



# BJGH

Brazilian Journal  
of Global Health

Revista Brasileira  
de Saúde Global

## Profile of medical graduates from a private school in the Southern Region of Sao Paulo regarding their decision to choose a medical specialty

Pedro Oliveira Bordokan<sup>1</sup>, Leonardo Sampaio dos Santos Ponzo<sup>1</sup>, Fernanda Galvão Canda Kimura Dias<sup>1</sup>, Cíntia Leci Rodrigues<sup>1</sup>

<sup>1</sup>Santo Amaro University, Sao Paulo/SP, Brazil.

### ABSTRACT

#### OBJECTIVE

To identify the medical specialty choice profile of graduates from a private medical school in the southern region of São Paulo.

#### METHODS

This is a cross-sectional study, conducted in the first semester of 2023. The study population (sample) consisted of 51 medical students, enrolled in the 9th, 10th, 11th, and 12th semester (boarding school) of a private school located in the southern region of the city of São Paulo.

#### RESULTS

The findings of this study indicate a predominance of male participants, of white race/color, single, pursuing their first degree, and with a family income of more than 50 thousand reais. This aligns with existing literature, which suggests that for many years, medical programs have primarily attracted male students from higher social classes and large urban centers.

#### CONCLUSION

The profile of the medical graduates assessed reveals that the majority are inclined to pursue postgraduate studies in the medical residency format. However, it is important to note that their interests predominantly lie within specialties other than Family and Community Medicine.

#### KEYWORDS

Medical, Education, Internship and residency, Primary health care.

#### Corresponding author:

Cíntia Leci Rodrigues.

University of Santo Amaro, Unisa.

Prof. Eneas de Siqueira Neto Street, no. 340, Jardim das Imbuías neighborhood. São Paulo/ SP. Zip code: 04829-300.

E-mail: cintialeci@prof.unisa.br.

ORCID ID: <https://orcid.org/0000-0001-8064-2203>.

**Copyright:** This is an open-access article distributed under the terms of the Creative Commons.

Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided that the original author and source are credited.

DOI:

## INTRODUCTION

The National Curricular Guidelines (NCG) for the undergraduate medical course, aligned with the Pan American Health Organization's (PAHO) initiative to redefine medical education, highlight the need for medical courses to broaden their emphasis on community health and the inclusion of students in health service networks from the beginning of their graduation and throughout their academic journey, recognizing these environments as vital for experiential learning. This highlights the need for a more comprehensive, humanistic, and critical approach to medical training. It aims to equip professionals to operate effectively at various levels of health care, prioritizing the teaching of primary care that is organized and coordinated by the area of Family and Community Medicine (FCM). The insertion of students in primary care settings should be sustained throughout their medical training. During the internship period, a minimum of 30% of the workload must be completed in primary care and urgent/emergency services of the Unified Health System (SUS), with a predominance of workload dedicated to primary care, particularly in FCM. Such social immersion of students aims to promote the development of essential skills for providing comprehensive care to patients in an interconnected, permanent, and contextualized manner, always infused by social commitment.<sup>1,2</sup>

National Curricular Guidelines for modifying medical curricula, including the expansion of the workload in Primary Health Care (PHC), are aligned with the recommendations from the Brazilian Association of Medical Education (Abem) and the Brazilian Society of Family and Community Medicine. These guidelines support the insertion of PHC into medical training, emphasizing integral and longitudinal clinical practice with a family and community focus, with Basic Health Units as settings. Furthermore, they recommend that the insertion of PHC be continuous throughout the medical course.<sup>3</sup>

Strengthening PHC depends directly on the training of doctors specializing in primary care to effectively meet the population's health needs. This premise highlights that effective PHC requires trained and qualified professionals. Undergraduate medical students should gain experience in PHC during their training. This experience helps them understand that health care results from a well-structured system and relies more on the coordination of various levels of care than on isolated clinical actions.<sup>4</sup>

The choice of medical specialty has been the subject of study, drawing attention to the fact that it is often made very early, even at the beginning of the course. The lack of motivation to practice general medicine, family medicine, and specialties considered basic care has raised concerns among managers nationally<sup>5</sup>, as it diverges from the real primary needs of the Brazilian population.<sup>3</sup>

In this context, it is apparent that there must be an alignment between Brazilian health needs and the profile of medical graduates regarding the choice of career specialty. Identifying the doctor's training scenario is important not only for current circumstances but also for future developments. In this regard, we are driven to conduct a study that aims to assess the profile of doctors trained at our school, particularly concerning the specialties chosen in their medical careers.

