

Primary health care and the coordination of care in health regions: managers' and users' perspective

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Abstract *This paper aims to analyze the healthcare coordination by Primary Health Care (PHC), with the backdrop of building a Health Care Network (RAS) in a region in the state of São Paulo, Brazil. We conducted a case study with qualitative and quantitative approaches, proceeding to the triangulation of data between the perception of managers and experience of users. We drew analysis realms and variables from the three pillars of healthcare coordination – informational, clinical and administrative/organizational. Stroke was the tracer event chosen and therapeutic itineraries were conducted with users and questionnaires applied to the managers. The central feature of the construction of the Health Care Network in the studied area is the prominence of a philanthropic organization. The results suggest fragility of PHC in healthcare coordination in all analyzed realms. Furthermore, we identified a public-private mix, in addition to services contracted from the Unified Health System (SUS), with out-of-pocket payments for specialist consultation, tests and rehabilitation. Much in the same way that there is no RAS without a robust PHC capable of coordinating care, PHC is unable to play its role without a solid regional arrangement and a virtuous articulation between the three federative levels.*

Key words *Primary Health Care, Regionalization, Coordination, Therapeutic itineraries*

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Introduction

The consolidation of universal national health systems in different countries has required the establishment of health regions that can provide organicity and concreteness to the functioning of such systems¹. In Brazil, the proposed implementation of health regions and networks is gaining political relevance at the beginning of the 21st century, with the aim of fighting against fragmentation of care, increasing access and ensuring equity and universality. However, health regionalization in the country is a very complex guideline, considering the regional inequalities and diversities, the State's comprehensive attributions in health, the triune federative arrangement and multiple stakeholders (governmental and nongovernmental, public and private) conducting and delivering of health care.

In the policy recently implemented in the country, the Health Care Network (RAS) is the non-hierarchical organization of the set of health services linked to each other by a cooperative action aimed at ensuring the provision of continuous and comprehensive care to a given population². In this RAS, Primary Health Care (PHC) is expected to be the preferred gateway, the main care provider and care coordinator³. The establishment of health networks with these characteristics has been associated with better, more cost-effective quality actions and services, with greater user satisfaction and better global health indicators in different realities⁴⁻⁶.

The centrality of PHC coordination in the organization of health systems and networks has been increasingly evident in literature. It has a strong association with increased access, continuity and quality of care, patient satisfaction, better use of available financial resources and positive impacts on the health of the population⁷⁻¹¹. Thus, it has been considered central for the management of patients with chronic diseases^{12,13}, an increasingly common condition in the population due to demographic and epidemiological transitions. This part of the population is increasingly in urgent and lifelong need of frequent access to several points of the healthcare network, of being in touch with different professional categories and benefiting from continuous promotion and prevention actions. This setting requires a robust PHC that can coordinate users' therapeutic course and facilitate the timely provision of health services and actions at the right place^{14,15}.

The debate in international literature endorses the importance of care coordination, strongly supported by systems that facilitate communication between providers. However, the need to adapt to different contexts, based on the universalization of access with quality in health care is emphasized. It is recognized that coordination means different things to different stakeholders and that there is no broadly developed definition¹⁶. Literature reflects dissent even as to how to name it, whether 'coordination between levels of care' or 'coordination of care'¹⁷. Indiscriminate use of the terms continuity, coordination and integration is also observed, which is reflected in the different ways of measuring this attribute^{18,19}.

We assume in this text a conception of the coordination of care that considers it as a harmonious articulation between different professionals and health services, whose common objective is to ensure comprehensive and quality care to users according to their needs²⁰. The effective coordination of care rests on three pillars: information coordination, clinical coordination and administrative / organizational coordination. The first includes the various actions that ensure that user's information is available at all points of care and for all professionals involved. Clinical coordination draws on a robust and strengthened PHC, which allows the provision of sequential and complementary care between care levels. Administrative coordination corresponds to the organizational processes and flows of the health care network that allow integration among the different levels of the health system²¹.

In the SUS with its decentralized regime and competing responsibilities, there are additional barriers to the coordination of care. In the perspective of an integrated system, the construction of a regionalized network implies planning and management strategies shared by the federated entities to confront the set of health problems that transcend the managerial capacity of only one subnational sphere²². Hence, there is a need for further studies to analyze in the scope of health networks and regions the potentialities of PHC teams to assume coordination both at the local level and beyond the municipal boundaries, in the regional space²³. This paper aims to analyze the coordination of care by PHC, especially for users with chronic conditions, in the perception of managers and users with a backdrop of the RAS construction process in a region of the State of São Paulo.

