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ORIGINAL ARTICLE / *ARTIGO ORIGINAL*

The quality of primary care services, vocational training and the More Doctors Program in a health region of southwest Goiás

A qualidade de serviços de atenção primária, a formação profissional e o Programa Mais Médicos em uma região de saúde do sudoeste goiano

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ABSTRACT: ***Introduction:*** Primary health care must assume the centrality of care so that health systems address and solve the health needs of the population. ***Objective:*** To evaluate the quality of primary health care from the perspective of health professionals, including those associated with the Mais Médicos Brasil Program, verifying associations between quality of services and professional qualification. ***Methodology:*** A cross-sectional study where interviews with health professionals were carried out. The quality of care was measured by means of interviews about the experience of doctors and nurses with the services, using the Primary Care Assessment Tool (PCATool-Brasil). The presence and the extension of the primary health care attributes of the Southwest II region of Goiás state, constituted by 10 municipalities, were investigated. ***Results:*** The lowest APS Overall Score was for the first contact access attribute (3.71). The bivariate analysis showed statistical difference between the variables profession and the essential, derived and general scores. Doctors of the More Doctors Program had higher average scores (7,68 essential; 9,11 derivative; 8,04 general) when compared to other medical professionals and nurses. ***Conclusions:*** The findings highlight the importance of permanent evaluation of health services, especially primary care, due to its importance and centrality to the organization of other levels of care. Only from this monitoring is possible a better management orientation for strategic and resolutive investments.

Keywords: Health evaluation. Primary health care. Health consortia.

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RESUMO: ***Introdução:*** A atenção primária à saúde (APS) deve assumir a centralidade do cuidado para que os sistemas de saúde atendam às necessidades de saúde da população e as resolvam. ***Objetivo:*** Avaliar a APS com base em seus atributos, sob a perspectiva dos profissionais, por meio do instrumento de avaliação da atenção primária à saúde (*primary care assessment tool* — PCATool), verificando fatores que se associam à melhor atenção. ***Metodologia:*** Estudo transversal realizado com 41 enfermeiros e 31 médicos na região sudoeste II do estado de Goiás mediante entrevistas com o instrumento PCATool. Análise bivariada e múltipla por meio da regressão linear foi utilizada para verificar os fatores associados aos atributos da APS. ***Resultados:*** O menor escore geral de APS foi para o atributo acesso de primeiro contato (3,71). A análise bivariada e múltipla mostrou diferença estatística entre as variáveis profissão e os escores essencial, derivado e geral. Médicos do Programa Mais Médicos apresentaram maiores pontuações médias (7,68 essencial; 9,11 derivado; 8,04 geral) quando comparados aos outros profissionais médicos e enfermeiros. ***Conclusões:*** Evidenciou-se alto escore geral para os atributos, exceto para o acesso de primeiro contato. O tempo de formação acadêmica e de trabalho mostrou-se satisfatório. Consideram-se fatores associados entre formação, qualificação profissional e os atributos da APS o fato de pertencer ao Programa Mais Médicos e o nível da formação acadêmica, pontos que estiveram relacionados à obtenção de melhores escores.

Palavras-chave: Avaliação em saúde. Atenção primária à saúde. Programa Mais Médicos.

INTRODUCTION

In recent decades, Brazil has adopted public policies as a way to consolidate primary health care (PHC) and, thus achieve the constitutional principles of the Public Health System (*Sistema Único de Saúde* - SUS). PHC actions have the power to change the population's morbidity and mortality profile and meet their health needs[1,2].

Therefore, the Ministry of Health (MOH) has been investing in strategies for them to be qualified. Recently, the More Doctors Program (*Programa Mais Médicos* - PMM) was implemented and it aimed to achieve more universal primary care[3,4]. With doctors from other countries participating, especially Cubans, its implementation has aimed to overcome the shortage of medical professionals in critical areas of the country, thus reducing inequalities due to access, and contributing to the strengthening and consolidation of PHC[5,6].

Extrapolating the political issues and criticisms made about the PMM, such as its structure, its sustainability, and the idea of foreign doctors coming to Brazil, preliminary studies have shown that its implementation have made it possible to expand access and reach coverage of almost 100% of the population in small municipalities, with increased access to PHC, thus ensuring greater health care. This is because it was able to link medical professionals to the Family Health Strategy (*Estratégia Saúde da Família* - ESF) teams, which until then were inactive due to their absence, and reorganized the structure of medical education, with the increase of vacancies, the opening of new courses in regions with a low physician/inhabitants ratio, as well as strengthening the insertion of medical students in primary care units[7,8].