The purpose of this study was to identify the profile of medical choice of medicine among graduates from a private medical school in the southern region of the city of São Paulo.

## METHODS

This cross-sectional study was conducted in the first semester of 2023. The sample comprised 51 medical students enrolled in the 9th, 10th, 11th, and 12th semesters (internship) at a private school located in the southern region of São Paulo.

Data collection was conducted using a structured electronic questionnaire divided into two sections:

a) Questions regarding the sociodemographic and academic characteristics of the participants, as well as their interests in specialization and professional practice as generalists.

b) Sociodemographic questions included: gender, age, race/color, previous education, and the grade in which the participants are currently enrolled.

Participants were randomly invited through *email* or *WhatsApp* on their cell phones to voluntarily respond to a semi-structured questionnaire using *Google Forms*. Participation in the research required prior acceptance of a Free and Informed Consent Form (ICF).

The answers to the questions were summarized and presented in graphs and tables.

The research project received assessment and approval from the Institution's Research Ethics Committee, under the number CAEE 66826522.9.0000.0081.

## RESULTS

We interviewed 51 academics, representing 29.4% of those in the 9th semester, 9.8% of the 10th semester, 43.1% of the 11th semester, and 17.6% of the 12th semester. Of the participants, 56.9% were male and 43.1% were female. All students interviewed were single.

Most students (98%) were under 30 years old, while only 2% of the sample were over 30 years old (table 1).

Table 1 - Distribution of Participating Academics by Age Group (age in years).

Age (years)	N	F (%)
< 30	50	98.0
> 30	1	2.0
Total	51	100.0

Source: Authors (2024)

Regarding the race and color of the interviewees, 90.2% identified as white, 7.8% as brown, and 2.0% as black. None of the students in the medical internship classified themselves as yellow or indigenous.

The majority of students (90.2%) are pursuing their first degree, while 9.8% have previous training in another undergraduate course.

In terms of family income, 21.6% of the sample reported a monthly family income between 11 thousand and 20 thousand reais. Furthermore, 5.9% had a monthly income of up to 5 thousand reais, while 3.9% reported income between 31 thousand and 40 thousand reais (table 2).

Table 2 - Monthly Family Income of Participants

Income (reais)	N	F (%)
0-5 thousand	3	5.9
6 to 10 thousand	1	2.0
11 to 20 thousand	11	21.6
21 to 30 thousand	5	9.8
31 to 40 thousand	2	3.9
41 to 50 thousand	5	9.8
Above 50 thousand	13	25.5
Not informed	11	21.6
Total	51	100.0

Source: Authors (2024)

All participants expressed a strong interest in pursuing a postgraduation course *lato sensu* in the medical residency format. Of these, 84.3% intended to enroll immediately after completing their undergraduate studies, while 15.7% preferred to wait.

Participants were also asked where they would prefer to work if they were not directly approved for medical residency. The responses included the following options: Infirmary (60.5%), sporadic shifts (58.1%), family health strategy (58.1%), emergency room (58.1%), army (43.1%), and red emergency room (14.0%).

Participants were asked whether they considered a *lato sensu* postgraduate course as training comparable to that of a medical residency. The responses were as follows: 72.5% considered medical residency to be the ideal form of career training, while 9.8% equated *lato sensu* postgraduate courses with the training received in medical residency. Additionally, 17.8% responded that if they do not enter the medical residency program, they have the option of completing a postgraduate course *lato sensu* in a different format than the medical residency training.

