities. However, they also indicated that vertical geographical inequalities persisted during PMM implementation in municipalities of different population sizes. **Conclusions:** We emphasize the need for primary care management in the pursuit of an effective and equitable public health system, regardless of population size.

Keywords: Primary health care; Unified Health System; Health services accessibility.

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Resumo

Introdução: O Programa Mais Médicos (PMM) surge da necessidade de efetivar o direito universal de acesso ao Sistema Único de Saúde (SUS) e de tornar mais equitativa a assistência médica no Brasil. **Objetivo:** O estudo analisou o cenário de implantação do Programa Mais Médicos (PMM) nos 78 municípios do estado do Espírito Santo (ES) no primeiro ciclo do programa, de 2013 a 2016. **Métodos:** Trata-se de um estudo quantitativo, realizado com base em dados secundários coletados da Secretaria de Estado da Saúde; do Cadastro Nacional de Estabelecimentos de Saúde; do Instituto Brasileiro de Geografia e Estatística; e do Instituto Jones dos Santos Neves. Os municípios do Espírito Santo foram agrupados por portes populacionais, sendo a unidade de análise correspondente ao agregado populacional e ao espaço geográfico de cada município. Os dados foram analisados por meio de estatística descritiva e inferencial. **Resultados:** Os resultados deste estudo demonstraram que a implantação do PMM no Espírito Santo contribuiu para o fortalecimento da atenção primária, proporcionando o aumento e a fixação dos profissionais médicos em municípios tanto de pequeno quanto de maior porte populacional. No entanto, também se evidenciou que desigualdades geográficas verticais permaneceram durante a implantação do PMM entre municípios de porte populacional diferente. **Conclusões:** Ressalta-se a necessidade da gestão dos serviços da atenção primária na busca por um Sistema Único de Saúde resolutivo e equânime, independentemente do porte populacional.

Palavras-chave: Atenção primária à saúde. Sistema único de saúde. Acesso aos serviços de saúde.

Resumen

Introducción: El Programa Más Médicos (PMM) surge de la necesidad de hacer efectivo el derecho universal de acceso al Sistema Único de Salud (SUS) y de tornar más equitativa la atención médica en Brasil. **Objetivo:** El estudio analizó el escenario de implantación del Programa Más Médicos (PMM) en los 78 municipios del estado de Espírito Santo (ES) en la primera etapa del programa, de 2013 a 2016. **Métodos:** Se trata de un estudio cuantitativo, basado en datos secundarios recogidos de la Secretaría de Salud del Estado; del Registro Nacional de Establecimientos de Salud; del Instituto Brasileño de Geografía y Estadística; y del Instituto Jones dos Santos Neves. Los municipios de Espírito Santo fueron agrupados por tamaño de la población, siendo la unidad de análisis correspondiente el agregado de la población y el espacio geográfico de cada municipio. Los datos fueron analizados por medio de estadística descriptiva y deductiva. **Resultados:** Los resultados de este estudio mostraron que la implantación del PMM en Espírito Santo contribuyó con el fortalecimiento de la atención primaria, proporcionando un aumento y el establecimiento de los profesionales médicos, en municipios tanto de pequeño como de mayor porte poblacional. Sin embargo, también se evidenció que permanecieron desigualdades geográficas verticales durante la implantación del PMM entre municipios de porte poblacional diferente. **Conclusiones:** Se destaca la necesidad de administrar los servicios de atención primaria en la búsqueda por un Sistema Único de Salud resolutivo y equânime, independiente del tamaño de la población.

Palabras-clave: Atención primaria de salud. Sistema único de salud. Acceso a los servicios de salud.

INTRODUCTION

The More Doctors Program (*Programa Mais Médicos* — PMM) was created to ensure universal access to the Brazilian public health system (*Sistema Único de Saúde* — SUS) and to make health care more equitable in the country — essential goals for social determination and the constitutional right to health.¹ However, we cannot deny that pre-existing social indicators affect public policies, in addition to being guiding agents for the inequalities of a country.² Poverty, precarious housing, and unhealthy working conditions negatively interfere in the determination of individual and collective health.³ Thus, social inequalities define the health-disease process,⁴ resulting in health inequalities. Also, the geopolitical context directly influences this process, producing inequalities among regions, states, and municipalities.⁵

