

# Evaluation of Brazilian Primary Health Care From the Perspective of the Users

## Accessible, Continuous, and Acceptable?

**Márcia Cristina Rodrigues Fausto, PhD;**  
**Aylene Bousquat, PhD; Juliana Gagno Lima, MSc;**  
**Ligia Giovanella, PhD; Patty Fidelis de Almeida, PhD;**  
**Maria Helena Magalhães de Mendonça, PhD;**  
**Helena Seidl, MSc; Andréa Tenório Correia da Silva, PhD**

**Abstract:** The objective of this study was to examine the experience of primary care center (PCC) users in Brazil, classified according to the quality of its structure, in relation to the aspects of accessibility, continuity, and acceptability. The source of information was the National Program to Improve Access and Quality of Primary Care in 2013-2014. A total of 109 919 interviewees in 24 055 PCCs comprised the sample. Results show that the structure of a PCC was associated with better indicators of accessibility (oral health and medicines) and continuity of care (patient navigation in the health system). No association was found between indicators of accessibility and the PCC structure. **Key words:** *assessment, health policy, primary health care, quality of health*

**I**N RECENT YEARS, primary health care (PHC) has gained importance in Brazil while the country has been expanding its Family Health Strategy (FHS). In the late 1990s, the Brazilian government adopted the FHS as a

proposal to reorganize the health care system. The expectation was that a broad PHC would be implemented at the core of the Brazilian Unified Health System. The model proposed for organizing PHC services aims at providing universal and comprehensive health care (health promotion, disease prevention, and health recovery), coordinating the care provided at the different service touch points, and developing cross-sector activities. In recent years, the population covered is more than 64.0% of the country's population (124 million inhabitants), with more than 41 000 PHC teams across Brazil (Macinko et al., 2011; Macinko & Harris, 2015).

Despite government investments, studies show that there remain are challenges for strengthening the PHC in the country. These include the inadequate situation of the PHC physical network of services and difficulties with integration between PHC and other levels to ensure continuity of care, which have

---

**Author Affiliation:** *Escola Nacional de Saúde Pública—Fiocruz, Rio de Janeiro, Brazil.*

*The authors have disclosed that they have no significant relationships with, or financial interest in, any commercial companies pertaining to this article.*

*This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.*

**Correspondence:** *Márcia Cristina Rodrigues Fausto, PhD, Escola Nacional de Saúde Pública—Fiocruz, Rua Leopoldo Bulhões, 1480/319, Manguinhos, Rio de Janeiro, 21041-210, Brazil (marciafausto@ensp.fiocruz.br).*

DOI: 10.1097/JAC.000000000000183

had a negative impact on the comprehensiveness of care (Fausto et al., 2014; Giovannella et al., 2009, 2015). These and other challenges placed into question the quality of access to PHC services in Brazil, providing the fundamental and pertinent attributes assigned to it for comprehensive, timely, and suitable care, as well as the health care needs of the population in the various contexts that make up this country in all of its extension.

Since 2011, the Ministry of Health's Department of Primary Care has invested in actions to assess the performance of PHC with the National Program to Improve Access and Quality of Primary Care—PMAQ (Brasil Ministério da Saúde, 2011). This is a typically managerial program whose proposal is to use assessments as one element to plan actions to improve the quality of PHC services.

The PMAQ provides financial incentive to towns whose PHC teams that participate in the program are subject to the scope of the commitments and indicators agreed between teams, municipal managers, and Ministry of Health. It uses evaluation as a strategy to consolidate the PHC teams and institutionalize quality improvement processes.

For evaluating the performance of PHC teams, a 5-dimension matrix has been created to score it: municipal management for the development of PHC; structure and operating conditions of the PHC; appreciation of the worker; access and quality of care and organization of the work process; and access, usage, participation, and user satisfaction (Brasil Ministério da Saúde, 2013).

Recently, some countries have adopted programs of payment for performance (P4P), with the aim of achieving higher levels of quality in their health services. Studies show the advantages and disadvantages of this type of initiative (Eijkenaara et al., 2013; Gillam et al., 2012; Langdown & Peckham, 2013; Roland et al., 2009) and the need for further research that can demonstrate the merits of P4P programs and their impact on the health of users (Eijkenaara et al., 2013).

The experience of the patient is also an important dimension of the evaluation of PHC services. It has been considered a key component to identify problems and areas where it is

possible to improve the quality of care offered in health services (Grol et al., 2000; Roland et al., 2009), especially when it is desirable to organize services that focus on users (Almeida et al., 2015). In the case of Brazilian experience of the PMAQ, the users' opinion is present and corresponds to the dimension "access, utilization, participation, and user satisfaction" of the matrix. It is important to remember that PHC units in Brazil are called primary care centers (PCCs), and at most of the time, more than 1 PHC team can be found in a PCC.

The objective of this study was to examine the experience of PCC users in Brazil, classified according to the quality of its structure, in relation to the aspects of accessibility, continuity, and acceptability.

