



# **The medical labor market in Maranhão: internalization of medical courses, trained professionals and the constitution of a private health market**

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## **Abstract**

Almost ten years after the creation of the Programa Mais Médico (PMM) (More Doctors Program-MDP), Brazil is started to feel some of the results of the long-term goals proposed by this public policy. The present reflection focuses on analyzing important consequences of the expansion of the medical workforce in the country and, especially, in Maranhão. The internalization of medical courses and new trained professionals is examined. The variables that are forcing these professionals to settle in medium-sized urban centers are analyzed, as well as the saturation of the market in the capitals. The consequences for the small towns of Maranhão from the increase in this workforce are evaluated. What is the profile of the professionals who choose the interior of State to build a career and what is the achieved remuneration? The reflection concludes by noting the increase in pressure from the public and private sector on medical work and the expansion of the private market for medical assistance in medium-sized urban centers as a new frontier of the capital.

**Key Words:** Expansion. Medical. Maranhão. Consequences.

## **O mercado de trabalho médico no Maranhão: interiorização de cursos de medicina, de profissionais formados e a constituição de um mercado de saúde privada**

### **Resumo**

Quase dez anos após a criação do Programa Mais Médicos, o Brasil começa a sentir alguns dos resultados dos objetivos de longo prazo propostos por esta política pública. A presente reflexão debruça-se a analisar importantes consequências da ampliação da mão de obra médica no país e, especialmente, no Maranhão. Examina-se a interiorização dos cursos de medicina e dos novos profissionais formados. Analisam-se as variáveis que estão obrigando a fixação desses profissionais nos médios centros urbanos, assim como a saturação do mercado nas capitais. Avaliam-se as consequências para as pequenas cidades maranhenses do aumento dessa mão obra. Qual o perfil dos profissionais que escolhem o interior do estado para construir carreira e qual a remuneração alcançada? Finaliza-se a reflexão constatando o aumento da pressão do setor público e privado sobre o trabalho médico e a ampliação do mercado privado de assistência médica nos médios centros urbanos como nova fronteira do capital.

**Palavras-Chave:** Expansão. Médicos. Maranhão. Consequências.

## **El mercado de trabajo médico en Maranhão: internalización de cursos médicos, profesionales capacitados y la constitución de un mercado privado de salud**

### **Resumen**

Casi diez años después de la creación del Programa Mais Médicos, Brasil comienza a experimentar algunos de los resultados de los objetivos de largo plazo propuestos por esta política pública. La presente reflexión se centra en analizar consecuencias importantes de la expansión de la fuerza laboral médica en el país y, especialmente, en Maranhão. Se examina la internalización de cursos de medicina y nuevos profesionales formados. Se analizan las variables que están obligando a estos profesionales a instalarse en centros urbanos medianos, así como la saturación del mercado en las capitales. Se evalúan las consecuencias para los pequeños municipios de Maranhão del aumento de esa mano de obra. ¿Cuál es el perfil de los profesionales que eligen el interior del estado para hacer carrera y cuál es la remuneración que logran? La reflexión concluye señalando el aumento de la presión del sector público y privado sobre el trabajo médico y la expansión del mercado de atención médica privada en centros urbanos medianos como la nueva frontera del capital.

**Palabras clave:** Expansión. Médicos. Maranhão. Consecuencias.

### **1 Introduction**

Data from MACROPLAN (2016, 2018) indicate that Maranhão's public health is among the worst in the country. More recent researches (SCHEFFER, 2023) corroborates with this statement. Important variables militate in favor of this dramatic situation, such as the low number of doctors available to the population, the limited number of wards and ICU beds available in the public network. When we cross-reference this data with other variables, such as, life expectancy, per capita expenditure on health, infant mortality rate, sanitation index, drinking water distribution network, sewage collection and treatment and the HDI, the overall picture suggests that general health conditions in the state are even more precarious.

These data were worse, but have been improving in recent years, as a result of some public policies and government programs, such as the Programa Mais Médico (PMM) (More Doctors Program) which seeks to reverse part of this terrible situation that afflicts the country but Maranhão in particular. Almost ten years after its creation, Brazil in particularly Maranhão are beginning to feel some of the effects, both in the public sphere and in the private economy. The starting point for this reflection is the creation of the PMM and one of its long-term objectives, which is to increase the number of courses, vacancies and, consequently, professionals available in the market and for the Brazilian state.

The aim is to problematize the internalization of the medical workforce in Maranhão and some of the changes it has brought about, especially in the development of the health sector. It discusses some of the foreseen and unforeseen effects of this government program, such as: the expansion of the supply of medical labor in the small and medium-sized towns in Maranhão as a consequence of the saturation of the market in the capitals. The profiles of the professionals who choose these cities to work and the profitability of the work achieved there are analyzed. The reflection concludes by problematizing the creation and consolidation of a private health care market in the small and medium-sized towns of Maranhão.

Although the number of doctors has increased in the last five years, the country suffers from the poor distribution of these professionals throughout the

country, a phenomenon that is not exclusively Brazilian. The same happens in countries like the USA and Australia, which have great difficulties in locating this workforce far from the most developed urban centers<sup>1</sup>. In this reflection, we tested these sociological according to which medical health services accompany urbanization processes (ARAÚJO and MAEDA, 2013). Conversely, the countryside and rural areas find it more difficult to retain this workforce. It is important to ask to what extent these statements continue to portray the reality, especially in a new social context marked by the rapid expansion in the number of these professionals in the country and the impact of financial capital and the state - of which public policies are part of the process - as agents that alter capital-labor relations in the sector.

This study looks at these data in order to analyze the transformations underway in the medical labor market in one of the states where the shortage of these professionals is still a tragedy. However, the results were analyzed using a dialogue with economic sociology and the theoretical distillates of authors such as Lebaron (2010), Piketty (2014), Dubet (2015) and Karl Polanyi (2004).

It is important to note that this article is a qualitative snapshot of the results of two studies on the field of medicine in Maranhão and its transformations<sup>2</sup>. As the research progressed, it became essential to understand in more detail the rapid expansion of medical courses in the country, especially between 2013 and 2021, its role in the context of Brazilian public policies, as well as the effects of such a program on the professional medical market.

## 2 Methodological aspects of the research

As highlighted above, the material presented here is part of the results of the research carried out between 2018 and 2023. The research was approved by the Department of Sociology and Anthropology at the Universidade Federal do Maranhão (Federal University of Maranhão) and by other collegiate bodies that make up the institution, which approved and supported its viability.

