

Preceptorship in Family and Community Medicine: challenges and achievements in a Primary Health Care in progress

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Abstract *Strengthening Primary Health Care (PHC) relies directly on training medical specialists in primary care. This text aims to report the Family Medicine training experiences in Rio de Janeiro between 2008 and 2016. It brings to reflection the development of preceptors in medical specialization through an experience report on three Family Medicine medical residency programs, namely, the Municipal Health Secretariat program, the Federal University of Rio de Janeiro program and the National School of Public Health program. The PHC reform in Rio de Janeiro created a demand for medical specialists working in networks, leading to the expansion of already established medical residency programs and the establishment of a new program sponsored by the Municipal Health Secretariat, providing new teaching positions in several health facilities within the municipal network. These three residency programs progressed through different paths to provide training to their preceptors, offering permanent courses and local actions seeking higher professional qualification and better balance between care and education responsibilities. Permanent investments to strengthen medical residency programs and preceptors training are essential to consolidate the PHC reform nationwide.*

Key words *Family and community medicine, Primary Health Care, Medical internship and residency, Preceptorship*

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Introduction

The recognition that Primary Health Care (PHC) is an effective organizing element of health systems is evident and abundant in the scientific literature^{1,2}. When health care's gateway consists of a robust and structured PHC ensuring access, comprehensive and longitudinal care and coordinating care to patients within the system, patients feel more satisfied and there are a number of favorable impacts on the health of the population¹. Its impacts at the community level can be observed in greater adherence to preventive measures, lower maternal and infant mortality, lower low birth weight³, greater life expectancy and lower overall mortality in the adult population⁴. At the hospital level, structured PHC may contribute to fewer PHC-sensitive hospitalizations and reduced use of emergency services^{5,6}.

Locations with PHC based on general practitioners have better health outcomes compared to other that rely primarily on non-general practitioners in their organization⁷. However, one of the major challenges to the qualification and consolidation of PHC worldwide is related to the training of specialized professionals for this level of health care⁸.

Despite the relevance of scientific production and the recognition of its importance and competence in developed countries, the medical specialty aimed at primary health care in Brazil – Family and Community Medicine (FCM) – still does not have the same importance in the health system. This hardship is not unique to Brazil and is linked to incipient health systems common to developing countries, where most health care is performed in a hospital setting, with PHC playing a minor and selective role, where oral rehydration therapy, contraception and vaccination are the core services offered⁹. The obstacles preventing the Family and Community Doctor (FCD) from playing a key role in PHC in these countries were analyzed by the Besrou Foundation in 2015, and the three main ones were: 1. FCDs in different countries play several roles in their practice settings, mostly solving problems that could be solved by a multidisciplinary organization of the work process; 2. Due to the lack of systems' organization, there is no regulation determining which medical specialty is responsible for the first contact with patients. Thus, several medical specialties end up competing within the medical corporation itself, making it difficult to coordinate care and making the choice of professionals for a specialty be more market logic-oriented rather

than population needs-oriented; 3. In an environment with high workloads and poorly organized service flows, longitudinality and its benefits do not seem to be easy to achieve¹⁰.

PHC strengthening relies directly on the training of primary care physicians to meet the health needs of the population. This reinforces the idea that, in order to be effective in PHC, the professional must be educated and trained to do so. Health students need to have experience in PHC during training as a way of understanding that health care is the result of a structured system and depends much more on the coordination of the different levels of care than on isolated clinical behaviors¹¹.

The training of medical specialists is usually carried out by immersion in the daily life of specific services, whose teaching methodology is centered on the coexistence and observation of the practice of a more experienced and specialized supervising physician¹². While practical activities structure the learning process, it is expected that an intrinsic relation between practice and theory will occur¹³.

The complexity of training in PHC settings requires the specific skills of professionals who guide these students in practice, called preceptors. In addition to the clinical skills to diagnose and treat the most common conditions of the health-disease process affecting the population, the FCD needs to act strategically in disease prevention and health promotion actions, always taking into account the sociocultural complexity that permeates the lives of individuals, families and communities. If there is already a challenge to train specialist medical professionals with this view, more complicated is the training of preceptors in this setting. Within a context of PHC under construction, it becomes much more difficult to train specialist physicians imbued with teaching responsibilities and building bridges between theory and practice.

