



Research Paper

Shortage of doctors in vulnerable areas: Challenges and responses in the Brazilian context

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ABSTRACT

The maldistribution of medical professionals by regions is not an exclusive reality of our country and also occurs in different countries in the world context. In Brazil, this reality has a greater proportion due to the presence of rural areas that are difficult to access, with a tendency for professionals to remain concentrated in large urban centers. This study aims to discuss the process of physicians' stay in vulnerable areas in the world and Brazilian context. A bibliographic review was carried out using the databases PubMed, Portal Capes and Google Scholar, selecting studies published in the last five years. Comparing the observations about medical shortages, it is possible to conclude that medical schools have a similar distribution, that is, the regions with greater availability of physicians are those where academic training in medicine occurs.

Keywords: Doctors shortage, health care, medical education.

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INTRODUCTION

The distribution by territory, density and amount of medical professionals is the subject of research and some discussions around the world. This is due to the close relationship of the density of doctors per inhabitant and the quality of life of the population, since the medical professionals are involved in one of the indicators, the human development index (HDI), a fundamental importance for human well-being: health (Hamamoto Filho, 2013). One of the most current global dilemmas in health occurs by way of distribution among health professionals and the population areas (i.e., rural and urban areas), however the focus of scarcity is observed in medical professionals. The solution and the ways to meet this challenge have generated a formulation of considerations and recommendations by the World Health Organization (WHO) featuring recruitment policies, as well as, establishment of medical professionals in rural areas and/or so, in order to solve remote and secure access to healthcare for populations in these areas (WHO, 2010; Silveira et al., 2014).

Occurs around the world an uneven distribution of medical professionals. The Nations with the lowest prevalence of diseases have a higher amount of health professionals, as opposed to the countries with the highest prevalence of diseases, which possess a workforce smaller health or reduced. North America, for example, which includes the United States and Canada presents only 10% of the global prevalence of the disease, however approximately 37% of health professionals in the world reside in those regions, causing there to be a spent 50% of above world economy reserved for health. Compared with Africa, which suffers from more than 24% of the global prevalence of the disease, the population did not have access to health, where approximately 3% of health professionals and less than 1% of the world economy are intended for the region, this is even taking into account the relevant issues of the country (i.e., loans and donations received)(CREMESP, 2015).

In Brazil the health professionals, especially medical professionals, concentrate on the Poles (that is, large

population centers) and seek to be close to the educational institutions, the greater quantity of health services and Consequently close to where there is a greater supply of work. Thus, the regions whose development is lagging behind economically despite large territories and rural areas have extensive, notoriously, a greater difficulty to attract and retain health professionals, especially doctors (Alcântara et al., 2013).

In the years 2013 and 2015, the Federal Council of Medicine (CFM) published in your second and third editions, respectively, medical demography research in Brazil, these studies have brought current data of the problem of uneven distribution across the national environment health. The main indicator that was used in the comparison for regions, is the ratio of doctors per thousand inhabitants. The analyses were developed taking into consideration the States and capitals, and data were used for quantification on the doctors registered in regional councils, doctors hired in some health and medical service registered in the system of health (SUS). According to the studies, the ratio in Brazil is 1.9 doctors per thousand inhabitants. If we compare our Brazilian reality with other realities in the world, our country is below Nations like England (2.74), Australia (2.99), Argentina (3.16) and Uruguay (3.74) and additionally our country is above others, as the Chile (1.09), Bolivia (1.2) and Peru (0.9). Tapering a little more data, is also striking inequality of medical professionals among the regions of Brazil, the concentration takes place primarily in the Southeast and South, economically more developed than in the North and northeast of the country, where the Professional demand is scarce (Alcântara et al., 2013; CREMESP, 2013, 2015).

