More Doctors in Brazil Project: an analysis of Academic Supervision

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The shortage of physicians in Brazil has been alleviated by the More Doctors Program. As part of the program, physicians participate in professional enhancement processes, such as academic supervision, through which pedagogical support is given to strengthen the necessary skills and competencies for working in Primary Care. In 2015, onsite visits and longitudinal supervisory activities took place, in addition to regional meetings, which addressed topics related to noncommunicable chronic diseases, neglected tropical diseases, an overview of the program, Mental Health, and Primary Care work process. This list of themes is consistent with the prevalent epidemiological profile of the population, as well as work dynamics in Primary Care. In short, Academic Supervision has proven to be a powerful tool for the program qualification and Primary Care.

Keywords: More Doctors in Brazil Project. Academic Supervision. Work. Education. Health.

Introduction
In 2013, the Brazilian government created the More Doctors Program, in order to structure medical training, increase the number of openings in courses of medicine and medical residency programs, improve the infrastructure of primary healthcare units, and reduce the shortage of physicians through providing these professionals in needier regions of the country. This last objective, known as an emergency provision, has been achieved through the More Doctors in Brazil Project (MDBP). The physicians linked with the MDBP serve in primary healthcare units or Family Health Strategy (FHS) units, and are periodically monitored by an institution of higher education, which engages in academic supervision¹⁻⁵.

Academic Supervision is defined as the periodic and systematic monitoring of participating physicians, through providing face-to-face or remote pedagogical support. Although these supervisory activities are monitored by the Ministry of Education via computerized systems, they are part of the coordination and assessment process of the program, carried out jointly with the Ministry of Health, National Council of State Health Secretaries and National Council of Municipal Health Secretaries².

In the Ministry of Education, the MDBP is managed through the General Coordination Office for Education in Health Expansion and Management (CGEGES), within the Department for Development of Education in Health of the Department of Higher Education (DDES/SESu)⁶. This coordination office monitors activities related to the academic supervision of physicians in the program, in addition to coordinating the reception and assessment modules, corresponding to the first training session for these physicians.

Since the goal of the MDBP, through its activities, is to strengthen the Brazilian National Health System (SUS), Primary Care/Family Health Strategy and Continuing Education in Health, primary care/FHS and continuing education in health, it is important to examine aspects of these activities in the country and their impact.

It is worth noting that during their time in the MDBP, the physicians participate in professional enhancement processes, involving continuing education, organized into two cycles. The first cycle is subdivided into the following educational areas: Specialization and Academic Supervision. The second cycle is subdivided into
Improvement and Extension, as well as the continuation of Academic Supervision activities. Physicians educated abroad need to do the Reception and Assessment Module before starting the first cycle\(^1\)–\(^3\).

In sum, Academic Supervision is a permanent pedagogical tool in the MDBP and is required for the operation of the Program. For this reason, it is highly pertinent to study these activities. To better understand this tool, this paper describes and analyzes the main topics broached by supervisors with physicians in the MDBP in 2015.

**Academic Supervision in the More Doctors in Brazil Project**

Academic Supervision is one of the educational foundations of the MDBP and involves activities to strengthen the policy of Continuing Education, through integrating teaching–service into the care component of the training of physicians participating in the project\(^1\)–\(^4\). Supervisors – physicians linked to a supervisory institution of the MDBP – periodically monitor physicians from the project, giving pedagogical support to consolidate the necessary competencies for performing Primary Care activities and strengthening this level of care.

Individual face–to–face visits or remote communication tools, such as the telephone or Internet, serve for questions and answers (for resolving medical issues), inter–consultations or other necessary activities to improve physician performance. Supervisors are also responsible for providing support for physicians in the preparation and implementation of intervention projects developed during the specialization course taken by all MDBP physicians in the first training cycle. They must also evaluate the physicians participating in the project and monitor, as a support to SUS managers, the fulfillment of their working hours\(^2\)–\(^4\).