This article aims to report the experiences of FCM training in the city of Rio de Janeiro from 2008 to 2016, with the purpose of reflecting on the development of preceptorship in the scope of medical specialization.

The PHC Reform in Rio de Janeiro and the expansion of Family and Community Medicine Medical Residency Programs

PHC expansion in Rio de Janeiro resulted in an accelerated increase of Family Health Teams

(ESF) from 2009, increasing coverage of this service from 3.5% to 60% in 2016^{14,15}. In the wake of this event, the need for professional training in Family and Community Medicine (FCM) as a professional doctor for these new facilities led the municipal management to invest part of municipal funds directly in the training of new professionals, increasing existing medical residency vacancies and establishing a new FCM residency program, directly linked to the Municipal Health Secretariat (SMS). In 2011, when this FCM residency expansion occurred, Rio de Janeiro had only 16 vacancies for this specialty, all linked to the traditional local institutions of higher education, namely: the Federal University of Rio de Janeiro (UFRJ), the National School of Public Health (ENSP) and the State University of Rio de Janeiro (UERJ).

Taking the initiative of this expansion and playing a leading role in the formation of FCDs, the SMS created its own medical residency program (MRP), whose first group began in 2012. In addition, it provided the preceptors in all FCM-oriented MRPs of the municipality with a financial gratification as a teaching incentive. That year, the 10 vacancies in the UERJ program were increased to 30, also through the incentive of the municipal management. This expansion policy continued to promote increased vacancies over the next four years and achieved, in 2016, 222 vacancies for the city of Rio de Janeiro for this specialty. Currently, with the medical residency vacancies of the city of Rio de Janeiro alone, 38% are in Family and Community Medicine, which shows a commitment of municipal management with equal distribution of these vacancies among the various medical specialties, more focused on the needs of the population and less with market demands^{16,17}.

In order to serve so many new residents, a demand was established for Family and Community Doctors (FCDs) that could work as preceptors. The selection of these professionals followed the rules dictated by the National Commission for Medical Residency (CNRM), which determine that, for the Family Medicine and Community specialty, the preceptor should be an FCD graduated through medical residency. If no FCD with this training is found, selection should be made in the following order: 1. FCD certified by the Brazilian Society of Family and Community Medicine (SBMFC); 2. Medical specialized in Internal Medicine or Pediatrics or Gynecology, with practical experience as FCD; 3. Doctor with the possibility of holding a degree in the following year, that is, at least 4 years work in PHC¹⁸.

In this setting of expanding PHC, it was not possible to count on a sufficient number of FCDs with training in the field and practice time to start the project. Most FCDs graduated through medical residency had less than five years practice and had almost no teaching experience in medical graduate settings. There is no survey on the professional profile of these FCDs at the beginning of the expansion, but in 2015, Mendes¹⁹ found that 65% of family doctors in Rio de Janeiro were between 25 and 34 years old and that 70.87% of FCDs had worked less than 5 years in the municipality. Of the remaining 29%, only 1% worked for more than 5 years in the same facility, evidencing a high internal turnover.

In the last 5 years, these same preceptors have been responsible for the technical qualification of the care provided to patients in their Health Facilities. Some of these professionals assumed the role of Medical Technical Responsible (RT) of their facilities, in charge of evaluating the pertinence of the facility's medical referrals and requests for examination, adjustments of specific clinical flows for the area of operation, among other duties. They also contributed to the qualification of integration with other levels of care, helping in the elaboration of clinical protocols and pointing the critical nodes of the health system to Program Areas (PA) coordinators. In short, besides the centrality of his educational role, the preceptor contributed to the qualification of care and adequate management of resources of the Unified Health System (SUS) in the municipality.

These young preceptors brought the necessary motivation as the driving force for the consolidation of a comprehensive PHC for the city. Nevertheless, some weaknesses common to less experienced professionals made this picture even more complex, such as clinical inconsistency, little practical experience and almost no teaching training. Given the variety of experience and training, the lack of homogeneity among these professionals brought a great challenge to coordinators of the FCM residency programs, who had to seek solutions and strategies for the teaching activity and promote a questioning and fruitful self-sustainable environment of permanent education.