Just as there is an uneven distribution of the population in the different Brazilian regions medical there is also an unequal distribution of medical courses around the country. It is observed that the distribution of medical schools and the proportion of inhabitants for each school, the level of socio-economic and technological development in the various continents and differentiated, possibly also within each region and subregion. In times of globalization becomes relevant to know and keep track of what occurs in other countries, both as regards medical education, about the educational aspects of other professions in the field of health (Silveira et al., 2014; Campos et al., 2016).

Regarding the future prospects for the issues that permeate the lack of doctors in some parts of the country, there are some actions in order to bring the future doctors to everyday health services by the requirement to spend at least two years of your acting training in basic health units in urgent and emergency of the unified health system (SUS). Other action, regarding the change in formation, is the goal of 11500 openings during the course of medicine in Brazil and 12000 jobs postgraduation until 2020 with a focus on

priority regions of the SUS, having as a prerequisite the existence of at least three residences in medical areas in larger areas further as medical clinic, surgery, Pediatrics, gynaecology/obstetrics and family and community medicine (Collar et al., 2015).

The trend of the medical professional in the place where his/her academic process took place, is where graduation was held or where his/her medical specialty takes place. Ironically, the cities with medical education institutions are usually those that exhibit a greater range of health services (that is, hospitals, clinics, health centers and laboratories), that is those who hold higher opportunities and better working conditions. The great stimulus to medical specialties is another process that occurs in the country. The medical specialties organized both the departments and disciplines of universities as medical services in teaching hospitals and clinics. Each year, there are entry into the labour market of a large number of experts that are able to diagnose or treat specific diseases, when in fact there are shortages of professionals in basic areas. It is in this context of massive training of specialists and medical subspecialists in the cities, shortage in the interior and/or rural professional occur, as well as difficulties and high costs of internalization of medicine due to not having the best conditions of exercise of their practices (Matos, 2014; Silveira et al., 2014).

Know, then, that there is indeed a shortage of doctors in cities/rural country. There are a lot more changes in structure of paradigmatic tensions than of changing paradigms, in which arise more questions than answers to them. The question that comes up is: what characterizes sharp professional shortage and the uneven distribution of doctors in Brazil, as well as in the world? An analysis of multiple factors is necessary to bring any answers to this question and then initiate thoughts on appropriate health policies to improve the current situation, thereby improving the health of the population. The feasibility of any change, especially the more intrinsic, needs to be put into practice. It does not seem like only short-term or one-off measures is able to promote a favourable context to these changes (Matos, 2014; Cyrino et al., 2015; Carvalho et al., 2016).

MATERIALS AND METHODS

This study involves a search of bibliographical research of the past five years, through scientific articles available in full and free electronic access, using the databases: PubMed, Capes Portal and Google Scholar. We used the keywords: *medical shortages* AND *world* (31 articles), *vulnerable areas* AND *health* (41 articles) *doctors* AND *primary care* (35 articles). After the selection of a priori studies, in order to

answer the question of the review of the scientific literature, 30 articles were selected publications in Portuguese language, being added as supplementary reference 01 (one) book in English of the WHO (2010). The materials were analyzed as its objectives, methodology, results and conclusions. Research has found some limitations on selection of only studies of free access, as well as, have focused on national studies for the thematic discussion.

RESULTS AND DISCUSSION

Medical scarcity in vulnerable areas: Answers in the Brazilian context

In the face of this reality, the Ministry of health has mounted, since the 1970, strategies to redesign the current model of health care and training of health professionals, strengthening primary health care through injury prevention, promoting health and ensuring the right to a system of universal health care, and fair. These strategies depart from the Constitution, bypassing the NOB's, NOAS and the Pact for health, and highlight the programs, such as community health Agents program (PACS) and the family health program (PSF), that showed ways to proffer solutions to the challenges of system (Santos et al., 2015; Campos et al., 2016).