Methodologically, the results are based, on the one hand, on semi-structured interviews and informal conversations with doctors and public health managers in some of the municipalities chosen. Semi-structured interviews were also carried out with small medical entrepreneurs who had chosen some of the cities in Maranhão, such as Caxias, Bacabal, Barra do Corda, Santa Inês and Imperatriz, for business purposes. The interviewees signed an informed consent form and were made aware that they were taking part in academic research.

Parallel to the fieldwork, interviews and informal conversations, an extensive mapping of the number of doctors working in some of the state's largest cities - except the capital - was carried out: in Caxias, Imperatriz, Santa Inês, Codó, Barra do

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<sup>1</sup> The World Health Organization estimates that 50% of the world's population lives in rural areas and is assisted by only 25% of the medical workforce (ARAÚJO E MAEDA, 2013).

<sup>2</sup> The first investigation, entitled The Public Policies of the Lula and Dilma Rouseff Petista Governments (2003-2015) and Their Impacts on the Restructuring of the Medical Profession in Maranhão and Brazil, began in 2018 and ended in 2021. The second, called The Health Field Crossers: A study on the expansion of health plans in Brazil and Maranhão and some of its impacts on the restructuring of the medical profession, running from 2021 to 2023.

Cordeiro, Bacabal and Presidente Dutra<sup>3</sup>. The professionals were mapped using the DATASUS platform and the National Register of Health Establishments, which gathers up-to-date information on these professionals in the municipalities<sup>4</sup>. Through this rich sources of data, it was possible to analyze the public health situation in the selected cities, especial information on the occupation of medical functions offered by the public network, such as: health posts, clinics, hospitals, Unidades de Pronto Atendimento UPAs (Emergency Care Units), etc. This extensive database provides an important macro-sociological view of the relationship between supply and demand for medical services. Cross-referencing the data also makes it possible to see how doctors move around different municipalities close to their headquarters, taking up positions offered mainly by the public sector.

Obviously, pure and simple analysis of the data on DATASUS can lead to errors, since the platform can hide the real situations where there is a shortage of these professionals. Thus, on-site research could reveal that, although the platform states that there is a professional working in a particular health center or hospital, in practice this is not the case for various reasons of a political nature, cronyism, lack of supervision by the competent bodies, etc. Nevertheless, the data contained in the platform provides a good picture of the internalization of these professionals. The arguments that will be raised throughout this reflection, indicating and analyzing the increase in the number of professionals in Brazil, especially in Maranhão, make it possible to relativize the weight of this variable in the general deformation of the situation of the supply of medical services in the municipalities studied.

The choice of municipalities for the study was not random, but was based on two elements deemed fundamental to the investigation mainly: the size of the cities and the easy of access to them. In this way, we first highlight the relationship between the expansion of medical services and urban life. The previous survey of this investigation indicated that some of the municipalities in Maranhão located on the banks of the main federal highways that cut through the state, like those mentioned here, have undergone a significant process of urbanization in the last decade and have received various private investments in the field of health, with an unprecedented expansion of the private health care market.

Secondly, we emphasized the variable of access to cities and investigated the situation of the supply of this workforce in the municipalities located along the main federal highways that cross the state and, consequently, in the small towns close to both these highways and the larger urban centers. By adopting this methodology, we are trying to understand more precisely the meaning of the term "internalization of the medical workforce". In advance of what will be explored in more detail throughout the article, internalization follows certain routes, reaching those cities with the easiest access, while others, located deeper in Maranhão, continue to suffer from a lack of these professionals.

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<sup>3</sup> These are among the most important cities in the State, located on the banks of major federal highways such as BRs 316, 226, 135, 010 and 225. They are important urban centers that attract thousands of residents from dozens of smaller towns nearby.

<sup>4</sup> The survey on the DATASUS platform covered the years 2016 to 2022. The initial idea was to analyze the evolution of the medical workforce in these municipalities. Subsequently, we were able to detect, through the repetition of professionals' names and CRM numbers, (Code of Medical Ethics) the existence of a network of circulation of this workforce between municipalities close to these headquarters.

### 3 Theoretical perspectives

The original purpose of the article is to emphasize the description of the phenomenon, however, some theoretical guidelines need to be indicated in order to present the way in which we interpret the recent changing in the medical labor market.

We start from the premise that a myriad of social, economic, historical and legal changes have reshaped the balance of power between this professional segment and the wider society. We highlight two sets of variables that help to compose an analytical framework: macro and external and micro and internal variables; economic transformations of capitalism and transformations within Brazilian society such as: legals and public policies. It is to these two sets of variables that we attribute a greater causal weight (Weber) capable of promoting the reconfiguration of the medical labor market in Brazil.

From the point of view of external causality, we are theoretically aligned with Polanyi's perspectives, according to which professional categories adjust to the historical transformations of the economic production process and the economic structure determines the space that each category should occupy in the structure of society. These transformations are understood and apprehended theoretically within what Polanyi (2004) categorized as the **Great Transformation**. Given these transformations, what space do medical workers occupy in the structure of the society? The most recent research into changes in capital/labor relations indicates a trend towards increasing social inequalities and a return to wage conditions similar to those found in the 19th century (LEBARON, 2010; PIKETTY, 2014; DUBET, 2015).

These transformations affect professions such as the medical profession, which, throughout practically the entire 20th century, was partially outside the pressure of capital, especially in Brazil. In the Brazilian case, the medical labor market was one of the last to be affected by this process, which allowed these workers, compared to other segments, to maintain a high income for their work. However, for some time now, the winds have been blowing in a different direction and affecting the dynamics of the profession and the lives of these workers.

In general terms, it can be said that until the early 1990s, in parallel to the public service, there was a private healthcare system marked by the direct relationship between doctors and patients. Thus, on the one hand, these liberal professionals, owners of their establishments, marketed their services directly to patients interested in restoring their health. In this situation, the doctor had therapeutic freedom and the freedom to define the amount paid for the consultation. It is important to note that the history of medicine in Brazil, especially from the second half of the 20th century onwards, is marked by the medical profession's defense of this banner (doctors as liberal professionals) (MACHADO, 1997). What is currently being discussed is the impact on the profession of a new situation in which health becomes a fictitious commodity in the sense of Karl Polanyi (2004) and the health care market becomes dominated by large and powerful financial corporations that control the means of production and the clientele.