Methodology

This paper shows some of the results of the research “Policy, Planning and Management of Health Care Regions and Networks in Brazil”, which analyzes the building process of regional RAS from macro dimensions of the policy, structure and organization. The results refer to PHC, especially in its role of coordinating care in the regionalized network. It was based on the premise that PHC is one of the determinants of regional health dynamics and is essential for the establishment of health networks. We performed a case study with quantitative and qualitative approaches and data triangulation, especially between managers’ perception and the experience of the users affected by the chosen tracer event, as well as documentary and secondary data review.

The realms and variables used to analyze the three pillars of care coordination (information, clinical, administrative/organizational) are shown in Chart 1. These realms include central elements to the implementation of coordination already used in other studies²⁴; place occupied by the PHC in the system; PHC’s resolution capacity; organizational and administrative structure of the health services network; integration between teams and services; organization of flows between PHC and Specialized Care (SC) and with the Urgent and Emergency Network (RUE); and informational continuity tools.

For the users, we used the mapping of the therapeutic itineraries (TI), a methodology that has potentialities for the analysis of health service networks, still little explored in the national literature²⁵. Two different logics appear in the composition of the itinerary: that of health services and that of users and their families. The former is materialized through professional practice and the organization of the health system. On the other hand, the logic of users and their families is determined by perceived needs and possible choices or options. It is expressed in own pathways built from the use of different health services and other points of care outside the health system²⁶. In this investigation, we prioritized the patient’s trajectory and behavior within the health system, identifying the different points and ways of accessing services.

We chose a tracer for the development of TIs, as proposed by Kessner²⁷, which assumes that some health problems can be particularly useful for the analysis of service delivery and the interaction between providers, users and society. The selected disease was stroke (CVA) due to system-

ic hypertension (SH), due to its high prevalence, which could be avoided by PHC and because it has established flows among the different levels of care²⁸.

Study location

The definition of the location of study drew from the typology of the 431 Brazilian health regions elaborated based on the socioeconomic situation and the complexity and supply of health services²⁹. The Norte-Barretos health region located in the north of the State of São Paulo was intentionally chosen among the regions classified as high socioeconomic development and high service supply. This option has ensured the exclusion of regions with such poor structures that by themselves would not allow a priori PHC’s coordination of care.

However, the pre-field identified the existence of a unified regional dynamics, both from the political point of view and the structure and organization of services between the regions corresponding to the Norte-Barretos and Sul-Barretos Regional Interagency Commissions (CIR). We decided to carry out the research in the two regions, hereinafter known as Barretos.

With 18 municipalities, the population of the Barretos regions is 410,000 inhabitants with socioeconomic indicators lower than the State of São Paulo and higher than the national average (IBGE 2010). The PHC network consists of 97 PHC Facilities (UBS), with an average of 4.7 facilities per 20,000 inhabitants; the coverage of the Family Health Strategy (ESF) is 56.7%, with the support of seven teams from the Family Health Support Center (NASF).

SC is provided by 38 public and private equipment. Among these are the clinical and surgical Specialty Medical Ambulatories (AME) of the State Health Secretariat of São Paulo (SES-SP). AMEs are an important SES-SP policy to reduce the insufficient number of consultations of specialties, imaging and outpatient surgeries, all managed by social health organizations. In Barretos, the Pio XII Foundation manages AME. This Foundation is responsible for the Barretos Cancer Hospital, an important national reference for cancer patients and an international reference in teaching, research and cancer prevention and diagnosis services. This hospital only serves SUS patients in its 246 beds. The Santa Casa de Barretos is the main general hospital of the region with 163 beds; There are a further 12 smaller hospitals in the region.

Chart 1. Coordination of care: pillars, realms and variables used in the analysis, Barretos, SP, 2015.

