

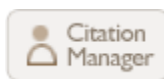
Integrating medical and health multiprofessional residency programs: The experience in building an interprofessional curriculum for health professionals in Brazil

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Date of Web Publication 11-Jun-2014



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Source of Support: None, Conflict of Interest: None

DOI: 10.4103/1357-6283.134331

Abstract

Background: The aging of the population demands a development of the skills of different health professionals working in teams due to the complexity of the problems arising from this population. This article discusses the integration of two residency programs: medical and multiprofessional. The challenge was to construct a curriculum with practical and theoretical activities that develop competencies within the scope of interprofessional education, ensuring the necessary depth and detail of study in all the professional areas involved in the development of specific skills. **Methods:** The curricular integration was accomplished by conducting workshops with the participation of coordinators from both programs and service areas, preceptors of medicine, nursing, nutrition, psychology, physiotherapy, and social services. In these workshops, we agreed upon the goals, general and specific competencies, the standard weekly schedule, practice scenarios, evaluation, and selection. **Results:** The interprofessional program has 26 residents, of which 6 are physicians 4 each from the other areas, with 25 preceptors from the 6 areas that comprise the program. The residents develop their training in six practical scenarios distributed between the first and second years with increasing complexity. **Discussion:** The program is based on guidelines, physical conditions and human resources that allow for the overcoming of barriers to the development of interprofessional education and collaborative practice.

Keywords: Aging, interprofessional education, residency program

How to cite this article:

da Motta LB, Pacheco LC. Integrating medical and health multiprofessional residency programs: The experience in building an interprofessional curriculum for health professionals in Brazil. *Educ Health* 2014;27:83-8

How to cite this URL:

da Motta LB, Pacheco LC. Integrating medical and health multiprofessional residency programs: The experience in building an interprofessional curriculum for health professionals in Brazil. *Educ Health* [serial online] 2014 [cited 2015 Nov 13];27:83-8. Available from: <http://www.educationforhealth.net/text.asp?2014/27/1/83/134331>

Introduction

The aging of the population calls for the development of skills for different health professionals to work in teams. It is well known that working in interprofessional teams, integrated and with common goals, reduces costs and improves the quality of care provided, particularly in situations of great complexity as demanded by the elderly.^[1] Since the development of content for geriatrics and gerontology—as well as the development of skills for working in teams—is still low profile in the degree programs in Brazil, residency programs are propitious grounds for this development.

The Ministry of Education defines residency as a graduate course, with a load of 2880 h/year, where 20% is theory and 80% praxis. Selection is done by competitive exam and students receive a fellowship for this period. The Medical Residency and the National Medical Residency Commission were instituted in 1977^[2] in Brazil, regulating the medical programs. In 2005, the Multiprofessional Residency was created, and in 2009 the National Commission of Residencies in Health Areas^[3] was established, following the guidelines of the Ministries of Education and of Health, with the goal of attending to the demands of the Unified Public Health System (SUS in Portuguese). Among the health areas covered by the Multiprofessional Residency, medicine is considered separately because it has its own legislation.

The Medical Residency Program in Geriatrics (PRMG) of the State University of Rio de Janeiro was developed by the Elderly Care Group (NAI) in 1998, with three annual positions of two-year duration. The Pedro Ernesto University Hospital (HUPE) has had residency programs (single discipline) for more than 20 years in different health areas. With the initiation of PRMG, the NAI became an area of rotation for residents from single-discipline residencies such as physiotherapy, psychology, and social services, serving as the catalyst for this work.

The Multiprofessional Residency Program in Elderly Health (PRMSI) began in 2012, with the initiation of two positions per health discipline to be completed in two years of service, and today consisting of five areas: Nutrition, nursing, social services, psychology and physiotherapy. The other health disciplines that comprise the team (pharmacy and speech therapy) are organizing themselves to participate in the next administration of competitive selection exams.

NAI is a multiprofessional service with a team made up of eight health disciplines: Medicine, nursing, social services, nutrition, psychology, physiotherapy, speech therapy and pharmacy, working in an integrated manner and with a common goal. The methodological principles are care focused on the patient and his or her family, and comprehensiveness of care. With the objective of promoting a space that breaks barriers,^[1] in facilitating interprofessional work, NAI organizes itself based on action scenarios, creating individualized teams that interact in each scenario and are the matrix for practical training.

The interprofessional arrangement of the work process developed by the professionals allowed for the shaping of the training program within these same principles.^[4] This paper describes the creation of an interprofessional training program integrating the two programs: Medical and multiprofessional.

The development of an integrated curriculum took two years, and included monthly workshops with the participation of a total of 12 professionals, consisting of medical and multiprofessional program coordinators, staff and tutors from different areas of health services. The National Curriculum Guidelines ^[5] and legislation relevant to residencies ^{[2],[3]} served as the basis for the collective development of the principal axes and components of the program.

