

## **8. CENTRALITY OF HEALTH WORKERS IN BUILDING A UNIVERSAL AND EQUITABLE HEALTH SYSTEM**

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Like other large federal countries, Brazil bears enormous social, economic, political, and cultural differences amongst its regions. This diversity has been the backdrop as well as underpinning of a massive health system reform that began thirty years ago. Many of the lessons that have been learned over the past decade could be useful in other countries. This paper analyzes the construction of this health reform, with particular focus on the challenges regarding human resources for health. The strategies to deal with these challenges were part of the core of the health reforms and had a crucial role in making the universal health system of Brazil viable.

### **A DEMOCRATIC POLITICAL MANDATE**

The political decision to build a universal and equitable health system was made toward the end of the period of military rule (1964–1984) and transition to democracy in Brazil. The keystone to this transition, the 1988 Brazilian Constitution, is a turning point in Brazil's national health system. Until then, the health system was characterized by fragmentation and lack of central coordination. There were basically three concurrent sources of health care. First, a national social security system covered only the formally employed. It was based on contracting out medical services through a nationally centralized administration, which was burdensome and fraught with fraudulent practices. Second, there were unregulated private health insurance and out-of-pocket health services, which were used by the very wealthy. Finally, assistance for the poor was even more fragmented; the backbone of this system was composed of charity services with occasional and specific “campaign-style” public health interventions focusing on communicable diseases and vaccines. Some state governments experimented with whole patient care models in remote and destitute towns where the private sector was nonexistent (e.g., Montes Claros, Caruaru), but these experiments were limited.

Deeply embedded in the redemocratization movement, scholars, practitioners, and political leaders in the health movement chose to build consensus for the new health system through a series of conferences. This series of municipal and state conferences held across Brazil culminated in a National Health Conference in 1986. The National Health Conference attracted wide social participation, with representation by health workers, public and private health institutions, universities, health policy stakeholders and decision makers, and citizens interested in the matter. The conference decided that a national health system should be created, based on the concept that health care is a human right intrinsically connected to citizenship rather than a service that should be provided based on payments in the form of taxes or contributions to health insurance. Thus, health care became the responsibility of the state, and the health system was to be built on an intersectoral approach, which would tackle the multiple determinants of health conditions. This conference had a direct influence on the health-specific text of the Brazilian Constitution and,

consequently, on the development and structure of the national health system.

In 1988, the Democratic Constitutional Congress established that the nation must provide health care for all. This mandate is the foundation for a national health system that, to date, is the world's largest universal, national health system potentially covering more than 100 million inhabitants who have no other access to health services.

## **THE INSTITUTIONAL CONTEXT**

A political mandate, by itself, is not enough to ensure the implementation of such a complex system. Besides the federal government, the country is also ruled by twenty-seven autonomous states and more than five thousand municipalities. Population sizes of these municipalities range from a few hundred in some rural villages to 12 million people in São Paulo.

Vast socioeconomic differences and inequities deeply affect the access to a range of social and health services. For example, southeastern states contribute three-quarters of gross domestic product (GDP). Meanwhile, most of Brazil's metropolitan areas are surrounded by poverty and low access to public services. These problems are magnified in rural and remote Amazon regions. Hospitals and high-tech medical equipment are also disproportionately concentrated in developed regions. Of the 248,459 health establishments registered in 2012, 43 percent are in the southeast region and just 3.55 percent in the northern region (RIPSA 2011).

However, the organization of a health system in a popularly diverse country is driven by many forces that include demographic changes, migration, unequal access to education, informal employment, existing regulations and their enforcement, social norms, and cultural legacy. These forces are often interlinked and reinforce one another. It takes time and effort to engage and harmonize the various stakeholders in such a large democratic country.

In the decade following the 1986 National Health Conference, the health system became regulated by laws to orient the provision of health services, organize the public system, and regulate private health insurance. The health system is now coordinated by the Ministry of Health (MOH) in cooperation with states and municipalities, supported by a National Health Council that includes representatives of civil society. The resulting health system is highly decentralized and most health care services are delivered by the 5,564 municipalities. Decentralization makes it possible for the system to function effectively, allowing local governments to develop health capacities as well as tailor their response to local needs. However, it also maintains national and local inequities, as the more developed regions can provide better health care—not only because of availability of material and human resources but also because of different levels of managerial capacity in local governments.