Pillars	Realms	Variables	
Clínica	PHC position in the system	PHC as the preferred gateway in the region	
		Access to SC depends on PHC referral	
		Responsible for coordinating care	
	PHC resolution capacity	PHC resolution capacity	Tests collection at UBS
			ECG at UBS
			Dispensing of SH drugs at UBS
			Sufficient stock of SH drugs
			Orientation for healthy food and physical activities
			Main responsible for people with SH
			CHW perform active search for users with SH
			BP measurement in all consultations
			Cardiovascular risk stratification
			Kidney disease risk evaluation
	Resolution capacity after CVA	Resolution capacity after CVA	Monitoring all patients with CVA in the area
			Supply of rehabilitation actions
CHW performs home visit after hospitalization			
Doctor or nurse performs home visit after hospitalization			
Administrativa/ organizacional	Administrative and Organizational structure	Public-Private Composition of Secondary Care, SADT and Rehabilitation	
	Flow organization for SC	Flow organization for SC	Ensuring timely referral to other levels of care
			Defined care flows in place
			Services integration in the region
			Timely referral to cardiology, neurology and rehabilitation
			Referral to SC of patients with severe, refractory or secondary SH
			Standardized and facilitated pathway for patient access to SC
			SC queue monitoring in place
	Team-services integration	Team-services integration	PHC integration in the RUE
			PHC team is notified of patient's hospitalization
			PHC doctors monitor patients at hospitalization
			PHC team receives hospital discharge report with therapeutic plan.
			On discharge, user is advised to seek PHC
			PHC doctors contact SC specialists to exchange information
			Specialist doctors contact PHC doctors to exchange information
			PHC team receives written information of consultations with specialists
	Joint education activities of PHC-SC professionals		
	Continuidade informacional	Informational continuity tools	PHC team is notified of user care in the RUE
Use of Medical Records			
Use of Clinical Protocol			
		Recording SH diagnosis in the medical records	

Interviews with administrators/managers and users

We carried out interviews with 18 administrators/managers (municipal and regional administrators, municipal PHC coordinators and PHC facilities managers) with the application of questionnaires.

Interviews were distributed in five of the 18 municipalities of the region: the hub municipality; two municipalities with a greater number of health facilities, excluding the hub; two municipalities with fewer health facilities. Thus, analysis of different distribution of managers in the regional dynamics was ensured. The choice of UBS for managers' interviews covered the most common structure characteristics in the region³⁰.

The structured questionnaire included questions regarding the coordination of care in general, the patient with systemic hypertension (SH) and care after cerebrovascular accident (CVA). With different questions formats (yes/no; Likert's scale; semi-open questions), answers were analyzed in percentages in the case of yes/no questions, and the questions answered in the Likert's Scale converted into numbers (ranging from always = 5 to never = 1), with means calculated and shown in charts.

In order to identify the potential respondents, we selected Hospitalization Authorizations (HA) of the Barretos region with a main diagnosis of CVA occurring within a period of up to seven months prior to field work performed in August 2015. Of the three hospitals that attended these hospitals patients, one did not authorize access to the research team. Initially, medical records were analyzed, excluding patients with a primary cause not related to SH or with significant cognitive and/or speech impairment. Coincidentally, all the selected people resided in the municipalities of Barretos or Bebedouro that concentrate the greater part of the population. Addresses registered in the HAs enabled the identification of the reference UBS, which were visited for the analysis of the medical records.

We conducted six interviews with users and main caregivers, all at home. Users were aged between 47 and 70 years, predominantly male, none affiliated with the private sector and generally with low socioeconomic conditions.

A guiding script stimulated the interview; saturation was obtained by the identification and repetition of points of care accessed by these users. The interviews were recorded, transcribed and later reconstituted in narrative form in or-

der to provide an in-depth understanding in a temporal perspective. We performed a cross-sectional reading, prioritizing the identification of the analytical categories expressed in Chart 1. To systematize the analysis of the coordination in the region, the results of the interviews with managers were contrasted with the pathways experienced by users.

The ethics committee, Faculty of Medicine, University of São Paulo approved this study.

Results

The construction of RAS in Barretos has as a central feature the leading role of a philanthropic entity, the Pio XII Foundation, in the organization, management of health services and regional governance. In addition to the management and provision of health services, it assumes the training of doctors in its own medical school, medical residency and postgraduate studies with important research component; it also counts on a carts factory adapted to offer mobile cancer prevention and diagnosis services. The institution's human resources policy includes a dedicated career plan and clinical staff; it only serves SUS patients, although 40% of the funding is through the direct contribution of society. It can be characterized as a health sector holding company.