## METHODOLOGICAL ASPECTS

This is an assessment study to check the users' perception based on their experience in PHC. To provide quality health care actions, the structural condition of health care services is one of the core elements to provide timely and suitable health care, although one recognizes that representative indicators of the structure must be associated with the process and result indicators (Donabedian, 1999; Kringos et al., 2010).

In this study, we decided to focus on analyzing the quality of PHC by considering 3 aspects—accessibility, continuity of care, and acceptability—that are related to the quality of the care (Kringos et al., 2010). These are key elements of a PHC as the preferred gatekeeper to the health care system as usual source of care and triaging referrals to specialized care. Their role is to provide integrated and continuous care, with longitudinal responsibility for the user, regardless of the presence or absence of disease (Starfield, 2002).

*Accessibility* means how easy it is for users to get the services they need, when they need them, where they need them, and in sufficient amount and reasonable cost (Vuori, 1991). Evaluating accessibility on PHC services is important to the identification of the first contact attribute (Starfield, 2002); it can be verified considering availability, night shift,

ease on scheduling appointments and waiting time, and the personal experiences regarding the access of the PHC actions, from the user's perspective. In this study, we analyzed PCC accessibility considering 2 features: open door (scheduling a visit any day/any time, dental visits at the PCC) and availability of services (availability of medication, vaccination of children 2 years or younger, women with prenatal care at the PCC).

*Continuity of care* means the extent to which patients perceive their experience with health care interventions as a continuous process that is compatible with their medical needs and personal situation (Jee & Cabana, 2006; Maarsingh et al., 2016). Essential elements of continuous care include having a regular source of PHC and a long therapeutic bond between patients and health care professionals (White et al., 2016), fundamental factors to reach the care comprehensiveness (Haggerty et al., 2003; Reid et al., 2002). We analyzed continuity using 2 specific features: service regularly sought out (follow-up of hypertensive and diabetic patients with visits at the PCC in the past 6 months) and filter to access the other points of health system (referral to other levels in the system and the type of referral).

*Acceptability* is concerned with how users regard their care, participation in decisions about their own treatment, and the ability to provide feedback on it (Donabedian, 1990; Kringos et al., 2010). It is related to the legitimacy assigned by users to the health care services they receive, and the possibility of health care services' incorporation into patients' and family members' desires, expectations, and values, as well as how they provide care (Donabedian, 1990). We examined acceptability of PCC considering 2 features: assessment of the care (care provided by the team, time during the home visit, and respect for cultural habits, customs, and religion) and user's opinion about PCC services (would not switch teams if options were available, would recommend the PCC to a friend or family member).

The source of information for this study was the data produced by the PMAQ in 2013 and

2014. On average, 4 users were identified to evaluate the teams that were participating in the assessment. In some cases, it was not possible to associate the user and the PCC, so they were excluded from the sample (about 4.5% of the answers). A total of 109 919 users in 24 055 PCCs constitute the final sample. This corresponds to 61.3% of the PCCs in Brazil. User interviews were conducted in the waiting room. Only users older than 18 years with at least 1 medical visit to the PCC in the past year were included. Specific groups of users, such as those with hypertension, answered a differentiated inquiry; therefore, the number of respondents varied by questions.

The second methodological step was about the list of variables related to user perception and experience with the PHC structure, using previously defined types (Giovannella et al., 2015). The type of PHC is based on a set of structural variables with a greater discriminatory power available in the PMAQ database, distributed along 5 subdimensions: type of team, professional corps, operating shifts, services available, and facilities and inputs.

The type of team is the proxy care model, and the reference standard is the FHS with oral health. The cast of available professionals is the proxy services offered and their effectiveness. A physician, a nurse, a dentist, nursing technicians, an oral health technician, and 4 to 5 community health workers form the benchmark. The shifts of operation correspond to a component of access, and it is expected that the PCC remains open at least during the morning and afternoon, 5 days per week. The list of available service requirements expected is as follows: medical consultation, nursing consultation, dental consultation, dispensing medication, and vaccination. It subdivides facilities and materials into 3 parts: physical structure and equipment, supplies, and information and communication technology equipment. It is expected that a PCC has a room and an exclusive refrigerator for vaccines, has a glucometer, offers a tetravalent vaccine, and has computers with Internet connection.

From the definition of the reference standard described in the preceding paragraph,

it established the differentiated score as the response type of each variable. We generated scores for each of the subdimensions and standardized the scores, regardless of the number of items, ranging from 0 to 1. The score 1 corresponds to compliance with the criteria of the “reference standard.” We conducted a factorial analysis to determine the weight of each subdimension, and a final score was given to each PCC. The PCCs were arranged according to 5 groups. Type A, 1,000 ending score corresponds to the standard reference reaching its maximum value in all its analyzed variables and subdimensions. Type B, score from 0,750 to 0,999; type C, score from 0,500 to 0,749; type D, score from 0,250 to 0,499; type E, less than 0,250 score. Thus, it is intended to apply this methodology to measure how different PCCs are evaluated in relation to a minimum standard of reference and elementary dimension structure. Type A units are those with all the listed variables; type B, C, D, and E units are progressively away from the established basic pattern. In this study, we grouped units D and E into a larger group D, as the number of units in a PCC and whose patients responded to the PMAQ was very low (<30).