Nevertheless, the problem of shortage of medical professionals was obvious in 2011, leading to the creation of another program, Professional development of primary health care, in which approximately 3000 Brazilian municipalities instructed along the other 13000 professionals doctors. However, in this category, only 4,392 signed up and, of those, only 3,800 were hired (Santos et al., 2016). In view of this permanent lack of doctors willing to labor in primary health care (PHC), and under pressure from the national front of mayors of Brazil, the Brazilian Government sanction in October 2013 law 12,871, which instituted the program (PMM). This new program emerged from a survey of the needs for employment of doctors in the country and has carried out a series of measures to reduce and minimize such a challenge system, representing a continuation of efforts for consolidation of doctors in APS, mainly in rural areas of the country (Campos et al., 2016; Santos et al., 2016; Scheffer et al., 2016). The changes flagged in the law of the PMM focus on undergraduate courses of medicine, dictating the opening of new vacancies and ordering suitability and improvement of curricula to the new National curriculum guidelines (DCN) which were defined by the National Council of education (CNE). The law signals also for changes in medical residencies, so the need to undergo at least one year of general medicine and

community (Scheffer, 2016).

In these four years of PMM, were inserted in the SUS over 18000 doctors (big part recruited through international cooperation) in more than 80% of Brazilian municipalities, increasing more than 7000 ESF teams and expanding the 10% population coverage. This highlights the emergency provision, the farthest ends of the Earth, historical discoveries by these professionals assistance (Trindade et al., 2016). However, some of the criticisms have been lodged with the PMM to increase medical courses primarily in urban areas is that, different from investing new medical courses in regions with a shortage of doctors, there should be greater investment in existing courses as a way to enlarge the number of slots and the quality. According to the Federal Council of Medicine, selected places do not have the ability to offer a quality training. Meanwhile, the Brazilian Center for Health Studies (CEBES) disagrees with these arguments and defend and reports the lack of doctors, aiming the creation of courses in places not in the formation (CEBES, 2013; Carvalho et al., 2013; 2016). It is important to stress that the PMM is a program and consists of three structural axes: emergency provision; improving the physical structure the UBS; and expansion of medical schools in Brazil. The prospect is that these actions be continued so that over time the doctors allocated emergency mode can give way to others who may be fixed (Carvalho et al., 2016; Trindade et al., 2016; Cavalcante et al., 2018).

It was noted the low level of harmony between universities (where the professionals) and SUS, because the system demands, mainly of primary care, are not properly covered in the training of new professionals. Considering this situation, in addition to promote the expansion of the number of vacancies and medical courses in order to internalize to a fairer distribution, the PMM promoted the expansion of the fields of knowledge and practices of public health, family health, primary care, Mental Health and Emergency/emergency (Campos et al., 2016; Trindade et al., 2016; Girardi et al., 2016; Costa et al., 2017).

In addition, the new DCN require at least two years of training of these professionals (30% of boarding school) and must happen for basic attention, urgencies and emergencies, allowing greater integration and approximation of scholars with such services and promoting the development of skills and improvement of skills needed to be applied in a medical practice focused on the health needs of the population (Girardi et al., 2016; Kemper et al., 2016; Oliveira et al., 2018). Coupled with this, the law n° 12,871/2013 established even though the residence of family and community medicine is the means of direct access to other medical specialties, requiring professionals who aspire most specialize doctors to pass two years in direct contact with the basic attention. This

measure, in addition to permanent education, is mandatory to contractors in the PMM. It enables preparation of a more primary care, breaking the stigma of the basic attention disqualified (Oliveira et al., 2015; Trindade et al., 2016; Gonçalves Junior et al., 2017).

However, it is important to stress that attracting more doctors to rural areas is not the only challenge. In addition to the amount of doctors and proper training, these professionals are social limitations to live together with their families in regions difficult to access not only the health but also education and basic needs services (that is, banks, Commerce, leisure). It is necessary to take into consideration the environment in which the Professional is inserted. Policies to combat this challenge must focus on changing the work process, generating an integration between universities and health services, thus resulting in a satisfactory reality for the population (Maciel-Lima et al., 2017; Martins et al., 2017).

