

# COMMUNITY-BASED EDUCATION FOR THE HEALTH PROFESSIONS:

## Learning from the Brazilian Experience

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Ana Claudia Camargo G Germani  
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Eliana Amaral

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ORGANIZERS	xiii
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CONTRIBUTORS	xv
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FOREWORD	xxxiii
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## PART 1

### COMMUNITY-BASED EDUCATION: THE BRAZILIAN EXPERIENCE IN THE CONTEXT OF TRAINING INDUCING POLICIES FOR HEALTH PROFESSIONS

CHAPTER 1 -	3
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Community-based education for the health professions: The Brazilian experience

CHAPTER 2 -	9
-------------	---

---

Community-based education and inducing policies in undergraduate health courses

CHAPTER 3 -	37
-------------	----

---

Public policies for inducing changes in health graduations in view of strengthening the National Health System in Brazil: The paths, progress and challenges of PET-SAÚDE (PET-Health)

## PART 2

### REPORT OF IMPLEMENTATION EXPERIENCES IN COMMUNITY- BASED EDUCATION IN BRAZIL

<b>CHAPTER 4</b>	<b>57</b>
<hr/>	
Integration of primary health care with a teaching-service-axis in the FCM-UNICAMP curriculum	
<b>CHAPTER 5</b>	<b>71</b>
<hr/>	
The medical and nursing undergraduate education in primary health care: 45 years of experience at Botucatu Medical School - São Paulo State University (FMB/UNESP)	
<b>CHAPTER 6</b>	<b>87</b>
<hr/>	
Community based education (CBE): The experience of the UFRJ School of Medicine	
<b>CHAPTER 7</b>	<b>103</b>
<hr/>	
Community Based Education: The experience at the Federal University of Ceará medical school	
<b>CHAPTER 8</b>	<b>115</b>
<hr/>	
<i>Blended Learning</i> and Concept Map during a primary care medicine clerkship at the Federal Medical School of University of Juiz de Fora	

<b>CHAPTER 9 -</b>	<b>125</b>
<hr/>	
Community-based education: The experience of the Goiás Federal University	
<b>CHAPTER 10 -</b>	<b>137</b>
<hr/>	
Community-based education in the medical school at the Maringá State University - Experiences and Challenges	
<b>CHAPTER 11 -</b>	<b>149</b>
<hr/>	
The inclusion in the community of the emergencies longitudinal axis by the Ribeirão Preto Medical School, University of São Paulo (FMRP-USP)	
<b>CHAPTER 12 -</b>	<b>161</b>
<hr/>	
The experience of the Sorocaba Medical School - PUC/SP	
<b>CHAPTER 13 -</b>	<b>175</b>
<hr/>	
Health education based in the community: Experiences at the Minas Triangle Federal University	
<b>CHAPTER 14 -</b>	<b>187</b>
<hr/>	
Ideas and ideals: Health and medical education as social commitments at the Uberlândia Federal University (UFU)	
<b>CHAPTER 15</b>	<b>199</b>
<hr/>	
Community-based education: The experience of the Faculty of Pharmacy, Maranhão Federal University in São Luis - Brazil	

<b>CHAPTER 16 -</b>	<b>211</b>
Community-based teaching in a traditional school using innovative methodological strategies	
<b>CHAPTER 17 -</b>	<b>221</b>
Community-based education: Experience in community health supervised clerkships at the Federal University of Paraíba Dentistry Course	
<b>CHAPTER 18 –</b>	<b>235</b>
The community-based education in the University of Fortaleza Medical School	
<b>CHAPTER 19 -</b>	<b>247</b>
Service-learning-community integration in the teaching of primary health care: Lessons and challenges of the USP School of Medicine	
<b>CHAPTER 20 -</b>	<b>259</b>
The Community-based Experience in the community health modules of the Passo Fundo University Medical School	
<b>CHAPTER 21 -</b>	<b>269</b>
Strengths and challenges of teaching in the community for Health Courses: The experience of tutorship of the preceptors group	

**CHAPTER 22 -** **281**

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Learning and teaching basic life support for the child,  
adolescent and family in the community

**CHAPTER 23 -** **293**

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Final synthesis and prospects for the future of the  
community-based education in the Brazilian context





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In early 2014, after the publication and release of the book "Community-based Education in health professions: Global perspective"<sup>1</sup> a group of Fellows from FAIMER Institute<sup>2</sup> (Foundation for Advancement on Medical Education and Research), of Philadelphia, has reflected this fact at an online discussion list where several reports from many parts of the world were presented on the subject. These people were sharing the challenges and achievements in the revision of curricula from undergraduate courses in the health area that have implemented or expanded experiences of Community-Based Education (CBE).

This production, in the same period, sparked a discussion on the list of the Regional Institute FAIMER Brazil<sup>3</sup>, which brings together more than 200 teachers from tens of health-related courses from the five regions of the country. It was interesting to observe the diversity and richness of the Brazilian context in this field.

It can be said that in the last two decades, the country lived (and still lives), a period of strong stimulus to curricula review, since the discussion and publication of the National Curriculum Guidelines (NCG) for health-related courses, in 2001. In addition to this, there were strong inductive policies towards the diversification of practice scenarios and encouragement to the expansion of educational activities based on primary care, especially in the family health strategy.

When we looked the richness of Brazilian experiences that were discussed in the Brazilian FAIMER online listserv and knowing about the lack of formal reports in this area, especially with regard to the challenges and facilitating factors for CBE curriculum design and implementation, the challenge to put these reports together in a book was raised and readily accepted. In May 2014, we officially started the organization of this book, following the same format as the one published in January by Talaat W & Ladahni (2014)<sup>1</sup> with the help of many FAIMER fellows from Philadelphia.

At this point all the Former Fellows of FAIMER Brazil, Program for Faculty Development in Health Professions Education were invited to share their experiences, particularly lessons learned, which are reported in the chapters of this book. The group's response showed a product with high technical quality, full of experiences from various protagonists who have contributed to the qualification of the health professionals education in Brazil.

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1. Talaat W & Ladahni Z. Community-based Education in health professions: global perspective. WHO. 2014. Available at: [http://mesau.mak.ac.ug/sites/default/files/Community%20Based%20Education%20in%20Health%20Professions%20Global%20Perspectives%20Electronic%20Copy\\_0.pdf](http://mesau.mak.ac.ug/sites/default/files/Community%20Based%20Education%20in%20Health%20Professions%20Global%20Perspectives%20Electronic%20Copy_0.pdf)
  2. FAIMER Institute: FAIMER Institute: <http://www.faimer.org/education/institute/index.html>
  3. Regional Institute FAIMER Brazil: <http://brasil.faimerfri.org/>

We believe that the content of this book will be of great interest to teachers, academic managers, professionals and also the managers of the Unified Health System (SUS) and to the representatives of Local and Municipal Health Councils, given the importance and involvement of each of these groups in discussions and agreements on the CBE activities. In short, it is expected that the discussion around the CBE (and its strengthening) will positively impact the communities it serves, which is the main purpose of the health work.

We are sure that the reading of these experiences, generously shared by our colleagues, will contribute to the reflection and inspiration of the people who are interested in this topic.

This book is organized into two major groups of chapters: the first addresses the key national policies, which are responsible for inducing the curriculum reorientation towards community-based education. We then present 17 reports of experiences from major schools and their courses in the health area, which are challenged to train a qualified professional, especially one who has a strong commitment to the needs of the community where he/she operates.

This is a global demand, and Brazil was sensitive, pioneering and innovative in its actions to foster greater proximity between the University and the National Health System, beyond the hospital scenario. This challenge is renewed with the publication of new National Curriculum Guidelines (NCG) in 2014, for medical undergraduate courses. The new text reinforces the concept of diversity of practice scenarios; values CBE with emphasis on activities involving primary health care and highlights teaching/learning of urgency and emergency and mental health in the medical clerkship context.

We wish you a good and profitable reading of this initial edition, with a limited number of copies in Portuguese, to be launched in November 2014. Among the plans for the future is the translation and publication of the book in English, aiming to share the content gathered here with the international community.

The editors

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4 Brasil. Diretrizes Curriculares Nacionais do Curso de Graduação em Medicina e dá outras providências. Diário Oficial da União Nº 117, segunda-feira, 23 de junho de 2014. <http://pesquisa.in.gov.br/imprensa/jsp/visualiza/index.jsp?data=23/06/2014&jornal=1&pagina=8&totalArquivos=64>

# PART

# 1

## COMMUNITY-BASED EDUCATION: THE BRAZILIAN EXPERIENCE IN THE CONTEXT OF TRAINING INDUCING POLICIES FOR HEALTH PROFESSIONS

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# CHAPTER

# 1

## Community-Based Education For The Health Professions: The Brazilian experience

Valdes R Bollela  
Ana Claudia Camargo G Germani  
Eliana Amaral





## ***Context, Purpose and Design of the Book***

The concept of Community-based Education (CBE) in the context of the training of health professionals dates from the second half of the twentieth century, more precisely in the 1970s. Since its proposition, this has been an issue that has gained importance in recent years, since it is a reference for the design of curricula of all health professions courses, appearing as guidelines recommendations and as recommendations for the design of curricula virtually worldwide. In Brazil, it is formally a part of all curriculum guidelines in the healthcare graduation courses since the year 2001 and was reaffirmed most recently in the publication of new guidelines for undergraduate courses in medicine, published in 2014. Despite not being a new concept, there are few documented experiences addressing the challenges of implementing disciplines, modules or stages that have community-based education as a central axis of their curriculum. This book breaks new ground by bringing reports of experiences and unique and creative ways that were found to approach the health care professional in training to those scenarios where he/she will certainly act after the graduation.

In the origins of the modern concept of CBE we find educational activities called teaching-healthcare integration that emerged in Brazil and in the world during this period. They aimed to diversify the training experiences in medical school, especially outside the hospital, which prevailed for many decades and that still prevails in many courses in the health area, and medicine in particular. In Brazil, the main expression of the teaching-healthcare integration activities was the creation of healthcare school centers by medical schools and the creation and dissemination of the rural residency during medical clerkship. This model prevailed and influenced the curriculum in many medical schools from the second half of the twentieth century onwards. As a rule, these subjects/residencies were linked to public health or social medicine departments in medical schools, and were concentrated in the clinical years, especially during the clerkship. Although highly relevant, these activities tended to occur at specific times and were not distributed evenly over the six years of medical training, as the overall design of the curriculum of this time called for two to three years of basic sciences, introduction to clinical practice and one year of in-service training or medical clerkship.

In general, healthcare school centers were units linked under the management of the Faculty and/or the University of Medicine, which restricted the possibilities of partnership between the managers of the local Health System and the managers of the Academy. For rural residencies, there was usually an agreement between the Faculty of Medicine and a small city in the interior, where a group of final year students did clerkships in a rotation system. The municipality offered the infrastructure of the health unit, housing and feeding conditions for interns who moved to the city for periods of time ranging from two to eight weeks. The counterpart of the university was to maintain the service at the health center, guaranteed by students supervised by preceptors of the medical school, who not always did this in person, as it is today.

In the late twentieth century an international movement, which had repercussions in Brazil, culminated in the publication of new curricular guidelines for undergraduate courses in the health area, with explicit recommendations for the diversification of the teaching-learning scenarios, early insertion of the health student in the community, so that he could learn what he would work with in the future.

This was the most recent and intense movement of appreciation of the CBE, which continues to gain strength from new concepts and values, such as social responsibility (social accountability) of the medical school and the need to learn and work with professionals from other health areas (inter-professionality).

In January 2014, Talaat & Ladhani published the book "Community-based Education in Health Professions: Global perspective<sup>1</sup>, published by the Eastern Mediterranean regional office (EMRO) of the World Health Organization (WHO), in which six institutions from different parts the world were invited to share their stories with regard to the implementation of curricula which focus on the CBE, with special interest in the lessons learned during the facing of this challenge. From this publication on, a group of teachers who shared the experience as Faculty and/or Fellows at the Brazilian FAIMER Regional Institute, launched and accepted the challenge of describing the vast experience of several courses in the country, which for many years has been working in the construction and renewal of their curriculum, having CBE as one of the reference axes.

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1. Talaat W & Ladhani Z. Community-based Education in health professions: global perspective. WHO. 2014. Available at: [http://mesau.mak.ac.ug/sites/default/files/Community%20Based%20Education%20in%20Health%20Professions%20Global%20Perspectives%20Electronic%20Copy\\_0.pdf](http://mesau.mak.ac.ug/sites/default/files/Community%20Based%20Education%20in%20Health%20Professions%20Global%20Perspectives%20Electronic%20Copy_0.pdf)

Thus, it was decided to report the Brazilian experience in this area both before and after the publication of the 2001 Guidelines, when there was a significant expansion of educational practices based in the community in all courses in the health area. This fact further strengthened the relationship of the Academy with the National Health System and its managers.

The book contains two main blocks: the perspective of those who participated in policy-making and in the management of the process of induction and promotion of CBE and the second, the deployment experiences of curricula and practices that incorporated and amplified the principles and foundations of CBE. Some questions were used as a guide for authors to elaborate their experience reports, as follows:

1. How the concept of CBE is applied in your institution?
2. How and when the CBE started at your institution? What were the primary motivations?
3. How is the CBE in the curriculum of your school nowadays?
  - When do your course students begin their activities in the community?
  - How often do they do it? And for how long?
4. How did your school get involved with the local community to have it as the scenario of the practices of your students? Was there some fact which served as the impetus for this initiative?
5. How was the school's contact with the community/health services?  
Who was the contact, and that arrangements have been made? Municipal Health Council? City Council? Department of Health? Mayors? Community leaders? How would you describe this process in terms of ease or difficulty to achieve?
6. In the CBE experience of your school, interprofessional education is addressed? Is there collaboration between the different professions in the residency fields? If so, what are the different professions currently involved?
7. Is there intersectoral collaboration in the context of the CBE practices? (Department of Social Welfare of the municipality, or Department of Education), in addition to health services?
8. What have been the challenges/difficulties encountered in the planning, implementation and evaluation of CBE programs your school?
  - How has the school management dealt with these challenges?
  - What did you learn that is worth to be shared?

9. To what extent, and at what level the concept of social accountability is part of your school's CBE program?
10. How' would the "empowerment" of the community and the services be a prerequisite for the development of partnerships between the University and the Health Services/Local communities in which the health area courses operate?

This book is intended as a reference for people who want to adopt or expand the curricular component that values community-based education. Therefore we gather here the existing expertise in some of the best schools in Brazil. Successful experiences will be shared, but also and mainly we aim to show you that which did not work as planned, highlighting the challenges and means to creatively and effectively overcome adversity. The book presents the strategies found to involve students and teachers of health courses, local communities and health professionals and managers that also have an interest and commitment in training human resources for health in Brazil.

All experiments reported this book were, in some way, influenced by inducing movements, both international (*ie*: Alma-Ata Conference, Social Accountability concepts, among others) and national, such as the National Interagency Commission for Medical Education Assessment (CINAEM), Curriculum Guidelines in 2001, National Incentive Program to Curricular Changes for Medical Schools (ProMed), National Reorientation Program for Professional Training in Health (Pro-Health or PRO-SAÚDE in Portuguese), and most recently, PET-Health (or PET\_SAÚDE in Portuguese) which is the Ministry of health strategy to promote teaching-service-community integration, where working groups with teachers, undergraduate students and health professionals are involved in interprofessional education practices.

# CHAPTER

# 2

Community-based education and inducing  
policies in undergraduate health courses

Ana Estela Haddad



## ***Introduction***

The public, universal and decentralized character of the Unified Health System requires specific policies to guarantee access to quality improvements of the health actions.

In this sense, it is essential to equate the human resources issues. The challenges to be overcome should include the adoption of actions, policies and programs that:

1. Align people to changes and dynamic processes in health systems;
2. Ensure fair and proper distribution of human resources;
3. Establish mechanisms to regulate the migration of health professionals;
4. Promote interaction between educational institutions and health services so that workers incorporate the values, attitudes and competences of the universal care model, based on quality and equity.

A landmark of the movement for the valorization of health workers in Brazil was the creation of the Secretary of Labor and Health Education Management - (SGTES) in 2003, through Decree 4726 of June 9, 2003 in the regimental structure of the Ministry of Health, as one of five purposive Departments entrusted with the formulation and implementation of the national health policy. The SGTES aims to develop policies and programs that seek to ensure universal and equal access to health programs and services, imposing to the function of training and work management, responsibility for the qualification of workers and organization of the health work, constituting new professional profiles that are able to respond to the population's health reality and the needs of SUS.<sup>1</sup> The Department of Education Management in Health (DEGES/SGTES) is responsible for defining and developing health education policies in line with the doctrinal and organizational principles of the Unified Health System and the guidelines and references of the national education policy as established by the Ministry of Education.

Its mission is to propose and lead processes aimed at the arrangement of the development of human resources in health, periodically identifying the quantitative and qualitative demands of professionals and the required skills profiles to ensure the technological composition of health teams and their relevance in meeting the needs, demands and loco regional health priorities.

In recent years, the health education policies were formulated considering the Pact for Health (2006) that, in short, constitutes the set of institutional reforms involving the three SUS management levels (Federal, State and Municipal), aiming to promote innovations in care processes and management tools, prioritizing Pacts for Life in defense of the SUS and the Management, focusing on Primary Health Care, Average and High Complexity Service, Health Surveillance, Pharmaceutical Care and SUS Management.

The basis for this policy follow the principles of the educational policy and contemporary education trends that address the educational processes as a scientific, technical, ethical and critical-operating movement for construction, interaction and social production where learning results from the multidimensional and interdisciplinary knowledge and liaison with the service provision.

From these legal, political and philosophical contributions the DEGES/SGTES/MoH created bases and institutional strategies seeking to reorient health processes and training systems at all educational levels (primary, secondary and higher) and the permanent education processes.<sup>2</sup>

The assumptions of this reorientation are based on the integration between teaching and service, work in a multidisciplinary team, articulated intra and inter-institutionally and based on interdisciplinary knowledge and sociocultural scope. Thus, one has as purpose to develop projects and programs that link the epistemological foundations of health and education, induce curricular plans oriented to the priorities expressed in epidemiological and demographic profiles, and social determinants of each region of the country, and induce the preparation of learning environments in intersectoral scenarios. This policy and technical construction of health education happens from the interministerial coordination between the Ministry of Health and the Ministry of Education and the establishment and enforcement of common agendas between: health and education managers, representatives of health and educational institutions (SUS Technical Schools, Institutions of Higher Education and Research); health professionals organizations and representatives of organized movements of society.<sup>3</sup> The paradigmatic axis that aligns and organizes the health education policy is the integration of teaching with the SUS, established as a pedagogical act which,



on the one hand, brings professionals from the health services network closer to the teaching practices and on the other, the teachers to health care processes, enabling innovation and transformation processes on both sides, teaching and health services provision.<sup>4</sup>

Two structural axes support the proposed changes. On the one hand, under the service-learning integration, the permanent health education was established as a theoretical reference mark. On the other, so that one could propose and implement changes in the formation of sustainability, we identified as a key step to seek the creation of an intersectoral institutional space, between health and education, which was implemented by the establishment of the Interministerial Committee for Work and Health Education Management.

### ***Continuing Health Education***

The National Policy on Continuing Education in Health (PNEPS) is in one of the main principles in the organizational improvement of health services. Continuing education is learning from the work process, where learning and teaching are incorporated into the daily lives of organizations and of the health work.<sup>5</sup>

The concept of lifelong learning arises from the realization that training, one of the strategies most used for the training of professionals in the health services, often consists in the transmission of knowledge within the logic of the "model school", and aims to present new approaches, new information or technologies.

Continuing education emerges as a theoretical formulation in the early 70s, from the recognition of the adult (and not just the child) as the subject of education and the consequent acceptance of learning spaces beyond the school, throughout the life in the community and work contexts. It considers that qualification occurs generally in class, isolated from the real work context, in the expectation that the information and knowledge will be incorporated in the work process. However, this type of training reaches more properly individual learning, not organizational learning. The latter is essential when seeking changes in the models of attention and participation, which implies changes in work processes, or the rules of institutions.<sup>6</sup>

The National Policy on Continuing Education in Health (PNEPS) is one of SUS strategies for the development of its employees and organizational improvement in the scope of services and management.

In August 2007 Ordinance GM/MS No. 1996 was published, providing for new guidelines and strategies for its development.<sup>7</sup> It aims to contribute to the necessary reorientation of the educational processes, the pedagogical and health practices and the organization of the services. It is based on joint work between the health system in its levels of government, and educational institutions, in the identification of everyday problems in the work process in health and the collective and shared construction of solutions.

We highlight as the main advances in the implementation of PNEPS, compared to previous strategies:

1. Emphasis on decentralization (in approval processes, implementation and funding of this policy);
2. Design of a participatory management for decisions and actions in health education;
3. Strengthening the role of the state instance in the management, coordination and monitoring of the policy;
4. Focus on specific local and regional needs;
5. Strengthening of the commitments in the Pact for Health 2006;
6. Aggregation of planning and of the Continuing Education in Health plan to existing SUS planning instruments (health plans, annual report, etc.), ensuring the participation of social control in the construction of guidelines for policy in different spheres of SUS management, to the control of its implementation.

Continuing education is consolidating and incorporating itself into the health management agenda as an integrating axis between education and work, with the support of the function performed by the Committees of Teaching-Service Integration (CIES), provided for in the Organic Law of Health (Law No 8080/1990), regulated by the Ordinance MS-Nº 1996/2007 and instituted in the logic of regionalization.

### ***Interministerial Commission on Labor Management and Health Education***

The Federal Constitution of 1988 assigns to the Ministry of Education, among other actions, the definition of training policies in higher education, regulation of the conditions of its offer and the evaluation and monitoring of their deployment.<sup>8</sup>

The solid approach between the Ministries of Education and Health resulted in sectoral actions that integrate education policy and health policy, in order to promote the training of better prepared health professionals to give an attention that is more resolute and of best quality to health.

The competences of each ministry are clear, and throughout this process of approachment, an understanding was established that it is essential that all sectoral action is based on respect to this definition.

The Presidential Decree of 20 June 2007 decisively marked the new political-institutional arrangement for intersectoral coordination, which allowed the progress and consolidation of the actions in deeper and extended levels, from the federal level, but with repercussions in health management in state, regional and municipal levels, as well as the institutional commitment of the universities.<sup>9</sup>

The legal framework established by a Presidential Decree in 2007 created the Interministerial Committee on Education Management in Health, made up of representation from the Ministries of Education and Health, in addition to other SUS management bodies, at the state and municipal levels. Normalizing Article 200 of the Federal Constitution under which the SUS is responsible for organizing the training of human resources in health, this Committee has the responsibility to advise the Education and Health Ministers in the formulation of the national policy for the training and development of human resources for health, from technical to post-graduate level.

The Interministerial Commission on Labor Management and Health Education became the institutional space to promote changes that are necessary in the context of medical education, and other professions, also involving regulatory measures related to the provision and establishment of health professionals in remote and underserved regions.

Among them, it is worth mentioning the expansion of the planned medical residency offer based on the identification of regions and states that are still lacking, not yet offered specialties, and the need to expand the number of vacancies in key specialties, linked to priority health policies. Considering the great challenge of promoting better distribution of health professionals, particularly in remote and underserved regions, this already adopted measure should have a strong impact, as several studies have shown a much stronger relationship between the fixation and the place where the physician attended the residence than that between the fixation and the place where he attended graduation.<sup>10</sup>

Among the regulatory measures, also built under the Interministerial Commission of Labor Management and Health Education, was included the establishment of special rules for the settlement of student loans (FIES) for medical graduation. Law No. 12.202<sup>11</sup> was sanctioned by the President of the Republic in January 2010 scenario new amortization modalities for the FIES debt, only in the case of Medical courses and Undergraduate Education conditioned to the providing of services to the Government.

According to this law, the physicians in officially registered Family Health Teams operating in areas and regions with lack and difficulty in retaining doctors, defined as priorities by the Ministry of Health, will be entitled to a monthly discount of 1 % (one percent) of the amount due to the FIES. This means that the physician who contracted the FIES and graduates with a debt of approximately R\$ 300,000.00 (three hundred thousand reais), by working during 100 months in SUS, linked to primary care, will have fully paid their student debt. In addition, the law states that the grace period for payment of the funding in such cases shall include the duration of the residency course, on condition the graduate medicine student is regularly enrolled in a program accredited by the National Committee of Medical Residency in specialties and regions of the country which are strategic for SUS.

Another important initiative developed with regard to the training of health professionals was the experimental project for the revalidation of medical degrees. The developed work resulted in the joint implementation by the Ministries of Education and Health, of the National Revalidation Examination of Medical Diplomas (called REVALIDA), now being implemented by the Anísio Teixeira National Institute of Educational Studies and Research (INEP).

One of the major contributions of this initiative, with internal repercussions for training, was the development of the Correspondence Course Matrix. It was created from the need to establish clear and equitable criteria, based on the profile of the newly graduated doctor in Brazil to promote effective evaluation of the candidates to the revalidation of diplomas. The collaborative effort of teachers at medical schools of public universities across the country, promoted further reflection on this profile, from the skills and competencies to be developed, and resulted in the breakdown of the existing National Curriculum Guidelines (NCG)<sup>12</sup>

As a result, and considering the representative number of involved professors from universities across the country, the matrix construction process, combined with evaluation planning, were triggers for the review of other approaches related to medical education in Brazil, especially in the adopted evaluation design. Since the evaluation is a great promoter of changes, it is essential that it is built with a solid foundation in the established educational goals, and can be constantly assessed regarding its performance.

### ***Studies That Supported the Formulation and Implementation of Initiatives for the Reorientation of Vocational Training in Health***

Two studies conducted during the initial period preceding the implementation of the policy for reorientation in health graduation were benchmarks for its formulation and implementation: the study on the trajectory of the undergraduate courses in health and the study on the adhesion of the undergraduate courses of Medicine, Nursing and Dentistry to the National Curriculum Guidelines.

In the first study, conducted between 2005 and 2006, data from the Annual Census of Higher Education concerning the training of professionals in the health area was included and analyzed jointly by the Ministries of Health and Education, resulting in the publication "A Trajetória dos Cursos de Graduação na Área da Saúde"<sup>13</sup>. Among the findings presented in this study, one may see:

1. That the demand for professionals for Health can be understood in different dimensions, from its quantitative and qualitative aspects to the regional distribution of professionals in search to reduce the inequalities in the access to health services and actions;
2. The need to reduce regional imbalances to encourage the creation of new posts and jobs, observing the installed and desired capacity.
3. The demographic and epidemiological transition is altering the needs and population demands for health care, indicating the importance of the coordination between vocational training and the health system organization;
4. The need to seek closer ties between health services and forming instances of top-level professionals; the expansion and consolidation of the implementation of the National Curriculum Guidelines for Undergraduate courses, allowing for changes in the design and profile of the professionals, graduates from institutions of higher education, directed to the comprehensive care to individuals, families, social groups and communities.

Analyzing the data from the Anísio Teixeira National Institute of Educational Studies and Research (INEP) 2004, for example, a comparison has been drawn between the health field as a whole and the Law and Administration courses, which at the time responded for 40% of total enrollment in higher education. Courses in Law and Administration together had 1,154,605 enrollments and 150,897 graduates, while the total health area, with 14 undergraduate programs, had a total of 843,406 enrollments and 126,210 graduates.

Areas	Enrollment 1991	Enrollment 2004	Growth (%)
Dentistry	30.702	46.039	50,0
Medicine	46.881	64.965	38,6
Nursing	22.237	120.851	443,5
Physiotherapy	11.379	95.749	741,5
Pharmacy	16.923	61.277	262,1
Total Health	1.661.034	4.163.733	150,7

**Table 1:** Growth of the number and percentage of enrollments in graduate programs in the health field from 1991 to 2004 - Dentistry (Higher Education Census, INEP)

Regions	Population	Graduates	Graduates per Capita
North	14.064.366	288	1/48.834
Northeast	49.867.889	1.301	1/38.330
Center-East	12.532.388	538	1/23.294
Southeast	76.333.794	5.252	1/14.534
South	26.315.103	1.677	1/15.691
Brazil	179.113.540	9.056	1/19.778

**Table 2:** Proportion of Dentistry graduates per capita in each region and in Brazil - 2004

Tables 1 and 2 show a few examples from a large number of comparisons made between the undergraduate courses of the 14 professions that make up the health field I.

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- I. (footnote to the National Health Council Resolution No. 287/1998 establishes as health professions the ones related to the following courses: Biomedicine, Biological Sciences, Physical Education, Nursing, Pharmacy, Physical Therapy, Speech Therapy, Medicine, Veterinary Medicine, Nutrition, Dentistry, Psychology, Social Work and Occupational Therapy).

In Table 1, comparing the growth in enrollment between some of the courses and Dentistry, we can see that while Dentistry had a growth in the number of courses between the years 1991 and 2004 of 50%, Medicine in the same period rose 38,6%, at the opposite end, Nursing grew 443.5% and Physiotherapy 741.5%.

Table 2 presents the number of inhabitants per graduate of the undergraduate course in Dentistry, in different regions of the country. It is observed that in the Southeast, we had in 2004 one graduate for every 14,534 inhabitants, while in the North, the average was one graduate for every 48,834 inhabitants.

More recently, based on this information and in the analysis of subsequent data, which is published annually by INEP, another article with further analysis was published<sup>14</sup>. Both publications were intended to contribute to the planning and implementation of policies for the training of health professionals. This second publication worked with data from 1991 until 2008. Among the main findings we highlight the increase in the number of graduates in all courses. With the exception of the Medicine school, about three-quarters of enrollments were in the private sector and most entrants were women. The southeast region concentrates 57% of the graduates, showing the regional imbalance in training opportunities in the health field, and indicating the need for incentive policies to reduce these inequalities. It is worth noting that the article published in the Journal of Public Health was quoted in The Lancet Journal, in a special issue on Brazil and SUS. The quote refers to the issue of human resources planning in health, at the conclusion article, which deals with health conditions and health policy innovations in Brazil, pointing to the future prospects.<sup>15</sup>

The Census of Higher Education was released by the Ministry of Education annually for many years, and in 2005, in another interministerial action, the Ministry of Education (MEC) and Health (MoH) made a critical analysis of the data, generating relevant information. Knowing the distribution of the courses throughout the different regions of the country, the differentiated and random growth of vacancies, based only on market regulation itself (which was the tone in the 90's), the demand rate and idle chairs for different courses, provided data to the MEC regulatory policy for higher education, supporting the decision that the authorization of undergraduate courses would start meet the social need. The study in the health field was pioneering and later used for other knowledge areas such as the physical sciences, humanities and social sciences, guiding the educational policy in the same direction.

Another study was conducted by DEGES/SGTES/MoH, in partnership with the Ministry of Education through the Anísio Teixeira National Institute of Educational Studies and Research (INEP), aimed to analyze the degree of adherence of the undergraduate courses in Nursing, Medicine and Dentistry to the National Curriculum Guidelines<sup>16</sup>. The initiative was considered appropriate at the time the implementation of the National Reorientation Program for Professional Training in Health (Pro-Health or PRO-SAÚDE in Portuguese) was starting in these courses. This could serve as a baseline on the training in which was all these courses without regard to the National Curriculum Guidelines so that one could assess more accurately the impact of these projects on the institutions. A group of researchers analyzed the pedagogical projects and the evaluation reports (National Assessment System of Higher Education - SINAES/INEP/MEC) of the undergraduate courses, implemented after the advent of the National Curriculum Guidelines (2001 for Medicine and Nursing, and 2002 for Dentistry). Based on the comparative analysis of the political-pedagogical projects and the evaluation reports of the courses, it was concluded that the curriculum guidelines, although portrayed in educational projects, in general, were not yet incorporated or reflected in the implementation of courses in most cases.<sup>17</sup> These findings strengthened and served as evidence to justify the political decision taken in relation to prioritize the implementation of the Pro-Health.

### ***National Reorientation Program of Vocational Training in Health - Pro-Health***

The National Reorientation Program of Vocational Training in Health - Pro-Health, deployed and in place since 2005 by the Ministry of Health, in partnership with the Ministry of Education, higher education institutions, and state and local health departments, includes a set of initiatives aimed at the changing process in health undergraduate courses ([www.prosaude.org](http://www.prosaude.org)). The actions are developed around three main axes: theoretical orientation, tutoring and practice scenarios. Currently participate in the program 364 undergraduate courses, including 57 Medical schools, 70 Nursing schools and 48 Dentistry schools (Figure 2.1), covering a population of approximately 97,000 undergraduate students. Among the results achieved by the program, there is the deepening of service-learning integration, the improvement of the ability of students to communicate with their patients and understand the complexity of the social context in which the health-disease process happens, the learning of the work process in a multiprofessional team and the gradual conquest of the autonomy of the students with clinical situations of increasing complexity, inserted in public health service.



## Pro-Health(PRÓ-SAÚDE) I and II - Total Selected Courses (354)

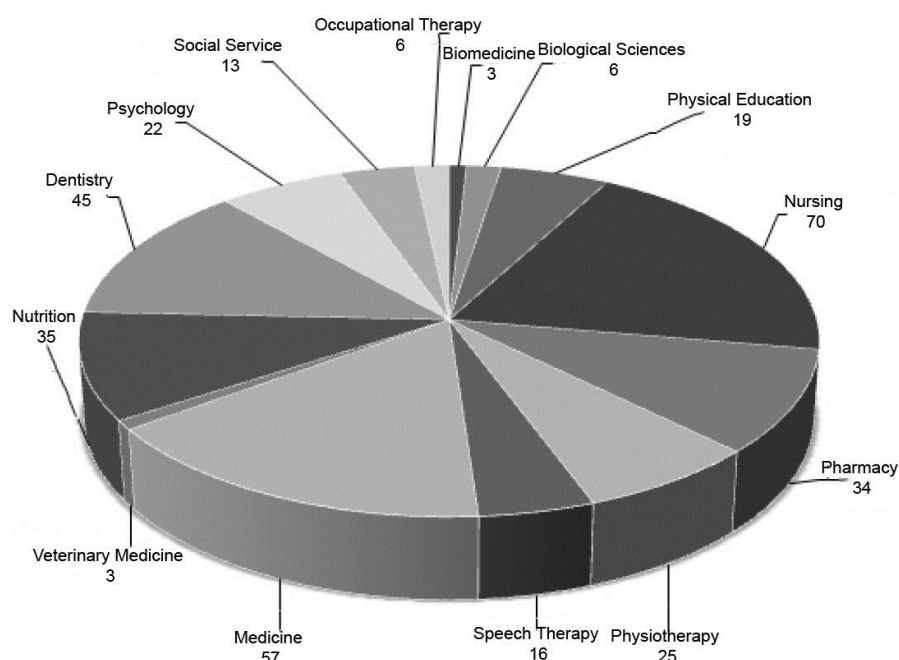


Diagram 1: Total number of courses and number of participant courses in Pro-Health (PRÓ-SAÚDE) by profession

The Pro-Health was based on the first initiative aimed at promoting the implementation of the National Curriculum Guidelines, in undergraduate courses in Medicine, which was the National Incentive Program to Curricular Changes for Medical Schools (PROMED), created in 2002 by MoH Ordinance No. 610. PROMED was implemented in 20 Medicine undergraduate courses in Brazil. The Pro-Health, which originated after the creation of SGTES, expanded the proposition of PROMED, initially to undergraduate courses in Nursing and Dentistry, and in its second edition, in 2007, to the 14 professions that make up the health field.

The Pro-Health established three axes from which each applicant institution to the selection edict should present a situation analysis regarding their undergraduate courses. The projects should demonstrate what strategies were being adopted to achieve the image-goal in each axis (Diagram 2.2): practice scenarios for training of students, the used theoretical concept of "health" and the predominant tutoring in courses. For each of these three areas were established three main stages of evolution, starting from the proposed change (in red), passing through an intermediate stage (in yellow), until reaching the image-goal (in green) for the three axes.

It was not sought to impose a recipe or a single path, but rather, to propose objectives and general guidelines, respecting the specifics, culture, institutional history, possibilities, and enhancing and strengthening paths chosen by each involved institution and health service.

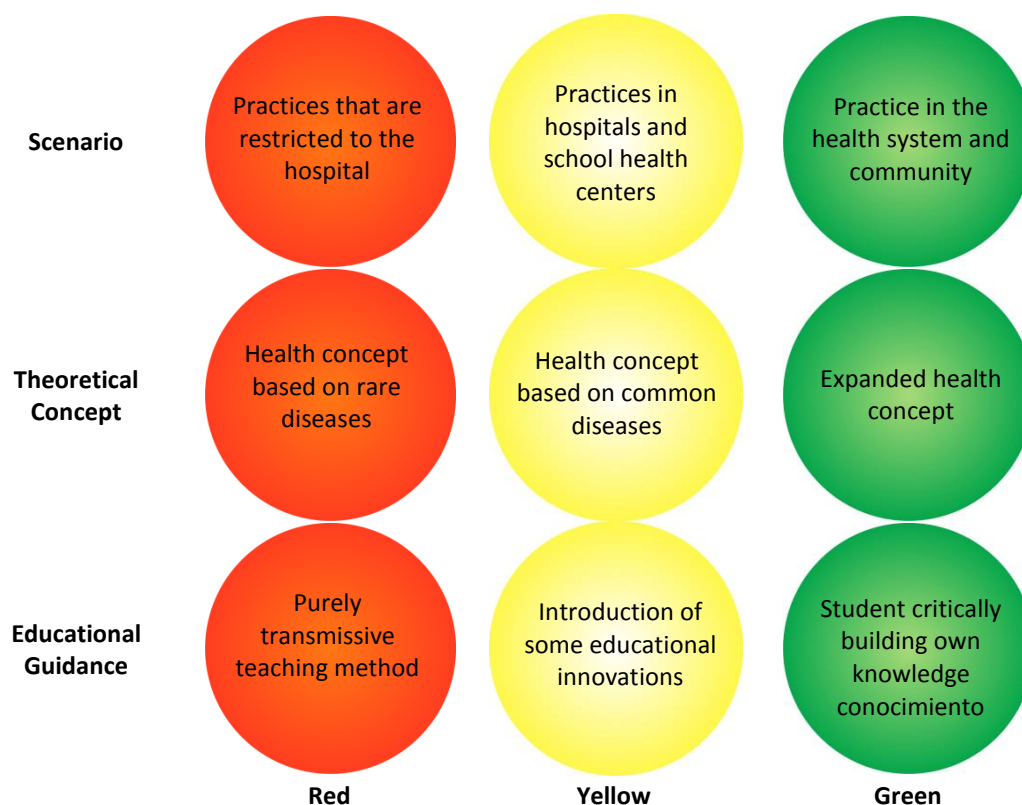


Diagram 2: Traffic light style diagram, featuring three main trainings for each of the three Pro-Health axes (designed by Prof. Dr. Francisco Eduardo Campos, unpublished)

The overall goal of the program is to "support the teaching-service integration, aimed at reorientation of vocational training, ensuring a comprehensive approach to the health-disease process with emphasis on primary care, promoting changes in the knowledge generation processes, teaching and learning and provision of services to the community."<sup>18</sup>.  
| From among the specific objectives stand out:

1. Reorient the training process of health professionals in order to offer society a professional who is able to meet the health needs of the population and promote the SUS consolidation;
2. Establish mechanisms for cooperation between SUS managers and higher education institutions in order to improve the quality and the highest solvability of the health care provided to citizens, the integration of public health services and training of health professionals in undergraduate and continuing education;
3. Incorporate in the health training process, the integral approach of the health-disease process, health promotion and reference and counter-reference systems;

4. To increase the duration of the educational practice in the public services network, encouraging students to take up the role of subjects in the construction of their own knowledge, participating in the care process analysis in which they are included, with the teacher as guide and facilitator of the teaching-learning process.

The program management and the monitoring and evaluation activities of the Pro-Health are carried out from different perspectives. The first is self-assessment. All projects constituted their respective Local Monitoring Committees with representatives from Institutions of Higher Education, for teachers, students, health services, health managers and Municipal Health Councils representing SUS users, which have played a decisive role in the management, monitoring and appropriation by the stakeholders of the promoted actions and the results reached.<sup>19</sup> At the federal level, the National Coordination together with the Pro-Health Advisor promote visits, seminars, analysis of reports, dissemination of experience and successful and joint initiatives of the Pro-Health with the remaining actions in health policy and health education.

The experience in real scenarios where life happens brings students a new dimension in relation to the social role to be played by health professionals. It brings the learning that the complexity of reality requires the exercise of constant pursuit of diverse knowledge integration, in situations that are not repeated, and that require the simultaneous and articulate performance of the skills: "know know", "know-how" and "how to be ethical and professional."

There is also the dimension of management, be it the care, either for services or the health system at different levels and sectors. This dimension, although it has been absent or relegated to second place in the undergraduate curriculum, it is essential to meet the recommended profile by the National Curriculum Guidelines, of a critical professional, able to intervene positively in reality and modify the factors that may hinder the provision of a quality health care.

### ***Education Program for interprofessional Healthcare Work - PET-Health***

Pet-Health (or PET-SAÚDE in Portuguese) is the Ministry of health strategy to promote teaching-service-community integration, where working groups with teachers, undergraduate students and health professionals are involved in interprofessional education practices. One of the strategies linked to Pro-Health in the axis of practice scenarios is the Education Program for Health Work - PET Health, which offers scholarships in three ways: tutoring (teacher), monitoring (graduate student) and preceptorship (professional of the Family Health Strategy,

who acts in the learning of undergraduate students, under faculty supervision of the tutor), having as practice scenario the primary health care in Family Health Units.

PET Health was inspired by the Tutorial Education Program (PET) by the Ministry of Education. The idea came from the observation by the program managers in MEC of the existence of many PET projects in the health field. The idea arised of using the PET conformation with respect to tutorial education groups, adapting them to the needs of the education policy on health. The combined legal basis of the laws: Law No. 11.180/2005 <sup>24</sup> which is the law of PET and Law No. 11.129/2005 <sup>20</sup> which established the education scholarship program for the work in health. From hence was born the PET Health that, unlike PET, established as its field of action not the university, but health services, promoting service-learning activities. The PET Health also differs from PET for having introduced in the tutorial group, the preceptor, the health service professional who participates in the teaching-learning process, enhancing this integration. For establishing the conformation of the tutorial group and the guidelines of PET Health, the DEGES/SGTES worked in partnership with the Ministry of Health with the Department of Primary Care of the Department of Health Care (DAB/SAS), so that the program reflects and strengthens the model of care and the qualification of primary care. At the same time, it also worked in partnership with the Department of Higher Education at MEC (SESu/MEC) to ensure the preservation of the principles. Once designed the program, it was necessary to face the challenge of creating a direct payment mechanism for the grants under the Ministry of Health. The National Health Fund at the Executive Secretariat of the Ministry of Health (FNS/SE/MoH) signed a contract with Banco do Brazil; so, with the PET Health program card, fellows receive the money monthly. In addition, a system for the monitoring and registration of the fellows was created.

The creation of this type of financing was a watershed because the mechanisms available until then, such as agreements, contracts and fund to fund transfers, do not properly apply to the induction of health education policies. This same funding mechanism was later adopted for the Medical Residency programs and Health Residences.

Participated in the PET Health, in 2009, 84 projects involving 306 PET Health groups and monthly grant of 5,814 scholarships. The tutorial teaching-learning groups were active in 806 Family Health Units across the country. All projects must have the participation of the graduation course in medicine and fellows for the area in the three modalidades.<sup>21</sup> In 2010, PET Health was extended to the areas of Health Surveillance and Mental Health, in addition to the Family Health Strategy.

Currently are being granted by PET Health 11,387 scholarships per month, with 663 tutorial groups active throughout the country ([www.saude.gov.br/sgtes/petsaude](http://www.saude.gov.br/sgtes/petsaude)).

The PET-Health strengthens the supervision of care activities, enabling better training for staff in the services and better care to users of the service. In its political dimension, it allowed for closer relations between the University and the managers of SUS, the use of the service's professionals and participation in the questioning of program guidelines, the development of research and knowledge production in the context of care practices.

Diagrams 3 and 4 show the distribution and quantitatives of health care undergraduate courses involved in PET Health / Family Health, PET Health / Health Monitoring and PET Health / Mental Health.

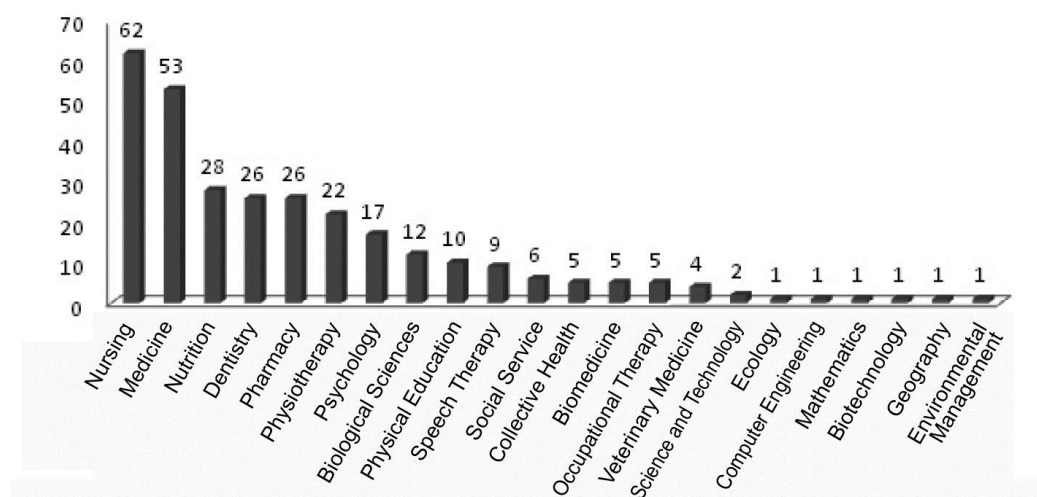


Diagram 3: Distribution of health courses in PET-Health/Family Health projects selected in 2009 and 2010 in Brazil

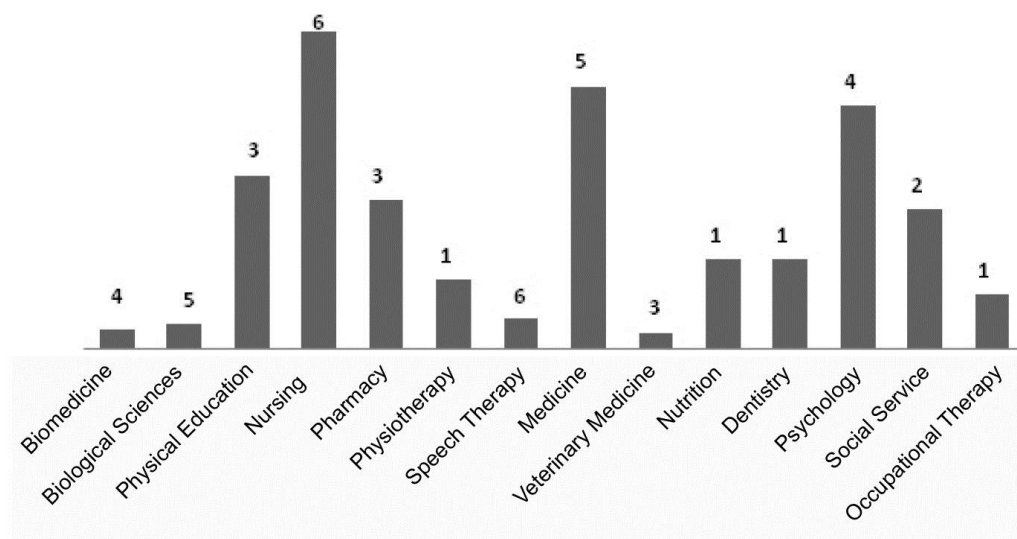


Diagram 4: Distribution of health courses in PET-Health/Mental Health projects 2011

According to the PET HealthII assessment report, the activities developed by the Centers of Excellence in Clinical Research Applied to Care added the participation of professionals with decision-making power of both sectors (education and health), enabling the implementation of innovative projects and influencing the curriculum reorientation, incorporating skills-oriented to primary care, the proposition of insertion strategies for students in the service throughout the course, support for interdisciplinary approaches, the stimulus to research in primary care and diversification of practice scenarios. This strategy has made it possible to break with prejudices regarding primary careIII by introducing a valuation policy of this practice with the recognition of the academy, promoting the questioning and "criticism" applied to healthcare practice and encouraging initiative, creativity and ethical exercise. It also coordinates the review of clinical guidelines in line with current National Curriculum Guidelines.

