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Education in the *Mais Médicos* program: the gap between proposals and implementation

A dimensão da formação no Programa Mais Médicos: hiato entre propostas e implementação

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ABSTRACT

Introduction: The scarcity and inequalities in the geographical distribution of physicians challenge the consolidation of the right to health and create migratory flows that increase health inequities. Due to their complex and multidimensional characteristics, they demand multisectoral political approaches, considering several factors related to the availability and area of practice of medical doctors, as well as the social vulnerability of local populations.

Objective: This study aimed at analysing results of the "Mais Médicos" (More Doctors) Program Educational Axis in Brazil.

Methodology: A documental research was conducted, highlighting the location and the public or private nature of new undergraduate medical school vacancies between the years 2013 until 2017, which were then compared to the goals and strategies outlined in the official Program documents.

Results: The Educational Axis reached important milestones despite the resistance of some institutional actors. The Program extended its undergraduate vacancies by 7696 places, 22.48% of that in public institutions and 77.52% in private ones. Vacancy distribution prioritized cities in rural areas of Brazil, at the same instance bringing forward significant regulatory changes for undergraduate medical courses. However, political disputes with representatives of medical societies and stakeholders interested in favouring the private educational and healthcare sectors surface in the official discourses and documents. These factors weakened the program normative body, creating a hiatus between its core objectives and respective implementation. Evidence related to the concentration of vacancies in the Southeast regions allow the maintenance of a known unequal workforce distribution, despite a proportionally bigger increase in the Midwest, North and Northeast regions.

Conclusion: The predominance of vacancies in private institutions and the weakening of the new undergraduate courses monitoring instruments can compromise changes in the graduate students' profiles, which are necessary for the fixation of physicians in strategic geographic areas to promote Primary Healthcare.

Keywords: More Doctors Program; Medical Education; Public Health Policies.

RESUMO

Introdução: *A carência e as desigualdades na distribuição geográfica de médicos desafiam a consolidação do direito à saúde e criam fluxos migratórios que acirram iniquidades em saúde. Devido ao seu caráter complexo e multidimensional, demandam abordagens políticas multissetoriais, considerando vários fatores relativos à disponibilidade e à área de atuação de médicos, bem como à vulnerabilidade social das populações consideradas.*

Objetivo: *Este estudo teve como objetivo analisar os resultados do eixo Formação do Programa Mais Médicos no Brasil.*

Métodos: *Realizou-se uma pesquisa documental, especificamente relativa à localização e à natureza pública ou privada das novas vagas de graduação em Medicina, no período de 2013 a 2017, em que se confrontaram os resultados obtidos com as metas e estratégias pactuadas nos documentos oficiais do programa.*

Resultados: *O eixo Formação alcançou resultados importantes, apesar da resistência de alguns atores institucionais. O programa expandiu em 7.696 vagas de graduação, sendo 22,48% em instituições públicas e 77,52% em instituições privadas. A distribuição das novas vagas priorizou cidades do interior do Brasil e aprovou mudanças regulatórias importantes para os cursos de Medicina. No entanto, as disputas políticas com atores sociais representativos da classe médica e aqueles interessados no favorecimento do setor privado na educação e assistência à saúde ficaram expressas nos discursos e documentos oficiais. Tais aspectos fragilizaram o corpo normativo do programa e criaram um hiato entre os seus objetivos e a implementação. Evidências referentes à concentração de vagas no Sudeste do país favorecem a manutenção das desigualdades, a despeito de um crescimento proporcionalmente maior nas Regiões Centro-Oeste, Nordeste e Norte.*

Conclusão: *A prevalência de vagas em instituições privadas e a fragilização de instrumentos de monitoramento dos novos cursos podem comprometer a mudança no perfil dos egressos, necessária para a fixação de médicos em áreas estratégicas e na atenção primária à saúde.*

Palavras-chave: *Programa Mais Médicos; Educação Médica; Políticas Públicas de Saúde.*

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INTRODUCTION

The scarcity and inequalities in the geographical distribution of physicians challenge the consolidation of the right to health and create migratory flows that increase health inequities. Due to their complex and multidimensional characteristics, they demand multisectoral political approaches[1-4], considering several factors related to the availability and area of practice of doctors, as well as the social vulnerability of the considered populations[5].