Remarkable advances have occurred since 1988. As table 1 shows, the proportion of the

MOH budget that is yearly decentralized to states and municipalities increased from 22 percent in 1997 to 68 percent in 2010. In the same period, child mortality has been decreasing steadily and life expectancy is increasing (RIPSA 2011). Although many other factors contributed to these achievements, it has been suggested that the expansion of primary care coverage had an important role (Macinko, Guanais, and Souza 2006).

**TABLE 1. SELECTED HEALTH AND EXPENDITURE INDICATORS: LIFE EXPECTANCY, CHILD MORTALITY, DECENTRALIZATION OF FEDERAL HEALTH BUDGET PERCENTAGE, BRAZIL, 1997–2010**

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Decentralization	22%	36%	43%	49%	53%	55%	58%	67%	70%	69%	72%	72%	68%	68%
Life expectancy (years)	69	70	70	70	71	71	71	72	72	72	72	73	73	73
Child mortality (<5 mortality rate per 1,000 live births)	32	30	28	27	26	25	24	23	21	21	20	18	17	16

Source: RIPSA 2011.

An example is the high rate of vaccine coverage: more than 95 percent of Brazilian inhabitants are immunized as recommended by international guidelines (RIPSA 2011). Brazil was one of the first emerging economies to provide low- and middle-income individuals free antiretroviral treatment as well as high-complexity care. Brazil’s unified health system has, as its main characteristics, universal coverage and integrality. And while it provides services to all citizens across all levels of health care, given the health sector’s underfunded mandate, primary care has been the key strategy to tackle regional inequality. The Family Health Program (FHP) initiated in 1994 became the main instrument of health system reform. Family Health is understood as a strategy for reorienting the health care model, operationalized through the implementation of multidisciplinary teams in primary health care. These teams are responsible for the monitoring of a number of families, located in a defined geographical area. Family Health teams are composed of seven to ten frontline health workers consisting of one general practitioner, one nurse, one or two nursing technicians, and four to six community health workers. Team responsibilities include (1) assisting people who demand immediate assistance; (2) providing preventive services related to specific programs identified by the Ministry of Health and health needs (for example, immunizations, women’s cancer prevention, and management of diabetes and hypertension); (3) performing health promotion via community empowerment and education; (4) planning health services based on local data; and (5) reporting to the national

health information system. The FHP was initially established to assist remote regions with low socioeconomic and service availability indicators. As the evidence of its effectiveness grew, it was expanded across the country.

Figures have been consistent for two decades: 32,000 Family Health teams assist more than 100 million inhabitants, and trends indicate continued growth in the future. This model has proved to be cost-effective and is associated with good health assistance results (Harris and Haines 2010; Macinko, Guanais, and Souza 2006). But there is still room for improvement. From the outset, it became clear that the critical constraint on the national health system, and particularly on local health systems, is the health care workforce.

## **HUMAN RESOURCES FOR HEALTH: A NATIONWIDE CHALLENGE**

Early on, Brazil realized that it is impossible to address human resources for health (HRH) challenges with a local health system approach. The root causes of health worker shortages are interconnected in complex system issues, including education, labor market trends, expectations people have about health workers, technologic progress, and competition among public and private sector health facilities.

Forces that drive the health workforce include demographics, disease burden, epidemics, financing, technology, consumer preferences, education, public sector reforms, and globalization (WHO 2006).

Four million Brazilians work directly in health assistance. The health sector as a whole employs more than 7 million workers. Nursing is the largest cadre of the health workforce, representing 37 percent of all health workers. According to data from the Federal Board of Nursing, the nursing workforce includes 1,446,403 individuals distributed among the categories of nursing assistants, nursing technicians, and nurses; of the total number, there are 287,119 (19.85 percent) nurses (RIPSA 2011). These numbers express the significant participation of nursing in the mechanisms of support and challenges in the health sector. Over the past ten years, health sector employment increased by 60.5 percent, probably the highest rate in the national economy.