By an initiative promoted by the Secretary for Labor Management and Health Education at the Ministry of Health, there was a selection of papers on Pro-Health and PET Health, with a view to publication in the Brazilian Journal of Medical Education (Revista Brasileira de Educação Médica). Were presented 186 papers involving PET Health, divided into two large groups. The first group included a total of 109 (59%) and the second 77 (41%) works, the thematic content of which was distributed according to:

Organizational and methodological themes	109	Themes related to health care	77
Learning	44%	Care line/age groups	35%
Evaluation	30%	Noncommunicable diseases	14%
Reception/humanization	11%	Sociocultural	13%
Multi/interdisciplinarity	10%	Procedures	12%
Social control	9%	Infectious and parasitic diseases	8%
		Environment	4%

Table 3: Thematic classification of the papers presented on PET Health

- II. (Ferreira, 2010. Relatório de avaliação do PET Saúde. 2011. 22p. Internal document for DEGES/SGTES/MoH, unpublished)
- III used as a synonym for primary care: although most countries use the term "primary health care", in Brazil, there was a movement in the direction of strengthening the concept adopted in the country that "primary care" is the Brazilian expression for primary health care, its contents not meaning limited care targeted at socially excluded populations. CONASEMS. Atenção Básica que Queremos. Org. Nilo Bretas Júnior. 2011. 75p.

In the group of organizational and methodological issues, those aspects related to the teaching-learning process, including evaluation and multi/intersectoriality, were the themes treated in 84% of the studies, accounting for almost half (46%) of the total work presented in the two large groups. The greater interest for this subject can be attributed to the valuation of the best professional training. Additional studies that dealt with the care to patients and humane approach to care, lines of care (health of children, teenagers, elderly health), sociocultural issues and social participation which together are present in another 30% of all works, also reflect the interest attracted by the central goal of the program, a higher qualification of primary health care.

Among the comments of PET Health participating students was common to hear the remark that "the experience is allowing a more critical training, with approximation to reality and construction of teamwork," and that "the project brought experiences that led them to reflect on their own learning, and support staff in proposing a more resolute care." Some even considered "the possibility of further study in the area, through a multiprofessional residence, after ending the undergraduate course."

One of the works reported the experience to integrate 1,400 students from various health professions in a network of 37 Health Centers, aimed at the re-articulation of curriculum matrixes, to better understand the role of each of the professions for comprehensive care, promoting collective training meetings in order to achieve a more effective work of the multidisciplinary team.

In studies aimed at the practice of health care, initiatives oriented to the social determinants stood out. Among these, were included health education, centered in the orientation of adolescents and the elderly, in experiments that, in the opinion of the students themselves, "in addition to resulting in the optimization of the service and improvement of the population's quality of life, allowed a more critical academic training, reflective and aware of its social role, contributing to greater effectiveness and quality of its actions for the community." The same interest was observed in relation to unplanned pregnancy, not only attributed to social factors, but also, and above all, to the deficiency of education programs for health, a weakness of the health service. Thus, programs were developed for the affective-sexual and reproductive orientation for teenagers, promoting a better use of contraceptive methods.

Another situation that sparked interest in these projects was the detection of gynecological cancer, performed by clinical and epidemiological studies

on groups of women who underwent Pap smears. The higher prevalence of positive results in young women with early start of sexual intercourse, usually associated with low educational and socioeconomic level, contributed to the debate on the greater social vulnerability of these young women.

In disease-specific approach, there was a predominance of studies on hypertension and diabetes, having been frequent the detection of little or no preventive concern among patients seeking essentially pharmacological treatments. In several studies, we demonstrated an increased frequency of obesity and overweight as risk factors. Several studies seek a better understanding of the attitudes of users, resulting in the reorientation of the care process, with greater humanization of care and focus on the reality of each patient. It is interesting to note that the conclusion of one of the studies indicated that it is not enough just to advise new eating habits, emphasizing the need to address the subjective, cultural and emotional aspects that influence treatment adherence and self-care.

In researches related to infectious and parasitic diseases were analyzed cultural, social and psychological factors as important elements of control and spread of disease. Among the epidemiological studies described, worms, leprosy, dengue fever and hepatitis A predominated. In the case of leprosy the search actions were intensified, the population was screened for suspicious blemishes and community outreach campaigns were conducted for greater self-monitoring. In relation to dengue and hepatitis, studies have been proposed on the sanitation deficit associated with the awareness of the population, to break the contagion chain.

According to Ferreira (2011)<sup>IV</sup>, recent international initiatives promoted by multinational Foundations and/or Organizations (such as the WHO), in commemoration of the centenary of the Flexner Report<sup>23</sup>, have been promoting studies and discussions aiming at a possible reorientation of health personnel training, in the process designated as "Transformative scale-up of Education of Health Personnel" (<http://www.who.int/hrh/education/en/>). Among the recommendations by these groups the need for us to take into account vocational training initiatives based on evidence is highlighted. For Ferreira (2011), the works presented represent evidence of the inductive strength of the educational experience that has been promoted by partnering public policies between the health and education sectors, promoting their very continuity and improvement. The findings in 2010, the year that marks the 100th anniversary of the Flexner Report, show that new horizons are opening for the formation of the health workforce,

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IV. Personal communication.



in an advanced stage of development compared to what international initiatives are still looking to outline.

The Pro-Health and PET Health Programs resulted in hundreds of papers presented at conferences, many articles and books published on the experiences of the implemented projects in undergraduate health courses across the country. Noteworthy is the experience of the Pontifical Catholic University of Rio Grande do Sul (PUC-RS), participant of all initiatives from the Program for the Reorientation of Medical Education (PROMED initial program to encourage the implementation of the National Curriculum Guidelines in Medical courses, launched in 2002), through Pro-Health, PET Health, and subsequently Multidisciplinary Residency, Medical Residency (Pro- Residency) and Pro-Education. Reflections on the PUC-RS experiment are reported in a publication<sup>24</sup>. In the preface of this publication, we highlight the integration promoted among its courses in the health area, along the process of implementation of the various programs. We highlight the contribution of this publication by recording the experiences, reflecting on them and creating opportunities to share the lessons learned throughout its trajectory. Aspects such as teaching-research-care integration, interdisciplinarity, teaching-service integration and participation of the service's professionals in the pedagogical strategies developed in the practice scenarios were advances identified in the implementation of these programs and of the National Curriculum Guidelines.<sup>25</sup>

The Regional University of Blumenau in partnership with Blumenau city hall also published a book with an account of the experiences and research developed from its participation in the Pro-Health and PET Health, synthesized from collective reflection, *"in response to a interministerial policy, configured as the agenda of the Brazilian Sanitary Reform, with regard to the planning of training in health, bringing together teaching practices, research and extension with health care and social demands"*.<sup>26</sup>

National Program for Health Professors Development - Pro-Education In Health

The monitoring and evaluation of the implementation of the Pro-Health and PET Health, pointed out as a major challenge for its advancement: teacher training and qualification for the ongoing process of change, and the strengthening of research production and publication in the field of health education. This led the Ministry of Health to seek closer ties with CAPES/MEC (Higher Education Personnel Training Coordination), the national agency responsible for post-graduate policy, resulting in the creation of the National Program for Health Professors Development (Pro-Education consisted of institutional and financial support to projects:

1. Professional Masters in health teaching
2. Project for training masters, doctors and post-doctors and research development in the area of health education, presented by existing post-graduate programs and evaluated by the Higher Education Personnel Training Coordination (CAPES) with a minimum grade equal to 4. The projects could be inter-institutional or cover more than one program of the same institution.
3. Medical, Multidisciplinary or Health Professional Area Residencies, associated with the Professional Masters Course.
4. Education).

For initiatives 1 and 2 were accepted 35 projects from Teaching Institutions across the country, on the following topics:

1. Management of health teaching
2. Curriculum and teaching-learning process in health education
3. Evaluation in health teaching
4. Training and teacher development in health
5. Integration between universities and health services
6. Integration policies between health and education
7. Classroom and distance technology for education in health

In the case of the Professional Masters, the guidance document prepared by the Working Group linked to SGTES for project presentation has established the following recommendations:

1. Commitment to the training of human resources in the strict sense for the advancement of health education in order to strengthen SUS.
2. Training of future teachers to work in health education, preferably in the routine of health services.
3. Multidisciplinary character of the proposal, involving different areas, cultures and practices of knowledge.
4. Production of knowledge from the research of situations related to teaching practice healthcare in its interface with the scientific evidence and the area of health services.
5. Development of interventions from research carried out in the health services that will have an impact on SUS.
6. Program with emphasis on the transformation of professional practices.
7. Possibility of creating regional disseminating and supportive centers, with development of inter-institutional proposals.

8. Definition of policies and strategies for the dissemination of research results, especially publications in the field's qualified journals.
9. Definition of policies and strategies for the dissemination of research results and the development of intervention products for the transformation of practices, including in collaboration with the academic and health services managers, health services and social control professionals.
10. Proponent teams, preferably interdisciplinary and multi-professionals involving health care courses, with the necessary interfaces with the areas of humanities, where applicable. Exceptionally, the team may count on professionals who do not carry the title of Doctor who will participate as program developers as co-advisors and participants of disciplines.
11. Possibility of inter-institutional exchange may be regarded as a team improvement mechanism.
12. Participation of the proposing institutions and teachers involved in incentive programs to the redirection of health graduation developed by the MoH and MEC such as Pro-Health, PET-Health, Open University of SUS (UNA-SUS), Telehealth Brazil and the Foundation for the Advancement of Medical Education and Research (FAIMER) Brazil, and those related to vocational technical education, among others.

The excellence of the training is clearly linked to the possibility of the academic units and services to come together for the production and dissemination of knowledge in the field of health needs and education, promoting the building of critical mass for the development of quality education for the health professions.

Post-graduation, in turn, has as its essential premise to train highly qualified human resources, associated with the production of knowledge which, in this particular case, will take as objects the varied dimensions of teaching, which may materialize in actual changes in the everyday training of human resources for the health field in Brazil. In the training of teachers and researchers, post-graduation is an academic activity with unquestionable legitimacy and recognition in Brazil. It is therefore essential that this sphere of activity is also committed to the consolidation of SUS.

It is observed that a considerable part of the teachers of Brazilian courses in the health area lack specific pedagogical preparation.

On the other hand, there is a tendency to confound a good work or research performance with good teaching performance. We notice also a tendency to reduce the knowledge of teachers to technical and scientific aspects, impoverishing the possibilities of transformation and progress in the learning and teaching relationship.

The Professional Masters must therefore be a knowledge production strategy on Health Education from the questioning of practices nowadays involved in the training of professionals, especially in the area of Health Services.

Among the objectives that guided the initiative to promote the presentation of integrated Residency and Professional Master projects, we highlight that of qualifying Residencies as to the provision of health services, qualifying professionals for the exercise of an advanced and transformative practice in line with the social, organizational, professional and labor market demands. Coupled with the development of skills for professional practice, these programs are directed to also add the development of skills for teaching and research.

The projects that were presented and selected by tender, allow residents to make the choice of, at the end of the first year of residence, submitting a research project under faculty guidance, fulfill additional credits related to research and thereby simultaneously complete the Residency and the Professional Masters, finishing the course with the double certification.

The areas that have been prioritized in the selection Tender of these projects were:

1. Health Administration and Management
2. Intensive Care
3. Palliative care
4. Home care
5. Health promotion
6. Health and environment
7. Oral health
8. Technology and Health
9. Health rehabilitation
10. Cognitive and behavioral disorders
11. Practice Areas in the Medical Career: Care for the burned; cytopathology, bone densitometry; vascular ultrasound with Doppler; invasive clinical electrophysiology; endoscopy; gynecological endoscopy; bronchoscopy; ergometry; hemodynamics and interventional cardiology; hospital infectology; aerospace medicine;

fetal medicine; clinical neurophysiology; parenteral and enteral nutrition; pediatric parenteral and enteral nutrition; medical investigation; psychogeriatrics; forensic psychiatry; human reproduction.

12. To educate for a health profession aims to prepare students for the exercise of a competent and responsible professional practice, one that is at the service of people. Although professionals in training have to largely dominate the theory, the final assessment of their efforts and their training should not be what they know, but what they do with the knowledge or from it.

The student should learn early on that the patient or the health service user is the subject, not the object of the professional actuation. For this, one needs to get out of the practice focused on technique in order to be in places where life (and health and disease) happens. The student, a future health care professional, needs to learn to welcome, to dialogue with the user and his/her family in different contexts, respecting and working to expand their autonomy. He should be offered the opportunity to learn how to build shared therapeutic projects, both with other health professionals, but mainly with the user, subject of the action.

In spite of all the reasons for seeking the service-learning integration in the educational process of health professionals, the construction of the joint work between educational institutions and SUS is a huge challenge. The time, the pace and the views are different, and this needs to be recognized as a starting point. The integration process will be successful on the condition that it is the result of consensus and able to respond to the demands and needs of both parties, without losing sight of the fact that the main goal is to meet the user's needs.

In addition, it is observed that to simply be in the health facilities may not mean that there is a real integration and insertion of the students in the work process. The ultimate goal is to transform the network of services into a network-school in which the organization and institutional integration incorporate as a principle of the work, lifelong learning, where everyone is constantly reflecting, learning, transforming and being transformed in their health work process.

These issues are well portrayed in the excerpt below, taken from one of the interviews with a SUS manager for the evaluation research on the perception of the actors involved in the Pro-Health:

"[...] we may be unsatisfied with everything that happened, but it is undeniable that Brazil never lived a democratic advancement such as the one we live contemporaneously. And that means inclusion, it means treat customers not as sick, not as needed, not as vulnerable. But as the subject of his/her body history, biological history, social history. This requires a different attitude, and incidentally the academy is the one who can produce the reflection about it as well, but not only it, the service also [...]" (CONASS).

In the thought expressed above are the key ingredients that can make this a significant and successful experience: the user-centered orientation and the transformation of action-reflection-action of the health work process into an experience built and lived in a jointly shared way between all those involved.

### ***Final Thoughts***

The big jump and inflections promoted in the national education and health policy in the past decade have created a unique window of opportunity so that they could advance into making effective the actions on training and continuing health education.

The Support Program for the Restructuring and Expansion of Federal Universities (REUNI) represented, in quantitative terms, an expansion never before seen in the country, being considered the short period of its implementation: 200,000 new federal public places, 126 new university campuses, internalized by the less developed regions of the country, with new undergraduate courses related to each locality's development vocation. The expansion also resulted in tenders for hiring 28,000 new teachers. The expansion also brought the contractual autonomy of the federal universities. In the qualitative aspect, the REUNI brought the opportunity for new experiences in higher education. In this sense, following the Bologna Process and international trends, the federal universities have invested in new training matrixes, including in health.

These experiments may indicate paths of deeper structural changes, that can move beyond the limits reached so far by the current graduation reorientation initiatives.

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## CHAPTER

# 3

### Public policies for inducing changes in health graduations in view of strengthening the National Health System in Brazil: The paths, progress and challenges of PET-Health

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## ***Introduction***

This article aims to discuss the professional training for the public health system in Brazil. It proposes to contribute to the reflection on the training of health professionals, including health as a right and duty of the State. It is premised on the recent changes in the medical provision policy for SUS with the institution of the More Doctors, knowledge-building in the health education field, policies and programs of the Ministry of Education and Ministry of Health for induction of curricular changes in the graduation courses for the health professions. It presents the PET-Health program as an opportunity to integrate the professional training institutions in health graduations in Brazil with the health services in SUS. It aims to analyze possibilities of advancement in the construction of teaching practices for the work in health care networks, focusing on primary care as the center of the education-service integration in the public health system in Brazil.

## ***Basis for Building the Service-learning Integration***

From the provisions of Law No. 8,080, from September 19, 1990, which defines the powers of the Union, its participation in the formulation and implementation of the training policy and development of human resources for health, the Ministry of Health takes the responsibility for developing programs that advance the consolidation of the teaching-service-community integration and education for work.<sup>1</sup>

Faced with the major expansion of the PHC health care coverage, produced by the progressive implementation of the Unified Health System (SUS), it is necessary to propose strategies for the provision and fixation of health professionals and the need to invest in the change process in health education graduations and "continuing education for SUS workers according to the care model centered in health care".<sup>2</sup>

In 2003, the Ministry of Health (MoH) of Brazil established the Office of Labor Management and Health Education (SGTES), taking responsibility for the formulation of public policies for guiding management, training and qualification of workers and professional regulation in the health field in Brasil.<sup>3</sup> With the creation of this department it proposed to act in resolving complex issues such as the perception of scarcity of certain professional categories in SUS and extreme inequality in the distribution of health professionals in various regions of the country.

Today, 11 years after the creation of SGTES, we live in an effervescent and courageous time. The third year of PROVAB (Enhancement Program of the Primary Care Practitioner)<sup>2</sup> is functioning; created in 2011, it has doctors, nurses and dentists providing services in PHC in Brazilian municipalities. The More Doctors Program, initiated in 2013, is part of a pact for improving the service to users of SUS, which provides more investments in infrastructure of hospitals and health facilities, in addition to leading doctors to regions where there are shortages and lack of professionals, to work in PHC in municipalities with greater social vulnerability and Special Indigenous Health Districts (DSEI). The initiative also predicts the expansion of the number of medical and residency places, in addition to improving medical training in Brazil.

Both programs work in coordination with the health policies and training strategies and assessment of these professionals, according to the needs of SUS.

At SGTES, the Department of Health Education Management (DEGES), arises in the context of changing paradigms, bringing the concept that workers are essential subjects in the construction of the SUS, in an ongoing process of innovation of the work and forms of care. The DEGES has, as performance areas: the National Policy for Permanent Education in SUS; the integration with the educational institutions in the perspective of training health professionals who are able to answer to health needs; acting in partnership with the government school networks of the three SUS management levels; the promotion of teaching-service integration. Promotes public policies that seek to approximate the Higher Education Institutions (HEIs) with SUS, with clarity about the difficulty in changing petrified institutional training models and the difficulty in entering SUS, in the change that is based on the size of the teaching-service interaction and training for work at SUS.

We must advance the policies that propose the change of health training, understanding that the more ministerial policies and propositions there are, the greater the chance of a joint construction between the Higher Education Institutions and the services. The more we embrace diversity,

with affirmative actions that have a social characteristic, aimed at democratizing access to university, prioritizing the social integration of historically excluded minority groups (ethnic, racial, sexual, etc.), the greater the chance of approximation of Higher Education Institutions to the needs of SUS. The greater the work and interdisciplinary education with participation of the different subjects, conducted by the interweaving of various professional and educational knowledge, regarding the need for renewal of work processes in the services, and in teaching and learning in the Brazilian university, the greater the chance of getting closer to innovative processes and shared care.

### ***The work of the Health Education Strategic Action Coordination***

The DEGES has within its structure the Health Education Strategic Action Coordination which aims to promote, coordinate and support training activities and activities related to health graduation, teaching and service integration articulated with lifelong learning through the integration of ministerial policies between the Ministry of Education (MEC) and MoH, considering common objectives that are able to generate changes in the health education policy. Its is guided by the incentive to curricular changes aligned to the National Curriculum Guidelines<sup>4</sup> from 2001 and its current renewal in 2014 for medical courses; training guidelines for completeness and humanization of care; work in an Interprofessional team at SUS; greater centrality of training in PHC; bringing graduation closer to multiprofessional and medical residencies and other ministerial policies, such as the deployment plan of the national Patient Safety policy.

The focus on teaching-service integration has been highlighted as a priority field for the actions of this coordination. For Haddad (2012)<sup>5</sup>, "the paradigmatic axis that aligns and organizes health education policy is the integration of teaching with the SUS service providing network established as a pedagogical act that brings together professionals from the network of health services to teaching practices and teachers of health care processes, enabling the innovation and transformation of educational processes and the delivery of health services."

In 2004, the MoH and MEC launched the Learning SUS, as a movement to bring SUS closer to undergraduate health care courses, pointing to ways for curriculum changes in the SUS qualification perspective.

This policy aimed to create opportunities and strengthen the interaction between Higher Education Institutions and SUS, supporting the implementation of curriculum guidelines and the adoption of comprehensive care as a guide to the learning processes. As a strategy of the Aprender SUS<sup>I</sup>, the DEGES/SGTES, along with the Sergio Arouca National School of Public Health (ENSP/Fiocruz) and Rede Unida, developed the Specialization Course in Change Process Activation in Higher Professional Health Training, which sought to advance the adequacy of the training of new health professionals, investing in training teachers and SUS workers, providing a great proliferation of proposals for changes in training at regional spaces.<sup>6,7</sup> Other initiatives supported by, or in partnership with the MoH, have been proposed in view of teacher training, for teachers and preceptors in the form of specialization courses and post-graduate courses. The recent proposition of the Health Teaching Course in 2014, in partnership with UFRGS and EDUCA-SAÚDE is an example of teacher and preceptors education movement, with the aim of developing educational and training processes that will respond to social needs and development and improvement of SUS quality in what concerns the university education of professionals in the health field<sup>II</sup>.

The National Program for Reorientation of Professional Training in Health (Pro-Health, Pro-Saúde)<sup>8</sup>, established in 2005, aims to integrate teaching and service, through the reorientation of professional training, ensuring a comprehensive approach to the health-disease process with emphasis on PHC, promoting changes in processes for the generation of knowledge, teaching and learning and the provision of services to the population.

As a Pro-Health strategy was established in 2008, the Education Program for Health Work (PETHealth) through the Interministerial Ordinance Ministry of Health/Ministry of Education (MoH/MEC) no. 1802, 2008, making it possible to extend the work aimed to promote, coordinate and support actions and training activities geared to changing graduations in health, teaching-service integration articulated into lifelong learning, for DEGES actions, coordination with other departments of the MoH and through the integration of ministerial policies between MoH & MEC.

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- I. See: Ministério da Saúde. Secretaria de Gestão do Trabalho e da Educação em Saúde. Departamento de Gestão da Educação na Saúde. Aprender SUS: o SUS e os cursos de graduação da área da saúde. Brasília: MS; 2004.
  - II. See: Tender 02/2014 Universidade Federal do Rio Grande do Sul – UFRGS Núcleo de Educação, Avaliação e Produção Pedagógica em Saúde – EducaSaúde, parceria com o Ministério da Saúde – MS, Projeto SUS Educador.

## ***PET-Health: Education for Work in Health Care and Guided by the Humanization of Care***

The education program for Health Work - PET Health is constituted as a MoH strategy to promote teaching-service-community integration, with the formation of working groups involving teachers, graduate students and health professionals in the interprofessional education mode, for the development of activities in the public health network so that the service's needs will be a source of knowledge production and research on the issues and strategic areas of SUS. It is a "bet" of the MoH in the qualification of the teaching and learning process of students for work in the health care networks and health services (1).

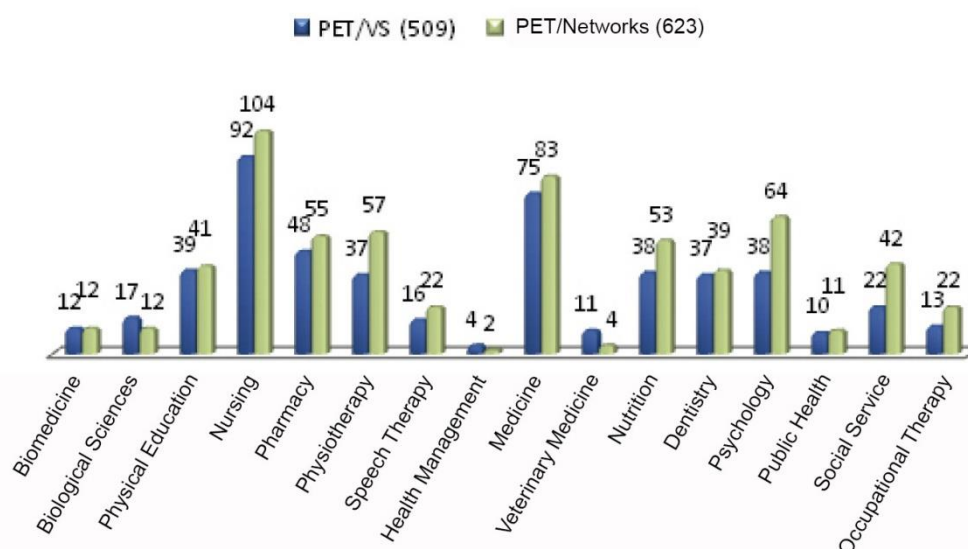


Figure 1: Courses involved in the PET-Health/Health Surveillance and PET-Health/Networks, SGTES, MoH, 2013.

The PET-Health strengthens academic practices that aim to interconnect the university in its teaching, research, service and extension activities, with demands of society, in an extremely constructive manner. The implementation of this practice faces resistance within the Education Institutions, bearing in mind the discredit in the clinical practice extra-hospital and in the PHC by teachers. The PHC is recognized as a minor importance space between teachers working at the hospital level because many are unaware of the work done there or of the tools needed to deal with the present level of complexity.

We recognize in the PET work that the PHC contains a series of actions beyond the individual curative intervention, involving a complex work

to obtain "high resolving capacity with high diagnostic sensitivity, to act properly in primary demands and propose appropriate referral within the care system."<sup>9</sup>

In 2013, it was possible to expand the groups of fellows at PET-Health, almost doubling the number, if compared to the year 2012 (Figure 2).

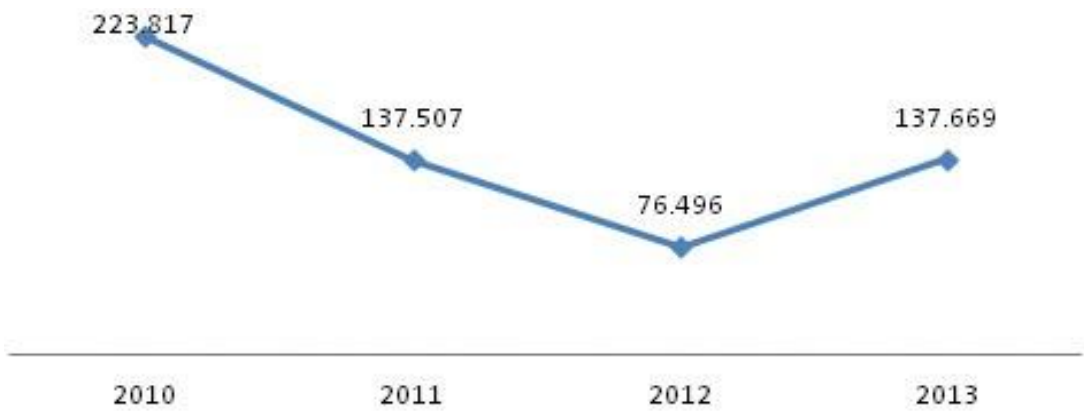


Figure 2: Total number of grants from the PET-Health program, 2010-2013 SGTES, MoH.

In 2014, after completing five years of its implementation, through a set of six tenders published between 2008 and 2013 by the MoH, it is observed that a large number of Higher Education Institutions have been involved, from various health-related undergraduate courses, primary health care services, local and state health departments and Special Indigenous Health Districts, scattered all over the country (Figure 3).

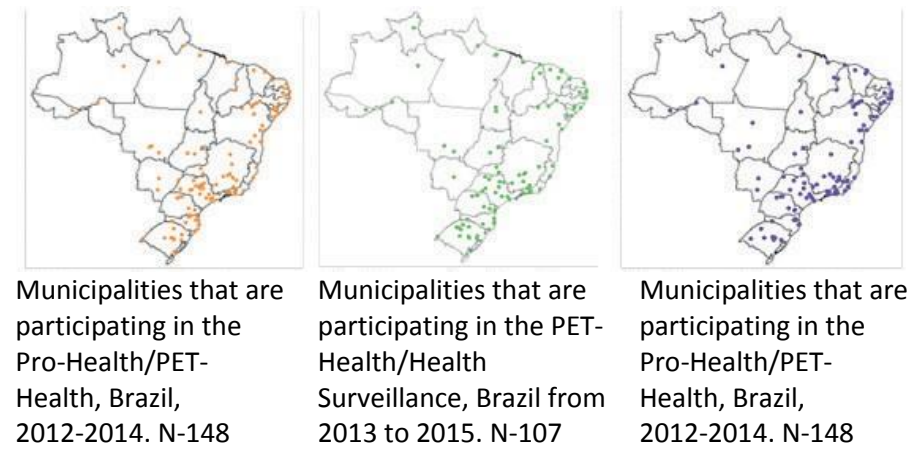
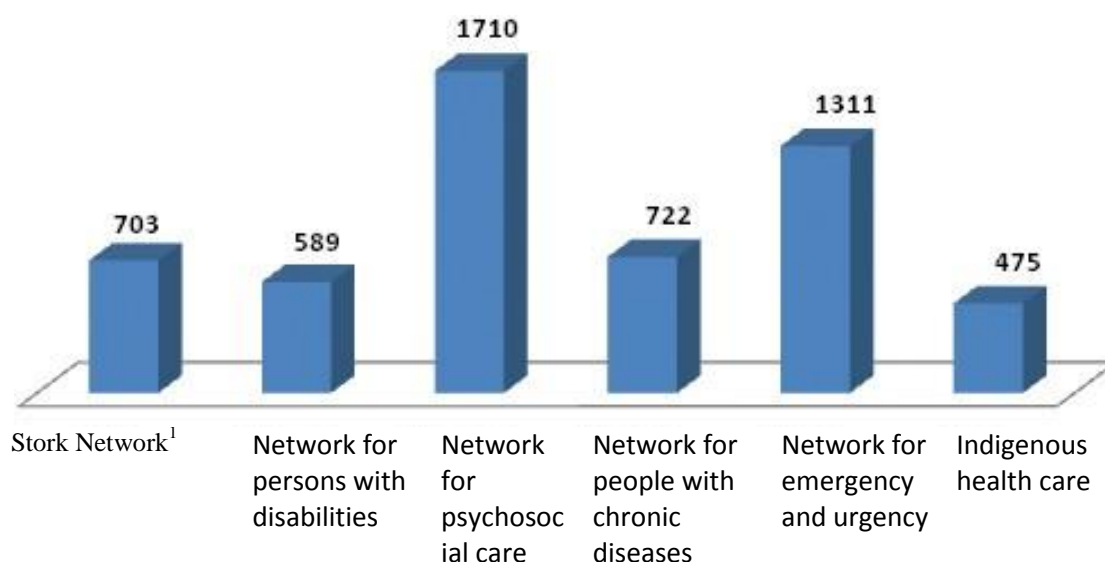


Figure 3: Municipalities in the national territory with Pro-Health projects articulated to PET-Health, PET-Networks, PET-Health/ Health Surveillance, Brazil, 2013.

Currently there are 902 PET-Health groups, with about 15,900 fellows, including professors from IES, professionals from the services and college students (Figure 4), with monthly investment of about R\$ 9,977,000.00, by the MoH.





(Figure 4), with monthly investment of about R\$ 9,977,000.00, by the MoH.

Figure 4: Total number of grants from the PET-Health/Networks program by priority network, 2013. Considering the complete PET-Health group with one tutor, 6 preceptors and 12 students.

The PET-Health strategy has proved powerful in the training of health services in primary care, in the critical formation of health professionals, and in the construction of new ways for changing health curricula so that they will point to an interdisciplinary and interprofessional perspective.

It favors the construction of spaces for continuing education, where the academic perspective extends to the perception of living labor in health and the service perspective expands, with the possibilities of building care processes that are more attentive and attuned to the real needs of SUS users. The articulation between different actors in search of solutions to problems and teaching situations, learning and care is present in the experiences of the projects.

At the meeting of the different actors involved in the projects, tutors, students, preceptors, managers and users, tensions occur about care processes in the territories, with rich opportunities for revealing the nuances of complex webs of relationships which may result in new knowledge, new practices and the construction of paths that will promote integrity, equity and access, while pointing out directions for the desired change in the curricula of health courses.

The series of accounts of the experiences through articles published in scientific journals, reports of the visits by the advisors to the project, the annual reports of IES, meetings, seminars and debates held

<sup>1</sup> Rede Cegonha for Maternal and Child care - [http://www.unicef.org/infobycountry/brazil\\_70380.html](http://www.unicef.org/infobycountry/brazil_70380.html)

in various discussion forums reveal the power of this strategy, as well as the need to strengthen it and qualify it in its various implementation environments.

The Advisory Group for the National Program for the Reorientation of Health Professional Training (Pro-Health) articulated with the Education Program for Health Work (PET-Health) develops activities in support of projects funded by the Ministry of Health, through on site visits, workshops, encouraging initiatives which correspond to the objectives proposed by the projects, discussing adaptation needs, reviewing claims and joint constructions which will reveal themselves as powerful for changes in courses, with the participation of these in numerous regional and national events, focusing on: the strengthening of local review commissions for the projects in new ways to intervene in the teaching process, in the work process and the organization of care; accountability for continuous, coordinated and joint care; in interprofessional education and in the whole of multidisciplinary care and sustainability of the proposal (Figure 5).

From the point of view of management, when considering the series of experiments, it is important to highlight major challenges present, such as:

1. Define and implement a monitoring and evaluation model, with the definition of indicators that are able to scale the actual scope of the strategy, being observed the main structural axes present in the tender's documentation;
2. Strengthen the integration and coordination between Education Institutions and service networks, from the definition of a common agenda of work and the organization of discussion forums between SGTES and other departments of the MoH, aimed at the qualification of the projects, starting from their selection, going through their implementation to their monitoring and evaluation, so that the proposals will incorporate in fact the dimensions of teaching, care, management and social control.

As for the sustainability of the MoH strategy, the moment requires that, from the organization and implementation of the monitoring and evaluation process, wider discussions will be promoted about the wager of turning it into a permanent policy of the MoH.

With several bids already carried out<sup>III</sup>, the potential scope of this strategy should be expanded, scaling their inducing character of a

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### III. PET Health Bids:

The Administrative Rule 1802 from August 26, 2008 established the Education Program for Health Work. Were launched, from 2008 onwards, the following bids: broader process of building innovative practices in SUS and training of health professionals.



Figure 5: Planning of a PET-Health Indigenous Group carried out in follow-up workshop and assessment of the development of the working groups, SGTES, MoH, Brasília, 2014.

Changes have been observed during the development of PET-Health tenders in order to seek greater involvement of stakeholders and a better definition of what is expected of each project, consolidating partnerships and control systems, causing proposals for sustainability to be presented in the project, a demonstration of the

Tender No. 12 of September 3, 2008 and Tender No. 18 of September 16, 2009, which had as emphasis the Family Health Strategy;

Tender No. 07 of March 3, 2010 and Tender No. 28 of November 22, 2012, with emphasis on Health Surveillance;

Joint tender No. 27 of September 17, 2010, directed at the Care for Mental Health, Crack, Alcohol and other Drugs;

Tender No. 24 of December 15, 2011 (pro-pet-health) and Tender 14 of March 8, 2013, which emphasized working with the Health Care Networks: 1. Network for persons with disabilities; 2. Network for people with chronic diseases, prioritizing the coping with cervical cancer and breast cancer; 3. Stork Network; 4. Network for emergency and urgency; 5. network for psychosocial care: prioritizing the coping with alcohol, crack and other drugs; 6. indigenous health care.

feasibility of the teaching-service integration with emphasis for continuing education and infrastructure, adequacy of the proposal to the National Curriculum Guidelines, Research Plan and intervention defined with basis on the needs of the service and priority issues defined from the development needs of the SUS, such as indigenous health or urgency and emergency networks.

The Tenders stimulate coordination with other SGTES actions and programs aimed at Health Education such as Telehealth, UNA-SUS and Pro-Residency beyond the Health Work Management policies.

### ***Scientific Production and Justification of the Progress, Potential and Sustainability of PET-Health***

A large scientific production is seen at the national level about the many contributions of PET-Health in academic scenarios, health service networks and community, where some categories are highlighted:

Teaching-Service Integration: The positive contribution of the insertion of undergraduate students in the Basic Health Units was demonstrated positively in the opinion of the students and service users. In community inclusion the student becomes potentially knowledgeable and modifier of the reality in which he is included, as well as a contributor in building a humanized and interprofessional care, becoming a professional who is critical and conscious of the social reality into which he is inserted. For students, PET-Health contributes to strengthening the teaching-service integration, but they point out that there is still resistance from some professionals in the primary network who do not participate in the program, becoming a hindrance in the consolidation of this integration. The lack of physical space in some primary health care units for accommodating students is considered a factor that weakens the smooth progress of the works.

10,11,12,13,14,15,16,17,18,19,20,21

Interprofessionality and group work: The PET-Health makes it possible, in the academic and professional level, the integration of healthcare courses, with coordination of resolving actions, enabling effective interaction between academics from other courses, promoting the exchange of experience and learning, which are extremely significant items for professional training. Interprofessionality is, according to some authors, a "unique experience" provided by PET-health, particularly among scholars,

and its importance for meeting the needs of the Unified Health System is supported by the National Curriculum Guidelines for Nursing and Medicine courses.<sup>11,12,13,14,16,17,18,19,20,21,22</sup> Another impact point of the program, considered a basic condition for the humanization of care, was the appreciation of the group work, in which tutors, preceptors and students work cooperatively, "shaping supportive ethics in work, a relevant fact for existential quality".<sup>9</sup>

Induction in the curricular changes and in a professional education that is inseparable from intervention research, starting from the experience in reality: The experiences of students in PET-Health promote the strengthening of skills, knowledge and attitudes about PHC in the sense that it enables the immersion of students in health actions developed in the community into which they are inserted. In this plan, the program goes beyond the barriers of the traditional training in the Higher Education Institutions, which is centered on the biological focus, physician-centered and without articulation with the health practices and policies desired by SUS. Thus, the PET-Health enables new teaching practices and experiences favoring a process of methodological and curricular change and innovation.<sup>19,20,21,23,24</sup> It also enables the development of intervention research that is often little or not addressed in the curricula, such as health and environment, indigenous health, greater patient autonomy, building of more humane technical care drawings, based on the user's health needs.

Continuing Education: In addition to the already mentioned continuing education activities, the projects hold workshops and training events for teachers, health professionals and students in a joint participation of all involved. These activities have strengthened the strategies and knowledge that guide the policies on health and continuing health education which inevitably deepen the teaching-service integration.<sup>10,13,17,18,20,21,25</sup>

The key concept of PET-Health is education through work. In this sense the thread of this project has enabled a broad partnership between the Higher Education Institutions, Management and Ministry of Health with the broad achievement of qualification of the elements involved in the project.<sup>18,25</sup>

Potential and sustainability: The PET-Health stands out as high potential strategy in all practice scenarios, seen that it has become a catalyst for change

in health practice, in the thinking and living of health students and of the professionals inserted in it. The activities propitiate changes in learning and in the conception about health of the students, as well as the participatory stimulation of the process of change in health teaching.<sup>10, 12, 13, 25</sup>

The strategy has enabled the effective participation of students in the services of the units where they work. This reflects an even better solvability of services in primary care by the workflow and the experience in daily activities, and the integration with the residents of the Multiprofessional Residency Program. Generally it takes the form of a necessary and feasible strategy for reorienting the training of health professionals and a generator of professionals who are committed to teaching, research and health of the population.<sup>11,14,16,19,20,21,24,25, 26,27</sup>

It is worth pointing out important issues that arise from the development of these proposals, such as: greater coordination of educational institutions with health services, the institutionalization of actions with the implementation of local management and monitoring committees and their recognition as an effective space for articulation between the educational institution and managers of health services, expansion of the articulation between IES and managers of health services, expanding the hours of practical activities in the community and primary care services, especially in the first series of the courses.

### ***A few challenges***

Due to this moment of renegotiation of the National Curriculum Guidelines in the medical courses, of the Law and More Doctors, the expansion policies of federal universities, the health education expansion plan for the priority areas of the country and the need to address new challenges of SUS, strategies are build up that provide power to the promotion of fruitful provisions and the production of innovations in professional training. To think the management of health education facing all health sector needs is relevant because it is an essential requirement for the analysis of what has been proposed in the academic scenario and also what has been possible to carry out on the work and social participation in the health sector.

Critical points are also identified in the development of projects such as the lack of continuity of the articulation between all involved due to the lack of a legal instrument that will provide greater institutionalization

of the teaching-service integration facing changes of municipal managers and Education Institutions, the limited infrastructure of health services and the lack of spaces to ensure the effective participation of professionals in the development of activities.

Notwithstanding the importance of students understanding the possibilities and limitations of each scope of the network, how is the relationship of a service with the other and how referral, entry, flow and exit occur in each service, a difficulty pointed out is with regard to the perception the participants of the need for the organization of the care networks in the municipalities, noting specifically the absence of a regionalized network of reference and counter-reference of healthcare services. "Thus, the limits of the work are perceived in the PHC, which, by themselves, even performing quality work under an extended vision of the care, do not substantially alter the organizational logic of the services, where the assistance to diseases predominates in their spontaneous demands, centered on diagnostic support, equipment and medicine."

Despite the lack of governance of PET-Health to deal with the resolution of all the problems, the putting into practice of the principles of Continuing Education in the development of PET has allowed entry into this dynamic universe, composed of a complex diversity of knowledge and instituted ways of knowing/do, "producing questions where only certainties would fit"<sup>16</sup> in an attempt to create, recreate and enhance "new ways of doing health"<sup>16</sup> and enable a new coexistence in collective spaces where existing, and often crystallized, conflicts between Education institutions and services may emerge as a building and training space from the reflection and analysis of the practices, being able to revisit them, offering new significance to them and rebuilding them.<sup>28</sup>

### ***Thanks***

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PART

2

REPORT OF IMPLEMENTATION EXPERIENCES IN  
COMMUNITY-BASED EDUCATION IN BRAZIL

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## CHAPTER

# 4

### Integration of primary health care with teaching-service-axis in the FCM-Unicamp curriculum

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## ***Before the 2000 Curriculum Reform***

The Faculty of Medical Sciences at Unicamp (FCM-Unicamp) began operations in 1963. Because the history of its creation and the political period lived in Brazil in the early years, it gradually concentrated a faculty and students that were critical and proactive, sensitive to the political and social aspects of the country. In its ranks, it had numerous thinkers on the health reform that culminated in the creation of the Unified Health System (SUS). Faced with this profile, from very early in the 70s, it started and contributed to movements to implement health care models that valued primary care and comprehensive care of individuals. It actively participated in the expansion of public health care in Campinas and Paulínia and created the Paulínia School Health Center, hiring teachers to support teaching in Preventive and Social Health, Pediatrics, Obstetrics-Gynecology and Internal Medicine, in primary and secondary care. Since then, teachers linked to the Departments of Preventive and Social Medicine and Pediatrics accompany students in regular trainings during the graduation, including the clerkship, and residents in primary health care units (PHC) of Campinas.

In the late 90s, medical schools began a discussion movement on their primary role on training human resources to provide good health care for the population. From the reflections motivated by the World Conference of Alma-Ata (1978) and the First World Conference on Medical Education of Edinburgh (1988), that proposed the reform of medical education aimed at the health and welfare of the human being and the II Conference in Edinburgh (1993), which proclaimed that medical education should promote equity in access to health, there arose movements aiming at curriculum changes (Alma-Ata 1978; Feuerwerker 2006). These changes suggested interdisciplinarity, diversification of scenarios for teaching and critical reflection as to advance in health care. In Brazil and Unicamp, this was no different. Brazil had created SUS with its prerogatives, and its effective implementation and efficiency also depended on adequate human resources.

Along with a new system for the training of human resources, aimed to cater to the SUS interests on the one hand, with a new labor market and the need to respond to the legitimacy crisis of the medical professional in society, was organized the National Interagency Commission for Medical Education Assessment (CINAEM). This committee was comprised of 122 entities, namely Brazilian Association for Medical Education (ABEM), National Executive Directorship of Medical Students (DENEM), Federal Council of Medicine (CFM), Regional Council of Medicine of Rio de Janeiro (CREMERJ), Regional Council of Medicine of São Paulo State (CREMESP), National Union of Higher Education Teachers (ANDES), National Federation of Physicians (FENAM), National Academy of Medicine (ANM), Council of Rectors of Brazilian Universities (CRUB), National Association of Resident Physicians (ANMR), Brazilian Medical Association (AMB), and participants of the XXVIII Brazilian Congress of Medical Education.

The CINAEM was active between 1991 and 2002. During these years, it carried out several researches, conferences, forums, reports, formulating many proposals for action for the transformation of medical school. A total of 76 medical schools in the country began to discuss the new curriculum guidelines for medicine. With the practice of joint debate, and from the new paradigms and needs presented they could draw what, after negotiations with the Ministry of Education, was enacted in 2001 as the new benchmark for the training of physicians in the country, the National Curriculum Guidelines (NCG).

In all these movements, FCM-Unicamp was present. As the discussion grew in society, the new concepts and ideas in the professional training of physicians also grew within the institution. The Congregation of the FCM-Unicamp, at its last meeting of 1998, questioned the entire academic community: What physicians this college wants to train? To answer this question, the Graduate Commission organized a meeting with all departments and the Institute of Biology (IB), the main partner in the so-called basic years of undergraduate Medicine. In this context, the Academic Center Adolfo Lutz (CAAL) also discussed what was happening in the country and the world in relation to educational projects and medical schools

curricula. It studied the pedagogical projects of most countries, trying to understand what would be more suited to the proposed new social order.

This important movement in the institution led to the Curriculum Reform Seminar at FCM-Unicamp, held in 1998, when the entire faculty had the opportunity to discuss, including international specialists in medical education and specialists from across the country, the new concepts and guidelines for the formation of the professionals that the country needed. This Seminar identified a need for immediate change in our Medical School.



It was created the Curricular Reform Commission, advisor to the Dean, with a fixed deadline to submit their proposals, consisting of teachers from FCM-Unicamp, appointed by the Dean's Office and by the Departments, representatives of students from all years and IB teachers. The members of this committee had four hours per week reserved for meetings, being exempt from other activities. The new curriculum was approved unanimously by the Congregations of the FCM-Unicamp and IB in 2000.

### ***Changes Implemented with the 2000 Curriculum Reform***

The Curricular Reform at the FCM-Unicamp Medical School began with the freshman class of 2001, before the publication of the National Curriculum Guidelines for medical courses, published in October 2001. The implemented changes were designed to move from a curriculum with the basic-preclinical-clinical trainings, divided into disciplines, under the responsibility of corresponding individual departments, to a horizontally and vertically integrated curriculum, structured in modules managed by groups of teachers from various departments. In this new curriculum, teaching-learning-service integration, with the expansion of practice scenarios for primary care, was one of the key integrator axis.

To achieve the goal of forming a physician with a better understanding of people's needs, a considerable expansion was proposed of the mandatory curricular activities with primary care as practice scenario, across the curriculum. These experiments were designed to provide technical, ethical and humanistic expertise, ability to work in teams, critical thinking regarding the incorporation of technologies, transforming spirit in relation to the health system, ability to interact with the socioeconomic context and respect for patient autonomy.