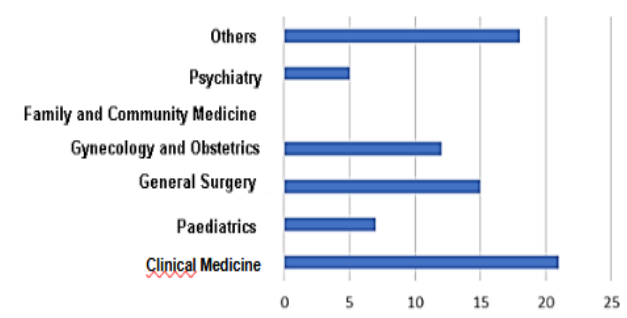
In the context of pursuing an academic career and the completion of a *stricto sensu* postgraduate course (master's and

doctorate), 25.6% of respondents declared interest.

In the specialty of medical residency, over 20% of students chose clinical medicine as their preferred area, followed by general surgery at 15%, gynecology and obstetrics at 12%, pediatrics at 7%, and psychiatry at 5% (figure 1).

**Figure 1** - A list of specialties in which medical interns are interested in pursuing their training

### Choice of a medical specialty based on the area of practice



Source: Authors (2024)

Ultimately, the key factors influencing the choice of medical specialty are the specialty routine (94.1%), ease and possibility of employment (70.6%), salary (64.7%), and influence of parents and family members who are doctors (56.7%) (chart 1).

**Chart 1** - Factors Influencing the Choice of Specialty in a Medical Career

Factor	N	F (%)
Specialty routine	48	94.1
Ease and possibility of employment	36	70.6
Salary	33	64.7
Parents and family doctors	29	56.7
Professors	25	49.0
Social prestige	20	39.2
Social media	20	39.2
Friends	19	37.3
Duration of specialization	19	37.3
Parents and non-medical family members	11	21.6

Source: Authors (2024)

## DISCUSSION

The duration of medical training is six years, normally divided into two segments: the initial four years contain the basic and clinical cycles, while the final two years are dedicated to the internship.<sup>6</sup> This research evaluated the profiles of internship students, referred to as graduates, from a private school in the southern region of São Paulo. Furthermore, it also examined their preferences regarding medical specialties and their subsequent career progression. In this context, Veras et al.<sup>6</sup> emphasize the importance of conducting studies to better understand the profiles of medical students to implement external guidelines and policies for educational improvements.<sup>6</sup> They highlight the need for research on the socioeconomic backgrounds of students from both federal and private institutions. Furthermore, examining whether their career aspirations align with the health needs of the population.<sup>6</sup>

The findings of this study indicate that the majority of participants were male, identified as white, single, and pursuing their first degree. Most were young adults under the age of 30 (Table 1) and came from families with an income exceeding 50 thousand reais (Table 3). This aligns with existing literatu-

re, which has long noted that medical courses typically have a predominant profile of male students from higher socioeconomic backgrounds, often coming from large urban centers.<sup>7</sup> A study conducted in 2023 on medical demography revealed that the percentage of new entrants into medical schools varied by gender and depended on whether the institution was public or private. Notably, the proportion of women increased significantly in private medical schools, rising from 58.2% in 2010 to 65.2% in 2019.<sup>8</sup> The predominance of male respondents in this research may have resulted from the voluntary nature of the questionnaire, which allowed students to choose whether to participate.

The changes observed in the literature regarding the increase in low-income students were not observed in our study, which can be attributed to the profile of the private school setting we examined. Changes in student profiles may be more noticeable in public institutions, due to changes in admission processes, such as the percentage of medicine openings under quota systems and the enrollment of students from public high schools.<sup>7</sup>

Rego et al.<sup>7</sup> highlighted that there have been significant changes in the profile of Brazilian students over the past few decades. This shift is largely due to policies aimed at democratizing access to higher education, including the implementation of quotas and reserved vacancies.<sup>7</sup> In this context, since 2004, the federal government has adopted policies aimed at expanding access to higher education for individuals from low-income families, as well as for people of African descent, Indigenous peoples, and people with disabilities.