Since the 1980s, Brazilian political-administrative decentralization has been associated with the struggle for redemocratization. In this period, state and municipal elections took place before a direct presidential election, escalating political emancipation. At the time, subnational governments assumed greater responsibilities, with concessions and free transfers of national fiscal resources defined without criteria,⁶ contributing to regional inequalities⁷ that impacted social inequalities and the use of health services.⁸

In order to resolve health inequalities,⁹ advances were made through SUS, Primary Health Care (PHC), and the Family Health Strategy (*Estratégia Saúde da Família* — ESF). However, public health in Brazil still faces some challenges,¹⁰ including the centralization of health care,¹¹ the inequitable and inadequate concentration of these professionals in large urban areas,¹²⁻¹⁴ as well as the significant regional inequalities that translate into differences in health care among Brazilian municipalities.¹⁵

These inequalities arose from the historical process of building public health and social security over the 20th century,¹⁶ culminating in a situation of extreme inequality among federated states regarding access to health services and the equity of such services. In the 1990s, ESF emerged as a horizontal strategy to reorganize PHC in SUS, which, despite numerous advances, failed to promote a more expressive vertical equity.¹⁷ Therefore, some advances are still pressing for SUS, such as: increasing the physician/population ratio; investments in the training of family and community physicians; inland expansion and establishment of physicians, especially in areas of greater vulnerability.¹²

In this regard, PMM was a strategy aimed at tackling health inequalities and sought to increase access to and equity in these services.¹² Nevertheless, the effects of this program cannot be analyzed only in the macro-political context since, in each state and municipality, PMM assumed unique implementation characteristics, which answer the questioning as to its effectiveness.¹⁸

One of the Brazilian states that received PMM professionals was Espírito Santo. This state is located in Southeastern Brazil and has an area of 46,074,444 km², 78 municipalities, and an estimated population of 4,018,650 inhabitants in 2019.¹⁹ It is marked by a peculiarity: its capital, Vitória, has the lowest percentage of extreme poverty in the state (1.54%)²⁰ and the highest rate of physicians per inhabitants among all Brazilian state capitals — a ratio of 12.27 physicians per thousand inhabitants —, while in inland cities of Espírito Santo, this ratio does not exceed 1.5 physicians per thousand inhabitants.¹³ Along these lines, Espírito Santo also presents inequalities among municipalities, registering populations with a high percentage of poverty, such as that of Brejetuba.²⁰ Thus, this study aimed to analyze the characteristics of the first cycle (2013–2016) of PMM implementation in 78 municipalities of Espírito Santo.

METHODS

This is a quantitative study based on secondary data on the PMM implementation in Espírito Santo, collected from the State Health Secretariat (*Secretaria de Estado da Saúde* — SESA); the National Record of Health Facilities (*Cadastro Nacional de Estabelecimentos de Saúde* — CNES), under the Technology Department of SUS (DATASUS); the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística* — IBGE) for the estimated resident population; and the Jones dos Santos Neves Institute (*Instituto Jones dos Santos Neves* — IJSN) to obtain the population living in extreme poverty in municipalities of Espírito Santo. Data correspond to the period from 2013 to 2016 — the first cycle of PMM implementation.

The unit of analysis of this study includes the aggregate population and geographical area of the municipality. Each municipality represents an elementary unit of analysis. A database was constructed considering each of the 78 municipalities, with their respective variables.

1. Population size: the grouping of municipalities according to their number of inhabitants — municipalities with up to 10,000 inhabitants; 10,001 to 20,000 inhabitants; 20,001 to 50,000 inhabitants; 50,001 to 200,000 inhabitants; 200,001 inhabitants or more.