There are three ways in which academic supervision can occur, characterized as times for continuing education: I) On–site supervision, which is face–to–face and personal, on a monthly basis, in the workplace of the MDBP physicians; II) Regional supervision, which is collective in nature and involves face–to–face meetings (every three months) of the actors participating in the MDBP from specific regions; these
represent times for collective teaching and learning, where health practices and realities experienced by the physicians can be shared and improved, taking into consideration the characteristics and singularities of each experience, as well as regional specificities; and (iii) Longitudinal supervision, characterized by constant interaction between supervisors and physicians, through the use of information and communication technologies, such as the Internet and telephone. This mode is only allowed for supervising physicians assigned to indigenous territories and/or supervised by the Special Supervision Group and/or cases authorized by the Steering Committee of the project at the Ministry of Education. Longitudinal supervision should occur in the intervals between on-site supervisory visits.

All the modes of supervision seek to provide support for the activities carried out by physicians and their teams, and should: (i) answer questions related to clinical management; (ii) assess working conditions; (iii) identify learning needs; (iv) promote teamwork as a continuous education strategy; (v) introduce and encourage the use of pedagogical resources; (vi) serve as a setting for training assessments of the physicians; (vii) develop knowledge and competencies in the following areas: family and community medicine, management, teamwork processes, clinical practice and communication; and (viii) monitor the implementation of activities agreed on in the regional supervision meetings.

In regulatory terms, the CGEGES/DDES/SESu/Ministry of Education decided not to stipulate the methodologies and/or content to be addressed during supervision, especially in light of the multiple realities in the work of MDBP physicians and supervisors around the country. However, these bodies are responsible for identifying the content of these activities, in order to analyze their pertinence in relation to the epidemiological profile of the population and the work dynamics in Primary Care.

**Data collection and processing**

The methodology used for this study was document analysis, based on primary data obtained from the digital database of the Ministry of Education, called Sistema
Webportfólio/UNA-SUS. This database system was designed to store monthly reports posted by supervisors, which record the various activities carried out with physicians during supervisory visits, as well as the working conditions reported by these professionals. It also generates management reports for monitoring and evaluation of the More Doctors Program by the Ministry of Education.

Among the variables in the report, the variable "themes addressed during the supervision" was chosen for this study, which the supervisors record through the following question in the report: What theme(s) was/were addressed during the supervision?

A total of 171,123 supervisory reports were examined: 124,933 for on-site supervision, 592 for longitudinal supervision and 45,598 for regional supervision. These were completed by supervisors throughout the country from January to December 2015, corresponding to all the supervisory reports posted.

An Excel spreadsheet was created that contained all the responses in the reports related to the selected variable (themes addressed in the supervision) for the aforementioned time period. Since the questionnaire has multiple response options, the responses from each report were separated in order to code them. Then, thematic–categorical content analysis was performed, considering the simple frequency with which they emerged and similarity of content, as well as seeking to meet the methodological requirements proposed for this type of analysis.

Bardin defines content analysis as a set of communication analysis techniques utilized in order to obtain – through objective and systematic message content description procedures – indicators (quantitative or not) that enable inferring knowledge relative to the production/reception conditions of these messages.

Based on these frameworks, the methodological process adopted in this study can be summarized as follows: 1) definition of the analysis variables and the period and objectives of the study; 2) partially–oriented reading of the texts (responses from the reports), to explore the material; 3) extraction and codification of the data, with quantification by simple frequency, based on thematic recording units; 4) treatment and thematic analysis of the data, grouped by analysis units; 5) categorical analysis of
the text, with a final quantification of each category that emerged; 6) organization and presentation of the results; and 7) discussion of the results based on the epidemiological profile of the Brazilian population in the period. The last two points are presented in the following section.

Results and discussion

The results analysis gave rise to six categories, which are presented in Table 1.

Table 1. Categories that emerged from the academic supervision reports of the More Doctors in Brazil Project. Brazil, 2015.