Significant strategies that have contributed to this objective include the establishment of the Student Financing Program (Fies) in 1999, the introduction of the University for All Program (ProUni) in 2004, and the implementation of the Unified Selection System (SiSU) in 2010, which facilitates the admission of candidates through the National High School Examination (Enem). These affirmative actions aim to ensure the constitutional right to education while promoting the representation of underprivileged groups within society. Furthermore, these initiatives seek to improve living conditions for the entire population, as access to higher education is a vital component of socioeconomic advancement in the labor market currently.<sup>9</sup>

It is essential to conduct national studies on the socioeconomic profiles of medical school students in private institutions. This is important in light of the growing trend towards the privatization of medical courses, as the expansion of the medical training system has largely been driven by private schools.

Over the past decade, from 2010 to 2020, approximately 80% of new vacancies were offered by private educational institutions. During the period from 2013 to 2019, the annual average growth rate of public vacancies was 5.2%. In contrast, the growth rate of private vacancies in the same period was significantly higher at 13.2%, indicating a disparity of 2.5 times in favor of private institutions.<sup>10,11</sup> The growing number of vacancies in private schools tends to benefit individuals from wealthier backgrounds, predominantly white individuals with higher incomes and a better socioeconomic situation. This tendency conflicts with the democratization of access to medical education and subsequently affects the choice of specialty.<sup>10</sup>

Training specialists through the Medical Residency program is widely regarded as the gold standard globally.<sup>12</sup> In this study, all interviewees desired to enter Medical Residency Programs. Specifically, 84.3% indicated they plan to enroll immediately after completing their course. At the same time, the remaining participants intend to continue their residency later, but first need to work to complete their training in the chosen specialty.

The conversation around finding alternatives to address the shortage of doctors and their unequal geographic distribution has intensified in various countries, including Brazil. It highlights the need for significant changes that require long-term planning.<sup>12</sup> This is particularly important because the increase in the number of vacancies and private medical schools did not affect the number of positions in Medical Residency programs in Brazil.

A study conducted by Scheffer et al.<sup>13</sup> revealed that more than half of doctors trained between 1980 and 2014 cur-



rently reside and/or work in states other than those where they attended medical school. This significant and dynamic internal migration of doctors in Brazil appears to contribute to imbalances in the distribution, supply, and availability of doctors across the country, where medical mobility is most evidently concentrated in the south and southeast regions.<sup>13</sup> The authors emphasize the need for appropriate policies regarding human resources in healthcare. They highlight the importance of conducting new studies that take into account the socioeconomic situation of different areas, the availability of services and job opportunities, and continued training, among other possible factors for the non-migration of doctors.<sup>13</sup>

The decision to choose a medical specialty generally starts in the early semesters of medical school but it can change throughout the course of study and one's professional career. Previous studies have indicated that this choice is influenced by various factors, including financial remuneration, the possibility of balancing work and personal time, broader or more specific knowledge required, the influence of family doctors and professors, and affinity with the specialty.<sup>14</sup>

In addition to graduation, another concern for public managers and society is the future specialties that graduates of Brazilian medical courses will pursue. The irregular distribution and imbalance of medical specialties have a direct impact on the functioning of the health system.

Ideally, the choice of medical specialty should result from a balance between the professional's interest and the needs of citizens. This balance is crucial because it affects the availability of specialists who will provide healthcare to the population in a specific region of Brazil.<sup>15,16</sup>

Several reasons influence the decision to choose a specialty: individual characteristics, such as age, gender, personality type, marital status, and having dependent children; curriculum experienced during graduation; type of internship; exposure to different specialties; remuneration; use of new technologies; lifestyle; social status; and characteristics of the specialty itself.<sup>15</sup>

The findings of this study showed that the factors that most influence the decision to choose a medical specialty are parents and professors during graduation (table 1). Among the specialties chosen by medical internship students, the large area of Clinical Medicine stands out, and it is noteworthy that none of the students interviewed reported interest in the area of Family and Community Medicine (figure 1).