2. Municipal Human Development Index (HDI): index of each municipality in 2016. This measure comprises three indicators: the opportunity to live a long and healthy life, have access to knowledge, and have living standards that ensure basic needs, such as health, education, and income. It ranges from 0 to 1, and the closer to 1, the greater the human development.²¹
3. Population living in extreme poverty: percentage of the city's population living in extreme poverty in 2016, considering extreme poverty the income of US\$ 1.90 *per capita* per day, established by the World Bank when analyzing extremely poor countries.²²
4. Population using private health insurance: ratio, expressed as percentage, between the number of private health insurance users and the resident population²³ in 2016.
5. Population covered by ESF: population coverage estimated by ESF teams in 2016, obtained by the percentage of the population covered by these teams in relation to the estimated population, considering the parameter of three thousand individuals covered per team²⁴.
6. Population covered by primary care: estimated population covered by primary care, defined by the percentage of the population covered by ESF teams and similar traditional primary care teams and parameterized according to the estimated population²⁴ in 2016.
7. Population covered by oral health: percentage of the municipal population covered by oral health in 2016, considering the sum of the workload of dental surgeons in the city divided by 40 hours and multiplied by three thousand inhabitants. The value obtained is then divided by the estimated population and multiplied by a factor of 100.²⁴
8. Total PMM physicians in 2013, 2014, 2015, and 2016: number of PMM physicians each municipality received in these years.
9. Total ESF physicians in 2012 and 2016: number of physicians working in the city's ESF in these years.
10. Adherence of municipalities to PMM in the period 2013–2016: percentage of adherence of municipalities to PMM per year, that is, the number of cities that joined the program divided by the total municipalities in the state.

Data were analyzed in Microsoft Office Excel, version 2010, and the Statistical Package for the Social Sciences (SPSS), version 21. The descriptive analysis calculated absolute and relative frequencies, in addition to means and standard deviations (SD). The inferential analysis adopted the Kruskal-Wallis test to compare means and analysis of variance (ANOVA) to verify differences in variances/standard deviations between population ranges.

This study was approved by the Research Ethics Committee (REC), under the Certificate of Presentation for Ethical Consideration (*Certificado de Apresentação para Apreciação Ética — CAAE*) no. 58948516.5.0000.5060, and authorized by the SESA of Espírito Santo.

RESULTS

Regarding population size, we identified nine municipalities with up to 10,000 inhabitants; 30 with 10,001 to 20,000 inhabitants; 27 with 20,001 to 50,000 inhabitants; seven with 50,001 to 200,000 inhabitants; five with 200,001 inhabitants or more.

All variables related to the cities' profile — HDI, population living in extreme poverty, population using private health insurance, population covered by ESF, population covered by primary care, and population

covered by oral health — showed statistically significant differences ($p < 0.001$) according to population size. This finding indicates municipal inequalities during the PMM implementation, as shown in Table 1.

The HDI analysis reveals a higher mean in municipalities with 200,001 inhabitants or more, differently from those with up to 10,000 inhabitants (mean=0.66±0.02 SD) and 50,001 to 200,000 inhabitants (mean=0.73±0.02 SD). However, ANOVA showed no significant differences.

Table 1. Sociodemographic profile of the municipalities that received physicians from the More Doctors Program. Espírito Santo, Brazil, 2013–2016.

Population size	Mean	Standard deviation (SD)	25 th percentile	Median	75 th percentile	p-value*	p-value†
Municipal human development index							
Up to 10,000	0.66	0.02	0.65	0.67	0.67		
10,001 to 20,000	0.69	0.03	0.66	0.69	0.71		
20,001 to 50,000	0.69	0.03	0.67	0.68	0.71	<0.001	0.163
50,001 to 200,000	0.73	0.02	0.71	0.73	0.75		
200,001 or more	0.77	0.05	0.74	0.75	0.8		
Population living in extreme poverty (%)							
Up to 10,000	9.05	3.69	7.79	9.42	9.76		
10,001 to 20,000	6.61	3.91	3.89	5.59	7.51		
20,001 to 50,000	6.14	1.79	4.95	5.96	7.01	<0.001	0.182
50,001 to 200,000	4.03	1.33	3.38	3.91	5.19		
200,001 or more	2.35	0.77	1.62	2.4	2.95		
Population using private health insurance (%)							
Up to 10,000	6.94	4.71	3.77	6.23	7.76		
10,001 to 20,000	12.14	7.17	7.78	11.58	13.98		
20,001 to 50,000	12.89	4.98	8.48	12.34	17.16	<0.001	0.073
50,001 to 200,000	28.1	7.15	23.66	26.65	36.95		
200,001 or more	44.41	14.85	33.65	39.67	50.17		
Population covered by the Family Health Strategy (%)							
Up to 10,000	97.68	6.97	100	100	100		
10,001 to 20,000	97.11	9.94	100	100	100		
20,001 to 50,000	88.27	16.72	76	100	100	<0.001	<0.001
50,001 to 200,000	73.88	18.99	60.79	66.79	100		
200,001 or more	45.41	32.68	20.3	33.47	79.74		
Population covered by Primary Health Care (%)							
Up to 10,000	100	0	100	100	100		
10,001 to 20,000	99.73	1.46	100	100	100		
20,001 to 50,000	95.52	8.04	93	100	100	<0.001	0.001
50,001 to 200,000	83.14	20.55	57	95	100		
200,001 or more	75.8	23.3	65	73	97		
Population covered by oral health (%)							
Up to 10,000	82.11	31.94	84.65	100	100		
10,001 to 20,000	90.33	25.71	96.38	100	100		
20,001 to 50,000	78.43	27.13	59.97	85.07	100	<0.001	<0.001
50,001 to 200,000	61.27	12.68	57.73	62.93	72.1		
200,001 or more	50.25	17.73	37.45	51.12	59.72		