With the management of AMEs, the need to establish a RAS with a robust PHC was evident for the managers of Pio XII: *if we manage here, at the Cancer Hospital, to give an internationally recognized service of excellent quality, why can't PHC have a similar service?*

Thus, in the region, the Pio XII Foundation is related to PHC in all municipalities in the region, especially through screening tests for gynecological cancers performed in mobile units, says a SUS manager: *They perform for us those two screenings: Papa collection and all follow-up ... and mammography ... through the Department of Prevention.* This supply competes with that of the UBS, since the population knows the periodicity of the mobile units and prefers this service, as one manager says: *women have become accustomed to this collection.*

In addition, through the clinical AME, the Pio XII Foundation develops a project called "organizational planning", which includes diagnosis of demands of the municipalities of the region for specialties; establishment of referrals protocols with training of municipal teams; and management of the queue of specialties with longer

waiting times in municipalities. Exemplifying this project, one respondent reports: *There was a very large demand for endocrine and pneumology We talked to the doctors and asked them: Why is it that you refer everything? 'Oh, I thought it was to refer to the specialist' ... Conclusion: municipality PHC doctors called those patients back on the list and eliminated the queue.*

PHC appropriate position in a system

There is a consensus among managers that PHC should be the gateway to the system; however, they recognize the existence of obstacles to this implementation. Some of the difficulties mentioned were preference of the population for timelier and quicker visits; political and financial prioritization by management; lack of doctors with adequate general training; difficult access to UBS (especially hours of operation); and the low resolution capacity of the UBS.

Graphic 1 shows that managers consider access to the SC conditional on referral by PHC. In the case of the Network for the Care of People with Chronic Diseases (RAPDC), the preferential gateway would also be, most of the time, PHC.

PHC's resolution capacity

The managers' perspective on the PHC's resolution capacity for hypertensive users and those who suffered from stroke is also shown in Graphic 1. In the hypertension-oriented activities, it is noteworthy that only two of the 13 indicators had a high score (above 4): 'active search by CHW' and 'BP assessment in all consultations'. Some essential activities ('drug dispensing', 'ECG tests', 'and food and physical activity guidelines') obtained very low scores, suggesting that such activities are infrequent.

Managers believe that PHC would display good or regular resolution capacity following CVA (score equal to or higher than 3.5 for four of the five indicators), however, NASF support is infrequent.

Organizational and administrative structure of the health services network

The PHC network is publicly owned, predominantly with statutory officials; specialized medical consultations are provided by different types of services and contracting: public services with statutory employees, public services managed by OSS (in particular, state AMEs), as well

as contracted private services. Imaging diagnostic services fall under this profile, with greater weight for the public managed by OSS. However, biochemical tests have a clear predominance in the contracted private services.

Organization and flows in the RAS

Some 83% of managers say that RAS installed capacity in the region is insufficient, especially for specialized consultations and Auxiliary Services for Diagnosis and Therapy (SADT), which is reflected in problems in the care flows. Managers indicate that referrals to cardiology and neurology are not performed in a timely manner most of the time; however, access to physical rehabilitation services has a slightly better profile.

