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Evaluation of Primary Health Care Units in the Rio De Janeiro City According to the Results of PMAQ 2012

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Abstract: To assess the quality of the primary health care network, the Ministry of Health created the Program for Improving Access and Quality in Primary Care (PMAQ), a national evaluation of family health teams. Thus, this study aims to present the geolocation of PMAQ 2012 quality indicators in the city of Rio de Janeiro. The PMAQ data show that, in the city of Rio de Janeiro, 65% of the teams achieved the performances "good" or "excellent," 34.7% "regular," and 0.3% "unsatisfactory." The results show a clear PMAQ polarization between teams units classified as optimal and regular in program areas 5 and 3, respectively. **Key words:** *Family Health Strategy, health programs and projects evaluation, primary health care*

THE CITY of Rio de Janeiro is the second biggest urban center in Brazil. It is very heterogeneous and presents different development degrees and consequent inequality in distribution and use of the available resources, including health services.

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From the 1990s to 2009, the city of Rio de Janeiro had a configuration of its health system poorly grounded in primary health care (PHC), public financing in the minimal constitutional limit, and increase in the private health insurance. Until then, the coverage of the Family Health Strategy (FHS) was the lowest among the Brazilian capitals, around 7% (Brasil & Ministério da Saúde, 2015). In 2008, among all Brazilian capitals, the city had the lowest municipal public budget for health. The percentage of the health department resources used to fund the hospital network of the city was around 83%, one of the biggest distortions in health spending among the main cities of the country and among the countries of the Organisation for Economic Cooperation and Development, which spend an average of 37.7% with hospital network (Soranz et al., 2016).

In the 1990s, many countries had already overcome the discussion regarding the health care model. Nevertheless, in Brazil, that question was still a reason for intense political and academic debate (Giovanella, 2006). Among the various options, the PHC model adopted

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by the National Primary Care Policy of the Ministry of Health considered the formation by teams of the FHS. The model following the national program of primary care was adopted by Rio de Janeiro and several other cities due to the financial incentives offered by the federal government. In the world, several other countries were already developing their primary care network based on family health teams with significant results for improving the quality of life of their populations for its good cost-effective (Giovanella, 2006; Silva & Silva Medeiros, 2016).

Inspired by the model adopted by Portugal in 2005, with the creation of the "Mission for Primary Health Care," and the National Health Service in England, a series of experiences of European PHC and the principles of Barbara Starfield (1998) were considered as references for the reform of PHC in the municipality of Rio de Janeiro (Soranz et al., 2016).

The PHC reform in Portugal aimed to conduct a thorough reconfiguration of the Portuguese PHC. The main objectives of that reform were to improve accessibility, efficiency, quality, and continuity of care, increasing the satisfaction of professionals and citizens. Its essential features are voluntary adherence, teamwork, mandatory existence of the information system, pay for performance, contracting, and evaluation (Pisco, 2011).

From the experience of Portugal, Brazil adapted the performance bonus system by using health indicators. Rio de Janeiro brought the creation of decentralized public policy observatories to improve the institutional intelligence, the use of electronic medical records, and strategies to deal with duplicate entries the result of records fragmented per unit in force in the city (Soranz et al., 2016). Based on the England model, Brazil adapted the form of contract doctors and geolocating households from the address of registered families, and the results bonus model called "pay for performance."

The PHC reform in Rio de Janeiro occurred concerning the model of health care and in administrative and organizational levels, changing the internal structure of the health department to ensure resources and administrative structure for the new PHC strategy. All management tools, from the macro level to the micro level, pointed toward reformulating the old health care network in a new model centered on Family Health, creating an institutional framework that supported this new network, and aiming to expand the scope of services offered to the population at that level of attention.

As for the Basic Health Units (BHUs), one of the biggest symbols of the PHC network reform in the city was the implementation of the so-called Family Clinics (FCs). Those units concentrate 3 or more family health teams, with a great advantage in physical structure, very different from the old health centers (currently called Municipal Health Centers [MHCs]-CMS). The FC project prized ambience, comfort, beauty, and sustainability, also differentiating with the incorporation of electronic medical records, furniture, air-conditioning, collection of laboratory tests and x-ray studies, ultrasound scans, among others. On the contrary, the MHCs, with older and sometimes precarious structure, are receiving reforms to make their facilities more appropriate to serve the population.