*Kruskal-Wallis test; †analysis of variance (ANOVA) test.

Concerning the extreme poverty variable, municipalities with a lower population had a higher poverty rate — mean=6.61±3.91 SD in municipalities with 10,001 to 20,000 inhabitants and mean=2.35±0.77 SD in municipalities with 200,001 inhabitants or more, without significance in the variance test.

In line with the previous data, larger cities presented a higher rate of population using private health insurance, particularly those with 200,001 inhabitants or more, which reached a mean=44.41±14.85 SD. They also showed the highest means among the municipalities in this group. This information contrasted with that of municipalities with up to 10,000 inhabitants, whose mean was 6.94±4.71 SD, and with 20,001 to 50,000 inhabitants, mean=12.89±4.98 SD.

As for ESF coverage, results show that municipalities with smaller populations — up to 10,000 inhabitants — had wide coverage of the program (mean=97.68±6.97 SD), while those with 200,001 inhabitants or more had much lower coverage (mean=45.41±32.68 SD). In addition, the variability in these two population ranges reiterates the wide disparity in ESF coverage among municipalities in the same population group, a disparity that increases with the population range.

Next, municipalities with up to 10,000 inhabitants had full primary care coverage, representing a wide and homogeneous reach in this population range, while cities with 200,001 inhabitants or more showed a mean coverage of 75.80±32.68 SD.

With respect to population coverage by oral health, the best rates were identified in municipalities with a population of 10,001 to 20,000 inhabitants (mean=90.33±25.71 SD) and up to 10,000 inhabitants (mean=82.11±31.94 SD).

Table 2 shows significant values for the number of PMM physicians in the comparison of means between 2013 and 2016. These data reveal a progressive increase in the number of physicians from the implementation of the program (2013) until 2016, with the means rising in all population ranges.

Table 2. Evolution of the participation of physicians in municipalities. Espírito Santo, Brazil, 2013–2016.

Population size	Mean	Standard deviation	25 th percentile	Median	75 th percentile	p-value*	p-value†
Total physicians in the More Doctors Program–2013							
Up to 10,000	0.11	0.33	0	0	0		
10,001 to 20,000	0.1	0.4	0	0	0		
20,001 to 50,000	0.19	0.4	0	0	0	<0.001	<0.001
50,001 to 200,000	2.14	3.76	0	0	4		
200,001 or more	13.2	11.69	5	13	18		
Total physicians in the More Doctors Program–2014							
Up to 10,000	0.33	0.5	0	0	1		
10,001 to 20,000	1.1	1.37	0	1	2		
20,001 to 50,000	3.07	2.51	1	3	5	<0.001	<0.001
50,001 to 200,000	13.57	5.13	11	14	17		
200,001 or more	34.6	26.85	23	24	28		
Total physicians in the More Doctors Program–2015							
Up to 10,000	0.33	0.5	0	0	1		
10,001 to 20,000	1.27	1.34	0	1	2		
20,001 to 50,000	3.48	2.46	1	3	6	<0.001	<0.001
50,001 to 200,000	15.57	8.4	10	14	22		
200,001 or more	37	22.28	23	29	34		

Continue...

Table 2. Continuation.