These organizations have revolutionized this segment of the economy. In just a few decades, the market has become dominated by huge financial conglomerates that monopolize the customer base (such as health insurance companies with millions of customers) and, on the other hand, powerful corporations (such as large

hospital chains, medical clinics and laboratories), complex organizations that are the only ones with enough financial capital to acquire machines and equipment for exams and structures where patients are treated (the hospital-centric model that has become dominant in the country).

In the economic conflict for profit - between operators and insurers on the one hand and hospital networks on the other - the doctor, the producer of this commodity, has become the weakest link and has been inserted into bureaucratic structures that have come to control his work entirely. From being liberal professionals who dominated the market, they became service workers with very few rights.

Within the capitalist production process, the social and monetary valorization of this commodity (health) progressively reifies the worker who produces it. The transformations ongoing point to the consolidation of doctors' submission to the same productivity rules imposed on other professional categories, such as: job instability, intense pace of work, an expanding workforce, falling of income, precarious working conditions and precarious forms of hiring with no labor rights, an uncertain future, etc. (ABICALAFFE, 2015; HIRATUKA; ROCHA e SARTI, 2016; TALEVI E GUIMARÃES, 2023). These elements make up the picture of changes in the field of medicine, although in this article we will explore some of the consequences of the expansion of the workforce through the PMM.

Boltanski and Esquerre (2017) note that the logic of the new economy of enrichment that we see consolidated today, seeks to obtain less financial return from the poor and from the most basic professions in the general productive structure, which was stimulating in mass production in the past. In this new phase of capitalism, the maximization of profit is now sought by large economic corporations, in intermediate liberal categories, historically elitist, such as doctors, through the process of controlling the profession, their salarization and/or market freedom in relation to setting the price of the services they provide, in addition to the monopoly of the health care market. "It is the extension of the commodity field that fuels the development of an economy of enrichment." (BOLTANSKI and ESQUERRE, 2017, p.379).

There are therefore important links between the recent transformations in the medical labor market and the major transformation of the capitalist production system that benefits the state and capital to the detriment of these professionals. These and other elements allow us to understand the position that this worker occupies in society, as well as the question of the autonomy of medical practice.

As for the internal causalities (which will be explored in more depth here), these changes would not have occurred without the intervention of the state in this profession's market. It is not new that the state and different governments act in certain sectors of the society to achieve certain political and social ends. In a sense, this is one of their functions. The field of medicine there is no much different. Oliveira et al, (2019) state that medical education in Brazil, and consequently the professional market, have historically been strongly influenced by decisions, political conjunctures, government regimes, economic models and the management of different public policies. Among the attempts at government intervention in this sector, the PMM has exerted the greatest constraining and intervening force of the Brazilian state on the market for this profession, placing it at the service of a broad and daring project to

democratize access to medical services for historically forgotten populations in the corners of deep Brazil.

In theory, the aim of public policies and government programs like the PMM was to strengthen the SUS (Unified Health System) and comply with the constitutional text of democratizing the population's access to health services. However, they are interventions that have elective affinities (WEBER, 2004) with the broader economic phenomenon of the metamorphosis of capitalism mentioned above. The unprecedented expansion in the number of medical schools and, consequently, doctors in Brazil over the last 20 years has worked in favor of the state in its desire to comply with the constitutional text, but it also serves the interests of capital, which buys the hours of these professionals in large numbers. Conversely, this expansion puts downward pressure on the salaries received by doctors, especially in the country's large and medium-sized urban centers, where this workforce is concentrated. In macro-sociological terms, there is a homology between capitalist mass production and the considerable development of the wage society (BOLTANSKI and ESQUERRE, 2017, p. 375-376).

The corrosion of these professionals' incomes occurs at the same time as large corporations increase their profits in this sector "as never before in the history of this country". The phenomenon also benefits the public sphere. Research in Brazil has shown a reduction in the amounts paid by states and municipalities for shifts, medical consultations, production of diagnoses, surgeries and other services (SCHEFFER, 2018; DRUCK, 2016; BUCK, 2018, CARREIRO, CARREIRO E SOUSA, 2021). The existence of an "industrial reserve army" of doctors allows public agents to negotiate better conditions for themselves in offering healthcare to the population assisted by the SUS.

In the new reality created by the intertwining of internal and external causalities, the dynamic of the medical profession are altered. These are the hallmarks of the new reality affecting these professionals: a type of work in which the organization disciplined by the logic of productivity, imposed by employers - whether in the public or private sector - occupies a central role in the new modes of external domination of the profession, which the professional can hardly oppose.

These transformations have consequences not only in terms of increased stress for doctors, but also in terms of the quality of the service provided to the population, as Druck (2016) and Pacheco et al (2016) point out. Although there are professionals who refuse to bow down to the new working conditions and fight for autonomy, a more humanized, personalized work style without daily service targets to be met, the lack of freedom, productivism and salarization are already consolidated phenomena and the pressure for their intensification is a fact. The low rates paid by employers (public and private) for the services they provide put pressure on these professionals to increase their working hours and the pace of their daily activities. Capital and the state work with the certainty of the existence of an important and growing "industrial reserve army" to replace professionals who refuse to submit to the new working conditions, a fact that is more constant in Brazil's big cities.

#### 4 The PMM and the expansion of the medical workforce in Brazil

As mentioned above, professional markets have been at the mercy of the state, political conjunctures, government regimes and economic models in order to achieve certain political, social and economic goals, and the medical profession has been no different (OLIVEIRA et. al., 2019). Authors from different areas have corroborated this thesis in their analyses of the health field, such as Amaral (2007), Lampert (2008) and Haddad (2019). Thus, the decisions on whether or not to expand this workforce in the country obey a logic that is not internal to the field of medicine, nor is it exclusively in the hands of economic agents, such as the owners of private universities, large hospital network, clinics, or health insurance, but above all the hand of the State - and the clashes between him and various agents in other fields - which determines the direction of the professions in the country.

The expansion of the medical workforce has important historical moments. The first takes place around the mid-1960s and coincides with the expansion of higher education in Brazil (OLIVEIRA et al., 2019). The second has its historical milestone with the promulgation of the Federal Constitution of 1988 and has had a decisive impact on the field of medicine upto this day. The Constitution consolidated the relationship between health, education and citizens' rights (AMARAL, 2007), and health care came to be understood as a fundamental right of Brazilians and a duty of the State. To make this a reality, the SUS was created in 1990, undoubtedly the most important State intervention in the Brazilian health in the entire 20th century. A public system created to organize this sector throughout the country, with the aim of offering all citizens, full universal and free access to health services<sup>5</sup>.