The institutional embodiment of that process occurred with the implementation, in May 2009, of the *Programa Saúde Presente*. It is a project guided by the city territorializing, with PHC as the main door of access to the health system. The rapid expansion of FHS that took place in Rio de Janeiro began in historically poor areas regarding the access to health care.

Since 2009, the city has undergone a radical change in the management of public health marked by a strong emphasis on PHC. The absolute number of FHS teams in the city increased from 67 to more than 600 in 3 years, jumping from 7% of FHS coverage and reaching around 40% in late 2012 (Brasil & Ministério da Saúde, 2015; Harzheim et al., 2013). The target set in the Strategic Plan of the Rio de Janeiro Town Hall 2013-2016 (Prefeitura do Rio de Janeiro, 2013b) is to reach 70% of FHS coverage by 2016 so that considering this wide expansion that has been taking place since 2009, it is becoming

more important to evaluate the results of the adopted PHC network model, as this is one of the guiding tools for the organization and improvement of health services.

In general, studies on the users' perception in public health units (Pontes et al., 2009; da Silva Lima et al., 2007; Marques & Lima, 2007) highlight problems such as the long waits for care, inadequate physical area of service, and even the dissatisfaction about the service provided by the unit staff. To assess the quality of the adopted PHC model, the Program for Improving Access and Quality in Primary Care (PMAQ-Programa de Melhoria do Acesso e da Qualidade na Atenção Básica in Portuguese) was created. The PMAQ was established by decree number 1654 of July 19, 2011, of the Ministry of Health, which, considering the policy of the federal government to qualify the public management with measurable results, ensuring access and quality of care, defines in Article 1 as objective of the PMAQ:

[...] To induce the increase in access and improve primary care quality, guaranteeing a comparable national standard of quality, regionally and locally, in order to allow greater transparency and effectiveness of government actions aimed at Primary Health Care. (Ministry of Health, 2011, n.p.)

In accordance with the mentioned decree, the PMAQ consists of 4 distinct and complementary phases: membership and contracting; development; external evaluation; and recontracting. In the adherence phase, all the teams in accordance with the criteria defined by the Instruction Manual of PMAO (Ministry of Health, 2012), regardless of being from FCs or MHCs, could join the program. In the development phase, a self-assessment of the team is performed according to instruments offered by the program, as well as monitoring and ongoing education of the teams. In the external evaluation phase, there is a performance certification of health and primary care management teams for educational institutions and/or research by checking evidence for a set of predetermined patterns. There is also an assessment of the local health network by the teams, user satisfaction assessment, and study on aspects of access, use, and quality of PHC to support local management. In the recontracting phase, the singular pact between cities and the federal district occurs, with increased new standards and quality indicators, encouraging the institutionalization of a cyclical and systematic process from the results obtained in phases 2 and 3, respectively.

Knowing the spatial distribution of the quality of BHUs helps us assess the performance of teams and identify the challenges imposed on health care professionals, administrators, and managers to improve the services offered by primary care. In this sense, this study aims to present the geolocation of PMAQ quality indicators in the city of Rio de Janeiro.

METHODS

Ecological, descriptive study, with secondary data

The data used were obtained from the PMAQ of Primary Care Teams in the city of Rio de Janeiro, in 2012, along with the Ministry of Health. According to the PMAQ, the city of Rio de Janeiro has 323 family health teams belonging to 87 BHUs, which joined the PMAQ, totaling 323 interviews with professionals and 1315 with users. In addition, infrastructure censuses were conducted in 179 BHUs.

The teams evaluated by the PMAQ were certified according to their performance, considering 3 dimensions to be verified: implementation of self-assessment processes (10% of the final grade); verification of the performance achieved for the set of contracted indicators (20% of the final grade); and verification of evidence for a set of quality standards (70% of the final grade) (Brasil & Ministério da Saúde, 2012).

According to the "summary document for external evaluation" (Brazil & Ministry of Health, 2012; Pinto & Sousa, 2012), the PMAQ quality standards, in general, are distributed into 5 dimensions.

The dimension "municipal management for the development of primary care" evaluates the structure and management teams of the municipal primary care as well as the support offered to the teams that joined the program.