We ran an initial descriptive analysis to (1) examine the distribution of PCC user re-

sponse to questions related to the ease of access, continuity, and acceptability; (2) check data consistency; and (3) analyze variable categorization. Then we performed a logistic regression to calculate the odds ratios (OR) and 95% confidence intervals (CIs), arriving at estimates of the association between the components of each dimension and the type of PCCs (A, B, C, or D). The models were adjusted for age, gender, income, and self-reported skin color (multivariate analysis). Associations with *P* < .05 were considered significant.

In the “Results” section, we describe user satisfaction and experience in relation to the different structure types of PCCs.

**RESULTS**

A total of 109 919 users from 24 055 PCCs were interviewed; most of them (79.6%) were women. In total, 58.3% claimed to be black and the 31- to 60-year-old age group accounted for more than half (52.2%) of the interviews, followed by the elderly (those older than 60 years, 21.6%). The most common type of PCCs was type B, which accounted for the majority of the interviewees (64.5%) (Table 1).

In Table 2 are displayed indicators of accessibility according to the type of PCCs. The

**Table 1.** Profile Distribution by Race, Gender, and Age: Brazil, 2013-2014<sup>a</sup>

	Types of Primary Care Center				Total, N (%)
	A, n (%)	B, n (%)	C, n (%)	D, n (%)	
Race (n = 107 884)					
White	5 274 (44.0)	25 397 (35.8)	8 118 (33.7)	827 (28.8)	39 616 (36.0)
Black	6 154 (51.3)	41 469 (58.4)	14 559 (60.4)	1 876 (65.2)	64 054 (58.3)
Indigenous	380 (3.2)	2 756 (3.9)	964 (4.0)	114 (4.0)	4 214 (3.8)
Gender (n = 109 919)					
Female	9 326 (77.7)	56 560 (79.7)	19 277 (80.0)	2 279 (79.4)	87 442 (79.6)
Male	2 671 (22.3)	14 388 (20.3)	4 825 (20.0)	593 (20.6)	22 477 (20.4)
Age (n = 109 919), y					
18-30 <sup>b</sup>	2 795 (23.3)	18 948 (26.7)	6 204 (25.7)	794 (27.6)	28 741 (26.2)
31-60	6 250 (52.2)	37 260 (52.5)	12 480 (51.7)	1 504 (52.4)	57 494 (52.2)
>61	2 952 (24.6)	14 740 (20.8)	5 418 (22.5)	574 (20.0)	23 684 (21.6)
Total	11 997 (10.9)	70 948 (64.5)	24 102 (21.9)	2 872 (2.6)	109 919 (100.0)

<sup>a</sup>PMAQ database cycle 2, 2013-2014.

<sup>b</sup>One of the criteria is that the users interviewed were 18 years or older.

**Table 2.** Accessibility Indicators by Type of PCC, User Perception: Brazil, 2013-2014<sup>a</sup>

Indicators	Types of PCC							Total, N (%)	
	A, n (%)	OR (95% CI)	B, n (%)	OR (95% CI)	C, n (%)	OR (95% CI)	D, n (%)		OR (95% CI)
<i>Open door</i>									
Scheduling (n = 103 878)									
Limited hours	5 081 (44.7)	1	34 934 (52.0)	1	11 711 (51.5)	1	1 433 (49.9)	1	53 159 (48.3)
Unlimited hours	6 267 (55.2)	1.15 (0.97-1.36)	32 225 (45.4)	0.92 (0.78-1.07)	11 017 (45.7)	0.91 (0.78-1.07)	1 210 (42.1)	0.86 (0.73-1.02)	50 719 (46.1)
<i>Dental (n = 109 919)</i>									
No prior visit at PCC	7 369 (61.4)	1	44 155 (62.2)	1	19 993 (82.9)	1	2 348 (81.7)	1	7 369 (67.2)
Prior visit at PCC	4 628 (38.6)	2.94 (2.43-3.55) <sup>b</sup>	26 793 (37.8)	2.69 (2.24-3.22) <sup>b</sup>	4 109 (17.0)	0.91 (0.75-1.10)	524 (18.3)	0.33 (0.28-0.33) <sup>b</sup>	36 054 (32.8)
<i>Availability of services</i>									
Availability of medication at PCC (n = 107 961)									
Never/almost never	3 125 (26.4)	1	26 385 (37.8)	1	10 459 (44.3)	1	1 245 (44.4)	1	41 214 (38.2)
Always/almost always	8 717 (73.6)	2.19 (1.85-2.58) <sup>b</sup>	43 312 (62.1)	1.26 (1.08-1.47) <sup>c</sup>	13 159 (55.7)	0.96 (0.82-1.13)	1 559 (55.6)	0.45 (0.38-0.53) <sup>b</sup>	66 747 (61.8)
Vaccination of children 2 y or younger (n = 11 922)									
Not updated	18 (1.5)	1	224 (2.9)	1	93 (3.3)	1	9 (2.7)	1	344 (2.9)
Updated	1 163 (98.5)	2.35 (0.20-26.53)	7 388 (96.8)	0.48 (0.06-3.59)	2 700 (96.3)	0.47 (0.06-3.64)	327 (96.7)	0.42 (0.03-4.77)	11 578 (97.1)
Prenatal during latest pregnancy (n = 12 470)									
Did not use PCC	275 (22.3)	1	1 828 (22.8)	1	746 (25.8)	1	84 (23.9)	1	2 933 (23.5)
Used PCC	957 (77.7)	0.86 (0.44-1.65)	6 169 (77.0)	0.70 (0.38-1.31)	2 144 (74.0)	0.58 (0.31-1.10)	267 (76.1)	1.16 (0.60-2.23)	9 537 (76.5)