Among the recommendations of the World Health Organization (WHO) to deal with the problem, educational policies stand out as the strategies with the most impact in the medium and long-term for health systems[4-6]. These measures involve the opening of courses or the increase in the number of undergraduate medical school vacancies in regions with a shortage of doctors, the selection of students from these areas and changes in the curricula introducing topics and internships that value local needs and Primary Health Care (PHC). These strategies are based on the results of studies that indicated the doctors' connection with a certain region as an important factor for their fixation[7,8], characterized by the spontaneity and length of time living in these regions.

Examples of the effectiveness of student selection based on their connections to priority regions are found in Canada. The Northern Ontario School of Medicine (NOSM), through a comprehensive selection process, was able to increase the presence of medical students in the region, as well as excluded minorities (indigenous and francophone populations). This selection of students, associated with a curricular structure prioritizing PHC and a partnership with the administrations of small municipalities, promoted rates of up to 92% of fixation and permanence in the region where students who graduated from this university originated[9-11]. Therefore, the location of new courses in underserved regions and their public or private characteristics may favor this selection, being considered important predictors of fixation[12].

In Brazil, discussions about the need for reformulation in medical education became more evident since the 1990s, with emphasis on the work of the National Interinstitutional Commission for Medical Education Evaluation (CINAEM, *Comissão Interinstitucional Nacional de Avaliação do Ensino Médico*), highlighting the importance of adapting the profile of medical school graduates to the needs of the population and the guidelines of the Unified Health System (SUS, *Sistema Único de Saúde*)[13]. Many public policies were incorporated by the Ministry of Health (MS) and the Ministry of Education (MEC) aiming at changes in the training and fixation of doctors in underserved areas to improve access of excluded population groups to health care services[14,15]. In this context, a process aiming at expanding the vacancies of medical courses was initiated, already guided by these international references, as explained in a document created by the group that developed the necessary curricular guidelines to carry out changes in medical education in the country[16]. In 2013, the government approved the "More Doctors Program" (PMM, *Programa Mais Médicos*)[17], a comprehensive policy that promoted a major change in the government's role regarding the regulation of medical education and that reaffirmed the constitutional principle of the Unified Health System (SUS) as responsible for the organization of training human resources needed by the health sector[18].

The PMM encompasses three strategic axes: the emergency provision of doctors in priority areas, the strengthening of the PHC infrastructure and changes in medical training and residency programs[19]. Of the three axes of the Program, the Training axis is recognized as the most structure-related and the one that provides sustainability to the entire program, due to its potential to have a positive impact on the fixation of doctors in underserved regions, a condition required for PHC strengthening and the reduction of health inequities in Brazil[18,20,21]. The international literature on Human Resources for Health points out the process of training health professionals as an essential factor for strengthening and establishing any health system[22,23].

The PMM training axis includes quantitative and qualitative modifications. The opening of new undergraduate and medical residency vacancies was contemplated, especially in priority areas, according to the criteria of greatest need and shortage of professionals. The goal was to create 11,500 new undergraduate medical school vacancies in the five-year period following the approval of the Program in October 2013. The reorientation of the training of doctors and specialists, according to the needs of the Unified Health System (SUS), was favored by the updating of the National Curriculum Guidelines (NCG) for medical courses[24].

Aiming to favor the access to medical courses for students from priority areas, as defined by the PMM, some federal universities implemented a bonus, which varies between 5 to 20% of the National High School Exam (ENEM) score in different institutions. This initiative, called Argument for Regional Inclusion (AIR, *Argumento de Inclusão Regional*), is applicable to candidates who attended the entirety of the high school years in regular and on-site schools in the priority municipalities, close to the region where the medical courses were installed[25].