In addition to the improvements of the work environment, promoting facilities, supplies and equipment suitable for both doctors and multidisciplinary team of health, are essential fiscally sustainable investments as free shipping, holiday paid and housing aid. Also, it is necessary to support the motivation of health workers residents of rural areas, through career development plans, thus enabling a satisfying work environment for professionals who come to install. For urban, conditions are important to have contextual actions with regard to infrastructure and services, such as sanitation, telecommunications and schools (Queiroz, 2014; Ranieri, 2017).

Regarding issues related to the quality of life of doctors in rural areas and shortages, there was cooperation between Brazil and Cuba, where the PMM was considered by the Brazilian Government, after two years of coming into force, as the largest initiative in the national territory with a focus on combating shortage. Therefore, it is essential to state that this triangular cooperation between Brazil and Cuba was the right answer and immediate to the provision of doctors' APS services in these areas of greater vulnerability (Ranieri, 2017; Alves et al., 2017).

Medical scarcity in vulnerable areas: Final thoughts and perspectives.

The theme of the shortage of doctors is delicate and requires a harmony between measures and actions, at both national and international levels. Actions and strategies for the short, medium and long term must be drawn and constantly evaluates the, noting how the consolidation of these changes, and especially not losing focus on the horizon intended to settle (Alves et al., 2017; Oliveira et al., 2017). Are extremely important social and educational

measures that purport to positively transform the education doctor, making a formation based on the public health system for the public.

The distribution of medical professionals by regions is a fact presented not only in our country as in other countries in the world context. In Brazil this reality is greater in rural areas and difficult to access, the naturally occurring concentration of these professionals in economic poles and in large population centers. The medical courses have similar distribution, making the regions with greater availability of doctors other than those that have medical training, that because there is a greater tendency to fixation of residences in the region where the degree (Alves et al., 2017).

In this context, it was observed that one of the key strategies in addition to the increase in medical courses in Brazil is a warning aimed at the distribution of these courses for most regions, which will promote the participation of actions during training and trend-setting of these housing professionals in the region (Queiroz, 2014; Trindade et al., 2016; Oliveira et al., 2017).

Another issue to be highlighted are the conditions of the exercise of medical practices, that it is not just enough to enter the professional in distant regions, it is necessary to also offer the minimum conditions for a proper job. This generates a cost perspective due to the deployment of trainers courses to the structuring of appropriate spaces for the provision of services (Schneider et al., 2015; Oliveira et al., 2017).

Although the Government is developing programs to media actions and medium-and long-term strategies with regard to the formation and distribution of trainers courses by regions, the problem of public health in Brazil is concentrating mainly on distribution of infrastructural resources and in the management of these resources and their applications to local needs. Besides, the lure of health professionals is the issue of housing in remote regions, because often this professional will need to take their family to reside in the region (Oliveira et al., 2017).

Conclusion

It is in this context that there is a shortage of medical professionals and discouragement of new professionals in some parts of the country. However, despite the strategic actions of the Government and of the formulation and implementation of projects aimed at the reduction of these inequalities, the control and constant reappraisal of these practices need to exist parallel to a management model that seeks the effectiveness and efficiency of executing policies, together with the improvements of the conduct, along with financial incentives and social benefits in the form of

attractive and social infrastructure and urban conditions. It is these aspects that we should think as citizens, and search for an immediate response, bearing in mind the internal structural process of organizations of public health policies. Inexercising right and having domain duty, we should get the solution through the PMM, that is, through the reformulations of the academies of medicine. The health system suffering with the sloppiness of the structural organization of who is part of the system, who runs, and who exercises daily. This reformulation is needed now, always aiming to fulfill the role of the SUS, including universal access and regionalization.