<table>
<thead>
<tr>
<th>Categories</th>
<th>N</th>
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<tbody>
<tr>
<td>Ethics, Principles and Guidelines / Technical Elements</td>
<td></td>
</tr>
<tr>
<td>Management and Health Care Models / Work Processes in Family Health Units</td>
<td></td>
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<tr>
<td>Diseases and Complications</td>
<td></td>
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<tr>
<td>Diagnostic Support</td>
<td></td>
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<tr>
<td>MDBP</td>
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<tr>
<td>Life and Heath Cycles / Program Activities</td>
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</tbody>
</table>

The themes addressed the most in the meetings were those related to noncommunicable chronic diseases, neglected tropical diseases, presentation/scope of the MDBP, mental health, and primary care work processes. Table 2 presents 90% of the themes discussed in academic supervision. The Other category accounted for 10%; since the percentage of each theme on its own was less than 0.1%, it was decided not to present them in this paper.

Table 2. Most frequently addressed themes in academic supervision activities of the More Doctors in Brazil Project. Brazil, 2015.

<table>
<thead>
<tr>
<th>Themes</th>
<th>N</th>
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<tbody>
<tr>
<td>Assessment of the activities carried out in the health unit</td>
<td>1,840</td>
</tr>
<tr>
<td>Topic</td>
<td>Value</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Improvement of clinical behavioral/diagnosis/therapy/rehabilitation</td>
<td>1,696</td>
</tr>
<tr>
<td>Working hours/shifts and fulfillment of the practical component of the schedule</td>
<td>1,297</td>
</tr>
<tr>
<td>Work processes and team meetings</td>
<td>1,129</td>
</tr>
<tr>
<td>Access and reception with risk classification</td>
<td>1,096</td>
</tr>
<tr>
<td>Coordination with network requirements (family health support centers/health academy/street people care/mobile emergency services/emergency care units/psychosocial care centers)</td>
<td>996</td>
</tr>
<tr>
<td>Working hours/shifts and fulfillment of the study component of the schedule</td>
<td>969</td>
</tr>
<tr>
<td>Assessment of the supervision</td>
<td>922</td>
</tr>
<tr>
<td>Pharmaceutical Care</td>
<td>695</td>
</tr>
<tr>
<td>e-SUS</td>
<td>655</td>
</tr>
<tr>
<td>Health planning</td>
<td>643</td>
</tr>
<tr>
<td>Telehealth</td>
<td>611</td>
</tr>
<tr>
<td>Regulations in health and care networks</td>
<td>563</td>
</tr>
<tr>
<td>Lines of care</td>
<td>562</td>
</tr>
<tr>
<td>Proper filling out of patient health records and prescriptions</td>
<td>542</td>
</tr>
<tr>
<td>Humanization in health</td>
<td>519</td>
</tr>
<tr>
<td>Time management</td>
<td>485</td>
</tr>
<tr>
<td>Evidence-based medicine</td>
<td>379</td>
</tr>
<tr>
<td>Clinical primary care protocols</td>
<td>370</td>
</tr>
<tr>
<td>Person-centered medicine</td>
<td>362</td>
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<tr>
<td>Community participation and organization</td>
<td>316</td>
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<tr>
<td>National Primary Care Policy</td>
<td>315</td>
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<tr>
<td>Intervention project</td>
<td>294</td>
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<tr>
<td>Health care comprehensiveness</td>
<td>267</td>
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<tr>
<td>Health information systems</td>
<td>233</td>
</tr>
<tr>
<td>Alcohol and drugs</td>
<td>221</td>
</tr>
<tr>
<td>Singular Therapeutic Project</td>
<td>180</td>
</tr>
<tr>
<td>Adolescent health</td>
<td>157</td>
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</tbody>
</table>
The analysis of the content related to ethics, principles and guidelines / technical elements showed that the main subject addressed was in regard to historical aspects and SUS principles and guidelines. This was followed by discussions related to the National Primary Care Policy. In light of the fact that most of the physicians participating in the MDBP are foreigners, addressing these subjects in the supervisory visits was timely and necessary. By having access to discussions regarding the SUS and National Primary Care Policy, the MDBP physicians were able to enhance the knowledge they had obtained at the time of joining the project, since the reception and assessment modules addressed both these themes. Therefore, given the dynamic work process in primary care and the need for continuing education/training activities, ongoing discussions about the SUS strongly contributed to reflections on praxis, in order to improve medical practices.