- The "BHU structure and operating conditions" evaluates the unit infrastructure, accessibility, ambience and working conditions, equipment availability, important inputs, and medicines related to priority care lines.
- The "appreciation of the worker" assesses the formation of the team members, the investment of municipal management in professional development, and training and continuing education of staff. Moreover, the fulfillment of labor rights and working bonds is observed.
- The "access and quality of care and organization of the work process" assesses, from the perspective of professionals and users, the access, receptiveness, care management tools, and collegial management of the work process, besides evaluating the quality standards related to the attention of priority care lines.
- The dimension "user's utilization, participation, and satisfaction" evaluates the use of services by users, their satisfaction, and the implementation of mechanisms and opportunities for the participation of users to exercise social control.

Considering the diversity among the cities, to ensure comparability of results, the cities were placed into 10 strata. These strata were defined using social, economic, and demographic criteria based on 5 dimensions: gross domestic product per capita; percentage of population with health insurance; percentage of population with Family Allowance (*Bolsa Família*); percentage of population in extreme poverty; and demographic density.

As this research is not intended to perform a comparison between different cities, and considering that a city cannot belong to 2 different strata, this variable proved to be very relevant for purposes of this study. From the external evaluation, the teams were classified into 4 categories:

I. Unsatisfactory performance: When the obtained result is less than -1 standard deviation (SD) of the average performance of the teams in their contracted stratum.

- II. *Regular performance*: When the obtained result is less than the average and higher or equal to -1 SD of the average performance of the teams in their stratum.
- III. Good performance: When the achieved result is greater than the average and less than or equal to +1 SD of the average performance of the teams in their stratum.
- IV. *Excellent performance*: When the achieved result is greater than +1 SD of the average performance of the teams in its stratum.

Statistical analysis

Data analysis was performed by using statistical software R version 3.2.1, in which the descriptive and spatial data analyses were performed. The indicators obtained by the PMAQ were geolocated to enable spatial visualization of its distribution.

For the purposes of this study, a database was built using the geographic coordinates, obtained by GPS, of each unit, provided by the Pereira Passos Institute, as well as certification of the PMAQ for each of the 323 teams assessed in the city of Rio de Janeiro. For verifying the existence of association between the types of BHUs and the results found in evaluation of the PMAQ, the Fisher exact test was used, with significance of 5%.

The maps were generated using the statistical software R, with specific packages for each map type. For generating all the maps, geographical coordinates of the mentioned database units were used. The choropleth maps were generated from the shapefiles available on the Web site of the Municipal System of Urban Information, organ of the Rio de Janeiro Town Hall. The packages used in R to generate the choropleth maps were "maptools," "spdep," "stringr," and "rgdal." The population data are from the 2010 IBGE census.

For the satellite map, the database of the evaluated units was used, as well as a third database with the total city health units (also from the Municipal System of Urban Information). The following packages were used: "RgoogleMaps," "googleVis," "plot-GoogleMaps," "hypothyroidism," "ggmap," and "XML," which use a Google Maps API for operating, using the "Google Maps" as a basis to generate the maps. Except for choropleth maps, program area (PA) subdivisions were joined because of their relative similarity.

This project was approved by the Human Research Ethics Committee of the Federal University of the State of Rio de Janeiro (CEP-UNIRIO) under protocol 952,274 in accordance with the National Health Council resolution number 466, of December 12, 2012.

RESULTS

In the city of Rio de Janeiro, 323 family health teams belonging to 87 BHUs joined the PMAQ, totaling 323 interviews with professionals and 1315 with users. In addition, infrastructure censuses were conducted in 179 BHUs.

As for the types of BHUs evaluated by the infrastructure census (Figure 1), 32.4% (n = 58) are FCs and 67.6% (n = 121) are MHCs. As observed in Table 1, FCs are more present in PAs 5 (5.1, 5.2, and 5.3) and 3 (3.1, 3.2, and 3.3). The PA that has fewer BHUs with evaluated teams is 2.2, with 8 units, whereas the one that has the most is PA 5.2, with 29 BHUs (Figure 2). One highlight is PAs 5.2 and 3.1 with the largest number of BHUs (Figure 1).

