

## SWOT at family and community medicine residency in São Paulo state

FOFA da residência em medicina de família e comunidade no estado de São Paulo

Lucas Gaspar Ribeiro<sup>1</sup> | [lucas.gaspar.ribeiro@usp.br](mailto:lucas.gaspar.ribeiro@usp.br)  
Eliana Goldfabr Cyrino<sup>2</sup> | [eliana.goldfarb@unesp.br](mailto:eliana.goldfarb@unesp.br)  
Antônio Pazin-Filho<sup>1</sup> | [apazin@fmrp.usp.br](mailto:apazin@fmrp.usp.br)

### ABSTRACT

**Introduction:** Medical residency is the gold standard for training in Family and Community Medicine. In the last decade there has been a significant increase in vacancies without evaluating quality of the programs.

**Objective:** To observe and qualify the perception of the residency preceptors in this area.

**Methodology:** Application of a quali-quantitative questionnaire in the state of São Paulo, with descriptive statistical analysis and use of the SWOT matrix associated with the Donabedian Triad based on Content Analysis of the interviewees.

**Results:** The sample consisted of 64 preceptors in 27 programs, with a median age of 37 years, consisting of 52% women. The most prevalent distribution is 2 residents per preceptor and 67% also work with undergraduate students. Of the sample, 56.7% have medical residency and 13.4% have degrees, in addition to 82% courses in preceptorship. The qualitative analysis indicates training in preceptorship and the increase in specialists as relevant points, but there is still difficulty with the organization of services and low support from municipal management.

**Conclusion:** Although there are preceptors with adequate training, it is still necessary to increase their number considering the disproportionate increase in the number of vacancies to the installed capacity. Improvement of structural conditions and greater support from municipalities will be necessary, according to the perception of preceptors in family and community medicine.

**Keywords:** Internship and Residency; Primary Health Care; Health Services Research; Family and Community Medicine.

### RESUMO

**Introdução:** A residência médica é o padrão ouro para formação em medicina de família e comunidade. Na última década houve aumento substancial de vagas sem a avaliação da qualidade dos programas.

**Objetivo:** Este estudo teve como objetivos observar e qualificar a percepção dos preceptores da residência nessa área.

**Método:** Aplicou-se um questionário qualiquantitativo no estado de São Paulo, com análise estatística descritiva e elaboração da matriz FOFA associada à tríade de Donabedian a partir da análise de conteúdo dos entrevistados.

**Resultado:** A amostra foi de 64 preceptores em 27 programas, com mediana de idade de 37 anos e composta de 52% de mulheres. A distribuição mais prevalente é de dois residentes por preceptor, e 67% atuam também com a graduação. Da amostra, 56,7% possuem residência médica e 13,4% são titulados, além de 82% com cursos em preceptoría. A análise qualitativa aponta a formação em preceptoría e o aumento de especialistas como pontos relevantes, mas ainda há a dificuldade com a organização dos serviços e o baixo apoio da gestão municipal.

**Conclusão:** Embora haja preceptores com formação adequada, ainda é necessário seu incremento ante o aumento do número de vagas desproporcional à capacidade instalada. Melhoria das condições estruturais e maior apoio dos municípios serão necessários de acordo com a percepção dos preceptores em medicina de família e comunidade.

**Palavras-chave:** Internato e Residência; Atenção Primária à Saúde; Avaliação dos Serviços de Saúde; Medicina de Família e Comunidade.

<sup>1</sup> Universidade de São Paulo, São Paulo, São Paulo, Brasil.

<sup>2</sup> Universidade Estadual Paulista "Júlio Mesquita Filho", São Paulo, São Paulo, Brasil.

Chief Editor: Rosiane Viana Zuza Diniz.

Associate Editor: Kristopherson Lustosa Augusto.

Received on 07/11/23; Accepted on 02/06/24.]

Evaluated by double blind review process.

## INTRODUCTION

Primary Health Care (PHC) is the main gateway to the Unified Health System (SUS), with the Family Health Strategy (FHS) being the pillar for its structuring. The medical professional who preferably works in PHC is a specialist in Family and Community Medicine (FCM)<sup>1</sup>. Presently, the country has 11,255 FCM professionals<sup>2</sup> for 50,804 family health teams<sup>3</sup> in October 2023, making it necessary to increase the current number of specialists by 7.4 times to reach the recommendation of 53,150 teams with family and community doctors, based on the ratio of 1 doctor for 4,000 people.

Medical residency is considered the gold standard for training new specialists. It allows professionals to acquire specific skills<sup>4-6</sup>. In the last decade, there was an increase of almost 11 times in the number of vacancies offered at FCM<sup>7</sup>. The presence of qualified preceptors is necessary<sup>8</sup> for the training of these professionals, with its distribution at a national level being unknown and considering that the specialty was only recognized in Brazil from 1981 onwards, under the name General Community Medicine<sup>9</sup>.

In addition to the lack of professionals, there is also an unequal distribution of FHS units and residency programs in the country<sup>10</sup>. The majority of specialists are located in the South and Southeast regions, corresponding to 70% of specialists and 46% of units<sup>2</sup>. In 2022, the state of São Paulo had 60 registered FCM medical residency programs (MRP-FCM), with 403 residents for 1420 vacancies, equivalent to 15.9% of active FCM residents in Brazil<sup>7</sup>.