Brazil shares many of the global challenges in human resources for health. Although there's not a critical shortage of health professionals, misallocation is a serious issue, with excess in the richest cities and shortages in rural and poor areas. For instance, the concentration of physicians per 10,000 inhabitants varies bottom to top from less than 10 to 30, and there is a shortage of general practitioner physicians and most specialists (Fundação Oswaldo Cruz 2012). Nursing workforce data indicate that 52.3 percent are concentrated in the southeast region, where there are 1.71 nurses per 1,000 population and the largest ratio of nurses per population, while in the north there are 0.94 nurses per 1,000. When all categories in nursing are considered per 1,000

population, there are 9.44 in the southeast and 5.41 in the northeast (RIPSA 2011).

Complex regulation of health professions makes health team attribution and balance hard to achieve. As a legacy of state corporatism, each health profession has a specific regulatory law and a corporate professional council with self-regulatory powers. Councils systematically disagree with the others about each profession's privileges and obligations.

Working conditions in the public services often drive good professionals away, and there are complex interactions of financial and nonfinancial incentives to attract and retain health care workers. One good example is the Family Health Program. Recent studies indicate that, in addition to bringing about significant changes in the health care model and expanding access to health care, the FHP has changed the dimensions and configurations of the labor market and the training of health professionals, most especially for nurses and doctors (IMS/UERJ 2006; Pereira et al. 2009). The major impact of the FHP was the establishment of a new labor market in which the traditional trend toward specialization was replaced by an orientation to primary health care, with an interdisciplinary and multiprofessional approach. Following the ideals proposed in the Alma-Ata, the adoption of primary care teams was done with community participation through local health councils.

The FHP's main weaknesses are in human resource development. To date, the education of health professionals relies on specialized and hospital-based care, and it is difficult to change this status quo. Convincing professionals to adhere to the new orientation is a hard task. This is compounded by the fact that education and training of health professionals has not kept pace with the changes in Brazil's health system.

Although there are examples of innovative changes in some areas, most of the curricula continue to be based on acute, hospital-based care to produce experienced, specialty-focused professionals rather than general practitioners who are focused on team and interdisciplinary practice.

Young medical doctors have many reasons to opt out of work in primary care, and most of these reasons can be explained by the "white follows green" law (Mullan 2002). While general practice and associated salaries may initially attract medical graduates, these professionals are not retained. These positions demand full-time dedication but have poor career opportunities. In particular, it is hard to change the private health insurance market, which reimburses specialty care better than primary care. In addition, the benefits of primary care delivered by general practitioners are not well understood by a society already used to consulting with medical specialists.

Medical education has a role in driving young medical doctors away from primary care. Universities look for prestigious professors, who are often senior specialists in focused areas. These faculty members are ill-prepared to teach young students to be generalists. More importantly, they role model them away from primary care (Frenk et al. 2010). Ironically, this

condition is more extreme in public universities, which value senior researchers who publish in peer-reviewed journals. These values are dissonant with the health system's needs to have well-trained general practitioners. Despite these difficulties, primary care has continued to expand in Brazil over the past twenty years, and research in the area has drawn increasing local and international interest (Buchan, Fronteira, and Dussault 2011).

For nurses, who have a more generalist education and have typically practiced in integrated models of care, the transition to primary care has been easier; it is also where there are more employment opportunities (IMS/UERJ 2006).

The Family Health Program increased the employability for nurses, especially for recent undergraduate nurses. Nursing workforce studies indicates that 43.1 percent of nurses who work in the FHP have four years or less of post-training experience. Nurses occupy 70 percent of the positions as coordinators of FHP (IMS/UERJ 2006).

However, while employment opportunities are high for physicians and nurses in the Family Health Program, there are some disparities related to labor rights, employment contracts, salaries, and social security among health professionals. For example, while nurses and other health professionals earn between five and seven times the minimum wage (on average US\$25,000 annually), doctors earn fifteen to twenty times the minimum wage (on average US\$72,000 annually) (IMS/UERJ 2006). Market trends indicate that the gap will increase in the next years, as medical doctors are in high demand and nursing undergraduate seats grew faster than job offers (Fundação Oswaldo Cruz 2012). Employment is through temporary contracts, which hinders the retention of professionals in rural areas and does not guarantee labor rights. It is estimated that 61.17 percent of nurses did not have guaranteed labor rights (IMS/UERJ 2006). However, the expressive movement of the workforce to primary care opens possibilities for the Ministry of Health to develop strategies and initiatives that address these disparities (Girardi et al. 2010).