Some public policies were created in the following years as corollaries of the SUS in the quest to expand and consolidate this right. Worth mentioning here are the Programa de Interiorização do Sistema Único de Saúde (Program for the Interiorization of the Unified Health System) (1993), Programa de Interiorização do Trabalho em Saúde (the Program for the Interiorization of Health Work) (2001), the Programa de Valorização dos Profissionais da Atenção Básica (Program for the Valorization of Primary Care Professionals) (2011) and the Programa Mais Médicos (PMM) (More Doctors Program -MDP, 2013) (BRASIL, 2012; OLIVEIRA et al., 2015).

After 1988, the Brazilian State also acted in other sectors that were directly related to the health field. For example, it made the rules for opening new undergraduate health courses more flexible, a phenomenon that had been growing since the first expansion in the 1960s and 1970s. In the years following 1990, there was an unprecedented expansion of new courses and places in areas such as nursing, nutrition, physiotherapy, occupational therapy, dentistry and pharmacy. The phenomenon has not reached the field of medicine as strongly, but the PT administration and the implementation of the PMM will revolutionize this professional market.

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<sup>5</sup> The SUS was the result of social struggles, the most important of which was spearheaded by the Health Reform Movement, which opposed the privatized medical care model of Social Security "which benefited the private sector and only guaranteed the right to health to those who worked with a formal contract". (CORREA, 2015, p. 1). The 1988 Constitution did not succeed in eliminating the presence of the private sector in this segment and allowed the provision of health services by private entities, through article 199, by establishing free health care for the private sector.



It was during Dilma Rousseff's administration (2013-2016) that Brazil witnessed the rapid and intense multiplication in the number of courses and new vacancies and, consequently, in the following years, of trained doctors available to the market.

Among the attempts at government intervention in the field of medicine, the PMM, as a Government Program, a corollary of the SUS, exerted the greatest constraining and intervening force of the Brazilian State on the market of this profession, putting it at the service of a broad and daring project to democratize access to medical services for historically forgotten populations in the corners of deep Brazil, something not yet achieved by previous governments (CARREIRO et al., 2021). Kemper et al. (2016) observed that, even within a social conjuncture with strong pressure from various sectors of society (medical lobby, medical university lobby, ideological disputes within the government, pressure from the population for more doctors), the federal government managed to impose a public policy with strong popular appeal, placing the private interests of the medical profession in the background.

The PMM became commonly known, by a significant part of the Brazilian population, as a program to import cheap medical labor from Cuba to Brazil. This mistaken view of the program misled the very representatives of the Brazilian medical sector, such as the Federal Council of Medicine, which took up the fight against the import of these professionals, not understanding the revolutionary force in the market of this profession proposed there. In fact, the design of the program involved three simultaneous short, medium and long-term actions, complementary to each other, in order to achieve the objectives initially set<sup>6</sup>. These are: 1) The promotion of "the improvement of doctors in the area of basic health care, through teaching-service integration, including through international student exchange" (BRASIL, 2013), which in practice meant the emergency provision of doctors for basic care in the SUS by importing these professionals into Brazil; 2) The establishment of new curricular parameters for medical training in the country; and 3) The expansion of the supply of medical courses and places for medical residency, especially in the poorest regions of Brazil;

With regard to expanding the number of courses and vacancies in the country, it is worth noting that in 2003, the country had 64 medical courses spread throughout the country. In 2007, this number increased to 93 - 65 of which were in private HEIs (Higher Education Institutions), thanks to the incentives contained in the new

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<sup>6</sup> The objectives of the PMM were: I. to reduce the shortage of doctors in the priority regions for the SUS, in order to reduce regional inequalities in the health area; II. to strengthen the provision of basic health care services in the country; III. to improve medical training in the country and provide greater experience in the field of medical practice during the training process; IV. to expand the insertion of doctors in training in the SUS care units, developing their knowledge of the health reality of the Brazilian population; V. to strengthen the policy of permanent education with teaching-service integration through the work of higher education institutions in supervising the activities carried out by Brazilian health professionals; VI. to promote the exchange of knowledge and experience between Brazilian health professionals. Strengthen the permanent education policy with teaching-service integration, through the role of higher education institutions in the academic supervision of the activities carried out by doctors; VI. Promote the exchange of knowledge and experiences between Brazilian health professionals and doctors trained in foreign institutions; VII. Train doctors to work in the country's public health policies and in the organization and functioning of the SUS; and VIII. Encourage research applied to the SUS (BRASIL, 2013).

Constitution and the 1996 Lei de Diretrizes e Bases (LDB) (Education Law of Guidelines and Bases), which relaxed the rules, facilitating the expansion of higher education. A decade later (2017), there were already 303 courses, 30% of which were opened in 2013 thanks to the new legislation implemented as part of the PMM strategies, which expanded incentives for private institutions to open medical courses in municipalities with certain socio-economic profiles. That year alone, the MEC (Ministry of Education and Culture) authorized the opening of new medical courses in 37 Brazilian municipalities that met the profile established by the PMM, totaling 2,355 new places.

Almost a decade after the creation of the PMM, the number of professionals available to the state and the market is enormous compared to the previous period. Scheffer (2020) notes that in 1980, Brazil had 113,500 doctors to serve a population of 121 million Brazilians, which is equivalent to a ratio of 0.94 doctors for every 1,000 inhabitants. Twenty years later (2000), the population of doctors jumped to 239,100, while the Brazilian population grew to just over 169 million. The doctor per inhabitant ratio rises to 1.41 doctors/1,000 inhabitants. If we take another two-decade leap (2020), the medical field surpasses the 500,000 doctor mark, while the Brazilian population increases to just over 210 million. In that year, the country reaches a ratio of 2.38 doctors per group of 1,000 inhabitants. Summarizing the evolutionary data, it can be said that between 1970 and 2020, the medical workforce grew by 1,170.4%, or 11.7 times, while the Brazilian population grew by 222.3%, or 2.2 times (SCHEFFER, 2020).