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REFERENCES

- Alcântara LR, Lopes MJM (2013). Estrutura de serviços e acesso a consumos em saúde por idosos em um contexto rural do Sul do Brasil. *Redes*. 17(1): 94-114. <http://dx.doi.org/10.17058/redes.v17i1.1719>
- Alves SMC, Oliveira FPD, Matos MFM, Santos LMP, Delduque MC (2017). Cooperação internacional e escassez de médicos: análise da interação entre Brasil, Angola e Cuba. *Ciência & saúde coletiva*. 22:2223-2235. <http://dx.doi.org/10.1590/1413-81232017227.03512017>
- Campos GWS, Pereira Júnior N (2016). A atenção primária e o Programa Mais Médicos do Sistema Único de Saúde: conquistas e limites. *Ciênc Saúde Coletiva*. 21 (9): 2655-63. <http://dx.doi.org/10.1590/1413-81232015219.18922016>
- Carvalho MS, Sousa MF (2013). Como o Brasil tem enfrentado o tema provimento de médicos? *Interface (Botucatu)*. 17(47): 913-26. <http://dx.doi.org/10.1590/1807-57622013.0403>
- Carvalho VKS, Marques CP, Silva EM (2016). A contribuição do Programa Mais Médicos: análise a partir das recomendações da OMS para provimento de médicos. *Ciênc. Saúde Coletiva*. 21 (9): 2773-84. <http://dx.doi.org/10.1590/1413-81232015219.17362016>
- Cavalcante ASP, Vasconcelos MIO, Lira GV, Henriques RLM, Albuquerque INM, Maciel GP (2018). As Ligas Acadêmicas na Área da Saúde: Lacunas do Conhecimento na Produção Científica Brasileira. *Revista Brasileira de Educação Médica*. 42(1): 199-206. <http://dx.doi.org/10.1590/1981-52712018v42n1RB20170081>
- Centro Brasileiro de Estudos de Saúde CEBES (2013). O SUS precisa de Mais Médicos e de Muito Mais! *Saúde Debate*. 37: 200-203.
- Collar JM, Almeida Neto JB, Ferla AA (2015). Formulação e Impacto do programa mais médicos na atenção e cuidado em saúde: contribuições iniciais e análise comparativa. *Saúde Redes*. 1(2): 43-56. <http://dx.doi.org/10.18310/2F2446-4813.2015v1n2p43-56>
- Conselho Federal de Medicina (2013). Conselho Regional de Medicina do Estado de São Paulo (CREMESP). *Demografia médica no Brasil "Concentração de médicos no Brasil em 2020"*. São Paulo: 2013.
- Conselho Federal de Medicina (2015). Conselho Regional de Medicina do Estado de São Paulo (CREMESP). *Demografia médica no Brasil*. São Paulo: 2015.
- Costa SM, Souza TS, Brito FR, Vilela ABA, Nery AA, Martins Filho IE (2017). Avaliação do Programa Mais Médicos como política de fortalecimento da atenção básica. *Saúde.com*. 13(2). <http://dx.doi.org/10.22481/rsc.v13i2.440>
- Cyrino EG, Pinto HA, Oliveira FP, Figueiredo AM (2015). O Programa Mais Médicos e a formação no e para o SUS: por que a mudança? *Esc Anna Nery Rev Enferm*. 19(1): 5-10. <http://dx.doi.org/10.5935/1414-8145.20150001>
- Girardi SN, Stralen ACDSV, Cella JN, Wan Der Maas L, Carvalho CL, Faria EDO (2016). Impacto do Programa Mais Médicos na redução da escassez de médicos em Atenção Primária à Saúde. *Ciência & Saúde Coletiva*. 21(9): 2675-2684. <http://dx.doi.org/10.1590/1413-81232015219.16032016>
- Gonçalves Junior O, Gava GB, Silva MSD (2017). Programa Mais Médicos, aperfeiçoando o SUS e democratizando a saúde: um balanço analítico do programa. *Saúde e Sociedade*. 26: 872-887. <http://dx.doi.org/10.1590/S0104-12902017170224>
- Hamamoto Filho PT (2013). Por um verdadeiro bônus à medicina brasileira. *Diagn. Tratamento*. 18(1): 58-9.