Health professionals working at the primary level are expected to have some essential attributes/elements for quality service, including: first contact, longitudinality, completeness, care coordination, family focus, community orientation and cultural competence. The first four attributes are deemed essential and indicate whether a health service is a PHC provider, and the last three are deemed derivatives and qualify for PHC actions[2,9,10].

One of the proposals to measure these attributes is to define strategies that can measure the quality of PHC, understood here as effective, efficient and user-centered assistance[9]. In this context, initiatives have been adopted by the MOH to institutionalize evaluation processes and continually monitor health indicators. Examples are the National Program for Access and Quality Improvement (*Programa Nacional de Melhoria do Acesso e da Qualidade* - PMAQ), which aims to encourage municipalities to improve the quality of health services; and the Primary Care Assessment Tool (PCATool), which is used to verify the presence and extent of its attributes[9-11].

The PCATool, in view of its recognition and validation in other countries and its ability to provide a reliable assessment about PHC, has been frequently used in studies that aim to identify the quality of care. It was adopted by the MOH and was chosen as the instrument of this study. It is worth noting that this questionnaire allows for the collection of information that measures the operational, practical and structural characteristics of primary care[11,12].

Data indicate that when professionals have a better understanding of PHC, there is a greater likelihood of better health levels at lower costs, as well as better health indicators. Thus, there is greater rationality and efficiency in disease control and better and more frequent use of preventive practices, which consequently reflects in better-assisted users, whose needs are met[2,9,10].

Given the arguments presented, the centrality and importance of primary care for the consolidation of SUS and the need for its continual evaluation, this study sought to comprehend health professionals' understanding of PHC, especially those linked to the PMM, considering this program's potential to strengthen PHC. It is worth noting that this is a pioneering study in the southwest region II of the state of Goiás, one of the first regions to join the program.

The present study aimed to evaluate PHC based on its attributes, from the perspective of professionals, through the PCATool, verifying factors associated with the best possible care.

METHODOLOGY

This was a cross-sectional study conducted with health professionals in the southwestern health region II of the state of Goiás, Center West Brazil, from March to June 2016. The state healthcare network is divided into five macro-regions, which are subdivided into eight health regions, totaling 246 municipalities[13-15].

The region of study has focused on agribusiness activities, which have expanded over the years, thus transforming the region and influencing its growth and economic expansion. This region includes 10 municipalities. According to data from the Department of Primary Care (*Departamento de Atenção Básica* -- DAB), there were 45 registered ESF teams, distributed in 36 basic health units (BHU). The implementation of the ESF in the last 10 years has been exponential, and coverage in most municipalities is over 70%. The region is responsible for the population of about 3% of the state and was one of the first to join the PMM. It is an important area for study and research. It is trying to be a university center and become linked to the *Universidade Federal de Goiás*[13,14].

The study included nurses and physicians linked to PHC in the region in question. The selection criteria consisted of: belonging to the same health unit for more than six months and not being away from activity for any reason.

Of the 100 eligible professionals enrolled in the National Register of Health Facilities (*Cadastro Nacional de Estabelecimentos de Saúde* - CNES), 72 answered the questionnaires. There were three refusals, seven professionals on leave, and 18 who had been on duty for less than six months. Ten PMM professionals met the inclusion criteria - it should be noted that they were foreigners.

The interviews were previously scheduled and took place at the professionals' workplace. The interviewers were properly trained as directed by the PCATool-Brazil application manual, and the average duration of the interviews was 30 minutes.

Two questionnaires were used for data collection. The first consisted of questions to identify the socio-demographic, labor and professional training profile (sex, age, time in training, working time in the unit, professional category, training institution, postgraduate degree and type of training in the last 12 years months). The second referred to the PCATool-Brazil professional version, that is, a mirror of the adult version plus comprehensive items, which were used to evaluate the quality of health services. It has been validated in Brazil and adopted by the MOH[11].