It is important to ask whether such apparently good figures are adequate for the demands of the Brazilian population. Scheffer provides important comparative data that sheds light on this question. According to the author, in 2020, the country had rates of doctors for groups of 1,000 inhabitants similar to those of countries like South Korea, Mexico, Poland and Japan, although lower than those found in 35 other OECD (Organisation for Economic Co-operation and Development) member countries, such as Canada, the United Kingdom and the United States. Despite this, the rate of growth of these professionals suggests that the country will soon surpass many nations ranked by this organization. Between 2013 and 2019 alone, when the PMM and its clone, Programa Médicos Pelo Brasil (Doctors for Brazil), created by the Bolsonaro government, came into force, vacancies on medical courses jumped from 20,522 to 37,346.

To put this in context, in 2000 approximately 8,100 doctors graduated, while just over 1,000 of these professionals left the job market. In 2019, the number of those entering the job market was almost 22,000 and the number of those leaving was not more than 1,300. Based on data from Scheffer (2020), it is projected that, from 2024 onwards, public and private universities will launch almost 32,000 doctors into the job market every year. It is worth noting that this profession is among the longest-lived in Brazil, with an average working time of over 42 years.

## 5 The internalization of medical work

Such impressive figures, seen in isolation, can hide chronic problems that insist on not disappearing in the country, even in the face of the revolution in the medical labor market promoted, above all, by the PMM. One of the most serious is the

shortage of these professionals in Brazil's small towns and rural areas, which, as I've said, is not just a Brazilian phenomenon but is also seen in other countries.

The problem of access to medical services for part of the Brazilian population, especially the poorest - is a reality that has at least four nodal points: on the one hand, there is an unequal distribution in regional terms, but it is also unequal when comparing capital cities and rural or semi-urban areas within the same federation unit. It is a very unequal distribution when comparing the population's access to specialist doctors, who are mostly concentrated in private healthcare and in the capital cities. Finally, it is an extremely unequal distribution when we compare access among different social strata. Thus, those who can afford health plans and/or private consultations have more access to medical services than those who rely exclusively on public provision.

Part of this problem is the result of the Brazilian state's historical lack of planning in the distribution of medical schools throughout the country. Some regions, such as the South and Southeast, have historically concentrated medical courses, medical residencies and, consequently, this workforce, while the Midwest, North and Northeast regions suffered throughout the 20th century from a lack of training institutions and, consequently, professionals. Scheffer observes.

The North region, for example, has 8.8% of the country's population but only 4.6% of active doctors. The Northeast has 27.2% of the population but only 18.4% of the doctors. (...) On the other hand, the Southeast has more than half of the country's doctors - 53.2% - who serve 42.1% of the Brazilian population. (SCHEFFER, 2020, p. 50).

As mentioned, the poor distribution of these professionals is not limited to the regions, but takes on dramatic proportions when comparisons are made between capital cities and small towns.

The 48 Brazilian cities with more than 500,000 inhabitants together have a ratio of 4.89 doctors per thousand inhabitants. To give you an idea of the extent of the inequality, these municipalities have 31.7% of the country's population and 62.4% of all doctors. On the other hand, 1,253 municipalities with up to 5,000 inhabitants have 0.37 doctors per thousand inhabitants. These towns are home to 4.2 million people, who are served by 1,557 doctors. The situation is similar in the 1,199 municipalities with 5 and 10 thousand inhabitants: they have 8.5 million people and 3,269 doctors, a ratio of 0.38 doctors per thousand inhabitants. The stratum between 10,000 and 20,000 inhabitants includes 1,345 municipalities, home to 19.2 million people and 9,051 doctors. This means 0.47 doctors per thousand inhabitants. Together, the 3,797 municipalities with up to 20,000 inhabitants represent 68.2% of the country's 5,570 municipalities. They have 31.9 million inhabitants and 13,877 doctors. Thus, 15.2% of Brazil's population is assisted by only 2.7% of the total number of active doctors (SCHEFFER, 2020, p. 56).

The data suggests the dramatic reality of a lack of medical care in Brazil's small towns and rural areas. Despite Scheffer's data, this reality has changed in recent years, thanks to the long-term strategies contained in the PMM. We will take the state of Maranhão as our empirical field and highlight the situation regarding the supply of medical services in this state, highlighting the internalization of medical courses, the settlement of doctors outside the capital, the profile of these professionals and the

financial return achieved. Finally, we will highlight the rise of a private healthcare market in medium-sized urban centers.

### **The internalization of medical courses**

One of the most important objectives set by the PMM was to reduce regional inequalities in access to effective primary care in Brazil, and one of the strategies adopted was a more equitable redistribution of vacancies and medical courses between the states. As mentioned above, throughout the twentieth century, these courses were concentrated in the Southeast and South of the country, while the Northeast and North suffered from lack of colleges, and consequently, fewer professionals available to the state and even to private hospitals and health plans. This shortage of manpower inflated the prices of the services provided in these regions and was an important factor (but not the only one) in the construction of an elitist medical class that was economically strong and had bargaining power in negotiations with employers, which reverberated in average salaries far above those of other liberal professionals in Brazil. This phenomenon was even more evident in the small and medium-sized cities of the North and Northeast regions, where the financial return for medical work was very high because of the scarcity of these professionals.

The PMM and its clone, *Médicos Pelo Brasil* (Doctors for Brazil), have significantly changed this reality in the last decade in that they have expanded the production of this workforce throughout the country on a scale never seen before. To do this, the government encouraged the creation of medical courses and the expansion of vacancies on existing courses in regions where this workforce was most lacking.

Let's take the Northeast as an example: in 2002, the proportion of medicine vacancies per 10,000 inhabitants was just over 0.3. This was less than half of what was found in the Southeast, which was 0.8. The PMM set a target of creating 11,500 medical school places by 2017, primarily in the poorest regions, such as the North and Northeast, and especially outside the state capitals. The aim was to raise the ratio of doctors to 2.7/1,000 inhabitants by 2026 (BRASIL, 2015). This difference had already been falling, albeit slowly, over the first decade of the 21st century, but with the PMM (2013) the pace accelerated.

The more equitable distribution of vacancies throughout the national territory sought to create a level playing field between all regions at a level of approximately 1 medical course place for every group of 10,000 inhabitants (SCHEFFER, 2020). The policy was assertive, as there was greater proportional growth precisely in the poorest regions. The Northeast, which had a ratio of 0.67 places per 10,000 inhabitants at the end of 2012, reached 1.02 in 2015 and 1.5 in 2020.