Many modules and sub-modules constituted this curricular structuring axis of integration with primary care: Public Health Actions (1st year), Health and Society (2nd year), Epidemiology and Health (3rd year), Comprehensive Health Care (4th year), Sexually Transmitted Diseases (STD)/Dermatology, Internal Medicine in the primary health care unit, Social Pediatrics (5th year) and Planning and Management (5th year).

The teaching-service integration in this curricular axis starts in the 1st year with the Public Health Actions module, where groups of 10 to 12 students are supervised by teachers in 10 PHUs. They carry out a work of establishing contact with the community, and making diagnoses on the conditions of life and health. This module aims to build knowledge through a work that departs from the field experience, the experiences and preconceptions of students. Through the field work mentored by teachers, along with a health territory in Campinas, the preconceptions are investigated to allow them to reorganize experiences in this real scenario and its context. The module concludes with the presentation of the work done by the groups.

In the 2nd year of medical school, the Health and Society module allows the student to establish a meaningful dialogue to understand the phenomena related to health, and to understand disease processes or the various ways in which people are assisted with their problems. The health-disease process, the organization of health practices and public policies regarding health are the primary axes in this module. The groups must develop an intervention project. The whole process occurs within each group, with the participation of teachers, teaching assistants and students, along with professionals from the central, district and local levels of the Municipal Health Department in Campinas (MHD). Each of the five groups of students in a class works in one of the Health Districts of the Municipal Health Department. The choice of topics must match, at the same time, the municipal health demand and the training needs of the students.

In the 3rd year, the Epidemiology and Health module works with the main concepts of Descriptive Epidemiology in prevalent situations for the understanding of the role and relevance of epidemiology to public health and patient care.

In the 4th year, the Comprehensive Health Care module aims to contribute to the general medical education through supervised clinical practice in primary care situations of children and adolescents, women, adults and the elderly. It aims at the development of clinical reasoning, understanding of the diagnostic and therapeutic process, the practice of physician-patient relationship, the experience and accountability in relation to the full primary care outside the hospital. Another relevant aspect is the opportunity to provide to students a perception and critical analysis of the current health system. It also contributes to the perception of the importance of a quality and comprehensive health care, even before exercising clinical practice in more complex services, as in the clerkship period (5th and 6th years).

The emphasis is on the individual care of most prevalent diseases for all age groups, in the Care Practice sub-module at the primary health care unit. Although primary care constitutes the physician's fundamental field of action after his insertion in the labor market, the most prevalent diseases in this scenario have been little experienced in the training that is centered in the hospital context. In this module, starting from the individual attention, the discussion is expanded, seeking to break the false dichotomy between individual and collective. It is intended that the student will develop an understanding of the interaction between social and individual health, recovering the collective determinants of individual problems and individual questions of collective problems and their solutions (Amaral et al., 2007).

The module makes it possible for the student to practice thorough anamnesis and physical examination of the patient, recording the information in a clear and organized way, and valuing the relevant findings for each case. He should also indicate diagnostic and therapeutic procedures for the most common situations, make prescription under supervision, integrate the diagnostic and therapeutic processes and follow-up proposals for the cases he follows. The individual care activities are carried out in the form of consultations, complemented by case discussion with tutors and teachers, with other members of the health team and participation in therapeutic project meetings. The Health Center tutors accompany the consultations and discuss the cases, dividing the function with the teachers. In addition, the student must be trained in home visits and development of an inter-therapeutic project. The practical activities occur through the primary patient care in Pediatrics, Gynecology, Internal Medicine, complemented by actions of Public, Occupational and Environmental Health, Clinical Pathology and Radiology.

The primary health care units, which are clerkship grounds, were selected in partnership with the Health Training Center of the Municipal Health Department (CETS), considering the minimal demands of physical space (four individual consultation rooms) and the access time from Unicamp, where students have activities in the afternoon (Figure 1).



Figure 1: Map of Campinas showing primary health care units (pink dots) that compose the practices scenario of the FCM-Unicamp Medical School.



Also in partnership with the CETS, tutors were selected (now called preceptors), with a profile for the teaching of the clinical and Community Health areas, who took part in a faculty development program, being aware of the role and informed about the module, its objectives and the teaching & learning-service integration. The tutors facilitate interaction and ensure compliance with established rules and conduct. It is the role of the FCM teacher (at each clinic or specialty) to oversight the activities of students and contributes to the discussion of the clinical cases, covering with the corresponding family health teams. The tutors, professionals working in the Municipal Health Network, do the mentoring within their work hours. Initially, some of them received scholarship with funds from the PROMED project (Ministry of Health program, which aimed to contribute to the implementation of the National Curriculum Guidelines) carrying out the mentoring in hours beyond those of their contract with the Municipal Health Department (Souza & Zeferino 2008).

Students are divided into 12 groups of 9 or 10 students, and two groups are fixed in each of the six primary health care units during the two semesters, with the same tutors and teachers. Each unit receives, in a week, the same ten students from January to October, on Wednesdays, Thursdays and Fridays in the afternoon and the next week, the other ten students, with fortnightly rotation. In this way, the same students are in service one week on and one not, allowing them to program their returns and keep the monitoring of the patient. On Wednesdays, five students are in the Pediatrics area and five students in the Gynecology area, on Thursdays the areas are Pediatrics and Internal Medicine and on Fridays the areas are Internal Medicine and Gynecology, giving care to the various members same family.

Within the module objectives, there is particular emphasis on accountability for the clinical care of the family. The student is stimulated to bond with the patient, treating the intercurrents whenever they arise. If the same student who cares for the child during the anamnesis discovers that the grandmother who brought her is hypertensive and is not controlling the disease, he should already schedule a consultation with the grandmother in order to perform the service himself, with the supervision of the Internal Medicine teachers and tutors. If the mother brings her child for a routine visit and has not yet made her puerperal review, the student should propose and schedule her gynecology consultation. Thus, the 4th year student takes responsibility for the supervised care and makes the integration between the individual care, families and the community. The analysis of care in the various health care units showed there are no major differences in the morbidity profile of the cases seen by the students (Amaral et al., 2007).

Although the public health system should be a field for the training of professionals for the SUS, it is not always structurally prepared to perform this task, lacking physical space to include students in training and a private environment for the review and discussion clinical cases. To minimize this problem, FCM/Unicamp invested resources in the refurbishment of certain primary health care units that serve as training ground, from the understanding that students should experience the service in the Unified Health System (SUS) in dignified conditions for the user and the professional worker. This difficulty must be circumvented, seeking the best possible conditions for this practices scenario, and can not be an impediment for early teaching-service integration.

The theoretical-practical activities of the Community Health sub-module within this module, are held in the same six health units in meetings with groups of ten students, supervised by faculty members of the Department of Community Health and tutors. This sub-module's main objectives are to know the work in health and care management in primary care, involving the health needs, care actions and technologies, the flow of attention, teamwork, responsibilities and multiprofessionality and the view of users on the activities from the service. In addition, they must analyze the information from the Community Health Center of the unit and the Health Surveillance actions.

Other sub-modules complement knowledge in comprehensive health care from the Comprehensive Health Care module (AIS):

Clinical Pathology - aims to provide theoretical and practical information for indication and interpretation of laboratory tests related to higher prevalence diseases for all age groups assisted by the basic network of the Health System.

Radiology - aims at providing theoretical and practical information for indication and interpretation of radiological examinations related to higher prevalence diseases, for all age groups assisted by the basic network of the Health System.

Environmental Health - enables the student in Clinical and Epidemiological Toxicology with toxicology notions that are applicable in the treatment of the individual and the community.

Occupational Health - highlights the importance of work, its environment and the conditions under which it takes place, in addition to presenting the work-related diseases, with a focus on the most prevalent situations to primary health care.

Also, the Health Care module has the Theoretical Content sub-module, which focuses on the most prevalent medical conditions, with an integrated approach to the areas of child, adolescent, woman, adult and elderly care in the form of seminars for class with 110 students, two afternoons per week.

One of the changes introduced by this structural module of the new curriculum in the primary health care units was the student evaluation system, with formative and summative assessment strategies, which promoted a new perspective for teachers and students about assessment. We use the individual portfolio, delivered for review at the end of the 1st half, in which are included the daily care sheets with diagnoses, the evaluation of reports oriented at clinical, pediatrics and gynecology cases and literature review on a topic that was considered relevant in each case. These are included in order to make the student reflect on his supervised care, the difficulties and facilities faced and also to point out their shortcomings in the clerkship and strategies for overcoming them. Early in the second half, the correction of the portfolios is discussed in each primary health care units by teachers and tutors, seeking to guide students to improve in the second half. After a pilot phase, we also added the "Structured Assessment in the Service", with forms for each clinical area, allowing a detailed and thorough evaluation by observing the care provided by students. To these methods we add multiple choice tests and an item by item concept shared by teachers and tutors on student performance in the first half (Domingues et al., 2009).

To evaluate the educational program of this module, an evaluation workshop is held at the end of the semester with all partners involved, representatives of the students from each unit, teachers, tutors and managers. The adopted strategy is the resumption of the goals of integration and training of professionals directed to our reality under the responsibility of the module's coordination, followed by discussion in six groups (different health care units). Each group discusses the accountability items, doctor-patient relationship, ethics, integration of theoretical-practical knowledge and teamwork. The reports show that this proposed integrated course may provide comprehensive health care to individuals near their community in the primary network, improving the integration of actions and therefore the learning of how to "be a doctor" still in the 4th year of the course and before the experience of how to "be a doctor" in the hospital during the clerkship.

In the 5th year of the new curriculum, the inclusion in the axis has also been expanded with the creation of the training for the Treatment of Sexually Transmitted Diseases (STD) and Dermatology that happens in another setting. These activities of the new curriculum in the Primary Health Care axis are complemented by activities held since the previous curriculum, such as the Social Pediatrics training, introduced in the 80s, with students giving consultations in two other primary health care units.

This coordination includes the Management and Planning stage in the 5th year, in which students are tasked, with teacher support, with developing and (or) reviewing individual therapeutic projects whose object are persons or collectives in vulnerable situations, seeking to improve the intervention of the local health teams (Carvalho et al. 2009).

### ***The Existing Adjustments in the Curriculum in 2014***

Ever since the implementation of the curriculum model of the Reform to the present day, the Unicamp medical curriculum has been subjected constantly to analysis by the Undergraduate Studies Committee. The monitoring of activities in the Institutional Assessment process results in adjustments for the continuous improvement of the quality of the teaching and gives flexibility, making immediate adjustments possible when necessary.

Thus, in the axis of Primary Health Care, the Epidemiology and Health I and II modules, taught before in the 3rd year of the Course, started to be offered in the 2nd year in 2014. This adjustment was necessary because it was understood that some concepts in Epidemiology would be better assimilated by the students if they were given near the practical activities developed in the primary care, for example: Health situation analysis, Epidemiological Surveillance, Distribution of diseases, Demographic and social trends, Structure of the National Surveillance System. Another aspect that motivated the adaptation of these teaching modules is related to statistical concepts discussed in the Epidemiology disciplines (frequency measures of diseases, measures of association, indicators, mortality measures, proportions and rates, indices and coefficients). Thus, the modules focused on statistical concepts are concentrated in the first two semesters of the course, in parallel to Science Practice modules I and II. With the adaptation of the Epidemiology courses for the 2nd year the proximity of these concepts facilitates the understanding by students because the themes will be developed gradually and without interruption.

Another change occurred in the Primary Care and Health axis refers to the practice scenario relating to sexually transmitted diseases. Despite the permanence of the Dermatology activities primary care, the STD service began to be developed in the General Dermatology Clinic of the Unicamp Clinical Hospital and in the STD Clinic at the Women's Hospital "Prof. Dr. José Aristodemo Pinotti" – Caism. This change was necessary because of the demand for care, which in the current context allows for greater training opportunities for students, which had not been occurring for the low prevalence of diseases in the routine of the primary health care units.

## ***Conclusions and Future Challenges***

Ever since the 70s, the FCM-Unicamp actively participates in all movements for the promotion and building of service-learning integration, both in the undergraduate program and in residency, post-graduation, extension activities with continuing education for basic care network health professionals and SUS managers, in addition to active participation through advising activities in scenario bodies for health and education policies. It believes that the possibility for undergraduate students to act in health care that shows them the reality of the profession gives meaning to knowledge, skills and attitudes that they will incorporate during the course, becoming competent professionals to work according to the needs and aspirations of society.

Particularly the experience of construction and implementation of the curriculum Reform with guiding axes as Primary Care, in addition to Ethics/Bioethics, are possible in the face of an institutional culture, for its training history, with a participatory, democratic character and openness to the community where it is inserted. The role of the internal and external community has always been active and the academic management has a tradition of respect for debates and collective decisions.

An essential ingredient for the success of the 2000 change process by FCM-Unicamp was the institutionalization strategy of the work, with the Curricular Reform Committee being considered the direct advisor to the Board, and its members appointed by decree, mixing indications by the departments (undergraduate education managers) and teachers appointed by the Board for recognition of their dedication to graduation training themes.

However, the service-learning integration remains a constant operational and/or political challenge for external and internal reasons to the institution. Although the order of the training of human resources for health is the responsibility of SUS management, and the Federal Constitution of 1988 (Article 27) recognizes that public services that integrate the SUS are a practice field for teaching and research, this rapport should also be understood by the management and staff who work in clerkship opportunities at the time that this interaction happens. This includes promoting greater community participation in the decisions, in legitimate spaces.

The doubts as to who should be responsible for teaching the undergraduate course, how and when students should be inserted in diverse scenarios of practice, the maximum number of students per training field that does not compromise learning and services, in which services to include them and at what stage, require participatory discussions and studies to build a legitimate process. In this direction, the semi-annual assessment workshops, which include students, academia and the service, have been a source of learning, where advances and difficulties become agents for change.

The difficulties found in the primary care units (physical space, lack of availability of medical professionals to be preceptors, lack of basic equipment, lack of integration and interaction with the local team and the resistance of some communities in being treated by students) should be considered together with the Department of Health and local teams so there is a balance between the educational needs of the medical education process and the real demands of the health services.

Formal academy-service commitment instruments, that address the nuances of this relationship, signed after real negotiation and agreement, are essential. The dispute for space in the primary care practical activities scenario between public, which don't invest financial resources in this negotiation, and private institutions (which do) shows one of the difficulties that require such instruments of bilateral commitment.

As for FCM-Unicamp, it is necessary to overcome the difficulty in finding the appropriate and motivated teacher to teach in this scenario. This difficulty is a reflection of the prejudice which does not recognize that primary care is a complex scenario to teach and, as such, should be recognized as one of the most relevant teaching practice scenarios, reserved for



outstanding teachers in multiple teaching skills, including not only technical, but humanistic and professional issues. The valuation of teaching activities on a par with the research activities, a process being constructed at FCM-Unicamp, can collaborate in this direction. We must also promote the training and performance of students in the practice fields in multidisciplinary teams.

The academic community at FCM-Unicamp recognizes that, after 14 years of Curricular Reform, it is time to retrace the community mobilization path of the institution and its partners (the Municipal Health Districts) to make proposals for changes and adjustments. The new recently published National Curriculum Guidelines will provide the impetus in this process (Brazil 2014). Again, the mobilizing power of the student body, in relevant institutional spaces, should integrate and align with the teaching body and push the institution, being essential the political support and institutional endorsement of academic managers.

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## CHAPTER

# 5

The medical and nursing undergraduate  
education in primary health care:  
45 years of experience at  
Botucatu Medical School –  
São Paulo State University (FMB/Unesp)

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## ***The History of Primary Health Care Teaching at FMB/Unesp***

When retrieving the development process of a field "extramural education" as it was called at the time, or of experimental health services in the Botucatu Medical School (FMB), at São Paulo State University (UNESP) can identify that this process took place in a diffusion context of the Integrative Medicine medical reform project in Brazil and Latin America and of its expression in medical education, which is Preventive Medicine.<sup>1</sup>

However, what differentiated the process in FMB, established in the early 1960, from the one that occurred in other higher education institutions, was the enabling environment found within this new medical school. In part, this was due to the presence of young teachers "who wanted the full revision of the university structure and defended the approximation of the university with the population [...]." <sup>2</sup>

The teaching in the community for medical students was inaugurated in 1970 with the creation of the Rural Sanitary Unit, which started a clerkship rotation for the 6th year, coordinated by the Department of Preventive Medicine, with direct participation of teachers from other departments and disciplines, like Communicable and Infectious Diseases, Psychology and Pediatrics.<sup>3</sup> The project was constituted as a space for the practice of teaching in the community, indicating the influence of Preventive Medicine at a later stage of this ideology, indicating a lower valuation of an intra-school integration, which lost relevance.<sup>4</sup> Although this training did not have a long life, the teaching experience in primary health care continued in the 6th year in Public Health training, offered in small rural towns of the Botucatu region. This program lasted until 1985 <sup>5</sup>, while at this stage, part of the students started to attend the Health Center School, installed in 1972.

The creation of the Health Center School happened through the influence of the Community Medicine movement and with an expectation that exceeded the one aimed at the teaching that is directed at exploring the development of health care models.<sup>1,5</sup>

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I. At the time: Faculty of Medical and Biological Sciences in Botucatu (FCMBB), isolated public HEI, later incorporated into the São Paulo State University (Unesp).

It should be remembered that this practice by the University, of experimenting with ways for organizing health services, especially in the state of São Paulo through this experience of Health Centers Schools, contributed to the Brazilian Sanitary Reform in the 1980s.<sup>5</sup>

It was precisely in the "New Republic", in the 1980s, that the undergraduate education in primary health care started to be ministered on the local network of primary health services, which began to take shape in a few Brazilian cities, among which Botucatu in 1983. However, for a few years this experience was still limited to the Public Health clerkship rotation offered in the 6th year medical curriculum.

The Botucatu Medical School was the pioneer in the development of the clerkship in two years and the clerkship rotation in the primary care, which has now been offered for 45 years. It is noteworthy to mention that the primary care residency, reworked several times, had its design guided by the dialogue between the border of the problems of life and illness, between work in general and community practice and expression of health problems in the collective dimension, in the prospect of training in skills and practical techniques for action in the individual general practice and at the collective level. Until the early 80s, the clerkship in public health was held in small cities. With the organization of the Botucatu network, the clerkship began to be developed in the urban area of the city.

The expansion of medical and nursing education in the local network of basic health services in Botucatu occurred from 1993 onwards, with the development of the UNI Project (A New Initiative in Health Professional Education Together with the Community), supported by the Foundation W. K. Kellogg, which encouraged greater coordination between the Botucatu Medical School and the Municipality of Botucatu, aiming at the synchronous development of these institutions.<sup>6</sup> While some of the new activities for the university-services integration has been suspended with the end of the funding, some innovations (Pediatrics and Obstetrics and Gynecology ) remain today in activities on the network. The discipline "Pediatrics in the Community", ministered since 1994, offers the 4th medical year the opportunity to develop comprehensive care to children in the municipal health network, in the Health Centers School and in primary care under the supervision of the primary health care medical teams and Botucatu Medical School teachers.<sup>7,8</sup>

There was, also, with the UNI Project, an expansion of community presence in spaces where local health policies and integration were debated between the University and the services, including as a teaching scenario.<sup>9</sup>

It was the new legal and political context in the country, when Health was recognized as a social right and the Unified Health System (SUS) put in place to ensure health care, which new challenges were

progressively put to the Higher Education Institutions in the health area<sup>II</sup>. The organizing role in the training of human resources for the health sector was attributed to the Unified health System (SUS) by the Federal Constitution of 1988.

The implementation of the basic network for municipal health, from 1983 onwards, was coordinated by teachers from Botucatu Medical School who have been working in the Municipal Health Secretariat, and thus have always been present in the movements for the democratization of the country and particularly in movements for health reform and the implementation of Brazilian Health System (SUS).<sup>10</sup>

In the decade of 1990, the National Interagency Commission for Medical Education Evaluation (CINAEM), which aimed to "the evaluation of quality components for the transformation of reality revealed through different methodologies and tools" was created.<sup>III</sup> CINAEM was attended by various entities and a significant group of medical schools and was marked by its influence on the creation of the National Curriculum Guidelines, published in 2001. A new perspective was appointed in order to redesign the medical school with greater articulation to the population's health needs, which was fundamental for the changes that would occur in the following years.

In its 51 year history, the Botucatu Medical School went through several curriculum reform processes. In the year 1989 was created the Undergraduate Program in Nursing, giving coverage to the large geo-educational district, where there was no public higher education institutions for training nurses. The fact that Botucatu Medical School has not implemented the new curriculum as proposed by the UNI Project and having actively participated in the National Commission for Medical Education Evaluation - CINAEM (1999-2000) influenced the changes that would happen in graduation in the decades that followed.

In 2000, was created the Educational Support Center (NAP) in the Medicine Undergraduate Course, to support fundamental pedagogical issues for change in medical education and nursing. In 2001 a work group was constituted, which, in partnership, signaled the need to revise the curriculum because of internal problems, such as the fragmentation of the teaching, on the occasion of the new publication of the National Curriculum Guidelines that occurred in November of that year.

From 2001 onwards, the medical education at Botucatu Medical School opened itself to debate about the necessary adaptation to the new curriculum guidelines, and the Incentive Program to Changes in Medical Schools (PROMED), proposed and funded by the Ministry

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II. The Federal Constitution (1988) established that the SUS is responsible for "organizing the training of human resources in health" and the Organic Law of Health (1990), established that the human resources policy in health must meet the objective of "organization of a system of training of human resources at all levels of education [...]".

III. Comissão Interinstitucional Nacional de Avaliação do Ensino Médico. SIQUEIRA, B.P. CINAEM – um pouco de sua história. Cadernos da ABEM. Volume 2 – Junho, 2006.

of Health (MoH) in partnership with the Ministry of Education (MEC). In 2002 the Botucatu Medical School was one of 19 medical schools in Brazil selected for investment from the MoH Project in order to innovate their teaching in the prospect of further integration into the development of the SUS. Research conducted on the PROMED pointed out that:

"The analysis of the data showed the diversity and complexity of the obstacles faced by medical schools to implement their curriculum change projects. These complicating factors interrelate and strengthen each other. However, it is necessary to analyze the movement of changes in health education in Brazil, especially medical education, as a process under construction and under a strong influence of the historical moment of the health policies. This means that on the one hand, many of the barriers to the advancement of educational processes extrapolate the field of education and express the thoughts, expectations and demands of the society in which the schools are inserted. On the other hand, it is necessary that the educational institutions become committed to the training of professionals who work in the society in order to transform it, breaking the paradigms that limit the implementation of the statement "a new school, for a new health system." (ALVES, 2013)

The specific data on the performance of Botucatu Medical School, in this study, between 2002 to 2008, described in reports, indicate that there was an increase of practices scenarios, with an emphasis on education in primary and secondary care in the Botucatu region, opening the post-graduate and continuing education fields for health workers, in addition to expanding the scientific literature on SUS (Figure 1). From these changes the student went on to develop practical activities in the community and in the SUS health care network. It was also possible to start valuing the skills in the student's training and assessment with realistic simulations and a movement for the training of teachers and professionals in the network.

In 2005, the participation of the Botucatu Medical School in Pro-HEALTH I (Pró-Saúde-1) for medical school, and later, in Pro-Health II for the nursing program, contributed to the strengthening of the interaction between the network of public services, and the medical school.<sup>11,12</sup>

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IV. Relatório do Projeto de Pesquisa de Avaliação: Análise exploratória da gestão da educação na saúde. Componente 2: Avaliação do PROMED. Sumário executivo, NESCON, UFMG, 2011.



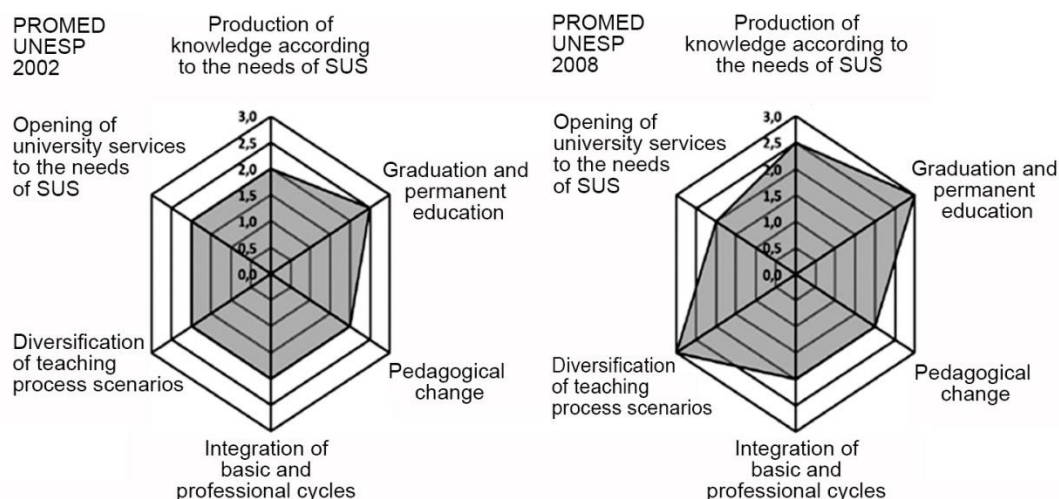


Figure 1: Performance Graph of the Medicine University in Botucatu at PROMED- Incentive Program to Changes in Medical Schools: Residencies by Vectors: 2002 and 2008.

In 2008, the Botucatu Medical School, in partnership with the Municipal Health Secretariat in Botucatu was selected to participate in the Education Program through Work - HealthV (PET-Health – PET-SAÚDE) revealing a new effort to extend the work in partnership between teachers, health professionals and medical and nursing students.

The PET-SAÚDE is operated as an offshoot of the discipline University, Service and Community Interaction (IUSC), implemented from the 1st to 3rd year of medical graduation and from the 1st to 2nd year of nursing graduation, with the participation of 330 students, contextualizing the proposal in a larger project of change in medical and nursing education.<sup>13</sup>

The partnership with the municipality has required permanent readiness for dialogue and the management of conflicts arising from divergent interests between the parties, Botucatu Medical School and Municipality Health Department, has been often necessary, especially with regard to the change in distribution of professionals in the network of health services and use of resources from incentive programs by the Federal Government.<sup>13</sup>

While there were changes in the management of the City and the University, which resulted in greater or lesser approximation between the Botucatu Medical School and Municipality health Departments, the permanence of students and residents in residencies in the network over these 28 years is increasingly consolidated and has been strengthened by the involvement of social control, which is always present in the discussions.

- V. the PET-SAÚDE program (a partnership between the Department of Labor Management and Health Education - SGTES, by the Ministry of Health and the Department of Higher Education - SESU, by the Ministry of Education) is guided by the integration teaching-service- community, continuing training of all those involved; possibility of change in shaping the healthcare professional at the university level, and especially the implementation of collective projects in the primary health care units.

### ***The Interprofessional Training in the University-Service-Community Interaction Course***

Given the need for increased integration between the Botucatu Medical School and the network of health services, since 2003 the discipline called University-Service-Community Interaction (IUSC) has been created and implemented. The IUSC it was a collectively built experience from the recognition of the need for experience of students and teachers in practices aimed at the comprehensiveness of health actions; it centers its focus on the family inserted in the universe of historical, cultural, socioeconomic and political relations of the society, seeking to break with the biomedical conception in the teaching-learning process.<sup>12</sup>

Through two driving forces: completeness and humanization of care, the IUSC proposes to expand the understanding that the clinic is not only a set of individual actions, but the extended look to the problems in their uniqueness and the care for health needs should happen in the health care network, especially the primary health care as a guide to the network's demands.

Educational activities developed at the IUSC are not restricted to the biological-reductionist view of medical care; they also value the health education and promotion of quality of life and the perception that health happens in multiple scenarios.<sup>3,12</sup>

The IUSC is present in the first three years of medical training and in the first two years of nursing training, giving the student a regular and permanent contact with the community, with different goals and strategies in each year, aiming at the incorporation of concepts and greater understanding of health problems in the primary health care, considering their complexity (Table 1).<sup>13</sup>

An interdisciplinary practice is presented, favoring experiments in which students understand how expertise depends on knowledge from different areas and an emphasis on the sense of autonomy, as well as on exposure to concrete health reality situations from our region and country. It is, therefore, a privileged space for group work in the psychosocial and community perspective, rescuing theoretical and methodological assumptions that seek qualitative changes in the social practice of individuals.<sup>12</sup>

In the 1st year we emphasize the importance of recognizing the living and health conditions of the population and the knowledge of the demographic and epidemiological characteristics of the area. Interviews are held with community leaders and professionals working in social facilities (Community Centers, Kindergartens, Schools, primary health care units/Family Health Units and others), taking as a guideline the

historical and structural aspects and the daily life of the neighborhood. We also hold home visits to families with children under one year of age who are indicated by the primary health care units, accompanied during the entire year, developing communication, listening, becoming closer to families that are often different from the students' families (Figure 2). The focus is on health and health promotion, individual and collective perspective and the importance of "play", nursing/feeding, care for the child's development.

Period and course involved	General objectives	Teachers involved/number of groups
1st year Nursing and medicine students together.	Recognize the situation of life and health of the community, the territory (how they live, how they take care of health and disease, why citizens fall ill), monitor the uniqueness of the care to newborns and family and participate in the health care and protection strategies, to know the work of the primary health care unit's staff and care network in Botucatu.	12 teachers and preceptors of the 14 health professions. 11 to 12 groups of medicine and nursing students and one tutor
2nd year Nursing and medicine students together.	Develop health promotion, education and prevention actions in the community in the same primary health care units, from the questioning of the reality, demands and needs raised in the territory, already known in the first year, to continue to monitor the care of children and family in partnership with the actions in primary care in the city of Botucatu.	12 teachers and preceptors of the 14 health professions. 11 to 12 groups of medicine and nursing students and one tutor
3rd year Medicine students	Keep the development of health promotion, education and prevention actions with the community by the primary health care units. Prioritize the clinical care activity, in the same unit visited in the previous years on a regular basis, with responsibility and monitoring throughout the year. Organize interprofessional supervision meetings.	Teachers and medical training preceptors. 25 to 30 groups of medical students and a tutor

Table 1: General objectives proposed for IUSC as an interprofessional module for undergraduate nursing and medicine courses, 1st to 3rd year. Botucatu Medical School, 2014.

In the 2nd year, the focus is to increase the communication skills of the students, focused on the planning, implementation and evaluation of health education activities, seeking to promote health from the demands indicated by the community, keeping the home visits initiated in the 1st year. The focus is given to the family of children who were already being monitored, appropriating propositions about family care.



Figure 2: Home visits with community workers in childcare from birth, Botucatu, 2008.

Topics, such as Ethics, transit in issues related to the role of health professionals in the pursuit of greater autonomy of families, communities and how professionals have respected the planning and decision process of users about their disease processes. The understanding of the medical records and the importance of the record's quality are valued themes. All work is made transversal by the discussion and presence in work practice, of the humanization of care as a possibility for changing the authoritarian logic of the current model in health services, seeking to exercise moments of care that are capable of giving meaning to the actions of students and of Health teams.

In the 3rd year, Medicine students develop supervised clinical care, preferably at a primary health care unit in the same coverage area where they acted in the previous years. In the course of this series, in which the majority of Semiology disciplines is taught in medical training at Botucatu Medical School, the IUSC activity consists of a first practical development time of such knowledge and also of clinical reasoning, discussing the subject of the medical care in an integral way, inserted in their historical and social reality (Figure 3).



Figure 3: Medical and Nursing Students gathered for interprofessional health education in primary health care units, Botucatu, 2007.

### ***The Pedagogical Proposal of Education Within the Community***

The IUSC has problem-solving teaching and group work as a pedagogical proposal, with professionals from different professional backgrounds, who aim to enable students to reflect on the contradictions inherent to health practices, and provide them an enlarged view of the health-disease process. It is through knowledge and problems derived from the observation of reality and initial living with the population's daily life, that are manifested, for students and teachers, all its contradictions - hence the highly political nature of the pedagogical work on problem-solving, marked by a critical stance in education.<sup>12</sup>

In problem-solving, the action/reflection/action relationship enables teachers and students to reflect on the need and availability to research, monitor and collaborate on critical learning, which often puts the teacher in front of unforeseen situations, requiring that both share, in fact, the process of knowledge construction. Thus, teaching and learning go through "two moments of the gnosologic cycle:

one in which the existing knowledge is taught and learned and one in which the production of not yet existing knowledge is worked."<sup>14</sup>

After studying the problems, other developments may arise on the issue, demanding contact with situations or contents that were not provided for by the teacher. Scientific knowledge integrates perceptions, emotions, knowledge and perceptions of the people involved (Figure 4), allowing insights to be shared from many sources in the construction of knowledge.<sup>14</sup>



Figure 4: Problem-solving: teacher, preceptors and students in a discussion on the care for a diabetic patient, Botucatu, 2011.

It is understood that new scenarios should propitiate student participation in health promotion actions, in a defined territorial area, with reference to a primary health care unit, in which the student shall actively participate in all the activities of the teams with the communities, seeking to break with the dichotomy preventive/curative, collective health/clinical practice and individual actions/collective actions.

The training work of tutors-teachers and the planning of the activity is done continuously. We value the collective construction of the project, seeking to work in partnership, in the sense of "far from being unanimity, to get closer to the ability to work with that which is different for common professional goals."<sup>14</sup> The challenge is to form a group in which the knowledge of each enriches the other, with emphasis on collective and interdisciplinary work, group process, participatory planning and production of knowledge. We emphasize the ethical dimension in the labor relations of the future physician with other health professionals, with the population that is served and the institutions involved in care.

### ***The Greatest Difficulties of This Path***

Regarding IUSC, the main restrictions are in the continued participation and training of teachers and preceptors, particularly the lack of teachers to teach the course (about 12 teachers in the 1st and 2nd year in proportion and one teacher or preceptor for every 12 to 14 students and in the 3rd year, one teacher or preceptor for every 4 or 5 students, totaling around 25-30 teachers). Today, most teachers are preceptors at Municipality Health Department of Botucatu, participating in the PET-SAÚDE project by Botucatu Medical School.

There are difficulties in the operation of the Municipality Health Department, which often does not provide sufficient room for the presence of students in the primary health care unit. Other problems relate to the institutional and ideological resistance to scheduling an interprofessional education project in the community, some teachers and students have difficulty understanding the role of the discipline in the training and even realizing that learning in the community and in primary care is not simpler hospital care and not experiencing to a lesser extent the hospital experience, but learning in a scenario where resolubility, completeness, teamwork, and participation of users should prevail.

### ***Lessons Learned in This Course***

The transformation of the health education implies changing power relations established in the University. It is not possible to press for change without working all the conflicts inherent in this issue. The opening of school curricular discussion with the service's professionals, the community and thus reviewing the role of the teacher as the sole holder of knowledge implies contacting very crystallized issues in the higher education institution. However there is an external pressure that has drawn the institution to face this problem.

The training of health professionals necessarily involves the relationship between the clinical, basic and collective health areas. Building an effective integration between these areas is a challenge to be faced due to the limitations of the University.

We learned that in seeking the qualification of the teaching/learning experience, in the network, we strengthen the partnership with the managers of the health system, which will result in consistent and inter-related actions.



We must strengthen the partnership with the Municipality Health Secretariat, overcoming obstacles that sometimes contradict the Brazilian Health System (SUS) manager's interest (focused on meeting the demand of users who seek the municipal network) to the teaching-learning process, which requires adjustments both from the University and the Health Service.

A recent study pointed out, as strength of the experience in the community, the perception of the training opportunity for all actors involved in issues such as family, comprehensive care, home visits, health education and expanded history. The teacher motivates the student in the search of knowledge, presenting instigating questions and proposing directions in which to go (Manuel, 2012).

In the words of a preceptor:

"To be a PET-SAÚDE tutor is to be empowered at the same time we empower. The meetings of tutors-teachers emphasize the collective work and activities planning, this being the training time for tutors, through the thematic discussions, reading texts and sharing of experiences in each meeting, which provides us tutors with growth and professional development; enabling us to put this learning in the everyday of our activities in the health facilities where we work. Through IUSC we tutors and health professionals, we have the opportunity to have a permanent health training." (Preceptor, 2011)

In the words of a student:

"It was not a visit. It was not a text. It was not a meeting. It was not any specific experience that marked me in PET-SAÚDE in diabetes. What was most evident in my memory was the project as a whole and my change of vision in relation to the patient... A well controlled diabetes requires a flawless triad - medication, diet, exercise. However, the problems for controlling the disease are not only three: there are many more, ranging from financial difficulties to the fragile doctor-patient relationship. Maybe not the visit, text or meeting, but the body of the work made me pay attention to the patient..." (PET-SAÚDE student/SF 2010).

According to Cunha, "in a critical analysis of the conditions of university education, it is clear that, to respond to current challenges, not the stereotype of the scientific profession nor that of the interpretative practice,



separately, can get the job done. The reconfiguration of the teaching work requires a symbiosis of these two components plus other skills, knowledge, wisdom, provoking the student to take the center stage of their own knowledge"<sup>14</sup>

### ***Final Thoughts***

The biggest challenge for innovation in medical schools and nursing refers to the possibility of breaking with the biomedical model of teaching, centered in the diagnosis and treatment of diseases, building a project of access and universal right to health, consistent with the principles of the Brazilian Health System (SUS), with fairness and integrity, respecting civil rights. The challenge still is to deal with the main health problems of the population and also to stimulate the creativity and critical thinking of students through practices developed from the perspective of comprehensive care, prevention and cure in the diverse health care levels.

The path was strengthened in the opportunity to participate in PROMED (Incentive Program to Changes in Medical Schools), in 2003, in the presence of the direction of Botucatu Medical School supporting the curriculum change process, with emphasis on education in the primary health care, which would have the mark of school, service and community integration and in the meeting of Botucatu medical School teachers with health and humanities professionals. A group of teachers and professionals came together, mobilized for innovation in this traditional medical school, which was marked by movements of innovation and enhancement of vocational training in graduation, in the practice of public services. This is a public medical school that, over the years, became involved with the health reform movement and has participated in the training and development of the SUS. We got involved boldly, in a proposal to modify what was possible, but seeking to go a bit further into the impossible. The option has enabled us to study a social and collective reality, progress in curriculum change, understand the uniqueness of the care and the presence of subjectivity and see not only what the subjects perceive from the different ways of producing health services, but their very objective existence.<sup>15</sup>

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# CHAPTER

# 6

## CBE: The experience of the UFRJ School of Medicine

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## ***Introduction***

This chapter presents and discusses the construction of community-based education in the Department of Family Medicine and the Faculty of Medicine at the Federal University of Rio de Janeiro (UFRJ). It presents the context in which the experience was developed, highlighting the historical background, the process of teaching and learning, diversification of practice scenarios, the didactic-teaching methods, the use of appropriate technology, skills to be developed by the students, the processes of work and social health dynamics. The favorable factors and difficulties, as well as inter-institutionally found solutions, are addressed. It is noteworthy that the community-based education at the Faculty of Medicine of the UFRJ is related to the integration of teaching and service. This is an integration of undergraduates and graduate students in the previously selected communities, institutionally, via public health system, integrated with their respective teams. The assumption is that students will build, in their relationship with the service, their professional identity, taking responsibility for the health of the assisted population and that their presence at the Health Unit will encourage the continuing education process, which is fundamental to the quality and commitment of the teams.

To discuss the changes in medical training, we consider an international framework for the present report, the International Conference on Primary Health Care, from 1978, which resulted in the Alma-Ata Declaration, and the Edinburgh Declaration, prepared at the World Conference on Medical Education, held in Scotland in 1988.

In Brazil, the National Health Conference (1980), the approval of the Unified Health System (1988 Constitution), the work of the National Interagency Commission for Medical Education Evaluation (CINAEM), in the 90s, the National Curriculum Guidelines (NCG) for the Graduate Course in Medicine, 2001, and the induction policies by the Ministry of Health, with the Incentive Program for Curricular Changes in the Medical Schools (PROMED), the National Reorientation Program for Professional Training in Health (Pro-Health ) and the Education Program for Health Work

(PET-Health) were political movements that contributed to the changes in medical schools in recent years.

“...Medical schools need to look at the past, but mainly to the present and the future, evaluating the existing major challenges for training physicians at the beginning of our third century - medical and ethical physicians who are committed to the needs of our population. These goals are well-defined in the National Curriculum Guidelines for Medical courses, which today are the general principles of medical training”.<sup>1,6</sup>

The Alma-Ata Declaration identified the need for a Primary Health Care network, with access for all as a plan to achieve the goal of health for all by the year 2000. Health was considered as "a state of complete physical, mental and social well-being, not merely the absence of disease; a fundamental human right and achieving the highest possible level of health as the most important social objective worldwide and its realization requires the action of many economic and social sectors beyond the health sector."<sup>2</sup> The recommendations of the Alma-Ata Declaration guided the initial proposals for structuring primary health care in Brasil.<sup>2</sup>

In the 1980s, at the invitation of the Federal Government's National Housing Bank (BNH), for planning and managing one Health Unit for the population that was moved from the community of Maré, a region in the suburbs of Rio de Janeiro, the UFRJ and the National School of Public Health (ENSP) agreed to participate in the project in partnership. At this time the construction of educational practices in the area of Primary Health Care/PHC was created in the Faculty of Medicine, as the embryo of the current curriculum proposal for Community Based Education/CBE. Coordination with representatives of the two institutions was formed. Once assembled the multidisciplinary team, made up of physicians (general practitioners, paediatricians), nurses, technicians and nursing assistants, and dentists and technicians in dental hygiene, began the planning and the implementation of the health care services at Vila do João.

The declaration of Edinburgh already recommended that medicine courses should broaden the environments in which educational programs were conducted, to include all scenarios where there is health care in the community, in addition to those classic and structured in hospitals.

"In the 80s of last century, the World Federation of Medical Education and its regional associations promoted meetings in order to establish improvement goals in the quality of medical education. The World Conference on Medical Education, held in Edinburgh in 1988, in which was drafted the Declaration of Edinburgh, played a key role in the curricular changes that were made in the following decades ".<sup>3,5</sup>

## ***The Path Taken***

The Health Unit, adapted in two houses in the middle of Vila do João, was opened on September 09, 1982. In relation to the installations, we were under the same living conditions as the transferred population. Three months after the deployment, the UFRJ assumes all the management responsibility over the Unit.

During the team weekly planning meetings, proposals were built for program activities, attention to children's health, women's health, adult health and oral health, with the opportunity to test care models. We started receiving, electively, intern and resident medical students, who were interested in the PHC area, starting the proposed school-service integration, as this type of activity was called at that time.

We had support from the population, which despite claiming a hospital for Vila do João, respected and valued the work of the team. We participated in meetings with the community and later also with the District Health Council.

The year after opening, we received a physician from the University Hospital (UH), a newly graduate from the Family General Medicine course in Cuba, who took over the coordination of the Unit. We implemented the family records and intensified home visits, starting the registration of families. The prevention and health promotion work was expanded, responding to national and international movements in the public health area. Thus, already in the 1980s, the work was organized responsibly, taking care of the health of individuals and their families in a participatory management model.

In 1987 the Health care Unit, later called Prof. Ernani Braga (UCBS-EB), was linked to the Community Action Service of the University Hospital and transferred to a building constructed with funds from an agreement between the UFRJ and an international Foundation. Thus, the Unit grew into a place more suitable to teaching-care activities. We received teachers and students from Nursing, Nutrition, Dentistry courses and Medicine students (Internal Medicine and Pediatrics interns as well as residents, now under the curriculum format). A teaching project for undergraduate students was developed in order to promote the seamless experience between courses, in the daily routine of the local health staff and the Municipal School, with prevention actions and promotion of health for schoolchildren. The team was expanded by incorporating one more internal physician, a gynecologist, three nutritionists, a psychologist and a social worker.

In 1990, at the initiative of the leadership of the Faculty of Medicine, was created the Primary Health Care Program and the elective discipline called Comprehensive Health Care, offered to students in the third period of medical school. This initially elective course, after a year, entered the curriculum and had in its programming a theoretical shift (with seminars and lectures) that occurred at the Faculty of Medicine and a weekly practice shift developed originally in the Vila do João community, under the mentoring of professionals, expanding later to the Health Centers in the city of Rio de Janeiro. The shift of practical activity consisted, according to prior planning, of educational activities (in the health unit, kindergartens and schools), home visits or observation of consultations. Students were organized in groups of three for each activity, always supervised. At the end of the shift, during one hour, the teachers met with students to hold a reflection on the developed practical activity, with feedback to the students.

The work at the UCBS-EB was suspended in 1995 with the intensification of local violence, since the services provided by the Unit were constantly interrupted. Pressure from students and parents, to suspend the residence, together with the insecurity of the team, lead to the interruption of the Unit's activities, since there was an understanding that there is no teaching-care integration without students. The UFRJ put the building at the disposal of the Rio Municipal Health Department which, at first, installed there a team from the Community Agents Program (CAP).

The teaching activities continued and were expanded, now developed in the city's Municipal Health Centers, under the preceptorship of municipal professionals and tutoring by teachers and technicians from the former UCEBS-EB.

In an agreement signed with the Rio de Janeiro Municipal Health Department, UFRJ began, at Carlos Chagas Pavilion, located at Praça XI in the city center, the installation of the Marcolino Candau Municipal Health Center. The UCBS-EB team was transferred to the MHC, sharing the second floor with classrooms and adequate facilities, in order to expand the teaching-service integration. At this time the team members had sought titles, through specialization, masters and doctoral degrees in the area.



In 2006, taking into account the recommendations of the National Curriculum Guidelines, the clerkship in Family Medicine was created and later the residency in this medical specialty. The discipline Comprehensive Health Care (AIS) currently has, as its practice field, the Family Health Clinics, with emphasis on extramural activities. We also created was the line of research called "Clinical and organizational evidence, care and educational models and quality assessment in Primary Health Care", in the graduate school of the FM Medical Clinic. In 2013, the Department of Family and Community Medicine was established.

... If, in the basic network 80% of the population's health problems are expected to be resolved, if we accept that the actions on the ground are very complex, and if we add to this that most of the population lives in poverty, we will have clear technical and ethical evidence that our medical schools should train a competent professional to intervene in this reality. In this sense, the basic network is a potential and necessary practice field, into which the various training courses for health professionals shall include their students <sup>5,8</sup>.

Today we have, as the scenario for practices for the development of educational activities that are based on the community, the family health units of the city of Rio de Janeiro and Pirai. In Rio de Janeiro the educational activities take place in the areas of health planning 3.1 and 1.0, in order to consolidate these areas as an academic health district. In Pirai, a city in the Middle Paraíba River, with 100% coverage in family health care, we have resident students distributed and learning from family health teams.

"Enhancing the teaching in the basic network aims to meet an inescapable social demand of our country, as well as to expand the practice scenarios both for clinics and collective health, and also to honor the promise of good training for our students. Also, it presupposes to accept that the practice is foundational of the training and that there are experiences that no book can provide <sup>5,9</sup> "

The Integrated Health Actions is a discipline that constitutes an Interdepartmental Curricular Program and is part of the results of the curricular changes made in medical school in the 90s. At this same time were also deployed the green areas in the curriculum and the Scientific Initiation Programs, offered in elective format.

In an elective and rotational way represented one of the major curricular advances in the School of Medicine in recent years.<sup>6</sup>

The proposed schedule for students of the third period of Integrated Health Actions, lasting one semester, aims to promote the first contact of the medicine students with the Brazilian health public policies and allow, through experiences in the territory, the development of interdisciplinary and intersectorial work skills by means of concepts that underlie the primary health care-Family Health Strategy in Brazil, discussed in the reflection groups and treated in lectures through conversation circles in small groups and expositive classes for the whole class.

Field activities of the third period, held once a week, are always accompanied by the teacher-tutor, with groups of about eight students, and professionals from the staff's multidisciplinary team. The evaluation process takes place through an individual portfolio, constructed and discussed with the student during the period of the course and written tests at the end of each theoretical content block.