## **A NATIONAL STRATEGY FOR A NATIONAL CHALLENGE**

To face this complex scenario, human resources for health was identified as a priority by national authorities. A National Secretariat for Health Personnel Education and Management was established in the top level of the Ministry of Health, and a series of interministerial programs with the Ministries of Education and Labor followed. This fostered an institutional environment to develop human resources for health across the country.

The human resources for health strategy is backed by the Brazilian Network of Human Resources Observatories and consists of twenty nodes, most within existing academic institutions. The network was strengthened in order to implement a decision-making process relying

on specialized analysis. Some of the nodes are highly specialized in certain themes, such as education, labor market, and regulation. Political decision making takes those studies into account as often as they are available.

## **EDUCATION OF FRONTLINE HEALTH WORKERS**

### **Technical Education**

The backbone of the Family Health strategy is the community health worker (CHW). Brazil has 246,130 CHWs distributed across 5,374 Family Health teams working in rural communities and urban areas (Brazil 2006; De Barros et al. 2010). Although recruited from their local communities, they are not volunteers but rather formal employees of the national health system. The requirements to become a CHW include completing the basic level of education and living in the community. Moreover, CHWs maintain local and cultural ties with the community. Their competencies are in disease prevention and promotion of health through health education activities in the communities in accordance with the principles and guidelines of the health system, extending the population's access to information about health, social protection, and citizenship (Brazil 2006).

A specific law was adopted that acknowledges this new cadre of frontline health worker, and a constitutional amendment allows public recruitment from within each community. Because of the heterogeneity of the country, workers in some regions have little formal education, which requires flexibility for their training and supervision. Nurses in Family Health teams are responsible for training and supervising the activities of community health workers (a proportion of fifteen agents for each nurse) according to the needs of the community. A national strategy was adopted to invest in expanding the number of technical frontline workers through a well-managed top-down program. The Ministry of Health is presently supporting the training of an additional 180,000 CHWs. The first 90,000 have completed training. This educational program is structured as a three-step sequence of technical courses for CHWs, totaling a minimum workload of 1,200 hours and distributed as follows: Step I, 400 hours, no education requirement, in order to develop the social profile of the technical agent in community health and its role within the multidisciplinary team of the basic network of Brazil's health system or SUS (Sistema Único de Saúde); Step II, 600 hours of professional training at the technical level, requiring completion of elementary school and focused on health promotion and disease prevention, directed at specific individuals and groups and prevalent diseases; Step III, 200 hours of professional training, technical capability, requiring the completion of high school and with the purpose of consolidating the themes of promotion, prevention, and monitoring of environmental risk and health (Brazil 2006).

The training course as a whole is based on teaching competence, as recommended by laws and resolutions defined in the Board of Medium Level of Education. This training process focuses on health promotion and prevention of diseases. Some states are proposing to increase the length of CHW training programs to 1,200 hours in their state, despite a lack of a national consensus.

The shortage of nursing assistants (NAs) led to the development of a special initiative, PROFAB, the National Project for Professionalization of Nursing Assistants. PROFAB was established by the Ministry of Health in 2000 and was inspired by the pioneering work of nurse Isabel dos Santos and others, from the program Large Scale that worked with the Public Health Service to organize the training of elementary and middle school students. PROFAB includes the completion of primary-level education as well as technical training with emphasis on specific health care skills and competencies. The PROFAB initiative is decentralized; it is led by thirty-five technical schools of the national health system with most education and training provided by a network of more than two hundred schools of professional nursing across Brazil. Health service delivery sites host trainees in a clinical practicum that provides a link between didactic and clinical learning. The outcome to date is impressive: 300,000 NAs have been trained (Girardi et al. 2011). Currently, this model is being extended to fifteen other technical areas, such as pharmacy, laboratories, home care, and health surveillance.

