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Human resources for health: global crisis and international cooperation

Gustavo Zoio Portela [1]
Amanda Cavada Fehn [1]
Regina Lucia Sarmento Ungerer [2]
Mario Roberto Dal Poz [1]

Abstract *From the 1990s onwards, national economies became connected and globalized. Changes in the demographic and epidemiological profile of the population highlighted the need for further discussions and strategies on Human Resources for Health (HRH). The health workforce crisis is a worldwide phenomenon. It includes: difficulties in attracting and retaining health professionals to work in rural and remote areas, poor distribution and high turnover of health staff particularly physicians, poor training of health workforces in new sanitation and demographic conditions and the production of scientific evidence to support HRH decision making, policy management, programs and interventions. In this scenario, technical cooperation activities may contribute to the development of the countries involved, strengthening relationships and expanding exchanges as well as contributing to the production, dissemination and use of technical scientific knowledge and evidence and the training of workers and institutional strengthening. This article aims to explore this context highlighting the participation of Brazil in the international cooperation arena on HRH and emphasizing the role of the World Health Organization in confronting this crisis that limits the ability of countries and their health systems to improve the health and lives of their populations.*
Key words *Health personnel, Global health, International cooperation, International policy*

[1] Instituto de Medicina Social, Universidade do Estado do Rio de Janeiro. R. São Francisco Xavier 524/Bloco E/7º, Maracanã. 20550-013 Rio de Janeiro RJ Brasil. gzportela.fiocruz@gmail.com
[2] Centro de Relações Internacionais em Saúde, Fundação Oswaldo Cruz. Rio de Janeiro RJ Brasil.

Introduction

National economies are becoming evermore intricate and at the same time social inequality has been increasing. The Global Wealth Report 2015 has shown that the concentration of the world´s income has reached critical levels similar to what was the case in the industrialized world before the first world war[1].

Globalization, aging populations and changes in the behavior and expectation of patients with reference to health professionals have dramatically shifted the demands placed on the health workforce (HWF). This has created the need for new discussions on the critical component of good sector performance and subsequently for reaching the national and global health goals[2-4].

This context produced what came to be called the global HWF crisis. It was characterized by national and global deficits as well as inequalities in the distribution of health professionals. Such a crisis as this, has proved to be one of the most important obstacles for improving performance and access to the services and health systems, especially in developing countries[3].

In this way, civil wars and natural disasters just as economic crisis and the resulting social problems, cause health professionals to leave their positions due to be overloaded in care units, the interruption of programs and the global impact on workforces feeding the crisis.

This complex context in which old and new causes and problems are combined, imfluence the determination of the health of populations on a global scale and it has had a direct impact on the functioning of the health systems and personnel needs. The task of identifying program synergies in the search for better results and health conditions, has gained potential in a scenario full of diversity and difficulties.

On this, the interaction between actors and intergovernmental organizations in the scope of the technical cooperation, can critically contribute to improve and strengthen the health systems through sharing experiences, technical capacities and resources amongst countries. Different regions face the same problems and challenges related to HWF and the strategies for international cooperation have the potential to contribute positively to the development of the countries'capacities involved, closer relationships and expand exchanges. This also includes the production, dissemination and use of scientific technical knowledge just as the training of human resources and the strengthening of its institutions.

Amongst the challenges that have already been identified on an international level, there are the difficulties in attracting health professionals to remote and rural areas and the reduction of the poor distribution as well as the high turnover of workers, particularly doctors. Also, what was highlighted was the need for the workforce to be qualified and be able to work in compliance with the new health and demographic conditions as well as to produce scientific evidence that supports, in a coherent way, the decision-making process and the management policies, programs and interventions in human resources[5].

The purpose of this paper is to discuss the conditions and options for international cooperation including the participation of Brazil as well as the strategies that are being used to address this global mixture involving health professionals. This paper seeks to contribute to the political agenda and research to identify gaps that limit the capacity of countries and their health systems in search for better indicators and life conditions for populations.

Methods

The methodological procedures involved a narrative review of online published literature on the global perspective of the health workforce. The information was obtained based on: discussions with some of the key specialists in the area, documental search from international agencies and the experience of the authors. The review covered the period of 15 years prior to the study (2002 to 2016) and the searched documents were all in the public domain.