The Medicine clerkship in the primary health care was created in 2006 (elective, lasting one semester) and 2009 (rotational, lasting eight weeks). The practice scenarios are the FHUs of Pirai and Rio de Janeiro municipalities.

The objectives established for this clerkship, attended by students from the tenth to twelfth period are: to expand the insertion areas for undergraduate medical students in Primary Health Care; experience the organization of the SUS services in the PHC area; develop the capacity for critical reflection on the key aspects of the health-disease process, for the development of actions that address the health needs of the population; to integrate Medicine, Nutrition, Nursing and Dentistry students, stimulating team work in an interdisciplinary way; to develop skills to work with social groups, families and communities.

"The perception of the reality of the people, their living conditions, culture and customs allows students to build a conception of the health-disease process in which they understand the determinants and relationships of diseases with the way of life and work of the people. This conception makes change possible in the health care of people, family and community, which becomes a care directed at health surveillance, which leads to completeness in patient care."<sup>7</sup>

For the insertion of the clerkship students into a practice scenario, a reception day is organized for the students at the beginning of the rotation, where we present the local health and territory of action diagnosis, focusing on team work with presentation and discussion of the proposed program. Members of a team and a representative of the coordination of Primary Municipal Health Department participate in the reception, in addition to 02 teachers from the FM/UFRJ Department of Family Medicine. We discuss the role of each professional in the family health strategy staff, with the experiences as a starting point.

The representative of the primary health care coordination presents the Secretariat's policy and investments for this level of health care, presents the municipal health diagnosis, equipment and the territories. The teachers present and discuss the clerkship program with the students.



Figure 1: Reception of the residents, home visits, residents at the Pirai Clerkship/Family Health Team Unit and at the Zilda Arns Family Clinic/RJ - Complexo do Alemão.



It is important to stress that, at each rotation the coordination of the clerkship defines with representatives of primary care from the Departments of Health, the teams that will receive the students. The units chosen for the training of the interns are preferably those with preceptors who are specialists in Family Medicine and with medical residents in this specialty.

"It is recommended that schools should develop school-service integration projects with the Municipal Departments, defining clearly the various components of this relationship. On the one hand, it is important to ensure space for the students: definition of districts, services and teams where the clerkship will take place; on the other hand, it is essential to ensure reciprocity; i.e. the commitment of the School, represented by students and teachers, with respect to the adopted health policy guidelines, as well as the quality of care."<sup>5</sup>

The monitoring and supervision of family and community medicine interns is performed daily by the local teacher/preceptor and at least weekly by the UFRJ teacher-tutor in the clerkship unit. Weekly meetings between students, teachers and tutors are performed at the clerkship unit for reflective report of activities and observations emerging from the living and health conditions of the assisted population. The planning of the actions is performed with the local teams. In the reflection groups with students we have as a methodological reference the interaction between subjects (population and professionals), guided by the principles of the group as a space for exchanges, with horizontal and dialogical relations. We use field diaries that are sent weekly to the teacher-tutor, for follow-up also at a distance.

With the innovative intention, a more formative evaluation proposal was built in the clerkship's deployment in family medicine MFC, using four instruments: 1-Field diary: free recording by the students about the daily routine at the clerkship, made from critical reflections of the training experiences; 2-Final report of activities: a comprehensive account of the clerkship period with appreciation of its significance for professional training. 3-Themed final essay: with theoretical and practical discussion of a theme related to the experience at the Health Unit. 4-Performance evaluation - opinion in the form of notes held by the student's tutor at the health unit, including the following aspects: attendance, punctuality, initiative, doctor-patient relationship, commitment to service, responsibility, judgment and relationship with the team.



Figure 2: Family and Community Medicine Residency: specialist orientation in dermatology at family health strategy and home visit: residents with community health worker.

The School of Medicine, in 2007, created the Medical Education Program (PEM), which has among its objectives the development of assistance for the reformulation of the curriculum in order to adapt it to the National Curriculum Guidelines. This process is ongoing. The insertion of the student in the Brazilian Health System (SUS), from the earliest periods, the basic-clinical integration, the emphasis on active methodologies and the humanistic education are the pillars of the reform under discussion. In the context of the proposed curricular reform, it was possible to deepen, with the faculty of the School the skills profile that is expected from graduates, having the national curriculum document, as a guide.

"The movement for changes in the education of health professionals, the National Curriculum Guidelines and SUS guidelines pose as perspective the existence of educational institutions with social relevance; which means schools able to train quality professionals, connected to the health needs; schools committed to the construction of SUS, able to produce relevant knowledge for the health of reality in its various areas..."<sup>8</sup>

Today, the first insertion of community based curriculum in the UFRJ Medical School occurs in the third period, in the Integrated Health Actions discipline, and later at clerkship. With the process of curriculum reform, which is ongoing, is scheduled for 2015 the insertion of students in the health strategy of the family, which will happen from the first period of the course to clerkship, which will last two years, as proposed by the 2001 guidelines.

In the dynamics of curriculum reform at UFRJ, one of the challenges is the integration of students into the field, because the experiences are still sporadic and depend on the teachers responsible for the trainings. In this context some managers of the courses deal with these challenges often as spectators, without bringing on themselves the responsibility and the political decision of making changes in the process in their teaching units.

In the Family Medicine Department, both successful experiences and difficulties are shared and dealt with institutionally. Among the challenges we quote the rotation of technicians in the cities, especially physicians, as well as the constant management changes. As a strength, we can highlight the investment that the Rio de Janeiro's Municipality Health Secretariat has been making, from 2012, with the implementation and expansion of medical residency in family medicine; the process of continuing education of professionals in the network to take the preceptorship of these residents; the priority in selection for professionals with title and residency in family medicine and training in the PHC area; the partnership with UFRJ and other educational institutions, strengthening the teaching-service integration.

Inducing policies for reorienting the training of health professionals, by the Ministries of Health and Education brought on a new dynamic in the relationship of the courses that are taking part in the program. The huge advancement of knowledge

and technology generated an excessive specialization of the various health professions, especially medicine, causing a training and care model that is centered in the hospital, with a high cost and concentrating armed technologies, without considering the real health needs of the population.

In this context we understand the policies of the Ministries of Health and Education, National Reorientation Program for Professional Training in Health (Pro-Health – PRO-SAÚDE) and the Education Program for Working for Health (PET-Health), as an opportunity to move forward in the proposed curriculum changes and learning scenarios, integration with SUS, and important incentives for integration between courses and the production of knowledge to meet the demands of the network services complying, thus, to the commitment of the public university to the society that maintains it <sup>9</sup>.

In 2007, the UFRJ presented a project that was accepted for the second tender for the Pro-Health by UFRJ, involving six undergraduate courses in the area: Medicine, Speech Therapy, Nursing, Nutrition, Biological Sciences and Psychology. The project was a partnership with the municipalities of Rio de Janeiro and Pirai. It involved the compulsory training of medical and nursing students and the optional training of nutrition students in the SUS basic network and welfare activities, in some subjects of the professional cycle, up to eight hours per week, thus enabling the curricular changes in the direction of the NATIONAL CURRICULUM GUIDELINES. In the other courses, the insertion activities of the students in the network were four hours a week, using health promotion scenarios such as schools, day care centers and coexistence spaces. Integrative activities of the students of various courses were proposed, as well as a continuing education program for health professionals, including distance learning courses.

The inclusion of the primary care area as an option for research activity by teachers, students and professionals of the network was also planned, including places in strictu sensu graduate courses.

The PET-Health, created in 2008 in order to introduce scholars from the health area into the family health strategy and qualify the working professionals, in accordance with the needs of the health system, counts with the participation of health care courses at UFRJ, in its three editions, having the municipalities of Rio de Janeiro and Pirai as partners.

In the last tender by the Health Education Ministries the two integrated programs were presented, Pro-PET. There was a great mobilization of the UFRJ courses, which generated many meetings and discussions related to the proposals that would meet the recommendations of the programs, of changes in practices scenarios, integration of teaching activities of the courses and investment in the partnership between Health Departments and University.

The experience gave the PHC area visibility at the University and public health policies proposed by the SUS. Today we have ten courses participating in Pro-Health that presented proposals for curricular changes, in compliance with guideline recommendations: Medicine, Nursing, Nutrition, Dentistry, Social Services, Physical Education, Psychology, Speech Therapy, Occupational Therapy and Pharmacy.

Regarding the PET-Health we have 12 tutorials groups, with participation of Medical courses, Nursing, Psychology, Dentistry, Pharmacy, Speech Therapy and Occupational Therapy. The construction process of the research proposals and integration of scholarship students and the appointment of tutors, had the partnership of representatives of the Health Departments. The proposed Pro-PET UFRJ was discussed and approved in the Municipal Health Councils.

In the years of program implementation we observed advances such as: monthly meetings for exchange and reflections on difficulties and successes in the development of the activities. We understand as a beginning of integration that requires commitment for compliance and sustainability of project proposals, from teachers, representatives of health departments, local preceptors and especially the managers of the participating courses, for a better progress.

## ***Conclusion***

The Basic Health Care Unit Ernani Braga, in the 1980s and 90s, and the Community of Vila do João were scenarios of the first experience of the Faculty of Medicine in Primary Health Care, where it was possible to start proposals for interdisciplinary approach works, on account of the meeting of health professionals, teachers and graduates of Medical Schools, Dentistry and Nutrition involved with the disciplines, with the common goal of promoting learning from experiences.

In the second half of the 90s and early 2000s, the experience of community-based education in medical school happened in the Municipal Health Centers of Rio de Janeiro, without integration with other UFRJ courses. The interdisciplinary teaching was developed with the health professionals in the network.

The implementation of the clerkship in Family and Community Medicine, integrated in the field with the extension clerkship by the Colleges of Nursing and Nutrition and allowed the intercourse interdisciplinarity, experienced in the Family Health Strategy.

The reflections on this timeline point to relevant aspects of the construction of care, having as its matrix the process of interdisciplinary teaching-learning in SUS, some important experiences in our trajectory, and the coming out of the comfort zone within the University walls.

Going through alleys, entering homes, lives and stories, in the community, has allowed the concreteness of the social determinants and conditionings of health and its developments to take shape in the development and implementation of educational activities.

An important obstacle to overcome is the long way to go to the real overcoming of social inequalities, where the prospect of care bumps into dramatic situations of territories under the tutelage of fear and social violence, where we are all actors of the same complex script of the city we live in and that we want to build.

Thus the integral and systemic construction of care on the part of all involved in the Health Education and Care contains the basic requirement of the availability of "learning to learn" and allow yourself to experience and discover yourself as a co-author and protagonist of the collective.

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# CHAPTER

# 7

## Community-Based Education: The experience at the Federal University of Ceará medical school

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## ***Introduction***

The Faculty of Medicine of the Federal University of Ceará, founded in 1948 in Fortaleza, graduated 7,599 physicians until July 2014. In 2001 were created two more courses in the state: one in the city of Sobral and another in the city of Barbalha, which formed 317 and 309 physicians, respectively. The latter course is now part of the newly created Federal University of Cariri.

The pioneering decision to internalize the medical education was taken because even then it was observed that 80% of physicians were concentrated in the State's capital and 36% of the 183 municipalities in Ceará had only one physician, which constituted a considerable obstacle to the organization of any decentralized model of care. It was considered that the opening of these two new courses would broaden the opportunities for the fixation of the new physicians in the interior and also increase the access of young people in those areas to medical school.

During the creation of these new courses, was being implemented in the UFC a new pedagogical project for the medicine course, guided by the curriculum guidelines of 2001 and based on the redefinition of the medical school's mission of reaffirming its commitment to the consolidation of SUS, with the training of physicians with professionalism and skills to better meet the health needs of the population and who were prepared and sensitized to work for the health care reorganization policies.

## ***Medical Education in the Community: The Origins in the UFC***

The activities in the field of Preventive Medicine, Public Health, Community Health and Epidemiology, within the UFC, had their origins in the Institute of Preventive Medicine of the University - a precursor institution to the current Department of Community Health - within the national and international context of preventive movement started in the years 1950/1960, under the auspices of the Pan American Health Organization (PAHO).

The Institute of Preventive Medicine (IMEP) was created in 1959 as one of the UFC applied institutes, with the aim of developing education and research in the field of Preventive Medicine, Public Health and related disciplines. Soon after its founding, a Health District School and a Health Center School were created, with space for the conduction of research and field work by graduation students. The State Health Center was under the direction of IMEP and went on to function as a university space where students experienced the practices of a community health service. At that time, in a pioneering way, joint work with community health workers represented by locals was already carried out, supporting the IMEP activities. In addition, students of the Medicine and Nursing courses were responsible for the prevention care of a defined group of families in the area, an activity that was the precursor of what is now established as the Family Health Program. The IMEP experience led to the creation of the Department of Hygiene and Preventive Medicine at the Medical School, which ministered, from the 1st to the 5th semester of medical school, the following disciplines: Statistics, Cultural Anthropology and Health Education, General Epidemiology, Hygiene of the Environment, Special Epidemiology, Occupational Hygiene, Health Administration.

The IMEP made agreements with several national and international institutions for the development of its goals: World Health Organization, Government of the State of Ceará, National Department of Rural Endemic Diseases, Special Service of Public Health Foundation, Training Coordination for Higher Education Personnel. In the late 1960s, the IMEP was dismantled as a result of authoritarian intervention by the political regime that had befallen the country. With the University Reform in the early 70s, the Faculties were extinguished and the Health area courses (Medicine, Nursing, Dentistry and Pharmacy) were aggregated for the constitution of the Health Sciences Center in the UFC. At the same time, on the initiative of medical students, was created the Pacatuba Project, soon taken over by the UFC, with the participation of students from other courses in the health area, becoming the first extension activity of the UFC and focusing on community care, coordinated by the Department of Community Health. The Pacatuba Project lasted until the early 80s. Another important initiative was the University Rural Training Program and Community Action (CRUTAC) created in 1972. It initially involved students from many areas, including humanities, but is currently restricted to health area courses. Specialization Courses in Public Health were given and several other successful experiences have been developed, such as the INTEGRATED HEALTH ACTIONS PROGRAM - PROAIS, with support from the W. K. Kellogg Foundation and Project HOPE, Integrated Project for Alternative Health Models - PRISMA.

The first residency in Family Health, held in conjunction with the Health Department of the Municipality of Fortaleza, was also the initiative of the Department of Community Health, which organized and coordinated the preceptors within the faculty of the School of Medicine. With only five physicians, all of them affirmed themselves in the Family Health specialty and have become important leaders in the area. From the group that was formed, residents and preceptors, plus other members of other Residency activities in Family Health, as part of medical residency at HU, was created the Ceará Society of Family and Community Medicine, in Ceará

### ***Community-based Education in the Medical School Curriculum***

A new curriculum was implemented at the Faculty of Medicine in 2001, the result of a long process of internal and external coordination, in line with the movement for change in Medical Education, led nationally by the Brazilian Association for Medical Education, in the 90's.

With a view to promoting the integration of graduation with the health service and the community, was incorporated in the current curriculum the longitudinal modulus of PHC, composed of the following semester modules, with 4 hours per week each: Semester 1 (S1): Fundamentals of Practice and Medical Assistance; S2: Diagnosis of Community Health; S3: Epidemiology and Biostatistics; S4: Community Health; S5: Basic Health Care of Children; S6: Basic Health Care of Children and Pregnant Women; S7: Basic Health Care of Adults I; S8: Basic Health Care of Adults II; Clerkship in Community Health, lasting 6 months. The longitudinal Personnel Development (PD) Module has also two modules of interest in Primary Care: Health, Culture, Environment and Labor, and Preventive Medicine.

With the sequential implementation of PHC and PD modules, an increased diversification of practice scenarios began, extending itself outside of the University, in the public health system units, communities, industries, Regional Council of Medicine and other learning spaces.

In addition, the Clerkship in Community Health, lasting six months, began to be developed in the Family Health Centers in Fortaleza, in emergency services, elective training and in the CRUTAC in municipalities in the state's countryside, with the Family Health Program, also bringing together Nursing and Dentistry students.

CRUTAC is a program by the Extension Dean, which delegates to the NESC - Center for Studies in Public Health - its operationalization. The program had been facing problems with the costing of students in the countryside, which was done by the municipalities. Recently, financial aid scholarships were created for students, teachers and public servants assigned to monitor the program in the countryside. The results came immediately, with greater responsiveness by the municipalities and better local supervision, which will definitely have a positive impact on students learning.

The activities of the sequential modules are carried out primarily in the scope of the UFC Hospital Complex: Walter Cantídio University Hospital (HUWC) and the Maternity School Assis Chateaubriand (MEAC); in their clinics and wards. However, some modules have already occupied more comprehensive scenarios such as pediatrics, gynecology, urology, oncology, geriatrics, psychiatry and emergency. The integration of students takes place in governmental and non-governmental organizations. We emphasize the inclusion of Pediatrics at IPREDE - Institute of Early Childhood - an institution dedicated to promoting nutrition and early childhood development, linking them with actions aimed at empowering women and social inclusion of families living in situations of social vulnerability and poverty; Cancer Institute of Ceará; and in public institutions such as CAPS - Psychosocial Assistance Center and State Hospitals specializing in Pediatrics and Emergency. As a result of this cooperation, teachers were asked to take the Health Units management, either public or private/philanthropic.

In the clerkship, in the areas of Medicine, Surgery and Pediatrics, the students rotate between State and City of units in some sectors such as infectious diseases, surgical and pediatric emergency, cardiology and mental health.

The diversification of scenarios so far deployed and especially the inclusion in SUS, has contributed significantly to the knowledge and awareness of students about the socioeconomic and health reality of the population, considering that they come, mostly, from a more economically favored social strata. These experiences, in home visits in health centers in the outskirts of the city and in professional practice, have generated testimonials from students about the impact of encountering the reality of "difficult" life, contact with the most prevalent health problems and with a volume of patients greater than the one seen in the hospitals linked to the University. Very evident was also the critical thinking developed by students in analyzing SUS: the conditions of the care, availability of drugs and resolution of the service, as well as teamwork and strengths and difficulties with the human resources involved.

This diversification of the scenario with the sequential implementation of the Primary Care modules "consolidated the need that the dialogue on the meaning that students, teachers and administrators give Primary Health Care is important for them to (re)build the set of ideas which moves in the management and teaching of this subject without restricting them to a single point of view."<sup>8</sup> (SOUSA, 2014).

The development of the curriculum has been closely monitored and has some successes and also difficulties that have been identified by teachers and students. In addition to the numerous meetings organized by the Course Coordination and teachers from the Department of Community Health, this topic was analyzed at specific times for curriculum evaluation. The shared reflection among teachers and students points primarily to the fragmentation and lack of continuity of longitudinal modules (PHC and PD) throughout the course, as well as the lack of integration, especially basic-clinical, in sequential modules.

After 13 years of curriculum implementation, a curriculum review process was triggered by the Faculty of Medicine, based on a critical analysis of the accumulated experiences, with the aim of improving medical education. The moment is also appropriate for the recent approval of new National Curriculum Guidelines for Medical Courses in June 6, 2014.

### ***Practice Scenarios: Involvement with the Community and Health Services***

The integration of graduation with SUS in Fortaleza has been articulated for many years and mediated by agreements between the UFC and the Health Departments of the State of Ceará and the city of Fortaleza, enabling integration of students in practice scenarios, in addition to the sectors the Institution, to train more suitable professionals to the health needs of the population.

In recent years, were triggered by the Federal Government a few programs that, based on the constitutional principle that the SUS are responsible for the training of human resources for health, aimed at guiding and facilitating the teaching-service integration; this collaboration is institutionalized from PROMED, when a specific agreement was jointly prepared and signed by the UFC and the Municipality of Fortaleza.

The implementation of the new curriculum happened with the installation of sequential and longitudinal modules (PHC and PD) in each semester, accompanied by collaborations with the SUS managers in Fortaleza. We conducted seminars with physicians and nurses from Family Health teams and



managers of health care units, we selected units and teams to receive students, defined the student-team relationship of 1/1 and we have agreed to an upgrade program with professionals from the network. Then, with the change of Municipal Government, new plans started to take shape, in conjunction with all the universities in Fortaleza. Then the "Municipal School System Health" was institutionalized, with a forum consisting of all educational institutions, sectors of municipal management and social control that, since then, started to articulate the teaching-learning spaces in the public health network.



Figure 1: Visit to the Casemiro Filho Unit, where the Academic Clinic was mounted the.

Then there was the Pro-Health Program, which facilitated the teaching-service integration, including by the possibility of some improvements in the physical facilities and acquisition of equipment in selected units and continuing education activities with the preceptors of the network, with special focus on their pedagogical training. In the UFC, there was much articulation in the academic management of health courses in the various stages of the Pro-Health Program, which allowed the involvement of students and teachers from all areas of health and beyond, such as physical education and psychology. A Commission was created for the Monitoring of Pro-health programs, with the participation of coordinators of undergraduate courses, service managers,

students and social control representatives. The resource flow interruption and management changes at the federal and municipal level determined the discontinuity of the actions, with considerable damage to the program.

The PET-Health Program promoted a great integration between teaching and service, especially between the teaching tutors, scholarship and non-scholarship students of all areas and the professional preceptors of the service. The results are positive in the view of those who participated in its activities, contributing to the understanding of the health problems of the population, the successes and difficulties of the health system. However, if on the one hand the benefit of the fellowship for the preceptors expanded and standardized the preceptorship in service, giving a certain institutionalization to the activity, on the other, it has hampered the performance of preceptorship in situations where there was no availability of scholarships. It was also observed that the activities in the program were rarely incorporated into the undergraduate curricula, being restricted to complementary activities. Remained, however, the possibility of offering free courses, provided for in UFC Regiment, for students of various courses, along the lines of the PET-health projects. This initiative has been implemented in the Nursing Course and can become a multidisciplinary space for teaching and learning.

The programs mentioned above were of great importance for the development, planning, monitoring and evaluation of the new curriculum, making it possible for numerous workshops, seminars and teacher development courses to be organized.

The advent of PROVAB - Appreciation Program of Primary Care - also provided for a positive experience of the Medical School teachers who work as supervisors and expanded their view of the organization of SUS, its possibilities and challenges, and especially about the importance of primary care in the training of doctors. The awareness of teachers and the learning from the experience of PROVAB will certainly be important in the process of reformulation of the Medical School curriculum.

### ***Strengths and Challenges to the Sustainability of the Integration Processes***

In the process of teaching-service integration we can highlight positive aspects that demonstrate the progress towards integration and some limitations that hinder the achievement of the goals. Over the years of implementation of the new curriculum there was an appreciation of the training process, with the implementation of pedagogical innovations. There were several moments of teacher and network professionals training, though without the

necessary continuity because of the discontinuous injection of funds and political impediments, especially because of electoral processes within the Municipality. There was undoubtedly the greater institutional commitment and approximation with SUS managers and the consequent incentive to keep the changes for the credibility provided by the support of a State policy.

The impact of this integration policy of the academy with the health service has been observed and the reflections on external actors such as the perception of health managers as important in the formation of human resources for the SUS. However, there is need for systematization and coordination between the various initiatives that have occurred over time (changes in graduation, VER-SUS, PROESF, Activators Course, Specialization courses and Residency in Family Health and Community, Pro-health, PET-Health). A wide acceptance can be seen among Network professionals for participating in graduation change initiatives, but the participation of social movements is very small.



Figure 2: Education activities for the community by interns and residents in the Anastácio Magalhães Unit

In the University's internal scale, the advances in knowledge production (research) which is relevant for SUS are still concentrated in the Graduate Studies Program in Public Health, which receives a large number of health professionals.

In the academy there is still a low valuation of undergraduate teaching, permeated with a biased view of primary care, determining a use of the SUS Network as practice and learning scenario which is less than expected.

The articulation with SUS suffers too much with the not effective functioning of the Family Health Strategy, which presents major operational, structural and physical difficulties and the low level of organization of the hierarchical assistance, of the reference and counter-reference flows. The proper functioning of the service is essential for the proper training of doctors and other health professionals. The progress achieved is undeniable evidence that the construction of SUS is possible, with all its principles. We recognize, yes, this is a huge task and that universities can and should take up the partnership with the SUS and engage in its consolidation.

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# CHAPTER

# 8

*Blended Learning* and Concept Map during a  
primary care medicine clerkship at the Medical  
School of Federal University of Juiz de Fora

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## ***Introduction***

Throughout history, the orientation of medical education was influenced by processes which are inherent to mainstream political, economic, cultural and social conceptions. In the early twentieth century, the Flexner Report, published in the United States in 1910, translated the learning prioritization process: university hospitals, as a privileged place of education, focused on diseases, with the biologicism and the mechanism of the human body as foundations and specialization as a corollary. Despite its huge importance for the systematization of medical education, exclusively biological dimensions were overwhelming, to the detriment of psychological and social determinants.<sup>1</sup>

The Federal University of Juiz de Fora (UFJF) and its School of Medicine are participating, actively, in the discussions related to the Brazilian Health System, since the school's founding in 1960. In the post-1964 coup period, a branch of the military regime prevailed that physically distanced colleges from city centers and communities. The silence of the 70s, supported by the military dictatorship, prevailed in the school with little means of expression inside and outside the walls. Under the influence of the Alma-Ata International Conference, the discussion about completeness and humanization is retaken in the country, placing in evidence the Primary Health Care - PHC.<sup>2</sup>

Health promotion, in full, gained priority on the agendas of countries, reflecting the models of the public health care and training of human resources. Throughout this period, the Juiz de Fora municipal health services themselves were already structured in five clinics linked to the Catholic Church, under military influence. In 1983, aligned with the ideals of the health reform, a reorganization began of health care in the city. Despite the crisis in the country, with low budgets for municipalities, the Juiz de Fora Health Department (SSJF) created 28 social service centers, many of which are today the primary health care units of the Family Health Strategy.

The country was close to the new Constitution of 1988 when, finally, the regulation of a single health system, universal,



decentralized and equitable would be legally finished. Through the decentralization of actions and the decentralization of health services, were created the Integrated Health Actions (AISs) and Local Inter-institutional Health Committees (CLISs). The UFJF participated effectively in this process from the creation of the first local inter-institutional health committee, along with SSJF.

Despite the financial difficulties that universities went through, the UFJF did not lose its focus on the relationship with the service. The associations, even if not supported by organizational agreements, have been established consistently with professionals from the service, especially from primary care, most of them UFJF graduates.

Promoting the relationship with the service, government policies for fostering change were instrumental, especially those arising from the partnership with the Department of Labor Management and Health Education (SGTES/MoH) through the National Curriculum Changes Incentive Program for Medicine Courses (PROMED), National Program for reorientation of Vocational Training in Health (Pro-Health) and PET-Health.

The PROMED promoted the acceleration, at the School of Medicine (FM/UFJF), of change processes for the training of a more suitable professional to the needs of service and community. The UFJF Medicine Pro-Health included in its primary design that was agreed with the service, the dimensions that include health education in graduation and for health professionals, as well as the optimization of the work process in the network, by supporting lifelong learning. Currently, the Pro-Health/PET strengthens such benchmarks, enabling the improvement of the professionals in the network, as well as clerkships and joint experiences in PHC.

All these initiatives are part of the history of UFJF school of Medicine, showing the need to develop new proposals for the training of health professionals in the reflexive perspective towards the development of subjects for social transformation, and towards a system anchored on the principles and guidelines of the Unified Health System (SUS).

The WHO defines the social responsibility of medical schools as the obligation to direct their education, research and care activities primarily to the health needs of the community, region and nation which they serve.<sup>3</sup>

In the UFJF, we understand that medical education must consider the rational use of technology and training with a view to a comprehensive approach, committed, above all, with the health needs of the individual and the collective. The educational strategies proposed for complying with the competencies, skills and attitudes referenced by the National Curriculum Guidelines were widely discussed with the academic community, service and population in order to respect the culture and

institutional history, aiming at a CBE.<sup>4</sup> In order to transform professional practices, the training should seek to reflect on the practices produced by professionals in health services by continuously assessing and questioning the work processes, focusing on the health needs of the individual and population, sectoral management and health promotion and surveillance.

In the current context, the UFJF medical clerkship is conducted in 24 months, corresponding to 3680 hours. Of these, 640 hours (17.4%) are conducted in the PHC, half in Juiz de Fora and the rest in the municipalities of the macro-region.

This experience report deals with the rotation conducted in the city of Juiz de Fora, where the experiences in the community are intense and assessments by students reveal the potential of CBE in the training of Brazilian professionals (Figure 1).



Figure 1: Students in reception activities in the waiting room of the Basic Unit

### ***Account of the Experience***

Over two decades, the clerkship in PHC has been conducted in primary care, where students are inserted in the Family Health teams, eight hours daily for eight weeks.

This professional experience allows students to experience teamwork and are strongly encouraged to an interprofessional practice, in which are present family doctor, nurse, practical nurse, social worker and community workers (Figure 2).



Figure 2: Students and community worker in home visit

Aiming to enhance the development of some of the general competences stipulated in the National Curriculum Guidelines, especially health care, decision-making, continuous education and communication (use of Information and Communication Technologies), 28 students are distributed in 16 primary health care units under preceptorship of the physician and health team professionals and supervised by the school teacher. The activities conducted in the community include individual and collective attention in ascribed territory within the primary care and the household. Among the actions proposed for students, are included consultations, home visits, health education groups, health surveillance, sample collection, immunization, teams meetings, preparation of protocols, as well as participation in activities related to family health, such as: prevention, prenatal, hiperdia, child care, among others.

As pedagogical support to practical experience, in 2010, an activity began in the classroom and distance modes.

The 28 students are divided into two groups. Once a week, teachers carry out with one of the groups (14 students) a tutorial group, in which students report briefly on clinical cases or situations-problems experienced in their practice.

After the case that will guide the discussion is chosen, it is reported in more detail. Subsequently, the brainstorming is performed and visualized by building a collective concept map on the board, based on a survey of prior knowledge and knowledge gaps. At the end of brainstorming, students identify their gaps on the map and build the learning questions. For two weeks, while the practical activities are held in the UBSs, the issues raised are discussed in forums, in the Object Oriented Distance Learning (Moodle) Modular Platform in the light of Evidence-Based Medicine. After two weeks, there will be a new meeting with discussion of the posts in the forums, providing for a collaborative learning. Finishing the activity, students prepare a conceptual map, consolidating the knowledge acquired with the collective search and discussion.

Concept maps are used in this context as graphical tools capable of organizing and representing knowledge. In them are included concepts that are interconnected and the relationship between them is specified by linking words or phrases. These concepts are presented in a hierarchical manner from a question we seek to answer arising from the practice. Students prepare complex maps, establishing cross links, which are relations between concepts in different segments or domains of the conceptual map.<sup>5</sup>

The current challenge is to effectively involve family health teams in all distance education activities (DL) as a means of continuing education, and broaden the discussion of the conceptual maps with them. Currently, the partnership established with the service is strengthened by the Permanent Education Program (PEP) for family physicians performed with an investigative methodology similar to that used here, except for the distance mode. The PEP is an initiative of the State Department of Health/MG in partnership with the UFJF.

## ***Discussion***

The CBE, which is the center of this proposal, is supported by the recommendations for the teaching of PHC in Brazil. It allows students to be placed in the living and dynamic territory of real scenarios of basic care so that they can meet and deal with community health diagnostic instruments, intersectorally, respecting cultural diversity, popular wisdom, and understanding the social determinants of the health-disease process.<sup>6</sup>

Engaged students can be a powerful influence on collaborative social change. In fact, a few examples of the influence of students who participate in the community, have been described in different continents, revealing the organizational links between the school, the system and health services.<sup>7</sup>

However, support for the development of skills is a challenge, such as clinical reasoning for students who are distant from the school environment scenarios.<sup>8</sup> The educational intervention proposed at this time of medical training that emphasizes the CBE can be conceptually defined as blended learning, allowing the rescue of the experience of students in PHC in the light of Evidence-Based Medicine, using the small strategy investigation groups associated with the conceptual map and DL, strengthening the link between theory and practice.<sup>9</sup> The aim is thus to account for the complexity involved in clinical teaching in medical education, maintaining student motivation, with the possibility of the student returning to their reality and immediately applying what was learned.<sup>9</sup>

Constructivist principles of intervention - investigation and construction of the conceptual map, and participation in the forums to answer learning questions were used in order to create a strategy based on the student and a collaborative environment, in addition to the transmission of knowledge.<sup>10</sup> Paradigm shifts from behavioral to cognitive psychology guide the student to interact with the environment, acquiring skills and abilities through the mental constructs such as information processing, diagrams, knowledge structures and learning strategies.<sup>11</sup>

Another important basis for the intervention proposed in the experience reported here is the school's commitment to practical experience in the scenarios of the PHC. The DL has shown its potential in the diffusion and production of knowledge, with intense speed of propagation in many areas, particularly with the expansion of TICs and the social changes that bring a continuous learning requirement.<sup>12</sup>

On graduation, their use has grown, but is still underutilized in medical schools in Brazil. Its benefits are flexibility, accessibility, satisfaction and cost-effectiveness, making it a potential tool for metacognition and development effectiveness of the teaching-learning process.<sup>13</sup> In this proposal, DL is performed through forums, asynchronous activities, which allow the interaction through the construction of collective knowledge, while respecting the diversity

of the manner and time inherent in the individual, and is therefore an interactive environment.<sup>14</sup> With interaction and collaborative work, the collective knowledge is built through the participation of students with the characteristics of their previous knowledge and multiplicity of their perspectives and experiences

The work with concept maps is another approach for teaching practices marked by authoring, autonomy and co-responsibility, as well as advances and achievements in the course of learning, teaching and training.<sup>15</sup> It helps the teacher to know what meaning certain content has for the student, exploring the prior knowledge and making use of it, contributing to the process of building scientific knowledge.<sup>16</sup>

The clerkship experience in PHC at UFJF intends to collaborate with the training of technically qualified professionals focused on social responsibility that will achieve a balance between objectivity and subjectivity, between the responsibilities to individuals and to society, seeking the constant improvement of the system. It is expected that the students' behavior will be influenced by the context and the community in which they operate.

Our challenge is to seek a fully engaged medical school, which will be able to ensure the development of its students and positively influence their practice scenarios. A key requirement for this is the ability to create tools to assess our progress in addressing the needs of communities. Looking ahead, our school must find ways to measure this influence beyond desire, focusing on the relevance of services directed to the priority needs of the high-risk population, quality, equity, cost-effectiveness and the empowerment of subjects <sup>3</sup>.

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## CHAPTER

# 9

### Community-based education: The experience of the Goiás Federal University

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## ***Introduction***

The FM of the Federal University of Goiás (UFG) was founded in 1960.<sup>1</sup> Its history registers over time strong links with the Health Systems (state and municipal), a fact that can be exemplified by the joint management for over thirty years of the Anwar Aud Hospital for Tropical Diseases, which now bears the name of a professor at the School of Medicine. The vocation for regionalization and the consequent concern with so-called tropical diseases directed the graduate process, deepening the epidemiological contextualized issues.<sup>2</sup>

In the 70's during the process of moving the University to the countryside, encouraged by the federal government, through the Ministry of Education and Culture, the UFG deployed the CRUTAC project (University Rural Training Center and Community Action) in Firminópolis, a city in the interior of Goiás, where it installed an Advanced Campus that is in continuous operation until the current days<sup>1</sup>. Through this project was created the rural clerkship that received interns from medicine course in cities in the State's interior for which the original proposal was to take medical care to underserved populations and create significant learning opportunities for medical students. The initial focus was the prevention and treatment of tropical diseases, especially Chagas disease, endemic in the region.<sup>2,3</sup>

Already in this period the FM sent interns and final year medicine students to several towns in the interior of other states, such as Picos in Piauí (1972) and Porto Nacional (1980) today in the State of Tocantins and other cities in the state of Goiás in addition to Firminópolis (1975), Sao Luis de Montes Belos (1979), Jataí (1980), and more recently in Uruaçu and Morrinhos (2007).<sup>2,3</sup>

Until then, the rural clerkship was the main form of expression of CBE. Since the publication of the National Curriculum Guidelines in 2014 and renewal of the Education Project of the FM in 2003 there was a review and extension of the concept of CBE. Referring to the Law of Directives and Bases of National Education (LDB) - Law No. 9394 of 20/12/965, the previous curriculum guidelines to the medical schools (2001) and the UFG Statutes and Rules, was formulated a proposal for a new pedagogical model with the gradual transformation of

the curriculum. Among the changes stand out the review of the theoretical/practical axis, valuing practices outside the exclusive hospital environment and the diminishing importance of the medical specialties at graduation; ongoing training of faculty and a number of tutors who work detached from SUS (National Health System) crew; the modernization and expansion of bibliographic information sources; the review of the evaluation criteria and the permanent feedback of the education and services providing systems.<sup>2</sup>

Therefore, the processes of curriculum changes in line with changes inducer projects of the Ministry of Education and Health, such as PROMED6, Pro- Health<sup>7,8</sup> and PET- Health<sup>9,10</sup> enabled the expansion of the community-based education component with the main objective to develop health actions focused on primary care, including the promotion of the health of the population, fulfilling the pedagogical project of the course. Also included were interprofessional activities among Medical, Nursing and Dentistry courses and the clerkship's name, that was Rural Clerkship has been modified to Community Clerkship (EC) in order to bring together the courses involved, since rural clerkship was very specific to medicine. We currently have clerkships in operation in cities of the state's countryside, such as: Firminópolis, São Luis de Montes Belos, Jataí and Morrinhos.<sup>2,12,13</sup>

A new curriculum change cycle began in 2014, after three years of meetings between managers of the course, teaching committee, teachers, students and administrative staff. The CBE is a transverse axis of the new educational project called Health-Family and Community, through all the years of the course and offering the student a longitudinal training with opportunities for a more committed role in the community. The responsibility and the social commitment of FM/UFG guided the development of this new Education Program, in which the community is presented as the focus of the development of the student, rescuing for the university its social responsibility as a health transforming agent.

### ***How Did It Happen***

Considering the recent history, our commitment to community-based education came in response to professional retraining needs defined by the National Curriculum Guidelines (2014). In 2002 we joined the Incentive Program for Curricular Changes in Medical Courses (PROMED) proposed by the Ministry of Health. In 2005 we joined the National Reorientation Program for Professional Training in Health Pro-Health I and II.<sup>7,8,10</sup> In 2008, we also joined the Education Program for Health Work, PET-Health.<sup>9,10</sup>

With the adherence to change inducing programs, several areas in the field of health at UFG started to work in coordination, aiming not only at the interdisciplinary, but at the intersectoral approach.

The courses of Nutrition and Pharmacy joined the Pro-Health II and we currently have involved the following courses: nutrition, nursing, dentistry, pharmacy, physical education and psychology.

The participation of municipal and state administrators and health councils for executing the strategy was important. Combined actions have been developed, both in theory and practice.

### ***Experience Reports***

In January 2007, the FM/UFG initiated the first year of supervised training imbued in the proposed diversification of practice scenarios. In this context the Department of Pediatrics began in this period the Supervised Clerkship I15 with the development of activities almost entirely in the Integrated Center for Health and Medical Care (CIAMS Novo Horizonte) of the Municipal Health Department located in the Southwest Health District of Goiânia.

The training period is 4 weeks long and it is offered to groups of ten medical students of the 5th year. The clerkship concept had Pro-Health as its theoretical framework and its transformation axes, seeking to redirect the care focus to health promotion and primary care. The process of construction and supervision of the clerkship directly involved three pediatric department teachers present daily at the Health Unit and about six professionals from the service on a multiprofessional care and education nature.

The activity scenarios ranged from general pediatrics outpatient clinics, pediatric emergency at the health unit and Hospital, immunization room to reception room, brushing room, dental office and meeting room, among others. In this perspective the clerkship contemplated in its theoretical and practical programming not only the clinical management of children and adolescents, but also the practice in projects and programs implemented in the service in an interdisciplinary approach; emphasis on (i) the project of humanization of care and user reception in the unit; (ii) the care and promotion program for the oral health of children (iii) the Center for violence prevention and health promotion that, although linked to the central level, would develop training activities on the subject at that health unit.<sup>15</sup>

### ***PET-Health in the Community Clerkship, Old Rural Clerkship***

The coordinators for the Community Clerkship of the Medical, Nursing and Dentistry courses, Undergraduate Dean (PROGAD) and the Municipal Departments of São Luis de Montes Belos and Firminópolis understood the PET-Health as an opportunity to integrate the activities of the community training, as this improves the qualification of preceptors and graduate students, to strengthen primary health care and the family medicine strategy in the state municipalities. In addition, it was possible to strengthen and improve links between service-academy, strengthening the UFG partnerships with municipalities through the PET-Health and to reflect on the impact of the community clerkship in the training of students and future health professionals.<sup>9,10</sup> The integrated activities between the Community Clerkship and PET-Health started in 2009 in São Luis de Monte Belos and were extended to the Firminópolis Municipality in 2012. We are now in the third PET-Health Project and in the sixth year of integrated activities, which demonstrates the maturity and sustainability of the project. Firminópolis, a town 110 km from Goiânia, with 11,580 inhabitants (IBGE 2010), develops the clerkship at health units: Health Center Vânio Medeiros de Melo and Irmã Francisca. In addition to assistance activities and the promotion of health in the family medicine strategy, at this clerkship we highlight the use of radio programs, a means of communication still often used by the local community, to develop health education.<sup>3</sup> The Municipality of São Luis dos Montes Belos is located at a distance of 118 km from the capital, in the central region of the State of Goiás, and had a total population of 30,034 inhabitants in 2010 (IBGE). This was the first city in the interior to receive the PET Health. It has seven units of the , including oral health care with a 90% population coverage. The activities of the EC and PET-Health were developed in the Health Units Boanerges Caires Silva and Dona Luzia.<sup>3,16</sup>

### ***Most Relevant Activities of the Project***

#### ***Program in local radio***

Students contribute to the programming of local radio while providing clarifications on various health topics. Due to the socioeconomic and cultural condition of the radio program's target audience and the time limitation, the activity requires extreme dedication by trainees at the time of writing the script. Not only the theme must respond to the social needs of the community, as the academic should pay attention to language and vocabulary, trying to

come close as much as possible to reality. The experience proved to be appropriate by allowing for the use of a different strategy in health education, requiring special knowledge and skills.<sup>17</sup>

#### Multidisciplinary case discussion via telehealth

One of the most relevant integration activities of the University with the Health Service and between preceptors, tutors and students is the multidisciplinary case discussion via telehealth, this moment is understood as a space for great learning, reducing geographic distances and referral of the situations discussed for more complex services. Students learn during the clinical case discussion with the guest teacher and preceptors receive continuous education and improvements in their health practice in communities that are distant from university centers.<sup>18</sup>

#### Training Course in distance education (DE)

In 2012, PET had as innovation the conjunction with Pro-Health, in compliance with the three orientation axes: Theoretical orientation, Practice Scenarios and pedagogical orientation 13. From this perspective the third PET-Health EC project had as a priority action continuous training and permanent education using distance learning tools. Each semester a mandatory participation training course is offered to preceptors and students on issues related to the clinical practice. The courses developed by tutors correspond to the preceptors' suggestions of topics. The courses are conducted and monitored by tutors via the Moodle platform. The preceptors must meet all the requirements and at the end of each course will receive a certificate of completion.

Courses last three months, during which activities by guest lecturers such as teleclass, discussion forum, writing of reviews, response to evaluation questionnaires and knowledge tests are developed. Two courses were already held which had as themes: "Ethics and professionalism" and "Preceptorship for the health professions." The next course, which will take place in the second half of 2014, will have the theme "Mental Health in Primary Care."

#### The Moodle platform as a means of communication

As the EC's activities take place in remote cities, continuous contact with students and preceptors is facilitated with the use of

the platform, which at the same time disseminates information and becomes a means of adding the files and PET work records. The PET-EC platform is the link: <http://ead.medicina.ufg.br/course/category.php?id=58>. On the platform the group can communicate through discussion forums, chat rooms, libraries, teleclasses, and share agendas and calendars of events and activities. Project.<sup>11</sup>

This platform, created in 2011, is understood by the group as the space where the sharing of information happens, with description of and reflection on activities, document repository, exchange of e-mails. Access to the platform is limited to tutors (as editor), preceptors (as a teacher not editor), scholarship students (students) and to a few visitors.

#### Evaluation of the activities of the community clerkship and PET-Health through focus group

To evaluate the perceptions of tutors and students about the contributions of PET for the community clerkship in 2010 and 2011, we conducted a focus group with six tutors and seven students. The preceptors highlighted a greater involvement in preceptorship and interprofessional work. They requested a continuous feedback about their activities and pedagogical training in assessment methods. Students of medicine, nursing and dentistry reported satisfaction with teamwork, greater interaction with the community and increased learning capacity at a distance. An improvement in the use of distance learning technologies was proposed. The focus group made it possible to evaluate the impact of the program as well as highlighting the desires of the tutors in the development of teaching skills and for students through improvements in distance learning. The PET project has helped to improve teaching based on community needs in Goiás<sup>19</sup>.

#### The partnership between University, Community and Health Service in Management

It is important that a clear and noticeable gain exists for the health services that are linked to the University and that this will be shared with the community, as it is an important factor for the strengthening of the partnerships. The University can take over the management of a health service since its implementation and provide conditions for its development, according to the general principles of education in the community. We can illustrate the partnership between the Hospital Foundation of the UFG and the Municipal Department of Health in 2012 to manage the Dona Iris Maternity Hospital, where students of the University and in particular from the FM go through supervised training in Gynecology and Obstetrics.

The partnership has shown that this is a different management model that offers flexibility in the purchasing of materials, medicines and equipment and develops a culture for teaching in the community with products aimed at the academic area

### ***Challenges***

We know that there are many challenges remaining until the consolidation of the clerkships<sup>20</sup>. The difficulties range from the resistance of professionals, who might not share the pedagogical proposal, to physical structure problems such as lack of rooms and materials for the care.

We are often faced with situations where there is a lack of adherence by the services professionals to the preceptor function, induced by the lack of compensation and the labor demand increase with the presence of students<sup>20</sup>.

The constant management changes by the service also difficult the adherence to the educational proposals. We have recently faced a major challenge when one of our units had its care profile changed and was closed for repairs without prior agreement with the FM.

Another challenge is the competition for clerkship of scenarios triggered by private medical schools that pay the departments and preceptors by the number of interns, hindering the penetration of schools that do not. It is important to stress that the UFG can not, for legal reasons, yet pay preceptors or departments.

Other observed challenges are: to promote the educational development of the preceptor, enhance the evaluation processes of interns and fellows by preceptors and tutors, raise awareness of those involved in the project for understanding PET as an indivisible action for the qualified training of professionals for the Primary Care at SUS, enhance implementation of educational activities at a distance in order to consolidate the objectives of the PET-EC proposal.

In addition to the maturity of the partnership between the University and Health Services, we see a greater involvement of the Municipal Health Council and community leaders.

### ***Lessons Learned***

1. Inducing actions such as Pro/PET-Health provided to an already existing mandatory curricular clerkship site, a greater connection between the



preceptors of the Service and tutors of the Academy, improving the planning of activities and the development of predetermined actions. There has been a greater commitment to a more effective participation of the preceptor, both in academic activities, as in the change of clinical practice and research initiation.

2. The presence of the University in the community through community clerkships encouraged the municipal departments in the recruitment of health professionals through public tender for effectively being part of the project. This allows a continuity of the established bond and of the actions implemented between the Service and the University, where the community is the winner.

### ***Final Thoughts***

The partnership of the City and State Management with the University is undoubtedly the best mechanism for structuring this relationship. The contact between the learning institution and the services should be continuous so that the service-learning integration is maintained. The person who pursues the profession of preceptor wants to be valued by exercising his/her function. Thus, it is important that the teaching unit promotes recognition actions of the academic merit of these preceptors.