Rodrigues et al., highlighted in their study that among the factors identified as influencing the choice of the FCM specialty are personal aspects, characteristics of the residency program, as well as characteristics of the specialty itself. On the other hand, aspects related to the undergraduate curriculum, in general, did not contribute to this choice, but the experience in the FCM practice scenario and the example of model preceptors influenced the decision for the specialty. The qualification of all learning environments and the integrated planning of the curriculum with the participation of FCM professionals can contribute to a broader view of the performance of the FCM specialty since graduation.<sup>15</sup>

Considering the sphere of public administration, health units are not always available in ideal operating conditions, either structurally or in terms of having enough resources to serve the population.<sup>17</sup> This affects medical graduates' choice of medical specialization as well as their place of work.<sup>17</sup>

It is observed that the vast majority choose to pursue specialties that they found enjoyable during graduation, as well as those that offer greater income potential and a better quality of life (table 1).

Ladha et al. conducted a cohort study on the decision to choose a medical specialty during graduation until completion of the medical course. They found no significant differences between factor classifications among specific students interested in primary care or clinical areas *versus* surgery. However, in the last year, students who chose surgery rated the prestige and financial incentive significantly higher than those of primary care.<sup>18</sup> In contrast, seniors interested in primary care and/or clinical areas preferred family/location factors over surgery students.

These findings support another proposed lifestyle theory: hours and training commitment are common reasons students may stray from surgical specialties.<sup>18</sup> The authors of this

study demonstrated that students interested in primary care are most motivated by balancing a medical lifestyle and work life. However, none of the students in our sample chose primary care; the interns favored the medical clinic, as illustrated in Figure 1, and lifestyle is a factor in choosing the medical specialty, as illustrated in Table 1.

Of the participants interviewed, 25.6% expressed an interest in pursuing an academic career and becoming a professor by pursuing *stricto sensu* postgraduate studies (Master's and Doctorate). However, medical education academics must face several challenges, especially those related to the objectives of modifying teaching practices. Teacher training is one of the fundamental components, they must have a comprehensive understanding of the teaching profession, rather than focusing solely on their medical specialty.<sup>19</sup>

Considering our case study, we found that the results following data and national literature confirm that strategies must be discussed and integrated into medical education to improve future outcomes, to establish a model of how medical training can be adapted to the realities of Brazilian public health in the future.

A limitation of this research concerns the low number of respondents, medical internship students do not have PHC, Urgency, and Emergency as their choice of practice and did not indicate FCM residency as their choice of specialty. Despite the early inclusion of students in the PHC network, the medical internship workload is 30% of that of PHC and urgent and emergency care, as recommended by the NCG for the medical course. Hegemony in choosing the medical specialization was evident during the graduating process, with a preference for the focal specialty.<sup>20</sup>

## CONCLUSION

The profile of the evaluated medicine graduates indicates that most are interested in pursuing postgraduate studies in the medical residency format, primarily focusing on specialties rather than in the FCM area. However, regardless of the specialty these doctors choose for their future professional practice, incorporating a curriculum that emphasizes generalist, humanistic, and holistic principles will enable graduates to develop a broader perspective on healthcare, with the necessary social commitment to facilitate the transformation of current medical practices. In the future, these strategies have the potential to reshape the conception of the specialty, potentially influencing changes in the profile due to changes in the job market in Brazil.

## REFERENCES

1. Rodrigues LHG, Duque TC, Silva RM. Fatores Associados à Escolha da Especialidade de Medicina de Família e Comunidade. *Rev. bras. educ. med* 2020; 44 (03): e078.
2. Brasil. Ministério da Educação. Conselho Nacional de Educação. Câmara de Educação Superior. Resolução CNE/CES no 3, de 20 de junho de 2014. Institui diretrizes curriculares nacionais do curso de graduação em Medicina e dá outras providências. *Diário Oficial da União*, Brasília; 23 jun. 2014; Seção 1, p. 8.
3. Silva ATC *et al.* Medicina de Família do Primeiro ao Sexto Ano da Graduação Médica: Considerações sobre uma Proposta Educacional de Integração Curricular Escola-Serviço. *Rev. bras. educ. med* 2017; 41(2): 336 - 345.
4. Izecksohn MMV, Teixeira Junior JE, Stelet BP, Jantsch AG. Preceptoria em Medicina de Família e Comunidade: desafios e realizações em uma Atenção Primária à Saúde em construção. *Ciênc. saúde colet* 2017; 22 (3): 737-746.
5. Ribeiro MMF, Leal SS, Diamantino FC, Bianchi HA. A opção pela medicina e os planos em relação ao futuro profissional de estudantes de uma faculdade pública Brasileira. *Rev. bras. educ. med* 2011; 35(3): 405 - 411.
6. Veras RM, Fernandez CC, Feitosa CCM, Fernandes S. Perfil Socioeconômico e Expectativa de Carreira dos Estudantes de Medicina da Universidade Federal da Bahia. *Rev bras edu med* 2020; 44 (2): e056.
7. Rego RM, Marques NA, Monteiro PC, Oliveira CLB, Lins NAA, Caldas CAM. O perfil atual do estudante de Medicina e sua