Population size	Mean	Standard deviation	25 th percentile	Median	75 th percentile	p-value*	p-value†
Total physicians in the More Doctors Program–2016							
Up to 10,000	0.33	0.5	0	0	1		
10,001 to 20,000	1.23	1.22	0	1	2		
20,001 to 50,000	3.48	2.59	1	3	6	<0.001	<0.001
50,001 to 200,000	17.43	6.11	14	16	23		
200,001 or more	35.2	23.97	24	24	33		
Total physicians in the Family Health Strategy–2012							
Up to 10,000	1.11	0.93	0	1	2		
10,001 to 20,000	1.37	1.07	1	1	2		
20,001 to 50,000	3.22	2.21	1	3	4	<0.001	<0.001
50,001 to 200,000	7.43	6.24	1	5	12		
200,001 or more	22.8	19.12	11	18	26		
Total physicians in the Family Health Strategy–2016							
Up to 10,000	1.78	0.67	1	2	2		
10,001 to 20,000	3.1	1.37	2	3	4		
20,001 to 50,000	5.11	3	2	5	8	<0.001	<0.001
50,001 to 200,000	19.57	7.66	12	22	25		
200,001 or more	33.6	9.66	32	32	35		

*Kruskal-Wallis test; †analysis of variance (ANOVA) test.

Yet, the findings also evidenced that, even with the increased number of physicians, the difference in means among municipalities from the same population range was greater. In the first year of PMM implementation (2013), municipalities with up to 10,000 inhabitants had fewer PMM physicians (mean=0.11±0.33 SD), with an increase (mean=0.33±0.5 SD) in 2014 and no change until 2016. Cities with 200,001 inhabitants or more had a mean=13.20±11.69 SD in the first year, which almost tripled in 2014 (mean=34.60±26.85 SD), increased in 2015 (mean=37.00±22.28 SD), and decreased in 2016 (mean=35.20±23.97 SD).

Table 2 also shows the mean number of ESF physicians in 2012 (before PMM was implemented) and 2016 (after PMM implementation) according to population size. The mean number of physicians in the program increased across all population ranges from 2012 to 2016. Moreover, internal variability in municipalities with up to 10,000 inhabitants decreased in 2012 (mean=1.11±0.93 SD) and 2016 (mean=1.78±0.67 SD). However, the variability among municipalities with 200,001 inhabitants or more significantly decreased after the PMM implementation — from a mean=22.80±19.12 SD in 2012 to a mean=33.60±9.66 SD in 2016.

Chart 1 illustrates the adherence of municipalities to PMM per population size from 2013 to 2016. It shows greater adherence at first among municipalities with larger populations — approximately 85 and 80% (50,001 to 200,000 inhabitants and 200,001 inhabitants or more, respectively). This adherence reached 100% in 2014 and continued at this level in 2015 and 2016.