Preceptors' duties in the Family and Community Medicine Medical Residency

The figure of the medical preceptor in residency programs is commonly confused with that

of an experienced professional, endowed with vast technical knowledge and with long years of clinical practice. However, while clinical competence and practice time may be significant in defining a good physician, these requirements are not necessarily enough to define a good teacher or a good preceptor.

The European Academy of Teachers in General Practice/Family Medicine (EURACT), within its FCM-oriented teaching training activities seeks to raise this discussion in its first workshop, defining a good teacher as one who possesses clinical competence, but also teaching skills and personal attributes²⁰. That is, in addition to being a competent clinician for a professionalism-based medical practice, one must have good health, know how to listen, be willing to share his/her knowledge, be organized and know how to communicate and receive specific teaching training on an ongoing basis. In addition to the well-known willingness to teach, in order to be a good preceptor, the FCD must develop specific educational skills for the outpatient environment, train in the specificity of adult education and participate in a permanent education environment. From the standpoint of EURACT, which consists of FCDs with a long in-service teaching record of accomplishment and concerned about the quality of training for new FCDs, it is not a simple task to train new preceptors for this work. The practical initiative of this group was the elaboration and accomplishment of a series of educational activities in a workshop format, where the different available teaching methodologies used in the formation of FCDs are experienced, aiming, in addition to training new preceptors, to create a network of creative and innovative teachers around the world.

Within the scope of his/her pedagogical skills, the preceptor must understand the learning needs of his/her resident, respecting individual learning styles. Concerned about the overload environment to which the FCM resident is exposed during his formative years, in his book *The Inner Apprentice*²¹, Roger Neighbor sought to outline its educational needs, drawing a parallel with Maslow's²² human needs. Among the fundamental elements for the safety and good performance of the resident is the availability of a preceptor daily by one's side, sharing the work and willing to help him/her.

With all the challenges of building a still unstructured and incipient PHC in a setting of extreme social contrast and urban violence, this preceptor's interlocutor and listener role be-

comes even more important at a time when this reality exceeds the resident's bearable level. In this context, the introduction of in-service teaching gives a new meaning to the relationship with patients and establishes new organizational flows between management and care, highlighting the integrating feature of the preceptor as a figure of dialogue between academia and health services²³.

Being a preceptor in FCM means daily holding a dual role in the outpatient clinic: being a patient care manager and a supporter of the learning process of residents. Patient safety, which seeks to avoid injuries and harm resulting from care, is an essential item in the discussion about preceptorship and Medical Residency²⁴. The preceptor's responsibility in this dual role of care imposes on the MRP the issue of finding ways of training for the exercise of preceptorship, so that they are part of a harm and error prevention network. In Rio de Janeiro, in addition to previously reported hardships, residents and preceptors are responsible for providing health care to a population of 3,000-4,000 patients, giving rise to medical errors situations with a frequency greater than what could be expected during vocational training. This type of concern has been part of developed countries' work agenda, where health systems and PHC have been well established since the 1990s²⁵. Considering the great responsibility of residents in the Brazilian setting and work overload to which they are exposed, the issue of patient safety should be included as a mandatory subject in residency programs.

With the responsibility of helping the professional development of the medical resident, the preceptor should be involved in the clinical management and individual, family and community approach, as well as in the management and organization of health services – competence described in the FCM competency-based curriculum of the Brazilian Society of Family and Community Medicine (SBMFC)²⁶. This area of work includes management and organization of the work process, multiprofessional teamwork, quality assessment, audits, health surveillance, analysis and monitoring of team data and suggest and conduct interventions to improve the quality of service provided. As a reference physician to an ESF, the preceptor plays a central role in mediating conflicts within the team and acts in support of the facility manager.

Among the competences to be developed by the FCM resident during his/her training is that he/she must be prepared to teach classes and supervise undergraduate students²⁶. While it is a

start, it does not guarantee that residents are prepared to act as preceptors in the future, nor that they are fully prepared to become teachers in an academic setting.

Given the high number of preceptors' duties and FCDs trainees, it is essential that MRP coordinators consider all these issues in the preparation of their continuing education activities, professional training activities and the courses' political-pedagogical plans, not just limited to clinical competencies to be developed. Some federal initiatives (Ministry of Health and Ministry of Education) were launched in early 2016 with the aim of improving the training of preceptors in FCM, such as the National Preceptor Training Plan, which consists of a two-year distance course with a monthly grant²⁷, and the Current Preceptors' Training Course, the latter being a one-year class attendance-distance mix course with a monthly grant²⁸. All these initiatives follow the policy of encouraging the progressive increase of vacancies in medical residency programs that started in 2014, aiming at full vacancies for all graduates in 2019, and making, thereafter, medical residency mandatory for all medical schools graduates.