Workshop topics focused on: Profile upon completion; general and specific competencies to be developed by the residents in the various action scenarios, highlighting the gerontology content that is common to all disciplines as well as the specifics of each area of knowledge; practice scenarios; the assessment methodology to be implemented, taking into account the complexity of the scenarios, competencies and professions; and the selection process.

The desired profile upon completion was defined as a professional with a humanistic, critical and reflective perspective, specializing in geriatrics and/or gerontology. The professional should be capable of acting within the framework of comprehensive health assistance, with: A good vision of the health/illness/aging process; respecting ethical principles of the profession and cultural values pertaining to both the individual and groups and the community; and contributing to the content and management of public policies.

The agreed upon pedagogical project follows the guidelines of problem-solving that leads the professional to reflection upon one's own practice and the repercussions of actions upon the actions of other professionals. The theoretical-methodological foundations of the program are the work in teams, comprehensive attention to the health of the elderly, care centered on the patient and family with a focus on primary, secondary, tertiary and quaternary preventive actions, health promotion and rehabilitation. With equal emphasis at the individual, family and community levels, these foundations exemplify the theoretical reference for gerontology and geriatrics.

The program: Theoretical and practical activities are divided into *interprofessional activities*, encompassing gerontological content common to all disciplines, and *specific activities* related to each discipline for which deeper theoretical study is necessary. These activities are offered over the two years of the residency program. For interprofessional theoretical activities, the themes follow the theory-based gerontological axes and components to be addressed throughout the two years of residency, skill-building activities, group studies, and activities such as YouHUPE (thematic debate through cinema) and Telegero (discussion of themes with teams from other universities via videoconferencing). Theoretical specific activities, also involving the two years, consist of supervised assistance focused on discussion of content pertaining to the theory-based axes and components of the programming for each health professional area.

In terms of practical activities, interprofessionalism takes place in work in teams, case discussions, development of treatment plans, and interprofessional consultations. In the specific activities, training is based on attending to individual patients, with supervision from the discipline and development of specific skills in each discipline. External service rotations complement the necessary content of each health professional area. For instance, medicine does a rotation with a service in palliative care, nutrition participates in the service of the hospital's nutritional support or physiotherapy does a rotation in intensive therapy [Table 1].

Table 1: Organization of theoretical and practical activities

INTERPROFESSIONAL		SPECIFIC	
PRACTICAL	THEORETICAL	PRACTICAL	THEORETICAL
Work in teams in the different scenarios under supervision	Professional development course in elderly care YouHUPE TELEGERO	Individual care in different scenarios under supervision	Case discussion with the preceptors Supervision of scenarios
Treatment plan construction Care transition	Multiprofessional study group Research seminar	External rotations specific to each area	Discussion of theoretical topics specific to each area
Interconsultation	Case discussion in different scenarios		

Residents in medicine, nursing, physiotherapy, nutrition, psychology and social services fulfill a similar standard week of training for first and second year residents. They are organized as teams with activities that increase in complexity. In each practical scenario, the residents are encouraged to work within a perspective that stimulates dialogue, comprehension of their role and the importance of each professional in conducting the cases and implementing proposed treatment plans. This is achieved with the discussion of cases with the team of residents and preceptors during the outpatient clinic shifts, and in weekly meetings in the scenarios as infirmary, where agreement is reached on treatment plans to be implemented and the responsibility of each professional in plan execution [\[Table 2\]](#) and [\[Table 3\]](#).

Table 2: Standard week for first-year residents

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Morning	Infirmary	Infirmary	Case discussions infirmar	Course infirmary	Infirmary	Infirmary
Afternoon	Outpatient case discussions end of shift	Health Education	Study group Specific topic discussion	Outpatient case discussions at end of shift	Neurogeriatric outpatient	Case discussions end of shift

Table 3: Standard week for second-year residents

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Morning	Reception	Neurogeriatric outpatient	Discussion of infirmary cases	Long-term stay institution	Infirmary	Infirmary
		Discussion of cases at end of shift				
Afternoon	Outpatient case discussions end of shift	Domestic care	Study group Discussion of specific topic	Outpatient case discussions end of shift	Neurogeriatric outpatient	
		Case discussions end of shift			Case discussions end of shift	

Interprofessional learning occurs in direct contact with the elderly and their families, with the common goal of providing answers to health issues of the population being served. The learning goals are differentiated by the practice scenario: (1) *general outpatient care, reception and neurogeriatrics* to identify elderly at risk through the Multidimensional Assessment (an assessment in multiple domains of functionality, cognition, mobility, nutritional state, social support, comorbidities with the goal of early identification and intervention in conditions of risk) that helps guide patients with chronic conditions and geriatric syndromes, establish preventive and rehabilitation measures, and give support to the caregiver; (2) *infirmary* to attend to frail elderly with high levels of complexity and in situations of dependency, and participate in the development of a hospital release plan; (3) *home-based care* to execute the treatment plan, as well as orient the care and support for the principal caregiver; (4) *Long Term Institution for the Elderly (ILPI)* to develop the residents' abilities to adequately manage and attend to the elderly, develop an institutional treatment plan and the effective implementation of strategic actions in the comprehensive attendance, with the objective of maintaining or improving the quality of life of the institutionalized elders; and (5) *educational actions* to coordinate, plan and evaluate educational actions to promote healthy aging.