The PCATool-Brazil consists of 77 items, which are divided into eight components (accessibility, longitudinality, coordination, comprehensive care, information systems, available services given, family guidance and community guidance). Each of these components has a range of questions, which sought to present all interfaces of the attribute evaluated. They are shown in the item information system: Do you ask patients to bring in their past medical records (for example, emergency care or hospital reports)? Would you allow patients to examine their records if they wanted to? Are patient records available when you attend to them[11]?

All questions were answered using the Likert scale, where scores are assigned in the range from 1 to 4 for each attribute (1 = definitely not; 2 = probably not; 3 = probably yes; 4 = definitely yes). The questionnaire is intended for professionals who directly assist users[11].

Also, according to PCATool manual instructions: the essential score should be calculated by means of the average of the essential attributes (access, longitudinality, coordination and

comprehensiveness), and the derived score obtained by the average of the derived attributes (family guidance and community guidance). The overall score is calculated by the average value of the essential attributes and derived attributes[11].

Starfield[10] standardized the scores on a scale ranging from 0 to 10. Scores (essential, derived, and general) of 6.6 or greater are considered to be high and indicate a high level of understanding of PHC.

Dependent variables were the scores obtained in the essential, derived and general scores. The independent variables were: age (years), sex (male or female), length of professional training (years), length of work in the unit surveyed (months), profession (nurse, doctor or doctor participating in the PMM), type of institutional training (public or private), graduate degree, graduate degree in public health or family health (yes or no) and training in the area of practice in the last 12 months (yes or no).

Data were analyzed using Stata software, version 14.0. For the internal consistency analysis of the total instrument score and by attribute, Cronbach's alpha coefficient was used, adopting an acceptable internal reliability of 0.7. Initially, the Kolmogorov-Smirnov test with Lilliefors correction was performed to verify the normality of quantitative variables[16]. Qualitative variables were presented as absolute, relative and quantitative frequencies and as mean, standard deviation (SD), median and interquartile range in the descriptive analysis.

To verify the factors associated with the investigated outcomes, a bivariate analysis was initially performed. Student's *t* test for independent samples, analysis of variance (ANOVA) and Pearson's correlation (r) were used when appropriate. Variables with $p < 0.20$ in this analysis and potential adjustment variables (sex and age) were included in multiple linear regression models. Linear regression residues were analyzed for normality. White's test and the variance inflation factor were performed to determine the presence or absence of heteroscedasticity and multicollinearity in the models, respectively[17]. The Ramsey test (RESET) was applied to diagnose possible model specification errors. For all tests performed, $p < 0.05$ was considered to be statistically significant[17,18].

The PhD research, linked to the Graduate Program in Health Sciences of the *Universidade Federal de Goiás*, was approved by the Research Ethics Committee of the institution, under number 1,474,221.

RESULTS

Table 1 presents the description of the sociodemographic and professional qualification profile of the study participants, in which the female sex (72.2%) and the nursing (56.9%) professional prevailed. PMM doctors accounted for 13.9% of the total, and all of them were foreigners. As for the training profile, 62.5% came from a private institution, and 73.6% had a postgraduate degree, predominately, a specialization (96.2%).

Table 1. Sociodemographic profile and training level of the health professionals from the southwestern region II, Goiás, Brazil, 2016 (n = 72).

Variables	n	%
Qualitative		
Sex		
Male	20	27.8
Female	52	72.2
Profession		
Nurse	41	56.9
Doctor	21	29.2
Doctor[a]	10	13.9
Type of training institution		
Public	27	37.5
Private	45	62.5
Postgraduate degree		
No	19	26.4
Yes	53	73.6
Type of postgraduate degree (n = 53)*		
Specialization	51	96.2
Medical residency	4	7.5
Post-graduate *stricto sensu* (Masters/Doctorate)	3	5.7
Postgraduate degree in Public Health/Family Health		
No	48	66.7
Yes	24	33.3
PHC Training (last 12 months)		
No	10	13.9
Yes	62	86.1
Quantitative	Mean ± SD	Median (IIQ)
Age (years)	35.15 ± 10.26	31.5 (28.0 - 38.8)
Training time	11.06 ± 9.90	8.0 (4.3 - 13.0)
Time working in the unit (months)	42.86 ± 39.12	24.0 (12.0 - 60.0)

PCH: Primary Health Care; [a]member of the Mais Médicos Program; *multiple choice variable; SD: standard deviation; IIQ: interquartile range.