Before many adversities experienced in the PHC implementation process in Rio de Janeiro, the MRPs of the Federal University of Rio de Janeiro / National School of Public Health and the Municipal Health Secretariat of Rio de Janeiro sought, through different paths, to advance the training of its preceptors. The initiatives carried out from 2008 to 2016 will be reported below, aiming at sharing them and submitting to the criticism of the academic debate some of its results, whether successful or not.

UFRJ' and ENSP's Medical Residency Program initiatives in FCM

UFRJ' and ENSP's MRPs in Family and Community Medicine (PRMFC-UFRJ/ENSP) have been working in partnership since 2008, when both were established. Initially, ENSP provided the FCM training field to UFRJ and later, with the creation of the program of that institution, pedagogical planning and training of preceptors was shared, using MRP collective construction environments. These settings involve a series of activities, namely: collegiate manager meetings, in which political-pedagogical decisions are taken horizontally, always including residents in decisions; the Competence-Based Curriculum construction workshops; the Quarterly Evaluation Feedback (FAT), where residents' pedagogical

projects are built; and the meeting of preceptors, which is a peers venue to study and exchange experiences about the teaching practice and care.

In order to establish a formative evaluation of residents, a quarterly feedback gathers the resident and his/her teacher of reference, at least one representative of the supervision of the program of the corresponding institution and another preceptor. FAT has the same assumptions of immediate feedbacks of preceptorship's daily routine. However, content and form are different. Unlike immediate feedback, which questions issues observed in medical consultations and home visits, FAT addresses an overall assessment of the resident during the last quarter. It is a venue where those involved can draw broader strategies for their professional development. The FAT provides opinions on the Reflective Portfolio and suggestions for training adjustments, such as clinical topics for study and performing specific tasks, such as video recording of consultations or performing procedures.

FAT elements are resident self-assessment; (positive and negative) aspects about preceptors and teachers knowledge, skills and attitudes during the quarter; and evaluation results (portfolio, clinical mini-exercises or "Mini-CEX", tests, etc.). In the end, the pedagogical plan of each resident is reformulated and planned to enable resident achieve the pending objectives. FAT has shown to be an evaluation method with wide acceptance among preceptors and residents. However, the main challenges are the need for prior organization of FAT evaluative tools (reading Reflective Portfolios, calculating Mini-CEX scores) and better use of the time needed so that those involved create a dialogic environment for the realization of an individual pedagogical plan.

FAT also stands out as a formative moment for the preceptor himself, since prior to each conversation with the resident, aspects of training and resident's learning curve in the quarter, the preceptor's support actions and learning styles are discussed. Next, the resident is invited to make a self-assessment, which is then followed by feedback from his/her direct preceptor and agreement of strategies that may assist him/her in acquiring his/her competencies. The final result will be a feasible pedagogical plan for the next quarter, guiding resident' and preceptor's actions.

The Collegiate Management meeting occurs bimonthly with a representative of each MRP, a representative of the preceptors of each clinic and a resident representative of each year. Each

representative is chosen by his/her peers and the meeting is open to the participation of the other stakeholders of the programs. These meetings discuss and resolve issues inherent to the MRP's pedagogical process, as well as structural, technical and personal problems that may be hindering daily services. It is a moment of exchange of knowledge and experience that enables preceptors to engage in a support network that guides residents' learning issues and enables them to participate actively in MRP's decision-making, consolidating horizontal and dialogical conduction between coordination and preceptors.

The meeting of preceptors occurs monthly and counts on the participation of the preceptors of the two health facilities. These meetings discuss preceptorship's routine, pedagogical tools to facilitate the teaching-learning process, residents with developmental difficulties and training demands brought by preceptors, such as discussing clinical issues, guidelines adaptation or update and debates on pedagogical and evaluative strategies.

Another important aspect is the assessment by residents on the attitudes and skills of their preceptors. This evaluation is carried out by the coordination of the program, which provides opinions to the preceptors as a way of identifying potentialities and weaknesses of the role of each teacher, helping preceptors to grow as educators.