- Kemper ES, Mendonça AVM, Sousa MFD (2016). Programa Mais Médicos: panorama da produção científica. *Ciência & Saúde Coletiva*. 21: 2785-2796. <http://dx.doi.org/10.1590/1413-81232015219.17842016>
- Maciel-Lima SM, Hoffmann-Horochovski MT, Rasia JM (2017). Programa Mais Médicos: limites e potencialidades. *Revista de Direito Brasileira*. 17(7): 291-305. <http://dx.doi.org/10.5585/rdb.v17i7.644>
- Martins ACP, Sant'anna PA, Rocha JFD, Vieira MA (2017). Programa mais médicos: uma revisão integrativa. *Revista Brasileira em Promoção da Saúde*. 30(4). <http://dx.doi.org/10.5020/18061230.2017.6515>
- Matos GP (2014). Densidade médica em cidades do interior da Bahia e investimentos em saúde pública no ano de 2009. *Dissertação (Mestrado) – Universidade Federal da Bahia*. Salvador: 2014.
- Oliveira APCD, Gabriel M, Poz MRD, Dussault G (2017). Desafios para assegurar a disponibilidade e acessibilidade à assistência médica no Sistema Único de Saúde. *Ciência & Saúde Coletiva*. 22(4): 1165-1180. <http://dx.doi.org/10.1590/1413-81232017224.31382016>
- Oliveira APCD, Poz MRD, Craveiro I, Gabriel M, Dussault G (2018). Fatores que influenciaram o processo de formulação de políticas de recursos humanos em saúde no Brasil e em Portugal: estudo de caso múltiplo. *Cadernos de Saúde Pública*. 34:e00220416. <http://dx.doi.org/10.1590/0102-311X00220416>
- Oliveira FP, Vanni T, Pinto HA, Santos JTR, Figueiredo AM, Araújo SQ (2015). Mais Médicos: um programa brasileiro em uma perspectiva internacional. *Interface (Botucatu)*. 19(54): 623-34. <http://dx.doi.org/10.1590/1807-57622014.1142>
- Queiroz M (2014). Panorama da interpretação em contextos médicos no Brasil: Perspectivas. *Tradterm*. 23: 193-223.
- Ranieri NBS (2017). A autonomia universitária e os programas de residência médica no Brasil: os limites da Lei do "Mais Médicos". *Revista da Faculdade de Direito*. 111: 177-201.
- Santos JBF, Maciel RHMO, Lessa MGG, Maia ALLN, Guimarães EPA (2016). Médicos estrangeiros no Brasil: a arte do saber olhar, escutar e tocar. *Saude Soc*. 25(4): 1003-16. <http://dx.doi.org/10.1590/S0104-12902016163364>
- Santos LMP, Costa AM, Girardi SN (2015). Programa Mais Médicos: uma ação efetiva para reduzir iniquidades em saúde. *Ciênc Saúde Coletiva*. 20(11): 3547-52. <http://dx.doi.org/10.1590/1413-812320152011.07252015>
- Scheffer M (2016). Para muito além do Programa Mais Médicos. *Ciênc Saúde Coletiva*. 21(9): 2664-6. <http://dx.doi.org/10.1590/1413-81232015219.07582016>
- Schneider Y, Oliveira JD (2015). Políticas públicas de efetivação do direito social à saúde: Programa Mais Médicos sob uma análise da ponderação de princípios. *Revista da Academia Brasileira de Direito Constitucional*. 7(13).
- Silveira RP, Pinheiro R (2014). Entendendo a necessidade de médicos no interior da Amazônia-Brasil. *Rev Bras Educ Med*. 38(4): 451-9. <http://dx.doi.org/10.1590/S0100-55022014000400006>
- Trindade TG, Batista SR (2016). Medicina de família e comunidade: agora mais do que nunca. *Ciênc Saúde Coletiva*. 21(9): 2667-9. <http://dx.doi.org/10.1590/1413-81232015219.18862016>

World Health Organization (2010). Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations. Geneva: WHO; 2010.

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