During the process of formulating and ratifying this policy, there was insufficient dialogue with important social actors, such as the Brazilian Medical Education Association (ABEM, *Associação Brasileira de Educação Médica*), the Federal

Medical Council (CFM, *Conselho Federal de Medicina*), the Brazilian Medical Association (AMB, *Associação Médica Brasileira*) and the National Federation of Doctors (FENAM, *Federação Nacional dos Médicos*), which were already opposed to the expansion of undergraduate vacancies and the curricular changes in medical education. The private health sectors are greatly represented in the Legislative Power, but they also failed to prevent the PMM approval. Therefore, these institutions did not support the Training axis strategies[26-29].

Understanding the complexity and relevance of the Training axis, the present study aims to analyze its preliminary results, particularly its effects related to the location and the public or private nature of the new medical undergraduate school vacancies created by the Program. The study intends to indicate the extent to which the Program has been carried out according to its proposals, while taking into account the dimension of changes in medical training, thus reflecting on these preliminary results and their implications considering the needs of the Brazilian population.

MATERIAL AND METHODS

This is a documental research that analyzed data and official documents of the PMM, related to the expansion of medical undergraduate school vacancies in 2013, when the Program started, until May 2017, available on the official website of the Program[30]. Data on the authorization process and evaluation of new courses and the increase in the number of vacancies were also analyzed, available on the official website of *Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira* (INEP)[31]. Data collection was carried out from January to May 2017.

The most relevant official documents about the Program were selected, such as Law 12,871 of June 2013[17], the National Curriculum Guidelines for medical courses[23] and a publication by the Work and Health Education Management Secretariat[19], which rescues the context that supported PMM implementation and presents its initial results, constituting the most comprehensive document about the Program. These documents were read in full, followed by more in-depth information related to the proposed changes and their main objectives.

Then, a search was conducted on the official websites of the PMM and INEP regarding the geographical location and the public or private nature of the new medical undergraduate school vacancies created by the PMM until May 2017. The data were then systematized, analyzed and compared with the objectives and strategies proposed by the PMM in its official documents.

The study is part of a doctoral research in Public Health. The entire project was submitted and approved by the Research Ethics Committee (REC). This stage of the research did not involve research with human beings.

RESULTS

The PMM approached the intended goal of expanding medical undergraduate school vacancies, which meant 11,500 new vacancies by the end of 2018 (five years of the Program)[17,19]. A total of 7,696 new vacancies were authorized until May 2017, and the rural areas (63% region of vacancies) of Brazil was prioritized in relation to its urban areas, for the first time in the history of medical education in the country. However, there was a clear predominance of authorizations for vacancies in private institutions (77.52%) and in the Southeast, (40.41%), as shown in Table 1. In the Southeast, of the 3,110 authorized vacancies, 89% were in private institutions.

The official documents of the Program showed ambiguities regarding the public or private characteristics of the new vacancies. Law 12.871[17], which instituted the PMM, mentioned only private vacancies, with no reference to the previous context of expansion of undergraduate medical school vacancies in federal public institutions, already underway in the country. This context was reclaimed only in a document published subsequently[19], which clarified the

Table 1. New undergraduate medical school vacancies, October 2013 to May 2017.