Several actions can be worked for the appreciation of the preceptor, such as: planning meetings, continuing education and improvement programs, incentive for them to compete for jobs in the graduate program in teaching and basically having a teacher as supervisor of the clerkship, who makes true integration between teaching and service. Another key aspect is the political action so that there is harmony between the interests of the educational institution through the rectory and the municipal and state health departments.

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## CHAPTER

# 10

### Community-based education in the medical school at the Maringá State University - Experiences and Challenges

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## ***Introduction***

In 1978, at the International Primary Health Care Conference promoted by the WHO in Alma-Ata, one of the great landmarks of this paradigm shift, the plenary pointed to the emphasis on health promotion and disease prevention as the way to promote the health of the peoples in a more egalitarian way.<sup>1</sup> In Brazil, these discussions influenced the thinking of those who dreamed of, having rewon political democracy, achieving the democratization of the access to health care. These ideas have guided the discussions of the 8th National Health Conference (1986) and, later, the wording of articles relating to Health in the Federal Constitution and the Organic Laws on Health, especially No. 8080/90 that created the Unified Health System (SUS).

In this context, the Medical School of the State University of Maringá (UEM) was created in 1988, at a time when the Brazilian society was holding a strong debate on the health model in the country. The hospital-centered model, which is technical and focused on the disease contributed to inequalities in health conditions in Brazil and in the world.

So it is not strange that the UEM Medical School was born as an innovative course with emphasis on the humanistic and social role of the physician. Although well intentioned, this project included the training of professionals for an idealized health system, but that was not yet concrete. Thus, this new proposal was widely criticized and, for lack of local support and macro-structural conditions, eventually gave rise to a traditional model of medical education, more in line with the one that was understood by the society of the time as suitable for the training of physicians.

Similarly, since then, we live the creation and strengthening of SUS, this period was also of many reflections and rapprochement attempts to the original proposal. Internal discussions motivated by participation in CINAEM National Interagency Commission for Medical Education Evaluation<sup>2</sup> and demanded by the National Curriculum Guidelines three formed a project supported by Pro-Health (2005), which had as one of its main principles in the CBE throughout the training. We believe it is essential to train professionals who are capable

to learn about the community and not just in the community and prepared to face the uncertainties and new demands since the beginning of the millennium, including the new needs of the population and responding promptly to them.

From the Pro-Health proposal itself, the teaching-services-community integration was strengthened through the Agreement Term addressed in the Municipal Health Council, giving continuity and legitimacy to proposals designed and implemented collectively.

A strong stimulus to the CBE in the Course was the institutional support for involvement in teacher development initiatives, notably the FAIMER Brazil. The project "The Primary Health Care as inductor of changes in medical training," born out of the Course discussions, has the support of the Academic Council and the participation of teachers, students and health professionals and establishes the PHC as a driving force for changes in medical education. The guiding research question is "How to train physicians with a profile that is more appropriate to community health needs?".

In the UEM, the CBE is understood as an opportunity to take the school (students and teachers) closer to the reality of patients and knowing it to understand its implications for health care. The life and illness experiences are personal of the individual subjects, belonging to particular groups and social classes, permeated by specific political and economic injunctions.<sup>4</sup>

The pedagogical practice of Community-Based Education, as we defend it, seeks to grant prominence to these variables. This is a field of knowledge and practices that are committed to the inclusive social system, producer of disorders that affect the subject in the form of health problems and should be opposed by activation of the ideal triangulation between knowledge, values and skills, which is a historical responsibility of medicine, now driven to fulfill the promises of better health and well-being. Despite CBE being a cross-reference throughout the Course, which takes place in teaching, research and extension, we then highlight some strong moments of its insertion (Fig 1).

### ***Discipline of Social Sciences Applied to Health***

A component of the first year of the course, it combines the timely discussion of aspects of Sociology and Anthropology in Health with the immediate contact with the practice in the community. The program seeks to promote and create interest in academics for health practices established in the community, emphasizing the improvement in the formation of humanistic sensitivity

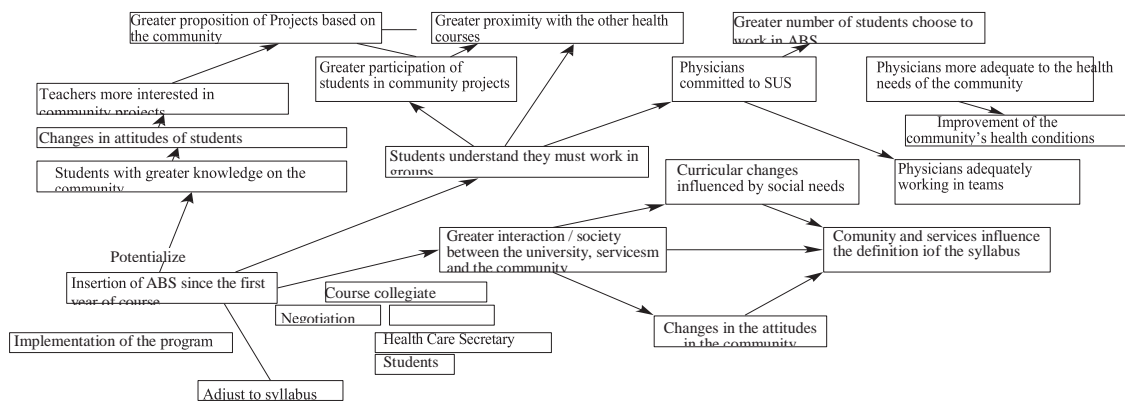


Figure 1: Concept map of the project "Primary Health Care as inductor of changes in medical education"

and openness to the plurality of the worlds of patients and the encouragement to social intervention (Fig 2)

The practice field is the Ney Braga primary health care unit and its surrounding communities, where for four hours per week students engage in a dynamic process to:

1. Know the organizational model and the functions of PHC;



Figure 2: Year 1 students report to the group the reconnaissance experience in the health area.

2. Know the main technologies that physicians use in PHC;
3. Monitor the work of the professional members of the Family Health Program (FHP)
4. Encourage and participate in social control;
5. Work with family and community diagnostic tools;
6. Know and exercise person-centered medicine;
7. Develop communication skills;
8. Learn to make health promotion actions that are consistent with the health needs of people.

It is important that when including first year students in the context of PHC, previous training should be offered. This is accomplished through a workshop, during which we discuss: Otherness and its importance to the health field; Ethnography in the health field; Non-verbal communication and its types according to Knapp5 and Composition of clinical ethnographies.



The use of ethnography in the context of medical education positively reverts into sensitivity training and student involvement, while contributing to overcome the challenge of first year students' insertion in the health services. Ethnographic research facilitates student transit by primary care at a time of lack of medical knowledge to assist the work that is developed. Therefore, we resort to explanatory models of illness, a conceptual system that supports the mediating relationship between disease, the patient and the social reality, as proposed by Arthur Kleinman.<sup>6</sup>

Another important issue is the opportunity for academic debate about the emotions they experience when listening to the suffering of the users of health services in order to obtain support to restate these emotions. We take care, therefore, of ensuring a humane approach to pain and suffering of the people and also treating humanistically the impacts that such an approach produces in academics.

An indicator of the expected change is the growing demand by students for insertion opportunities in community-based research projects, teaching and extension. The issues recognized in the community begin to influence the discussions carried out in the classroom and in research scenarios.

### ***Discipline in Family and Community Medicine***

Formerly called Clerkship in Public Health, it is a theoretical and practical curricular component of the fourth year of the Course, distributed in two groups of 20 students. This is the oldest initiative for bringing together the course's academics with the community health problems, reminiscent of the original pedagogical proposal. In the scenario of a philanthropic institution, scholars offered general medical care to 200 low-income families and engaged in health education activities with teens who daily attended the institution, supported by a multidisciplinary team (physician, nurse, dentist and social worker). They also participated in outpatient activities of the disease control program (tuberculosis, leprosy, leishmaniasis).

In subsequent years, the discipline was gradually restructured in accordance with the guidelines of Family and Community Medicine, adding content and experiences in PHC activities and educational practices in the community. Currently it uses the scenarios of UBS Mandacaru, Health Surveillance and the outpatient disease control program. The functioning of the teams and health care dynamics is monitored.

### ***Clerkship in Collective Health***

Created in 2004, adapting itself to the proposal of the National Curriculum Guidelines<sup>3</sup>, the Clerkship in Collective Health articulated activities that were already being offered by other areas during the Clerkship and new actions, in an integrated manner to the actions of primary care. It is offered in the fifth year of the Course, with a workload of 544 hours/class, distributed over 10 weeks. Since its creation it happens in the primary health care unit, namely Mandacaru, Maringá Velho and Vila Vardelina. For 10 weeks, the intern takes part in the planning activities and implementation of actions in FHP teams, and activities with teachers from UEM. Discussions are held in small groups and intervention proposals.

Its program is supported by guidelines of the CBE and the Family and Community Medicine (FCM):

1. Show students the Health reality of our region, using the primary care level (focused on primary and secondary prevention), and fleeing centric view in the Hospital and in treatment;
2. Exercising the good relationship between physician and patient, keeping the principles of ethics and comprehensive care;
3. Develop the concept of the multiprofessional and interdisciplinary nature of health care;
4. Apply the semiotic resources of complete history and physical examination in the formulation of diagnostic hypotheses and conduct;
5. To recognize, diagnose and treat the most prevalent clinical diseases in our region;

6. Make small surgical procedures on an outpatient basis;
7. Assist normal pregnancy, identifying the various risk factors;
8. Develop prevention and education actions in order to prevent the disease and its complications;
9. Develop the concept of rational use of diagnostic methods and medicines available, aiming to optimize the available resources;
10. Participate in Public Health campaigns aimed at the assisted population.



Figure 3: Participation of students in vaccination campaigns

A qualitative study carried out three years after the implementation of the clerkship - 2005 to 2008 that used as an evaluation the report submitted at the completion of the clerkship, showed that the students recognized the importance of the PHC principles for their training. They identified the educational activities in the community, home visits and the involvement of teachers as the most positive aspects of the clerkship. They recognized as weaknesses the little involvement of the professionals in the service with teaching, the primary health care unit infrastructure and the coordination of care related to reference and counter-reference<sup>7</sup>.

### ***PET-Health***

In 2008, after project development and submission, the UEM was awarded the PET-Health - Education Program for Health Work (MEC- MoH) involving Medicine and seven other undergraduate courses. The proposal aims to promote tutorial learning groups in order to develop sensitized professionals to act in the PHC. The proposal seeks to integrate academic knowledge with professional practice in family health teams. The first PET-Health group at UEM was trained in 2009. In 2010, a questionnaire was applied to ten medicine students who took part in the program asking their motivations for participating, and they mentioned: the program's concept; the granting of scholarship; better understanding of primary care; correlation between theory and practice; and closeness to the health problems of the community<sup>8</sup>

### ***Residency in FCM***

In 2009, as a response to the expansion proposals for medical residencies in strategic areas of SUS, the Residency in FCM was implemented in the UEM. This program is integrated with the training lines of human resources of the Maringá Municipal Health Department and the Department of Health of Paraná, with which we already collaborate through various actions.

With two new students per year, five professionals completed the program until 2013, four of them graduates from our Course. The training inspired by a model of medical practice centered on the person and on the physician-patient relationship, focusing on family and community-oriented, focusing on first contact, the bond, continuity and comprehensive care in health care represents a ongoing challenge with a view to quality and improved training to be faced by the school in close harmony with the service.<sup>9</sup>

### ***CBE Evaluation as a Course Management Tool***

The experience accumulated by the Course, especially in the last ten years shows that we are on the right track, but we still need to move forward.

A first priority is to maintain the integrity of the CBE along the Course. We make a strong entry in the first year, which is dissociated from other health courses and that does not have adequate continuity in the second and third years.

The solution found to the multidisciplinary approach was the establishment by the UEM of a new curriculum component that is common to all health courses to be offered in the first year. With the support of the Dean of Education and Pro-Health/UEM, we have been discussing for two years the proposal that will be implemented in the academic year 2015. We will have students of Biomedicine, Physical Education, Nursing, Pharmacy, Medicine, Dentistry and Psychology in mixed groups, under the guidance of a professor from the health area, with an integration proposal that has as its central axis the CBE and the active methodologies.

The best way to continue the CBE activities in the preclinical period has been the subject of reflections and discussions by the Structuring Teaching Center and the Academic Council of the Course. One possibility is for us to promote a closer relationship with the Propaedeutics and Medical Psychology, leveraging the mobilization of students achieved in the first year and bringing these practices to the reality of the community.

Another challenge is to keep more students in a proposal based in the community, even with a small number of teachers. Our classroom supervision, by principle, occurs throughout the period during which students stay in the network and social facilities and we do not rely on preceptors from the health network. This issue is being faced with a continuous discussion with the municipal health management, which has shown itself to be more open to the question, and with the involvement of teachers from other areas. These, by developing practices in primary care and matrix support dedicated to interns and residents, release teachers from Collective Health that can then engage with other groups of students in other spaces. With the support and understanding of the University, we have also achieved a slow increase in the number of teachers of Collective Health.

In the proposal of a community-based course that is integrated to their characteristics and needs, it would also be important that Community and Services would have a greater participation in curriculum decisions, basing their claims and participating in academic decisions.<sup>10</sup> We have participated in the instances of social control at the local, municipal and state levels, but we face institutional obstacles for formalizing the participation of community and services and in the Academic Council of the Course. While society can not directly present their proposals, we have been their representatives.

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## CHAPTER

# 11

The inclusion in the community of the emergencies  
longitudinal axis by the Ribeirão Preto Medical  
School, University of  
São Paulo (FMRP-USP)

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Emergency Medicine is a set of disciplines (or areas) that aims the process of agile, effective and time-dependent treatment in situations of acute injury to human health, assuming a hierarchy of the health system.

Is extremely related to other areas and must ensure a flow of service that is both structural (pre-, intra- and post-hospital) and interdisciplinary in aspect. In this context, the inclusion in the community should be one of its goals.

The WHO itself recognizes the need to include emergency action as a priority in their efforts, because as the health system is organized, structured emergency care is needed.

The experience of the WHO shows that in developing countries with a high level of poverty, the establishment of preventive actions without also offering care for acute health hazards, reduces confidence in the system and jeopardizes the entire desired intervention. This is one of the strongest influences on the changes taking place in the health systems.<sup>1</sup>

The insertion of Emergency as a curriculum subject, although it is still controversial in Brazil, is gaining acceptance.<sup>2</sup> What most frequently observed is that the contents and emergency-related practices are distributed in various disciplines, leading to fragmentation of learning, content repetition and usually without the appropriate scenarios for teaching. The proposal to provide students with graduation subjects/emergency training in the clerkships of medical courses came to prominence following the recent publication in 2014 of the new curriculum guidelines for medical courses by the National Council of Education.<sup>3</sup> There is a working group of the Association of Medical Education (ABEM) which has been discussing, over a few years, how the emergency curriculum should be organized in Brazil's medical schools.

The Ribeirão Preto Medical School, University of São Paulo (FMRP-USP) in 2007, held a curriculum revision, and pioneered in Brazil the incorporation of an Emergency Longitudinal Axis in the Medicine Course.<sup>4</sup> During its deployment, the axis has undergone various modifications and the first class completed this new curriculum in 2013 (Fig.1). This experience served as a model for the changes proposed by ABEM.

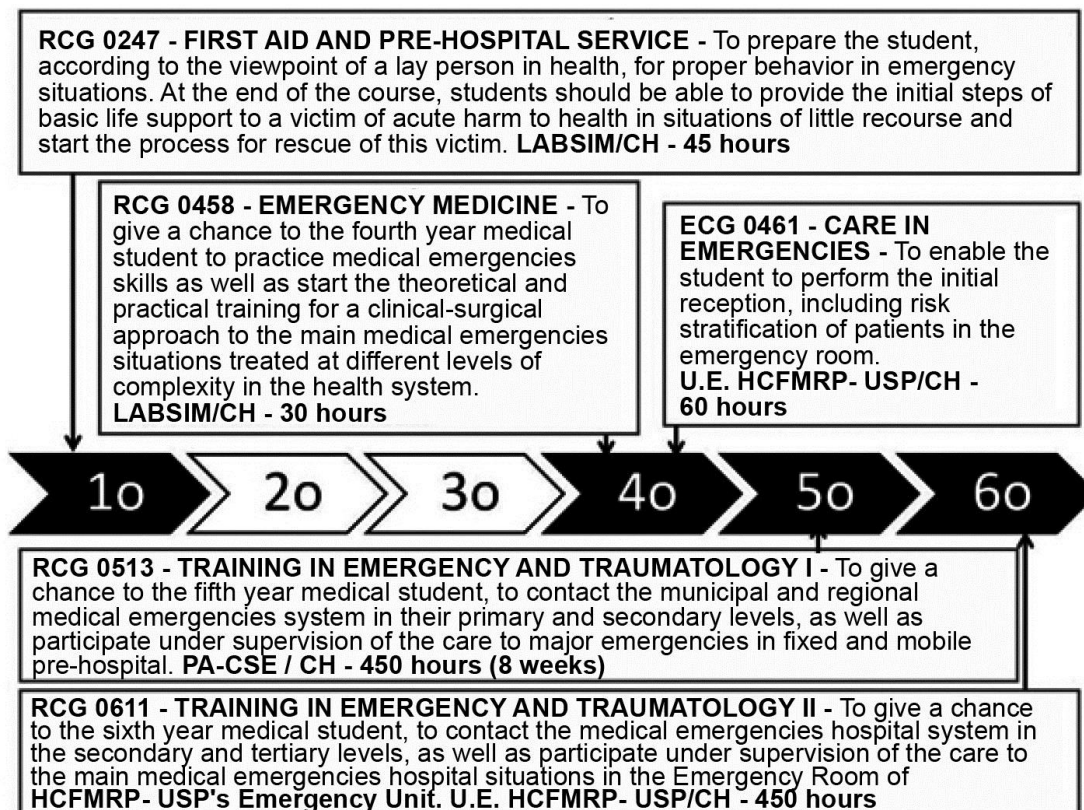


FIGURE 1: Disciplines that make up the Longitudinal Emergency Axis at the Ribeirão Preto Medical School, University of São Paulo (FMRP-USP) with its goals, workload (WL) and the main place where they are taught. The arrows point to the year in which the discipline is inserted. The years whose arrows are filled in black indicate that there is the inclusion of one or more disciplines. The colors assigned to each discipline signal the increasing level of complexity, also symbolizing the risk rating strategies that are part of the emergency education in unreferenced emergency rooms.

Legend: PACSE - Emergency Department of School Health Center at FMRP-USP; LABSIM - Simulation Laboratory at FMRP-USP; EU-HCFMRP-USP - Emergency Unit of the Hospital at FMRP-USP

This chapter describes, initially, the current composition of the FMRP-USP Emergency axis and their inclusion in the community will subsequently be discussed, critically analyzing their strengths and the points that must be improved.

### ***The Longitudinal Axis of the FMRP-USP Emergencies***

The extensive discussion during deployment of this Axis consolidated some of its guiding principles, which are described below.

### *Integrative and multidisciplinary character*

The axis has the participation of teachers from different areas: Pediatrics, Internal Medicine, Surgery, Orthopedics, Obstetrics and Gynecology and Neurology. The goals are to: provide a holistic view of the emergency and encourage the teachers to engage with a curriculum that is focused on the student's learning needs, forcing the integration of content in joint action and looking for new scenarios in the community. As previously mentioned, since the beginning of the Axis, we also seek to integrate with the community outside the hospital.

### *Continuous and progressive training*

The Axis was designed so that each discipline rescues the content taught in the previous discipline and adds new information and experiences, promoting integration and sedimentation of the content in a growing virtuous spiral.

Additionally, the teachers of the Axis are developing teaching materials in a distance learning platform for each of the disciplines, so that this material will be available to the student throughout graduation. Thus, the students will be able to revisit the material of the subjects they already studied, as a teaching tool for the integration of content.

### *Structuring of educational scenarios based on the Unified Health System (SUS)*

The trainings of the Axis are organized at the levels of complexity provided by SUS, so that the student understands the epidemiological aspects concurrently with the diagnosis and treatment of the diseases with which he makes contact.<sup>5</sup> For example, the training of the 4th year (RCG0461 - Reception in Emergency Situations ) puts the student in contact with reception and risk stratification, the training of the 5th year (RCG0513 - Emergency and Trauma I) is provided in the non-referenced emergency room, and the training of the 6th year (RCG0611 - Emergency and Trauma II) occurs in the referenced emergency room.

### *Active methodology as a basis for teaching*

The active methods are recommended by the Graduate Committee of the FMRP-USP. Among the various existing modalities, the Axis initially inserted the simulation, the Distance Learning and the

Case Discussion Based Learning. New strategies will be evaluated as the Axis develops.

For emergency education, the simulation has become a key tool for the student to learn skills while respecting the ethical principles.<sup>6</sup> In order for it to be developed properly, the Axis had to foster the creation of a Simulation Laboratory at FMRP-USP, both for the practice of skills (RCG0247 - First Aid and Prehospital Care and RCG0458 - Emergency Medicine), and for behavioral practice and teamwork (RCG0513 - Emergency and Trauma I and RCG0611 - Emergency and Trauma II) (7). Moreover, simulation was introduced in all disciplines as a way to promote discussion of crisis situations.

The use of Distance Learning (DL) techniques to complement the student-instructor interaction has been pursued since the beginning of implementation of the Axis<sup>8</sup>. For this, the Moodle STOA platform was used, currently recommended by USP for its undergraduate and graduate courses. As it takes time for developing DL, the inclusion of new teachers to reach critical mass was necessary. Currently, the goal is that all Axis disciplines will be inserted in the Moodle platform for the students to have support material on the situations they are experiencing in their clinical practice.

### *Translation of the acquired knowledge into practical skills*

In addition to the development of the entire Axis with active methodology and insertion in early professional practice scenarios, linked to key activities, which were defined from the expected learning outcomes, defined in the curriculum proposal of this axis. Thus, for example, many activities in RCG0513 - Emergency and Trauma I are designed so that at the end of the activity, the correct filling of prescriptions and/or certificates is obtained, which is a skill required in more than 50% of the cases treated in non-referenced emergency rooms<sup>9</sup>. Also in RCG0611 - Emergency and Trauma II the same principle is followed, with emphasis on medical prescription, which is the synthesis of all diagnosis and treatment planning, and is the leading cause of unexpected in-hospital mortality.<sup>10</sup>

The students are encouraged not only to develop diagnostic and treatment skills, but also an ethical and legal responsibility attributed to their actions. At the start of RCG0611 - Emergency and Trauma II, students receive a stamp with their name and USP ID number, and they are required to stamp and sign all actions they carry out.

Despite the fact that the institution already has the electronic prescription, there is no digital certificate for students; this is a strategy to develop co-responsibility for what is being done.

### *Constant reassessment of the content of the axes for restructuring the activities*

All disciplines are constantly evaluated by students and teaching staff in all aspects such as content, practical scenario, simulations, case discussions, student-instructor-community relationship, and the result has been used to enhance the disciplines. The impact assessment of the Axis is still early if faced with the methodological limitations, but there was a sign that the Axis was in the right direction in 2013, when the first group paid tribute at graduation: "To the creators and Collaborators of the Emergency and Traumatology Axis - A tribute to the dedication and seriousness in implementing this new discipline that already in its early years, had great impact on the education of its students."

A brief description of each of the subjects in the course is summarized in Figure 1, but some points are highlighted below.

RCG0247 - First Aid and Prehospital Care - Although part of the Axis, this discipline precedes its implementation, being taught since 2003. This course was previously held in the second year of medical school, having been relocated to the first semester of the first year in the curriculum reform. At this time, are provided basic principles on how to proceed in an emergency situation and about the structure of the health system.

RCG0458 - Emergency Medicine - The course is basically made up of skills stations, developed in the eighth semester. For this, the student receives videos and texts for prior reading, performs a pre-test and only afterwards goes to the practical skills stations, which are finished with a discussion of their performance in practice and in the pre-testing. The objective at this training is to provide initial training on the procedures to be performed in emergency situations. It arises from the perception that the students of the previous curriculum, after reaching the implementation stages in the clerkship, had no theoretical basis or established practice of the most common procedures.

RCG0461 - Reception in Emergency Situations - In this discipline of the fifth year, the student works with the Social Service team and observes the various medical teams to develop skills in Conflict Management, Care for Sexual Violence Victims and Death Reception in the Emergency Unit of the Hospital at FMRP-USP.

Students perform observation shifts and post their comments in a semi-structured questionnaire in the Moodle platform, which are assessed by a tutor.

RCG0513 - Emergency and Trauma I - This course is developed in the fifth year in the Emergency Department of the School Health Center (PA-CSE) at the FMRP-USP that is a model of a non-referenced emergency room. In this course, the student attends four scenarios of professional practice: adult emergency room, children emergency care, orthopedic care and urgent and emergency surgery. The entire course is practical, in order to integrate the student into supervised care and the work team, and also seeks to involve the responsibility of the student for the entire process of a medical consultation. Thus, the student participates not only in patient care, but also interacts with the nursing staff, attending physicians, residents, pharmacy and medical regulation. In order to cement the learning and ensure a minimum content for all students, one to two times per week are reserved for Simulation practices and for the discussion of various interdisciplinary clinical cases, which are distributed at the beginning of the course for previous study. In 2013, this discipline was elected as the best discipline of the 5th year of Medical School, FMRP-USP.

RCG0611 - Emergency and Trauma II - developed in the Hospital Emergency Unit of the FMRP-USP during the sixth year. Also based on the supervised practice and characteristics discussed for RCG0513 - Emergency and Trauma I, now in a tertiary referral environment in which the student is exposed to more severe cases.

### ***The Insertion in the Community - Potential and Difficulties***

The insertion in the community is a goal that permeates the FMRP-USP since its inception, being more developed for the prevention and health promotion, consultations and elective procedures<sup>11</sup>. With the development of the Longitudinal Emergency axis, soon the need emerged to insert it in the community. Ribeirão Preto was the first Regional Health Department in the State of São Paulo to insert the Medical Regulation, that despite the numerous benefits, resulted in tertiary emergency centralization and lack of education scenario for primary and secondary emergency within the FMRP-USP.<sup>11,12</sup> In view of this limiting factor, the institution had to find alternatives for insertion beyond the University's own, which was easily achieved when the activities were related to observation. In the RCG0247 discipline - First Aid and Prehospital Care, students are inserted early in environments such as the Fire Department

and as observers in the secondary maternity, where they must attend at least one birth. The Fire Department is extremely receptive to this purpose, while access to the maternity is guaranteed because this is a hospital maintained by the Teaching, Research and Care Support Foundation (FAEPA), at the FMRP-USP Hospital.

The search for the community was also incorporated with activities derived from the Canadian program PARTY (Prevent Alcohol and Risk-Related Trauma in Youth), inserted by Prof. Sandro Scarpelini after his post-doctorate.<sup>14</sup> This program takes students to visit a tertiary center trauma, and afterwards, students are put in contact with community members who suffered traffic accidents, with permanent sequelae. This model of "reverse psychology" is being tested in other disciplines.

However, the contact with less complex emergency situations, as in RCG0513 - Emergency and Trauma I was more confrontational and is not yet fully resolved. During the design of the Axis, there was an agreement between FAEPA and the Ribeirão Preto City Hall to the effect the Emergency Room of the School Health Center (PA-CSE) at the FMRP-USP would be managed by FMRP-USP. However, during the implementation of the Axis, the contract was broken due to economic issues and a new contract had to be established so that there would be no losses to the students' learning. In this new contract, it was established that the FMRP-USP would provide nine medical assistants to supervise the activities of the students in PA-CSE, but without the obligation to manage it. On the other hand, the City Hall was responsible for maintaining the structure, such as conservation of rooms, stretchers, medicines, among others, and also for the management of the physicians and nurses working in the emergency room.

Thus, students are directed to the clerkship from Monday to Friday and are greeted by an exclusive assistant physician, who guides them in the care of patients, independently from the medical work by the municipality's teams. Despite the relationship between FMRP-USP and City Hall professionals being appropriate, this division of responsibilities and teams generates numerous problems in everyday life, such as lack of doctors, lack of suitable rooms for the care and the transfer of responsibility. On the other hand, this could be a unique opportunity to better integrate community and academy.

Additionally, due to the fracturing of the previous pact, the old discipline "Service Training II" has been redesigned to become "Reception in Emergency Situations" the aim of which has always been to teach risk stratification strategies among other content. Until further adjustments are made, it had to be allocated in the ER of the FMRP-USP Hospital.



This situation also temporarily limited the integration with other departments of the health system, especially the Family Medical centers and medical regulation. In the initial proposal, it was expected that the student would be able to identify cases that should not be treated in the emergency department and refer them with service guarantee or counter-reference them after specific interventions in emergency. This interaction is only possible if the FMRP-USP were to manage again the PA-CSE or other non-referenced emergency care service or if it would be possible to establish a better relationship between FMRP-USP and the City. The search for new scenarios is complicated by the fragile relations with the Ribeirão Preto City Government, and the municipality is home to two other medical schools that share the opportunity for partnerships to establish these scenarios. Even if the relationship between colleges and municipalities may be most delicate and complex, there is the unquestionable need for the learning of less complex emergency care cases, for all students of medical courses. Thus, it is urgent to create mechanisms to expand and optimize the participation of medical schools in the municipalities' emergency services, i.e. improve the insertion of the academy in society.

Regarding the FMRP-USP emergency Axis, we seek to expose the student to scenarios of various complexities; the student may collate the cases he meets in RCG0513 - Emergency and Trauma I (not referenced ER) with those he will meet in RCG0611 - Emergency and Trauma II (referenced ER) and understand the epidemiological aspects of the emergency in the population. In addition, the student also understands the integration of two levels of complexity when identifying cases which can not be solved in the non-referenced entity and activate the system for transferring the patient.

Finally, it is important to emphasize that these difficulties are being overcome with the support of the Board and the Graduation Committee at FMRP-USP and FAEPA. They will likely be overcome with changes in the political context and/or new partnerships in other municipalities or other institutions. Despite all difficulties, they have served to enhance the Emergency Axis which has already become a reality at FMRP-USP and, very soon, will be a reality at several HEIs in the country. Undoubtedly, this proposal is integrative, innovative and rational and there is no way back. Its sedimentation will be an important step in support of the HEI with the community.

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## CHAPTER

# 12

### The experience of the Sorocaba Medical School - PUC/SP

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## ***Introduction***

The Medical School at the Faculty of Medical Sciences and Health of Sorocaba, integrated to the Pontifical University of São Paulo (PUC/SP), is quite old and began operations in the 1950s. At that time there existed already the school-hospital (Hospital Santa Lucinda), which dedicated part of their care to so-called "indigent patients," a misnomer for the public that, although cared for with dignity, lent itself to the education of students.

Far from what is currently practiced, health was solely focused on hospitals and on that occasion, the Health System in the city of Sorocaba and region had the school-hospital as a key component of health care; that is, at that time the medical school was involved with the community through its own school-hospital, reflecting the model used in the country.

Over the years a few initiatives have emerged in line with the changes in health care in Brazil. In the 1970s was created the "Child Care Unit", dedicated to maternal and child care, installed on the premises of the school-hospital itself and that, with the implementation of the Unified Health System (SUS), turned into a "school". A few years later the treatment at the Hospital Complex of Sorocaba (CHS), which are the hospital facilities of the State Department of Health, was incorporated as a place of learning and training field with which an agreement was signed, renovated and is in force to the present day. This agreement made it possible to expand educational spaces also to other scenarios. Again, the course remained inserted as an integral part of the health system in the community that hosted it, however it still had a strong hospital-centered bias.

At the end of the 1980s, in view of what is recommended by the SUS, was created the Specialties Clinic and the School Health Center in the Sorocaba Hospital, both on campus with active participation of the disciplines with students and residents in these activities. Years later, for economic and political reasons, various disciplines that maintained effective SUS care services in the Hospital Complex were distant, in an alleged dissociation between education and health care. Teaching practices began to take place,

in many areas, only as the supervision of residents, also monitored by medical tutors hired by the State Public Service and by the students, using the Hospital dependencies only as a scenario for propaedeutics teaching and case discussion. Thus, the activities developed by the medical school moved away from the participatory connection with the Health System of Sorocaba and the region. Alongside these facts, following for the development and solidification of SUS principles, primary care became the responsibility of the Sorocaba Municipal Health Department, emerging as new protagonist of health care and potential partner in health education.

In this scenario, in the late 1990s, a dialogue began with teachers and students of the course, signaling to the reality of the moment, that is, that the medical school of the PUC/SP had become an appendage, almost disposable, sometimes a nuisance to the local and regional health care system and that the teaching practiced at the school was primarily hospital-centered, focused on specialties and much more focused on the training of residents than on graduation. These were the main reasons that stimulated discussions, formal since 2001, and culminated in the curriculum reform, which began with the class of 2006. This curriculum reform was intended to regain the lost spaces within the local and regional health system, as well as sharing with the municipal and state managers the leadership of Health Care in Sorocaba and region.

The direction of medical school reintegration into the health system was the guidance that came after several discussions with different groups of teachers, according to their actuation areas, or according to the series in which they would develop their teaching practices. Therefore, one of the initiatives sought was the formalization of the access for teachers and students to environments that already existed and that were created and kept by the Municipal Health Department. The agreement signed between the sponsor of PUC/SP and the Municipality of Sorocaba today allows faculty and students to participate in all the places where health care is provided in the city of Sorocaba and was the first step in the integration of our students in the network. Later, in 2002, the university-owned school-hospital signed an agreement for municipal management of its SUS care, resuming its vocation as a teaching-learning scenario.

However, something different had to be designed with the curriculum reform. Just repeating the experience of the use of the scenario and the distance from effective care to the user, without interaction and dialogue with the other professionals involved, would lead to the already known outcome and should be avoided. It was with this analysis that the desired future medical profile was outlined, encompassing specific issues for practice in primary care, such as: the

proposition of measures for health promotion and disease prevention; the ability to correctly reference the cases that so require it; the evaluation of the territory of activity in its physical, biological and social dimensions, with ownership of the existing intersectoral social network; the observation and analysis of household and family conditions and the debate of the issues raised in the Pact for the city's Health at the level of its territory of activity. At this point is added the successful participation of the course in the Incentive Program for Curricular Changes in Medical Courses (PROMED) and the publication of the National Curriculum Guidelines (2001), considered as critical milestones in the curriculum proposal that followed.

Thus was completed the curriculum reform of medical school, reflected and analyzed since 2001 and started specifically with the 2006 freshmen. Several changes have been put into practice to provide for the general objectives of the course that still persist: (a) prioritize the investigative education; (2) center the teaching on the needs of the student; (3) ensure the student's contact from the first year of the course, with the health and socioeconomic realities of the community; (4) conduct an interactive and constructive educational process; (5) individualize education and (6) conduct differentiated, integrated and integral evaluation. The design of the education program was translated into modules that follow a guiding principle of each series, with expected evolution of acquisitions of increasing skills, referring to a spiral that at every turn has points of departure and arrival in distinct, ascendant plans.

In directing for the theme of this book, it must be specified that the CBE happens in the Sorocaba medical curriculum, especially but not exclusively, in the module called Health Care Practice (HCP). Beyond the HCP, other activities, especially in the clerkship are also well directed and one of them is exposed below.

### ***The Community-Based Education in the Curriculum at Medical School: Health Care Practice (HCP) Module***

The HCP is a vertical module that stays with the student throughout the medical course, allocating him for the first four years of the course in the same unit. This module connects to the Public Health training at the clerkship (years 5 and 6). There was a preference for the use of participating units of the family medicine, but because of the coverage condition in the city, this was not always possible.

After the curriculum reform, about 100 students were divided into ten groups. Each group, with their teacher, is distributed among ten health units,



subdivided by the various activities that take place daily in these units, including home visits.

Since the original proposal, the progressive inclusion of students in primary care everyday practices (Fig. 1 and 2) where they are assigned to participate, as well as at other health care equipment has been crucial. In the first four years of the course, the development of the activities in HCP, lasting four hours per week, is intended to contemplate specific sub-axes, which are linked theoretically to the guiding principle of the series. Thus, the sub-axes health promotion and specific protection (1st year); early diagnosis and prompt treatment (2nd year); analysis of comprehensive health care programs (3rd year) and evaluation of the effectiveness of the health care system (4th year) correspond to what is sought by the teacher and his students in activities in the field, using the investigative methodology, ensuring continuous, longitudinal and differentiated integration of students in the health care process.



**Figure 1:** Students and Teacher of the Health Care Practice (HCP) Module - 1st year 2006



**Figure 2:** Students providing services at the Basic Health Unit - 3rd year 2009

The methodological strategy of investigation is anchored in the arch of Maguerez, in which there is observation of the issues and problems of a particular place, theorizing in search of understanding and possible hypotheses and solutions, followed by choosing the best option, application and subsequent evaluation. These procedures are potent processes for modifying reality. Therefore, at each year, students are exposed to the local reality through their own experience of the daily life of the unit and when placed as an element that seeks solutions to the community's situations and problems.

This dialogue with professionals and with the coordinated management is vital for agreeing on actions to be developed and to strengthen the link between teaching and service. Teachers must direct students in the formulation of a theory of problems and solutions, without losing sight of the sub-axis and learning objectives in the module of that graduation series, described in the pedagogical project of the course. As a result, in each unit several intervention projects occur throughout the year and students are encouraged to interact with users, their families and with health professionals in the search for solutions to the chosen problem and its implementation. The projects for each group are presented in an event at the end of the school year called "Module forum: HCP", where professionals and managers from the units and the Department of Health are invited to participate and thus receive the return on the actions that were carried out. The Health Department also receives the records containing summaries of all projects. And, successively, in the following year, new actions are agreed upon, including the continuation and/or evaluation of those incorporated in the daily routine of the units.

Many texts for publication and presentation at scientific meetings emerged from the work developed by students supervised by the teachers of the HCP. As can be seen in Table 1, there was a progressive number of works developed by students. The subjects generally focused on the most relevant problems of each community, but there were also works directed to reference and counter-reference questions, and more complex issues within the SUS. From some of these works it was possible to modify many care practices in the network of the Sorocaba Municipal Health System, and care protocols also emerged, some published in journals and books.

In addition to primary health care units, other social facilities are also used in HCP (Fig. 3), depending on the actions being carried out and the guiding sub-axes of the module. Thus, schools, churches, community centers (day care centers, nursing homes), emergency care units, outpatient clinics and hospitals are also used for the development of the module.

Table 1. Number of intervention projects developed by students in activity in the HCP according to the year of the course. Sorocaba 2009-2013.

Series\ Year	2009	2010	2011	2012	2013	TOTAL
1st year	7	5	4	10	11	37
2nd year	9	9	12	14	17	61
3rd year	13	10	10	11	13	57
4th year	16	15	9	11	14	65
TOTAL	45	39	35	46	55	220



Figure 3: Students in kindergarten activities in the coverage area, 1st year, 2007

Two areas of knowledge are added to the HCP module: Anthropology (1st year) and Theology (3rd year), through the contents of Introduction to Theological Thought, which are offered to all courses at PUC/SP). Both areas have specific goals for medical school and use the same scenarios of the HCP practice, a significant differential of the course in Sorocaba and reflecting the search for transdisciplinarity.

The assessment of students is held in its formative dimension through a reflective portfolio drawn from the experiences of the HCP, accompanied by the respective theorizing. In the summative dimension, the evaluation is made through the final report of each student, compiling partial analyzes upon presentation of portfolios and objective questions included in the quarterly tests. With this material, the student has their performance deemed satisfactory or not for series progression.

Given this explanation of how CBE is developed in the course, we believe that the principles adopted in the educational project are clearer:

effective integration between teaching and service, use of dialogic methodology based on investigation and real problems, family, collective and community bonding, without neglecting the individual.

### ***Clerkship in Public Health (Years 5 and 6)***

Lasting 120 hours in each year of clerkship, it has its amendments concerned with the study and application of health care programs, monitoring procedures, development of clinical diagnostics and definition of local and regional policies, in addition to home care hospitalization and participation in continuing education for health professionals.

Although it was designed as vertical continuation of the HCP module activities, this does not always occur, because of management difficulties on the number of units in need of expansion to new fields of action.

### ***Successful Experiences***

We highlight below a few experiences we classify as successful and that can be cause for reflection when educational activities based on the community are deployed.

Professional training in high blood pressure against the backdrop of the primary care network in the city of Sorocaba-SP

This activity occurs as part of the Clinical clerkship in the subarea of Nephrology. Was proposed considering that high blood pressure (HBP) is the most prevalent disease in adults in most countries. Its importance grows as the elderly population grows. The primary care at SUS, the preferred place of care for the hypertensive individual, shows signs of saturation and needs innovative solutions in order to serve this large contingent. The HiperDia Program, created to regulate, ensure and expand the service to individuals with HBP and diabetes mellitus (DM), had an amazing implantation and start, with wide coverage in many cities, but faced various difficulties, particularly in its organization and financing. One of the main problems experienced by managers for conducting adult health care programs (more prevalent diseases, HBP and DM) in Sorocaba-SP is the lack of trained doctors for this service.

This was the reason for creating this project, which was gestated with the participation of one of the authors (FAA) in the FAIMER Brazil program from 2009. In a family health unit a teaching-learning environment was created with an interest in training physicians for the care of individuals with HBP and DM. With their own agenda, the sixth year of medicine interns and internal medicine residents began seeing these patients once a week. The care follows a protocol based on the Brazilian guidelines for hypertension and diabetes, adapted to the reality and characteristics of primary care, in particular, in the city of Sorocaba and the unit itself. A roadmap of service was created directing the clinical history, physical examination and laboratory tests available in primary care in the city of Sorocaba to the peculiarities of individuals with hypertension and diabetes. This script, although it occupies more time in primary care, facilitates the assessment of the patient as a whole and streamlines subsequent queries.

In addition to medicine residents, primary care physicians contracted by the network are also invited to participate in these activities. Participants reported having great benefit in patient care and in their work environments. A qualitative evaluation with open questions carried out with interns demonstrated they have great interest in the activity and regard as most relevant items the organization, the daily standardized operation and especially the opportunity to fully engage in the medical function in an environment that will be the work scenario for many of the future physicians. The scenario is also a very appropriate place to conduct formative assessments of interns, particularly the application of mini clinical examination practice (MiniCex).

The main difficulty encountered so far in this activity is how to integrate it into the work of other health professionals present at family health unit, particularly nurses. This year the participation of the teacher began in planning meetings at the unit and it is believed that even with the participation of a single person there can be improved integration to the activities of the other team members, discussing it and receiving analysis and suggestions, in order to produce even better results.

Recently, for logistical reasons, it was necessary to relocate the activity to another health unit. At the time of the relocation, there were very complimentary demonstrations by patients and staff members of the unit, a gratifying reward for their work. The nurse responsible for the unit had this to say on the occasion of this relocation:

"I would like, on behalf of the entire Vitoria Regia team, to say thank you for the work, commitment, dedication, respect, empathy, warmth and professionalism demonstrated by you and all the college's students. We are very grateful for all these past few years during which you have been working with us. We feel deeply, but we understand, and we want to hug everyone, and wish every success and happiness in this new place of work... Thanks to you, the students and the faculty members. May God bless and enlighten your lives"

Future programming provides greater integration with physicians and multidisciplinary residents team and residency in family and community health and this link should enlarge and multiply the training in hypertension and DM in the primary care network of the city of Sorocaba.

### ***Participation of Teachers from Various Backgrounds in the Health Care Practice Module***

In the early deployment of HCP, teachers with some experience in primary health care were assigned to the health units, even if they were not from the areas of public health. There were, next to teachers with training in public health, others who came from evaluation, gynecology, orthopedics, pediatric surgery, genetics, gastroenterology, endocrinology and pediatrics, among others. The opportunity for joint action by teachers whose training was different was part of the wealth of the HCP, transmitted in the training of our students. The offered awareness, subliminally, that basic health care provision is not something exclusive to one area of activity, but an integral part of care in all medical practices, including the specialties, was an invaluable contribution to the program. The HCP represented a complementary element for the development of clinical skills for students, communication in the early years, physical examination and development of clinical reasoning in higher grades. The teachers who worked there also began to incorporate the defense of the module as an irreplaceable necessity in the school curriculum. Their contributions to the development of the module were discussed at planning meetings and the dialogue and the training afforded by the experts in the public health area to the other teachers were also highlights the construction of the HCP. Today, teachers trained in on collective health and FCM are the majority, but the diversity observed in the module deployment may be considered as one of the successes of the initial operation.

### ***Negotiation with the Municipal Health Department Before Starting the Curriculum Reform of 2006***

Although requiring permanent devotion, the pact that happened can be considered successful because the doors of all health facilities in the city were opened to the students. The curriculum reform project was presented to the Municipal Health Council, which qualified and formally endorsed it. Similarly, the projects submitted and approved for the National Reorientation Program for Professional Training in Health (Pro-Health) and subsequently for the Education Program for Working for Health (PET-Health) received the same treatment from the Municipal Health Council when they were exposed there. We must stress that the designs of these two programs were developed with the active participation of representatives of the municipal health department, an indispensable step for the success of its implementation.

### ***Challenges Faced***

Alongside the successful experiences there are some challenges, as is common in all cases involving the complexity of the teaching-service interaction. Two points seem fundamental to us: the maintenance of effective dialogue with the municipal health system managers and the integration of the HCP module with other curriculum components of medical school, which is still fragile. We realize that if they are not maintained continuously, we could return to a previous stage where medical school was isolated from the municipal health system and, on the other hand, the HCP could become enclosed as an element at the fringes of the curriculum development.

### ***Reflections for the Future***

For the meeting of the student with the community and the health team to produce knowledge and transforming emotional ties it is necessary to move forward on some issues, such as the real integration of the student and the teacher as team members in primary care. They must recognize and be recognized as health team members with known, approved and agreed responsibilities, goals and work processes.

The co-responsibility for the execution of work processes is essential for enhancing the wealth of exchanges between students, teachers, health professionals and users of the system. Sorocaba is going through the creation of

"school health units" in primary care with the start of the activities of the multiprofessional residence, a unique time for articulating the integration of all the participants so that there is indeed a concrete and dynamic teaching-service relationship. It is important to clearly define the role of each actor involved and clear work agreements, establish joint guidelines between academy, the SUS management network and social control (councils from the units, district, city and state), mainly focusing on the management and health education technologies, applied from the 2007 SUS Humanization Policy.

The complete, adequate and effective implementation of SUS in Brazil remains a major challenge, especially in rural areas where municipalities have a large geographical size, long distances to be traveled, dispersed populations in places of difficult access, poor sanitation and difficulties in transport and communication. The SUS still has insufficient reach in these areas, also made worse by high logistics costs for the internalization of the health teams. Quality of health is one of the major claims by individuals living in areas of difficult access, such as in rural or riverside communities and the outskirts of large cities, which still suffer from low complexity health problems, but that could become potentially serious due to the lack of timely and appropriate intervention.

The experience of HCP in the peripheral communities in Sorocaba and the supervision of medical professionals in remote communities in the Ribeira Valley in São Paulo, by PUC/SP teachers from the Appreciation Program of Primary Care (PROVAB) by the Ministry of Health, in 2013 and 2014, reinforces the need to train medical students to build resolving actions in the field of primary health care along with the teams that exist in these communities, guided by health care, promotion, prevention and education. In this perspective we discuss the creation of the rural clerkship in difficult access and social vulnerability areas. The University has the challenge of leading the student to recognize these difficulties and create conditions so that he may participate as one of those responsible for producing the answers that the SUS should give to confront this reality.