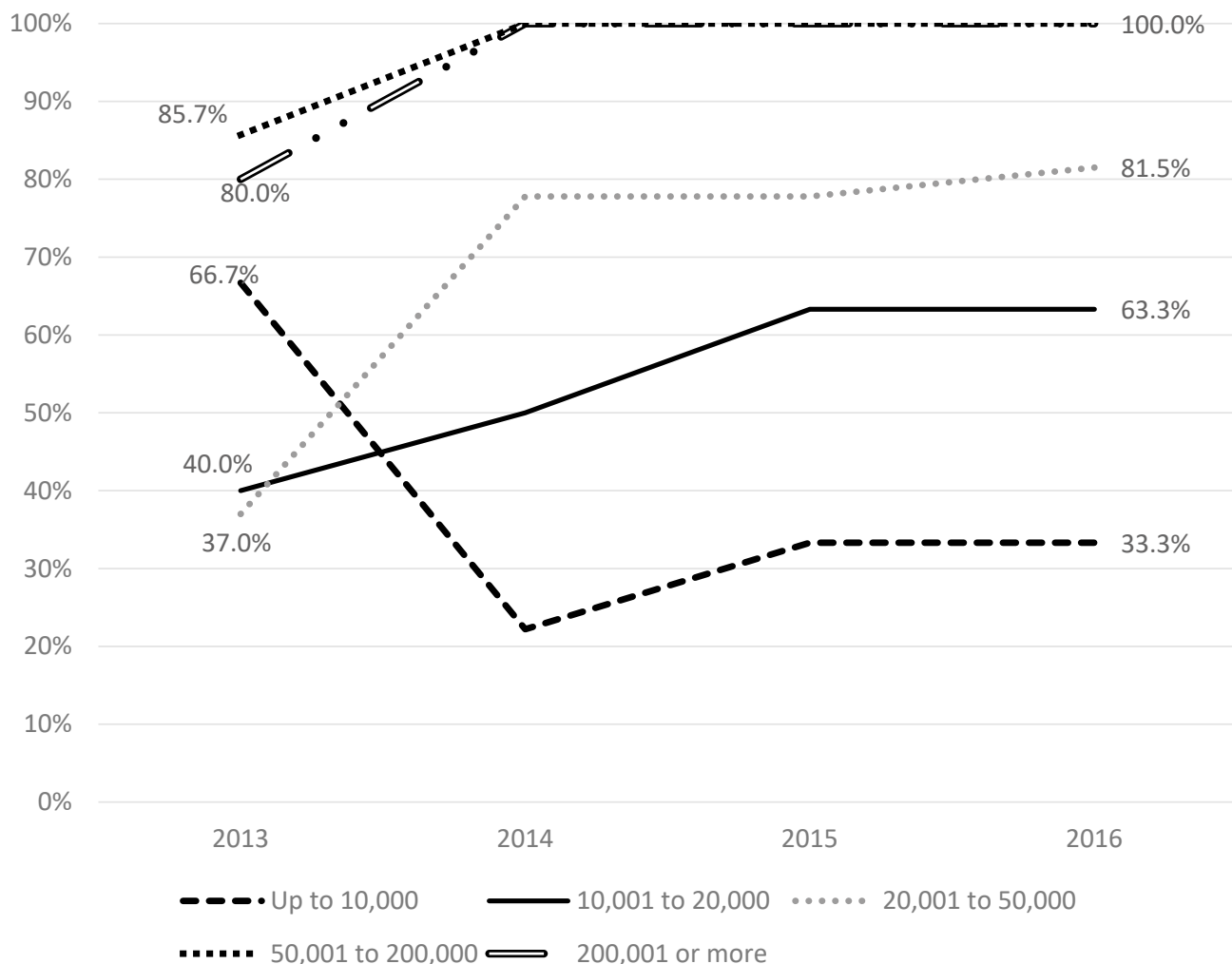


Chart 1. Adherence of municipalities to the More Doctors Program. Espírito Santo, Brazil, 2013–2016.

Municipalities with up to 10,000 inhabitants had high adherence in 2013 (approximately 70%), which plunged in 2014 and remained around 30% in 2015 and 2016. In contrast, 40% of cities with 10,001 to 20,000 inhabitants joined the program in 2013, a rate that rose to approximately 60% in 2014 and remained at this level until 2016. Municipalities with 20,001 to 50,000 inhabitants also started with approximately 40% adherence in 2013 but showed a significant increase in 2014 (reaching almost 80%), maintaining a high adherence by the end of the first cycle of the program.

DISCUSSION

The present study revealed existing inequalities related to HDI, the population living in extreme poverty, and the coverage of health services in a small Brazilian state during the PMM implementation, according to municipal population size. Thus, the analysis of the PMM implementation in Espírito Santo shows that inequalities exist even in states with small geographic areas and populations.

This notion encompasses the discussion of the federalist model adopted in Brazil and defines the structural characteristics of this inequality, which affect all areas,²⁵ including the health management in SUS, mainly through the decentralization of national fiscal resources and the strong political emancipation.⁶ In addition to challenging SUS, these deep inequalities compromise the performance of the health system.²⁶

With the 1988 Constitution, Brazil became a democratic federal republic, seeking decentralization and autonomy for the federated states. Yet, specific federal, state, and municipal competencies have remained undefined, making this relationship complex,²⁷ without strategic coordination.⁶ In this scenario, Brazilian funding for the health area has been marked by federal centralization, scarcity, and vulnerability to the economic system, as well as inequalities in resource allocation.²⁸ While municipalities have been strengthened with greater autonomy and closeness to the population,²⁷ the regional economic variation and the disparity between taxes and revenues meant that some cities could not assume such management responsibility alone.⁶