The federal government has sought for more than a decade to increase the training of specialists through programs and policies such as pro-residency and the *Mais Médicos*

Law<sup>11-13</sup>. The most recent project is the “National Plan for Strengthening Health Residencies”, which aims to increase the number of vacancies and qualify medical residency preceptors, focused on Family and Community Medicine<sup>3</sup>.

Given the increasing number of vacancies and MRP-FCM, especially in the last decade, it is essential to determine not only the quantity and quality of medical instructors (preceptors), but also family health units (physical and professional structure) linked to medical residency in FCM at PHC. Thus, the aim of the study is to demonstrate the perception of preceptors about the quality of programs that operate based on health evaluation and strategic planning references.

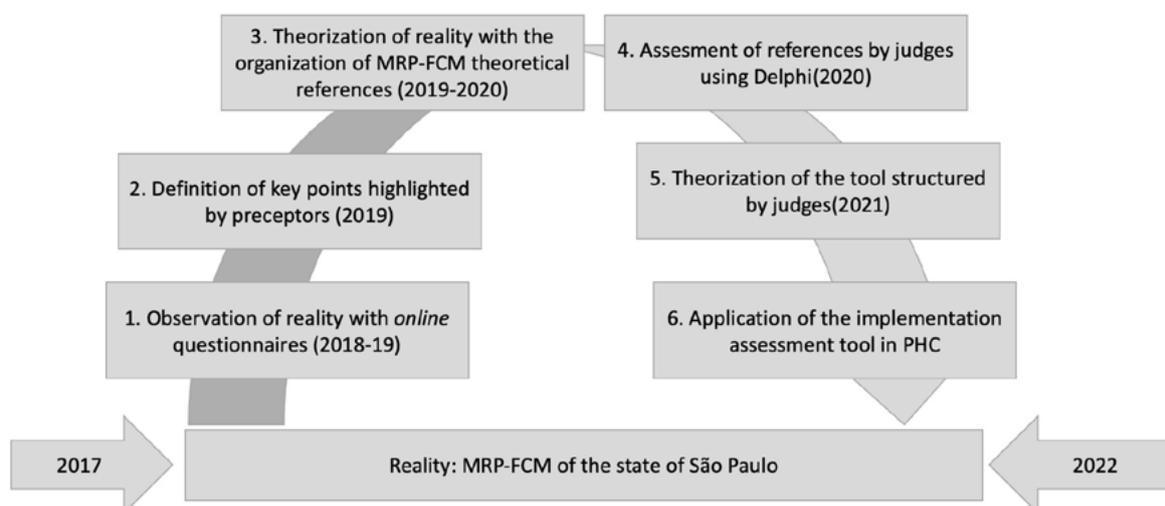
## METHOD

The methodology used in the present study is depicted in Figure 1, adapted from the Arc of Maguerez<sup>14</sup>, allowing an intersection of teaching and research. This article aims to present the results of steps 1 to 3 of the arc. The subsequent steps are presented in separate articles. The detailed description is presented below.

The research presented in this article was carried out as an observational and cross-sectional study of the MRP-FCM in the state of São Paulo. In the first stage of the arc, information was obtained about the residency preceptors at FCM and their experience in performing this role from November 2017 to May 2018 in the state. At this time there were 46 programs, with approximately 135 preceptors (numbers based on information from coordinators and supervisors), nominalized in the arch as “observation of reality”.

The data were obtained using a dedicated instrument developed for self-administration, structured with open and

**Figure 1.** Maguerez-Ribeiro arc of the project: Development of an instrument for evaluating and monitoring training conditions in Residency Programs in Family and Community Medicine (2017-22). Adapted from Maguerez Arc.



Source: Prepared by Lucas Gaspar Ribeiro.

closed questions, sent electronically to the MRP-FCM preceptors in the state of São Paulo. The questionnaire was constructed based on a literature review, adaptation of other specialties and professional aspects inherent to the Brazilian preceptor<sup>8</sup>. It consisted of 19 closed questions and for the present study, the following information was analyzed: general characteristics, information about current activity and additional training, and 7 open field questions, with the analysis at this point of the following: *“What does being a preceptor of the residency program mean to you, based on your day-to-day life?”*; *“Tell me what you do as a preceptor, what is your day-to-day like?”*; *“What are the positive points of working as a preceptor?”*; *“And what are the negative ones?”*; *“Are there any challenges in working in preceptorship? If so, which ones?”*; *“Are there any rewards in your work?”*

The developed instrument was tested in a pilot study with FCM residency preceptors from outside the state of São Paulo before its application.

The preceptors were contacted through the MRP-FCM coordinators, linked to the State Medical Residency Commission (CEREM-SP).

The stage 2 of the arc below consisted of data analysis, using descriptive statistics for closed questions, with categorical variables with absolute and relative frequency and quantitative variables with median and corresponding intervals. Bardin's content analysis<sup>15</sup> was used to analyze the open questions.