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## CHAPTER

# 13

### Health education based in the community: Experiences at the Minas Triangle Federal University

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## ***Introduction***

Health education, community-based within the Federal University of Triangulo Mineiro (UFTM), has occurred sporadically in various sectors, but with little relation to each other. In the UFTM Medical School, founded in 1953, the teaching of the envisioned skills for the physician has been done mainly in hospitals. The need for learning opportunities in scenarios outside the university hospital is relatively recent in the institution, and has sensitized more and more teachers and the university management itself for discussing this topic. The gradual opening of other health courses reinforced the need to diversify the teaching-learning scenarios and the sharing of knowledge.

This chapter will describe two initiatives developed within a traditional institution in the sense of expanding the practice scenarios in order to facilitate the contact of the healthcare student with the population outside the tertiary hospital.

### ***Practice Scenarios Diversification in the Medical School Clerkship***

The medical school clerkship is a period in which the academic should experience learning and develop his competence for "medical practice". Thus, the clerkship curriculum should be organized so as to provide learning opportunities that are representative of the reality in medical practice. In Brazil, there is nowadays a wide variety of practice scenarios for the medical activities, ranging from highly specialized services in tertiary hospitals, specialty clinics, general hospitals to the FHUs and Emergency Care Units (ECU). The later are the main scenarios that are accessible and that hire the majority of newly qualified physicians. It is difficult to determine the extent of the experiences to which students need to be exposed for them to acquire, at the end of

graduation, an adequate level of professional training, that should include skills ranging from an effective communication and understanding of the health system, to the technical capacity to make a complex diagnosis, recommend and/or perform a surgical procedure.

Thus, the challenge for those designing and implementing the curriculum is to articulate learning objectives and the expected competence of graduates with practical scenarios that are able to offer appropriate opportunities, especially during the clerkship. In this sense, we sought to know the educational experience of interns in the UFTM Medicine Course.

The first step in this process was to characterize in which scenarios the student was inserted over the 24 months of clerkship. In this survey, it was found that throughout the clerkship, students only spent 2 months in the units, in the Collective Health training. In the rest of the schedule, students participated in activities in the various environments of the tertiary hospital. Thus, it was noticed that the experiences provided to students, most of the time, distanced them from direct relationship with the community, which led to a debate on the need to increase the contact of the student with the health education outside the hospital environment.

In order to know the perception of students and teachers about the possibility of expanding the workload within the boarding school for primary care by including it in other areas outside of collective health, we carried out the scientific initiation project: Perception of Teachers and Students on Primary Care in the UFTM Medical School. We asked about agreement with the implementation of a curriculum reform that would prioritize the introduction of new practices in the primary care level, and it was found that of the 149 teachers participating, only 32 (21.5%) responded, of which 29 (19.4%) teachers agree with this reform, calling it important. Regarding students, of the 158 we invited, 80 (50.6%) responded and only 30 (18.7%) agreed with this type of reform, and yet, with restrictions. These results brought the reflection that the simple expansion of the workload in primary care could be met with resistance from the academic community.<sup>1</sup>

On the other hand, in collegial meetings for clerkship restructuring, representatives of the students repeatedly raised the desire to participate in the care to the population at the secondary level. The students reported they believed they knew how to conduct a serious case, but rarely participated in Primary Care or Emergency Care, and therefore missed opportunities to perform the initial evaluation of the patient and the development of diagnostic hypotheses that could lead the patient to hospital.

Most patients treated at the tertiary hospital are screened in a primary health care unit or Emergency Care, and already comes with diagnostic suspicion and/or confirmation.

Therefore, creating a training period for interns in an Emergency Care Unit was considered more interesting, timely and feasible. With this perspective, in mid-2011, contact was established with the Municipal Health Secretariat, in order to make this training possible. The articulation of the University with the Municipal Health Secretariat was essential, but at the same time this is the weakest link in the process. A clear definition of the roles of each institution, preferably registered by contract, has been essential to making this partnership possible. Within this context, was initiated in September 2012 a "pilot" training, with a schedule of 4 hours a week, with a volunteer UFTM teacher in charge of the preceptorship.

Before scenario upon the training, a survey was carried out to assess the expectations of students who would go to the ECU. Of the 61 students that were invited, 54 (88.5%) agreed to participate. Of these, 49 (90.7%) reported a "positive" or "very positive" expectation. With regard to the moment in the graduation in which the training was inserted, 14 (25.9%) reported it as "late" and 8 (14.8%) "very late". Half of the interns (27) said they were uncertain about the training. Potential gains were envisioned by 53 (98.1%) students, but 32 (59.2%) indicated possible difficulties. In the description, the most frequently mentioned points were:

1. Gains: Experience with in-service training, diversification of practices and clientele scenarios, practice activity that could be the future employment and reduction in anxiety for insertion in the labor market.
2. Difficulties foreseen: Low quality of the training preceptorship, insecurity to care for the patient, lack of material and/or human resources, low involvement of the university in the training.

After 6 months of training, the students were questioned about their perception of skills gain, and they reported having gained skills in 23 (32.9%) of the items, more frequently in the item for patient risk classification in the ECU. At the end of the questionnaire, in the open space for comments, 80% of students positively reinforced the training initiative, but complained about the reduced working hours, which could be reflected in the perception of little skill gain.<sup>2</sup>

After this process of creating the training in the ECU, we chose to characterize the educational experience perceived by medicine interns

in the trainings of clinical medicine and collective health, in the three levels of care (primary, secondary and tertiary). This information could support the decision-making on the reformulation of clerkship that is wanted to move towards new scenarios, especially those in primary health care. For this, we conducted a longitudinal study with data collection for the type of care provided in three practice scenarios (tertiary hospital, primary care and emergency care) having been obtained from the reports of the students who attended the trainings in primary, secondary and tertiary care in the clerkship.

Students of the final year of medical school were invited to participate in the study. We opted for the evaluation range in 30 days, a time corresponding to the usual length of stay of students in the trainings.

As a result, we recorded 117 attendances in primary care, 26 in the secondary and 58 in tertiary care, totaling 201 medical consultations by interns in the different scenarios. Considering the estimated workload, were seen about one patient/hour in primary care, 1.6 patient/hour in the emergency room and 0.6 patient/hour in tertiary hospital.

Among the reasons that led patients to seek the Health Service in the three levels of care, were found several aspects to be explored. The progressive development of diagnoses was marked, due to the service level. In primary care, many of the recorded reasons were symptoms, while in the tertiary; the most frequent reasons were elaborate diagnoses. In this sense, the evaluation of some complaints could illustrate more clearly this observation. In the case of skin lesions in primary care, most were characterized as white blemishes or localized allergic reaction; the secondary a patient with herpetic lesions could be evaluated, and finally in the tertiary, skin lesions associated with AIDS complications. The same could be seen in relation to the complaint of pain, usually chronic and less severe in primary care, localized and more intense in secondary care, and associated with more severe events such as coronary syndrome, in the tertiary. Possibly, additional tests were essential to better characterize the diagnosis, since their request was more frequent in the tertiary service. In this context, the scenario facilitated a differentiation in the educational experience for the intern, and therefore a greater magnitude of it.

In primary care, it is worth mentioning the large number of patients who sought specific attention, such as: health certificate, referral, laboratory tests, medical report and renewal of prescriptions. In principle, this experience for the student appears to be far from any educational goal.

However, if the quest is to form a general practitioner, whose main field of work would be primary care, learning to deal with these requests should be part of the scope of the curriculum. It is important to mention that the validity of this type of experience is directly related with the reflective capacity of the health team that accompanies this student, within the context of that Community<sup>3</sup>.

Currently, the UFTM Medical School is in full discussion of the curricular reform proposal. The described information serves as a base to assess the possibilities of practice fields, as well as redistribution of workload. The significance of this diversification of environments in medical training is increasingly clearer to the academic community, as indeed it is accompanied by the expansion of exposition opportunities to different situations.

As challenges found in this path of going out of college course and participating more actively in the education at the community, we highlight the difficulty of mobilizing teachers interested in exercising preceptorship outside the tertiary hospital and therefore increase the workload of the trainings, the excessive bureaucracy of documents to be agreed with each student at the beginning of each training, and the variability of the managers of the municipal government.

The path to deal with such challenges brought several learning, some of which resulted in actions. a) In order to increase the workload for the training in the ECU while ensuring the maintenance of preceptorship with quality, we emphatically requested a position of medical preceptor, hired via the university, through a specific tender. Two positions were achieved, one for General Physician and one for Pediatrician, and the tender is expected to be closed soon; b) The UFTM Clerkship Center is in continuous interface with the municipality, and desires to create, in partnership with it, a computerized system for registering the trainee students. The use of this system will make it possible to store a variety of information reflecting a smaller number of documents for each training, resulting in debureaucratization of the process; c) A formal agreement is being signed (in the form of a contract) between the UFTM and the Municipality of Uberaba, stating the details of the responsibilities of the parties in the practice sites where students are inserted.

### ***Multiprofessional Residency***

The Unified Health System, created from the 1988 Federal Constitution, and infra-constitutional laws point, as a goal, to changes in the conjuncture



of inequality in the health care to the population. It proposes, in addition to curative medicine, health promotion by prioritizing preventive actions, care and socialization of information so that people know their rights and the risks relating to their health. A differentiated and unique project aimed at the entire population, which indicated changes in the health model, service coverage increase, increase in the number of health professionals.

This reality challenged education and requires changes in the training and qualification of professionals working in health, especially with new theoretical and methodological contributions and of teaching and learning. Thus, the training of health professionals gain emphasis and, despite the efforts in formulating governmental policies directed to this area, the results in regard to the practice of health are weakened.

Through this scenario, and by the challenge of not separating work and education, strategies, programs and projects were created and, among these, stands out the Multiprofessional Health and Professional Area Residency Programs for intersectoral cooperation between the Ministries of Health (MoH) and Ministry of Education (MEC): the *lato sensu* graduate teaching modality, in the form of expertise, for the 14 health professions. These programs are "guided by the principles and guidelines of the Unified Health System (SUS), starting from local and regional needs and realities".<sup>4</sup>

The Multiprofessional Residency programs in Health and the Professional Area were established in 2005 and intensified from 2009 with the National Scholarship Program for Multiprofessional Residencies and in the Area Profissional.<sup>5</sup>

In 2009 a proposal was built for the Residency Health Integrated Multiprofessional Program at the Federal University of Triangulo Mineiro, focus of this report. At the time, the proposal was made by professors from different Health Courses at UFTM, based on guiding principles indicated by the MoH and MEC, and education scenarios in services that were representative of the socio-epidemiological reality of Uberaba, MG.

In 2010, the Integrated and Multiprofessional Health Residency Program at UFTM (RIMS) began its first class with 22 residents. The proposal expressed the experience of teamwork, interdisciplinary and interdepartmental discussion of various actors and the partnership with the Municipal Health Secretariat of Uberaba. This program consists of three areas of concentration: "Health of Children and Adolescents", of the "Adult" and "Senior", and has as a guideline the integrated and humanized health care. It has 5760 hours/activities, 20% theoretical and 80% practice/service or theoretical/practical. The practice scenarios include the hospital complex of the UFTM Clinical Hospital (R1) and some Basic and Matrix Units

that make up the network of health care in the city of Uberaba. The methodological guidelines have as pillars: interdisciplinarity, investigative methodology, monitoring through tutoring/preceptorship and continuous and processual evaluation.<sup>6</sup>

With the evaluations carried out throughout its history, new pedagogical models were incorporated in the relationship between theory and practice within the residency. Among these, community-based health education stands out by providing learning based on exchange, interdependence between education and communities, and mutual growth, focusing on the various knowledges (popular and scientific).

In this perspective, several studies have been conducted in three referred areas of concentration, in order to materialize the health care for the community, with regard to health promotion and disease prevention.

In the area of concentration "Health of the Elderly" several health education projects have been developed aimed at the elderly population of the communities served by the primary health care of Uberaba (UBS), whose activity is outpatient for primary care and medium complexity.

The residents, during the years 2011, 2012 and 2013, visited 900 homes to analyze the reality of part of the territory served by the UBS, with a view to organizing the above projects. The survey was conducted by means of a compound instrument which contained questions, with emphasis on comprehensive health care of the elderly. The verified results were presented during the theoretical and practical meetings held weekly between tutors and residents of the area of concentration "Health of the Elderly", with the presence of physiotherapist, occupational therapist, nurse, social worker, nutritionist and physical educator. Based on discussions provided by this moment, the reality of data collected, participants observations made at the UBS, the residents themselves, along with tutors and a few preceptors, professionals from the Unit, organized health education projects such as: health education and oriented workout; waiting room; education and hiperdia group; health education and Open University for Senior Citizens; craft group among others.

Such projects have multiple perspectives on community needs and resulted in the construction of comprehensive HCPs with a multiprofessional character. In this chapter we will describe the oriented workout group.

The oriented workout group for the elderly and health education (aging while exercising) consists of tutors from the areas of physiotherapy, nursing, nutrition, occupational therapy and social work, involved with the respective residents. The groups meet two to three times a

week, when physical exercises are developed with prior physical and social assessment of the participants. The project aims to promote health through physical exercise; provide moments of socialization and social integration; evaluate, plan and guide the practice of physical exercise according to the individual needs of each participant; encourage healthy lifestyle habits, contributing to active aging and provide functional capacity<sup>7</sup>.

The dynamics of the meetings consists in measuring blood pressure, developing a physical activity program and then the professionals, in a dialogue with the group, explain issues related to health promotion, such as: the right to health, nutrition, active and healthy aging, social participation, physical activity, among others (Fig. 1). The results show that the interaction and knowledge exchange are evident among the participants and the multiprofessional team of residents, verified in theoretical-practical discussions between tutors and residents. The residents are urged to socialize the experience gained in the community: enriching the interdisciplinary knowledge and offering concreteness to the theoretical and methodological contributions studied. The monitoring of the teaching-learning process is carried out through tutoring. These strategies propitiate the continuous relationship between theory and practice, learning and social intervention, making the experiences relevant to the training process of a multiprofessional team (Fig.1).

Satisfactory results of this practice integrated with the community were measured in 2013, with regard to the frequency and integration of the participants. In that year, an average of ten participants started in March, project activities and, in December, each group had an average of 27 members, predominantly female, mean age of 70.4 years, as seen in the frequency files<sup>8</sup>.

The challenges are present in the daily routine of this pedagogical form of learning, such as: the difficulty in mobilizing people for active and frequent participation in projects of this nature; working with groups of participants which are heterogeneous with respect to social conditions and health determinants; difficulty of infrastructure and equipment for carrying out the projects. There is also the challenge of each professional in being flexible and willing to understand that knowledge in installments is not able to produce structured understanding. Interdisciplinarity is able to highlight the various knowledges and put them at the service of the subjects with which we work<sup>9</sup>.



Figure 1: Resident and elderly community members during activity of the Oriented Workout Group for the Elderly

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## CHAPTER

# 14

Ideas and ideals: Health and medical education as  
social commitments at the Uberlândia Federal  
University (UFU)

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We have established in this chapter a dialogue with the reader through a line in time that refers to the history of medical education based in the community of the Federal University of Uberlândia, located in the bushlands of Minas Gerais, without losing sight of the historical development of health and education public policies in Brazil.

In the 1970s and 1980s, PHC was incipient, and gained momentum only after the Alma-Ata Conference in 1979. In Uberlândia, as well as in Brazil, PHC was exclusive, selective and marginal while guiding public policies for health and education. The perverse dichotomous scenario at the national level with two Health and Welfare Ministries reproduced in the social imaginary with the "little health posts" in urban peripheries as opposed to large public and private hospitals, and INAMPS ECU, with its long and endless queues.

At the FM of the UFU, the agreement of the Ministry of Education (MEC) with the Ministry of Social Security and Assistance (MPAS), the first in Brazil, ensured the strength of the hospital-centered model. The training process in health, at the same time, suffered the influence of the slow and gradual political openness after the military dictatorship. In this context, the healthcare teaching integration (IDA) was formed as a trench in the struggle for democracy, social justice and effective community participation in the dynamics of the health services.

Even at the risk of oversimplification, it is important to present the historical context of the university and especially the Medicine Graduate Course to understand the "modus operandi" of public health in the city from the perspective of IDA since the 1970s. Isolated colleges, among them, the Uberlândia School of Medicine and Surgery (EMECIU) integrated the new "bushland university", the Federal University of Uberlândia, which was established in August 1969.

The Government of the State of Minas Gerais managed four health centers in the Martins, Tibery, Lagoinha and Patrimônio neighborhoods. The process and the management of the work in these services were treated empirically, and were fragmented in traditional programmatic actions (prenatal care, child care, immunization, tuberculosis and leprosy).



Since the beginning of medical school, the training scenario of future physicians was the state system's Health Centers, where practical training was carried out in the discipline of Preventive and Community Medicine (PCM) in just two semesters, over the six years of graduation.

The main landmark of the insertion of the community-based training of medical students was the creation of the Advanced Teaching Units (ATU), in 1979. The ATU were PHC services managed by the University that turned into clerkship opportunities for students of the Medicine and Dentistry courses. This initiative was endorsed by the curriculum change proposal of 1977, which defined the educational objectives in terms of knowledge, skills and attitudes.

In 1979, this curriculum proposal was rejected in the medical school by a motion of the faculty and students, who considered it too "generalist" in addition to being disruptive to the organization of the disciplines (specialties) established up to that point, which affected the "power structure" of the medical school, which is usually associated directly to the workload of the disciplines. The ATU, however, signified a resistance space for those believed in the PHC principles attuned to the needs of the population and integrated with the existing public health services.

A remarkable opportunity to restate arguments in defense of the proposed curriculum model was the experience of teachers from Medical School in the so-called "Large Scale" training for attendants and health workers promoted by the Regional Directorate of Health (SES-MG) in 1983-1988. This initiative of the Ministry of Health and the Ministry of Education proposed a new teaching-learning methodology to monitor the practice and seek strategies to face the everyday problems of mid-level workers.

The VIII National Health Conference in 1986, the most significant event in the democratization of health in Brazilian history, materialized its proposals in the Federal Constitution of 1988 with the establishment of the Unified Health System (SUS).

The city of Uberlândia, through the Municipal Health Department incorporated the constitutional principles of the SUS, integrating the ATU to the Municipal Basic Care Network itself and the SES/MG network. The practical training in the PHC, with the participation of preventive medicine and pediatrics students and teachers symbolized the resistance to a training that had as its main scenario the University Hospital.

An initiative that qualified teacher training in active methodologies was the development of the GERUS Project (management training in primary health care units), deployed in Uberlândia in 1996. GERUS leveraged the process of regionalization with the creation of District Health Boards as spaces social control, in addition to the professionalization of local managements.

At this time was evidenced beginning of an institutional approach between the teachers of Medicine and representatives of the SUS social control in Uberlândia, who began to participate in university extension projects and in the planning of curriculum integration activities with the community.

In 1997 the UFU, in tune with the conservative local politics and faced with the neglect of higher education by the federal government, closed the ATU in neighborhoods Jardim Brasília, Segismundo Pereira, Santa Monica and Luizote de Freitas under the fragile claim of insufficient financial resources. The teacher, student and administrative staff movements articulated together with residents associations and social movements from the neighborhoods involved, mobilized the community and were able to keep the ATU Jaragua running in a dramatic situation of pure arbitrariness by the UFU Senior Management.

In August 2000, took place the First Forum on Medical Education by the UFU School of Medicine, with the theme "Curricular Reform: a collective construction." Experiences, and characteristics of model curricula that have been deployed, as well as the strategies and the results obtained with the changes of other medical courses in several universities were presented. The Forum defined the guidelines that should guide the development of the new curriculum.

Faced with negative assessment by the Ministry of Education Expert Commission and in view of the guidance on the clerkship revision made during the First Forum of Medical Education, the Standing Committee on Curricular Reform (CPRC) engendered efforts in the parallel development of an intermediate curriculum, which would not only include the necessary changes in the clerkship, but also serve as a basis for the evaluation of new clerkship model to be implemented in the final proposal.

In the evaluation of the MEC/INEP education conditions, carried out in June 2004, the final report recognizes verbatim:

"an effective effort by the Faculty, at all levels (coordination, staff and students) in the curriculum change project. This, already in the final planning stage, with some proposals already put into practice (18 months clerkship, six months in the ) is likely to be implemented, on the condition some adversity is overcome."

In 2005, aware of the urgent need to make the curriculum change and bothered by the "apathy" of most teachers, students and administrative staff, the coordination of the course, the direction of the School of Medicine and the Academic Board, came together in the organization

of the II Medical Education Forum. Since then, the Commission initiated an arduous work that culminated in the drafting of the proposed Curricular Reform, approved by the internal bodies of the FM in 2008.

As expected, the proposal faced resistance at the University, because of its high degree of pedagogical transformation and structural methodological differences, compared to the requirements of UFU for all undergraduate courses. The paradigm shift was not limited only to the hegemony of medical training, but the overcoming of traditional structures in Higher Education of Brazil would also be required, represented by the university norms and rules.

Even with the significant differences from the university tradition, the Senior Management of the UFU supported the Curricular Reform of medical school. After 4 years of debate in the higher councils of the institution, the new Pedagogical Project of the UFU Medicine Undergraduate Program was approved in November 2012, being implemented in the second half of 2013.

### ***The New Pedagogical Project: Building a New Way***

The UFU the Medical School Restructuring Project is the result of the historical process of understanding the failure of Flexnerian model, the pedagogical reflection accumulation on adult education and, in particular, the daily challenges presented by SUS to the training of health professionals in Brazil.

In line with the National Curriculum Guidelines for Undergraduate Medicine Courses (2001), the new curriculum was built with the purpose of training of physicians with a general and humanistic character; critical and reflective spirit; promoting self-learning; potential for specialization; with ethical principles; ability to work in the health-disease process in its different levels of care, with emphasis on PHC; sense of social responsibility and commitment to citizenship; ability to promote the overall health of human beings.

The new pedagogical project is based on the perspective of meaningful learning, stimulating the active pursuit of knowledge by students, and having the teacher as a facilitator of the learning process, in a process that teaches how to learn and encourages the use of investigative methodologies.

For facing the integral consolidation challenges in health care, with an understanding of the importance of PHC, generation of a bond and clarity in the determination of the health-disease-care process,

the student is inserted in the SUS network since the beginning of the course, in all periods, with instrumentation of his view by the humanities and social sciences applied to health. In structuring the curriculum, we depart from an interdisciplinary perspective, with horizontal and vertical integration of disciplines in multi and interdisciplinary modules, integrated approach to health problems in their epidemiological, pathological, clinical and surgical aspects and treatment of health problems in the three levels of complexity.

Activities take place in diverse environments, and are structured from the health needs, and coordinated from the primary health care, especially by the teams of the .

### ***Practical Education Experiences Based on the Community by the UFU That Formed the Basis for the New Curriculum Proposal (CBE)***

Despite the resistance and daily disputes about meaning and ethical-political-health principles, the new Pedagogical Project for the UFU Medical School aligns with values such as relevance, equity, quality, responsible application of resources in the service according to needs, sustainability, innovation and partnership. It recognizes the social determinants of health - political, demographic, epidemiological, cultural, economic and environmental determinants.

For our medical school, Community-Based Education goes through the commitment to develop public health systems with the Primary Care being the organizer of an articulated Health Care Network in all its levels of technological density, driven by the health needs of the population and improving living and health conditions. In constant liaison with the National Health System (SUS) management, representatives of the Health social control agencies, professional associations and the civil society in general. Below we will present the CBE experiences that formed the basis for the construction of the new curriculum proposal of the UFU FM.

### ***Preventive and Community Medicine II - Immunization and Leprosy Training***

At the end of the 1970s, the discipline of MPC II, on the 3rd year of the course, included in its proposal a curricular clerkship in a State Health Unit, called "the Martins Health Center" in the areas of Immunizations and Leprosy. Students treated the users who sought these

services and were monitored by the professionals of the Unit, which today would be the proposal of the envisioned preceptorship. Despite the monitoring of students being made by the service professionals, the evaluations were made by teachers, disconnected from practice. The students learned the vaccination techniques, including the buckling of the BCG application needle. They also accompanied the treatment of people with leprosy, around 1,200 of them, for this was the reference unit for treatment.

### ***Preventive and Community Medicine III - Health Clerkship in School***

In the then 4th year, since the 1970s, students were placed in schools in different regions of the city, where the physiological registration of students in then called primary school and also educational activities in the classrooms were carried out. All children who had any health problems were referred to the Clinic at the Medical School of the UFU. In this activity the students were accompanied by teachers. Currently, the School Health activities, inserted in the eighth period of the "old" curriculum, are linked to the proposals of the Health in the School Program (PSE) proposed by the Ministry of Health. Are prioritized the school tracking of incoming children and educational activities developed with students, parents and teachers in public schools in the coverage area of the Health Center School Jaragua, which belongs to the Primary Care Network of Uberlândia.

### ***Clerkship in Collective Health (Period 12)***

The Collective Health clerkship began in the second half of 2004, when there was an extension of the clerkship from 12 to 18 months. This year was decisive for the reorientation of practices in the medical clerkship of the UFU. This change represented the transition from an exclusively hospital clerkship, to a curriculum that included a 21-week clerkship in the where students would learn as integral members of a primary health care municipal team.

The Collective Health clerkship training initially happened in the 10th period, and in 2008 it was transferred to the 12th period, articulating other activities including the following: practices in urology, trauma, internal medicine, palliative care and emergency care. Understanding the importance of ensuring

A clerkship dedicated to PHC, the activities were gradually focusing on the , while still keeping the trainings of palliative care and emergency care.

In this rotation, students are inserted longitudinally into a Family Health team and must work the issue of territoriality, conduct health promotion activities, disease prevention, treatment and rehabilitation. To increase the bond with the community, the team chooses families with greater vulnerability, and various life cycles (e.g., families with pregnant women, elderly, children) to be accompanied by students, together with the team and under the tutoring of teachers. To encourage reflection on the undertaken activities, a reflective portfolio guided by teachers is prepared by the students.

### ***Pro-Health Medicine/UFU: Change and Do!***

In 2005, shortly after the largest mobilization of the academic community of the FM around the new Pedagogical Project of the Medical School, the Ministry of Health and the Ministry of Education launched the National Program for Professional Reorientation in Health (Pro -Health) for undergraduate courses in Medicine, Nursing and Dentistry, seeking to encourage changes in the training process, knowledge generation and service to the community, for a comprehensive approach to the health-disease process.

The Board of the FM, the Medicine Course Coordination and the Academic Board, already mobilized around the Curricular Reform, collectively prepared an adhesion proposal to the program, which is approved in its entirety by the Federal Government. Under the supervision of the Ministry of Health and financial support of the Pro-Health, the materialization became possible of various articulation strategies of the University with the Municipal Health Network and instances of Social Control of Uberlândia, persistent until today.

The management model adopted by the University for the materialization of the Pro-Health in Uberlândia developed the role of students and teachers connected to Collective Health/Preventive Medicine, and effectively inserted the Municipal Health Council and the Municipal Health Department in the co-management of the entire insertion process of the students in the Municipal Health Network.

Considering the qualification of the physical structure, the main actions developed and articulated with the municipal management and the Uberlândia Municipal Health Council were the renovation and expansion of primary health care units, which have received Medicine, Dentistry and Nursing students.

In order to rescue the story of the teaching-service articulation of the UFU with the Municipal Health Network, the Local Pro-Health Management Committee defined a financial support for the reopening of the former ATU Jardim Brasília, closed in 1997. With investments by the Pro-Health and the Uberlândia City Hall, this unit was reopened in December 2013, with three Family Health Teams and three Oral Health teams, and a multiprofessional health team (Social Worker and Psychologist), and has become a benchmark in Community-based education because graduation exercises in medicine are developed there (periods 1 and 12), Nursing, Dentistry and Physiotherapy, in addition to Residency in Family Medicine and Community and Multiprofessional Residency in Collective Health.

Both the 1st. period of the new curriculum and the Collective Health clerkship of the old curriculum develop actions in the current Basic family health unit Garden Brasília, supervised by family doctors and nurses of the Family Health teams. The 1st. period focuses on territorial actions by following the Community Health Agents, recognizing the major socioeconomic factors, demographic, environmental and epidemiological coverage of the teams' areas, interviewing key informants, understanding the social relations of that territory and making a first approach to the daily activity of Primary Health Care.

Students of the 12th period, in the Collective Health clerkship have the opportunity to follow daily the actions developed in a Family Health team, coordinating clinical care actions, with actions of health promotion and education, territorialization, home visits and participation in the local health council.

### ***Family PET-Health***

The Family PET-Health implemented in UFU in 2010, from the Notice by the Secretariat for Work Management and Health Education/Ministry of Health, provided the effective insertion in the of a significant number of students (around 60 fellows), from eight health undergraduate courses - Medicine, Dentistry, Nursing, Physiotherapy, Psychology, Biomedicine, Physical Education and Nutrition.

Between 2011 and 2013 were developed activities in the scenario of BFHU in the city that made possible several research and extension projects in partnership with the City Department of Health, bringing together the workers of the Municipal Health Network and the students involved with the demands of the enrolled community.

The challenge of "thinking academic" in the daily life of the units was often difficult in the face of pressing issues related to assistance and answers to more immediate concerns of populations. However, much has been produced: videos, texts, conference papers, educational material and several thematic forums were conducted that qualified people and services in building a socially responsible practice, that is close to the reality of the assisted communities.

### ***Final Thoughts***

The curriculum structure is dynamic and always open to changes that may be necessary, since it is built to meet the professional training challenges for a living and complex reality with theoretical frameworks in deep and constant renewal. Hence the need for a fine conjunction with the world of work, including reflections and reformulations of the practice and necessary improvements in the organization of services, taking as reference the permanent health education. Thus, medical education will be fulfilling its social commitment for the improvement of the health reality in our country.

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## CHAPTER

# 15

Community-Based Education: The experience of  
the Faculty of Pharmacy,  
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The current recommendations that the professional training for health care should be directed to the most relevant problems of society, require the selection of essential content to be based on epidemiological criteria and health needs. Therefore, defined here are the assumptions of CBE, which translates into the construction of knowledge from the problems based on reality, promoting direct contact of students with the professionals in the services, with users of the Health System and the community in general. This makes the diversification of practice settings essential, so that students have the opportunity to learn and work in all areas in which health care happens and there is the use of active methodologies.<sup>1</sup> The diversity of these practices scenarios, that are not limited to the academy walls, must promote autonomy, citizenship, social participation, user satisfaction and problem-solving through the creation of a bond and good relations between students, professionals and service users.

At the Federal University of Maranhão, the perception has been observed among some teachers that this is an effective approach to the teaching and learning processes in health. The successful proposals are happening in Medicine and Pharmacy courses, where educators linked to the Faculty Development Institute for Educators of Health FAIMER Brazil may be found.

In the medical school of the capital, São Luís, once considered the most traditional of the state of Maranhão, the model for the Problem-Based Learning (PBL) is being developed, a methodology chosen since it was contemplated by the Pro-HEALTH one Project in the year 2007. In the courses in the countryside municipalities of Imperatriz and Pinheiro, starting its first classes in the first half of 2014, the learning methodology is based on Investigative Problem-Solving and Community-Based Teaching.

The effective involvement of the UFMA health area with the community began by means of the Extension, about 15 years ago, with the creation of the Vila Embratel Extension Center (NEVE) in a neighborhood of the same name, situated in the vicinity of the University City Dom Barreto, Campus I. The headquarters of this center is located next to the Health Unit to this same neighborhood, where many projects are developed since then. Also during the initial project for VERSUS (VER-SUS/Brazil:

Experience and Clerkships in the Reality of the Health System in the State of Maranhão/UFMA) in communities also surrounding the Campus, there began a multiprofessional development process, involving the courses of the Center for Biological and Health Sciences.

For the Pharmacy Course, the engagement with the community at the VERSUS was important in that the need was identified for pharmacy as a health facility for promoting the rational use of medicines. This demand led to the development of a project submitted to PROEXT-2006 Notice and that was awarded funds for implementing an academic model of commercial pharmacy: University Pharmacy Professor Ernani Ribeiro Garrido (FUERG-UFMA), regulated by CONSEPE Resolution No. 516/2007.

The health sector has undergone reforms since the creation of the Unified Health System (SUS), which resulted in the publication of laws that bind the academic training to the system itself, a proposal for a strategic action to transform the organization of the services and training processes.<sup>2,3</sup> In the early 2000s, new guidelines began to be published for health professionals training at the undergraduate level. The Curriculum Guidelines for Undergraduate Pharmacy (CNE/CES Resolution No 2/2002) ended the qualifications, recommended the generalist training, redirecting the professional focus to the medicines<sup>4</sup> area, although, as happens in our State, some resistance was identified to the continuing of the training predominantly directed to the Clinical Analysis.

The panorama of academic training in pharmacy, in Maranhão, which currently amounts to seven schools, six of them created from the 90s until early 2014, does not yet give the pharmacist the necessary skills and competencies for professional practice in the field of medicines despite the vast majority of health interventions involving the use of this resource and of its importance in health results. It is imperative, therefore, to reflect on the Pharmaceutical Care actions and services when we think about the completeness of health actions and services. Increase access to medicines, ensuring their rational use and integrating them to Pharmaceutical Care and other health policies, has been a major challenge for the national management.

The main changes in the pharmacy undergraduate course curriculum are: 1. Offering of subjects that will allow the student to have a general training in the area of professional skills and disciplines that address specific abilities and skills aimed at professional practice; 2. Increasing the hours of clerkships developed throughout the course, totaling not less than 20% of the total workload and, 3. The schedules grid, which will include free time for further research and extension activities<sup>4</sup>.

The current pedagogical project of the UFMA Pharmacy Course focuses on educating health care providers and seeks to train a pharmacist who is able to build, reconstruct, adapt and re-contextualize knowledge. These new skills require a process of reflection, questioning and creation of new ways of teaching, based on a creative professional practice and significant academic learning of integration, education and community-oriented service. Therefore, the community-based education is embedded in the curriculum in the third period, in the form of required Curricular Training I: Pharmaceutical Care, entitled "Pharmacists for SUS medicines: new practices scenarios", with total a workload of 90 hours in each semester. The maximum number in each group is 20 to 25 students. In each class the students are grouped in a maximum of 5, for a maximum total of five groups.

The project "Pharmacists for SUS medicines: new practices scenarios " was an important and necessary strategy, because students experience the dispensing of medicines in the daily practice of community health services, ensuring a learning that is focused on qualifying the access of the population to medicines and pharmaceutical services in the SUS 5. In its first version in 2011, it was approved as non-compulsory training, conducted by the University Pharmacy Extension Program Professor Ernani Ribeiro Garrido and yet, in the first class at the suggestion/recommendation of the residents themselves, it was recognized by the Board of the Pharmacy Course as an Enrichment Activity. In the second class, and at the same time as that of the implementation of the new curriculum, it has become an obligatory training. This is an innovative curricular proposal of integration of teaching and service, oriented to the community, with the use of active methods of significative teaching and learning.<sup>5</sup> Investigative problem-solving is used, based on real case discussions, compiled from practices reports.

All students who are able to take the residency are regularly enrolled in this activity in a single time, lasting 2 hours/class, for the weekly meeting of the large group, with weekly duration of six hours, and the other four hours are 2 hours trainings. The possibility of choosing times to visit the practice scenarios allows students to be present at diversified pharmaceutical services.

In all services duly qualified pharmaceutical professionals are previously identified, who accept the role of preceptor, after orientation, which defines their willingness to accept students in their workplaces. The first time, were preceptors pharmacists from improvement courses or distance specialization and who, somehow, were linked to the University Pharmacy Extension Program

Prof. Ernani Ribeiro Garrido or working in the state management of the Department of Pharmaceutical Care. Currently, visits are made to the services and interested pharmacists are invited. Despite a massive support at this training, it is not materialized in the process, for lack of actual availability of the vast majority who gets involved in the implementation process of Pharmaceutical Care in municipal and/or state bodies.

With the data sheet of the students' schedules and the availability of tutors, the students's practices scenarios are defined. Each student must be present at real scenarios of pharmaceutical services twice a week. If this is the student's preference, or a requirement of the preceptor, the two visits can be made on the same day and place. Seeking to stimulate critical reflection on this experience, it has been asked of students to make descriptions of the experienced professional practices in the form of narratives, to be shared with the group.<sup>6</sup>

According to the number of students enrolled, classes are formed of no more than 25 students. These classes are divided into groups of maximum five students. This division into groups allows for up to five stories to be worked, one from each group, on the day the large group meets. The individual narratives, as well as those by the group will be published on a social network, restricted to students and preceptors, with immediate answer of any questions during visits, or for the continuation of the discussions initiated at the meetings of the large group. On the occasion of the presentation of the narrative, it is recommended to avoid value judgments in the description of problem situations.

During the reading of narratives by groups, that week's problems are pointed out, and they will define the learning questions to be answered by the theoretical framework available to students, or through individual active search on the internet. The content covered, that is worked during the identification of problems and the consequent construction of the community focused learning questions is included on the menu of the activity and includes: 1. First stage pharmaceutical services under municipal management: The Brazilian Health System, National Medicines Policy, Pharmaceutical Care Policy in Primary Health Care: Basic Component of Pharmaceutical Care. Technical Pharmaceutical Services. Management: Medicines program, medicines request/requisition, medicine storage and waste disposal. 2. Second step Pharmaceutical Care in medium and high complexity: Specialized Component of Pharmaceutical Care, Technical Pharmaceutical Care Services: dispensing, pharmaceutical care, drug information, Pharmacotherapeutic sequence, health education, technical support for the health team. Rational use of medicines by the professional pharmacist's practice in public health care, integrated to the multiprofessional team in that area.<sup>7, 8, 9, 10, 11, 12,13</sup>

Considering the structure of the Pharmaceutical Care in the SUS, divided between the three levels of government (municipal, state and federal) and at different levels of complexity (Primary, Secondary and Tertiary), the residency takes place in two steps. In the first, pharmaceutical services under municipal management are visited (Pharmaceutical Services in Primary Care: Mental Health Clinic, Municipal Psychosocial Care CAPS I, Women's Hospital Center Basic Pharmacy, Municipal Children's Hospital Basic Pharmacy, Mother and Child Hospital Basic Pharmacy and Outpatient Pharmacy, Mother and Child HIV/AIDS, primary care Pharmacy, ECU, under Municipal management, São Luís Municipal Health Department, Medicines Management, Legal Demands, Municipal Sanitary and Epidemiological Vigilance) and in the second, which are the services under state and federal management (Pharmaceutical Services of Medium and High Complexity: State Complex Mother and Child Hospital Pharmacy, CEMESP Specialized Medical Center, University Hospital Nephrology Center, State Pharmacy for Specialized Medicines, State Pharmaceutical Supply Center, Strategic Supplies Management Unit, State Sanitary and Epidemiological Surveillance).

The planning includes the development in a minimum of 15 weeks, of which the first is the presentation of the training in general, with emphasis on the preparation of narratives, and then the activity is divided equally for both trainings. At each step students take part in six visits, for six weeks.

When they finalize the Primary Care visits, the first evaluation is carried out by means of a round table<sup>13</sup>, where the preceptors are invited to a social gathering (seventh week). During this meeting, which can be for a shared coffee or a snack, the conversation begins in order to check whether the students acquired the skills needed to take care of the health of SUS users in the area of medicines, and the same time that we seek to identify whether the preceptors updated their knowledge in this area and have changed their professional practice (Fig. 1, 2 and 3).

In the eighth week visits start to medium and high complexity pharmaceutical services, which extend until the thirteenth. In the fourteenth week, the second assessment is carried out, to which the preceptors of the second training are invited and the procedure is the same as in the first evaluation. Finally in the fifteenth week the third and final assessment is carried out through a focus group, when we have the presence of an external observer.



This activity is recorded and afterwards two people make an account of it: the outside observer himself and the coordination of the training. In due course these reports are compared and a document is prepared for the final analysis. As evaluation criteria, we consider the attendance and the publication of individual and groups accounts within the required period.

The Focus Group meets in a private room for two hours, with good lighting and ventilation, chairs in a circle, end table for the moderator and observer and chairs with arms, two recorders, pen and paper. This room must be located in a quiet place, with little noise, in order for the participants to be heard clearly and the discussions to be recorded. In this activity the topics for orientation of the session fall on the presentation of the National Medicines Policy and the National Pharmaceutical Care Policy in the Health System, in the three levels of complexity and the three levels of management in an academic activity, of integration of teaching and service, oriented to the community: 1. How to monitor the professional practice

of in the Primary Pharmaceutical Care services in the community - for the students or, how was it to have Pharmacy students following their professional practice with the community - for Preceptors. 2. How to monitor the professional practice of the Medium and High Complexity Pharmaceutical Services in the community - for students or, how was it to have pharmacy students following their professional practice with the community - for Preceptors. 3. What were the easy parts and obstacles in the development of this project in the community for students and preceptors. 4. What was learned by participating in this project for students and preceptors.

During the Focal Group, we seek to highlight: 1. Understanding of the project's specificity. 2. Identification of the relationships among participants. 3. Understanding the importance of the need to prepare the narratives. 4. Identification of the importance of the socialization of narratives in the weekly attendance time. 5. Disclosure of the importance of identifying the problems encountered and the development of learning questions. 6. Learning capability through the available literature.

The results of the Focal Groups identified that the students demonstrated satisfactory knowledge of health policies in the area of medicines in the three levels of care, as well as a high degree of satisfaction with the methodology used in the activity, which allowed them a daily practice of pharmaceutical care in the community, with users of SUS. It was also found that the reports of practices, in the form of narratives, led to significant learning because to describe a fact means to reflect on it<sup>13</sup>.

Also the active search for answers to learning questions constructed from the individual identification of problem situations awakened, in the students, the need for developing the skills needed for good professional performance, including continuing education. In the daily routine of the pharmaceutical department, students identified in the preceptors the concern with the upgrade of the laws that dictate their technical procedures.

Finally, living with the preceptors in their daily practice, with service users in the community, on issues involving accessibility to medicines and the related legislation, has opened a communication channel between them and the academy, favoring the in-service qualification and, consequently, the improvement of the quality of care. At the first time the training was carried out, two of the nine preceptors reported changes in their professional daily practice because of information brought by students. In various of the visited services many pharmacists made themselves available for taking preceptorship in the coming times.

The experience of students in the training allowed the learning of health policies in the area of medicines, which is essential for ensuring universal and rational access to them as well as the fairness of the health service 12, thus filling gaps in the academic formation of this group, which for the first ever had contact with the SUS users in the community.

On several occasions, this training had a very valuable contribution to the life of each student, the promotion of integration between them, the service professionals and the users of SUS.

The positive assessment of the knowledge acquired by students as well as their high degree of satisfaction with the contact with the community and the change in the practice of preceptors reinforce the thesis of the importance of the active process and meaningful learning in real scenarios (Fig. 2).



Figure 2: Meeting for the discussion of the narratives

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## CHAPTER

# 16

### Community-Based Teaching In A Traditional School Using Innovative Methodological Strategies

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The National Curriculum Guidelines (2001) bring the graduate's profile with generalist, humanist, critical and reflective characteristics, being able to develop prevention, promotion, protection and rehabilitation actions, both individual and collectively<sup>1</sup>. To achieve this desired profile in medical training, it is necessary to change the curricula of undergraduate courses, including planning, health promotion and disease prevention activities, going beyond the academic spaces and allying ourselves to the academy and the health needs of the population<sup>2</sup>. In this direction, to fulfill the national guidelines, Unifenas proposes not only to prepare the academic for the job market, but to provoke in him a critical view of society's problems, overcoming the simple repetitive transmission of knowledge and seeking the creation of new expressions of knowledge, from the reality and expectations of the society in which it operates.

The experience in an educational environment dedicated to the training of humans, combined with social demands, provides for a permanent and continuous development of training processes, ensuring updated spaces for the innovations that are characteristic of each professional. The theoretical and investigative field of education assumes a theoretical work being done in the social praxis, carrying multicultural marks of the subjects of the teaching-learning process.

Ever since the creation of Medical School, students perform activities in the community, which took place only in the rural clerkship. From 2005, through a project approved in the National Reorientation Program for Professional Training in Health (Pro-HEALTH)<sup>3</sup>, the curriculum was remodeled, starting to have a central axis in Family and Community Health, which runs longitudinally through the entire course. We tried to align aspects of the human sciences of health care with biological knowledge.

The teaching-service-community integration, with the insertion of students in real contexts of increasing complexity, allows the student to reflect from situations related to professional practice of physicians in different contexts<sup>4</sup>. Meaningful learning happens through a new information relating with the prior knowledge of the student. Ausubel states that for significant learning to occur it is necessary that the material to be learned is potentially significant for the apprentice and that he manifests the willingness to develop the new material in a substantive way and not arbitrary in its cognitive structure<sup>5</sup>.



A school is a political-pedagogical place that contributes to the intersection of cultural diversity that surrounds and constitutes, and it is a space for giving meaning, for making sense, for producing knowledge, values and core competencies for human training<sup>6</sup>. Thus, it would not be possible to rediscuss the teaching in the community without hearing the major interested parties: managers and community. Therefore, the local Commission for Teaching-Service Integration (CIES) was created by city ordinance, containing representatives of the two educational institutions (Unifenas and UNIFAL), representatives of the Municipality Health Department, representatives of the service and representatives of the Municipal Health Council. Initially, we mapped the practice scenarios and distributed them equally between the institutions. The proposed activities were approved and the number of students in each unit was defined. Together with the municipality Projects Committee, the CIES assists in the definition of extension and research projects to be undertaken and in the consideration to be offered to the community (such as refresher courses, health actions, etc.) and the need to feedback the results obtained to Municipality Department, in order to develop proposals for improvement. The CIES has tried to involve the Department of Education in the meetings and activities to be performed by healthcare courses. But there was little progress in terms of intersectoral collaboration (Departments of Education, Social Welfare, etc.). After a discussion at the CIES, the modules were defined as follows.:

- 1st period: SFC - Public Health Policies (WL 128 hours), 4 hours a week of activities in the . The activities are related to territorialization, SUS organization, monitoring of chronic diseases (DM, systemic arterial hypertension, obesity and smoking). The practical activities therefore include measurement of vital data, nutritional assessment, measurement of blood glucose, diabetic foot inspection, cardiovascular risk rating, genogram production, among others.
- 2nd period: SFC - Education and surveillance in family health (WL 64h), 2 hours per week in community installations, working with projects that are requested by the selected institutions (e.g., day care centers, nursing homes, jails, schools, gay movement, etc.). Students develop activities with employees and the public, with a focus on information and health care.
- 3rd period: SFC - mother and child health (WL 160h), 4 hours a week of activities in the . The activities allow students to get to know the health policies by the Ministry of Health for pregnant women and children, developing health education actions, low-risk prenatal approach, monitoring the child from birth (growth and development curve, nutritional counseling).

- 4th period: SFC - psychosocial anamnesis in the community (64h), 4 hours a week of activities in the . In this module, the student should understand the psychological and social aspects intertwined with the clinical aspects of the patient and to develop their communication skills to establish an effective physician-patient relationship in the context of the units, exercising the medical anamnesis focusing on the person.
- 5th and 6th periods: SFC - Therapeutic assistance (80h), 2 hours per week directed to monitoring a patient pre-selected by the nurse, focusing on medicines storage verification, proper use of prescription medicines, self-medication, medicines interactions.
- 7th period: SFC - Clinical and social epidemiology (CH 224h). The practical activities are divided into workers' health (2 hours per week), mental health (12 hours per week in secondary outpatient ward) and (20h weekly in ).
- 9th and 11th periods: SFC - Clerkship in Family Health and Community I and II: At clerkship students fully experience the functioning of the activities, performing all activities related to the physician.