Abbreviations: CI, confidence interval; OR, odds ratio; PCC, primary care center.

<sup>a</sup>Adjusted by gender, self-reported color, age, and income. Source: PMAQ database cycle 2, 2013-2014.<sup>b</sup>*P* < .001.<sup>c</sup>*P* < .01.

better the PCC structure, greater the chance of access to oral health services; 38.6% of those using PCCs with better structures had seen a dentist in the past 6 months compared with only 18.2% of those using a type D PCC. The availability of medication is also associated with a type A PCC (OR = 2.19), whereas type D users reported less access to medication (OR = 0.45). On the contrary, we found no differences when we compared open door scheduling, vaccination of children younger than 2 years, and prenatal care in the latest pregnancy.

Analyzing indicators of continuity of care (Table 3), we found an association between referral to other health system level and the type of PCCs. Importantly, type D PCCs presented a lower OR (0.34); meanwhile, type A presented higher OR (2.92). It is worth mentioning that in both cases, the percent follow-up is quite high, ranging for 79.4% in the case of hypertension to 83.4% for diabetes mellitus.

There is also a progressive increase in how referrals are made, with the better structured PCCs much more likely to provide referrals within the same unit (OR = 1.66) than type D PCCs that require patients to go to an appointment scheduling center (OR = 1.75) or seek out the secondary care service themselves (OR = 1.65). Regarding the following up of patients with systemic hypertension and diabetes mellitus, we found no difference between PCC types.

Table 4 shows no association between indicators of acceptability and the type of PCCs. In all types of PCCs, the majority of the users classified the care provided as good/very good; the same pattern was found in the duration of visit, as well as respect for cultural habits, customs, and religion. Most of the participants reported feeling comfortable to complain and make suggestions when it is needed. The majority of the users had a positive opinion of PCCs: more than 80% of them would not switch teams if they could, and more than 85% would recommend their PCC to a friend or family member, with no difference based on the type of PCCs.

## DISCUSSION

We found that the type of PCCs based on structure was associated with better indicators of accessibility and continuity of the care. Users of type A units have more opportunities to get the care they need compared with the perception of those using type D units. Accessibility to PCC services is uneven and depends on the type of PCCs the user is linked to.

Although incorporating the user perspective into the debate about health care quality is important, there are several limitations to this study. Service evaluation based on user satisfaction and experience is complex, it depends on the characteristics of the patient, and there is a high probability of social desirability bias, as discussed by other researchers (Ali et al., 2012; Almeida et al., 2015; Brandão et al., 2013; Grol et al., 1999).

Regarding accessibility, types A and B were more accessible; however, there were still challenges regarding continuous care, particularly when specialist care was required. Patients report easier accessibility to PHC when the PCCs are better structured.

Regarding care continuity, we did not notice difference between PCC types and there was no relationship between PCC types and infant vaccination and antenatal care, both activities performed by PCC services in Brazil and subject to specific provider incentives from the federal level.

A bigger percentage of users claimed to have appointment for hypertension and diabetes mellitus, both are part of prior actions envisaged in the national Primary Attention Policy guidelines and are markers that compose the framework of indicators monitored for performance evaluation of participating teams of the PMAQ.

Although 21% of the patients with hypertension note that they have not had a consultation or follow-up for their high blood pressure in the last 6 months, continuing care of hypertensive patients remains a common challenge in health systems (Vinogradova et al., 2016).