Among the units with teams approved in the PMAQ, 49.43% (n = 43) are FCs and

50.57% (n = 44) are MHCs. The number of teams in FCs ranged from 1 to 11, with an average of 4.69 teams per unit (SD = 2.32), whereas among the MHCs, the number of teams varied from 1 to 7, with an average of 2.75 teams per unit (SD = 1.58).

Table 2 shows that 52.3% of the teams achieved "good," 34.7% "regular," 12.7% "excellent," and 0.3% "unsatisfactory" ratings. As for the PAs, the distribution of assessed teams was not uniform. In this sense, PAs 5.3, 5.2, and 3.1 stand out with the largest number of evaluated teams. Together, these 3 PAs represent 61% of the sample.

Table 3 shows that, although there are greater proportions of the classification obtained in the FCs, when compared with the MHCs, there was no statistically significant difference (P = .119) in the types of units of the evaluated team and the classification obtained in the PMAQ, even when performing adjustment by removing unsatisfactory category that has only one team. Of the teams that compound FCs, 35.3% were rated "good" against only 17% of MHC teams.

According to the spatial distribution of the teams considering their classification in the PMAQ, there is a concentration of teams with concept "excellent" in the region of PAs 5.2 and 5.3 (Figure 3). The teams evaluated as "good" are more equally distributed among the PAs, with no higher or lower association with any PA (Figure 4). In the "regular" classification, there is a slightly lower concentration



Figure 1. Spatial distribution of the types of Basic Health Units per residing population, according to program areas in 2012 (Census). MHC indicates Municipal Health Centers.

PAs	Famil	y Clinic	Μ	нс	Total		
	n	%	n	%	N	% Line	
1	2	1.1	8	4.5	10	5.6	
2	3	1.7	17	9.5	20	11.2	
3	25	14	40	22.3	65	36.4	
4	3	1.7	10	5.6	13	7.3	
5	25	13.9	46	25.7	71	39.7	
Total	58	32.4	121	67.6	179	100	

Table 1. Type of BHU by Program Area (Conglomerate) in the City of Rio de Janeiro, According to the Infrastructure Census, 2012

Abbreviations: BHU, Basic Health Unit; MHC, Municipal Health Centers; PA, program area.



Figure 2. Spatial distribution of the types of Basic Health Units that joined the PMAQ evaluation per program area, 2012. MHC indicates Municipal Health Centers.

Table 2. Classification of Teams Evaluated by PMAQ per Program Area

PAs	Excellent		Good		Regular		Unsatisfactory		Total	
	n	%	n	%	n	%	n	%	N	% Line
1	0	0	1	20	4	80	0	0	5	100
2	2	4.65	15	34.88	26	60.47	0	0	43	100
3	8	6.84	71	60.6	38	32.48	0	0	117	100
4	2	15.4	6	46.2	5	38.5	0	0	13	100
5	29	20	76	52.41	39	26.9	1	0.69	145	100

Abbreviation: PA, program area.

in the region of PAs 5.2 and 5.3, when taking into account the large number of evaluated teams in this region. Moreover, there is a higher "regular" concentration in PA 3.0 (Figure 5).

DISCUSSION

At the municipal level, the PMAQ allows observation that the distribution of BHUs in the city is not homogeneous since it takes

	Excellent		Good		Regular		Unsatisfactory		Total	
Type of BHU	n	% Line	n	% Line	n	% Line	n	% Line	N	% Line
Family clinic	25	7.7	114	35.3	63	19.5	0	0	202	62.5
MHC	16	5	55	17	49	15.2	1	0.3	121	37.5
Total	41	12.7	169	52.3	112	34.7	1	0.3	323	100

Table 3. Classification of Teams Evaluated by PMAQ per Type of Unit

Abbreviations: BHU, Basic Health Unit; MHC, Municipal Health Centers.

into consideration factors such as population density and welfare demands of the population, neighborhoods Human Development Index (HDI), and identification of areas with lower supply of health services. This spatial distribution of BHUs must be relativized taking into account the differences between PAs. In accordance with the doctrinal principle of fairness, the criteria for implementing units of the Unified Health System (SUS-Sistema Único de Saúde) cannot be solely geographic; they should consider, with particular attention, the socioeconomic characteristics of the population. This becomes even more important in the city once the city territory is marked by a strong inequality so that lowincome communities are very close, when not inserted, in neighborhoods where the population has high purchasing power and access to services and infrastructure (Prefeitura do Rio de Janeiro, 2013a). It is important to distinguish that equity in health does not mean offering the same to all, but offering more to those in need and less to those who require less care. Following this premise, there are more BHUs in PAs with the highest resident population having lower socioeconomic status. Equity, however, cannot manifest only with the greater number of units in the poorest regions, but with specific actions for such group to reduce the impact of social determinants of health to which they are subjected.