The intention of the organization of services is to facilitate interaction and collaborative practices, whereby the discipline professionals work in scenario teams, ensuring unity and a sense of belonging [Chart 1]. Within this scope, specific hours are also reserved and made available for case discussions, sharing medical records among all the professionals, interprofessional consultations, systematic assessments of the process, bimonthly meetings with the resident representatives, and monthly meetings of a council of all the preceptors involved to evaluate the performance of the residents.

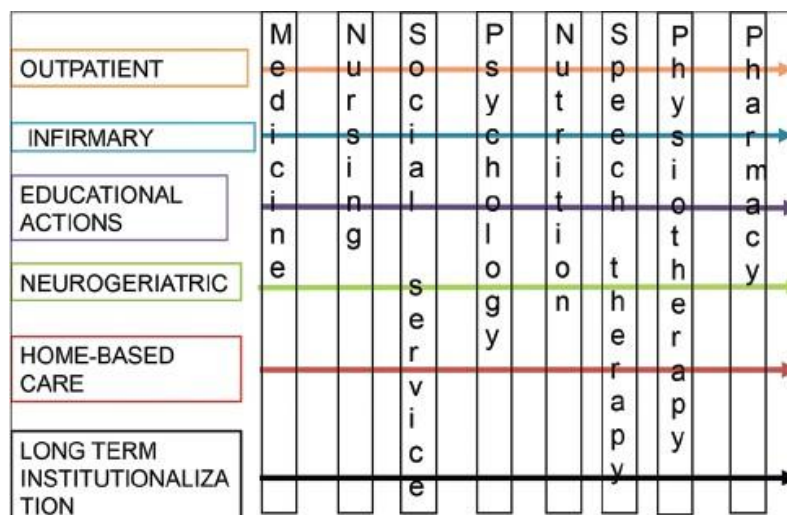


Chart 1: Organization of practice scenarios

The evaluation: The evaluation process is divided into evaluations of both the resident and the program. Resident evaluation is procedural, formative and cumulative, based on performance. This process is completed every four months with individual feedback. The resident and preceptors of the discipline involved in training receive a questionnaire addressing such items as: relations with the elderly and their families, preceptors, residents of the same and different participating disciplines; continuing education; written production; acceptance of criticism and suggestions; diligence and punctuality; and specific evaluation of skills, attitudes and knowledge of each individual discipline.

Every two months, residents and assigned coordinators discuss a portfolio developed with a report on patients served in the different scenarios, their problems and any issues that may have come up. A self-assessment of learning is done ('what I learned and what I should have learned'), and a description of a mobilizing case that was experienced and what team resources were used for its resolution. Included in the evaluation are participation in the activities and courses and development of the final work in the form of an article for publication.

The evaluation process also includes assessment of the program, which allows for a feedback process with the aim of continuous adjustments and the opportunity to interpret results to date to identify learner progress related to initial goals and assessment of students.

At the end of each year, a workshop to assess the program is conducted with residents, preceptors and coordinators. Students receive an online survey to evaluate the scenarios and their relationship with preceptors. Using this information and the results from the workshop from the year before, students are divided into multiprofessional groups and instructed to evaluate each practical and theoretical activity scenario, with identification of and suggestions for both negative and positive activities and outcomes. The aim of this review is organization of the work that has been done, including supervision offered, theoretical support, and learning opportunities. In addition to the qualitative results obtained in this meeting, assessment tools from the theoretical activities and the study groups are used as material for analysis. The preceptor's self-assessment, which occurs annually, involves reflection on the tutoring practice with the aim of maximizing the impact of the learning experience.

The outcome of this workshop is the basis for planning that is conducted at the beginning of each year, before entry of new residents. This planning involves coordinators and preceptors who jointly agree on the theoretical and practical interprofessional programming; and activities among the preceptors are assigned according to their expertise. Specific activities are discussed among the preceptors in each discipline with the goal of determining the preceptors for the practical activities and responsibility for the discussion of specific subjects.

The first selection process for the multiprofessional program occurred at the end of 2011, after joining the National Commission for Multiprofessional Health Residency. This selection process is unique, with a theoretical component common for all applicants with content from the legislation and references on aging, as well as a component with specific content, in multiple choice exam and discussing clinical cases in both phases. The medical residency selection is done through a competitive public exam in conjunction with other university medical programs.