In health, if on the one hand, small municipalities have easier social participation,²⁹ on the other, when they do not have government health programs that allow an increase in funds,⁵ the financial restriction compromises management, the provision of resources for the selection and establishment of professionals, hindering from the development²⁹ to the improvement in access to primary care and ESF.³⁰

In this regard, inequalities can also manifest themselves in the same municipality, revealing the existence of two worlds — while the city's downtown has the best structures,³¹ with a concentration of physicians in these urban areas¹² and conditions that ensure the quality of life, its outskirts, composed of low-income families, have basic structural deficiencies³¹ and difficulties in establishing physicians in these vulnerable areas.¹²

Underlining this perception, power decentralization and the transfer of health-related responsibilities to municipalities, without standardization and equalization as to how this service would be provided,⁷ coupled with the country's extreme socioeconomic heterogeneity, have potentially contributed to inter- and intra-regional differences,⁶ in addition to determining inter-municipal inequality.⁷ These inequalities are evident when we analyze the PMM implementation in Espírito Santo, be it by the higher percentage of the population living in extreme poverty in cities with smaller populations or by the disparities in ESF coverage between municipalities of both the same and different population sizes.

As in other Brazilian states, Espírito Santo has discrepancies in economic growth that corroborate its unequal development.³² For instance, the city of Brejetuba stands out with the largest percentage of population living in extreme poverty in 2016: a municipality located in the state's inland, with an estimated population of 12,797 inhabitants,³³ HDI of 0.66 in 2016, and 100% ESF coverage. Conversely, Vitória has the lowest percentage of the population living in extreme poverty in the same period: estimated population of 359,555 inhabitants,³⁴ HDI of 0.85 in 2016, and 79.74% ESF coverage.

In this context, our analysis showed that cities with smaller populations presented a higher rate of poverty, especially those living in regions farther from the capital and with poor geographic access.³⁵ This finding confirms that often merely providing the service does not mean ensuring its potential access,¹⁷ corroborating the persistent challenge of establishing physicians in areas of the country that are more vulnerable and difficult to access.¹⁴

In the Brazilian scenario, records in family health units are higher in rural areas (70.9%) than urban ones (50.6%), which reiterates the need for health coverage to the most vulnerable populations.³⁶ However, in the present study, the adherence of smaller municipalities to PMM was only high at the beginning of

the program, becoming stable afterward, and remaining low in 2015 and 2016, while larger municipalities experienced steady growth in adherence, evidencing the difficulty of small municipalities in continuing in PMM. This difficulty might result from obstacles to the financial maintenance of municipal compensations. Among the municipalities' many responsibilities, one was funding the housing and food of the participating physicians, as well as providing commute and drinking water to these professionals³⁷ — as mentioned in the state of Maranhão, where the difficulties in the local management of some municipalities stand out, given the limitations they face to guarantee these compensations.³⁸

Illustrating the scenario found in the PMM implementation in Espírito Santo, municipalities that could maintain the benefits brought by PMM were able to strengthen the program, while smaller municipalities with financial restrictions suffered stronger effects of the centralized and hierarchical health policy.³⁹ As a result, we can clearly see how the geopolitical context can interfere in the poverty rate of a municipality⁴⁰ and how geographical and financial barriers can contribute to impairing service use.¹⁷ In contrast to the limitations faced by the program in smaller municipalities, this study showed that PMM reduced differences in the number of physicians in municipalities with larger population ranges, such as those with 200,001 inhabitants or more, expanding access to the health system. This scenario enabled the inclusion of millions of people in SUS, the regularity of physicians fulfilling a specific workload, and the commitment to the working relationship of these professionals,⁴¹ thus establishing physicians in areas of greater social vulnerability.¹¹

In this regard, the intervention of the Ministry of Health (MoH), mainly through financial incentives,⁴² proved to influence the adherence of municipalities to PMM⁴³ and allowed expanding the presence of physicians in the program, increasing and filling incomplete teams,⁴¹ and providing the SUS-assisted population with access to health services.³⁹ Our study corroborates this situation, given the wide PHC coverage and the increased number of physicians participating in PMM.