Differences were more evidenced among PCC types when the users were asked about

**Table 3.** Continuity of Care Indicators by Type of PCC, User Perception: Brazil, 2013-2014

Indicators	Types of PCC								
	A, n (%)	OR (95% CI)	B, n (%)	OR (95% CI)	C, n (%)	OR (95% CI)	D, n (%)	OR (95% CI)	Total, N (%)
<i>Service regularly sought out</i>									
Follow-up of hypertensive patients (n = 41 033)									
No visit in past 6 mo	993 (20.5)	1	5 463 (21.1)	1	1 895 (20.5)	1	268 (25.0)	1	8 619 (21.0)
Visit in past 6 mo	3 842 (79.4)	1.12 (0.80-1.57)	20 443 (78.9)	1.11 (0.81-1.51)	7 325 (79.4)	1.19 (0.86-1.65)	804 (75.0)	0.88 (0.63-1.23)	32 414 (79.0)
Follow-up of diabetic patients (n = 14 842)									
No visit in past 6 mo	295 (16.6)	1	1 567 (16.7)	1	545 (16.4)	1	61 (17.4)	1	2 468 (16.6)
Visit in past 6 mo	1 483 (83.4)	0.97 (0.50-1.88)	7 811 (83.3)	1.08 (0.58-2.01)	2 791 (83.6)	1.10 (0.58-2.09)	289 (82.6)	1.02 (0.53-1.99)	12 374 (83.4)
<i>Filter for access to other health care system resources</i>									
Referral to another level (n = 109 023)									
No	4 465 (37.4)	1	30 581 (43.5)	1	11 005 (46.0)	1	1 371 (47.9)	1	47 422 (43.5)
Yes	7 455 (62.6)	2.92 (2.08-4.10) <sup>b</sup>	39 757 (56.5)	1.65 (1.19-2.30) <sup>c</sup>	12 898 (54.0)	1.34 (0.99-1.16)	1 491 (52.1)	0.34 (0.24-0.47) <sup>b</sup>	61 601 (56.5)
Type of referral (n = 61 601)									
On the spot by the PCC									
No	5 632 (75.5)	1	33 663 (84.6)	1	11 348 (87.9)	1	1 332 (89.3)	1	51 975 (84.4)
Yes	1 823 (24.4)	1.66 (1.33-2.06) <sup>b</sup>	6 094 (15.3)	1.08 (0.88-1.33)	1 550 (12.0)	0.93 (0.75-1.16)	159 (10.6)	0.60 (0.48-0.74) <sup>b</sup>	9 626 (15.6)
By the PCC and informed afterwards (n = 61 601)									
No	3 256 (43.7)	1	22 720 (57.1)	1	7 866 (61.0)	1	926 (62.1)	1	34 768 (56.4)
Yes	4 199 (56.3)	0.52 (0.39-0.69) <sup>b</sup>	17 037 (42.9)	0.85 (0.66-1.10)	5 032 (39.0)	0.97 (0.74-1.26)	565 (37.9)	1.91 (1.44-2.53) <sup>b</sup>	26 833 (43.6)
Scheduled by patient at Regulation Center (n = 61 601)									
No	6 646 (89.1)	1	32 831 (82.6)	1	10 375 (80.4)	1	1 162 (77.9)	1	51 014 (82.8)
Yes	809 (10.9)	0.57 (0.45-0.71) <sup>b</sup>	6 926 (17.4)	0.85 (0.68-1.05)	2 523 (19.6)	0.90 (0.72-1.12)	329 (22.1)	1.75 (1.39-2.21) <sup>b</sup>	10 587 (17.2)
Patient took request to the service indicated (n = 61 601)									
No	5 883 (78.9)	1	28 200 (70.9)	1	8 899 (69.0)	1	1 027 (68.8)	1	44 009 (71.4)
Yes	1 572 (21.1)	0.60 (0.45-0.80) <sup>b</sup>	11 557 (29.1)	0.80 (0.61-1.04)	3 999 (31.0)	0.91 (0.69-1.19)	464 (31.2)	1.65 (1.23-2.21) <sup>b</sup>	17 592 (28.6)

Abbreviations: CI, confidence interval; OR, odds ratio; PCC, primary care center.

<sup>a</sup>Adjusted by gender, self-reported color, age, and income. Source: PMAQ database cycle 2, 2013-2014.

<sup>b</sup>P < .001.

<sup>c</sup>P < .01.

