The Integration of Health and Education Services: the power of COAPES for Medical Education

Luis Fernando Zarpelon[1], Maria Leandra Terencio[1], Nildo Alves Batista[2]

Corresponding author: Prof Luis Fernando Zarpelon luis.zarpelon@unila.edu.br
Institution: 1. Universidade Federal da Integração Latino-Americana, 2. Universidade Federal de São Paulo
Categories: Curriculum Planning, Educational Strategies, Continuing Professional Development, Curriculum Evaluation/Quality Assurance/Accreditation

Received: 14/01/2020
Published: 13/02/2020

Abstract

The 2014 National Curricular Guidelines (DCN), which indicate the integration between education and services as a critical path in professional training, imputed to schools some curricular reforms aimed at early and effective introduction of students into the SUS health care network, which meant a fundamental advance in the educational process. Several teaching-service integration experiences have promoted advances in the approximation between universities and health services. However, the level of integration required between public health care and human resources training policies, both highly complex internal systems, entails new challenges to the establishment of management tools capable of sustaining this process. Therefore, this work mainly aims to share our experience with a medical school in the Education-Health Public Action Organizational Contract (COAPES) and the potential of this process for the medical course of the Federal University of Latin American Integration (UNILA). To date, this experience has resulted in significant gains in the development of curricular educational activities, such as establishing learning objectives based on local reality, opening the entire care network in the region covered from school to teaching, advancing the placement of the students with relevant attributions in the service chain and the approach with the other health IES that are part of the contract, enabling the development of collaborative skills of future physicians with other health professionals, empowering them to collaborative practice. Some constraints must be satisfied so that this process effectively serves the construction and maintenance of the national health system, such as revision of the school calendar, the involvement of teachers in care and management processes and the construction of instruments that explicit rules and represent clear agreements that support these inter-organizational relationships resulting from the unification of actions and public services in a single system, to be executed by many political and autonomous entities.

Keywords: Medical Education; Teaching-Service Integration; Health Public Policies
Introduction

Teaching-service integration is understood as the collective, agreed and integrated work of students and teachers of health training courses with workers who are part of the health services teams, including managers, aiming at the quality of individual and collective healthcare, the quality of professional education, and the development/satisfaction of service workers. The growing consensus on the need for integration between teaching and service is justified by the concern to reorganize health practices from the formation of human resources aware of their role in society. It seems, therefore, impossible to think about this without, at the same time, interfering with vocational training and the world of work (Akram et al., 2018; Franklin et al., 2015; Albuquerque et al., 2008; Feuerwerker, 2006).

In the last decade, considering the new curricular models that prioritize the real scenarios as an object of learning, the integration of the fields of health and education has provided transforming experiences and significant changes in the training of health professionals. It drew universities and health institutions closer by establishing new integrative actions between schools and care spaces, which also became permanent education settings (Davies and Pachler, 2018; Gonzalo et al., 2016). The implementation of COAPES allows a significant leap in the construction of the integration of education with services, while this process gains the prominence of a permanent policy in the formation of new human resources in health and the permanent development of the SUS workforce.

Teaching-service integration

In the world pedagogical perspective, in the first half of the twentieth century, medical education reflected the observations contained in the Flexner Report. Through different movements and processes, these ideas reached the Latin American countries and induced policies, programs and projects that articulated the relationships between teaching and health services. Flexner's contributions were significant for medical education, but the centralization of disease and hospital reflected in a reductionist view of this process, reserving little space for the social, psychological and economic realms of health, as well as for the inclusion of the broad spectrum of health, which transcends medicine and its doctors. Throughout the world, the lack of commitment to the reality and needs of the population has been evident, and since 1980, a reform of the health sector has started in several countries through the mobilization of academic resources, international institutions, governments, among others. In order to respond to these new demands, considering the different socioeconomic and political situations of each country, health and educational institutions began to reorganize their structures and rethink their practices, since teaching-service integration is not built in isolation but in coordination with political, social and economic processes World Health Organization, Pan American Health Organization, and others (Bandiera et al., 2018; Frenk et al., 2010; Pagliosa and Da Rosa, 2008).