MRP's initiatives in FCM at the Municipal Health Secretariat of Rio de Janeiro

Started in 2012, the MRP in FCM of the Municipal Health Secretariat of Rio de Janeiro (PRMFC-SMS) formed its first FCM class in February 2014, while 98 new residents started the course. Since its inception, the PRMFC-SMS has aimed at becoming large enough to meet the demands of qualified FCDs to work in the municipality of Rio de Janeiro. While the number of vacancies increased from 60 to 150 over 5 years, the number of preceptors and clinics where the program is based had to be expanded, reaching the current setting with 78 preceptors distributed in 24 Family Clinics across 7 of the 10 programmatic areas of Rio de Janeiro. To coordinate a program of this size, currently with 72 second-year residents (R2) and 122 first-year residents (R1), the program has six coordinators in charge of the management of academic activities, coordination of internships, liaison with managers and service, preparation of evaluations and training of preceptors¹⁷.

Despite its size, during its first two years, the PRMFC-SMS was still an incipient and troubled program with various organizational and institutional demands. All the preceptors of the program were little experienced and stemmed from very different realities. In addition to all this professional heterogeneity, overloaded patient teams and a 4 to 1 resident-preceptor ratio provided a setting of great uneasiness and disorganization. This ended up draining the energy of the professionals and had planning of pedagogic activities and continuing education be constantly put off. This setting is not much different from other FCM Brazilian residency programs, where caring for patients and solving clinical management problems compete with the need to organize a course with a good teaching standard.

In 2014, as part of the program's expansion planning, it was decided to change the way preceptorship meetings were being staged. The 50 preceptors of that year's program were divided into four subgroups that met during one shift per month to work on topics relevant to teacher training. Thus, preceptors' training workshops started and addressed topics related to clinical communication, clinical reasoning, feedback techniques, propedeutics of preceptorship and evaluation. This first experience aimed to reduce heterogeneity among teachers, as well as to provide a protected environment for the discussion of teaching competences. Indirectly, we managed to create a more welcoming atmosphere of exchange of experiences, enabling the emergence of a feeling of professional appreciation within the group.

Relevant problems of the program began to be worked out gradually. Theoretical classes were poorly evaluated by the R1, and many of the preceptors did not feel confident in ministering them. There was no structured activity plan and classes were planned according to the clinical affinities of available preceptors. All the activities were held in large classrooms with a group of 40 students, which made it impossible to use methodologies other than traditional lectures. In order to address this problem, in 2015, it was decided to increase the training of preceptors to a higher level of responsibilities. The meeting time for this meeting was extended to a full day every 5 weeks. The group of preceptors was divided into 5 subgroups, according to clinical, cardiovascular, maternal and child, mental health and general problems and undifferentiated symptoms (divided into two groups, 1 and 2). Each week, one of these groups met, while the others stayed in the health facilities. Problem-based learning and group work were

used to achieve the goal of producing workshops based on active methodologies that could replace the previous theoretical classes of R1.

Despite the lack of experience, the preceptor groups developed a series of 40 workshops that included role-play, problem-based learning of clinical situations, construction of study questions, search and critical analysis of information and synthesis of ideas. Workshops were being applied to the R1 as they were prepared by preceptors, who were now divided into 6 different hubs with 15-20 students' classes. It was thus possible to elaborate the activity, to experience it with the residents and to evaluate it in the following month's meeting. This experience created more dynamic and problem-based learning workshops and brought to the preceptors a critical view on the strategies adopted, making the group more competent for teaching and professionally homogeneous.

With this result, in 2016, it was decided to divide the theoretical framework of the course into two moments: the first year was designed as eminently clinical and the second year was reserved for the development of competences and tools of the family doctor to manage situations which go beyond the clinic, such as communication skills, development of teaching skills and research and management of complex patients. To this end, the preceptors' work meetings focused on two subjects: in addition to the clinical themes already mentioned, five Family Medicine and PHC cross-sectional topics, establishing five working groups (WG), namely: 1. Development of teaching skills; 2. Consultation communication; 3. Curriculum, evaluation and competences; 4. Complex patients and patient safety; and 5. PHC research. In this new organization, the monthly activities dedicated mornings to rescue workshops of clinical subjects of the previous year and afternoons to the cross-sectional subjects of the WGs. Groups' organization was established according to Chart 1.