In this regard, Academic Supervision is an important strategy of continuing education in health, which is very necessary within the SUS. The National Policy for Continuing Education in Health provides a strategic action alternative for the transformation and improvement of health practices; organization of activities and services; training processes; and pedagogical practices for the training and development of workers in the health sector. This requires inter-sectoral work that is able to integrate individual and institutional development, activities, services, local management, health care and oversight by the public.

With respect to the themes addressed in relation to management and health care models / work processes in family health units, significant coherence can be seen in the day-to-day work of FHS units. Discussing aspects related to reception of patients and the organization of care practices is very important for improving the health work done by physicians and primary care teams. However, it is necessary to strengthen certain content in the supervision agenda, such as that related to health care networks, since they are the new organization/care model recommended by the World Health Organization (due to the epidemiological profile). Other content to
reinforce would be the evaluation and monitoring processes for activities carried out, which are essential for monitoring and improving the work performed.

In terms of content related to diseases and complications, it is consistent with the current epidemiological profile of the Brazilian population, which is characterized by high prevalence of noncommunicable chronic diseases\textsuperscript{12-14}, especially cardiovascular diseases, diabetes, and obesity; the emergence of psychiatric illnesses\textsuperscript{15}, particularly depression and anxiety; and the persistence of infectious diseases.

Cardiovascular diseases are one of the main causes of mortality worldwide, with the most prevalent risk factor being systemic hypertension, which affects around 30\% to 45\% of the overall population and increases significantly with aging. In Brazil, the Surveillance System for Protective and Risk Factors for Chronic Diseases by Telephone Survey (Vigitel) (2013) reported that the frequency of adults who said they had been diagnosed with systemic hypertension was 15.2\% in Palmas and 30.7\% in Rio de Janeiro\textsuperscript{14,16-18}.

In view of the profile of the physicians, who are mostly Cubans, it was also positive to see the choice of themes related to neglected tropical diseases, which are not common in their country of origin. The only criticism is the weak coverage of pathologies whose vector is the Aedes aegypti mosquito, such as dengue, Chikungunya, and Zika and its subsequent microcephaly. Due to the high incidence of these pathologies in 2015\textsuperscript{19}, it is very important to address these topics in supervision activities, in order to promote discussion on early detection of symptoms and complications.

The analysis of the themes related to life and health cycles / program activities indicated that insufficient attention is being paid to groups that have been historically marginalized in relation to primary care services, such as men, adolescents, indigenous people, and workers. The priority continues to focus almost exclusively on themes that receive the most attention from primary care teams: women, children and the elderly.
It is important to consider, however, that this may be due to the demographic profile of the population covered by the units to which the physicians from the program are assigned, as reported in an experience described by Bertão. According to this author, an academic supervisor assisted a physician from the program in the choice and development of an intervention project in the first training cycle, which was health care for the elderly, in view of the high rate of aging in the region. It is also important to mention that the supervisor provided support not only to the physician from the program, but also to the health unit team and the municipal department of health, in regard to creating intervention initiatives for elderly people in the area.

In this respect, one of the criticisms of the program is the limitation of the work of supervisors to physicians participating in the program, as pointed out by Campos and Pereira Júnior. In practice, there are a variety of supervisory experiences; some are limited to the work of physicians, while others involve teams, managers and users.

The other themes addressed by supervisors demonstrate the constant discussion process surrounding the project itself, which is relevant given its dynamic process.

The results of this study coincide with those of Engstrom, who evaluated the regional meetings held in Rio de Janeiro between 2014 and 2015 and found that the supervisors chose as priority themes: mental health and women's, prenatal and children's health. According to the author, the pedagogical strategies instigated closer bonds between managers, supervisors and physicians, in harmony with the needs of the population and health system.

Silva et al., noted that care protocols were the theme most addressed by supervisors in the regional meetings held in the state of Rio Grande do Norte in 2014.