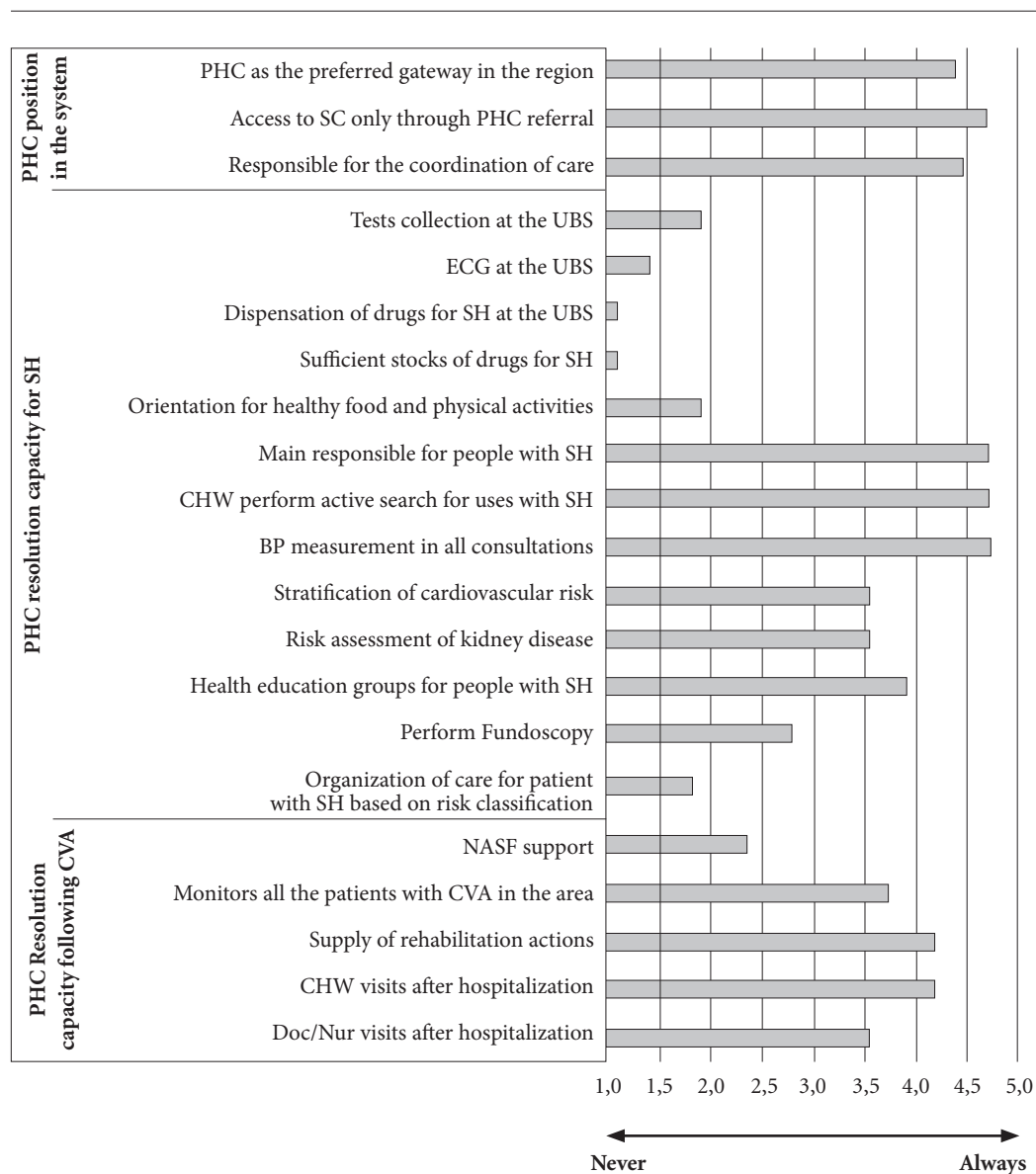
According to 75% of managers, the flow of care is defined and there is integration between services in the region. However, the aforementioned means of integration are practically restricted to traditional referral and counter-referral mechanisms, such as records, referral protocols and the regulatory service. When asked about the integration between PHC and emergency services, the percentage is lower (59%), and there is almost a consensus on the fact that counter-referral from RUE to PHC does not occur (83%).

There is no single form for the referral of a PHC user to SC. The most cited modalities were the appointment requested by the patient himself to the UBS' appointment scheduling center, with subsequent communication to the patient. There is also no queue monitoring for SC and SADT and, of course, risk criteria are not used for their management.

In the case of secondary or refractory SH, managers think that most patients are always – or usually – referred to the SC.

Team-services integration and informational continuity tools

After the stroke, managers consider that responsibility sharing between PHC and SC does not occur frequently. Graphic 2 shows the indicators of team-services integration and informational continuity tools. We can observe that, with the exception of "clinical protocol use" and "orientation for consultation in PHC after discharge", all the indicators obtained a score lower than three. One can affirm that the mechanisms that ensure continuity of care and the integration of services, including elementary information of



Graphic 1. Primary Health Care's response capacity in the follow-up of users with Systemic Arterial Hypertension and post Cerebrovascular Accident, as perceived by managers, Barretos, SP, 2015.