It is observed that, although the Flexnerian model has not been completely overcome, the relevance of these movements of change that articulated to a set of national and international actions and projects during the last decades of the twentieth century and made significant efforts towards new paradigms of health and education is indisputable. Particularly for Brazilian medical education, this century was characterized by two major movements: the significant expansion in the number of medical schools, in no particular order; and the emergence of several experiences aimed at integrating teaching-service, mainly at the level of primary care, which served as the basis for the current policies of reorientation of medical education focused on solving the main health problems of the population and with the capacity to act in diverse levels of service coverage (Frenk et al., 2010; Batista, 2015).

These reorientation policies included the creation, suppression or transformation of disciplines; curricular reorganization, with changes in the syllabus, content and timetable of the subjects; emphasis on teaching Preventive and Social Medicine; didactic-pedagogical preparation of teachers; definition of educational objectives;
improvement of teaching and assessment techniques; integration of the primary and professional cycles, with anticipation of the student’s clinical experience; use of outpatient clinics in the teaching and establishment of internship. However, these strategies did not change hospital-centered education and fragmented practice in many specialties, pointing to the fact that progress would only be achieved with comprehensive, more integrated and focused initiatives (Brauer and Ferguson, 2015; Bandiera et al., 2013; Endler and Fonseca, 2006; Nunes, 1999).

The International Conference on Primary Health Care, held in Alma Ata (USSR, 1978), was a significant milestone in global medical education, as several countries reformulated their health policies and reoriented medical education by emphasizing the importance of primary care, preventive medicine and outside service-school activities. The World Medical Education Conferences, promoted by the WFME (World Federation for Medical Education), WHO (World Health Organization) and UNICEF (United Nations Children’s Fund) were also essential milestones, since, from that, the need to redirect medical education to social reality and health promotion by proposing a new integration pact between training institutions, health services and society (Batista, 2015; Marciaó, 2015; González and Almeida 2010; Martins, 2008; Chaves and Kisil, 1999; Rosa et al., 1995), were reaffirmed. Particularly in Brazil, despite advances in public health policies, most higher education institutions still have perpetuated conservative and fragmented training models, focused on specialized technologies and highly dependent on hard technology for diagnostic and therapeutic support (González and Almeida, 2010; Almeida, 1999).

Although previous experiences in integrating teaching-service-community have brought few results in the reorientation of medical education, they have contributed to generating reflections in schools that gradually no longer saw in these processes only the opportunity of internship camp for their students but started to view them as potential transformers of social reality and, consequently, of the formative process. Thus, the practice scenarios must be expanded and qualified, which makes the task quite complicated (Zarpelon et al., 2018; Grumbach et al., 2014).

**COAPES in the context of curricular reforms**

The teaching-service-community integration proposed in this new moment of transformation of medical education requires more than the establishment of bilateral contracts or agreements between the training and care apparatus. The scope of the expected reforms requires the effective implementation of a teaching-service-community integration policy that involves all the schools of the health area, as well as all the care services and their respective managers.

From this new milestone, the teaching-service-community integration must be the central element, the main point of the formative process of the future worker. Therefore, teaching-service integration should be the base of health education’s curricular design, while at the same time it is no longer possible to conceive health services that do not provide for the organization of their work to incorporate the continuous educational process at all levels.

Integrating health services and educational institutions implies certain constraints, such as horizontal relationships, joint work processes, common interests and alignment of needs and potentialities (Brehmer, 2014). In this context, the integration of teaching-service, which was previously restricted to agreements between two institutions, one of health and the other of education, now gains new and more complex contours through intergovernmental management.