Continuity of these workshops brought to the program a consistency of practice and an engagement of preceptors in the subjects worked out that culminated in the publication of the produced material in fascicles format to be launched at the WONCA (*World Organization of National Colleges, Academies and Academic Associations of General Practitioners / Family Physicians*) Congress in November 2016. This material contains 40 clinical-level, 10 clinical communication, 10 preceptor training and 6 complex patient management and patient safety workshops, which will be available online so that other MRPs in

FCM can hold workshops with their preceptors and residents. Thus, a knowledge production cycle comes full circle, publishing a material constructed by a group of 85 people and offering to the academic community a rich instrument aimed at the training of FCDs and preceptors. If the main objective of EURACT was to create a network of teachers around the world, bringing to the academic community an innovative publication born from practice confirms that the outputs of this initiative were worth the effort and investment in the long run.

This achievement was a result not only of the work of the program itself, but much owed to the EURACT training courses held over these four years. During this period, the PRMFC-SMS hosted and funded 10 editions of the EURACT courses (Leonardo da Vinci Courses 1, 2 and 3 and Evaluation Course) for preceptors in FCM, bringing facilitators from outside Rio de Janeiro and from Portugal to teach alongside local preceptors. Over the years, a new generation of Brazilian teachers from EURACT workshops was established and, in its last edition of the "Level 1 course" held in September 2016, a new group of six preceptors of Rio de Janeiro MRPs started as facilitators of this workshop, generating a new cycle of renewal and expansion.

Final considerations

The setting of expanded PHC that began in 2009 in the city of Rio de Janeiro and the significant increase of residency vacancies brought both the opportunity for professional growth to FCDs working in the municipality and many challenges to preceptors, coordinators and local managers. PHC reform in Rio de Janeiro was strengthened by work-education integration achieved through the incentive to expand already established MRPs and the establishment of the PRMFC-SMS.

The need for new preceptors was associated with the need to train these professionals for teaching, which required a series of initiatives by MRPs' coordinators, such as the provision of EURACT courses and permanent local actions within the MRPs in place at the municipality.

Many of these initiatives were carried out with a direct objective of professional qualification, but some of their results can be extrapolated to other aspects of health work, such as strengthening the integrated network where PHC is the care coordinator, which contributed to the qualification health work throughout the

Chart 1. WGs and PRMFC-SMS clinical topics distribution, 2016.

Working group	Clinical topic
Communication skills	Cardiovascular problems
Development of teaching skills	Mother and child health
Complex patients and patient safety	Mental health
Curriculum, evaluation and competences	General problems and undifferentiated symptoms 1
PHC research	General problems and undifferentiated symptoms 2

system. This is a point that shows the relevance of investments made in preceptorship, whether in continued training of these professionals – as described in the report of these two experiences – or in the professional valuation, which includes the financial incentive to perform the duties and stimulus to qualify for the role of educator.

There are also important aspects to be analyzed in the residency model implanted by MRPs, such as residents-preceptors ratio, the level of social vulnerability of the population ascribed to it and securing continuous investments for the formation of FCDs in an expanding PHC. If, on the one hand, such issues make it difficult to exercise good preceptorship due to tasks overload, on the other hand, they may pose risks to the patient's safety and make the teaching environment unfavorable.

Reducing the overload and the accumulation of functions on preceptors for a good balance between their assignments in care, education and their role of local micromanagers are actions that

make preceptorship work more effective and safe. In addition to protected time for class preparation, papers selection and the development of educational strategies with each resident, a balance between the number of residents under their supervision and the size of the population assisted by them is essential. It is about striking a balance between care and teaching responsibilities. Assigning protected time to preceptors to improve their personal training activities, such as post-graduate courses, helps them build a lasting and rewarding career.

Permanent investments in strengthening MRPs are fundamental to consolidate PHC reform not only in Rio de Janeiro, but also throughout Brazil, and professional development for teaching is one of the bottlenecks in this process. Investing in the career of FCD preceptor is to promote longitudinality in the workplace and ultimately produce positive impacts on the qualification and sustainability of PHC in accordance with SUS principles.

Collaborations

Authors equally participated in the conception, bibliographic review and writing stages of the paper and declare that they have no commercial interest in the writing of this paper.

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