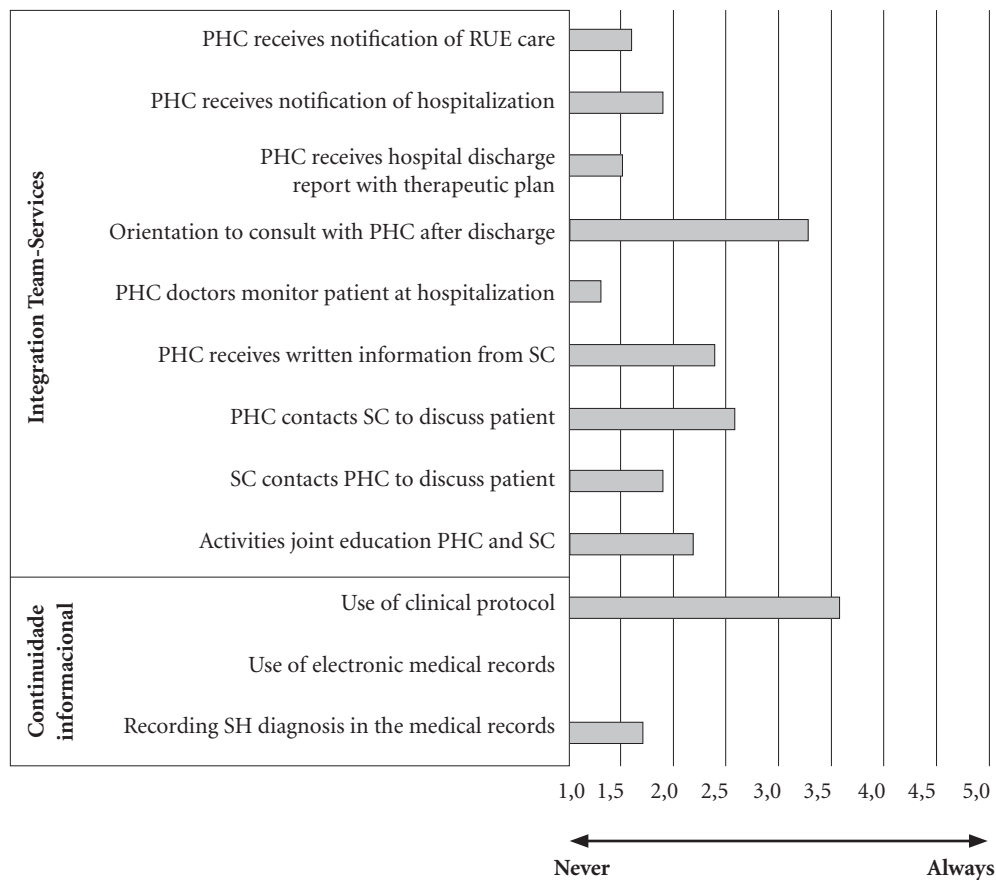
“recording the SH diagnosis in the medical record” are precarious.

Therapeutic Itineraries (TI)

The narratives of users were organized from the CVA event. All respondents identified the symptoms as a serious, life-threatening condition. It should be noted that this identification was more a result of life experience than of health service guidelines, since no respondents had been

informed about the warning signs of SH complications, such as stroke or acute myocardial infarction (AMI).

Four respondents said that the Mobile Emergency Care Service (SAMU) triggered by family members or neighbors through a telephone call was an important resource. This care service arrived quickly, taking the patients to SH reference hospitals in the region. The use of own transport means occurred in two itineraries, such as the car of neighbors or relatives. Regardless of the type



Graphic 2. Team-services integration and informational continuity tools, as perceived by managers, Barretos, SP, 2015.

of transportation, the existence of a support network of relatives and neighbors was noted.

Even patients who arrived at the emergency unit in their own vehicles were received, and there were no cases of pilgrimage in search of urgent care. All were referred for admission to the ward or ICU after emergency care, and they positively evaluated care.

Five of the respondents performed Computed tomography (CT), a mandatory test for all patients with suspected stroke. According to the timing referred by patients and the analysis of medical records, none was performed within the period recommended by the Ministry of Health for this clinical condition³¹. It is noteworthy that, in two cases, patients, hospitalized under the SUS had to pay for the CT. They were removed by ambulance from the institution where they were

hospitalized, sent to a private clinic, which after direct payment performed the test, returning immediately to the hospitalization location.

At hospital discharge, no patient was referred to the PHC; some referrals, several informally, occurred for neurology and rehabilitation services. In all cases where patients sought rehabilitation services, they considered that access had occurred in a timely manner. When reporting on the ways in which they obtained this access, we observed a multiplicity of paths used: payment of medical consultation to receive a referral for rehabilitation in the public service; direct scheduling in the rehabilitation service by influence of known people; onset of physical therapist treatment in the private sector; and attendance carried out free of charge at a physiotherapy school clinic in the region.