This new setting can help overcome some of the commonly identified difficulties, such as the political instabilities caused by frequent managerial changes; the limited infrastructure of health services (physical area, equipment, availability of study material); the isolation of the IES from the service network and society; both actors’ failing to understand the real goals of the teaching-service integration; the difficulty in organizing, agreeing and absorbing the
demand of the field of practices in municipalities that includes a more significant number of health schools; the insufficient interprofessional articulation within the IES for the development of teaching-service integration activities; the conflicts in the face of the lack of definition regarding the commitments of educational institutions and health services concerning the preceptorship and sanitary responsibility.

New network management tools capable of withstanding the inherent administrative challenges must be developed to support this new phenomenon, based on horizontal and interdependent inter-sectoral and interinstitutional relationships. As a result, the Education-Health Public Action Organizational Contract (COAPES) is proposed.

The guidelines proposed for COAPES, expressed in the Interministerial Ordinance No. 1.124 of August 4, 2015, establish the guarantee of access to all healthcare establishments under the responsibility of health managers as practice scenarios for undergraduate and graduate education (residency).

COAPES commits public health management to the development of educational activities and commits the IES to the regional development in addressing local health issues through active community participation. Thus, it defines that each health region will establish a single COAPES, gathering all IES, health residency programs and managers from all public health spheres involved. It assigns the coordination of the process to the manager of the IES host municipality, establishing the responsibilities of all those involved and ordering that the contract be approved in the deliberative instances of the SUS (Legislation Brasil, 2015).

**Methods**

**Implementation process**

The municipality of Foz do Iguaçu is located in the western region of Parana, in the triple border area between Brazil, Argentina and Paraguay. According to the Brazilian Institute of Geography and Statistics (IBGE), Foz do Iguaçu has an estimated population of 258,532 as 2019, and with other eight municipalities compose the 9th health region in the state of Parana. As a regional hub, Foz do Iguaçu serves an estimated population of 900,000.

This health region has 86 basic healthcare units and 71 strategic health family teams, six psychosocial attention centers (CAPS) (for mental health, alcohol and drug abuse), six general hospitals, one specialist dental care centers. There are also 548 physicians, of which 86% are linked SUS.

In Foz do Iguacu there are seven higher education institutions (federal, state, private and philanthropic) with 28 health undergraduate courses (five nursing, four of each physiotherapy and pharmacy, three of each psychology, social work and nutrition, two of radiology, and one of each medicine, speech-language pathology, biomedicine and public health).

Until the present proposition, the relationship between all higher education institutions and local health institutions occurred exclusively by individual agreements of technical cooperation. Most of the times these agreements were specific to allow the assignment of internship fields in behalf of each higher education institution.

Following the publication of the Interministerial Ordinance that established COAPES in August 2015, we created a working group consisting of teachers, students and service professionals linked to our school to further debate the subject given the new perspectives for health training. After understanding, analysis and critical reflection, we developed a guiding script for the recruitment process. Following the script, we contacted the municipal and state health secretariats, as well as the primary managers (deans, directors and presidents of sponsors) of all higher education institutions with health-related courses of Foz do Iguaçu. In the first personal meeting, after the
presentation of the ordinance, a discussion took place about its potential for the development of the region from the viewpoint of schools and the health service.

The first conclusions pointed to the general ignorance of the ordinance by most of those involved, especially regarding the understanding of the health training reorientation process represented by it.

The proposal to celebrate a single instrument regulating relationships between schools and the SUS, the shared accountability of both the schools with care as well as the services with education and, finally, the coordination of this eminently educational process by the municipal manager characterized a change of paradigm that was definitely not on the agenda of these actors.

All the meetings were based on the normative framework in force and on the instructional materials developed by the MS/MEC. It is worth mentioning that this policy of reorientation of health education was also submitted to the Municipal Health Council of Foz do Iguaçu. Also, in this phase, after identifying the need, several meetings were held with the local SUS manager, responsible, as per COAPES' ordinance, to coordinate the process, with the purpose of providing it through recruitment. As a result of this intervention, the SUS manager coordinated the process and appointed a committee (working group) with representatives from the SMSA, of the 9th Regional Health Administrative Office, COMUS and institutions that aimed to build COAPES' draft.