By analyzing the geographic distribution of all units by type (FC or MHC), FCs are mostly in the region of PAs 3 and 5 (north and west



Figure 3. Spatial distribution of the teams with "excellent" concept in PMAQ in 2012.



Figure 4. Spatial distribution of the teams with "good" concept in PMAQ in 2012.

zones, respectively). This setting is justified in the west zone (PA 5), since this has a historical deficiency in basic infrastructure services, being no different when analyzing its health network previous to the PHC reform. PA 5 is the second most populous area of the city (27% of the population) and important urban expansion region for the low- and middleincome populations. In the north zone (PA 3), the remarkable creation of clinical family is due to the existence of low-income communities (especially slums) that, until then, had their territory dominated by drug dealers and therefore did not have health facilities within communities. From the end of 2008 and over the subsequent 6 years, to ensure the proximity of the state with the population,



Figure 5. Spatial distribution of the teams with "regular" concept in PMAQ in 2012.

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the government has taken over these territories through the implementation of the Pacifying Police Units (UPP—*Unidades de Polícia Pacificadora*). With the resumption of these areas, it was possible to enhance the utility input (including BHU deployment within these communities) and development of infrastructure works. It is noteworthy that PA 3 is the most populous region of the city (37.9% of the population) and that half of slum inhabitants in the city live in that region.

The rapid increase in the coverage of primary care in Rio de Janeiro supported by largescale policies and programs is aligned to the concept of "scaling up." In general, this increase in coverage relates to increasing the geographic scope of an intervention, but the literature points to some risks of rapid expansion of a public policy. One of the potential problems is that the "scaling up" requires increased financial resources and the capacity of the health system to carry out such interventions on a large scale. However, one must excel at ensuring access to quality services respecting the principle of equity. Under this principle, there will be less risk to expand coverage by expanding access to higher-level socioeconomic groups, which can be easier and faster in practice, but with little benefit for those most in need of health services. Without measures specifically focused on populations exposed to poor socioeconomic conditions, the "scaling up" could result in increased inequalities in the achieved results (Mangham & Hanson, 2010).

The PHC reform in Rio de Janeiro overcame challenges, such as the concern about expanding the network throughout the regions of assistance hollow, and administrative changes in the municipal health secretariat to provide the appropriate institutional environment to encompass PHC network growth. At the end of 2016, the coverage of the FHS in the city was estimated to be around 52% (Brasil & Ministério da Saúde, 2015), still far from the target set by the city in the strategic plan 2013-2016 (Prefeitura do Rio de Janeiro, 2013b), and, precisely for this reason, one cannot lose sight of the potential pitfalls of rapid growth of the FHS in the city so that the progress made in regard to equity shows long-term effectiveness and sustainability.

As observed in Table 1, PA 1 has the lowest number of BHUs, but paradoxically, it is the one that has the largest public health apparatus of the city, especially large hospitals. Since it is the city center, it is the PA with the smallest population; however, 35% live in slums (Prefeitura do Rio de Janeiro, 2013a), the largest proportion of the city. PA 4 is the second largest in area, occupying about a quarter of the city area and has the second lowest BHU number (n = 13), as it is an urban expansion area of medium and high incomes, which, a priori, demands lower public health apparatus; however, this contrasts with the fact that 26% of people in this region live in slums (Prefeitura do Rio de Janeiro, 2013a).

PA 2, corresponding to the south zone of the city, has the third lowest number of BHUs (n = 20) and the largest elderly population. Similarly to PA 4, its population has a high purchasing power, area with the highest demographic density of the city (14051 inhabitants/km²), smallest proportion of children aged from zero to 14 years (12.8%), and the highest HDI in the city. The exception is Rocinha, the largest slum of the city, with about 70 000 inhabits, and, contrasting with the rest of the south zone, occupies 29th position in the HDI ranking (Secretaria Municipal de Saúde e Defesa Civil do Rio de Janeiro, 2012).