Corroborating the Silva study, Azevedo et al. found that the regional MDBP meetings in Rio Grande do Sul dealt with case discussions, updates on management and clinical protocols, needs and difficulties of initiatives in action, intercultural care issues and other themes considered relevant by the various actors in the project.
Even taking into account the associations described above, patterns of common educational interests were observed. Although studies specifically correlating interest and the search for education are scarce, based on the conceptualization of interest\textsuperscript{25}, it can be seen that there is value in the unique experience lived by physicians, so that this learning is significant, based on the constant definitions in the framework of continuing education in the MDBP. The degree of the influence of interest on educational themes by supervisors should also not be neglected. However, nothing is found on this issue in the medical literature, even though various methodologies incorporated interest as essential in learning. When gathering learning interest issues, a relationship has been noted with other methods, such as peer review, seen in methods such as the Continuing Education Program for Family Doctors, described by Silvério\textsuperscript{26}. Although the participation of this factor is recognized, this issue needs to be explored more deeply to understand its effect on the results obtained.

There are also experiences of academic supervision of physicians participating in programs to supply professionals in Australia, where the participants had access to educational opportunities for technical improvement and preparatory classes for taking exams to have their diplomas recognized in the country\textsuperscript{27-29}.

In sum, these studies have recognized that academic supervision is an ideal opportunity for knowledge exchange between physicians and supervisors, through which the experiences of these professionals are shared.

**Final considerations**

Throughout 2015, the Ministry of Education implemented changes in the supervision reports and evaluation and monitoring processes for MDBP activities, in order to improve and enhance them. These changes also helped create the results presented in this paper.

The analysis of the content of academic supervision activities indicated its relative pertinence in relation to the prevalent epidemiological profile of the Brazilian population, even for the population that seeks primary care for their health needs.
activities were also consistent with the work dynamics in this level of care. In short, the choice of content by supervisors revealed themes that were very relevant themes to improving the work of physicians participating in the MDBP.

A study conducted by Lima et al.\textsuperscript{30} highlighted the importance of organizing the work in the program, based on the needs reported by supervisors and physicians. These authors also argued that if this work seeks to bolster an expanded concept of health, it must focus on clinical activities, the supply of medical services, prompt treatment of prevalent diseases, and, above all, discussions regarding modes of social organization of production. However, the authors question the capability/ability of supervisors to adopt this expanded vision of health, given their educational profile and the absence of an ethos for pedagogical guidance. They also concluded that academic supervision of the work activities of physicians from the MDBP does not correspond to an isolated pedagogical encounter, but is a part and consequence of the historical development of theory and practice.

Regarding the scant references to pathologies linked to the Aedes aegypti mosquito, this may have been because, for the year under analysis, there was not yet sufficient evidence on the association between the vector and clinical manifestations. Also, there wasn’t any instructional material that could have been used by supervisors in the pedagogical process.

Academic Supervision has been considered an important strategy for building ties between universities (supervisory institutions) and the SUS\textsuperscript{27}, contributing to the strengthening of teaching–service–community integration.

It can also be said that supervision is a powerful tool for improving the clinical and care practices of physicians; in turn, it is conducive to strengthening Primary Care and consolidating the SUS. Since Academic Supervision Enables discussion between the professionals who are at the heart of health services, on themes arising from work in the field, it is also a powerful continuing education strategy, in that it fills in gaps and promotes changes in professional practices. This contributes to the accumulation of technical knowledge, which is one of the requirements for the transformation of practice.
Despite the importance of the supervision, there are still few studies about this aspect of the program. The papers published to date have prioritized analyzing emergency supply, with a focus on physicians from the program. A special thematic publication on More Doctors reinforces this reality. Of the 36 papers presented, only two addressed, although not in much depth, academic supervision and tutoring.

The discussion introduced in this paper is important and the reflections and results presented need to be supplemented with studies on the methodologies used by supervisors to address the themes, as well as their interest in the themes and their perceived influence. These are just as important as the content, or even more important, since they determine the way this content is developed and presented in an educational process. Further studies are also needed on the effects and/or impacts of these interventions in the realm of Primary Care work and on the development of new training, continuing education and Health Care models in Brazil.

Collaborators
Erika Rodrigues de Almeida, Adriano Ferreira Martins, Harineide Madeira Macedo and Rodrigo Chávez Penha actively participated in the discussion of the results, as well as the review and approval of the final version of the paper.

References


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