The first meeting of the commission requested by the SMSA was attended by invitees and by representatives of schools that could handle all the complexity of the process, such as legal prosecutors, contract department managers and owners (private schools). This meeting evidenced the new guidelines for public health and education policies, as well as the COAPES ordinance. The work process was also defined.

The work process consisted of weekly 4-hour meetings, where working group members brought the contributions from internal discussions in their respective institutions. Parallel to the process, sensitization activities were launched with all those involved, from school and SUS managers, workers, teachers and students, to the community, focused on the need to integrate teaching with services in the face of the new reality of health education.

The COAPES draft issues proposed in the ordinance were discussed item by item and any disagreement was debated to exhaustion and successively returned to the agenda until consensus was achieved. No voting occurred at any time. After the sixth meeting, a consensus draft was drawn up and returned to all institutions for internal procedures. Three of the five IES that participated in the working group signed, one private IES abandoned the process due to change of command in the management and the prosecution office of one of them requested new adjustments that could not be implemented due to the finalization of the process.

In 5th of April of 2016, the COAPES was signed with the 9th RS, the SMSA, and three schools in the health area, among them UNILA during the visit of the State Health Secretary of the municipality of Foz do Iguaçu. Then, a new decree established the COAPES LOCAL MANAGEMENT COMMITTEE.

Achievements

In the current UNILA medical course curriculum model, the contents of the primary and clinical sciences are simultaneously developed in integrated fashion with the population's priority health problems. The teaching-learning process is anchored in the interactionist theories of education, scientific methodology, meaningful learning and theory-practice integration, linked to knowledge, skills, attitudes and values. This gives the course a horizontal, integrated, competence-oriented curriculum structure and in line with the new DCNMs.
The implementation of COAPES has already provided significant gains in the development of curricular educational activities. Among them we highlight:

- **The orientation of the establishment of learning objectives from the local reality**: the more effective participation of the students in the care services generated in them new learning needs based on the local reality, which began to have more weight in the definition of the educational objectives of the modules.

- **The opening of the entire care network in the area covered by the school to teaching**: thus, the service ceased to be a place of internship and became part of the school's educational field. The students' professional experiences expanded through exposure to different levels of care, as well as health fields less common to training, such as health management and surveillance. An exponential increase in the number of preceptors following the transformation of all health spaces into formative spaces was observed.

There was an understanding of teachers and the service about the need to advance the placement of students with relevant attributions in the service chain, through the school's commitment and responsibility with care.

*The approach to the other health IES that are part of the contract* allowed the development of collaborative skills of future physicians with other health professionals, enabling them to collaborative practice.

**Challenges for the future**

Knowing that the process of medical training has left something to be desired as far as the profile of graduates is concerned, in order to respond to the demands of a new reality is not new. The DCNMs, which indicate the integration between education and services as a critical path in professional training imputed to schools some curricular reforms aimed at the early and effective insertion of students in the SUS health care network, which meant a fundamental advance in the training process.

The response to this demand, rather than building good and varied practice settings, teaching-service integration should be seen as a potent SUS maintenance and construction strategy. The effective service of this process in the construction and maintenance of the national health system is subject to meeting some conditions, despite their apparent insurmountability, and the main ones are show below.

*Student integration in the service by adding a relevant role in patient care.* This represents the numerical addition of a workforce that becomes considerable. Review of the school calendar so that teachers and students are available in the continuum of the service, explicit and systematized strategies focused on patient and student safety, physical structure compatible with the increase of people involved in the care and adapted to the characteristics inherent to formative care.

*The involvement of teachers in care and management processes.* Their commitment beyond ideological conceptions with the results of a public policy of the size of the SUS. This is a rare commitment on the part of teachers. The same can be said about the involvement of workers in educational processes and its repercussions on labor issues.