Also, 67.3% of participants said they had no postgraduate degree in public health and 86.1% said they had received training in the last 12 months. The average age was 35.15 (± 10.26) years, the training time was 11.06 (±9.90) years and the working time in the unit was 42.86 (± 39.12) months.

Data regarding the presence and extension of PHC attributes are described in Table 2, which presents the essential, derived and general scores. Scores greater than 6.6 were observed for all attributes except accessibility (3.71). When considering SD, it is worth noting that the essential and general scores were lower than expected.

In order to identify potential factors associated with PHC attributes, in the bivariate analysis (Table 3), it was found that PMM physicians had higher average scores of all attributes (overall = 8.04; p = 0.001) when compared to other medical professionals and nurses. The mean derived (8.36; p=0.044) and general (7.51; p=0.035) scores were significantly higher among professionals trained in public institutions compared to those who graduated from private institutions. Also, individuals with postgraduate degrees in any area exhibited higher scores on the derived attribute than non-graduate level professionals. Nevertheless, there was a significant difference only in the derived score.

In the multiple regression analysis, after adjusting for age, sex, profession, type of educational institution and training time, it was observed that belonging to PMM was positively associated with essential ($\beta = 0.948$; p = 0.001), derived ($\beta = 1.066$; p = 0.006) and general ($\beta = 0.942$; p = 0.001) scores, as shown in Table 4.

Table 2. Distribution of the results of the attributes' mean scores and the essential, derived and general scores regarding primary health care in the evaluation of health professionals of the southwestern region II, Goiás, Brazil, 2016 (n= 72).

Attributes	Mean ± SD	95%CI	Median	IIQ	Cronbach's Alpha	p K-S
Accessibility	3.71 ± 1.26	3.41 - 4.01	3.33	2.96 - 4.31	0.638	<0.001
Longitudinality	7.29 ± 1.29	6.98 - 7.59	7.17	6.41 - 8.20	0.769	0.200
CI coordination	7.24 ± 1.48	6.98 - 7.59	7.22	6.11 – 8.33	0.567	0.024
IS coordination	8.48 ± 1.45	8.14 – 8.83	8.88	7.66 – 10.0	0.103	< 0.001
SA comprehensiveness	7.32 ± 1.02	7.08 – 7.56	7.50	6.66 – 8.03	0.628	0.015
SP comprehensiveness	8.04 ± 1.35	7.72 – 8.35	8.22	7.11 – 9.11	0.835	0.034
Essential score	7.01 ± 0.75	6.84 – 7.19	7.10	6.68 – 7.44	0.821	0.200
Family guidance	8.82 ± 1.31	8.51 – 9.13	8.88	8.05 – 10.0	0.293	< 0.001
Community guidance	7.19 ± 1.69	6.79 – 7.58	7.22	6.11 – 8.75	0.239	0.053
Derived score	8.00 ± 1.16	7.73 – 8.28	8.05	7.29 – 8.88	0.319	0.062
General score	7.26 ± 0.78	7.08– 7.45	7.35	6.85 – 7.76	0.815	0.200

SD: standard deviation; 95%CI: 95% confidence interval; IQI: interquartile range; K-S: Kolmogorov-Smirnov; CI: care integration; IS: information systems; SA: services available; SP: services provided.

DISCUSSION

The present study showed that the health professionals investigated are trained on PHC. Intrinsic characteristics of the work process advocated in the ESF provide conditions for the development of attributes necessary for the smooth running of the PHC.

Table 3. Bivariate analysis of factors associated with attributes of primary care based on the perception of health professionals from the southwestern region II, Goiás, Brazil, 2016 (n = 72).