Several challenges have been found for the planning, implementation and evaluation of a study model on community-based education:

1. Installed structure of the basic public network: low population coverage with a small number of basic units, material structure and minimum equipment in slow adaptation process;
2. Incipient cartography by the management of primary health care, generating undefined territories which are outdated, inadequate or have access problems;
3. Lack of local health manager councils in the primary care network, while the population remains passive and strange to public policy decisions, which resonates in the community's relationship with the school projects;
4. Turnover of professionals, especially the physician of the FHP team;

5. Indefinition of the care role of nursing in the local network, generating burden to the medical professional hired by the school for supervision of students and impossibility of use of nursing activities as educational and experiential for students of the first periods;
6. Low supply of continuing health education activities to the FHP teams and weak monitoring of the team's activities, notably in health surveillance;
7. Difficulties of interaction between the school's supervisors and teachers and the FHP teams;
9. Insufficient and rotary number of employed medical preceptors; 10. Low remuneration of the physicians employed by the school, especially after the implementation of public programs of medical provision, which increased the physician's salary in the region and the country as a whole;
10. Inexistence of education spaces that will receive the team members and school teachers supervisors to updates, reflection and debate on issues and challenges in practice scenarios.

For dealing with the above challenges, we have approached the local administration to try to help the structuring of the network, strengthening basic care, and strengthening of the referral and counter-referral flow. There was also an adaptation of the salary of the physicians hired as tutors. We are in the final stages of preparation of the Teacher Development Program and Academic Merit, which may be extended for professionals in the network that are inserted in the academy through the supervision of students.

Two experiments were chosen to be shared:

1. Integration process of disciplines, creating an important new learning scenario in PHC. Until 2008, there were two disciplines in the traditional design curriculum, of Medical Psychology and Anamnesis with the following characteristics:
  - Medical Psychology: theoretical discipline with psychologists teachers, large workload, classic theoretical content of psychology, such as human development, personality, identity and defense mechanisms, among others.
  - Anamnesis: theoretical subject of the basic cycle with reduced workload without focus on PHC.
  - Lack of PHC practical training in this discipline.
  - Incipient discussion of the reality of PHC and the importance of the ethics of care in this context.

- Predominance of the biomedical approach in the contact with individuals and families.
- - Predominantly timely and theoretical evaluation.

After 2009 the Clinical and Psychosocial Anamnesis module was structured, which, in the fourth period of the course, represents the FCM Axis, with the following elements:

- Teachers psychologists, physicians and bioethicists.
- Psychology of content applicability in the discussion of cases and application of family approach instruments such as Genogram, Eco-map, Practice, Family Apgar and Life Cycle, with an emphasis on communication skills and relationship with individuals, families and communities.
- Introduction of ethical issues: subjectivity, otherness, resilience, cultural aspects of care, palliative activity, body and society, eco-map.
- Expansion of workload with insertion of activities in SUS network's FHUs.
- Individual and family care with supervision experiencing anamnesis in the context of PHC.
- Approximation with the PHC's own record: Clinical History and Problem Oriented Registration (HCOP or ROP).
- Abandonment of the classic routes of anamnesis and interview for the application of the Clinical Method Focused on the Person<sup>7</sup>, using as a guide the method of Calgary - Cambridge<sup>8</sup> and Consultation in Seven Steps by Victor Ramos<sup>9</sup>.
- Insertion of the ethical discussion in PHC.
- Procedure assessment in classroom, clerkships and discussion seminars of Singular Therapeutic Projects.

Until 2013, many challenges in the course of this process were the object of improvement, such as: expansion of practice fields with qualified teachers for the PHC; supervision of home visits with case discussion by psychologist teacher; advancement of the basic cycle's integration process with the trainings; valuation of the practice in the PHC with the teachers/students of the course; creation of conciliation strategies between teaching and service in the PHC reality; definition of meeting spaces for the teachers.

The assessment of students in the second half of 2013 can be summarized below:

- supervision of the visits by the psychologists teachers brought the integration of psychology knowledge with the content necessary for medical care in PHC; increased interest in the work in the PHC; perception that they developed communication skills; ability to understand the psychosocial dimension of the patient in their family context, integration with the discipline of medical sociology; medical consultations were very useful and pleasurable; feeling that the module is coherent with the PHC content experienced in the first and third periods.

Under the students' point of view some challenges remain, such as the incipient structure of the basic units, the difficulties in the relationship between the existing team members, the little acceptance of some families, the difficulties to realize in practice the theory of PHC and the frustration of construction of a PTS that would not be materialized in future by the local team.

## 2. Construction of Singular Therapeutic Projects in the Psicossocial Anamnesis Module.<sup>10</sup>

During the module, that has four weekly hours of practical activities in the Alfenas FHP units, students identify a family with a high degree of vulnerability to perform successive approximations through weekly home visits. Accompanied by a psychologist supervisor, they build, in groups of 3-4 students, a unique project of care, supported by the data collection through family approach instruments: Genogram, Eco-map, Life Cycle, Family Apgar, Practice and Firo (Guidance for Fundamental Interpersonal Relations)<sup>11,12,13,14</sup>. These instruments compose the scope of activities under the Minas Gerais Master Plan for Health, have as theoretical basis the precepts of the Toronto School, and legally are supposed to be developed by all FHP units in the state. They are also included in the PMAQ activities (National Program for Improving the Access to and Quality of the Primary Care)<sup>15</sup>, such as measuring elements of the care quality of teams.

The families identified with the aid of the FHP teams had in common factors, in general:

- family members with decompensated severe chronic diseases;
- presence of children under one year of age;
- bedridden or wheelchair patients;
- patients with special needs;
- presence of violence in the family;

- medication adherence or medical monitoring problems;
- relationship problems or downright dysfunctional family dynamics;
- elderly who are dependent on care;
- families in extreme poverty;
- presence of chemical dependents of alcohol or other drugs;
- crisis due to recent bereavement.

In the presentation of the family projects, teachers identified a clear improvement in the ability of students to relate the individual or group disease with the dynamics and context of family life, improving the view of the family as a system, which is often maintained at the cost of suffering or overload of its members, especially of the most vulnerable ones, such as children or the elderly. It was also noted that many groups, in order to understand the family relationship processes, turned their attention to the contents of psychology to understand for example, the resilient mothering a daughter who returns home to care for her mother who abandoned her as a child; the harmful overprotection by parents for children with special needs; the retention of children at home beyond the stage of life in which the empty nest moment naturally occurs; the overcoming resources of an elderly couple without children, one depending on the other; the abandonment of the elderly by their children; the recent separation processes of a couple. All these conditions, which are extremely frequent, are intrinsically related to the possibility of adherence to the proposed treatments for common chronic diseases such as hypertension, DM II, obesity, dyslipidemias, by the teams and to the main objective of PHC: promotion of health through the development of the autonomy of people and families.

It is understood that this experience brings the students closer to the amplified medicine, as desired in the activities of PHC, and so much emphasized by the curricular guidelines when it places as the graduate's profile, the reflective practitioner, educator, citizen, able to transform their reality and that of the communities under their care and responsibility.

We therefore consider that the activities developed longitudinally in the course have the potential of knowledge construction using previous knowledge and new concepts to face everyday situations, contributing to the recognition of the knowledge of the other by exchanging experiences. They also increase the look on the health-disease process, valuing the other in the care relation, looking at the diversity, developing autonomy and, therefore, working in full in the care for the patient.

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## CHAPTER

# 17

### Community-Based Education: Experience in community health supervised clerkships at the Federal University of Paraíba Dentistry Course

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## ***Introduction***

In 2001, the National Education Council reaffirmed the need to replace the concept of "minimum curriculum", first proposed in the law of guidelines and bases for education, with the publication of national curriculum guidelines of various health undergraduate courses. In 2002 were promulgated the National Curriculum Guidelines for training dental surgeons.<sup>1</sup> Since then, many HEIs are implementing new course proposals based on the guidelines. These proposals aim to better qualify the graduate, with the purpose of training for work in the health system in Brazil, in all levels of care.

The National Curriculum Guidelines are the guide of the professional training in health and have served to educators and managers as the main reference document for review, or for the design and implementation of the new health care school curriculum in Brazil. The curriculum guidelines reaffirm the achievements obtained with the Law of Education Guidelines and Bases (LDB-Nº9394/96), which ensured greater flexibility in organizing courses and careers.<sup>2</sup>

The challenge contained in this construction is precisely how to direct the profile of graduates to needs of SUS, reorient their curricula and adopt teaching strategies that recognize the role of the student in the learning process and the co-responsibility of the teacher and the educational institution in the reorganization of services and quality of the health care provided to the population.<sup>3</sup>

The Board for Higher Education of the National Council of Education proposed the National Curriculum Guidelines while defining principles, fundamentals, conditions and procedures for the training of oral health professionals. They describe the organization, development and evaluation of educational projects of Institutions in the Higher Education System that have the Dentistry course. Article 3 calls for a graduate's profile with a general, humane, critical and reflective character, prepared to act in the levels of health care within the Unified Health System (SUS).<sup>1</sup>

The formation of a critical health professional, who is reflective and proactive requires a number of different teaching and learning experiences, especially if we want a progressive educational practice, with ethics and

transformation, while in literature there is a clear scenario of inconsistencies between the health professional profile of the (HEI) egress and the needs of human resources for working in the service network in the SUS.

The following is the experience report on the community-based education in the collective health supervised training in the Dentistry Course at UFPB. This chapter was drawn from the experiences in collective health in primary health care with dental students, delimiting in this context, the formation of the teaching-community-service relationship and the conduction of the teaching-learning process.

### ***The Scenario***

It is understood that the inclusion of students in the service network creates numerous opportunities for students to work in concrete situations and take on increasing responsibilities as care providers who are seeking professional autonomy. In this context, the university is responsible for the training of human resources and should provide for training changes, as well as generate new knowledge and technologies.

The Federal Constitution, in Article 200, highlights as the role of the SUS management the planning of the training of human resources to work in health services, contributing to its effective construction<sup>4</sup>, reaffirmed also in the Health-Law (LOS 8080/90) in Article 27, which places the health care system as a field for teaching, research and extension expressing the inseparability of education and health.<sup>5</sup>

Currently, the Federal University of Paraíba has five campuses, the largest one located in João Pessoa, PB. In its administrative conformation there are educational centers, within which is highlighted the Health Sciences Center, which has eight undergraduate courses. The Dentistry course completed, in 2011, 60 years and has a collegiate with representatives of the students, teachers, administrative staff and departments of basic and specific areas of the profession.

The Dentistry Education Program by the UFPB approved in 2002, proposed the formation of dentists based on the profile proposed by the National Curriculum Guidelines and was based on the legal framework governing the dental courses, the doctrinal and philosophical principles of SUS, which point to the production of care from comprehensive actions, humanization, ethics and multiprofessional work. It aims to better qualify the teaching directed at the graduate's profile with a training based on scientific evidence and on the epidemiology of injuries, who is able to provide comprehensive care

at various levels of complexity, including the SUS, seeking qualification and its resolutivity.<sup>6</sup>

The professional training to meet this profile requires many changes in the field of theoretical orientation, the practice scenarios and in pedagogical guidance. Including in this way changes in the physical structural organization of the educational institution itself, of the learning scenarios on the health provision network and in the approach to the teaching-learning services, qualification of teachers and workers of the network.

Art. 7 of the National Curriculum Guidelines highlights the role of the curriculum supervised trainings in the training of the dental surgeon<sup>1</sup>. In the first two years of graduation, the dentistry students at UFPB have their insertion through the curriculum supervised training components, in the network of primary care services in the SUS at João Pessoa-PB. These curriculum components are developed weekly for the four semesters, for a total of 60 hours in the first year and 120 hours in the second year, including the curriculum component Dentistry in Collective Health.

The pedagogical proposal is the development of activities in a tutorial group of 10 to 12 students. The course plans in the Supervised Stages I, II, III and IV point to aspects of health/disease, public health policies, SUS, citizenship and right to health, National Policy for Health Promotion, Primary Care and Humanization Policy, comprehensive care, , community health worker program, territorialization, health education, popular education, collective actions in oral health, needs and health technologies.

The municipal management considers the partnership with educational institutions in the materialization of learning by work for students/future health professionals, a strategic policy action that should be part of its agenda of commitments.

In order to encourage, organize and contribute to the learning through health work in various practice scenarios in the city of João Pessoa, the Municipal Health Department created in 2005 The School Network<sup>7</sup>. This initiative provided an opportunity for the expansion of these scenarios, the creation of links between professionals/preceptors, students, teachers and community, the transformation of the practices in the services and the constitutional fulfillment of the training reorientation for SUS. Through the School Network, the educational activities, research and extension are constantly agreed upon, planned and evaluated. Agreements were established between the UFPB and Municipality Health Departments and statements of commitment for trainings were regularly signed and the plans of activities for the individual trainings of students were agreed upon.<sup>7</sup>

The reflection produced between the UFPB and Municipality of Joao Pessoa on the profile of professionals who have been trained, as well as the listening produced

on the problems that have accumulated in relation to the training fields, supported the construction of a legal instrument, materializing the new bases and criteria of the teaching/service relationship and regulating the offering of the health network as practice field.

Thus, the School Network is being built in the public health service in the city of João Pessoa, PB, in order to enable the student to have experiences in the field, with the community and with the workers/preceptors of the municipal health network, supplying learning opportunities that are based on real problems. Students can reflect in the field the determinants of community health, as well as the social and economic development of the municipality, infrastructure issues, popular participation in political decision-making, income, access to employment, education, health services and other aspects.

By minimizing the gap between education and the social reality, the integration is made possible between teaching and service, understood as collective work, agreed and integrated by students and teachers of courses in the health areas with health workers, "aiming at the quality of the care to individual and collective health, the quality of professional training and the development/satisfaction of employees in the services".<sup>8</sup>

It is known that the culture of participation and teamwork and accountability of the training equipment with service providers and the community in the service-learning integration interface are processes that require monitoring, analysis and permanent evaluation with the objective of improving and qualifying the process.

### ***Building the Teaching-learning Process***

The teaching-learning process in the in-service training has distinct elements from the common ones in curriculum components of the basic areas or clinic in dentistry. In addition to the students and teachers, there is the participation of the health system's workers, whether they are dentists or not, including also the mid-level and especially the community/families. The knowledge proposed to achieve them are also extended, approaching issues in bioethics, professional ethics, anthropology, sociology and psychology, associated with human relationships of these actors in the learning scenarios<sup>9</sup>.

One of the first challenges faced in the development of the educational proposal of the supervised training in collective health was the definition of competencies, skills and knowledge for structuring a coherent proposal with the curriculum guidelines, with the profile of the egress proposed in

a pedagogical project (PP) and the principles of the Health System for transforming the teaching model.

This movement was also important for the non-fragmentation of the proposal, since the curriculum structure of the PP is based on disciplines.

Given this weakness, we opted for the collective planning of the components of the supervised clerkships I to IV, thus creating a learning proposal, from the general to the specific, in increasing levels of complexity, based on theoretical discussions and moving towards the field practice, but always rescuing previously learned knowledge and content from the perspective of a knowledge network. Accordingly, the supervised training of collective health try to overcome the reflections of social and economic reality, experiencing the context of the subjects in their lives, and how they relate for the construction of collective improvements.

The supervised training aims at the development of actions with the network of public health services, qualifying care, expanding access and creating learning opportunities. The integration of students in existing social facilities in the territory of the areas covered by the family health unit in the city of João Pessoa, PB, makes possible the realization and coordination of intersectoral actions with other fields of knowledge and expertise present in other knowledge areas. This enables students to get closer to the socioeconomic and cultural contexts of the families and community within the territory of coverage of the family health unit.

The work is developed from tutorial groups accompanied by teachers and the municipality's health employees, which act as preceptors in the teaching-learning process. The proposal is to create collaborative learning opportunities from the diversity of life histories, positions, concepts, patterns of culture and popular tradition that guide the formation of habits, attitudes and values as a basis for the elaboration and construction of knowledge. This interaction of exercise has the goal of future preparation for teamwork.

The very approach to daily life is important for development while vying for completeness and resolute health practices, which on the other hand, can make education more significant.<sup>9,11</sup> As highlighted by Amancio Filho<sup>11</sup>, by mentioning that thought is needed in the direction of a professional training aimed for the future field of work, where the integration is important of general and specific knowledge, theoretical and practical skills, habits, attitudes and ethical values.

We opted for theoretical discussions at the beginning of each semester in the supervised training. The contents are worked from the perspective of active methodology, rescuing what was experienced in other trainings or by the life experimentation of each student.

As pointed out by the Delors<sup>10</sup> report on the requirements for an educational process where knowledge must be based on the understanding of reality, based on the manipulation of knowledge instruments.<sup>12,13,14</sup>

The option for the active methodology was made because its foundation is the autonomy of individuals, transporting the students to self-management of their education process, placing them at the center of learning, making relations horizontal. In addition to the constant stimulus to creativity, criticism, reflection and construction of citizenship, the active methodology may be an important tool for acknowledging the autonomy of the other. In the case of supervised training, this "other" is understood as the graduation peers themselves, the preceptors of the health network, the teachers and the very community.<sup>15</sup>

The experiences in practice scenarios are aimed at the exercise of thinking and re-thinking the everyday and the reality, in the pursuit of critical thinking and a questioning mind on issues in the field of family and community health. This proposal points to the development of "learning to be" in the perspective of building a more just and caring society. The National Curriculum Guidelines for the course of dentistry guide towards making and remaking the daily life from the creativity and competence for health care, decision-making, to solve real problems and for the unexpected.

The teaching contents are offered in the form of problems or daily routine questionings whose relations must be discovered and built by the learner, an active player in this process. Thus, discussions, preparation of synthesis, correlation between practice and theory and the daily life questioning itself, can take an individual meaning, depending on interest, vocation, accumulated experiences and conscience itself.<sup>9,13</sup>

The contents are worked in tutorial groups through role plays, technical visits to social spaces and installations, round table conversations with guests, group reflections, interviews with community key informants, problem situations, case studies, significant diagnoses, brainstorming, speaking maps, integrated panel.<sup>15</sup>

Based on the active methodology, how to evaluate students was a challenge. So we thought about assessment strategies that also allowed the reflection and critique of what was experienced, in a way that is dialogic, continuous, autonomous and permanent. All the activities carried out in the experiences are evaluated continuously by the teachers and tutors of the health network, constituting a formative evaluation process, characterizing an exercise in action, reflection and action.

Furthermore, the portfolio was also established as a strategy for facilitating the evaluation process. In the portfolio perceptions, impressions, feelings, beliefs and values may be recorded about the experience. This exercise of reflecting on what is experienced is important for reframing concepts and impressions.<sup>15,16</sup>

The practice of such teaching-learning strategies throughout the semesters has been improved, including with greater involvement and interest of students to participate in activities, increased motivation, including decreased academic absenteeism and greater appreciation and awareness for collective health in the SUS scenario.

### ***Teaching-service Integration***

In this context of the training of human resources for SUS it is important that the sectors of education (responsible for the production of knowledge and professional training) and health (manager and main provider of health services) establish permanent inter-institutional partnership relations. Often the relationship between these two sectors is accompanied by a complexity due to the legal apparatus. According to Feuerwerker<sup>17</sup> is not easy to reconcile the demands of the academy and those of the management of health services, and for such are necessary adjustments and changes in the everyday teaching practices of the education sector. These pacts should be conducted in order to develop joint and coordinated actions for the mutual contribution in the proposed training of human resources in the sense of elaboration and construction of knowledge and production of skilled and resolute health care.<sup>12</sup>

So another point to be discussed was the relationship with the health service provider in the city, in the sense of building the School Network. For this, we need several round table conversations, seminars, meetings with the management of work and health education, managers and technicians from the health districts, the City Health Department and employees of the service network, whether professionals from the or technicians from matrix support.

The strengthening of the service-learning integration is reinforced by the movements triggered by Reorientation Program for Professional Training in Health (Pro-HEALTH), the Education Program for Working for Health (PET-HEALTH) and the Pro-PET HEALTH in NETWORKS. The Pro-Health proposal points to the need to transform the process of training, knowledge generation and provision of services to the population to a comprehensive approach to the health-disease process. The central focus is the teaching-service integration,



with the integration of students in the real scenario of practices, the SUS Network, with emphasis on primary care, since the beginning of training.<sup>18,19</sup> The performance of Pro-Health in three main areas: Theoretical orientation, Practice Scenarios and Educational Guidance, causes it to have an inductive role in the transformation of education. The experience of the trainings is the expression of the change process including the three areas of the proposal. The Pro-Health also supports the acquisition of equipment, consumables for the family health unit, improving the infrastructure of the services, which facilitates the integration of students in the network.

The PET-Health was established by the Ministries of Health and Education in August 2008 through the interministerial decree No. 1802, aiming at fostering tutorial learning groups in the . With interdisciplinary approach, from 2009 were included through the family UFPB PET-Health students from various health courses (medicine, dentistry, nursing, physiotherapy, physical education and nutrition) in primary care services in curricular activities, increasing the team work and the exchange of knowledge for the benefit of the community.<sup>19</sup>

Amancio Filho<sup>11</sup> stressed that the partnership between the health service and the HEI shall consist of a facilitative integration process between work, education and health, seeking the breakdown of the historical dichotomy between the educational institutions and the provision of services, between thinking and doing, between general and specific, and integrating theoretical and practical skills.

Initially the Health Education Management in the city mapped their network, identifying learning scenarios, which are the practice fields of supervised training, the Pro-PET-HEALTH and multiprofessional residency in family and community health. Thus, improvements in the infrastructure field have been implemented for the better use of local potentials and development of the activities, as well as training of the network's professionals for the developments in the preceptorship activity of students in the field<sup>18</sup>.

This mapping consisted in a more complex process, verifying not only physical and structural conditions of each scenario, the presence of social facilities in the territory, the territory demand and geographical proximity with the HEI, but also identifying individual vocations of the network's workers. Conversations, meetings and on-site visits were necessary in this regard. At the end of each semester the evaluation is conducted not only for the supervised training, but for the scenario itself as an important space in the development of learning. Thus, the weaknesses and strengths are procedurally identified in the scenarios and what are the paths to overcome them, towards the perspective of improvements. This is a discussion forum for the actors involved: teachers, students, preceptors and service users.

This trend is coming to life with the involvement of students, teachers, management, network workers and the community. At each semester, agreements with the preceptors are required on the actions to be developed and the competences and skills expected. It is intended that, in this way, dialogic processes will be built that redefine power relations between teachers and health workers in the learning scenarios, mediated by subjectivity.

The community-based learning makes it possible to rethink the training of professionals for work in public health, including the network of health services and its principles of universality, equity and integrality of care<sup>20</sup>. This work proposal aims to democratize relations between the HEI, health services management, preceptors and community. It also provides monitoring of curriculum change process and health services, aiming to consider the guidelines and principles of SUS.

Therefore, while the management has done a mapping of scenarios, each of these scenarios was visited by teachers, not only for bringing the territory closer to the network's employees, but also to identify the characteristics of each site and view possibilities with the proposal of the supervised trainings. At this point, technical and operational issues, student numbers, days of activities, workload, training proposal, identification of demands and forms of process evaluation are also agreed upon. The definition of the actions and activities is discussed later, with the presence of students in the training field.

From this multidimensional approach, we are strengthening the construction of the School Network, contributing to the training of better qualified professionals with their performance directed to the health needs of the population, a health worker with general vision, who develops listening skills, welcoming, building links with the community in which they work and accountability<sup>17,20</sup>.

### ***Final Thoughts***

There is the challenge of providing a reflective and critical training to subsidize the construction of the Health System in Brazil, more resolute in the production of health care, based on completeness, humanization, ethics and teamwork. There is the need to leave the model that is centered on disease diagnosis, treatment and recovery for one of health promotion, aiming at full diagnosis of individuals, families and communities from prevention strategies and care of people.

The tools used are interesting pedagogical strategies for the routing of the training reorientation of oral health professionals. The satisfaction and performance reached in the evaluation processes of curriculum components demonstrated the importance and the impact of these changes. In this sense, the methodology has triggered redirection of movements in the training process and in order to continue the success, they must be constantly evaluated and renewed.

It is hoped that, with this educational paradigm we will train professionals who are more active, critical, reflective, humanized and transformers of reality, with the ability to work in teams, to relate better with the user of health services, understanding their disease process, intervening ethically, conscious and focused on the production of care, with a view to integration of actions, services and health policies.

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## CHAPTER

# 18

### The community-based education in the University of Fortaleza Medical School

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## Introduction

One of the principles that guides the Educational Project of the Medical School at the University of Fortaleza (Unifor), by the Edson Queiroz Foundation, is the early involvement of medical students, comprehensively and reflectively in the study and resolution of the health problems of the communities where they are inserted. The course curriculum, founded in 2006, uses PBL as structuring educational approach, here understood both in the design of the curricular axes-1, and in the use of active teaching-learning methodologies (with tutorial groups and professional skills development practices, interprofessional integration at all levels of care and multidimensional evaluation mechanisms).<sup>2</sup> Thus, considering that the apprentice systematically deals with learning tasks or challenges that are either based on real situations, or the constituents in a practice of community health service. The Curriculum of the Unifor Medical School recognizes a close relationship between PBL and the Community-Based/Oriented Education paradigms.<sup>3</sup>

Therefore, the Unifor considers the community as a comprehensive space, which includes not only the system of health services involving primary, secondary and tertiary care, but also its social space, organizations and sociocultural dynamics.<sup>4</sup> The course's CBE model aims, therefore, that the priority health problems of the society will influence and guide the teaching of Medicine, from the choice of the problems for the tutorial sessions and selection of the addressed clinical conditions to the definition of the workload in the curricular modules matrix.<sup>5</sup>

In addition to this explicit conceptual orientation, curricular activities include a substantial workload destined to practice in health services (primary care units, specialized outpatient clinics, general and specialized hospitals) and in community settings (schools, associations, non-governmental organizations, health management bodies, emergency management services), referred to herein as CBE curricular instances.<sup>4</sup>

## ***Articulation with SUS***

The option for a curriculum design, procedures and practices which focus on teaching and learning strategies based on community, modulated the planning and implementation of the Medicine Course<sup>6</sup>, imposing an intense collaboration with the Municipal and State Health Administration, through the Municipality Health Department (MHD) of Fortaleza and the Health Department of the State of Ceará (SESA). This partnership was gradually strengthened through the implementation of Pro-Health Projects, PET-Family Health, PET-Mental Health, PET-networks and the expansion of the teaching-care activities for the whole area covered by the Regional Executive Department VI (RED VI). The Unifor, through the Health Sciences Center (HSC) now shares the health responsibility for that territory, one of the municipality's six regions, as a HEI of reference for the training of human resources in the SUS at RED VI, contributing to the strengthening of the collective construction of the Municipal Health-School System (SMSE), an organization and management entity of the continuing education policy of the MHD.<sup>7</sup>

From the planning and implementation of the medical school there was a coordination with various leaders of the City of Fortaleza and the State of Ceará. The first step, before the deployment of the course, was the presentation of the Pedagogic Political Project for various levels of government (state government, municipality, national, state and municipal legislative), community leaders, health services and Municipal Health Council.

The project was also discussed in the Ceará Industry Federation (FIEC), with business leaders, debating the socioeconomic impact in the region with the implementation of a project of this nature. Then this articulation involved a planning phase, with the identification of areas of practice, infrastructure needs and human resources. At this time, agreements were established with their counterparts from the HSC/Unifor and State and Municipal Health Departments.

With the implementation of the course, the partnership, especially with the RED VI, took on a regular characteristic, with process evaluation, integration strengthening and adjustments when necessary. This activity culminates annually in a Regional Forum with the presentation of the work carried out in the RED VI health facilities, an expressive part of them the fruits of the partnership between the Unifor and the Municipal Health Department of Fortaleza.



## ***Medical School Curriculum***

The main motivation behind the choice of curriculum design was the intention to overcome the dichotomy that exists between training and professional practice. Are sought here models where professional training incorporates the health system practices as well as the characteristics and specificities of the communities where the future professionals will be inserted, starting from some fundamental principles and strategies: early clinical practice, with clinical activities since the beginning of the training process at the medical school; decentralization of clinical experiences, with activities in the outpatient and community levels and not just centered in hospitals; affirmation of the biopsychosocial model, with the teaching considering the subject holistically and emphasizing the physician-patient relationship; community orientation, with curriculum based on community health needs; and valorization of medical ethics in the exercise of their daily activities.<sup>8, 9, 10</sup>

The students insertion process in the service network follows a previous planning with the State and Municipal Health Managements and is based on agreements, in which are established the responsibilities, rights and duties of the partners. In this sense to Unifor has contributed as much for the formation of SUS professionals, as already mentioned, as for the improvement of the infrastructure of practice spaces. The implementation of the clerkship reinforced this partnership and also generated new partnerships with long-term care facilities for the elderly (Torres de Melo Nursing Home) and other municipalities in the State (Rural Clerkship).

This historical review shows the medical school's commitment to quality medical education, remaining consistent with the fundamental principles of professional practice, linking science and his technique, and emphasizing care approaches that meet the needs of individuals, families and communities. This seems to be the best way for the formation of future physicians with the characteristics defined by the National Curriculum Guidelines and required by today's society.<sup>11</sup>

## ***Community-Based Education in the Medicine Course***

In the first four years, the collective health and the CBE strategies are primarily inserted in the Health Integrated Action Modules (HIAM), which has a semi-annual duration, workload of 90 hours and predominantly practical activities. In the first and second semester, students have sequential modules in a tutorial group that also address content related to Community-Based Education.

The Health Integrated Action Modules have as its primary aim to enable medical students to exercise medical practice in many different levels of care in the Unified Health System (SUS), longitudinally, from the first to the eighth semesters of the course and its practices are concentrated in one shift per week. The organization of activities is aimed at the balance between community actions, which require collective or family health approaches, and clinical activities of an individual nature. The balance between these approaches is a guiding element in these modules and will be repeated over the eight semesters, before clerkship.<sup>12</sup>

The students' activities are mostly practical, and happen in the primary care level, mainly in the first and second year of the course. The spaces of practice in these four semesters are varied and include in the care field the Family Health Centers (FHCs) located in the Regional Executive Secretary VI (RED VI) in the city of Fortaleza and the Integrated Medical Care Center (IMCC). Also anticipated are community activities and sporadic visits to other practice environments conducive to the acquisition of the learning objectives set out in the syllabus. Clinical practices are more frequent in the third and fourth year and occur in the FHCs and more complex units (secondary and tertiary care). The practices seek to be articulated to the knowledge, skills and attitudes that are being addressed in the tutorial groups and skills laboratory.

Strictly theoretical moments are restricted to fortnightly conferences, lasting two hours; seminars held at the end of some practices; discussion of clinical cases; and potential mini-lessons where certain content, raised by the community or outpatient experience, are addressed.

In the Community Health supervised training (medical clerkship), are required the trainings in Mental Health, Health Care of the Elderly, Primary Health Care, specialty ambulatory in a secondary unit and Rural Clerkship. In them the student should develop knowledge, skills and attitudes that are appropriate to the management of health problems in primary and secondary care in the context of individuals, their families and the community, in addition to problems related to mental health and the elderly, a period of six (6) months, 40 hours/week. This content is developed in the community, Family Health Centers, in urban and rural areas (the interns have rural clerkship lasting a month in rural municipalities in the state by convening pact) in long-stay institutions for the elderly, mental health units and sub-unit at the university's Integrated Medical Care Center.

A new project is being developed by Health Integrated Action Modules' teachers and tutors of the second and fourth semesters: the virtual city. Families visited by students in the community were mapped and these families will be the basis for the characters of the problems worked in tutorial groups, constituting the city's residents.

### ***Community-Based Education in Other Health Courses***

The IPE is a pedagogical approach that occurs when educators and students of two or more professions learn about each other, with each other and between each other to make possible an effective collaboration and improve results in health.<sup>13,14</sup>

In the CBE experience, interprofessional health education is conceived as one of the teaching-learning strategies included in the curriculum of the ten undergraduate courses at the HSC at Unifor: physical education, nursing, pharmacy, physical therapy, speech therapy, medicine, nutrition, dentistry, psychology and occupational therapy. The interprofessional collaborative practice apply when health professionals from different areas offer services that are based on health integrity, including patients and their families, caregivers and communities into health care at all levels of the services network. In this context, the Unifor HSC undergraduate courses, through the early integration of students in actual practice scenarios since the first semester, prioritize the teaching-service-community integration, having interprofessional education as a basis to offer a high quality service. One approach is the presence of modules that are common to most courses, which allows students from various fields to discuss the same problem, allowing the meeting and the different vision that comes from his professional choice. The different health field careers evaluate the common skills that are relevant to the professions involved, articulate their constituent knowledge with the other's for organizing activities along the lines of an interprofessional collaborative practice in real practice scenarios.

This reality was strengthened through inducing policies by the Ministry of Health, represented by Pro-Health programs, PET-Family Health, PET-Mental Health, PET-Network, in partnership with the city of Fortaleza Health Department and Health Department of the State of Ceara. Thus in 2014, we have 108 fellows and scholars students in the HSC and six tutors of the PETs Mother and Child Care, Psychosocial Care, Care for Disabled Persons, SOS Emergency and Health Surveillance. The PET teams propitiate the meeting of different disciplines and curriculum trainings, which develop

common and specific activities of each profession, clinical and preventive, health care and support, for the development of interprofessional activities. At the end of each semester, a plan is developed for each health unit, where managers, teachers and professionals assess, discuss and plan together the activities to be developed in the following semester. Planning propitiates dialogue between managers, employees, community leaders, teachers and students, strengthening the relationship between teaching and service, in addition to the integral training of the student and continuing education of professionals in the network. The introduction of the Projects Pro-Health II, PET-Family Health and PET-Mental Health was also an integrating element. Community involvement was not a difficult task, the greatest difficulty in this process was to involve professionals from Health Services.<sup>15</sup>

#### How the Management Deals with the Difficulties and Challenges of the CBE

As previously mentioned, for making community-based practices possible, the partnership with RED VI has defined a territorial basis. At first this system would work in a co-management system between the Fortaleza Municipality and Unifor, based on a management core formed by members of both institutions.

Despite the fact that the medical course was created with the intention of leading to a change in the logic of the care model in units that lacked Family Health teams, the co-management model has not progressed. The Municipality Health Department continued to centralize the management of health services, preventing over the years the development of an innovative model of teaching unit. Only in two primary care units, which contain "extended" teams because of the insertion of teachers (physicians, nurses, dentists, physiotherapists, speech therapists, occupational therapists, nutritionists, pharmacists and physical educators), Pedagogical Coordinations were created. These have their scope of action restricted to the organization of the educational activities that take place on the site, with minimal or no governance on health care processes.

The Pro-Health empowered the university with financial resources for expansion, structuring and adequacy of primary care units, creating the need for the municipal management to include the university in the discussions about the municipal health system, creating education-service integration management boards in their organization chart. The PET-Health legitimized and contributed to the appreciation of the graduation within the health services. It has been guiding the sustainability of the change process and strengthening the research lines related to community needs, without leaving aside the teaching.<sup>15</sup>

In the planning and the implementation of CBE programs in Unifor, the course had to overcome numerous challenges. From the initial distrust of the institutions involved about the real goals of the projects, to the difficulty of students and parents, especially in the early stages of medical school, to understand the importance of this experience in the community and the fear of violence in different practice settings. With the guidance, clarification and constant support of tutors as to the issue of violence in communities, little by little the students were interacting naturally. The knowledge and the experience of other realities favored the maturity and the humanistic development of students.

The difficulties of dialogue at different levels and the political pressures made the entire process all the more time consuming and laborious for the university managers. In addition, in many of the scenarios there was an inadequate reception of students, difficulty of acceptance by the professionals and other users of the health facilities.

With the onset of medical clerkship in 2010 were established new partnerships with other municipalities in which the rural clerkship was implemented. In these municipalities, initially the preceptors were paid directly by the University and the patients who needed specialized care were booked directly in the Integral Medical Care Center (secondary care unit of Unifor), in addition to the Project Effort, which aims to shorten the waiting queue for certain specialties by moving expert teachers from the area to the city, together with students on a particular day of the week. Subsequently, other "not preceptors" professionals became unsatisfied, complaining about the fact that only a portion of the professionals of the units were hired as preceptors. Thus, at the request of the municipalities, the payment system was changed and is now per capita (per student) directly to the municipality, which became responsible for the preceptors. We are often faced with the breaking of agreements while the contracts are still in force, which is the result of political interference in several municipalities that participate in the project. These problems are quickly calculated by the management of the university, which now has a contingency plan to readily solve the problems (relocation of students to other practice scenarios).

In the search for innovative practice scenarios an agreement was signed with a nursing home for the Elderly, which is philanthropic. In the agreement, the University undertook to maintain an interdisciplinary care through the various courses of the health area, provide complementary tests (laboratory, radiology and cardiology), skilled care at the IMCC, and permanent material and medical consumption material every six months.

The main problems that occurred were the only partial involvement of other healthcare courses (only the medical school kept its supervised clerkship the entire year); the practice scenario generated initial distrust in Medical students/interns who feared that this type of scenario is not appropriate for learning. This mistrust is gradually dissipated with the implementation of the planned activities, which led to improved care of the community's elderly who live there and gave students a realistic view of the situation of the State's elderly, from the health and social point of view.

The management of the HSC courses actively participates in semi-annual meetings with the Health District Coordination and Managers and the Managers of Primary Care Units, District Hospitals and CAPS at Regional VI, where the University operates, to plan the model of care for the following semester, and present the projects developed during the semester by the partnership between the University and the Health System.

Another difficulty observed in these scenarios is the lack of preparation of many professionals (teachers and preceptors) to conduct proper the evaluation of students/interns. To resolve this issue, the continuous training of preceptors and teachers is being carried out in the educational and teacher training area.

## ***Conclusion***

CBE, interprofessional education and collaborative practice may have a considerable role in the containment of many challenges Health Systems face. The main lessons learned from the entire process were: we must draw feasible goals, have clear intentions and establish fair agreements with well-defined counterparts that will actually be fulfilled by both parties. Another important factor is: the University must provide training and continued pedagogical training to their teachers and preceptors, so they will meet the demands properly.

The establishment of horizontal relations between university, health services and communities creates real opportunities for exchange, dialogue and mutual transformation. The partnership involves changes in existing attitudes and values, such as breaking of communication barriers, isolation between the institutions and bringing the educational institution closer to the community.

The improvement and consolidation of these partnerships remain a key challenge for the design, implementation and evaluation of education programs, research and provision of services by Unifor.

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## CHAPTER

# 19

### Service-learning-community integration in the teaching of primary health care: Lessons and challenges of the USP School of Medicine

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## ***The Context of the University of São Paulo - São Paulo Campus and the Medical School***

The University of São Paulo is located in São Paulo, a city regarded as the financial and economic center of the country. With nearly 12 million inhabitants, it has a social inequality that is reflected in the occupation of the urban space with central nuclei of higher socioeconomic development at the expense of peripheral regions.

It annually offers 14 health courses in the Capital's Campi (including the School of Arts, Sciences and Humanities EACH USP East): Pharmaceutical Sciences, Nursing, Physical Education, Physical Education and Health, Physical Therapy, Speech Therapy, Gerontology, Medicine, Nutrition, Obstetrics, Dentistry, Psychology, Public Health and Occupational Therapy.

Since 2006, the USP Teaching Units (Nursing, Medicine and Dental Schools) have been conducting curricular reorientation processes, supported by Pro-Health (National Program for Professional Reorientation in Health). Since 2009, an increasing number of courses has been included in the proposals submitted and contemplated by the Education Program for Work (PET-Health). Table 1 reflects, in a fairly summarized way, the characteristics of the courses that are currently part of the Pro-PET Health Notice.

It is worth noting at this point that although the scope of such inducing policies brings clear benefits for training, there is a problem of scale, since the groups that are formed amount to a very small proportion of health professionals, students and teachers. Another aspect is the institutionalization of these initiatives, which are not always added to the health curricula.

Each of the courses has, in its own way, sought to improve community-based learning, following the National Curriculum Guidelines. At the same time there are growing efforts to articulate courses in primary care through the work of the PET<sup>1</sup> groups and over time, the specific integration initiatives between some courses over their nuclear curricula grow. As a result, it is worth noting, even if briefly, the approval of the Interprofessional Master, under deployment,

Course offered on campus USP capital	Number of chairs per year	Teaching activities in the community in the formal curriculum	Participation in Pro-PET-health
Pharmaceutical Sciences	75 day 75 night	No	Yes
Nursing	80	Yes	Yes
Physical Education	100	No	Yes
Physiotherapy	25	Yes	Yes
Speech Therapy	25	Yes	Yes
Medicine	175	Yes	Yes
Nutrition	40 day 40 night	Yes	Yes
Dentistry	83 full time 50 night	Yes	Yes
Psychology	70	No	Yes
Occupational Therapy	25	Yes	Yes

Table 1. Summary of the number of chairs, insertion of teaching in the community in curricular activities and participation in Pro-PET in 10 health courses offered by USP Campus Capital.

the focus of which is to prepare teachers for collaborative practices and encourage the professional qualification of the network and the establishment of multiprofessional residencies in different areas, from 2013.

In face of the extent of the subject, this chapter details only the medical school experience in community-based learning, with emphasis on facilitating factors and challenges for the teaching-service-community integration. This choice reflects both the macro-political scenario, which resulted in changes from National Curriculum Guidelines, and the institutional moment in which the still hospital-centered curriculum is being renovated.

Founded in 1913 with support from the Rockefeller Foundation, the USP Faculty of Medicine, (FMUSP) currently receives 175 medical students and offers 1000 medical residency positions per year. It has an extensive teaching and research tradition in the hospital scenario, being responsible for the largest hospital complex in Latin America, the HC-FMUSP system, located in the health-law quadrangle (Region that brings together: Nursing School, Medical Colleges, Public Health and Law, and the USP Institute of Tropical Medicine).

The institutional mission "is linked to undergraduate education and graduate education, research and culture and community service extension, to the highest ethical and moral precepts." Initially, it is appropriate to point out the diversity of views on the concept of community itself, often linked to the "different" and to the edge of town.

In face of the relevance and the importance of the current debate on the concept of community, we adopted in this work the following definition: "a group of individuals or families residing in the same geographical area and that aggregates people with common interests".<sup>2</sup>

Another necessary clarification is the pursuit of education's relationship in the community, for the community and with the community, the latter being the most challenging component to date (a factor reinforced by the systematic review of courses in the USA).<sup>3</sup>

Again favoring the current debate, we discuss here the community-based learning in the context of primary care.

### ***The West Region Project***

Before dealing with the teaching of issues themselves, it is necessary to make considerations that characterize the city in perspective of supply (and demand) of establishments for the training of health professionals, and how the demarcation of the geographical area in which the FMUSP primary care teaching action takes place was carried out.

According to IBGE, the city of São Paulo has 2001 health services including equipment of the three levels of government and private services. Focusing on the primary care services in September 2012, were implemented 1277 teams of the , distributed in 270 primary care units, representing a 45% coverage. Also in the municipality are located ten HEIs that offer training in medicine, totaling 1176 chairs.

As of 2008, the Municipality Health Department (MHD) of São Paulo begins to perform the management of its network services through public-private partnerships. In this direction, the FMUSP, the MHD and the Medical School Foundation, signed in October 2008 an agreement for the management of health services in the Butantan region, called West Region Project (WRP) (Fig.1). This partnership aims to create a teaching and research platform, convergent with the principles of the University.

The WRP also provides communication and information resources (such as institutional site, periodic newsletters, GeoHealth georeferencing) and monitors welfare indicators.

# Health facilities - Pro

Units: Management Agreement N° 12/2008 / Management Agreement N° 12/2010

FACILITY	HEALTH STRATEGY	BASIC HEALTH UNIT - UBS (BHU)	HEALTH STRATEGY
Medical Ambulatory Care - AMA (MAC)		UBS Real Parque	Mixed
AMA Jardim São Jorge		UBS Parque da Lapa	ESF
AMA Vila Nova Jaguaré		UBS Vila Piauí	ESF
AMA Paulo VI		UBS Vila Jaguara	ESF
AMA Vila Sônia		UBS Joaquim Manoel Pera	ESF
Basic Health Unit - UBS (BHU)		Núcleo de Apoio à Saúde da Família - NASF	
UBS Jardim Boa Vista	ESF	NASF Pq da Lapa	
UBS Jardim São Jorge	MIXED	NASF Piauí	
UBS Vila Dalva	MIXED		
UBS Vila Nova Jaguaré	MIXED		
UBS Paulo VI	ESF		
UBS Jardim D' Abril	ESF		
UBS Vila Sônia	None		
UBS Malta Cardoso	ESF		
Support Center for Family Health - NASF (SCFH)			
NASF Jd. D' Abril			
NASF Paulo IV			
Municipal Emergency Room - PSM (MER)			
PSM Lapa			
PSM Butantã			

CONSOLIDATED	
BASIC HEALTH UNITS - CONTRACT	8
BASIC HEALTH UNITS - AGREEMENT	5
AMAs	4
EMERGENCY ROOMS	2
<b>EQUIPMENT TOTAL</b>	<b>19</b>
<b>FAMILY HEALTH PROGRAM – PSF</b>	
FAMILY HEALTH TEAMS	55

Figure 1: Distribution of services that integrate the West Region Project, 2014

The mediation between the research and disciplines proposed by the University with the local management of the services, as well as the Municipality Health Department is facilitated by management Education and Research Center (ERC) of the WRP. This core consists of a Teaching and Research Management, which includes among its responsibilities the Continuing Education of professionals and also activities related to the counterparties to the municipality.

In the primary care units, ERC is expressed by the presence of Teaching and Research Physicians, whose professional duties were defined in successive meetings with the participation of the unit managers, coordinators from various related fields, and finished with the Executive Board of the WRP.

The field of work of the MEPs coincides with the core values of the WRP, and covers three areas: support to the teaching of primary care (an activity that demands a large workload), facilitation of research conducted at primary care and participation in the user's health care and that of his family, as well as promoting the health of the community and the coordination with social facilities in the territories of each unit.

The professional performance of MEPs proves essential for the real integration of students and teachers (i.e., the pedagogical activities in service) with the service and the community. In this sense, these professionals

participate in both the planning and implementation of courses and/or local lessons whenever requested.

At the initiative of the health services, each unit also has a Teaching and Research Commission (TRC), in order to preserve the assistance to the community in the face of the demands of teaching and research. This committee is composed by representatives of workers from all professional categories of the primary health care, and have direct contact with the local Manager Council.

### ***The Primary Care Teaching in the Community***

The current curriculum in 2014 (and in the review process) consists of 100 required courses totaling a workload of approximately 11,000 hours. Among them are included two (2) primary health care disciplines (225 hours), in which there is the community-based learning. It is worth remembering that several students have contact with the community in elective university extension activities inside or outside the city of São Paulo.

The educational project of the institution defines the process of teaching-learning in the disciplines of PHC as cross-curricular, that is, the course is presented in the 1st year (PHC I 34 classes) and 3rd year (PHC II 16 classes). Although expected, the inclusion of primary care at the clerkship remains unrealized.

During the first year, the primary goal is to present and promote the understanding of the concepts and strategies of Primary Care in the world and especially in Brazil, as part of the Unified Health System (SUS). Under the spiral learning logic, PHCII proposes the building of knowledge and the development of skills for the search and the implementation of preventive and resolute actions of the health problems of a reference population, in the individual, family and societal levels, through action with the family health teams, in the context of the primary care, considering the epidemiological profile and the social history of this population.

In both disciplines, students participate in activities with increasing degree of responsibility, such as: a) recognition of the territory and professional specificities of the minimum staff, and of oral health (when present); b) home visits to households with focus on the development of relational skills (Fig.2); c) planning, implementation and evaluation of health promotion activities and prevention of risks and diseases, epidemiological surveillance and health education d) monitoring of the care for the user in the under the supervision of the network's professionals.