To analyze the results, the following steps were carried out: pre-analysis (floating reading and choice of theoretical references based on emerging statements/ideas/representations), exhaustive reading, formulation of hypotheses and categorization of statements into thematic nuclei, with sub-nuclei (exploration and categorization emerging from the text and association with the references that “emerged” from the interviews). From the analysis, the most representative results for this research were inserted into a SWOT matrix (Strengths, Opportunities, Weaknesses and Threats)<sup>16</sup>. There are other nuclei and subnuclei that are not represented in this material, as they do not have a direct correlation with the matrix and with the subsequent stage of the arc for the proposed objectives<sup>17</sup>.

Based on observation of the reality of preceptors, the third stage of the arc consisted of current legislation on medical residency programs (mainly in the assessed area) and guidance materials from the Brazilian Society of Family and Community Medicine on Medical Residency, determining possible points for evaluating programs based on the Donabedian Triad<sup>18</sup>.

Finally, the theorization of the preceptors' perception, based on Content Analysis (categorical thematic, emerging through inference), associated with the construction of the SWOT matrix with overlap in the Donabedian Triad was aimed at three major areas of program evaluation: Preceptor-resident

relationship; Preceptor-unit relationship and Preceptor-management relationship, based on the contents emerging from the analysis. Thus, the preceptor was the core of a circle using Content Analysis, Strategic Planning and Health Services Assessment as methodological and theoretical references (Figure 2). The discussion will be based on the halo of the circle, using the layers as structures.

The study was approved by the Ethics Committees of the Faculty of Medicine of Botucatu – UNESP and Faculty of Medicine of Ribeirão Preto - USP under CAEE opinions: 78853317.0.0000.5411 and 30805420.5.0000.5440.

## RESULTS AND DISCUSSION

The observation of reality (Figure 1) included 64 completed questionnaires (two was eliminate because incomplete information), from 27 programs, totaling 58% of programs and 50% of characterized preceptors, being an adequate percentage for the methodology<sup>19</sup>. Observing the geographical distribution, there were 6 programs in the capital, 4 programs from the ABC region in São Paulo and the others from the interior and coastal regions. Of the responses, 43 programs (67%) were programs linked to the Municipal Health Secretariat and 23 programs were linked to educational institutions. One preceptor was unaware of the program's connection.

Of the general characteristics of preceptors in 2019, the number of female preceptors is slightly higher (35 preceptors – 52%), with a median age of 37 years (minimum of 27 years and maximum of 62 years). This significant sample of FCM preceptors in the state of São Paulo can be extrapolated to the rest of the federation in terms of gender, age and medical residency training<sup>20</sup>. In contrast, the following data are unprecedented in the national literature.

Of the total, 56 individuals (73%) worked with FCM before taking on the role of preceptor, with a median duration of experience of 60 months (ranging from 4 to 228 months). Considering the time spent as a preceptor, the median was 24 months (minimum 2 and maximum 276).

Considering the number of residents under their preceptorship (first and second year residents), the median is 2, with a minimum of 1 and a maximum of 9 simultaneously. Additionally, 45 individuals (67%) also provide undergraduate tutorship.

Regarding the scholarship to work as a preceptor and whether it was decisive in choosing a career as an educator, 22 preceptors (33%) report receiving a preceptorship scholarship; among them, only 6 individuals (30%) indicate the scholarship as a decisive factor in their choice, 11 (55%) did not consider it an important factor and 3 (15%) reported that it may have been important.

The second aspect evaluated was the professional's training in terms of specialization, residency and specialist title. The sample consisted of 47 (70.1%) specialists in FCM, distributed among 38 (56.7%) individuals who completed a medical residency in FCM and 9 (13.4%) who obtained the title through the board certification test of the Brazilian Society of Family and Community Medicine/Brazilian Medical Association. The sample also consists of 2 (2.9%) professionals who do not have any additional training.

Finally, Table 1 shows the preceptor's complementary training through preceptorship courses taken by the interviewees until 2019.