When evaluating the performance of the teams per PA, PA 5.2 stands out with the highest proportion of "good" among the PAs (5.6%), followed by PA 5.3, with 3.4%. Of the evaluated teams, 52.3% are in "good" concept, with emphasis on PAs 3.1, 5.2, and 5.3, precisely those with the highest number of participating teams. In the "regular" concept, in which 34% of the sample exist, PA 2.1 stands out, with 21 of its 35 teams. At last, the "unsatisfactory" concept was assigned to only one, PA 5.3.

It is noteworthy that a large number of evaluated teams integrate BHUs located in the west zone (more specifically PAs 5.2 and 5.3) and also PA 3.1 in the north zone. Regarding PAs 5.2 and 5.3, this is probably due to the fact that the expansion of the primary care network in the city started in this region (Faust & Fonseca, 2014; Harzheim et al., 2013). On the contrary, the high number of teams in the region of PA 3.1 is due to its high population density and the existence of communities such as the Complexo da Maré and Complexo do Alemão, historically areas that lack essential public services (Prefeitura do Rio de Janeiro, 2013a). It is important to observe that, at the end of 2012, when the PMAQ data were collected, the city already had 28 pacifying police units (World Bank, 2012). The entrance of the government in these territories with poor infrastructure was crucial to the prioritization of these communities in the implementation of new BHUs in the city.

Despite the parity between the number of FCs (n = 43) and MHCs (n = 44) that had their teams evaluated by the PMAQ, it is observed that the proportion of teams evaluated per type of unit is substantially different. From 323 evaluated teams, 202 were linked to FCs and only 121 to MHCs. Of the 179 municipal BHUs, 121 (67.6%) were MHCs and 58 (32.4%) were FCs. This distribution occurs because the FCs had an average teams of 4.69 (SD = 2.32) in contrast to MHCs, with an average of teams per unit of 2.75 (SD = 1.58).

As observed, there is an asymmetry between the evaluated BHUs and the distribution of population in the territory. This asymmetry ends up producing an assessment referring to teams that cover a smaller portion of the local population since there was a large concentration of evaluated BHUs in PAs 5.2 and 5.3. On the contrary, the PAs where the resident population is larger, there were few evaluated BHUs, such as PAs 3.3, 5.1, and part of PA 4.0. Since the sample of evaluated teams does not follow the proportion per type of BHU of the city, this may end up representing a bias when considering the teams together. Also in this sense, as city managers and evaluated teams may or may not choose to join the PMAQ, the respondent teams were not randomly selected from the total of teams. The absence of a random sample may represent an important bias since it gives rise to the manager to choose teams with better performance potential, especially when considering that a positive evaluation in the PMAQ increases the financial transfer of the federal government to the team through the variable Primary Care Floor.

The bonus for performance adapted from the experience of Portugal and England bases on health indicators selected by the government and quantitative targets of services to the population. Studies on the "pay-forperformance" model in England show that the financial incentive is actually able to change professional behavior, improving the quality of care in monitored health indicators. At first, this shows that the goal of this strategy is met; however, there is evidence that, in the United States and England, professionals tend to neglect conditions that do not provide financial incentives, decreasing the quality of care to diseases that are not covered by the "pay-forperformance" model (Campbell et al., 2007, 2009). In Brazil, that bonus for the team does not exist.

Given these caveats, one understands that the "pay-for-performance" model may be a valid strategy that has shown a tendency in many countries. However, it is necessary to carefully develop a scheme so that its implementation does not generate distortions affecting equity (Scott et al., 2011). It is especially important in the reality of Rio de Janeiro since the quality measured by the PMAQ has already been shown to be heterogeneous within the city. Therefore, one should ensure there are conditions (including financial) for the team to develop a good job since the bonus for the results is for the professional and can double the federal transfer paid per team for the municipality.