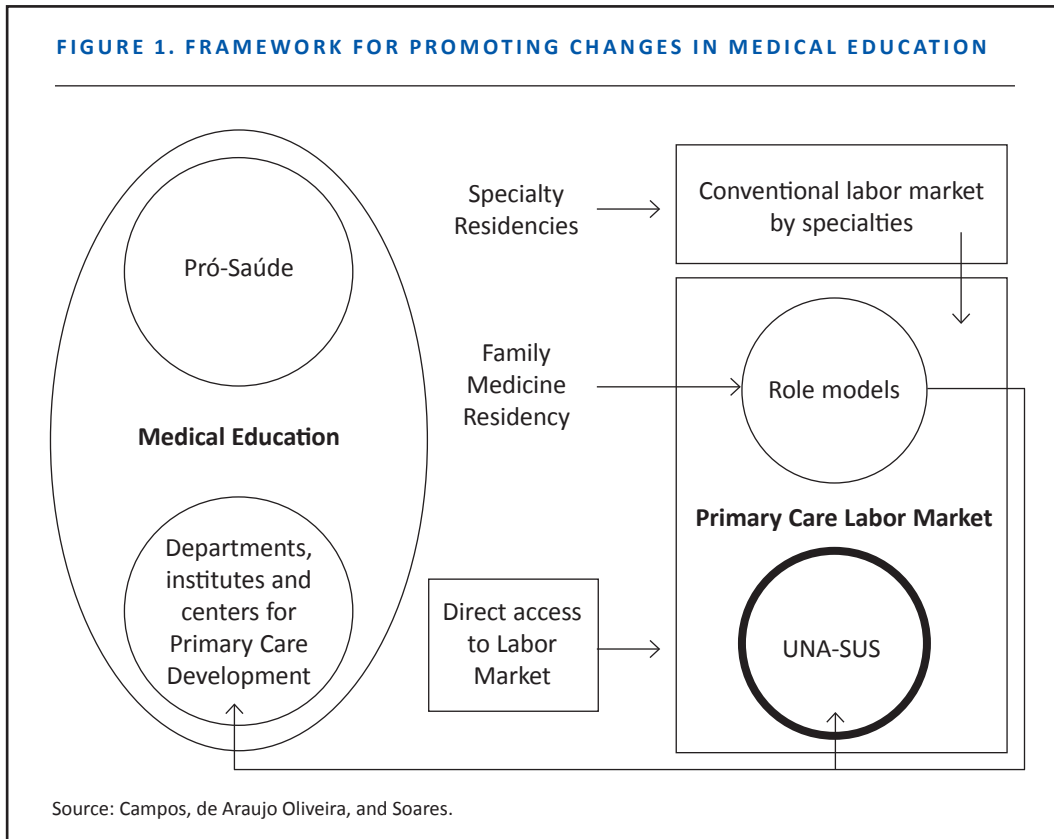
### **Education of Health Professionals**

Educational reforms for health professionals are even more complex than for health technicians. Universities are autonomous entities in Brazil, even the public ones. As previously discussed, professional associations are strong and must support changes in health professional education for them to come about.

To tackle the challenge of bringing Brazil's medical and health professional education in line with twenty-first-century health needs, a complex set of articulated actions were put in place. The main thrust was to increase the number and expertise of primary care physicians (figure 1).



**FIGURE 1. FRAMEWORK FOR PROMOTING CHANGES IN MEDICAL EDUCATION**



In Brazil, a two-year internship is mandatory as part of medical school, following which graduates are allowed to practice as fully licensed physicians. Medical school graduates can choose one of three paths. Currently, half of the students choose the first path, which leads to medical specialization and requires the traditional residency training. The other two paths lead to general practice. One is the family medicine residency program, chosen by those willing to teach in medical schools or applying to practice in the best municipalities. The other is to start practice immediately as a physician in a Family Health team, where there are thousands of seats available and where residency training is not required (Oliveira and Belisário 2007).

The MOH's strategy in this area is divided on two fronts: pre-service, with Pró-Saúde, and in-service, with UNA-SUS (Campos et al. 2010). Pró-Saúde is a program that aims to reorient the medical and other health professions' undergraduate education. The Open University of the National Health System (UNA-SUS) is a public educational system dedicated to the health workers in the public health system.

Family residency programs have been firmly supported by the MOH due to its strategic role in reconciling the demand for and supply of primary care medical professionals, but the number

of seats they currently offer is inadequate to supply the primary health care labor market. Family medicine specialists are most valuable in health education. As role models of primary care doctors, they can become preceptors of family residency programs, teachers in medical schools, or tutors in UNA-SUS.

## **PRÓ-SAÚDE**

The government effectively started to take action on reforming medical education on 2001, when the Ministry of Education (MOE) established the new Curriculum Guidelines for Health Professional Courses. These guidelines, based on recommendations from the World Health Organization/Pan-American Health Organization (WHO/PAHO), Professional Councils, Health Professional Education Associations, and a commission of specialists, guide the development of medical courses to train a generalist doctor to be able to deliver comprehensive care, informed by critical thinking. This professional should be competent in health promotion, disease prevention, and treatment of most important health problems. The challenge of the new curriculum is to prepare medical doctors to be part of a cost-effective, integrated, hierarchic, comprehensive, and equitable health system.