It is important to note that it was not enough to expand medical schools to the North and Northeast; they had to be created in small and medium-sized Brazilian cities, where the shortage of these professionals was huge. Scheffer's surveys (2020) indicated that, in 2020, 62% of undergraduate vacancies were already offered in the interior of the states, in a clear process of internalization of medical schools, consolidating the PMM strategy and ratified by the *Programa Médicos pelo Brasil* Doctors. According to this survey, in the last ten years, 71% of the new vacancies

opened were offered outside the Brazilian capitals. In very few states has this strategy not been successful, as Scheffer notes:

In the North region, 32.3% of vacancies are offered by courses located in the interior, while in the Northeast it is 49.7%. On the other hand, in the Southeast and South, which have important economic hubs in the interior of their states, internalization is greater: less than 30% of places are in the capitals. Fourteen states have more vacancies in the interior than in the capitals. Among them, the state of São Paulo has 73.3% of vacancies in the interior, along with Rio Grande do Sul with 80.7%, Goiás with 85.2%, and Minas Gerais with 73.9%. In Santa Catarina, only one of the 17 existing courses is in the capital Florianópolis. In Rio Grande do Norte, 100% of vacancies are in the interior of the state. On the other hand, thirteen states have more vacancies in the capitals, mainly in the North and Northeast regions. The states of Acre and Amapá have 100% of their vacancies in the capitals, as does the Federal District (SCHEFFER, 2020, p. 101).

The situation in Maranhão is illustrative of this phenomenon, since until 2002, only the state capital had two medical courses: the first at a public university and the other at a private HEI. At that time the state graduated no more than 100 doctors a year. Twenty years later, the capital gained another course and increased the number of vacancies on existing courses, making a total of 249 vacancies per year. In turn, the interior benefited from the opening of several public and private colleges. Seven municipalities (Imperatriz, Caxias, Bacabal, Santa Inês, Açailândia, Codó and Pinheiro) now offer nine medical courses. The state has thus jumped from 100 to approximately 759 medical vacancies in less than two decades, of which only 33% are offered in São Luís. The expansion doesn't seem to have reached its limit, since applications to open new medical courses and increase vacancies in existing ones are awaiting authorization from MEC.

### **Doctors settling outside the capital**

Over the last decade, there has been a lot of criticism of the PMM, and the most severe ones have come from the bodies that represent the medical profession, such as the Federal and Regional Councils of Medicine, which have claimed that the creation of courses in the countryside of Brazil would not guarantee the settlement of these professionals outside the capitals or even outside the most developed regions of Brazil, such as the Southeast. Criticism also focused on the opening of courses in small municipalities. In this case, it was argued that the lack of professionals to make up the teaching staff of these courses would have a direct impact on the poor training of the new professionals. The criticism had little effect on the MEC's decisions and the internalization of medical courses is a consolidated reality in many parts of Brazil.

The PMM and the Doctors for Brazil Program, which have kept the aforementioned strategy of increasing the number of professionals in the country practically intact, have been creating an important industrial reserve army of this workforce, which no longer finds space to work in the large urban centers - some of which are already saturated. Especially for recent graduates without a medical residency who have large financial debts from their training, small and medium-sized cities are proving to be good places to build a medical career and also to earn higher

margins of financial return, either because smaller municipalities pay higher salaries or because there is a pent-up demand and professionals are able to work more hours per week. The data collected from DATASUS shows that the recent graduates are filling the vacancies opened up by city halls in small and medium-sized towns in Maranhão. This way, the internalization of the medical profession as a PMM strategy is partly due to the saturation of the job market in the capitals.

In 2020, São Luís had a rate of 4.88 doctors per 1,000 inhabitants, well above the number recommended by the WHO and the SUS (2.5), and the rest of the state had only 0.38 doctors per 1,000 inhabitants, distributed very unevenly between medium and small municipalities (SCHEFFER, 2020).

Historically, the small and medium-sized towns in Maranhão, similar to what happens throughout the Northeast, suffered from a lack of doctors in public health centers, UPAs, hospitals and health centers in urban areas and, above all, in rural areas. The lack of private clinics and offices in these locations was also a reality. As the courses opened by the PMM begin to bring new professionals, the vacancies offered by the city halls are filled, which brings relief as it reduces popular pressure on politicians for health services.

The DATASUS data analyzed by us from the cities of Caxias, Imperatriz, Timon, Bacabal, Santa Inês and Açailândia indicates that, although not all the health teams in these municipalities have doctors, the vacancies offered by the municipalities are all filled or are quickly filled as they arise. Thus, in these cities, there may even be problems with resources to hire professionals or managers' refusal to open new vacancies, but there is no shortage of professionals to fill them, either at the municipal headquarters or in more distant locations. This has an impact on smaller neighboring towns, which absorb the surplus labor from larger urban centers. This was observed when we cross-checked the DATASUS data on doctors working in the cities studied and in neighboring towns.

### **The profile of new doctors and remuneration outside the capital**

Regarding the profile of the doctors found in these cities, cross-referencing data from the DATASUS platform indicates that the small and medium-sized cities in Maranhão are mostly home to doctors who have recently graduated without a residency (specialization). A doctor from Barra do Corda told us:

"Doing a residency would be great, but for the type of work we do here, it's not very useful. I, for example, work in Fernando Falcão and Jenipapo dos Vieiras, very small municipalities. There, we carry out simple procedures in 90% of our appointments. Am I going to stop making money to do a residency that won't serve me in my day-to-day life? Let's say I get accepted into an oncology residency, which is what I always liked at university. To do it, I'd have to move to a capital city; I'd lose my connections here and my income, and I'd also have to spend a fortune on living costs because the scholarship wouldn't cover all my expenses in São Paulo, for example. After four years, I'd have finished. Where would I work? I'd have to leave my hometown to live in a capital city in order to work. It's more money, and I'd be away from my family. Do you understand? I'd have to disorganize my whole life." (Medical interview with S. N. F. 14/02/2022)

The interviews suggest that the choice to work in the small towns of Maranhão is guided by issues such as: quick financial return, basic care and, in some cases, the comfort of living close to family members. At the same time, some professionals are already afraid of losing their jobs with city halls as new professionals arrive every day. Therefore, the residency is being postponed. A resident doctor in the city of Esperantinópolis told us:

"I opted for the countryside because the care in these towns is basic. It's health center care, with no major complexities. Even the care in the UPAS in the interior is basic in 90% of cases. For people who are just starting out, it's good to gain experience. This is different from facing a UPA in the capital or a socorrão - an emergency center." (Interview with Dr. A. M. N. 10/01/2022)

Another interviewee adds:

"As well as the care being simpler, the financial return is greater. Here in the countryside, we're at home, we don't spend much, and the cost of living is lower. I, for example, live with my parents in Bacabal. Two days I stay in Esperantinópolis, one day in Lago da Pedra, one day in Pedreiras, two days in Lago dos Rodrigues. It's all very close. Do you want to do a residency? "Not at the moment. The scholarship doesn't make it worthwhile, although it is possible to do a few shifts to supplement your income. I'd have to leave my town, lose my contracts, and stop making money and it wouldn't give me the return I would expect. It's good here; the mayors treat you well and pay you properly; there's none of the stress of the emergency rooms and UPAs of the capital and over the weekend we're at home." (Interview with Dr. R. A. S. 10/01/2022)

Regarding remuneration, there are some existing modalities, among which the most common is payment per shift. In 2022, the Empresa maranhense de Serviços Hospitalares (Maranhense Hospital Services Company) (EMSERH) - a public company responsible for managing more than 85% of the state government's public health centers and therefore the largest employer of this labor in Maranhão - hired these professionals on temporary contracts, and the amounts paid between the capital and the interior varied from 2,000.00 to 2,200.00 reais per 24-hour shift, from 800.00 to 1,200.00 reais per 12-hour shift, and from 500.00 to 600.00 reais per 6-hour shift. The higher rates were paid in cities in the interior of the state and were intended to encourage the internalization of this workforce in regions more distant from the capital. Specialist doctors are better paid by EMSERH, and they used to receive more than 3,000 reais per shift, but the amounts have been falling in recent years.

In the last five years, EMSERH has opted to hold tenders, outsourcing the hiring of these professionals to companies or cooperatives. By opting for this new form of contracting, EMSERH takes advantage of the surplus of medical labor and can pay less for medical services. The winning companies are responsible for subcontracting general practitioners and specialists to work in the state's macro-regional hospitals. The competition between companies to win the tenders reduces the amount paid to medical professionals.

Based on payroll data collected from city halls of cities like Caxias, Timon and Imperatriz, for example, where there is no shortage of medical labor, we saw, on the one hand, a tendency towards a reduction in the amounts paid by public entities for

medical services and, on the other, a greater supervision of the services provided by these professionals on duty in the health centers. As a result, doctors who insist on missing shifts or not fully complying with their contracted working hours, or who are denounced by the population for poor service can and have been dismissed in these locations.

This does not apply as often to those with specialties. As we have seen, professionals with a medical residency are better paid for their shifts and may have a few more "perks" from the hiring agents, who will have a hard time finding labor in the region to replace the lost specialty.

In some small municipalities in the deepest part of Maranhão, the shortage of these professionals is so dramatic that the law of supply and demand still favors the medical profession, with salaries well above market rates. Thus, the municipal health secretary of São Mateus, a small town located 200 km from São Luís, informed us that in 2022 the city hall had to reduce the value of the 24-hour shift for general doctors from 3,000.00 to 2,000.00. However, it maintained the 10,000 reais salary paid to the psychiatrist, who comes from the capital once a week to attend the population. She justifies the higher salary paid to this professional because of the difficulty in finding this specialty available for hire.

### **The creation of a private healthcare market outside the capital**

A relevant sociological phenomenon found throughout the research was the expansion of the private healthcare market in the medium-sized cities of Maranhão, such as those already mentioned here. Many municipalities located along the main federal highways that cut across the state from north to south and east to west have experienced a boom in the opening of private clinics, maternity hospitals, and small medium or low-complexity private hospitals that compete or collaborate with public services in providing care for the population. This growing sector is able to serve a small, but existing, middle and upper class residing there, which also demands such services, but refuses to look to the public sector to be served.

The emergence of these establishments is partly the result of private investments by doctors who have managed to accumulate some money over the course of their lives and are now trying to reconcile their careers as self-employed professionals and health entrepreneurs. But they are not alone in this market: they compete with small and medium-sized businesses and financial conglomerates based in cities such as Teresina and São Luís, which already operate in the sector and have seen in the medium-sized cities of Maranhão a potential to expand their business and earn a high return on their investments. Medium-sized cities like these have become economically interesting for the development of this sector, acting as centers where clients from dozens of smaller towns migrate in search of medical treatment.

The recent interest of some health plans, such as Hapvida, Unimed and Humanas, just to name a few, in selling their products in these locations is part of the change. The interior of Maranhão has never been economically interesting for the health and life insurance sectors, but with the emergence of private clinics and the partnerships established between them and health insurance, this market is growing significantly and reaching new audiences. The manager of a company that sells these products told us:



"It's not easy to market health insurance in the interior of the state, but little by little we're making progress. There is the problem of the lack of a culture of having health insurance, but above all, there is the problem of the lack of a care network that is close to customers. With the opening of private clinics and maternity hospitals in cities like Imperatriz, Caxias and Bacabal and the partnerships they are making with health insurance and doctors, our work has prospered." (Interview L. M. J. 17/05/2022)

These ongoing changes are directly related to the effects of the PMM and its long-term strategy of expanding the medical workforce on a scale never before seen in the country. This small industrial reserve army, which will continue to grow, serves the public service but also private enterprises, which now have this workforce available locally or benefit from professionals who are forced to move from the capitals or larger urban centers to smaller municipalities in order to negotiate their workforce.