**Table 4.** Acceptability Indicators by Type of PCC, User Perception: Brazil, 2013-2014

Indicators	Types of PCC								
	A, n (%)	OR (95% CI)	B, n (%)	OR (95% CI)	C, n (%)	OR (95% CI)	D, n (%)	OR (95% CI)	Total, N (%)
<i>Assessment of type of care provided by team</i>									
Care provided by team (n = 109 695)									
Poor/very poor	273 (2.3)	1	1 401 (2.0)	1	454 (1.2)	1	45 (1.5)	1	2 173 (2.0)
Fair	1 800 (15.0)	1.02 (0.82-1.28)	11 353 (16.0)	1.05 (0.85-1.29)	3 549 (14.7)	0.99 (0.80-1.22)	449 (15.7)	0.97 (0.77-1.21)	17 151 (15.6)
Good/very good	9 896 (82.7)	1.42 (0.77-2.62)	58 046 (82.0)	1.34 (0.75-2.39)	20 056 (83.4)	1.34 (0.74-2.44)	2 373 (82.8)	0.70 (0.38-1.29)	90 371 (82.4)
Time during the home visit (n = 107 771)									
Not long enough	1 961 (16.6)	1	12 242 (17.6)	1	3 814 (16.2)	1	463 (16.7)	1	18 480 (17.1)
Long enough	9 863 (83.4)	0.80 (0.64-1.00)	57 363 (82.4)	0.78 (0.64-0.96)	19 750 (83.8)	0.87 (0.70-1.07)	2 315 (83.3)	1.23 (0.99-1.54)	89 291 (82.9)
Respect for cultural habits, customs, and religion (n = 109 124)									
Never/almost never	496 (4.2)	1	2 367 (3.3)	1	721 (3.0)	1	92 (3.2)	1	3 676 (3.4)
Always/almost always	11 411 (95.8)	1.38 (0.88-2.16)	68 060 (96.7)	1.13 (0.74-1.73)	23 205 (97.0)	0.93 (0.75-1.16)	2 772 (96.8)	0.72 (0.46-1.12)	105 448 (96.6)
Users are free to complain and make suggestions (n = 30 370)									
No	1 101 (11.0)	1	6 578 (33.3)	1	2 078 (33.6)	1	268 (37.8)	1	10 025 (33.1)
Yes, but with difficulty	642 (17.3)	1.22 (0.76-1.96)	3 304 (16.7)	1.32 (0.85-2.05)	913 (14.8)	1.08 (0.68-1.71)	104 (14.6)	0.81 (0.50-1.30)	4 963 (16.3)
Yes	1 975 (53.1)	1.19 (0.85-1.67)	9 876 (50.0)	1.11 (0.81-1.52)	3 194 (51.6)	1.17 (0.84-1.62)	337 (47.6)	0.83 (0.59-1.16)	15 382 (50.6)
<i>User opinion of PCC/team</i>									
User would switch teams (n = 109 919)									
No	9 952 (82.9)	1	58 429 (82.3)	1	19 786 (82.0)	1	2 314 (80.6)	1	90 481 (82.3)
Yes	2 045 (17.5)	0.94 (0.76-1.16)	12 519 (17.7)	0.94 (0.78-1.14)	4 316 (18.0)	0.95 (0.78-1.16)	558 (19.4)	1.05 (0.86-1.29)	19 438 (17.7)
User would recommend PCC (n = 109 919)									
No	1 717 (14.3)	1	9 795 (13.8)	1	3 428 (14.2)	1	460 (16.0)	1	15 400 (14.1)
Yes	10 280 (85.7)	1.00 (0.79-1.25)	61 153 (86.2)	1.09 (0.88-1.35)	20 674 (85.8)	1.05 (0.84-1.31)	2 412 (84.0)	0.99 (0.79-1.25)	94 519 (85.9)

Abbreviations: CI, confidence interval; OR, odds ratio; PCC, primary care center.

<sup>a</sup>Adjusted by gender, self-reported color, age, and income. Source: PMAQ database cycle 2, 2013-2014.

treatment continuity in another level of care. When it was necessary to involve the specialist in the care process, users from type A PCCs were more positive; however, users from other PCC types encountered challenges in accessing specialist care. We noticed that scheduling an appointment for specialist care is a challenge across all PCC types but more so for the less well-structured types.

In terms of acceptability, we noticed a high positive experience for all PCC types, with no significant difference between them. However, 50% of respondents found it difficult to express their opinion or suggest improvements in the health service. Incorporation of user interests and suggestions is not particularly well structured in the organization of care processes.

Respondents were interviewed on the PCC premises and so there is an inevitable selection bias inherent in the study design. Users who do not have good access to the services will be less likely to be interviewed. Furthermore, given recent expansion of PCC services to areas previously underserved by primary care, there may be differences in the expectations by users of certain types of PCCs.

Studies on the theme acceptability show similar results and indicate limits for analysis of the quality of health services because various perceptions and multiple factors, marked by different expectations in light of social and cultural values, always load and influence the perception of the user (Ahmad et al., 2011; Berchtold et al., 2011; Brandão et al., 2013; Campbell et al., 2010; Grol et al., 1999, 2000). The recognition and guarantee of the right to health are also a factor that will determine the degree of satisfaction of users. If the health service is recognized as a favor and not as a right, the degree of satisfaction can mean a bias of gratitude (Brandão et al., 2013). Users' prior predisposed expectations of the health system may influence acceptability scores.

Despite the limitations for verifying the acceptability as a dimension of quality, studies of this nature are important because the opinion of those who use the services can demon-

strate aspects of the organization of care to be improved. When the users' expectation and wishes are recognized by the services providers, the possibility of more effective care increases (Grol et al., 2000).