Region	Capital Cities		Rural Areas		Public HEIs		Private HEIs		Total of vacancies	
	N	%	N	%	N	%	N	%	N	%
North	379	100	0	0	82	21.6	297	78.4	379	4.8
Midwest	249	33.1	504	66.9	386	51.3	367	48.7	753	9.7
Southeast	840	27.1	2270	72.9	341	11	2769	89	3110	40.4
Northeast	985	43.8	1265	56.2	745	33.1	1505	66.9	2250	29.4
South	398	33.1	806	66.9	176	14.6	1028	85.4	1204	15.7
Total	2851	37.0	4845	63.0	1730	22.5	5966	77.5	7696	100

Source: created by the authors based on data from the Ministry of Health[30].

priority of vacancies in public institutions, with the opening of Public Notices for private institutions only after the expansion capacity of the former was exhausted, as described below:

> *Of the general goal of 11,500 new vacancies, the total expansion capacity of public schools is subtracted, and what is still available is attributed as the goal of private institutions expansion - now regulated by a new model*[19:56].

> *The difference between the total goal and what will not be met by public universities is precisely what is determined as the demand for the expansion of vacancies in private schools*[19:88].

Regarding the geographic location of the new vacancies, the two documents assert the priority of the Brazilian rural areas and regions with the greatest shortage of professionals. Law 12,871 states, in its general provisions, that the first objective is "to reduce the scarcity of doctors in the priority regions for SUS, aiming to reduce regional inequalities in the health area"[17]. Similarly, the priority areas are described in another document published by the Ministry of Health (MS):

> *The great difference regarding the new legislation is related to the effective subordination of vacancy expansion to social needs, both for public and private schools, pointing to the decentralisation of the courses and an equitable distribution among the regions of Brazil, seeking the recovery of the historical vacancy deficit in the North, Northeast and Midwest regions*[19:55].

There was a clear predominance of new vacancies in the Southeast region, even though official documents unanimously define the North, Northeast and Midwest regions as the priorities. The MH document[19] states that there was an effort to reduce these inequalities with a second Public Notice in 2015, covering only these regions, and that the results show a greater proportional increase in the North, Northeast and Midwest regions; however, while maintaining this proportionality, inequalities persist and the Program's goals become compromised.

The Program was able to make the process of opening new courses or increasing medical vacancies a government initiative, both in public and private Higher Education Institutions (HEIs), subject to the social needs of the priority areas. The selection of municipalities for the opening of new courses or increase in the number of vacancies started to consider the degree of the shortage of doctors, health needs and social vulnerability, in addition to the adequacy of the health service network to be a teaching-learning scenario for a medical course. Article 3 of Law 12,871, 1st clause confirms the criteria:

> *§ 1 In the pre-selection of the Municipalities referred to in clause I of the caput of this Article, the following must be considered, within the scope of the health region: I - the relevance and social need of the offer of a medical course; and II - the existence, in the SUS health care networks, of adequate and sufficient public equipment to offer the medical course, including, at least, the following services, actions and programs: a) primary care; b) urgency and emergency; c) psychosocial care; d) specialized outpatient and in-hospital care; and e) health surveillance*[17].

The MH document also emphasizes the same criteria:

> *It is worth mentioning that these municipalities – for them to be included in the Public Notice – have already had to be previously evaluated by the federal government, especially regarding the network of available health services, the population size, the health region where it is located, the offer of vacancies and doctors in the region and at the minimum distance from other medical schools. After this pre-selection they undergo a new evaluation, which will certify whether, in fact, the health network is able to receive the course according to the required parameters*[19:57].

For the authorization of vacancies, the proportion of students receiving grants and adherence to programs such as the Program University for All (PROUNI, *Programa Universidade para Todos*) and the Student Financing Fund (FIES, *Fundo de Financiamento Estudantil*)[19] should be considered.

The NCG for medical courses[24] and the regulatory policy for medical education based on the PMM defined that the course evaluations will be carried out by the INEP, a federal agency linked to the ME, through the National Higher Education Assessment System (SINAES, *Sistema Nacional de Avaliação de Educação Superior*). It is an evaluation tripod consisting of institutional evaluation, evaluation of undergraduate courses and evaluation of student performance[31].

However, we found delays in the updating of this INEP system page and the unavailability of the assessment instruments, developed through public consultation, carried out by SINAES during the research search period[31,32].