This medical workforce, based either in the capitals or in the medium-sized cities of Maranhão made use of the main highways that cut through the state to reach the small towns, where there is still an abundance of clients demanding specialized services and willing to pay a little more for appointments. A doctor interviewed in Barra do Corda told us this:

"I'm a cardiologist, I graduated in 2018. I've been working here for a little over seven months. I come once a week. All appointments are private, which is great for us. (...) In Teresina, where I live, 90% of them are through health insurance. And health insurance, as you know, pays a pittance. Here, you consult, and you get paid. Everything's fine. (...) I can't complain about what I get here. The journey is tiring, it's 300 km away, and the road is bumpy, but it's only once a week. I'm away from home for a little over 24 hours, and I earn more than three days' work in Teresina, working for a health insurance plan." (Interview with Dr. T. F. R 15/01/22)

The capital of Piauí (Teresina) is an important supplier of doctors to the cities in the east and center of the state of Maranhão. These professionals use State Routes (SR) 316 and SR-226, which provide quick and easy access to various municipalities in Maranhão; doctors from Piauí drive more than 300 km into Maranhão in search of clients. Doctors living in the capital of Maranhão follow the flow of the SR-135, serving various municipalities on or near this highway for more than 200 km. Imperatriz, on the other hand, is at least 600 km from the nearest capitals (São Luís, Palmas and Belém). This geographical issue has benefited the city, making it the largest regional hub for health services, especially after it became home to three medical schools. Doctors living in Imperatriz work in more than two dozen nearby cities. Imperatriz itself receives a significant number of specialist doctors from Belém, São Luís, Brasília and São Paulo, and they have a constant clientele. This tends to create a virtuous cycle of growth in the private healthcare market in the city, boosting the appearance and growth of dozens of private clinics.

## Conclusion

The lack of doctors in Maranhão is still a reality, and takes on drastic aspects when analyzing the situation in small cities further away from urban areas and the main federal highways. However, the recent increase in the medical contingent

promoted by the PMM has benefited the public and private health care sectors not only in the metropolitan areas, but also in the rural areas.

The data collected throughout the research reveal that in the medium-sized urban centers of Maranhão, located on the banks of the main federal highways that cross the state, such as those mentioned previously, more than 87% of medical positions (general practitioners) opened by the public sector are filled (UPAs, emergency rooms, health posts, hospitals and clinics). Cross-checking the data also reveals that hundreds of recently graduated doctors chose those cities to live or work and travel throughout the week on federal highways, moving from city to city, offering their workforce, and they are the ones who fill the gap. Vacancies were opened by the public and private sectors, partly relieving social pressure for medical services.

The state benefits from the expansion of this workforce and, in recent years, has built hospitals, maternity wards and clinics of medium complexity in several regions of Maranhão, expanding the provision of medical services to the population. This new and expanded public network is managed by a state-owned company, EMSERH, which has been establishing rationality in the management of public resources allocated to health (CARREIRO and CARREIRO, 2022). EMSERH has adopted administrative and management models similar to those of private companies, striving for low costs, high productivity and low wages in order to stretch the State's resources and alleviate part of the drama of the lack of health care in Maranhão. In this process, the medical profession feels a gradual decrease in the financial return on the services provided.

The private network noticed, on the one hand, the lack of medical services and sees the interior of Maranhão as a great opportunity to undertake and profit. Entrepreneurs in the hospital sector benefit from the increase in recently graduated specialist professionals, who, upon finding the healthcare market saturated in the capitals (São Luís and Teresina), find themselves forced to travel throughout Maranhão in search of work.

Research also suggests that health plans are also beginning to internalize their activities, trying to attract customers and accredit private clinics and hospitals in medium-sized cities in Maranhão. This appears to be a new frontier for increasing profits in this sector. It has benefited from the expansion of the private sector outside the capitals, as well as the expansion in the number of professionals in the market resulting from the PMM.

The country as a whole and Maranhão in particular have benefited from PMM. It has promoted a reduction in the number of municipalities with a shortage of doctors, and has also reduced inequality in the distribution of doctors between municipalities and regions of the country. The expansion of this workforce has important effects on the general improvement of the country's health indicators, highlighting: an increased number of family health teams; improvement in the population's health levels; reduction of health inequalities; greater efficiency of care, improving the guarantee of the right to health; and universal health coverage. An additional piece of information deserves mention: significant changes were found in the reduction in the number of hospitalizations for conditions sensitive to primary

care (ICSAP)<sup>7</sup> an important indicator of social development in health with repercussions on other sectors of society.

There is no doubt that the economy of medium-sized cities in Maranhão is being positively affected by the installation of clinics and small hospitals of medium and low complexity. Jobs are created, patients migrate from other cities in search of treatment, local commerce is busy.

When we focus the analysis on the situation of medical workers, the reality is more sensitive and not so positive. It was noted that a hierarchy was created within the medical profession with economic effects between those who have specialization and general practitioners. Thus, specialist doctors are concentrated in the capitals and work in public and private health, but are more easily accessed by those who can pay. As the capitals concentrate a large number of these professionals, public services benefit and are able to fill part of their network with this workforce. Such professionals receive, on average, 50% more than a generalist doctor for their shift when the demand is for their specialty. However, queues for an appointment persist in public health and can take months to complete depending on the specialty. For millions of Maranhão residents, travel is still required, which can be very long, towards the capital or to macro-regional hospitals and specialized clinics created during the administration of the Flávio Dino government (2013-2022).

On the other hand, general practitioners, the fastest growing workforce currently in the field of medicine, are the ones that struggle most to enter the market and are the ones that receive the least pay. These professionals are already starting to search for jobs in the state's capitals and medium-sized urban centers, and many are forced to accept jobs in small and medium-sized municipalities, located hundreds of kilometers from where they live, facing potholed roads and unsanitary conditions or inadequate work conditions. It's either that or unemployment.

The PMM, with its strategy of increasing, as never before in the history of this country, the number of medical schools — and, consequently, of trained professionals — brought some progress in resolving the historic bottleneck that is the provision of health services to poorest population, but it is still far from achieving what is contained in the Magna Carta, which is to guarantee the right to health for every citizen. Research so far suggests that access to medical services is being democratized in the capital and medium-sized cities of Maranhão. The same is not observed when seeking certain specialties that continue to have elitist traits. Without a shadow of a doubt, the lack of medical specialists is the new bottleneck to be resolved by the Brazilian state. Across the country, but especially in the North and Northeast regions, there is a lack of specialist doctors. In this regard, Maranhão occupies last place among all states in the federation with the lowest number of specialists (SCHEFFER, 2023: 135)

The ongoing revolution in the medical job market appears to have irreversible effects on this professional category, among which the reduction in financial return for services provided, increased competition for jobs, increased employment instability, pressure for meeting goals and the weakening of the category in relation to public or private employers in their ability to demand better working conditions,

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<sup>7</sup> Hospitalizations for primary care-sensitive conditions deal with health conditions for which adequate management, treatment and interventions carried out at the SUS gateway, which is primary care, could prevent hospital admission (OECD, 2002).

better salaries, etc. There is no possibility of changing this situation on the horizon, on the contrary, the opening of new courses and vacancies points to the intensification of precariousness.

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