After the stroke and its rather small sequelae, all respondents and their families started searching for specialized medical consultations for treatment, especially of sequelae, not SH, and even for the granting of social security rights. This search was carried out autonomously by families and patients according to their possibilities and knowledge and not guided by a health service. The public-private mix can be clearly seen in these searches. Private services sought were mainly medical specialties (neurology and cardiology) and in some cases physiotherapy. Two forms of direct disbursement were identified: to the chosen doctor or physiotherapist or to the doctor referred by the “funeral plan”. Funeral homes include in their services a list of doctors from various specialties; their insured can visit their offices and pay for a consultation with a discount. This access went hand in hand with the use of public sector services and in disorderly fashion. Even the patient receiving home visits from doctors and nurses from the ESF accessed other medical specialists through the “funeral plan”. Private care was also valued: *Everyone then said: go to Dr. J., make a consultation... he is a good doctor who treats diabetes, he graduated in the United States.*

Half of the patients regularly attended SUS' SC services. This access started before the stroke episode. When they were attended in the specialized services, they linked to them because they had a better and timely response to their needs: *No, he is not going back to the tiny health center. Now everything is done at the AME. Thank God, it was a God sent blessing, you know? ... You have a neurologist ... you do not have to go elsewhere to do the test, you do everything there.* Hence, SC appears in TI as an important point of care. It is worth mentioning that the AME has an active stance with its users, calling to remind them of scheduled appointments and ascertaining the health status of their patients.

Even after the CVA, the UBS was not responsible for regular care, except for one respondent who had frequent home visits from the entire team. In one case, it was pointed out that the CHW visit was bureaucratic, just stepping in and asking if everything was fine. In none of the cases had the UBS been advised of the hospitalization: *They did not know. They became aware after we informed them...* Respondents, in general, did not recognize a service or professional that coordinated their care. Some physiotherapy professionals were perceived as reference health professionals.

Even before the stroke episode, UBS was not a regular point of care for the respondents, except for two. For the others, the UBS appeared in the pathways as a place of renewal of medical prescriptions, obtaining medicines and mainly of measuring blood pressure (BP). The reference to prevention and promotion actions carried out by PHC was practically inexistent; only one user participated in promotion and prevention groups.

Private pharmacies were also identified as another point of care. In addition to acquiring medications, the patients used them to monitor SH by measuring BP: *I have been monitoring SH in pharmacies for 35 years...*

Chart 2 systematizes the main findings, contrasting the managers' opinions and users' experiences seeking care, through the realms of care coordination analysis assumed in this paper.

Discussion

The methodology used, by including TI as a tool, made it possible to identify the users' logic to obtain their own care, which envisages the rationale of services and provided little used information in the management of health services and systems. Conill et al.³² identified in a different setting a similar situation: users' pathways do not often necessarily respect the agreements and norms previously established in the planning of health actions and services.

Despite the different logics, the narratives analyzed suggest a weak PHC role in the coordination of care for patients with chronic conditions; these findings are in line with other studies on the subject in Brazil and in Latin America^{21,33,34}.

In the studied region, PHC fragility is evident both in establishing itself as a preferential gateway into the system and in offering resolute health care. The managers' view reproduces the line of arguments provided for in the national guidelines for the organization of PHC services. However, this perspective is not confirmed in the user's experience.

On the contrary, practices that could strengthen the central role of PHC in health promotion and prevention and maintenance (early diagnosis, continued follow-up, active search, health education) are poorly recognized, including in relation to the condition of regular search service. When brought up by the respondents, PHC is recognized as a locus of search and access for simple procedures, such as BP measurement

Chart 2. Coordination of care in tracer event in the perspective of managers and users' experience, Barretos, SP, 2015.

Realms	Administrators	Users - Therapeutic Itinerary
Position held by PHC in the system	PHC is recognized as the ideal gateway, but with serious difficulties of implementation.	PHC is not a regular point of care, neither before nor after the CVA
	PHC is recognized as the gateway to the Network of Care for patients with chronic diseases.	PHC is not a gateway
	Access to SC depends on PHC referral	
PHC resolution capacity for SH	PHC is able to intervene / monitor cases of CNCD.	User identifies UBS as the place for the exchange of drug prescriptions and BP measurement.
	Diverse team actions such as active search, promotion activities, risk stratification occur more often.	PHC is not recognized as a space for health promotion and prevention of chronic noncommunicable diseases.
	Fragility in the collection of tests, dispensing of medicines, funduscopy and ECG.	PHC is not recognized as a clinical treatment space.
PHC resolution capacity following CVA	No shared responsibility between PHC and SC.	PHC monitoring is still not a priority point of care
	APS seen as capable of maintaining care after the stroke.	
	Insufficient NASF support	
Administrative-organizational structure	Public PHC services.	Link between PHC and attached population are not explicit.
	SC services, specialized consultations and imaging tests carried out by own public services; Services managed by OSS (AME); Contracted private services.	Private-public mix for consultations, specialized tests and rehabilitation: SC consultations via funeral insurance; SUS hospitalization with CT paid in another service
	Biochemical examinations performed almost exclusively by contracted private services. Insufficient installed capacity of RAS,	
	especially in SADT and SC. especialmente em SADT e AE.	
Organization of flows	Bureaucratic definition of flows.	They do not identify the care flow from PHC. They use various gateways for SC and tests.
	No monitoring and evaluation of queues for SADT and AE.	Linkage or desire to be linked to the secondary level, especially to the AME / SES-SP.
		Good accessibility to SAMU in urgency.
Team-Services Integration	Lack of formal mechanisms established for integration.	Lack of communication between services and professionals.
Informational Continuity Mechanisms	Inexistent.	Inexistent.