Variables	Essential score		Derived score		General score	
	Mean ± SD	p	Mean ± SD	p	Mean ± SD	p
Sex						
Male	7.15 ± 0.83	0.327[b]	8.11 ± 1.31	0.647[b]	7.39 ± 0.87	0.380[b]
Female	6.96 ± 0.71		7.97 ± 1.11		7.21 ± 0.74	
Profession						
Nurse	6.79 ± 0.72	0.001[c]	7.86 ± 1.06	0.004[c]	7.06 ± 0.75	0.001[c]
Doctor	7.14 ± 0.62		7.76 ± 1.23		7.29 ± 0.67	
Doctor[a]	7.68 ± 0.70		9.11 ± 0.78		8.04 ± 0.65	
Type of training institution						
Public	7.23 ± 0.72	0.061[b]	8.36 ± 1.02	0.044[b]	7.51 ± 0.71	0.035[b]
Private	6.89 ± 0.74		7.79 ± 1.19		7.11 ± 1.19	
Post graduate degree						
Yes	7.02 ± 0.73	0.449[b]	8.07 ± 1.06	0.021[b]	7.28 ± 0.74	0.159[b]
No	6.81 ± 0.64		7.11 ± 1.10		6.88 ± 0.67	
Postgraduate degree in PH/FH*						
Yes	6.88 ± 0.78	0.271[b]	7.96 ± 1.04	0.814[b]	7.15 ± 0.77	0.381[b]
No	7.08 ± 0.73		8.03 ± 1.22		7.32 ± 0.78	
Training						
No	7.01 ± 0.75	0.901[b]	8.01 ± 1.22	0.915[b]	7.26 ± 0.80	0.959[b]
Yes	7.04 ± 0.77		7.97 ± 0.65		7.27 ± 0.69	
Age (years)	0.128	0.283[c]	0.056	0.638[c]	0.144	0.342[c]
Training time (years)	0.159	0.183[c]	0.078	0.513[c]	0.133	0.229[c]
Working time (years)	-0.009	0.941[c]	-0.041	0.733[c]	-0.021	0.859[c]

SD: standard deviation; PH: public health; FH: Family Health; [a]member of the Mais Médicos Program; [b]Student test t for independent samples; c analysis of variance (ANOVA); [d]Pearson correlation.

Table 4. Multiple regression analysis of factors associated with essential, derived, and general attributes based on perceptions of the health professionals, Goiás, Brazil, 2016 (n = 72).

Variables	β[b]	95%CI	p
Essential			
Age	-0.002	-0.044; 0.039	0.915
Sex			
Male	Ref		
Female	-0.061	-0.610; 0.487	0.823
Profession			
Nurse	Ref		
Doctor	0.213	-0.396; 0.822	0.125
Doctor[a]	0.948	0.413; 1.483	0.001
Type of training institution			
Public	Ref		
Private	-0.047	-0.453; 0.359	0.818
Training time	0.002	-0.044; 0.045	0.989
Derived			
Idade	0.001	-0.029; 0.032	0.931
Sex			
Male	Ref		
Female	-0.269	-1.111; 0.572	0.525
Profession			
Nurse	Ref		
Doctor	-0.304	-1.317; 0.707	0.550
Doctor[a]	1.066	0.310; 1.822	0.006
Postgraduate degree			
No	Ref		
Yes	0.088	-0.354; 0.531	0.691
Type of institution			
Public	Ref		
Private	-0.163	-0.743; 0.415	0.574

Continue...

Table 4. Continuation.

Variables	β[b]	95%CI	p
General			
Age	0.002	-0.019; 0.020	0.980
Sex			
Male	Ref		
Female	-0.053	-0.590; 0.482	0.842
Profession			
Nurse	Ref		
Doctor	0.189	-0.430; 0.808	0.544
Doctor[a]	0.942	0.419; 1.466	0.001
Postgraduate degree			
No	Ref		
Yes	0.080	-0.199; 0.360	0.569
Type of institution			
Public	Ref		
Private	-0.058	-0.448; 0.332	0.767

Ref: reference category; 95%CI: 95% confidence interval; [a]physicians from the Mais Médicos Program; [b]regression models adjusted for age, sex, profession and type of institution; R^2= 0.181 (essential); R^2= 0.161 (derivative); R^2 = 0.186 (general).

Bonding is an important attribute that allows for care to be offered more longitudinally, enhancing PHC guidance[19,20].

The training/qualification profile of professionals, as in other studies, was predominantly professional experts[21-25]. A study conducted in the Federal District, Brazil, with doctors, nurses and dental surgeons revealed that specializations improve professional competence, while consolidating and expanding knowledge, leading the professional to act in new ways[26].