The official documents showed the approval for the monitoring of the undergraduate students' performance through the National Serial Evaluation of Medical Students (ANASEM, *Avaliação Nacional Seriada dos Estudantes de Medicina*), predicted to evaluate students attending the 2nd, 4th and 6th years of medical school through instruments and methods that consider knowledge, skills and attitudes predicted in the new NCG[33,34]. This evaluation format allows adjustments during the training process, an improvement over the National Examination for Student Performance Assessment (ENADE, *Exame Nacional da Avaliação do Desempenho do Estudante*). This process is addressed in the ministerial publication as follows:

> *Another important change is related to the evaluation of all students attending the 2nd, 4th and 6th years of all medical courses in the country, to assess both their momentary state of knowledge, skills and attitudes in relation to the new profile expected by the new curriculum guidelines, as to monitor the development and the acquisition of competences by this student*[19:55].

However, in 2017, the presidency of INEP announced the cancellation of ANASEM and the subsequent transfer of responsibility for its performance to ABEM[35], which de-characterized an important strategy for the PMM Training axis evaluation, as it excluded the longitudinal assessment of students, without proposing an alternative strategy for that.

DISCUSSION

The analysis of data and documents disclosed the potential of the new policy for the training of doctors, achieving unprecedented changes in the history of medical education in the country. However, divergent trends were evident between some of the accepted commitments and the preliminary results of that axis of the Program. These divergences were concentrated on the geographic distribution and on the public / private nature of authorized undergraduate school vacancies.

The PMM Training axis achieved important goals regarding the interiorization of medical courses, as previously pointed out by the literature[36], but the clear predominance of new vacancies in private HEIs and in the Southeast region, the signs of SINAES weakening and the failure to carry out the ANASEM demonstrate how far these goals are from the commitments displayed in official documents[17,19] and how they compromise the objectives of the policy as a whole.

The priority of expanding vacancies in areas without medical assistance and in public HEIs would favor the democratization of access to medical courses, which is necessary to change the profile of the undergraduate students[37,38]. What was observed in practice was the predominance of authorizations in private HEIs and in the Southeast region of the country, favoring the maintenance of the medical graduates' profile, who belong to high-income families and wish to remain close to their homes in large cities[38]. This fact, combined with the reductions in student financing policies for socially vulnerable population groups, also puts the objectives proposed by the Program at risk. The NCG approved in 2014 defined PHC as a privileged teaching-learning scenario. However, cuts in PHC funding[39] make it difficult to hire preceptors to teach undergraduate students, especially in small municipalities, which are a priority in the official PMM documents. This context has favored the perpetuation of well-known regional health inequities, which the Program aimed to resolve.

In this context, it is valid to resume the discussion on the legal provision that allows federal universities to adopt priority selection strategies for students with regional connections, thus favoring the future fixation of professionals in the underserved areas. Some institutions, based on the constitutional principle of university autonomy, have implemented the AIR. In 2016, approximately nine universities adopted the AIR, authorized in each of them by resolutions approved after all internal procedures. Examples in the Northeast region are the Federal Universities of Rio Grande do Norte (UFRN, Campus Caicó)[40], the Federal University of Pernambuco (UFPE)[41] and the Federal University of Western Bahia (UFOB, Barreiras)[42]. In 2016, the Federal Public Ministry office initiated a process preventing the adoption of the measure in new institutions, on the grounds of non-compliance with the isonomy rule. The other universities maintained the bonus in the selection processes.

The isolated increase in the number of doctors in Brazil in recent decades has not benefited the population, with disparities persisting between regions, municipalities, capitals and rural areas and different population groups[37]. The PMM is precisely different because it encompasses from continuing education strategies for professionals in the Provision axis, as well as changes in medical education proposed in the Training axis. There is evidence of important changes associated with the PMM, for instance, in the emergency Provision axis, from the improvement of health access and indicators of health, as well as in the Training axis, regarding the expansion and decentralisation of medical courses and medical residency programs[43]. With the recent changes in this policy conduct at the federal level, prospective monitoring is necessary to assess whether the preliminary results, indicated in this and other studies, will be long-lasting and capable of promoting the intended impact[19,44,45].