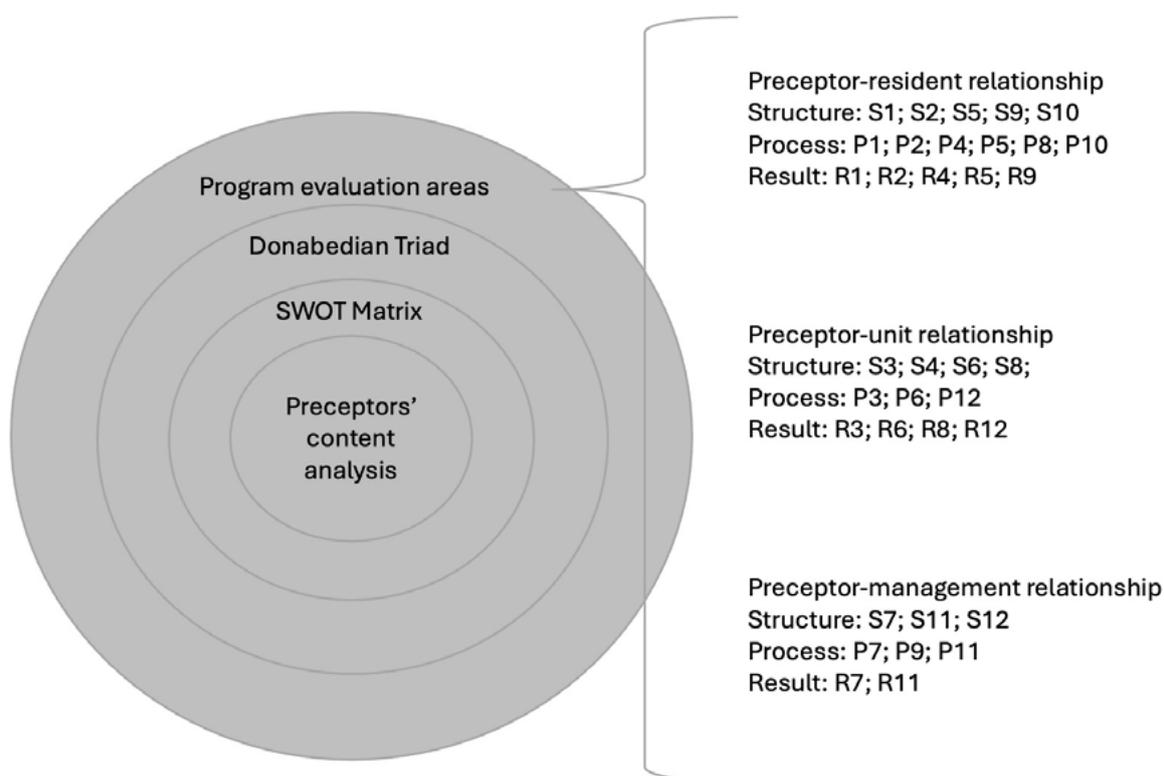
Regarding the *strictu sensu* training, 20 preceptors had obtained it (29.8%), 9 of which with a Master's Degree

(13.4%), 8 with a Master's degree in progress (11.9%), 1 with a Ph.D. (1.4%) and 2 with a Ph.D. in progress (2.9%). The training areas are: Public Health (7), Public Health, public policies and management (1), Family Health (2), Biomedical Engineering (1), Educational Technologies in Health (1), Demography (1), Medical Education (1), Management and Public Health (1), Dermatology (1) and Nutrology (1).

The stage 2 of the arc (Figure 1) consisted in the construction of the SWOT matrix based on Bardin's<sup>15</sup> analysis, using five questions that preceptors answered among the seven open questions asked during data collection (Chart 1).

Finally, stage 3 (Figure 1) consisted of the interlocation of quantitative and qualitative data (both the SWOT matrix

**Figure 2.** Circle representing the Content Analysis and representation of the stages of construction of the assessment cores and items present in each sub-core based on Chart 1 of the Residency Programs in Family and Community Medicine.



Source: prepared by Lucas Gaspar Ribeiro.

**Table 1.** Preceptorship courses carried out by preceptors until 2019.

Course	Total of preceptors	Only this course	Total of preceptors (%)	Only this course (%)
PROAD-SUS1 <sup>a</sup>	16	6	23.8	8.9
PROAD-SUS2 <sup>b</sup>	30	18	44.77	26.8
Private	24	10	36.17	14.9
Others	16	3	23.7	4.3
No one	12	0	17.9	
Total	98 (62 preceptors)	37	100	82.1

<sup>a</sup>PROAD-SUS1: In-person course; <sup>b</sup>PROAD-SUS2: Distance Learning Course; Source: prepared by the authors.

and the descriptive questions) with the legislative databases and scientific production on medical residency in FCM and PHC to build a Donabedian triad<sup>18</sup> associated with strengths, weaknesses, opportunities and threats perceived by the preceptors (Chart 1).

After the organization of Chart 1, the preceptors' work process was distributed into three major areas, with the evaluation nuclei being as follows: 1) Preceptor-resident relationship, 2) Preceptor-unit relationship and 3) Preceptor-management relationship (Figure 2). These dimensions of the preceptor's performance demonstrated the interest in applying new methodologies, which may be limited by structural issues and the process of the unit and municipal management.

The characterization of the preceptor's relationship with the resident, with the unit and the management (Chart 1) was evaluated in the dimensions of Structure, Process and Result in the three major areas, dividing into strengths, opportunities, weaknesses and threats in relation to the MRP-FCM, correlating health assessment<sup>18</sup> with situational analysis<sup>16</sup> within the field of health education.

When observing the Preceptor-Resident Relationship area, components emerge: training in Family and Community Medicine and in medical preceptorship by the preceptor, with this professional being considered a model for new residents and undergraduate students.

Being a model for graduation, specifically, is a modifying factor in medical specialty choices. Finally, the preceptor-resident relationship is also a modifier of care in the health network to which both belong and a protective factor for the preceptor, who becomes part of a group of FCM educators nationally.

Preceptorship training (component S.1.) is a strength of the Structure component. It can occur from the training offered by the federal government to MRP-FCM or an active search for a preceptor<sup>21</sup>. Hence, the association of being a specialist in FCM (component S.2.) - 70.1% are specialists (56.7% with residency) - with the training in preceptorship (82.1% of the sample) demonstrates that the preceptors of the state are trained for their work and educational models<sup>8,22</sup>. This is unprecedented data in the literature, the association of two strategic characteristics of instructors

**Chart 1.** SWOT matrix based on the meaning nuclei from the perception of preceptors in the state of São Paulo, based on the Donabedian Triad.