## FINAL CONSIDERATIONS

In Brazil, PHC has been advancing on leading a proposal for a stronger, inclusive, integrated, and comprehensive care around the country. Part of the PMAQ goals is to expand access to and improve the quality of primary care. Despite the advantages and disadvantages on Payment for Performance Programs, the experience with the PMAQ demonstrated the importance of monitoring and the evaluation health practices and management. The program has mobilized most of the municipalities and has involved 24 055 PCCs, as well as considered the opinion of 109 919 service users of PHC. The scale of the program is one of its strengths and supports more research of this type.

From the point of view of the evaluation of services of PHC in the context of the PMAQ, the prospect of users is present, but they are still timid and fragile. In addition, it is necessary to improving the framework and indicators to evaluate the quality of PHC, as well as the way of users selection. These actions can increase the possibility of a more real approach to the problems of quality on Brazilian PHC.

Despite the limitations of the study, this research shows that for most of the variables related to accessibility and continuity, the structure of the PCC is associated with the user experience. Although it is recognized that structural conditions by themselves do not determine quality of health care, their existence allows the PHC teams to do their jobs. Users of PCCs with less structural resources tend to have a less positive opinion of the care. The component process may minimize structural limitations, but it is not enough to overcome them. Improving the structure of Brazil's PCCs will improve care conditions and user experience.

## REFERENCES

- Ahmad, I., Allah, N., Khan, S., Khan, H., Rashid, M. A., & Khan, M. H. (2011). Predictors of patient satisfaction. *Gomal Journal of Medical Sciences*, 9(2), 183–188.
- Ali, N. S., Khuwaia, A. K., Kausar, S., & Nanji, K. (2012). Patients' evaluations of family practice care and attributes of a good family physician. *Quality in Primary Care*, 20, 375–383.
- Almeida, R. S., Bourliataux-Lajoie, S., & Martins, M. (2015). Satisfaction measurement instruments for healthcare service users: A systematic review. *Cadernos de Saúde Pública*, 31(1), 11–25.
- Berchtold, P., Kunzi, B., & Busato, A. (2011). Differences of the quality of care experience: The perception of patients with either network or conventional health plans. *Family Practice*, 28, 406–413. doi:http://dx.doi.org/10.1093/fampra/cmr010
- Brandão, A. L. R. B. S., Giovanella, L., & Campos, C. E. A. (2013). Avaliação da atenção básica pela perspectiva dos usuários: Adaptação do instrumento EUROPEP para grandes centros urbanos brasileiros. *Ciência & Saúde Coletiva*, 18(1), 103–114. doi:http://dx.doi.org/10.1590/S1413-81232013000100012
- Brasil Ministério da Saúde. (2011). *Portaria 1.654, de 19 de julho de 2011*. Retrieved from [http://bvsms.saude.gov.br/bvs/saudelegis/gm/2011/prt1654\\_19\\_07\\_2011.html](http://bvsms.saude.gov.br/bvs/saudelegis/gm/2011/prt1654_19_07_2011.html)
- Brasil Ministério da Saúde. (2013). *Manual Instrutivo Saúde Mais Perto de você—Acesso e Qualidade. Programa Nacional de Melhoria do Acesso e da Qualidade da Atenção Básica (PMAQ)*. Retrieved from <http://dab.saude.gov.br/portaldab/biblioteca.php?conteudo=publicacoes/pmaq>
- Campbell, S. M., Kontopantelis, E., Reeves, D., Valderas, J. M., Gaeht, E., Small, N., & Roland, M. O. (2010). Changes in patient experiences of primary care during health service reforms in England between 2003 and 2007. *Annals of Family Medicine*, 8(6), 499–506. doi:https://dx.doi.org/10.1370/afm.1145
- Donabedian, A. (1990). The seven pillars of quality. *Archives of Pathology & Laboratory Medicine*, 114, 1115–1118.
- Donabedian, A. (1999). The quality of care: How can it be assessed? *Archives of Pathology & Laboratory Medicine*, 121(11), 1145–1148.
- Eijkenaar, F., Emmert, M., Schepach, M., & Schöffski, O. (2013). Effects of pay for performance in health care: A systematic review of systematic reviews. *Health Policy*, 110(2–3), 115–130. doi:https://dx.doi.org/10.1016/j.healthpol.2013.01.008
- Fausto, M. C. R., Giovanella, L., Mendonça, M. H. M., Fonseca, H. M. S., & Gagno, J. (2014). A posição da Estratégia Saúde da Família na rede de atenção à saúde na perspectiva das equipes e usuários participantes do PMAQ-AB 2012. *Saúde em Debate*, 38(spe), 13–33. doi:https://dx.doi.org/10.5935/0103-1104.2014S003
- Gillam, S. J., Siriwardena, N. A., & Steel, N. (2012). Pay-for-performance in the United Kingdom: Impact of the quality and outcomes framework—A systematic review. *Annals of Family Medicine*, 10(5), 461–468. doi:https://dx.doi.org/10.1370/afm.1377
- Giovanella, L., Bousquat, A., Fausto, M. C. R., Fusaro, E. R., Mendonça, M. H. M., & Gagno, J. (2015). *Tipologia das unidades básicas de saúde brasileiras. Nota Técnica 5*. Retrieved from [http://www.resbr.net.br/wp-content/uploads/2015/09/NovosCaminhos05\\_ValeEste.pdf](http://www.resbr.net.br/wp-content/uploads/2015/09/NovosCaminhos05_ValeEste.pdf).
- Giovanella, L., Mendonça, M. H. M., de Almeida, P. F., de Escorel, S., Senna, M. C. M., Fausto, M. C. R., ... Teixeira, C. P. (2009). Saúde da família: Limites e possibilidades para uma abordagem integral de atenção primária à saúde no Brasil. *Ciência e Saúde Coletiva*, 14(3), 783–794. doi:http://dx.doi.org/10.1590/S1413-81232009000300014
- Grol, R., Wensing, M., Mainz, J., Ferreira, P., Hearnshaw, H., Hjortdahl, P., ... Szécsényi, J. (1999). Patients' priorities with respect to general practice care: A international comparison. *Family Practice*, 16(1), 4–11.
- Grol, R., Wensing, M., Mainz, J., Jung, H. P., Ferreira, P., Hearnshaw, H., ... Szecsenyi, J. (2000). Patients evaluate general/family practice: The EUROPEP instrument. *British Journal of General Practice*, 50(460), 882–887.
- Haggerty, J. L., Reid, R. J., Freeman, G. K., Starfield, B. H., Adair, C. E., & McKendry, R. (2003). Continuity of care: A multidisciplinary review. *BMJ*, 327(7425), 1219–1221. doi:http://dx.doi.org/10.1136/bmj.327.7425.1219
- Jee, S. H., & Cabana, M. D. (2006). Indices for continuity of care: A systematic review of the literature. *Medical Care Research & Review*, 63(2), 158–188.
- Kringos, D. S., Boerma, W. G., Hutchinson, A., Van der Zee, J., & Groenewegen, P. P. (2010). The breadth of primary care: A systematic literature review of its core dimensions. *BMC Health Services Research*, 10–65. doi:http://dx.doi.org/10.1186/1472-6963-10-65
- Langdown, C., & Peckham, S. (2013). The use of financial incentives to help improve health outcomes: Is the quality and outcomes framework fit for purpose? A systematic review. *Journal of Public Health*, 36(2), 251–258. doi:http://dx.doi.org/10.1093/pubmed/fdt077
- Maarsingh, O. R., Henry, Y., van de Ven, P. M., & Deeg, D. J. (2016). Continuity of care in primary care and association with survival in older people: A 17-year prospective cohort study. *British Journal of General Practice*, 66(649), e531–539. doi:http://dx.doi.org/10.3399/bjgp16x686101
- Macinko, J., de Oliveira, V. B., Turci, M. A., Guanais, F. C., Bonolo, P. F., & Lima-Costa, M. F. (2011). The influence of primary care and hospital supply on ambulatory care-sensitive hospitalizations among adults