The narrative review articles are broad publications, suitable to describe and discuss the development or the current thinking on certain issues. This is based on a theoretical or contextual view allowing the knowledge acquisition and updating. It is fundamental in the literature analysis the interpretation and critical scrutiny based on the experience of the personnel experience of the researcher[6].

In this way, this paper analyzes the challenges, trends and some policy options and actions on the global technical cooperation agenda of international organizations and national governments. The objective is to contribute to improving the knowledge, technical capacity and institutional intervention in the critical HWF scenario. What follows is an identification of some reoccurring questions on the global and national

Ciência & Saúde Coletiva, 22(7):2237-2246, 2017

health agenda such as the important shortage in and unequal distribution of professionals, the problems related to training and education and governance of human resources for health.

The global crisis in the health workforce

Recent data estimates a global shortage of 12.9 million health workers with approximately 83 countries facing major difficulties. Updated projections connected to the growth in the global economy, the process for reform in the health system and the increase in chronic-degenerative diseases, estimate that the deficit may be higher[7-9].

Countries that have the highest numbers of people with diseases such as those in Africa and the South-east Asia regions, continue having a contingent of health professionals being 10 to 15 times smaller than the European and American regions and the majority of them can be found in the urban zones.

In Europe, the demand for health care will rise dramatically with the continuing aging of the population. It is estimated that the number of elderly over 65 years old will double in the next 50 years increasing from 87 million in 2010 to 152.7 million in 2060. This will have important consequences on how the health system will respond to the need of the population. The growing number of elderly people with multiple chronic conditions will mean the need for new treatment and models for the provision of care as well as changes in competencies and new ways of working for the health professionals[10] (Table 1).

Without new measures to address these challenges, it is estimated that there will be a shortage of 1 million of health workers in 2020 (this number rises to 2 million if one considers support professionals). This means that about 15% of the health needs of the European population will not be covered, as shown in Table 2.

These global changes have been transforming the health labour market and pushing for reforms in the human resources for health educational and training processes.

There is a global market for health workers, but the market is distorted being determined by the global inequalities in the provision of care and the ability to pay workers, instead of by health needs and the burden of the disease[12].

Traditionally the approaches that discuss strategies which are aimed at the planning of the HRH, focus mainly on estimates of the number of health professionals based on demographic indicators and epidemiological indicators as well as the widening, reform and improvement of the educational process. In this case, this is done through the creation or qualification of the universities/colleges or the education supplied[13]. In spite of the predictive power of these approaches, they do not capture the differences between the educational processes and training and between countries and the current and future needs of the health workforce. This is also the case for the dynamic and relationship between labor market and educational market[14-16].

The *General Agreement on Trade in Services – GATS*[17] has contributed to the removal and reduction in barriers to the flow of labor between countries whilst at the same time in the differences in the education standards which are being reduced. This is allied to the regulatory mecha-

Table 1. Average density (2000-2013) of health care workers (per 10,000 inhabitants) for the principal professional categories*, by WHO Region.

WHO Regions	Doctors	Nurses and Midwives**	Dentists	Pharmacists
Africa Region	2.4	10.7	0.5	1.0
Region of Americas	20.0	24.1	4.1	3.2
South-East Asia Region	6.1	9.0	1.0	3.9
European Region	32.3	41.7	5.6	8.6
Eastern Mediterranean Region	10.3	10.7	1.5	5.6
Western Pacific Region	13.5	24.1	0.2	3.5
Global	12.3	17.6	0.8	3.6

Source: Adapted from WHO, 2016[16].
*Refers to the seven major professional categories of health care workers defined in the WHO Global Statistical Report (available at: http://www.who.int/hrh/statistics/hwfstats/en/): dentists, pharmacists, laboratory professionals, public and environmental health care workers, community health care workers, managers and logistical support in health), other health care workers. ** In various countries, it is difficult to obtain disaggregated data between nurses and midwives

Table 2. Estimates of the deficit of health professionals in the health care sector for 2020, based on the professionals categories, EU.