The decree of new curriculum guidelines was not, by itself, enough to make medical schools change. Reforming health professional education is not an easy task, because it involves changing a consolidated and traditional way of producing and disseminating knowledge, which impacts the very same professional practice.

The Flexner curriculum framework is discipline-based, which counters a holistic approach to health care and promotes specialty rather than generalist training. Of all the obstacles to reforming traditional medical education, one is particularly challenging: to change the practice setting from the university hospital to unified health system entities, which focus on outpatient and primary care. Universities and health services have different administrations, which leads to conflicts: professors of medicine and health professionals would have to accept different supervisors and be evaluated and paid in different ways while still working as one team. While there is an increasing focus on primary care across the globe and a growing body of evidence-based practice and health services research, traditionally, medical journals have been oriented toward the medical specialties.

In 2002, a partnership between MOH and MOE resulted in the Medical Education Reorientation Program (Promed). Promed's goal was to support medical schools in developing curriculum reforms to achieve the MOE's new curriculum guidelines. These guidelines had just been approved by the National Council of Education and prescribed a focus on health promotion, training in primary care instead of only in university hospitals, and active learning methods. The

idea was to coordinate the official statement on medical education with fieldwork, by offering financial and technical support to the medical schools that were willing to change.

In its first attempt to tackle the problem, Promed faced some difficulties and misunderstandings, such as noncompliance of universities with federal government accounting rules for expending public money and proposals of activities that would not lead to the program's objectives. Even so, more than 60 percent of the twenty schools included in the program succeeded in establishing reasonable partnerships with health services, which allowed learning experiences at different levels of care. However, the influence of university hospitals over medical courses led to an emphasis in pedagogical orientation rather than in the diversification of practice scenarios.

In 2005, Promed was revised with a larger scope and a new name: Pró-Saúde (Pro-Health in English). Pró-Saúde consists of a partnership of the MOH and MOE to support needed changes in health professions courses. In Promed, the MOH only co-signed the call for projects, but in Pró-Saúde it is involved throughout the development of the program. Brazilian MOE participation is very important, since it has a mandate to regulate education, with evaluation processes that are required for governmental authorization of the courses.

Pró-Saúde finances schools willing to promote health education reforms. Projects must be co-signed by both a university and the municipal health secretary—the local health system administrator—and then submitted for MOH approval. Although Pró-Saúde does not cover all the courses of the three chosen professions—medicine, nursing, and dentistry—the project's intent was to clearly show that new guidelines should be adopted and that there are resources available to those schools willing to change. Another expected result is that the innovative schools become role models for the others. The second call for projects covered all health professions. This time a single project was requested from each university, rather than one for each course. Out of 104 universities that applied, 68 were selected. The program also promotes regional and national conferences every year that provide a place to share experiences, discuss challenges, and develop new solutions.

The reforms undertaken in recent years in education of health professionals have affected nursing. The 2001 national curriculum guidelines for courses in the health disciplines aimed to enhance the technical competence of the professional generalist, increase social sensitivity, and promote changes in undergraduate training of human resources in health by focusing on elements such as integral and humanized attention, teamwork, and understanding of reality. This process enabled many changes in nursing education, including flexibility in the curriculum; it allows students more autonomy to develop disciplines from other courses and have more interdisciplinarity.

Policies encouraging expansion of undergraduate and graduate nursing courses between 2000 and 2005 resulted in the creation of 310 new nursing courses, 93 percent (288) from private

institutions and only 7 percent (22) linked to public universities. The expenditure on nursing faculty vacancies increased 1,743 percent (Teixeira et al. 2006).

Brazil's recent health reforms have transformed nursing education and impacted nursing practice by introducing a new configuration of interprofessional teamwork, increasing autonomy and decision making, incorporating new technologies for the management of the population's health, and fostering the development of clinical competencies in health promotion and prevention.