During the first week of training (Integration Week), the first-year residents are welcomed by the second-year residents and preceptors to get to know each other, the service, preceptors from their and other disciplines, practice scenarios they will participate in, and the methodological principles of the service and training. There are also group activities to discuss the principles of interprofessional work and facilitate the integration of the students as a team.

The PRMG is in its 17th class iteration and the PRMSI is in its third class this year, with a total of 26 residents: Six from medicine and four, respectively, from social services, nursing, nutrition, physiotherapy and psychology, with both first and second year residents.

The staff team is composed of 2 program coordinators, who act as supervisors in their disciplines, and preceptors, for a total of 25 preceptors: 6 physicians, 3 social workers, 4 nutritionists, 4 physiotherapists, 3 psychologists and 5 nurses. Each discipline has a supervisor among the preceptors responsible for: Scheduling of residents; establishing the standard week and scenarios; distribution of preceptors; and development of the appropriate, specific theoretical programming. It is also the responsibility of the program coordinators to ensure the development of the interprofessional program, and management of interfaces between disciplines.

Decisions regarding the organization of the program, whether theoretical or practical, are made by the council of preceptors, in which all participate in monthly meetings, where decisions are taken, problems are analyzed and tasks are divided. The planning sessions at the beginning of the year are weekly. Finally, service coordination is part of the responsibility of the council, to address issues in the work process, since the service work process has a profound impact on ensuring an adequate place for the development of the work in teams.

Supervision of practical activities is performed according to the guidelines for each discipline. Medicine, nursing, nutrition and physiotherapy have a preceptor present in all activities and the cases are discussed during the activity. Psychology and social services have preceptors available, but case discussion takes place in weekly meetings. Cross-tutoring is encouraged, that is, the identification by the residents of preceptors in other disciplines that are available in the scenarios where they are acting and can give support for general issues in patient care and management.

After initial planning, interprofessional activities are organized by the preceptors, in pairs, according to their proximity to the programmed issue. Evaluations of students and the program are the responsibility of the coordinators. They arrange for the availability of assessment tools and perform the analysis and feedback for the students. Evaluations of the program have shown that the goals are being met. We contend that constant feedback is one of the factors that contribute to this positive outcome.

Discussion

Residency programs are good opportunities for the development of interprofessional training for collaborative, patient-centered practice. Gilbert [1] argues that the best time to expose students to interprofessional practice is after already entering into contact with more complex cases, where the value of a team approach, over an individual discipline perspective, is apparent. However, conditions or protocols must be provided to face the many barriers, [1] such as communication, regulation of the health professions, university legislation and academic structures.

The construction of the interprofessional program for elderly health care is grounded in conditions considered essential:[1] The two years of residency, contrary to what occurred when the residencies in the health areas were only rotations, has brought the necessary permanence and stability to the integrated curriculum; the prior existence of a service - whose staff already worked in integrated teams centered on the patient - was the backbone of this construction; the work process in the service, with protected spaces and times, helps to ensure interrelations between the professionals and the construction of a collaborative practice.

Problem-solving, critical and reflective educational process with increasing complexity allows for cooperative learning whereby a positive interdependency is developed, promoting interaction, as well as taking responsibility, development of interpersonal skills and attitudes in working in teams and understanding the process of group work. [6] Reeves [7] shows that for the establishment of this field, studies are necessary that demonstrate the interactive character of the process, the transition to collaborative behaviors, demonstration of costs and the reduction of costs within the health system, and improvements in outcomes. This is a field of study that needs to be stimulated.

As a large field of knowledge that involves multiple disciplines, gerontology presents fertile ground for the development of interprofessional programs, since it presents a central constellation of content, skills and common attitudes in various health disciplines. The aging of the population, with consequent increases in care and service demands for a demographic group that has needs and issues on multiple levels, is in line with the proposal presented by the IPEC Report [8] The care needs and demands of the population require interprofessional education and collaborative practice, presenting a challenge to the centers of professional instruction.

Participation in the program evaluation process entails involvement by residents, along with ownership and professional maturity with issues related to the health system, policies and NAI itself. Overall, the program has been evaluated in a positive way. Scenarios where interprofessional practice is better developed, and the foundation for this to occur have been clearly identified. Preceptors across disciplines have also been identified, been appointed, and necessary competencies established for preceptors. The process of regular evaluation, feedback and adjustments are the hallmark of this process. This is a topic of increasing importance and needs to be studied in depth and so that we can pinpoint the impact of the results of this unique and integrated program.

Acknowledgments

The authors would like to thank the Academic Development Directorship of the Pedro Ernesto University Hospital, and to all of the preceptors in the health areas involved in the discussion process and training.

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