Health professionals	Estimate deficit for 2020	Estimated percentage for health care that is not covered*
Doctors	230,000	13.5%
Dentists, pharmacists and physiotherapists	150,000	13.5%
Nurses	590,000	14.0%
Total	970,000	13.8%

Source: Adapted from the European Commission, 2012[10].
* Estimates based on services provided in 2010.

nisms that facilitate the transit and quick recognition of qualifications. They have helped to create a global labor market for nursing and other health professionals in this area[18].

In this context, various actors have been identifying the relevance of international cooperation and collaboration with partners in order to improve the knowledge base on the trends of health personnel, efficiency and sustainability. Such strategies facilitate the collaboration amongst countries, supporting the creation of networks and advocacy, communication and monitoring processes and the exchange of information. In parallel, these estrategies incentive the technical capacity building in the countries, to make headway in the agenda on the development of human resources for health with the priority to reinforce processes for the training of professionals aimed at having a transformational education system based on: competences, changes in roles, working in teams and innovation in planned learning for specific/local contexts. Cooperation in health also strengthens the development of strategies based on the retention of workers and especially on hard to reach rural areas, reducing the inequalities in distribution.

The Brazilian Case

The history of the technical cooperation in health in Brazil has close relationship with the Pan American Health Organization (PAHO) and the Regional Office for the Americas of the World Health Organization (WHO). It involved the encouragement of strategic partnerships regulated and organized by cooperation terms (TC) and tools that provide legal recognition and that make the defined activities feasible on both a national and international level[22].

The Program for the Strategic Preparations of Health Care Personnel (PPREPS) in June 1976 was the turning point the development of strategies and actions in the area of human resources for health. The function of the program was to steward and to be a catalyst tool for competencies and capacities, to integrate and coordinate the participation of institutions and support financially and technically the different initiatives[23].

In December 1978, a new PAHO-Brazil cooperation agreement was signed. However up until the first half of 1979, the cooperation activities made little progress.

Between 1979-1980 the stock of the HWF in Brazil grew substantially (142.9% doctors and 125.6% nurses) but there was also a major growth of nursing assistants. According to the data from the Conselho Federal de Enfermagem (1985) these assistant nursing were constituted by personnel with a level of education varying between the 1st incomplete level (41.3%), the first complete level (22.8%) and the second incomplete level (31.2%), but without specific qualifications to work in the health sector[24]. This corresponds to the primary and secondary level of education respectively in the Law on Guidelines and National Educational Base (20/12/96).

This large number of professionals with unsuitable qualifications defined the strategic line for the technical cooperation actions, highlighting the three educational proposals with responsibilities for the training of health professionals:

1. The Large Scale Project started in the first half of the 1980s with the purpose of training intermediate level personnel on a *large scale* to fulfill the demand.

2. The Training Project in the Development of Human Resources in Health (CADRHU), launched in the second half of the 1980s with the purpose of contributing to the modernization of the institutional processes in the field of human resources ensuring its compatibility with the principal goals of the Health Reforms.

Ciência & Saúde Coletiva, 22(7):2237-2246, 2017

3. The Managerial Development of the Primary Care Units Project (GERUS) launched in 1990, with the objective of contributing towards technical and policy qualifications for all involved and responsibible for the management of the health services with hospital admissions and to give support to the decentralization strategy as well as new guidance on the health care models.

In 1992, based on the Brazilian experience with CADRHU, the first Latin-American Human Resources in Health course was developed (CLARHUS) which was an initiative that inspired new projects from 2005.

According to Iglesias Puente[25], Brazil participated in the development of the international technical cooperation from the very beginning. Initially and for many years, it was a recipient country. It then changed to being a country that shared its experience and knowledge in various areas. For Puente, "the Brazilian technical and horizontal cooperation agreement covered current activities, projects and involved transferences, development and the dissemination of technical knowledge, very successful experiences and human resources training having in mind the strengthening of institutions for the recipient country".