FINAL THOUGHTS

The advances in primary care coverage in the city of Rio de Janeiro are undeniable. Rapid expansion of the PHC network was a necessary response to ancient conformation of the health system in the city of Rio de Janeiro. The way the expansion has occurred since 2009 managed to avoid risks related to

"scaling up," but those types of care should not be lost throughout the expansion of the FHS in the city. Considered the stagnation trend occurring since 2014, Rio de Janeiro remains far from the goal for 2016 to reach 70% of coverage as set out in the Strategic Plan of the Municipality of Rio de Janeiro 2013-2016 (Prefeitura do Rio de Janeiro, 2013b). Considered the updated history of family health coverage, it is likely that, by the end of 2016, the FHS coverage remains around 52% of the population. Such fact is also influenced by the economic crisis faced by the federal government, states, and municipalities in Brazil. The PMAO came to meet a natural need to assess the quality of BHUs, in particular, FCs, targeting the FHS model.

The PMAQ objective is to evaluate PHC through family health teams. It is likely that a more globally assessment of the PHC system is a desirable advance of the program. Identifying how this network is able to effectively be the gateway to the health system and positively intervene in the health-disease process, involving the ability of health promotion and maintenance, as well as diagnosis and timely treatment and especially in adequate time. It is a great challenge being the gateway of an entire health system, especially when it intends to solve most of the health problems of people. Therefore, investment in training and soft and hard skills is essential for the network to be efficient and, above all, solving. To achieve this goal, there is no path that does not pass by a constant evaluation of the structure, processes, and results of the health system.

When geographically analyzed, heterogeneity of the PMAO results show a clear polarization between the units with teams classified as excellent and regular, with the first group concentrated in the region of PA 5 and the second one in PA 3. Despite the differences inherent in each population PA, which inevitably creates a gap in the assessment of each region, the government must have, as the main objective, the improvement of quality of service offered by the teams providing greater uniformity of results in the city. In fact, for this to happen, it is not enough to have a commitment of the health sector, but all sectors of government, in order to reduce social inequality, offering a minimally adequate infrastructure for all.

Considering that the concept of health quality varies depending on a complex multifactorial context, it is natural and necessary that the PMAQ is enhanced for tracking not only the cyclical changes but also the accumulated knowledge on the theme. The PMAQ is an important step in the consolidation of the FHS in Brazil as it builds a comparable quality standard at the national, regional, and local levels. The challenge of an assessment that can cover the most diverse scenarios in our country is huge, but the need to expand our primary care network with quality, efficiency, and effectiveness is proportional to the challenge.

REFERENCES

- Brasil & Ministério da Saúde. (2012). Documento Síntese para Avaliação Externa. Retrieved from http:// 189.28.128.100/dab/docs/sistemas/pmaq/Documento _Sintese_Avaliacao_Externa_2012_04_25.pdf
- Brasil & Ministério da Saúde. (2015). Histórico de Cobertura da Saúde da Família. Retrieved December 7, 2015, from http://dab.saude.gov.br/portaldab/ historico_cobertura_sf.php
- Brazil & Ministry of Health. (2012). Access and Quality National Program for Access and Quality Improvement in Primary Care (PMAQ): Instructional manual. Retrieved from http://bvsms.saude.gov.br/bvs/ publicacoes/health_closer_you_access_quality.pdf
- Campbell, S., Reeves, D., Kontopantelis, E., Middleton, E., Sibbald, B., & Roland, M. (2007). Quality of primary care in England with the introduction of pay for performance. *The New England Journal of Medicine*, 357(2), 181-190.
- Campbell, S. M., Reeves, D., Kontopantelis, E., Sibbald, B., & Roland, M. (2009). Effects of pay for performance on the quality of primary care in England. *The New England Journal of Medicine*, 361(4), 368–378.
- da Silva Lima, M. A. D., Ramos, D. D., Rosa, R. B., Nauderer, T. M., & Davis, R. (2007). Acesso e acolhimento em unidades de saúde na visão dos usuários. Acta Paulista da Enfermagem, 20(1), 12-27.