The management processes resulting from the unification of actions and public services in a single system, to be executed by many political and autonomous entities, require the explicit recognition of their interdependencies, relinquishing centralized powers, impositions and gaps of command to build together legal, administrative and informational conditions capable of operating services, systems and organizations. This implies the construction of instruments that explicit rules and represent clear agreements that support these interorganizational relationships (Santos and Andrade, 2011).
Breaking the paradigms of school and service so that a new and unique paradigm is built in which the organization of health care services and the formation of human resources in health occur as a single process so that permanent education and training of human resources are faces of the same coin. This issue is both the most significant challenge and the best outcome.

**Take Home Messages**

- Student integration in the service by adding a relevant role in patient care.
- The involvement of teachers in care and management processes.
- The management processes resulting from the unification of actions and public services require the explicit recognition of their interdependencies.

**Notes On Contributors**

Luís Fernando Zarpelon: is Professor of Medical Clinic at the Universidade Federal da Integração Latino-Americana. Supervised the design and planning of the research, revising of the paper, final approval and assuring the integrity of all data.

Maria Leandra Terencio: is Professor of Molecular Genetics at the Universidade Federal da Integração Latino-Americana. Involved in original design of data, revising of the paper and assuring the integrity of all data.

Nildo Alves Batista: Is currently the Head of School of Medicine at Universidade Federal de São Paulo (UNIFESP). Involved in original design of data, revising of the paper and assuring the integrity of all data.

**Acknowledgements**

The authors would like to thank:
Universidade Federal da Integração Latino-Americana (UNILA)
Universidade Federal de São Paulo (UNIFESP)

**Bibliography/References**

Akram, A., Rizwan, F., Sattar, K., Hadi, J. I. S., *et al.* (2018) 'An approach for developing integrated undergraduate medical curriculum,' *Pakistan Journal of Medical Sciences*, 34(4), pp. 804-810. https://doi.org/10.12669/pjms.344.14565

Albuquerque, V.S., Gomes, A. P., Rezende, C. H. A., Sampaio, M. X., *et al.* (2008) 'A integração ensino-serviço no contexto dos processos de mudança na formação superior dos profissionais de saúde', *Revista Brasileira de Educação Médica*, 32(3), pp. 356 -362. https://doi.org/10.1590/S0100-55022008000300010

Almeida, M. J. (1999) *Educação Médica e Saúde: possibilidades de mudança*. Londrina: Ed. Uel; Rio de Janeiro ABEM.

Bandiera, G., Boucher, A., Neville, A., Kuper, A., *et al.* (2013) 'Integration and timing of basic and clinical sciences education', *Medical Teacher*, 35, pp. 381-387. https://doi.org/10.3109/0142159X.2013.769674
Bandiera, G., Kuper, A., Mylopoulos, M., Whitehead, C., *et al.* (2018) 'Back from basics: integration of Science and practice in medical education'. *Medical Education*, 52, pp. 78-85. https://doi.org/10.1111/medu.13386

Batista, N. A. (2015) *Educação Médica no Brasil*. São Paulo: Cortez.

Brauer, D. G. and Ferguson, K. J. (2015) 'The integrated curriculum in medical education: AMEE Guide No. 96', *Medical Teacher*, 37, pp. 312-322. https://doi.org/10.3109/0142159X.2014.970998

Brehmer, L. C. F. and Ramos, F.R.S. (2014) 'Experiências de integração ensino-serviço no processo de formação profissional em saúde: revisão integrativa', *Revista Eletrônica de Enfermagem*, 16(1), pp. 228 - 37.

Chaves, M. and Kisil, M. (1999) 'Origens, concepção e desenvolvimento', in Almeida, M. J., Feuerwerker, L., Llanos, M. (eds) *A educação dos profissionais de saúde na América Latina: teoria e prática de um movimento de mudança*, Tomo 1: um olhar analítico. São Paulo: Hucitec, pp. 1-16.

Davies, J. P. and Pachler, N. (2018) 'Teaching and Learning in Higher Education'. Perspectives from UCL, UCL IOE Press.

Edler, F. and Fonseca, M. R. F. (2006) 'Seleção de artigos da Série 'História da Educação Médica no Brasil', primeira parte, Caderno ABEM, 28, pp.1-4.