## **THE OPEN UNIVERSITY OF THE UNIFIED HEALTH SYSTEM**

The Open University of the SUS is an educational system created by presidential decree in 2010 to meet the continuing education needs of health workers, through distance learning in health (Brazil 2010). The system is defined by three structural elements:

1. UNA-SUS Network
2. Open Educational Resources for Health (OERH) Repository
3. Plataforma Arouca

UNA-SUS Network is composed of public universities able to offer distance-learning postgraduate courses. To adhere to UNA-SUS, the university must accept membership terms that include publication of the courses as OER and sharing students' curriculum information.

This collaborative network feeds a public and open-access repository of educational resources. Other institutions may collaborate, as long as they meet the national quality standards. The OERH Repository is where the collaborative process becomes tangible as a public asset available to everyone. That is only possible because of the public relations of UNA-SUS. As UNA-SUS deals with public and nonprofit institutions, it is easier to settle copyright issues.

Plataforma Arouca is a web platform where health workers have integrated access to their professional and continuing education timeline. Each health worker may publish his or her continuing education timeline as an official curriculum. Data on the experience of health professionals are gathered from health facilities, and information on postgraduate and continuing education is gathered from medical residency programs, universities, and other health educational institutions. Data exchange is based on web-based services and other automated and secure interfaces. Plataforma Arouca allows for relevant educational activities to be included as part of a health worker's continuing education effort, regardless of where the health worker participated in the educational activity.

UNA-SUS is ruled by a council with participation of the Ministry of Health, the Ministry of Education, and representatives of states, municipalities, universities, and the PAHO. This ensures that the strategic planning covers all the necessary institutional points of view. Participation by

states and municipalities allows UNA-SUS to be nationwide, understanding differences of regions and rural and urban areas. Both MOH and MOE participation allow it to be responsive to health education needs that require immediate and long-term planning by educational systems. The participation of universities allows UNA-SUS to deal better with the autonomy of medical schools and the persistent struggle within: innovation versus tradition. PAHO participation allows UNA-SUS to communicate better with other countries with similar experiences and with their own OER initiative, the Virtual Campus of Public Health.

In addition to this network, other health tools are in use to improve health services in primary care as well. One initiative, known as in-site second opinion through telemedicine, provides support to medical doctors to foster more precise diagnostics and allows a constant exchange of experiences among health professionals. These strategies are also available to other health professionals, such as dentists and nurses. And so far, there have been excellent results, including improved quality of care in rural and remote areas and the ability for patients to avoid “medical tourism”—travel to big cities for health care.

UNA-SUS has, in large part, delivered on its promise to scale up postgraduate and continuing education in Brazil. To date, 50,000 health workers have been included in UNA-SUS educational activities, with 20,000 in courses on family health. It would take ten years to offer this number of seats in traditional residencies and specialization courses. UNA-SUS was able to deliver it in two years.

Thus, the UNA-SUS seeks to advance Brazil’s continuing health education network, based on critical thinking processes that interact with typical practice needs. The system blends distance and e-learning. The resulting system fosters learning and teaching that is multidirectional, continuous, reciprocal, and asynchronous. And, most importantly, it is offered on the largest of scales—to all who are interested.

## **CONCLUSIONS**

The Brazilian experience shows that addressing problems regarding human resources for health requires a national and intersectoral approach. Political support is essential to ensure that required mechanisms are available. This is critical since bridging the gap among the various stakeholders requires a large, concerted effort.

Our experience shows that a careful debate with civil society is very important for developing an effective health professional education policy. This debate is the basis for the undergraduate health reforms, resulting in the national curriculum guidelines that set a common ground for the MOH and MOE to work together.

Meeting the challenge of offering continuing education to every health worker would not be possible without intense dialogue with and cooperation from various levels of government,

intergovernmental relations, public sector partnerships between the health and educational systems, and the adoption of distance learning.

Finally, it also seems that isolated initiatives in human resources for health are not enough to change powerful traditions like medical education. As the Brazilian experience points out, a nationwide joint effort of the MOE, MOH, local health management, and professional health educational institutions is required.

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**Francisco Eduardo Campos**, the lead author of this paper, was responsible for the paper outline and most of the literature review. He also reviewed the paper along its many revisions.

**Vinicius de Araujo Oliveira** developed the paper from outline to the final form and contributed literature and data revision, particularly about HRH context, medical education, and UNA-SUS.

**Sonia Maria Soares** contributed to the content on the of nursing perspective, literature review, insertion of data, writing, and final review of the paper.

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