SWOT	Structure (E.n.)	+	Process (P.n.)	=	Results (R.n.)
Strengths	S.1. Offer of preceptorship courses S.2. Become an MFC expert S.3. Adequate team work process in the unit (schedule, rooms, assigned territory)		P.1. Use of teaching tools in preceptorship (preceptor in 1 minute, remainder, simulation, etc.) P.2. Being a model for others as an expert P.3. Use of shared management with the resident.		R.1. Adequate evaluation of the consultation and the resident R.2. Increase in specialists, consolidating FCM and training new doctors to work in PHC R.3. Improved schedule, greater assistance coverage, positive return on the provided service
Weaknesses	S.4. Lack of environment to use preceptorship tools S.5. Not being an FCM expert S.6. Difficulty in organizing the team's work process in the unit (schedule, rooms, assigned territory)		P.4. Use of traditional education tools (study group, theoretical class) P.5. Being a model without training in FCM P.6. Imbalance of demand <i>versus</i> teaching		R.4. Difficulty in assessing the quality of doctors in training; R.5. Dropout of residents; Lack of preparation since graduation R.6. Excessive demand <i>versus</i> teaching (territorial size and schedule) with worse quality in training
Opportunities	S.7. Payment of preceptorship scholarship S.8. Social transformation of the local health system/PHC S.9. Greater number of FCM specialists available on the market		P.7. Financial return as a preceptor P.8. Collective group that wants training services at PHC P.9. Training policies at PHC		R.7. Choosing to be a preceptor to receive more R.8. Increase in FCM specialists in PHC with good feedback from staff and patients R.9. Increase in model professionals in the program
Threats	S.10. Lack of knowledge about the nature of the specialty when choosing S.11. Lack of financial support (insufficiency or lack of scholarship) S.12. Lack of support from municipal management		P.10. Dropout during residency due to lack of knowledge about the specialty P.11. Absence of preceptorship grant to assist in hiring specialists P.12. Demand <i>versus</i> teaching and inadequate physical structure for teaching and assistance		R.10. Greater difficulty in increasing specialty R.11. Low financial aid (not attracting qualified professionals) R.12. Care demands of the unit beyond the teaching capacity

Source prepared by the authors.

of new specialists: training in the area of expertise and in medical education.

When being a specialist in FCM and having training in medical preceptorship coexist, it is expected that these professionals will have greater skills for their daily practice<sup>23-25</sup>. These skills promote the use of educational tools, such as active methodologies and direct observation of their preceptors (models), resulting in positive or negative MRP-FCM structures and processes, depending on the preceptor's training (components S.5.; P.2. and P.5.)<sup>22,26</sup> and the service, as explained in the preceptor-unit and preceptor-management relationship groups.

When residency training is qualified, there is an improvement in the quality of PHC both in health units with medical residency and in the inclusion of new specialists as a workforce from the perception of preceptors (components R.1.; R.2.; R.8. and R.9.) but also from the current literature<sup>27,28</sup>, being a structural opportunity of the MRP-FCM (S.8. and S.9.). Moreover, the presence of medical residency and more training professionals creates a sense of belonging to a collaborating group for FCM in the country (component P.8.), and this is a characteristic already found outside the country<sup>29</sup>.

Thus, MRP-FCM can be modifiers of care in PHC, health promoters, instructors of professionals that are highly specialized in caring for people (component R.2.) and who promote the interaction of a group of people with a common objective: to train new family and community doctors.

However, from the respondents' perception, medical graduation can be understood as a Threat (S.10.), because although the 2014 National Curricular Guidelines for Medicine show the training of generalist doctors with a high workload in PHC<sup>30</sup>, as the guidelines are relatively recent, there could be low exposure in the year that was answered (2019). Nevertheless, 67% of the sample of interviewees work with both residency and undergraduate students, being a group prepared to present the specialty both to the medical graduates and to residents, in theory.

A possible justification for the inadequate graduation components as a factor of low vacancy coverage, dropout during residency and difficulty in increasing the number of specialists (S.10.; P.10.; R.5. and R.10.) may be the training of graduates far from large cities, due to the great dispersion of medical courses in the country<sup>31</sup>, a movement opposite to the establishment of FCM specialists, who choose to be in large cities<sup>20</sup>.

However, the perception of preceptors in São Paulo should not have this bias, as they are qualified, work with undergraduate students and are in large cities. To understand the phenomena observed by graduate preceptors, specific studies will be necessary.

A possible justification for the data presented herein is the relationship between preceptor-unit and preceptor-management, which causes greater or lesser difficulties in the work process and teaching-learning process.

The preceptor-unit relationship area can be observed in the field of organizational relationships in the work and teaching process, classified as a strength (component S.3.) when the team is synchronous with the resident's training and with the understanding of a space of education, but also as a weakness (S.6.) when it does not occur, in addition to the perception of the physical space of the unit as a factor that can make it difficult, as explained in component P.12.

The services that are organized in school units are considered models, both in terms of assistance and management<sup>25,32-34</sup>. The organization of the schedule, the territory and the resident's autonomy in relation to the team are competencies expected for training in FCM<sup>35</sup>, so much so that they are highlighted by preceptors as components present in the processes and results of the MRP-FCM, explained in P.3.; P.6.; R.3. and R.9. Thus, these should be aspects that all FCM programs should seek – reconciling the physical structure with the resident's territory and schedule, understanding their moment as in-service training, generating greater autonomy throughout the process, but under supervision and evaluation.