Figure 2: Education activity with medical students and health professionals, primary health care unit member of PROFMUSP, 2013

Initially, the activities of the PHC involved 3 units. Currently, the 175 medical students (/discipline) are divided into small groups and assigned to five (5) primary health care units: Boa Vista (6 teams, exclusively), São Jorge (6 /mixed teams), Jardim D'Abril (4 teams, exclusively), Vila Dalva (5 /mixed teams) all located in Supervision Butantan, and Nova Jaguaré (4 /mixed teams), located in the Health Supervision Lapa-Pinheiros, all belonging to the Midwest Coordination of the Municipal Health Department.

The evaluation of the students is made with various instruments (tests based on situations experienced for knowledge assessment, case discussion addressing family issues, writing of narratives, and development of collective actions).

Also in this phase, there are contributions from MEPs and other professionals who work at the primary health care units.

On the other hand, students evaluate the discipline, its implementation, the teachers, and also the features offered. The Municipality Health Department, on its turn, promotes a review of the training at the end of each agreed period, in which the different actors are involved, focusing on the participation of the professional in the services.

Based on assessments by students, teachers and services, the pedagogical activities are reviewed and reformulated each year. Gradually, a greater pact is observed between the University and primary care regarding the contents, skills and attitudes to be worked,



So as to try to ensure benefits for students and for the service, without compromising the community.

#### Facilitators and Challenges of the Education Community Service Integration

To deal with facilitators and challenges was the resource found by the authors to support future initiatives. We have no intention whatsoever to list isolated and polarized factors, since we recognize the the organic, dynamic and interdependent functioning that permeates the relationship between education, service and community.

Institutionally, a strengthening factor was the hiring of approximately 12 teachers in the various departments engaged with the development of PHC, over the past three years. As a way of promoting dialogue between departments and with other health courses, a Subcommittee of Primary Health Teaching was established, under the Undergraduate Council of Medicine. The work dynamics includes monthly meetings involving representatives of teachers and students and has as one of its guidelines (and challenges) to extend the interprofessional education opportunities in primary care, a theme already worked by the PET groups.

From the perspective of the services, the increasing the number of primary health care units prepared to receive students also had a positive impact on the teaching and the dynamics of services. There is a gradual commitment to include other units comprising the WRP. For such, a crucial element is the training of the network professionals, linked to quality of care and education. In this sense, the presence of graduates of FMUSP Family and Community Residency (10 chairs R1 and 10 R2) ensures the consistent formation of MEPs group and tutors. However, there is high turnover of these physicians in the services, pointing to the need for professional a development strategy.

As previously mentioned, the power of service-learning integration is embodied in the figure of MEPs, in the subsequent interaction with Managers, especially in the construction together with the Community Health Agents (CHA). The articulations with local leaders are still very few, which would strengthen the "cause."

In an attempt to overcome this gap, the meetings of the Teaching and Research Commission in each unit are listed as a privileged space for discussion about the impact of education (and research) in service and care, since they have the participation of professionals and managers who are committed to the Local Management Board of the Unit.

While the presence of students in the health service may expand the quantity and quality of care provided to the population,

potential "iatrogenies" have been discussed by health users, professionals, managers, teachers and academics. It is believed that this mutual listening space encourages education in an acceptable and viable environment and contributes to the training of future professionals with a closer look at the reality and (real) needs of the population.

In this direction, we advocate the inclusion of students in activities of the Management Council of Health, Friends of the Neighborhood Association, NGOs, the Religious Ministry and of various social facilities operating in the territory in order to work the development of social participation as an effective response to the community's needs and demands (Cotta et al, 2007). However, this movement is still very restricted due to aspects such as number of students per service, time of training, lack of flexibility for adjustments between the agendas (often, the student's visit period in the week is not consistent with the agreed meetings with the community) and above all, the physical structure of some units.

The systematization of the contact with intersectoral experiences is another gap to be overcome. Despite the practices fostered by Municipality (Healthy Cities, Squares Janitors Project, Geo Health City of São Paulo, Green and Healthy Environments Program-PAVS, among others) and its strong interface with primary care, there is not yet an intersectoral policy to ensure educational actions. That having been said, we can say that students sometimes know examples of realization of intersectionality, when they are triggered by the health service. In other words, there is no guarantee that students will develop the skills focused on the intersectoral, because these articulations depend on the initiative of the services that receive them.

For now, some students have contact with other sectors while monitoring clinical cases (discipline of the third year) and others interact with services of Education, Social Welfare, Sports, Urban Cleaning and others in the planning or execution of collective actions to promote health (developed in the first year).

### ***Lessons Learned***

We reinforce some successful points that deserve efforts for their maintenance and expansion. The first is the establishment of a permanent discussion group in the service (TRC), since the creation of "dialogic and co-management spaces that favors the exercise of power with the other" favors community empowerment<sup>5</sup>.

A second aspect is the presence of a professional who knows the local reality and at the same time is designated (and supported by the other workers and managers) to coordinate the inclusion of educational actions in the service (for example, a MEP).

The presence of professionals in the service with specific training in primary care (e.g., residency in FCM) is also essential for the success of the community-integrated learning. The quality of education is linked to the quality of health care, materialized in the daily routine of work.

Joint planning and the prior consensus of the teaching activities and the bibliography used between teachers and professionals-managers of the health care units (and the community, from the areas of Social Control and Participatory Management) is a key step towards real integration. The need of the teachers involvement with the service beyond the moments shared with students should be emphasized.

The specific approach to content such as social control enhances the discussion of the role of the physician as a transformation agent. Other effective practical activities are related to the contact with cases of primary care and construction of projects aimed at coping with problems that are identified and appointed by the service itself

Finally, aware of the complexity involved in the teaching-service-community integration, we rescue the title of this chapter in the form of a binomium lessons/challenges. Remembering the concept by Paulo Freire about empowerment, the reported experience brings together the lessons learned and the challenges recognized by persons, groups and by the institution itself that seeks to "make the changes and actions that lead it to evolve and strengthen.<sup>6</sup> In other words, we believe that the proposed integration gains strength and at the same time depends on the harmonic role of teachers, students, professionals and the community.

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## CHAPTER

# 20

### The Community-based Education experience in the community health modules of the Passo Fundo University Medical School

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At the UPF, the community-based education, considering its definition "pedagogical model that connects class and working area with the involvement of significant exchanges with the community"<sup>1</sup>, occurs mainly in undergraduate and extension teaching activities. In health care, educational activities usually occur in the disciplines and/or collective Health modules. In this chapter we will report the performed experiences in these modules of the Medical School.

In the UPF Medical School the educational activities in the community were introduced in the 1970s, through the Preventive Medicine discipline that was offered in the third year, through outpatient care at two locations in the city. In the 1980s, in addition to assistance activities, prevention interventions have been developed that were focused on children health and women's health; practical classes were taught by three teachers, with specific activity in public health.

From 2004 onwards, with the self-transformation project of the medical school, which suited the Course's Pedagogical Project to the National Curriculum Guidelines from 2001<sup>2</sup>, there were significant changes in the curriculum, and the collective health modules became a part of the first four years of course, with extensive workload.

In addition to fulfilling the curriculum guidelines, the direction expected that these modules would be articulators of interdisciplinarity with the others. With the later implemented division of the course into semesters, eight modules of one semester in collective health were structured, with CBE being developed in their activities.

Thus, the activities of Education at the Community are developed from the first to the eighth semester, in the Collective Health modules, and take place twice a week, making six to eight hours per week, with the exception of Collective Health I. The CBE is also present in the clerkship and will be described later.

In medical schools, there are several experiments that reported that the integration of medical students to primary care allows the student to be inserted in a more participative manner, in a reality that can form a more technically proficient professional, more humane, ethical and committed to community.



Figure 1: Recognition territory activity and conduct a situational diagnosis.

In the perception of Anjos et al.<sup>3</sup>, this integration allows the university to fulfill its role of producer of knowledge and strategies for new ways of operating in health, which are more careful and comprehensive ways, with accountability and resolution links that may contribute to the construction of a health system that is more active, fair and ethical.

Albuquerque et al.<sup>4</sup> evaluated three groups of the Education Program for Work in Health (PET-Health), where CBE practices are developed, and found that, in two groups, the experiences contributed to the training of flexible workers, effective in application of technology to solve the problems within the limits imposed by the current order. In the third group it was observed that the experience contributed to the training of critical subjects, able to question the limits imposed by the state and society to the full realization of life. In the field of Dentistry, in which interest of students is mainly clinical disciplines and integrated clinics, the Supervised Clerkship was identified and understood by students as an instrument of integration and knowledge of the social and economic reality of their region and the work in their area.<sup>5</sup>

The area of education also provides evidence that early integration of students in scenarios of professional practices is effective for the teaching-learning process. This is perfectly aligned with the CBE in health, because it indicates that the preparation of the future professional should be carried out in the reality and complexity of the daily routine. The university must provide content and promote a dialogue with the communities where the schools are located, and education in the service offers a unique opportunity to engage the student in various communities in order to contextualize their classroom experiences and reflect on the stereotypes and assumptions they bring<sup>7</sup>.

The activities in the community, although already existing in medical school, were focused on outpatient care. With the curriculum change, these activities started to show features more aligned with the concept of CBE. For the development of the Collective Health modules in the area covered by primary care units, the first contacts were made directly with the municipal secretary of health, in order to identify the units that could receive students and their teachers. The primary care units usually had very poor infrastructure, operating in rented houses which were often made of wood and did not have enough space to accommodate the groups; the activities were often performed in gymnasiums, classrooms in schools in the territory or in community halls. The approximation with the community and its leadership was made possible by the family health teams, mainly by the performance of community health workers, who are essential partners in the materialization of the CBE.



Figure 2: Health education activity on Systemic Hypertension using the theater as a pedagogical strategy





Figure 3: Carrying out home visits with the participation of teachers, students and community health agent

Among the difficulties experienced in the development of the CBE and the approximation with the community, we highlight the awareness of the local leadership and the availability to participate in the proposed activities, considering that must be carried out in days and times that are predetermined by the academic calendar.



Figure 4: Performing educational activities in the community, during the weekly meetings of the elderly

In this sense, we identified two key challenges: 1) The activities proposed and implemented in accordance with the curriculum of the modules must have meaning for both students and the community and they must provide products that may be shared; 2) The other challenge is related to the teachers, who need to carry out the activities in a real environment and context, where sometimes a planned activity can not be performed. This scenario requires flexibility, improvisation and the existence of a "plan B" and even a "plan C" by the teacher/preceptor.



Figure 5: Health Promotion activity held in elementary school community, the theme "Playing and Learning reuse and give correct destination to solid waste" was planned with school teachers and health unit staff



Figure 6: Therapeutic Route users' presentation to the health team of family health strategy

Costa et al (2012), in the qualitative evaluation of the perception of medical students about the practices carried out in the family health unit, showed that the elements related to the lack of organization and planning of the clerkship, insufficient communication between the coordination of the course and clerkships and the family health unit were the most cited themes, when asked about the challenges of learning in the community<sup>8</sup>. Therefore, the previous detailing of the activity, creativity and flexibility must be present in the planning of the actions in the community. This plan should be explained to the students, who generally understand the challenges and are often partners in the implementation and identification of solutions where they are needed.

Note that all activities that are developed at the family health unit and the community, in our reality, are monitored by teachers, which facilitates the achievement of the learning objectives. The absence of the preceptor indicated by the educational institution has also been appointed as a factor that creates difficulties in making an clerkship in the community possible, as observed by Costa et al. (2012).<sup>8</sup>

The educational activities developed through interprofessional practices are still timid in our school. Interactions with students or professionals from other healthcare courses take place occasionally, through activities carried out in the PET-Health, Academic Leagues or other

extension projects. The development of interprofessional education, when two or more professions learn about each other, with each other and among each other for effective collaboration and better results in health<sup>9</sup>, is being gradually inserted into the family health unit, initially through the disciplines Sociology of Health and General Ethics. The introduction of collective health in all health courses (12 in all) is currently being discussed, with the programming of activities in view of interprofessional education.

This proposal aims at collaborative practices where health professionals from different areas provide services based on health integrality, involving the patients and their families, caregivers and communities. One of the goals of this proposal is to provide health care of the highest quality at all levels of the network of services, including clinical and not clinical work-related to health.<sup>9</sup>

The activities of the CBE were initially conducted with the participation of the health sector. A partnership has been gradually established with the Department of Education, especially when health promotion activities are carried out, guided by the National Policy for the Promotion of Health, through the School Health Program. These actions consider the Pedagogical Projects of the schools and are always carried out after an agreement with the teams of the health facilities, the pedagogical supervision of the schools and the community.

The participatory management between universities, health services and the community for professional training in Primary Health Care favors the teaching-service-community integration, fulfilling a perspective of participatory and dialogic management<sup>10</sup>. The agreement is an essential practice to avoid findings as described by Hunt et al<sup>11</sup>. The authors conducted a systematic review of reports about the performance in the community of American medical schools students and identified a small emphasis on the nature of reciprocity and partnership between communities and medical schools, an essential element for the training of professionals who understand the health practices in a scenario that has shown rapid change, present in the important agenda for promoting social responsibility.<sup>12,13</sup>

We must also consider that the pacts should align with the priority public policies, both on health and on education, with a view to better use of the funding possibilities of the actions.

Initially, in order to diversify practice scenarios in medical school and implement a curriculum that contemplated the principles of CBE, one of the main difficulties was the creation of subjects/clerkships in the coverage area. There was much difficulty in establishing a strong partnership with the teams, which generated a feeling of intrusion (school invasion) in an environment that believed to have no relation to the area of training of future professionals of the country's health. Gradually these barriers started to be broken, especially through the concern of teachers and the practice of previously agreeing with family health teams the actions that would be developed, taking care to meet both the educational and the service needs.

Despite the provision and availability of a space that was reserved for dialogue and agreement, there were difficulties for effective participation of the teams

of the health facilities in the actions, either at the time of planning, execution or even the presentation of results in seminars. We can interpret this behavior as a poor perception of the power of this partnership, both with regard to the qualification of services and as continuing education. To meet this challenge, the university has proposed and offered pedagogic training courses for preceptors, which should consolidate into a powerful catalyst in raising awareness among professionals for the development of partnerships and integrated actions.

From the first early insertion experiences of students into practical activities in primary care this partnership started to be built with professionals from the health units and the municipal managers. The partnership relationships enabled some teachers to also act in the service, and resulted in improvement of the physical structure of the units. Gradually, were created new primary care units which have been defined by the city manager as teaching units, for which resources and projects are being directed, such as those from the Pro-Health, PET-Health, Multidisciplinary Residency, Access Improvement Program and Quality in Primary Care (PMAQ), Telehealth and Health in School; some of these functioning as pilot, as in the case of PMAQ, the School Health and Telehealth.

We consider important to share our experiences because, at the time we were challenged to implement the collective health modules in medical school 10 years ago, we had many doubts and few certainties. One of the certainties we had was that the actions should be required to be undertaken in partnership with service professionals, never detached from locoregional requirements, which should lead to products of interest to the community and stimulate and yield the leadership of the students (and future professionals), where possible using teaching methodologies focused on those who learn.

The UPF defined its mission from its perception of the academic environment, of which it is the protagonist, and the external environment, which aims to transform. With this premise, we defined for the UPF the following mission: "To produce and disseminate knowledge that will promote the improvement of the quality of life and produce competent, critical, ethical and humanistic citizens, who are prepared to act as agents of change".<sup>14</sup> Following this concept, the medical school develops its educational, research and extension actions while focused on locoregional needs. The graduates of the institution not only meet their individual expectations regarding the path of life, but also respond in different ways to the expectations generated around them by various sectors of society, from the family social group to future generations that depend of their legacy. This means that the training received in the courses that are offered,

in the provided practices and coexistence maintained unfolds in different directions, which should not be neglected in the establishment of policies and actions in their internal scope. This is how we understand social commitment.

For more than ten years, teachers of this unit represent the institution in the Municipal Health Council and the Teaching-Service Integration Commission (TSIC-regional), seeking to articulate the social control with space of the training. It is a member of the Brazilian Association of Medical Education to stay aligned with the national guidelines for medical education in Brazil. It also engages with other representative spaces and leaderships related to the medical career, such as the regional of the Regional Council of Medicine, the Rio Grande do Sul Medical Union, and the Rio Grande do Sul Medical Association.

As for the social responsibility related to the reorientation projects for professional training in health, social control of the application of resources is carried out through the Local Management Committee for the monitoring of the Pro-HEALTH and PET-HEALTH programs and the accountability in the Municipal Health Council. In practice, the precepts of CBE have been considered and weighted for the planning of the educational activities.

We believe that the development of partnerships between the University, health services and community can contribute to the empowerment of different actors, and that educational actions may provide the development of both the community and the university in different themes. The sharing of knowledge and experiences of all actors in this process represents the strength of community-based education.

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## CHAPTER

# 21

### Strengths and challenges of teaching in the community for Health Courses: The experience of tutorship of the preceptors group

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The increased demand for training based on the necessary skills for health professionals is growing, especially in recent decades, aiming to meet the needs of the population in terms of attention and comprehensive care to health.<sup>1,2</sup> Thus, the managers of the Medicine Course at the Federal University of Rio Grande do Norte (UFRN) have rethought learning strategies and practice settings. This resulted in a review that has moved the Medical School to other practice sites in addition to those offered by our university hospitals, four in total. The diversification of the scenarios has occurred with the inclusion of teachers and students in Health Units from the , made up of physicians, dentists and nurses, UFRN graduates who perform their activities on the outskirts of the capital.

The community education at the UFRN Medical School began in 1966, with the project CRUTAC (University Rural Training Center and Community Action, aiming to promote the extension of the University to the inner cities, and initially installed in Trairi region in the municipality of Santa Cruz/RN. This initiative was supported by the establishment of the "Protection Association to Maternity and Childhood of Santa Cruz", now called University Hospital Ana Bezerra (HUAB). Although this first initiative has shown the sense of social responsibility of the institution and a certain vanguard in the development of educational activities in the community, it was not until 2002, with the conquest of the Pro-Health project by the UFRN Medical School, that the real articulation initiatives of the University with the health services/community were strengthened in order to improve the performance of the Health System. Among other reasons, the decision sought to maximize the mutual benefits that could result from the integration of education and health services.

This chapter shows the experience of the UFRN in the institutionalization of community-based education, as part of the curriculum of his Medical Course.

## Community Education in the First Years of the Medical School.

In 2002 a complementary activity was implemented, the Integrated Activity in Health Care and Citizenship (SACI), offered to students from health courses, here including Medicine, Nursing, Nutrition, Pharmacy, Psychology, Dentistry and Physiotherapy, whose actions are developed in the community with the presence of teachers. This activity is today a subject of the curriculum in the first year, offering 300 chairs per semester, distributed in 15 classes, operating in 15 distinct health units. The text below describes part of the preceptorial Cidade Praia Tutorial Group (Natal Municipality Health Department and UFRN) in PET-Health and Pro-PET-3, which is one of the 15 classes of the SACI discipline in the last five years.

The , as a privileged scenario of everyday practices, has contributed to the early insertion of the students from the health area courses as active subjects of the process of teaching and learning, through the reflective experience of reality during active teaching methods focused on investigation.

The knowledge dialogue between the Academy (tutors), Services (preceptors and other professionals) and Community (leaders, informal collectives and other users) aims to encourage, in addition to technical competence, the moral and ethical commitment to the role of social mediation in search of an interested responsibility in the collectivity<sup>1,3,4</sup> while a fragmented training still persists in the departments, centered in hospitals and medical specialties.<sup>5</sup>

The transit of participants through the webs of teaching, research and extension, has provided a dual route, in which the Community (Society) dialogues with the University (Academy), integrating the practice and the theory in a non-exclusive way, reworking knowledge (praxis) through a permanent dialectical process. Table 1 shows an example of this integration and shows the learning objectives developed in the course.

We understand that each common situation is experienced in a unique way by each person according to their experience and their expectations, their interactions in social networks, boosted by reciprocal motivations and diverse interests.

A political thinking and action, inspired by the appreciation of the common space for the production of visibility from narrations of what was lived, and collective accountability, developing the capacity to be affected by that is public in search of a more fraternal and just society. Live citizenship, seeking to live in health, which in our country is a constitutional right.

Table 1: Summary of the main activities of research, teaching and extension developed in the Tutorial Group Cidade Praia in the in 2009-2014.

Activities	Objectives
Education for oral health and sexuality*	Promote awareness among young people and adolescents about responsible sexual practices, providing information about contraception, prevention of sexually transmitted diseases and teenage pregnancy; take actions for oral health promotion and mouth cancer prevention.
A life without blemishes: preventing Leprosy/Helminthiasis*	Supply information about prevention and treatment of worm infections and leprosy, through a round table conversation in their own classrooms; vermifuges application to all students; check for the presence of leprosy indicator patches, and thus make the selection of patients for referral to the family health unit.
Life in nine moons: Health education with pregnant women***	Experience an educational practice that is able to cooperate with the fabric of better attention to women's health in the context of the ; Articulate the training of a pregnant women group from the perspective of integration among users, health professionals and students; Train health multipliers to exchange experiences and support in future courses; Contribute to the strengthening of ties between the community, the services and the academy.
Second formative opinion in Otorhinolaryngology*	Provide second opinion in otolaryngology for University students and Professionals in the family health unit; share knowledge in a matrix form and health practices in the territory (between Tutor, who is also an otolaryngologist, Preceptors, University students, Health Team, community); increase the resolution and the completeness of local actions; review the practice of bureaucratic referral to the reference and counter-reference via telehealth and in person. From the primary health care to the UFRN university hospital (HUOL-EBSERH), integrating the family medicine clerkship with the residency.
Workshop for caregivers of the bedridden*	Share updated knowledge with caregivers of the bedridden on common diseases and the care needed to maintain the autonomy and quality of life of people in this situation; approximate the health teams, caregivers and family members to encourage continuity in care, in the territory.

To Be Continued

Continuation

Family risk analysis in the *	Apply the Family Risk Scale proposed by Coelho and Savassi (2003) for prioritization of home visits in the Family Health Strategy; know the degree of risk of the enrolled families; propose the use of this instrument as routine; contribute to the strengthening of ties between the academy, the services and the community.
Conversation network: dialogue that teaches how to live*	Encourage experiences of health promotion practices shared among Students, Professionals from the and Community; know the local social networks of the territory; transit across these everyday networks; develop participatory activities of health promotion and disease prevention in these spaces.
Family approach tools*	Deepen the knowledge of the dynamics of the family; Experience the application of family approach tools (genogram, eco-map, practice, firo) in families with greater social vulnerability.
Silver hair: maturity in motion*	Improve the participant's quality of life; Articulate the formation of the group of elderly persons; facilitate access to care seeking wholeness in a multidisciplinary way; eventually promote integrated activities of participatory education through conversation round tables; contribute to reducing the incidence rate of diseases and noncommunicable diseases; prevent idleness and inactivity.
The gift of social recognition**	Introduce into the local scene discussions on the paradigm of the Gift and Social Recognition through Sociological contributions to the .
Integrated activity in education, health and citizenship (SACI)***	Mobilize students a set of knowledge and skills in the field of interpersonal relationships that allow work in interdisciplinary and multidisciplinary team; understand the broader concept, determinants and constraints of the health-disease process and its relationship to citizenship; discuss the movement for the construction of citizenship in the Health Sector; learn to identify, reflect and prioritize problems of a community and to act strategically about the causes; reflect on the principles and values that guide the ethical and citizen improvement.

To Be Continued

## Continuation

Tutorial orientation program for integrated work in health (POTI)***	Promote an initial approach to the basic concepts that organize the work of teams of the and the reflection on the general skills common to all health professionals, and specific to each profession; make it possible for students to experience the dynamics of the organization of primary health care in relation to the network of health services; discuss the principles of research-action for mobilizing the collective, critical and reflective thinking about the lived reality; promote the approach of the students of health courses to the care model in which the is anchored; work on joint projects with the multidisciplinary teams, families and social groups involved in face of the population's needs and from the multidimensional understanding of the health-disease process and social responsibility; understand the importance of information and indicators of health and the results of the actions in primary health care.
Analysis of Everyday Social Networks****	Analyze the local social networking in health from the interaction of users and professionals of the ; map the existing local health social networking in the ascribed territory; identify the types of everyday interactions between subjects; understand the perception of the subjects about the process of formation of social networks from the interactions.
Social networks as new forms of interaction****	Map existing local social networks in the ascribed territory; identify the types of network and their relationship with the Health Unit; analyze the potential of such networks to promote health and educational practices in health education.
Qualitative study of user satisfaction in the areas covered by the ****	Verify the satisfaction or not of the users in relational, organizational, professional and cognitive dimensions, in the health districts of Natal; know the point of view of users about the care provided in the family health unit; identify central ideas or key phrases in the discourse of health users that indicate feelings of satisfaction or dissatisfaction about the , considering the relational, organizational, professional and cognitive dimensions; differentiate the factors that contribute to the satisfaction and dissatisfaction of users about the .
Notes	*Extension Project; **Extension Course; ***Education; ****Research.

The main difficulties of this project represent some battle flags, sustained by the will to face the challenge of promoting a more longitudinal and seamless integration (during graduation) of the student to the practice SUS. This experience has been consistent and significative, especially during the early periods of the courses where there are facilitators of the teaching/learning process, by monitoring two institutionalized subjects in the curriculum: "health and citizenship" (SACI) with a workload of 60 hours/half-yearly each, with activities in the family health unit and Tutorial Orientation Program for Integrated Health Work (POTI), both in the first year of the course.

#### Experience of the Medicine Student in the Community

The insertion of the community as a learning scenario is contributing to the professional training of an unconventional way, because it inserts the student directly into the peripheral communities. It is an interactive activity, which takes place with the inhabitants and health professionals, through a partnership between the university and health facilities. It also allows direct contact between students from different health courses. Teamwork is encouraged from the beginning, learning to share common skills and recognize specific skills of each profession.

Nine students take part in the Cidade Praia tutorial group, three from Medicine, three from Nursing, two from Dentistry and one from Physiotherapy and Nutrition. Students discuss the principles of the work in a team that will guide their behavior during the activities. The local health professionals share with us their experiences in the work of the Family Health Team, when we discuss the whole dynamic of the Unified Health System.

The home visit is a time when the student leaves the basic unit, accompanied by a professional, to visit the homes of families in the neighborhood, especially the most vulnerable ones. It is expected that the student will learn to direct his gaze to the territory and apply epidemiological concepts. Thus, it is possible to see firsthand the conditions in which the people in the community live, and strengthen ties with them. Watching the local community's conditions, it is possible to adequate the health actions, so they will be more effective.

The contact with the community enables us to understand the importance of equality for health systems. We can see the relevance of the Primary Care programs to facilitate access to health services and reduce complications of common diseases, improving community well-being (Fig. 1).





Figure 1. Intervention with the group of older adults in the community.

### ***Teaching in the Community, in the Clerkship, of the Medical School.***

Currently the medical school at UFRN has in the curriculum two moments of education in the community during the clerkship. The first is the Clerkship in Collective Health, which develops tutorial activities involving two municipalities in the state, and the Clerkship in FCM, both in the fifth year of the course. The clerkship activities in Community and Family Medicine happen mainly in the family health unit where the SACI and POTI disciplines already take place.

### ***Challenges of Curricular Insertion for Teaching in the Community***

The insertion of the education in the community axis in the curriculum of the UFRN medical school has been happening gradually, especially in the last five years, however, the difficulty of this insertion in the middle period of the course, where there are predominantly specialized clinics, is notorious. This represents the difficulty to review and rethink the workload and the relevant minimum contents, suiting the needs of medical education in the context of a traditional university.

In relation to the initial curriculum components of the course, it is important to note as perennial challenges that have caused discontinuations in some actions: the lack of synchrony between the hours of the scholarship students (monitors) and the routine activities of the health service; the frequent occurrence of strikes in the health sector (services) and education (social facilities); difficulty of community inclusion with the protagonist of the action; infra-structural problems of the health unit; the low emphasis on social control; the profile of preceptors; the weak adherence of other health professionals, because they do not receive a grant, recognition of the university, and the manager, among others.

Despite the limitations, this initiative has generated rich experiences, many already consolidated in the daily lives of users. However, the most difficult of them happened as a result of a cultural accessibility problem, in relation to a group of Roma, living in the area of a health unit for eight years, a true community, according to the American concept, and which deserves to be detailed in the paragraphs below.

They were about 60 people of all ages, from baby to elderly, with very different living habits from other residents and the health professionals, who lived in three households, which for them was one, and they called it Ranch. There was a leader of the gypsies who initially discussed the demands of the Roma community with a "leader" from the health unit, which for them was the physician (male) because they did not trust women physicians.

It is possible then to imagine that several cultural conflicts took place during this period, motivated by the lack of concern for the other, prejudice and radicalism by the parties involved, in relation to the possibility of mutual recognition regarding the respect for cultural values.

The Roma did not accept the previous schedule for consultations and procedures; did not wait to be called according to the order for preparation, did not wait for the time to enter; took people who were not registered in the family health unit for care; and always wanted to take away medicines for the whole family, etc.

The non-Roma population claimed they did not want to mix with them (Roma), said they sold the medicines, carried out small thefts, that they had poor hygiene and threw a lot of trash in the neighborhood. In fact many times it was observed that, in the day reserved for the care of the Roma, people moved away from them even in the waiting room.

In turn, the health professionals had no patience in dealing with them, barely explained the information, were sometimes authoritarian about the rules and care protocols of the Unit and did not show due respect to this cultural rationality. The major conflicts happened about the pursuance of therapeutic procedures.

The most radical group of Roma did not accept that their wives would be examined and did not agree with invasive procedures (puncture, cut, collection for prevention of cervical cancer, etc.). They accepted the inoculation with vaccines only because of the obligation to comply with the health conditions for receiving the benefit from the Bolsa Família Program.

The housing and hygiene conditions were really striking, and often children and older people slept on the floor. Some attempts of approach occurred, but with few practical results. Conversation round tables were organized on the ranch itself, among Gypsies, trained local health staff, the Health District, the Municipal Labor and Social Welfare Department (SEMTAS), which resulted in some improvement in the flow of service to them and some understanding and empathy on the part of some health professionals.

In 2011, one of the Roma was involved in a confusion in a neighboring community and, shortly after, they went away to another city, all at once. Thus we experienced in everyday practice the problem of cultural accessibility interference in the development of humanized and comprehensive care.

What we have learned and that should stay as the main message concerns the relevance of education in the community, respecting the different levels of care, integration family health unit, ECU, Emergency Medical Assistance System (SAMU) and hospital network as practice scenarios, meeting the needs of the current health system in the country and the education of students in the competence proposed by the National Curriculum Guidelines of the Medicine<sup>6,7,8</sup> Course, as exemplified in the citation from Menin<sup>9</sup>.

"Education in the community, combined with the hospital-based education is a successful strategy to help refocus and integrate medical education more fully and to promote a better relationship between medical schools, population and professionals."

### **Thanks**

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## CHAPTER

# 22

Learning and teaching basic life  
support for the child,  
adolescent and family in the community

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### ***Why to Teach and Learn About Cardiopulmonary Resuscitation (CPR) at School?***

One of the main causes of deaths per year in Brazil and in the world are cardiovascular diseases, predominantly ischemic heart disease. Not recognizing the symptoms and the devaluation of the evidenced situation lead to 80% of deaths in non-hospital environment, but also cause delay in triggering specialized care.<sup>1,2</sup> Surviving a Cardiac Arrest (CA) depends on several factors. Immediate action and cardiopulmonary resuscitation (CPR) performed by lay people are key to success. Although a large amount of CA occurs outside the hospital, in only one-third of these cases spectators make use of CPR, demonstrating the need for training the community.<sup>3</sup>

CPR is a therapy whose main purpose is to keep the flow of oxygenated blood to the brain and other vital organs for homeostasis, until the vital functions return spontaneously. The sustained blood flow and oxygenation should maintain a steady state until the definitive care. In the vast majority of the causes of sudden death, the capacity and the will of a bystander to perform CPR will increase the victim's chance of survival two to three times and, in the case of drowning, CPR is essential to revive the victim.<sup>4</sup>

For a greater survival rate and the reduction of sequelae in emergency situations, both the evaluation and the care of the victim must be effective. In these circumstances, the involvement of ordinary people is the only way to reverse the current reality, especially in countries with noted deficiencies in health care, such as Brazil. To this end, it is desirable that the largest possible number of community people will have the knowledge and skills to perform CPR.<sup>5,6</sup>

Thus in this context the health professional's profile, who is historically busy with the disease, has been shown to be inefficient to meet the demands of society. The new health care strategies lead us to overcome the institutional walls to get to people where they are before they consider themselves sick, i.e., in families, schools and others.

Thus it is believed that for the advancement of an educational program in Cardiopulmonary Resuscitation it seems necessary to train as many people as possible, exposing the maneuvers to the lay people at a young age, therefore raising awareness and stimulating their interest, explaining thus the importance CPR. Thus, various organizations and societies have recommended that basic life support skills should be taught in schools<sup>7-9</sup>.

Given this context, we chose to work with the school and the teenager because we consider important the health promotion and the prevention of damage, for its immediate need and the repercussions that actions of risk may represent for the health of the adult and productive individual.

In addition, they are at an appropriate stage for learning, discussion and reflection of values and health practices, and may form or reformulate values such as respect, citizenship, solidarity, responsibility; take self-care upon themselves and act as multipliers of health care.

Thus, CPR training has become mandatory in some countries, in order to teach a large number of young people about resuscitation skills.<sup>(3)</sup> International experiences have shown that school children are more likely to accept training in CPR than older people, since they are motivated to learn and implement quickly and easily<sup>(5)</sup>.

Education should be designed to teach skills that are appropriate to the child's developmental level and age group. In addition, the teaching strategies should take into account the gender, culture and ethnic diversity of the student population.<sup>(6)</sup> Given this context, the European Resuscitation Council, the American Academy of Pediatrics and the American Heart Association indicate that Cardiopulmonary Resuscitation should be taught to all school children.<sup>(5)</sup>

Committed to improving the quality of life of the population in general and in particular of children, adolescents and their families, the undergraduate nursing course of the UFRN (Federal University of Rio grande do Norte), along with other health courses, seek to act to promote health, prevent the risk of prevalent diseases and meet people's health needs, joining efforts with educational and health institutions in the city of Natal.

This experience report arises because we understand that a trained student can act in the first minutes, recognizing the early signs and symptoms of emergencies, calling for help and acting as first aid provider anywhere. The child who learns the "abc" of resuscitation in basic life support can and should be part of the first link in the chain of survival.



### ***How the CBE Happens in the UFRN?***

In accordance with the assumptions of the , by the Ministry of Health, the professionals from primary care have as an immediate challenge (in addition to the reorganization, expansion and realization of basic health interventions) the appropriation of the territory by the involved social actors. That is, health professionals should establish with local social facilities (schools, neighborhood associations) and the population (families) professional relationships of trust, that make them jointly responsible for improving the quality of life.

The partnership between the UFRN and the Health Departments of the city of Natal and Rio Grande do Norte state has a history of many years, but, as an agreement on some individual courses and projects. In the last five years the Family PET-Health started to gradually integrate with the programs promoted by the Ministries of Education and Health of Brazil. This partnership is becoming an important tool for the qualification of community-based education through investment in infrastructure for receiving constituted tutorial groups, involving professionals of the , schools, community centers, teachers, monitors and students for the reorientation of the training of students from health care undergraduate courses in tune with the needs of the population and the social responsibility of undergraduate courses, taking into account the historical, economic and cultural dimensions of the population, in line with the Law for Education Guidelines and Bases and the National Curriculum Guidelines.

We emphasize that the Pro-Health and PET-Health programs have brought an increase in the potential of these relationships, especially for having promoted the reception of students in primary care settings, schools and other ascribed social facilities, ensuring a more orderly integration of students in health education in the SUS.

Thus, the UFRN believes that an interdisciplinary, and beyond it a transdisciplinary, training requires, in addition to the reassessment of the relationship between various contents, a resizing of the practical relations, with emphasis on integration. Integration also means thinking about new work interactions in a multidisciplinary team, configuring a locus of common coexistence.

### ***What are the Basic Assumptions for Teaching and Learning Basic Life Support in School?***

1. The health project that guides the UFRN Health Courses requires building and strengthening a bond of trust and accountability between teachers and students, who act as a reference for the relations established between professionals and users of health services.

2. Both the academic activities and the health services linked to them should be autonomy promoters, for the professionals committed to their daily practice, for users in the care of their health, for critical and reflective students, who are the subject for building their own knowledge.
3. The educational actions in question presuppose two subjects who may both teach and learn. Health education therefore presupposes to mind what the "other" thinks and feels about the topic, or of how he experiences the phenomenon or problem at hand.

### ***What are the Objectives of Teaching and Learning?***

1. Qualify the students in the UFRN's health area courses to work in the teaching of BLS, while being prepared to carry out a preliminary assessment;
2. Use mortality data available and the emerging diseases, as an enhancer of the learning process of care for emergencies and urgencies and continuity of care according to the degree of complexity and strengthening the work in the health care networks;
3. Implement the performance of the integrated health care students to discuss, plan and organize actions that favor this first appointment.
4. Promote global health and prevent risk situations in the community through educational workshops on basic life support.
5. Encourage the health students to experience the building, strengthening and qualification of bonds of trust and responsibility among health professionals and the student body and faculty of the school of reference, as a territorial possession of the health team.

### ***How Does the Teaching and Learning Happen?***

Through the Discipline "Health of Children and Adolescents" by the UFRN Nursing Course united with the extension project "Learning and Teaching CPR in School" we proposed Educational Workshops by undergraduates

with school students from the 5th to the 9th grades and also perform the health assessment of each school student individually.

The practice is implemented in schools with proximity of the Federal University of Rio Grande do Norte Campus and of the primary care units.

The implementation of the project occurred with the implementation of educational workshops with school students and the community. On each of the days of the workshop the participants attended educational workshops on the theme of Cardiopulmonary Resuscitation (CPR) with assumptions, content and strategies defined according to their age (lasting approximately 2 hours), learning measures for preventing accidents and recognizing life-threatening emergencies in adults: heart attack, heart failure, asphyxia and cerebral accident, perform CPR and know the AED (portable automatic defibrillator).

In addition, throughout the progress of project activities, scientific meetings and weekly gatherings were held by the project members, in order to discuss the data collected, the executed activities, exchange information and experiences in order to facilitate the development and monitoring of the work.

The project also developed an activity during the UFRN Cultural and Extension Fair (CIENTEC), with activity in conjunction with PET-Health, providing CPR workshops to visitors with the participation of more than 100 people during the days of the event.

### ***What are the Integration Strategies Used in Community-based Learning?***

Teachers, Directors, Managers, Secretaries, Librarians, Kitchen Maids, Cooks and Security Personnel/Gate keepers: All were invited to participate in workshops with the students to acquire the worked contents and integrate them into their discipline, activities, routine conversations in the school; the professionals from health units close to the school (nurses, physicians, dentists, nutritionists, pharmacists, community health workers, psychologist, etc.) were invited to participate in the health workshops, as well as in the evaluation of the health of the students. Thus, the interaction happened with the participation in the workshops, preparation of the students' health assessment, referrals with reference and counter-reference of cases that needed care by the health service and appropriation of theoretical content and methodological resources.

With the families, through meetings where were discussed topics such as adolescents, diseases, first aid and CPR workshops.

With school students, the graduating students interacted in the classroom, in the playground and during the workshops and health assessments, which allowed the building of a bond. The school students may suggest through written notes the situations and issues that they would like to discuss beyond basic life support, or have answers and explanations by professionals from the school, health units or UFRN, thus providing a channel of communication between students, teachers and professionals from the three partner institutions.

At the end of each period the undergraduates gather to evaluate the process, so the professional training for graduates happens in direct relation to the health reality of the population, in order to encourage critical reflection on their conditions and developments.

***And what about the qualitative and quantitative results obtained with this CBE strategy?***

The clerkship at the school, unlike the other clerkships in health care, is not familiar to undergraduates. However, by opening up to the methodological challenge of getting to know what the adolescent feels and thinks on the subject, they came into contact with the reality of adolescents and won the confidence of the adolescents.

We highlight as qualitative results that the developed activities made it possible to identify the needs and the level of knowledge of the Natal community about basic life support. This helped identify the main emergencies in which BLS is required and spread throughout the community how this can and should be done in everyday life, whether at home or on the street, so that many lives can be saved in the community.

We highlight as quantitative results that the activities of this report made possible the application of basic life support by children, families and community who participated in the workshops, which enabled us to inform about 800 people on this subject. Thus this contributes to a decreased break in the survival chain in cardiopulmonary arrest situations and other health problems.

***Were There Developments of This Teaching Activity in the Community?***

We highlight as positive outcomes of this initiative:

1. Approval of the UFRN Health Care PET-Network project
  - Urgency and Emergency where the work was expanded to teaching

in the care network with undergraduate courses, residencies, Strictu Sensu post-graduation and the actors of the clinical practice and the community.

2. Expansion of educational workshops about basic life support (Cardiopulmonary Resuscitation CPR) with the participation of the community
3. Offer of the curricular component: Integral and Multiprofessional Training Activity in Urgency and Emergency (60 hours), for students of health courses, along with the SAMUNATAL.
5. Scientific meetings and weekly meetings in order to discuss the data collected, the work done, exchanges of information and experiences that can facilitate the development and follow-up of the work.

### ***What Difficulties were Encountered?***

It is noteworthy that during the execution of the educational workshops with school children and adolescents we perceived a few obstacles: the lack of interest of some school students and the marked number of absences, which compromised the progress of the workshops. Another difficulty was the purchase of the permanent material that was approved in the project's budget.

### ***Were Made Adjustments During the Implementation Due to the Difficulties?***

As for the evasion of students, it took a longer time with the classes for deepening the understanding of the theme. To address the lack of material, we had the support of the Natal Health Department, using the equipment of the Continuing Education Center at Natal's Emergency Medical Assistance headquarters.

### ***What Conclusion Do We Reach with This Teaching Practice Based in the Community?***

The demands of today's healthcare paradigms make the health professional take care of health promotion, above all, with the one that is considered healthy and does not seek the health service.

The activity proved to be a learning and teaching field that is permanently built and rebuilt, relying mainly on the

committed and creative experience of each participant involved, strengthening growth and appropriation of knowledge, social responsibility of the undergraduate health courses, which participated in this collective construction of education, health, quality of life and citizenship. For any educational activity that is centered in the community to be satisfactory, it is essential for graduate students and professors to take care of qualifying the trust and accountability relationships established between them, such as the fellowship and the harmony of thoughts and practices, with the contents, school students, school teachers, health workers and other participants, establishing ties with them and further promoting the empowerment for the continuity of the care-oriented actions.

It is intended with this, that the training of undergraduates will occur based in the population's health reality, encouraging the critical reflection on their conditions, developments and the establishment of a bond of commitment and co-responsibility in the challenge of building competent and creative solutions to the problems identified.

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## CHAPTER

# 23

Final synthesis and prospects for the future  
of the community-based education in the  
Brazilian context

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We finish this book with an overview of the Brazilian experience in CBE, and from this synthesis we cast a look at the future of Health Professions Education in Brazil.

The reports gathered here show the creation and facilitation of numerous opportunities to educate/train in partnership with the Brazilian National Health System (SUS). The close, continuous and significant contact with these various practice scenarios, relevant to their future professions, offers real opportunities for the students to make sense of the knowledge, skills and attitudes required for them to develop during undergraduate education. Many of these CBE experiments were possible after the creation of the Secretary of Labor Management and Health Education (SGTES), by the Ministry of Health in 2003 and, of course, from the publication of the National Curriculum Guidelines in 2001. The SGTES has been a promotion instance to socially responsible training, with quality, and that prepares future professionals for the challenge of continuing education and work management in health. A good sample of this inducing action can be seen in chapters 2 and 3 of this book, that describe the main public policies that represent a powerful facilitator to the schools to make the decision to review their curriculum in the health area, towards CBE.

These experiences reports portray the lessons learned and the challenges of implementing curricula that value CBE. Using the analogy used by some authors, we believe that, looking at the "path already trodden" in the reorientation of the training of health professionals, it is possible to broaden the discussion on the subject at the present time and illuminate our path in the future.

Most experiments address the integration of students in primary health care and urgency/emergency services, which are themes highlighted in the text of the new curriculum guidelines for the Brazilian medical schools, newly published in 2014. We gathered seventeen reports from ten states and four regions in Brazil. All of them highlight and value the peculiarities of education for the health professions in the country.

The listed experiments include medical courses, nursing, pharmacy and dentistry, as well as interprofessional initiatives, which gradually gain strength in the curricular organization and in the SUS health care.

In addition to the CBE, directed at graduation, some authors anticipate a necessary debate, which is the discussion and incorporation of concepts and practices of CBE also in medical and multiprofessional residency. Who knows, this is a subject for another book?

We learned that an essential ingredient for the success of the change process is the institutionalization of the proposal, mixing participants from school (academic management and professional areas involved), the management of the health service, professionals' network and the community members (those people that are the main reason for all these actions).

The design and implementation of the curriculum should articulate learning objectives with practice scenarios able to provide the necessary opportunities for the effective learning over the years, especially during the clerkship.

Several experiments highlight the importance of a diagnostic evaluation, with teachers and students before and in the initial phase of implementation of a new curriculum component that values CBE. In this sense, whenever possible, is recommended to start with a smaller "pilot" project, to assist in raising the awareness of the interested parties. In addition, the "pilot project" is a unique opportunity to acquire knowledge and design the best ways to implement the change on a large scale (complete curriculum proposal).

Experimentation and innovation are key concepts for the CBE. Some of the reports express the relationship between simulated activities, such as preparations and approach to practice in the real scenario. Others value innovative methodologies. The implementation experience of an urgency and emergency care axis, articulating various specialties, also anticipates the proposal of the National Curriculum Guidelines for the medical courses, from 2014. All the other experiences that increased the integration of students of different courses in primary health care also go in the same direction.

The reports endorse the formation of a competent health professional, a citizen who is conscious of his/her social responsibility.

Among the main challenges identified by the authors, are worth mentioning the low valuation of the teaching activities in extramural university scenarios, combined with a still prejudiced view on primary health care. CBE challenges teachers to understand that to perform educational activities in a "real environment", integrated to the community, is different from doing it in the classroom, in the hospital or in the laboratory. This is a space for exchange and mutual transformation and over which we have no control. Often a scheduled activity can not be carried out as planned, requiring flexibility and the ability to "improvise". It is at this point that we need to make use of the famous "plan B", "plan C" till "plan Z", if necessary.

Regarding the team involved in the CBE, a major challenge has been the high turnover of health professionals who acted as preceptors in the primary care, especially the Physician of the Family Health Team. In some cases the lack of infrastructure in the health facilities to receive and accommodate groups of students is associated with this. Therefore, we find accounts of activities in gyms, churches, classrooms of public schools, community halls, among others.

A key lesson we draw is that the quality of education is directly related to the quality of health care that is provided to the community, as it also depends on the qualifications of the teacher who supervises and guides the students in practice scenarios. This perception leads us automatically to the imperative need to ensure school development opportunities and teacher training for teachers and preceptors who work in the community.

The articulation of education with the community challenges the academy and its teachers to conduct research and produce knowledge in this context. This point was mentioned in some of the chapters and, of course, is an effective way to upgrade and enhance the education practices in the community.

Finally, we must recognize that not always a new proposal for CBE will be immediately incorporated into the undergraduate curriculum, and in some cases it can only be offered as an "elective discipline" or as a complementary activity. This should not be taken as failure, but as a necessary step in the change process. Each institution has its own time to change, and we must respect it. More important than change, is to do it with quality, so that the change is perceived as a real gain for those involved, especially for the community. This is what gives sustainability to the process!

Finally, we end this journey borrowing and adapting the poetic title of the chapter by the School of Medicine from Federal University of Uberlândia, which expresses the essence of the proposal of this book on CBE: "Ideas and ideals: Health and Education as a Social Commitment".