At the beginning of the 2000s Brazil, that had been offering some external help in the area of health, started to increase its participation on the international cooperation processes in Latin America and in the Portuguese speaking countries in Africa (PALOP) through the format that became known as "structuring cooperation"[26], in contrast to the traditional model practiced by the developed countries and some financial agencies that sought to impose their agendas on the recipient countries. With this approach, the perspective on training and local sustainability was reinforced.

What was also highlighted was the the gradual assertion of the position that puts the South-South cooperation at the center of the international agenda from the mid-90s. The creation of the Community of Portuguese Speaking Countries - CPLP in 1996, its intense political mobilization in the following decade and the leadership role in Brazil in relation to its peace force in Haiti from 2004 were linked to certain initiatives that sought to consolidate an active and strategic profile in the country in relation to global relations, especially for initiatives related to the South-South cooperation agreements[27].

In the field of human resources for health, this redirection allowed the development of some initiatives in cooperation with other countries as a form of participation in the debates on the global agenda centered on the critical deficit in many parts of the world and in the inequality of distribution and difficulties for the recruitment of doctors in rural and hard to reach areas.

In 2006, the Terms of Cooperation 41 (TC-41) was signed between the PAHO and Brazil through the Secretary for Management of Health Labor and Education (SGETES) to develop the International Health Program (PSI) aiming at the exchange of experiences, knowledge and available technologies in institutions in the field of public health in Brazil and in the the PAHO/WHO countries with the priority for South America and the Portuguese-speaking African countries (PALOP). In the scope of this cooperation, 51 projects were approved that developed more than 680 activities in the period of 10 years[28].

From 2005, the relations of the Brazilian Government with the Portuguese speaking countries solidified and widened the actions. For example, the creation of the ePORTUGUESe Network as a strategy of the WHO to strengthen the collaboration in the areas of HRH information and training, increased the opportunity for exchanges in health information in Portuguese and the contributions for health systems strengthening as well as improving services for the population. In parallel, the experience of the Blue Libraries permitted the countries to access technical manuals containing basic information on public health, infectious diseases, nursing care, maternal and infant health, management, AIDS, tuberculosis, malaria amongst others.

Another key experience that was was the HRH Management Trainng Program (CIRHUS) that started in 2006. It concerned a project for technical cooperation made feasible through the educational process that proposed sharing experiences, problems and similar solutions on human resources for health management in different countries[29].

Also, the Ministry of Health played a major role in the period between 2006 - 2014 togethe with the Global Alliance for Human Resources for Health, created in 2006 to be a coordinated partnership with the WHO, governmental entities, international agencies, financial institutions, research centers amongst other relevant actors involved in the theme.

Amongst the various intervention implemented to deal with the lack of health professionals in the hard to reach areas, the Family

Health Strategy, might be considered as a very successful example of the expansion of the medical coverage in Brazil, in spite of not being specifically designed for that purpose[3]. More recently, this strategy was expanded based on a cooperation agreement between PAHO/WHO and the Ministry of Health. This gave rise to the More Doctors Program (PMM). The PMM was executed with the recruitment of Cuban doctors and through attracting foreign doctors as well as Brazilians ones, through the mechanisms of remuneration being directly managed by the Federal Government with the local support of municipal governments and some incentives for specialist training in family and community health care[28].

International Cooperation and governance

Unless major investment is made in training and development, the trend is worsening of the global HRH shortage in the coming years. The challenges are not just limited to national borders. They require regional actions and even global ones. The questions related to this theme have been going up the agenda for the different international organizations, NGOs, academic and research institutions. This has produced and provided reasons for investigations, the development of new ideas and methodologies.

Technical cooperation between countries can be seen as a way of assuring major sustainability of interventions and the reinforcing of institutional capacities to influence trans-national and global questions. In search for the biggest impact and the better handling of resources in cooperation actions, the need for constant monitoring and evaluations are emphasized. The 2005 Paris Declaration on Aid Effectiveness, is an international agreement including more than 100 countries and organizations that advocate for better harmonization, alignment and aid management, involving defining indicators to monitor results[29].