Considering this, in the last decade, especially with the institution of the National Policy for Continuing Education in Health (*Política Nacional de Educação Permanente em Saúde*), it has been found that the MOH has triggered actions that seek to strengthen the formation of human resources in health[27,28]. These strategies aim to train professionals working in health units, bringing them closer to the needs of the community and the demands of the SUS[28,29].

In this investigation, professionals with an academic background from public institutions had better scores in the evaluated attributes. Since 2001, new educational policies in the field of health education have been designed based on the National Curriculum Guidelines

(*Diretrizes Curriculares Nacionais*), contributing to a teaching that is more directed to the lived demands of PHC in the SUS[30].

Efforts have been made to mobilize policies that meet the characteristics of educational institutions, seeking to train critical, humanistic and qualified individuals to exercise their role in the health system. In public institutions, there are actions that include teaching, research and extension activities that are performed in order to meet these requirements. SUS has ordered these forms of training[30]. Health professionals must start their training in their undergraduate courses and continue learning throughout their professional career, strengthening links between higher education institutions, the health network and the community[27,31].

A high degree of PHC knowledge was observed for all of the scores in the evaluated attributes, except for first contact access. Other studies conducted in the same way, in Porto Alegre (RS), Curitiba (PR) and Piracicaba (SP), showed that this attribute had the lowest score in relation to the others, which indicates that primary care health professionals need constant guidance on first contact access[20,24,32].

The model adopted by the National Primary Care Policy (*Política Nacional de Atenção Básica*), in which almost all health units operate between 7 am and 5 pm, has been called out as one of the factors hindering access, because a portion of the working population is not able to take care of their health needs. Therefore, it is necessary and urgent to review the operating parameters of the UBS in order to increase accessibility, as this is an essential moment for welcoming, bonding and qualified listening. The low score (3.71) related to first contact access can have a negative influence on the establishment of other attributes, considering that the way of welcoming a client can interfere with subsequent bonding[33-35].

A recent study evaluating access to PMAQ-certified teams also found that less than half of the interviewed teams reported adequate conditions for receiving clients. The problems listed were: lack of adequate physical space, availability of protocol and lack of professional competence to perform the reception[33].

As in other studies, the other attributes evaluated, both essential (longitudinality, coordination, comprehensiveness) and derivatives (family orientation and community orientation), presented a high score for PHC[24-34].

It is worth noting that this study observed that belonging to the PMM was positively associated with the best score throughout all of the scores (essential, derivative and general), suggesting that one of the main objectives of the program was achieved. This objective was to strengthen primary care, providing human resources training in order to make it possible for medical professionals to be linked to areas with limited coverage, thus enabling the establishment of mechanisms that can consolidate the attributes inherent in the work process of the PHC teams[36].

Current research has shown a strong relationship between PMM and improvements in quality, production and health indicators and the humanization of the service, as well as decreased referrals and health inequities[36,37]. This program also improved the ability to diagnose problems in the teams' operating territories[37,38].

A limit of the present study is that the chosen instrument considered only the health professional's understanding of PHC. No other measure that took into account the clients' view of these attributes was evaluated. In addition, the perspective of professional dentists was not considered either. There are also limitations inherent to cross-sectional research that prevent the establishment of a cause and effect relationship.

On the other hand, with the expansion of health courses at universities in the region, there is more potential for research that can qualify services and support the management of information and analysis that direct the actions to be implemented.

It is important to note that this is a pioneer study in the region in question, which evaluated the professionals inserted in the PMM using the PCATool-Brazil, which was considered to be appropriate for this evaluation.

CONCLUSION

A PHC assessment in the southwestern region II showed a high general score for attributes, except for first contact access. The academic and working times of the professionals evaluated were satisfactory regarding PHC.

Factors associated with education, professional qualification, and PHC attributes are: belonging to the PMM and level of academic education, which were more related to obtaining better scores.

The results of this research reinforce the need for continuing evaluation of the health system, in order to support planning of actions focused on the work team, and thus achieving greater excellence in the quality of work performed, which is known to improve health indicators.

Considering the fact that PMM doctors had better scores, it is worth highlighting the possibilities for improving first contact access, as well as the other attributes with high scores. Furthermore, it is important to call out the expansion of the PMM in the studied region, and see how to strengthen the connection between these professionals and the federal university located in the region. This connection would improve the integration of teaching and service and, consequently, contribute to maintaining the high levels of PHC understanding.

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