- Fausto, M. C. R., & Fonseca, H. M. S. (2014). Rotas da atenção básica no Brasil: experiências do trabalbo de campo PMAQ AB. Rio de Janeiro, Brazil: Saberes. Retrieved from http://www5.ensp.fiocruz .br/biblioteca/dados/txt_432317170.pdf
- Giovanella, L. (2006). A atenção primária à saúde nos países da União Européia: Configurações e reformas organizacionais na década de 1990. *Cadernos de Saúde Pública*, 22(5), 951-963.
- Harzheim, E., Lima, K. M., & Hauser, L. (2013). Reforma da atenção primária à saúde na cidade do Rio de Janeiro: Avaliação dos três anos de Clínicas da Família. Pesquisa avaliativa sobre aspectos de implantação, estrutura, processo e resultados das Clínicas da Família na cidade do Rio de Janeiro. Organização Pan-Americana da Saúde. Retrieved from http://apsredes.org/site2013/wp-content/uploads/ 2014/11/Clinicas-Saude-da-Familia-Rio-de-Janeiro. compressed.pdf
- Mangham, L. J., & Hanson, K. (2010). Scaling up in international health: What are the key issues? *Health Policy* and Planning, 25(2), 85–96.
- Marques, G. Q., & da Silva Lima, M. A. D. (2007). User's demands to an emergency service and their welcoming in the health system. *Revista Latino-Americana de Enfermagem*, 15(1), 13–19.
- Municipal Department of Health and Civil Defense of Rio de Janeiro. (2012).
- Pinto, H. A., & Sousa, A. (2012). The National Program for Improving the Access and Quality of Primary Care: Reflections on the program design and deployment process. *Revista Eletrônica de Comunicação, Informação & Inovação em Saúde*, 6(2). Retrieved from http://www.reciis.icict.fiocruz. br/index.php/reciis/article/view/492
- Pisco, L. (2011). Reforma da Atenção Primária em Portugal em duplo movimento: Unidades assistenciais autónomas de saúde familiar e gestão em agrupamentos de Centros de Saúde. *Cien Saude Colet*, 16(6), 2841-2852.
- Pontes, A. P. M., Cesso, R. G. D., de Oliveira, D. C., & Gomes, A. M. T. (2009). O princípio de universalidade do acesso aos serviços de saúde: o que pensam

os usuários. Escola Anna Nery Revista Enfermagem, 13(3), 500-507.

- Prefeitura do Rio de Janeiro. (2013a). Favela x Não Favela (Cadernos do Rio). Retrieved from http:// www.armazemdedados.rio.rj.gov.br/arquivos/3288_ favelas_bairros_formais.PDF
- Prefeitura do Rio de Janeiro. (2013b). *Plano Estratégico da Prefeitura do Rio de Janeiro 2013-2016*. Retrieved from http://www.conselhodacidade.com/v3/pdf/ planejamento_estrategico_13-16.pdf
- Scott, A., Sivey, P., Ait Ouakrim, D., Willenberg, L., Naccarella, L., Furler, J., & Young, D. (2011). The effect of financial incentives on the quality of health care provided by primary care physicians. *The Cochrane Database of Systematic Reviews*, 9(9), CD008451.
- Secretaria Municipal de Saúde e Defesa Civil do Rio de Janeiro. (2012). Rede Orics-Rio: Rede de estaçõoes observatório de tecnologias de informação e comunicação em serviços de saúde (1^a). Retrieved from http://redeoticsrio.org/ebook/Livro_OTICS-RIO. pdf
- Silva, K. L., & da Silva Medeiros, C. (2016). Fatores Intervenientes na Implantação da Estratégia Saúde da Família nos Municípios Brasileiros. *Revista de APS*, *18*(3). Retrieved from https://aps.ufjf.emnuvens.com. br/aps/article/view/2506.
- Soranz, D., Pinto, L. F., & Penna, G. O. (2016). Themes and Reform of Primary Health Care (RCAPS) in the city of Rio de Janeiro, Brazil. *Ciência & Saúde Coletiva*, 21, 1327–1338.
- Starfield, B. (1998). Primary care: Balancing health needs, services, and technology. New York, NY: Oxford University Press.
- World Bank. (2012). Bringing the state back into the Favelas of Rio de Janeiro: Understanding changes in community life after the UPP pacification process. Banco Mundial, Sustainable Development Sector Management Unit-Latin America and the Caribbean Region. Retrieved from http://documents .worldbank.org/curated/en/255231468230108733/ Bringing-the-state-back-into-the-favelas-of-Rio-de-Janeiro-understanding-changes-in-community-lifeafter-the-UPP-pacification-process