- in Brazil, 1999–2007. *American Journal of Public Health*, 101(10), 1963–1970. doi:<http://dx.doi.org/10.2105/AJPH.2010.198887>
- Macinko, J., & Harris, M. J. (2015). Brazil's family health strategy—Delivering community-based primary care in a universal health system. *The New England Journal of Medicine*, 372, 2177–2181. doi:<http://dx.doi.org/10.1056/NEJMp1501140>
- Reid, R. J., Haggerty, J., & McKendry, R. (2002). *Defusing the confusion: Concepts and measures of continuity of healthcare. Final report*. Vancouver, BC, Canada: Centre for Health Services and Policy Research, University of British Columbia.
- Roland, M., Elliot, M., Lyratzopoulos, G., Barbiere, J., Parker, R. A., Smith, P., . . . Campbell, J. (2009). Reliability of patient responses in pay for performance schemes: Analysis of national General Practitioner Patient Survey data in England. *BMJ*, 339, b3851. doi:<http://dx.doi.org/10.1136/bmj.b3851>
- Starfield, B. (2002). *Atenção Primária: Equilíbrio entre necessidades de saúde, serviços e tecnologia*. Brasília, Brazil: UNESCO, Ministério da Saúde.
- Vinogradova, Y., Coupland, C., Brindle, P., & Hippisley-Cox, J. (2016). Discontinuation and restarting in patients on statin treatment: Prospective open cohort study using a primary care database. *BMJ*, 28(353), i3305. doi:<http://dx.doi.org/10.1136/bmj.i3305>
- Vuori, H. (1991). A qualidade da saúde. *Divulgação em Saúde*, 3, 17–24.
- White, E. S., Pereira Gray, D., Langley, P., & Evans, P. H. (2016). Fifty years of longitudinal continuity in general practice: A retrospective observational study. *Family Practice*, 33(2), 148–153. doi:<http://dx.doi.org/10.1093/fampra/cmw001>