repercussão na vivência do curso. Para Res Med J. 2018; 2(1-4):e05.

8. Scheffer M *et al.* Demografia Médica no Brasil 2023. São Paulo, SP: FMUSP, AMB, 2023. 344 p. ISBN: 978-65-00-60986-8.

9. Silva MLAM, Amaral E, Machado HC, Passeri SMRR, Bragança JF. Influência de Políticas de Ação Afirmativa no Perfil Socio-demográfico de Estudantes de Medicina de Universidade Brasileira. Rev bras edu med 2018; 42 (3): 36-48.

10. GEDM - Grupo de Estudos de Demografia Médica. Prov-Med 2030. Informe Técnico nº 2. Brasília; 2020. Disponível em: <https://www.gov.br/saude/pt-br/composicao/sgtes/acoes-em-educacao-em-saude/provmed/14-informe-tecnico-prov-med-no-2.pdf>.

11. Scheffer MC, Guilloux AGA, Dal Poz MR, Schraibe LB. Reasons for choosing the profession and profile of newly qualified physicians in Brazil. Rev Assoc Med Bras 2016; 62(9):853-861.

12. Oliveira FP *et al.* O Programa Mais Médicos e o reordenamento da formação da residência médica com enfoque na Medicina de Família e Comunidade. Interface 2019; 23 [supl 1]: e180008.

13. Scheffer MC, Cassenote AJF, Guilloux AGA, Dal Poz MR. Internal migration of physicians who graduated in Brazil between 1980 and 2014. Human Resources for Health 2018; 16 (21): 1-11.

14. Alves MFM, Leite JBR, Filgueira NA. Fatores associados à escolha da segunda especialidade entre concluintes da residência em clínica médica. Rev. bras. educ. med 2021; 45 (04): e209.

15. Rodrigues LHG, Duque TB, Silva RM. Fatores Associados à Escolha da Especialidade de Medicina de Família e Comunidade. Rev. bras. educ. med 2020; 44 (03): e078.

16. Nassar LM, Passador JL, Pereira Junior GA. Programa Mais Médicos, uma tentativa de solucionar o problema da distribuição médica no território brasileiro. Saúde debate 2021; 45 (131): 1165-1182.

17. Assunção LM, Pereira ABC, Albuquerque LCF, Ferreira LBM, Caldas CAM. A Expectativa Profissional do Futuro Médico: Análise do Quadriênio 2014-2017. Rev. bras. educ. med 2019; 43 (3): 73-81.

18. Ladha FA, Pettinato AM, Perrin AE. Medical student residency preferences and motivational factors: a longitudinal, single-institution perspective. BMC Med Educ 2022; 22(1):187. DOI: 10.1186/s12909-022-03244-7.

19. Costa NMSC. Docência no ensino médico: por que é tão difícil mudar?. Rev. bras. educ. med 2007; 11 (1): 21-30.

20. Maeyama MA, Ros MA. Estilos de Pensamento na Escolha da Especialidade Médica e Sua Correlação com as Políticas de Provimento para a Atenção Básica à Saúde - Um Estudo de Caso. Rev bras educ med 2018; 42 (2): 89-99. doi.org/10.1590/1981-52712015v42n2RB20170097.