Currently is it accepted that the deficit in health workers in many places is amongst the most significant obstacles hindering countries in not reaching some of the three Millennium Development Goals (MDGs) related to health: a reduction in infant and maternal mortality and the combating of HIV/Aids and other diseases such as tuberculosis and malaria. Since the adoption of the MDGs in 2000, there has been a substantial increase in the volume of resources to aid in the context of the international cooperation aiming at the established goals. There is international consensus on the importance of aid effectiveness, forcing donors and partners to review their policies, procedures and collaborative practices around global strategies related to HWF.

The 2006 World Health Report "Working Together for Health" put definitively human resources on the global political agenda. The report proposed that the decade be dedicated to actions towards health professionals and it should act as a catalyst for numerous political initiatives as well as the adoption of various resolutions on the issue[30]. As a result of this report the WHO, various agencies in the area of international cooperation and non-governmental organizations, created the Global Health Workforce Alliance – GHWA that was hosted and administered by the WHO as a platform for common actions to mobilize resources and increase the capacity for global and political negotiation to address the critical shortage of health workers scenario.

At the WHO level, various political initiatives gave rise to the adoption of other resolutions on the theme: The WHO Global Code of Practice on the International. Recruitment of Health Personnel (2010)[31]; Health workforce strengthening (2011)[32]; Strengthening nursing and midwifery. (2011)[33]; Transforming health workforce education in support of universal health coverage (2013)[34], and the Follow-up of the Recife Political Declaration on Human Resources for Health: renewed commitments towards universal health coverage. (2014)[35]. In 2015 the World Health Assembly, reiterated the importance of the HWF in all different areas of the WHO including health systems, surgical care and global actions in emergencies, amongst others.

The same process happened in different WHO regions. In the region of the Americas, for example, the VII Regional Reunion of the Human Resources for Health Observatories in 2005, approved the "Toronto Call to Action for a Decade of Human Resources in Health for the Americas (2006-2015)"[36]. Subsequently the 27th Pan-American Conference on Health approved the resolution with the 20 regional goals to be reached by 2015 in the process of the transformation the health systems for renewed primary health care and the integration of services. The goals were group in accordance with five areas mentioned in the Toronto Call to Action: 1) definition of long term policies and plans 2) improvements in the distribution of professionals, 3) regulation of the health professionals flow and migration 4) the creation of healthy working environments and 5) the establishment of links between training institutions and health services[37].

Ciência & Saúde Coletiva, 22(7):2237-2246, 2017

The carrying out of the Global Forums on Human Resources for Health resulted in important initiatives in the global context: Uganda in 2008, Thailand in 2011 and Brazil in 2013, respectively. The Forums brought together specialist, managers and health professionals around the common objective of developing strategies for reaching the health targets related to the Millennium Development Goals.

The adoption of these resolutions shown the concerns and recognition of the WHO, its partners and member states of the organization on the importance of human resources and the understanding that investment in international technical cooperation can improve the health indicators for the population which in turn can drive economic development and act as the primary line of defense for insuring the global health.

At the World Health Assembly in May 2014, the WHO committed itself to developing a Global Strategy on the health workforce that was presented to the Executive Council at the beginning of 2016 and finally approved at the World Health Assembly in May 2016.

The development of the Strategy involved a wide consultation amongst the countries which resulted in the production of 8 thematic documents that brought together evidence in support of the systemized proposals.

The "Global Strategy on Human Resources for Health: Workforce 2030" approved in 2016 is directed mainly towards planners and policy makers at a global, regional and national level, but its content is important for all those interested in the area of health workers including public and private employees, professional associations, educational institutions, unions, bilateral and multilateral development partners, international organizations and civil society groups[9].

To accelerate and transform the education of health professionals, especially the doctors, nurses and midwifery, the WHO established an initiative, in partnership with international cooperation agencies, as an articulate and institutional response to the challenges of training health professionals. This initiative produced a series of recommendations and guidance for countries to adopted new methodological and pedagogical approaches in the formative process, aiming at transforming the systems and to incentive training processes on environment out of tertiary hospitals and to promote community participation as well as establish articulated activities between education, health and other related sectors[38].