However, components similar to those exposed above emerge as weaknesses, structuring the work process such as E.4. and E.6. Although there is no specific data to justify the preceptors' statements, especially regarding the training and the large presence of specialists in the sample, it may be reasonable to infer that the excessive demand for care given the need for resident and student teaching, makes it difficult to train the professionals<sup>8,36-38</sup>.

The difficulty in organizing the work process in the unit overloads assistance to the detriment of teaching, as explained in components R.6. and R.12., dependent on the organization of the MRP-FCM with the number of residents, undergraduate students and activities of the health units.

In addition to the care demand, there is the demand to instruct undergraduate students and residents simultaneously, although the median number of residents per preceptor is the ideal one (2 residents). Therefore, a point that can be observed is the assigned area (S.6). The current PHC financing model favors funding for a greater number of people registered in the unit<sup>39</sup>, which is contradictory<sup>20</sup> to school units, in fact.

The care and educational pressure with graduation can be a deciding factor in the implementation of an active teaching and resident assessment methodology, being present in components S.4.; P.4. and R.4. In addition to the excess demand, the application of active methodologies depends

on an adequate physical structure, which was presented as a problem by the preceptors.

Teaching is not limited to presenting knowledge, but evaluating whether the resident can apply it in their practice<sup>29</sup>. The different evaluation forms are present in the teaching Result components, in R.1. and R.4. The operating structure of an inadequate unit also interferes with the results of evaluating the residents' skills throughout their training. As a result, the organization of the unit, here named as preceptor-unit relationship, influences the outcome of the residency in an indiscriminate manner: in-service training and qualification of the resident doctor under supervision in a protected space.

Finally, the third area, the preceptor-management relationship, is closely linked to aspects presented above, such as the assigned area, physical structure of the unit and organization of the schedule. However, it can be observed beyond the unit, such as funding preceptorship activities, improving the health network and perceiving the residency as a modifier of the local health system, valuing the provided service.

The presence of the MRP-FCM improves health monitoring and referral to focal specialists<sup>27,28</sup>, in addition to contributing to an increase in FCM specialists in the job market, being components desired by preceptors (R.8. and R.9.). Furthermore, there is a perception by the municipal management of improved service and labor relations when the MRP-FCM is present in the municipality<sup>10</sup>.

Thus, the presence of the MRP-FCM improves the service provided to the population, in addition to a perception of the municipal management as something positive to be present in the health network. However, it is necessary to assess the motivations of municipal managers in opening new programs, whether the objective is to provide assistance with financial help from the federal government only or with the objective of providing the municipality with educational centers as well, with the absorption of new specialists into the network.

To increase the presence of family and community doctors in municipal programs, health departments offer scholarships to preceptor doctors<sup>20</sup>, considering the change in the assistance that MRPs provide. Among the respondents, 33% receive an additional fee to be a preceptor, and the majority who receive it report that it was not the reason for choosing the activity (55%), consistent with the international literature<sup>40</sup>. This demonstrates that despite being present in components S.7. and S11., the professional chooses the preceptorship position for reasons other than financial ones.

Moreover, the scholarship is just one aspect in the retention of professionals, which also have as points of retention the place of training in the residency and the place of birth<sup>20</sup>, demonstrating that the retention of professionals

also depends on aspects of familiarity with the service and family relationships. Therefore, the increase in the number of professionals may be hindered in some geographic spaces, as it is already the case in the distribution of the specialty in the country<sup>31</sup>, despite the policies of interiorization and retention of doctors in PHC<sup>41</sup>. It is necessary to understand the professionals' reasons for wanting to be a preceptor and what keeps them in the position, to increase their retention and quality of teaching and assistance.

Finally, thirty-six components were presented, distributed in a SWOT matrix inserted in the Donabedian Triad, based on aspects that MRP-FCM preceptors listed in their work processes. It is important to highlight that these are considerations from professionals who work directly in education, which reinforced the aspects that interfere with their hiring, the educational process in the unit and activities they carry out outside the work environment (such as preceptorship courses).

However, important dimensions were not present in the preceptors' speech, such as: activities that the resident carries out in their training (e.g. procedures, groups, visits), activities that are characteristic of PHC such as teamwork, continuing education, professional training and qualification activities (continuing education and free courses).

As demonstrated throughout the text, new studies to associate the dimensions presented by preceptors, in addition to those described above, will be necessary. Therefore, it will be possible to construct MRP-FCM implementation matrices, based on the preceptor's experience, professional practice in PHC, the competencies expected to be developed in residency programs and the legislation required for them to occur.

Moreover, descriptors defined throughout this article were created based on the experiences of preceptors and national and international literature. One point to be developed in future research is whether these descriptors are really modifying the expected results of residency programs: an increase in professionals trained to act as family and community doctors and not just an increase in the number of specialists and which MRP-FCM configurations are more effective in achieving the objective of attaining quality in the training of residents, without observing only the quality of care of the unit, considering them as descriptors that evaluate the dynamics of the unit only.