Feuerwerker L. C. M. (2006) *Estratégias para a mudança na graduação das profissões da saúde*. Available: http://www.fnepas.org.br/pdf/publicacao/estrategia_mudancas.pdf (Acessed: 18 november 2018).

Franklin, C. M., Bernhardt, J. M., Lopez, R. P., Long-Middleton, *et al.* (2015) 'Interprofessional Teamwork and Collaboration Between Community Health Workers and Healthcare Teams', *Health Services Management Epidemiology*. https://doi.org/10.1177/2333392815573312

Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., *et al.* (2010) 'Health professionals for a new century: transforming education to strengthen health systems in an interdependent world'. *The Lancet*, 376, pp. 1923-1958. https://doi.org/10.1016/S0140-6736(10)61854-5

González, A. D. and Almeida, M. J. (2010) 'Movimentos de mudança na formação em saúde: da medicina comunitária às diretrizes curriculares', *Physis*, 20(2), pp. 551-570. https://doi.org/10.1590/S0103-73312010000200012

Gonzalo, J. D., Lucey, C., Wolpaw, T., Chang, A. (2016) 'Value-added clinical systems learning roles for medical students that transform education and health: a guide for building partnership between medical schools and health systems'. *Academic Medicine*, 92(5), pp. 602-607. https://doi.org/10.1097/ACM.0000000000001346

Grumbach, K., Lucey, C. R., Johnston, C. (2014) 'Transforming from Centers of Learning to Learning Health Systems. The Challenge for Academic Health Centers', *JAMA*, 311(11), pp. 1109-1110. https://doi.org/10.1001/jama.2014.705

Legislation Brasil. Portaria Interministerial No 1.124, de 04 de agosto de 2015. Institui as diretrizes para a celebração dos Contratos Organizativos de Ação Pública Ensino-Saúde (COAPES) para o fortalecimento da
Integração Ensino, Serviços e Comunidade no âmbito do SUS. Brasília, 2015.

Marcião, K. P. O. B. (2015) ‘Entre médicos e professores: trajetórias do currículo médico da Faculdade de Medicina da Universidade Federal do Amazonas. Manaus’. Doutorado [Tese] - Programa de Pós-Graduação Em Educação.

Martins, M. A. (2008) ‘Novas Tendências do Ensino Médico’. Gazeta Médica da Bahia, 78(1), pp. 22-24.

Nunes, E. D. (1994) ‘Saúde Coletiva: história de uma ideia e de um conceito’. Saúde e Sociedade, 3(2), pp. 5-21. https://doi.org/10.1590/S0104-12901994000200002

Pagliosa, F. L. and Da Rosa, M. A. (2008) ‘O relatório Flexner: para o bem e para o mal’. Revista Brasileira de Educação Médica, 32(4), pp. 492-498. https://doi.org/10.1590/S0100-55022008000400012

Rosa, A. R., Fraga, F. C., Pontes, J. P. L. (1995) Ensino Médico – Atualidade de uma experiência. Rio de Janeiro: Editora da UFRJ.

Santos, L. and Andrade, L. O. M. (2011) 'Redes interfederativas de saúde: um desafio para o SUS nos seus vinte anos', Ciência & Saúde Coletiva, 16(3), pp. 1671-1680. https://doi.org/10.1590/S1413-81232011000300002

Zarpelon, L. F. B., Terencio, M. L., Batista, N. A. (2018) 'Education-service integration in the context of Brazilian medical schools: an integrative review', Ciência & Saúde Coletiva, 23(12), pp. 4241-4248. https://doi.org/10.1590/1413-812320182312.32132016

Appendices

None.

Declarations

The author has declared that there are no conflicts of interest.

This has been published under Creative Commons "CC BY 4.0" (https://creativecommons.org/licenses/by-sa/4.0/)

Ethics Statement

Ethics Approval Reference number - CAAE: 54971616.8.0000.5219. Institution granting approval - Faculdade Assis Gurgacz.

External Funding

This article has not had any External Funding