The recommendations embraced a large variety of issues from the development of curriculum relevant for the communities to the training of health professionals with skills to be high qualified and clinically competent faculty. Thus, a better alignment between the training institutions and the health system is fundamental for producing transformational changes and leadership in the preparation of future workers with commitment and interests to work on rural and remote areas, for example, where challenges on health equality and inequality exist[38]. Evaluation studies and research in this field are essential for planning and building a future HWF agenda.

It is interesting to note that although a lot is being done to meet the objectives connected to health care, the difference between what can be done and what is being done, is growing. The success in closing this gap will be determined, in large part, by the development of a workforce in parallel to improving the health system with an emphasis in human resources governance.

As demonstrated by Dieleman et al[34] governance seems to be a question that has been neglected in this niche which could be an important factor that would justify the fragility of the human resources policies and their implementation processes which are often characterized by the lack of technical quality. In developing countries, the inadequacies of these elements have been noted and evidenced in various studies[5,40-43].

Governance represents the global environment and the context in which it is guided and it guarantees the processes of the development of the health workforce in accordance with the framework developed by the WHO and the other partnerships in 2009, that identified six main fields of action: HR Management Systems, Leadership, Partnership, Finance, Education and Policy.

Amongst the problems are included the lack of political support for the implementation of programs or in reaching the HRH objectives and the difficulties with the implementation of policies or strategies. The availability, deadlines, coverage and quality of data, information and evidence are major limitations in almost every region.

The low efficiency in the process of leadership reflects the poor visibility and low technical and institutional capacity of the human resources departments within of the ministries of health[44].

Sector and multi-sector partnerships for the development of health professionals are great initiatives in most of the countries with little or no effective platforms for coordination and di-

alogue. The participation of interested parties aside from the ministries and the institutions in the health sector, is very much limited[41].

Due to the fragmented actions and lack of attention to health personnel questions, investment in HRH is not adequate in many countries. The situation is reflected in the low remuneration or the poor working conditions of health workers and in the inadequate financing for education and training in countries: Even in the countries with relatively adequate level of resources for human resources for health, there is also a lot of space for improvements in efficiency and concerted actions in the allocation of resources and the development of health personnel.

In the case of countries that depend on the support of external donors for health, including human resources for health and especially those that are facing complex emergencies, the financing can often be unpredictable and not efficient in its final use[45]. The donors often just invest in inservice-training vis-à-vis graduation.

Recent studies in the HRH programs in the Americas have shown that the most frequent challenge for the implementation or continuity of the programs were the difficulties in financial sustainability. Also financial limitations were not just restricted to the maintenance or expansion of the programs but included the creation / implementation of the national policies for health professionals[5]. The commitment of the different agencies and the Ministries of Health to the processes of cooperation and the development of programs, was one of the positive aspects found in the study.

In this way, various studies have shown the strong demand for technical cooperation in areas with little or no information and few evidence principally on financing, remuneration, educational costs, training and other aspects of development of health professionals.

Final Considerations

A contemporaneous action for the human resources for health global development, incorporated in the 2030 agenda for development, requires an articulate process of international cooperation between international agencies and different countries. This strategy ought to have the objective of overcoming the HWF crisis, promoting interventions and developing programs that increase national and international capacity in planning, leadership and governance of the related actions in this field.

It is recognized that the progress made in the implementation of cooperation, continues to be less than expected and the architecture of the international aid suffered deep changes in the last decade which will be incorporated in the future. It will have an all-encompassing perspective in the strengthening and surpassing of the critical scenario of quantity, quality and the distribution of health professionals. The global partnership around common principles should bring together different elements and actors such as new donors and the private sector defining levels of commitment that is different for each one with the assumption that public aid, in spite of being essential, is one of the necessary elements in the promotion and sustainability of human resources for health.

At the same time, international forces should focus on increasing the mechanisms and capacity of the information systems to monitor the indicators not just in quantity or the density of the workforce, but also to obtain disaggregated data on the availability, accessibility, acceptability and quality of the workforce to take care of the population needs, ensuring that the provision of care is done with quality and the equality of access to health interventions.

Collaborations

GZ Portela, AC Fehn, RLS Ungerer and MR Dal Poz contributed to: the idea for the paper, the analysis and interpretation of the data and both the drafting and critical revision of the paper.

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