## FINAL CONSIDERATIONS

FCM is a specialty that has been growing since the 1970s in Brazil, with an increase in the number of vacancies and specialists trained in medical residency in the last decade. This change is the result of the increase in residency programs and the increase in the number of vacancies in existing programs,

generating greater demand for professionals and teams working in care and teaching simultaneously.

The way to adapt teaching and assistance is not yet defined in the literature, as are the ways in which PHC teams are structured to organize resources and work processes, generating adequate results. Thus, this study aimed to present, based on the experience of preceptors and national legislation, positive and negative aspects, both of the MRP-FCM and of municipal management to achieve the objective of being an instructor.

The results demonstrated that there is a concern for better resident training, but with many difficulties in organization, making it necessary to adapt PHC for resident training and instruments that evaluate this training space. Therefore, this study can be the starting point for the development of instruments to evaluate the quality of programs, given the expertise and perceptions of the people involved in the direct training of new Brazilian family and community doctors.

## AUTHORS' CONTRIBUTION

Lucas Gaspar Ribeiro: participated in the entire preparation of the manuscript, from project conception, data collection, analysis of results such as the dissertation, thesis and article and preparation of the material present herein. Eliana Goldfabr Cyrino: participated in the project conception, data collection, data analysis in the dissertation, organization and discussion of the results and preparation of the material present herein. Antônio Pazin Filho: participated in the analysis of the results as a thesis (preparation of data in SWOT and Donabedian triad), discussion of the results and preparation of the manuscript.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

## SOURCES OF FUNDING

The authors declare no sources of funding.

## REFERENCES

1. Brasil. Portaria nº 2.436, de 21 de setembro de 2017. Aprova a Política Nacional de Atenção Básica, estabelecendo a revisão de diretrizes para a organização da Atenção Básica, no âmbito do Sistema Único de Saúde (SUS). Brasília: Ministério da Saúde; 2017 p. 1-35.
2. Scheffer M, Guilloux AGA, Miotto BA, Almeida C de J, Guerra A, Cassenote A, et al. Demografia médica no Brasil 2023. São Paulo: FMUSP, AMB; 2023. v. 1, 344 p.
3. Brasil. Plano Nacional de Fortalecimento das Residências em Saúde. Brasília: Ministério da Saúde; 2021. 27 p.
4. Horii CL. Um estudo da residência médica para a compreensão da formação continuada de professores [dissertação]. São Paulo: Universidade de São Paulo; 2013.
5. Howell JD. A history of medical residency. *Rev Am Hist.* 2016;44(1):126-31.
6. Miranda Júnior UJP de. Comissão nacional de residência médica: caminhos e descaminhos na gestão desta modalidade de especialização médica no Brasil [dissertação]. Rio de Janeiro: Fundação Getulio Vargas; 1997.
7. Simas KB da F, Gomes AP, Simões PP, Augusto DK, Siqueira-Batista R. A residência de medicina de família e comunidade no Brasil: breve recorte histórico. *Rev Bras Med Fam Comunidade.* 2018;13(40):1-13.
8. Ribeiro LG, Villardi ML, Cyrino EG. Preceptor em residência médica em medicina de família e comunidade: compreendendo a singularidade desse profissional. In: Teixeira CP, Guilam MCR, Machado M de FAS, Gomes MQ, Almeida PF de, editores. *Atenção, educação e gestão produções da Rede ProfSaúde.* Porto Alegre: Rede Unida; 2020. p. 253-68.
9. Falk JW. A medicina de família e comunidade e sua entidade nacional: histórico e perspectivas. *Rev Bras Med Fam Comunidade.* 2004;1(1):5-10.
10. Leite APT, Correia IB, Chueiri PS, Sarti TD, Jantsch AG, Waquil AP, et al. Residência em medicina de família e comunidade para a formação de recursos humanos: o que pensam gestores municipais? *Cien Saude Colet.* 2021;26(6):2119-30.
11. Alessio MM, Sousa MF de. Regulação da formação de especialistas: inter-relações com o Programa Mais Médicos. *Physis.* 2016;26(2):633-67.
12. Rodrigues RD, Campos CEA, Anderson MIP. Formação e qualificação do médico de família e comunidade através de programas de residência médica no Brasil, hoje: considerações, princípios e estratégias. Rio de Janeiro: Sociedade Brasileira de Medicina de Família e Comunidade; 2005. 28 p.
13. Brasil. Lei nº 12.871, de 22 de outubro de 2013. Institui o Programa Mais Médicos, altera as Leis nº 8.745, de 9 de dezembro de 1993, e nº 6.932, de 7 de julho de 1981, e dá outras providências. Brasília: Presidência da República; 2013. p. 1-14.
14. Berbel NAN. Metodologia da problematização: uma alternativa metodológica apropriada para o ensino superior. *Semina: Ciências Sociais/Humanas.* 1995;16(2):9-19.
15. Bardin L. *Análise de conteúdo.* São Paulo: Edições 70; 2011. 280 p.
16. Wehrich H. The TOWS matrix: a tool for situational analysis. *Long Range Plann.* 1982 Apr;15(2):54-66.
17. Ribeiro LG. Os preceptores de residência médica em medicina de família e comunidade do estado de São Paulo: quem são? onde estão? o que fazem? [dissertação]. Botucatu: Universidade Estadual Paulista "Júlio de Mesquita Filho"; 2019.
18. Donabedian A. The quality of care how can it be assessed? *J Am Med Assoc.* 1988;260(12):1743-8.
19. Wachelke J, Natividade J, Andrade A de, Wolter R, Camargo B. Avaliação de uma coleta de dados online. *Aval Psicol.* 2014;13(34):143-6.
20. Leite APT, Mai S, Waquil AP, Cordero EAA, Rosa VS da, Daudt CVG, et al. Perfil e migração de membros dos programas de residência em medicina de família e comunidade. *Rev Saude Publica.* 2022;56:21.
21. Brasil. Portaria de Consolidação SAPS/MS nº 1, de 2 de junho de 2021. Consolidação das normas sobre Atenção Primária à Saúde. Brasília: Ministério da Saúde; 2021. p.104-120.
22. Benbassat J. Role modeling in medical education. *Acad Med.* 2014 Apr;89(4):550-4.
23. Barreiros BC, Diercks MS, Biffi M, Fajardo AP. Estratégias didáticas ativas de ensino-aprendizagem para preceptores de medicina de família e comunidade no EURACT. *Rev Bras Educ Med.* 2020;44(3).
24. Lawall PZM, Pereira AMM, Oliveira JM de, Gasque KC da S. A preceptoria médica em medicina de família e comunidade: uma proposta dialógica com a andragogia. *Rev Bras Educ Med.* 2023;41(1):12.
25. Rosas JBM, Lopes Junior A, Moreira JV, Afonso MPD, Sarno MM, Borret RH do ES, et al. Recomendações para a qualidade dos programas de Residência de Medicina de Família e Comunidade no Brasil. *Rev Bras Med Fam Comunidade.* 2020;15(42):2509-2519.
26. Pereira DRDS, Moia L de JMP. O PET-Saúde como referência para a preceptoria da residência médica em medicina de família e comunidade. *Revista Exitus.* 2019;9(3):365-394.