or medication acquisition. This profile is similar to that found by Cecilio *et al.*³⁵ with highly frequent service users in the municipalities of São Paulo state.

PHC clinical resolution capacity identified was also low. Insufficient essential tests and drugs, among others, are examples of this fragility. The lack of adequate structural conditions is

an important hurdle to PHC assuming its role of coordinating care not only in the region studied, but also in a large part of the country³⁰. Even the CHWs' actions appear bureaucratic in users' words, not evidencing the potential performance of this professional.

The private-public mix identified in the pathways, besides the services contracted by the SUS, was made through direct disbursement, mainly for the accomplishment of tests and rehabilitation services. It is worth remembering that these expenses added to the purchase of drugs were an economic burden for the families. The supply profile, coupled with the lack of therapeutic back-up, especially in the provision of specialized services, weakens the coordination capacity of PHC, a nodal point for the organization of networks, in several aspects²³. This setting is common to other health regions, heavily dependent on the private sector²³. In these, insufficient supply and public underfunding, coupled with the sometimes-inadequate use of existing resources and disarticulation among providers are factors that make it difficult for PHC to be a robust and resolute practice²³. In contrast to the user's perspective, managers and professionals have a restricted view of the public-private relationship, as they are not active stakeholders in the process of obtaining the necessary care.

In addition to the lack of organized flows between PHC and SC, the results suggest the existence of a logic in which SC, especially services linked to the Pio XII Foundation "invade" both PHC's expected spaces of action and the very regional management of RAS. This role does not only stem from the demonstrated shortcomings of PHC in the region, but is also based on the population's valuation of the specialized medical practice space and the production of symbolic value for the health care offered by the AME/SES-SP, which is better qualified.

Breaking with the compartmentalized logic of health service operations is not an easy task;

Feo et al.³⁶ have identified that even after 20 years of the PHC reform in Spain, SC remained a watertight compartment, a fragmented functioning rationale that facilitates the emergence of diagnostic errors and inadequate treatments³⁶.

The SAMU ensured quick and timely access to the first care after the stroke, and no pilgrimage situations in search of relief were identified. The pilgrimage is an experience that, unfortunately, several Brazilians have faced in recent years³⁷; the regional organization of RAS is key to its overcoming. Machado et al.³⁸ explore a two-way role of SAMU; if on the one hand, it demands regional arrangements such as central regulation, on the other hand, it contributes to the daily/effective establishment of RAS. However, mechanisms for coordinating care between PHC and points of the Urgent and Emergency Network are practically non-existent in the reality studied.

The lack of computerized and integrated medical records also minimizes the possibilities of interprofessional communication, one of the realms of care coordination³⁹. The evaluation of managers and users is synchronous in indicating the fragility of this function. As other studies indicate, the traditional referral and counter-referral guides are conservative and bureaucratic instruments, insufficient for the organization of health care networks with informational continuity and coordination by PHC teams⁴⁰.

In Brazil, much has been said about the central character of PHC in the establishment of RAS, but this is a two-way relationship. Just as there is no RAS without robust PHC capable of coordinating care, PHC cannot play its part without a strong regional arrangement and virtuous articulation between the three federated entities. Only in this way will PHC be able to coordinate care, reaffirming that poor care coordination is definitely a major hindrance to ensuring comprehensiveness, access and delivery of quality health services.

Collaborations

A Bousquat, L Giovanella, EMS Campos, CL Martins and PHS Mota were responsible for designing, analyzing the data and writing the final text. PF Almeida, MHM Mendonça, MG Medina and M Fausto, were responsible for writing the final text. DB Paula was responsible for analyzing the data. ALD Viana was responsible for the review of the work.

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