However, despite the advances made by PMM, important differences remain in the ESF population coverage,⁴¹ demonstrated in the present study by the low ESF coverage in municipalities with 200,001 inhabitants or more in Espírito Santo. Thus, variations in organizational processes lead to different local implementations, directly interfering in the coverage, access, and results achieved, in such a way that the fragmentation and decentralization of SUS services continue to challenge the actions aimed at integrating health care services.⁴⁴ This situation could be observed due to the discrepancy identified in the group with the same population size, evidencing the differences found in PHC services.²⁹

Consequently, PHC coverage does not mean ensuring assistance and care because some dimensions — such as work process, flow, accessibility,⁴⁵ and organization of the basic health unit for providing integral and equitable services — should be present besides structure,²⁹ confirming that the offer or obstruction of these services is directly related to organizational, informational, and cultural barriers.¹⁷

Therefore, the present study reiterates that the challenge of achieving equity through ESF, together with the fragmentation of the financing system, the reduced participation of federal resources in funding public health, and the increased role played by municipalities in the health policy,⁴⁶ has proven how difficult it is for municipalities to self-manage. Also, this scenario considers the formulation and linear implementation of policies, which does not take into account the heterogeneity and specific difficulties of each place,³⁹ as we could see with the variability found in the PMM implementation in Espírito Santo.

Given the heterogeneity that exists in the unequal access to SUS, based on the lower possibility of access to health services according to population size, an equitable approach is necessary.⁴⁷ Accordingly, to

successfully reduce health inequalities, we need fair public policies,⁴⁸ providing for the cooperation and interaction of the diversity found in the many existing social groups.⁴⁹ The objective is to decrease access inequalities, ensuring that people with lower purchasing power, who often have a greater need for health services, are able to access them.¹⁰

Of note, from 2013 to 2016, the mean number of physicians participating in PMM in Espírito Santo increased according to population size and was much higher in larger municipalities, in contrast to some established criteria for the allocation of PMM physicians. These criteria established that areas with poor access, a low supply of physicians, or more vulnerable populations should be prioritized.⁵⁰ However, we should also assume that larger municipalities have populations living in slums and precarious, vulnerable conditions, as well as a greater capacity to accommodate more professionals. Thus, even regions close to the urban environment and with a high population density had difficulties in establishing physicians in the city's outskirts, as these areas are characterized by a higher violence rate, as shows the reality experienced by the state of Rio de Janeiro.⁵¹

As of 2018, a new political scenario in the country led to a reformulation of the provision of physicians, culminating with the replacement of PMM with the "Doctors for Brazil" (*Médicos pelo Brasil*) Program in December 2019. Its objective was to provide a more attractive and stable work relationship, including employment contracts, in addition to addressing some conflicting interests that PMM had created.⁵²

Concerning the limitations of this study, we underline that, as it works with secondary data, which allows for greater population coverage and low cost, it also presents weaknesses, given the lack of control over the data collected and the transparency of these data regarding ESF coverage to ensure the presence or absence of the physician, being restricted to the implementation scenario in Espírito Santo. Nonetheless, the work shows potential by serving as an example for PMM analysis in other Brazilian states, presenting local and regional peculiarities that can contribute to Brazil's public health policy.

CONCLUSIONS

The results of this study revealed that the PMM implementation in Espírito Santo helped strengthen PHC, increasing the provision of physicians in municipalities with both small and large populations and allowing their access to these professionals. Thus, despite the persistence of some inequalities based on population size, the program fulfilled its mission to promote the establishment of physicians.

In this regard, PMM in Espírito Santo had a greater capacity to reduce health inequalities but could not decrease vertical inequalities, which are directly related to funding. We emphasize the need to organize the management of PHC in SUS so it can consider the location and regional and socioeconomic characteristics of municipalities, given the financial insolvency and inability to invest of some. This scenario suggests the necessity for a new financing model, in addition to greater federal participation in the effort to reduce inequalities in health access and service integration, as well as in the consolidation of federal states in sharing the pursuit of an effective and equitable SUS, regardless of population size.

CONFLICT OF INTERESTS

Nothing to declare.

AUTHORS' CONTRIBUTIONS

Moraes, P.L.: Data curation, Writing – original draft, Investigation, Resources, Software, Visualization. Emerich, T.B.: Data curation, Writing – original draft, Methodology, Validation. Oliveira, A.E.: Project administration, Conceptualization, Supervision. Santos Neto, E.T.: Formal analysis, Writing – review & editing, Software, Supervision.

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