27. Jantsch AG, Burström B, Nilsson G, de Leon AP. Detection, and follow-up of chronic health conditions in Rio de Janeiro – the impact of residency training in family medicine. *BMC Fam Pract.* 2021 Dec 13;22(1):223.
28. Jantsch AG, Burström B, Nilsson GH, Ponce de Leon A. Residency training in family medicine and its impact on coordination and continuity of care: an analysis of referrals to secondary care in Rio de Janeiro. *BMJ Open.* 2022 Feb 15;12(2):e051515.
29. Wilm S. The EURACT Performance Agenda of General Practice/Family Medicine. *EURACT.* 2014;1(1):1-101
30. Brasil. Resolução nº 3, de 20 de junho de 2014. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Medicina e dá outras providências. Brasília: Ministério da Educação; 2014. p. 14.
31. Scheffer M. Demografia média no Brasil 2020. São Paulo: FMUSP, CFM; 2020. 312 p.
32. Brasil. Portaria nº 3.510, de 18 de dezembro de 2019. Altera a Portaria de Consolidação nº 6/GM/MS, de 28 de setembro de 2017, para instituir incentivo financeiro de custeio adicional mensal para municípios com equipes de saúde integradas a programas de formação. *Diário Oficial da União*; 2019. Edição 245, seção 1, p. 151.
33. Garcia AP, Cadioli LM, Lopes Júnior A, Gusso G, Valladão Júnior JBR. Preceptor na residência de medicina de família e comunidade da Universidade de São Paulo: políticas e experiências. *Rev Bras Med Fam Comunidade.* 2018;13(40):1-8.
34. Morris C, Blaney D. Work-based learning. In: Swanwick T, editor. *Understanding medical education.* Chichester, UK: John Wiley & Sons; 2013. p. 97-109.
35. Sociedade Brasileira de Medicina de Família e Comunidade. Currículo baseado em competências para a medicina de família e comunidade. Rio de Janeiro: SBMFC; 2015.
36. Botti SH de O, Rego S. Preceptor, supervisor, tutor e mentor: quais são seus papéis? *Rev Bras Educ Med.* 2006;32(3):363-73.
37. Botti SH de O. O papel do preceptor na formação de médicos residentes: um estudo de residências em especialidades clínicas de um hospital de ensino [tese]. Rio de Janeiro: Escola Nacional de Saúde Pública Sérgio Arouca; 2009.
38. Carvalho Filho A de M, Santos AA dos, Wyszomirska RM de AF, Gauw JH de, Gaia IMSRS, Houly RM. Formação na residência médica: visão dos preceptores. *Rev Bras Educ Med.* 2022;46(2):e52.
39. Brasil. Portaria nº 2.979, de 12 de novembro de 2019. Institui o Programa Previne Brasil, que estabelece novo modelo de financiamento de custeio da Atenção Primária à Saúde no âmbito do Sistema Único de Saúde, por meio da alteração da Portaria de Consolidação nº 6. Brasília: Ministério da Saúde; 2019. p. 7.
40. Aguiar AC de. Preceptor em programas de residência: ensino, pesquisa e gestão. Rio de Janeiro: Cepesc; 2017. 207 p.
41. Melo Neto AJ de, Barreto D da S. Programa Médicos pelo Brasil: inovação ou continuidade? *Rev Bras Med Fam Comunidade.* 2019;14(41):2162-71.



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 the original work is properly cited.