It is known that the interests of private groups that invest in medical education and have included themselves in the dispute since the initial creation of the PMM have been associated with difficulties in the implementation of previous public policies, aimed at changes in medical school[46]. Private national and international groups are already well established in higher education and, overall, have achieved an increasing dialogue with the public authorities, benefiting from the government's omission regarding the provision and regulation of teaching in medical courses[47].

The Legislative Power, which could support the regulation and block the broad inflow of international capital into higher education, especially in strategic areas, has an increasing number of federal, state representatives and senators whose campaigns were ostensibly financed by group medicine companies and also by medical cooperatives, a fact that certainly influences the perpetuation of the currently prevailing model[29].

Many of the private education groups obtain a considerable part of their income from programs that subsidize, with public resources, the offer of private vacancies in higher education. For instance, approximately 63.2% of Kroton Educacional students and 46.9% of Anhanguera Educacional students, in the face-to-face modality, have their studies subsidized by FIES and about 10% by Prouni[47].

The resistance o medical entities supported by the interests of private medical assistance and teaching institutions has been pointed out in other studies[27,28]. Political clashes regarding the PMM were expressed through gaps in official documents, a weakness that allowed the accepted normative commitments to be renegotiated, subjecting them to the interests of the private teaching sector and medical institutions. Within this political dispute, facing health care scarcity and inequities has lost their priority.

Considering the new political situation that started after the 2018 presidential elections, attritions occurred in the relations with the Cuban government that culminated in the end of the cooperation agreement and the PMM Provision axis[48]. With the approval of Ordinance N. 13,95849, changes were approved for the PHC budget that compromise the main teaching-learning scenario advocated in the NCG. According to a researcher from the Institute of Applied Economic Research (IPEA, *Instituto de Pesquisa Econômica Aplicada*) Mr. Carlos Ocké[50], the new PHC financing format, inspired by the counter-reform of the United Kingdom health system under the auspices of the World Bank, favors privatization. The Agency for the Development of Primary Health Care (ADAPS, *Agência de Desenvolvimento da Atenção Primária à Saúde*), created in November 2019, will be in charge of hiring doctors for PHC, being able to use the supplementary health agencies and Social Health Organizations (OSS, *Organizações Sociais da Saúde*). The transfer of funds to the municipalities will undergo further reductions and will be carried out based on the performance of the health teams, which can aggravate the inequalities, since the most vulnerable places will have greater difficulty in reaching the goals.

FINAL CONSIDERATIONS

The preliminary results of the PMM showed an expansion of vacancies close to the agreed target and, for the first time in the country, there was a greater number of vacancies in rural areas when compared to the urban centres. However, the study showed regarding other aspects, a departure from the commitments defined in the official documents. Consequently, privatization trends were identified, as well as the concentration of training in the Southeast region of the country and the deregulation of the quality of medical education.

The study limitation is the fact that it comprises the analysis of documents and secondary data, without the voice and perspective of the actors involved in it. However, the validity of the results is concrete due to the foundation and analysis of official documents and data. Further studies are needed to strengthen the analysis of new actors and interests that threaten the results of the PMM in the medium and long term.

The basic principle of the PMM for confronting health inequalities in the country is at risk due to the compromising of medical training. The maintenance of a biomedical and hospital-centered training model, combined with a weakened PHC indicates the worsening of underserved health care for the population, especially in more distant and vulnerable areas of the country, which have chronic difficulties regarding the fixation of medical professionals.

AUTHORS' CONTRIBUTION

All authors contributed equally to the study conception, data analysis, writing and critical review of the manuscript, and approved its final version.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest related to this study.

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