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Primary Health Care and Coordination of Care: device to increase access and improve quality

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Abstract *The objective of this article is to investigate the viewpoint of health professionals regarding the coordination of care in Primary Health Care (PHC) and the challenges for performing it. Qualitative research with professionals from two PHC teams working in territories with vulnerabilities and inequalities in Rio de Janeiro. Use of the Content Analysis method, thematic modality with semi-structured interviews and participant observation. To coordinate care is to be involved with the activities that foster the provision of individualized and comprehensive care, aiming at the care continuity. The challenges of coordinating care by the PHC are overcoming the network fragmentation, the low supply of openings for specialists, the fragile communication between the services, the non-integrated electronic medical record, the low professional qualification and the unawareness of the PHC role by other services. The strengthening of the PHC as the gateway, coordinator and organizer of the network requires efforts by managers, professionals and society, so this way of organizing the systems can bring benefits regarding equity, accessibility, clinical and sanitary effectiveness, economic efficiency and allow care integration.*

Key words *Primary Health Care, Health services, Comprehensive health care*

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Introduction

The fragmentation of health care[1,2] combined with demographic and epidemiological changes and aggravated by inequalities in access to services, constitutes a challenge to health systems. People with chronic diseases, more fragile and with more disabilities, as well as those in a situation of greater social vulnerability, need more care and demand services more often and, at the same time, in different specialties and levels of care, resulting in an interdependence between care network points[3-6]. The systemic fragmentation has negative consequences for the efficiency and effectiveness of health actions, contributing to the increase in inequities and vulnerability regarding, above all, the access and use of services and comprehensive care[7,8].

Health care network (HCN) integration is opposed to fragmentation, as it promotes systemic integration by providing continuous, comprehensive, good-quality, responsible and humanized care, and increases the system performance in terms of access, equity, clinical and sanitary efficacy and economic efficiency[9-14].

Primary health care (PHC) is considered the main strategy for reorienting the care model[15], pointed out as communication center for networks and an interchange node that coordinates flows and counterflows[11,12], with PHC as a gateway, not focused on groups in situations of poverty, capable of assuming user care coordination[16,17] as a fundamental attribute in the health systems' organization, promoting equity, access, quality and continuity of care[13,18,19].

To coordinate care is to articulate health actions in a synchronized manner and aimed at achieving a common goal[20-23], regardless of the place where they are carried out. It is the guarantee of the continuity of integrated care in different points of the network and understood in its vertical dimensions, between PHC and other levels, and horizontal, in the PHC team itself, health services and social equipment[19,24]. The coordination of care allows the interventions to be continuously experienced by the user, adequate to their needs and compatible with their expectations[20,23]. It is based on a network of providers with communication channels, allowing information about patients to be transmitted by different services[20,23,24]. Its essence is the availability of information about previous problems and the recognition that these may be related to the present needs[20].

In Brazil, the predominance of PHC in vulnerable and unequal territories results, in part, from the historical construction of PHC – a selective one –, aimed at controlling specific diseases in poor populations[25], and partly due to the intentional prioritization of public policies in more vulnerable territories, seeking equity in health access. In these populations, the coordination of care takes on a dimension of coping with health inequities, constituting a powerful action tool.

Recently, there was a significant expansion of PHC in the municipality of Rio de Janeiro (MRJ). Coverage went from 10% (186 teams) in May 2010, to 64% (1,251 teams) in October 2017[26], prioritizing the most vulnerable territories for team allocation. In this context, the demand for specialized care tends to increase, and the continuity of care integrated to the secondary and tertiary levels becomes crucial. As a result, the Municipal Health Secretariat (MHS) strengthened the role of the PHC in the coordination of care, as a strategy to qualify care and access to specialized services, decentralizing ambulatory regulation of specialized consultations/exams for PHC units, strengthening the bond and coordination at this level of care[27]. In this period, the coordination of care by PHC stands out in the MHS guidelines, of which publications highlight this attribute, standardizing care flows and protocols.

This study aimed to present the viewpoint of health professionals regarding the coordination of care in the PHC level and the challenges for performing it in two territories with great vulnerabilities and social inequalities in the city of Rio de Janeiro.

Method

This is a social research in health that used the Content Analysis method, in the thematic modality, considered appropriate for qualitative health investigations[28,29]. Social research was chosen because it encompasses investigations that deal with social problems, including the health/disease phenomenon, and its representation by actors working in the field[28,30]. Interviews were performed with health professionals and field observation was carried out using a semi-structured script. The following categories guided the thematic analysis: meaning of the coordination of care for PHC professionals; Role of the PHC professional in the coordination of care and adopted strategies; Tools used in the coordination of care; Difficulties and challenges in the coordination of care.

Ciência & Saúde Coletiva, 25(5):1799-1808, 2020

The study field consisted of two territories that comprise subnormal agglomerations (slums) located in the south zone of the MRJ, in the Programmatic Area (PA) 2.1, considered to be a model in terms of the disposition and organization of health services, and among the highest social indicators in the municipality. The locations were defined together with MHS managers, as they have favorable organizational and infrastructure conditions for the coordination of care: complete PHC teams, health facilities with good infrastructure, provision of materials and supplies and good performance of the work process indicators.

The fieldwork was preceded by the presentation of the study to the managers of the central and regional levels of the MHS and the territory composition survey. An indication was requested of at least six health units belonging to these territories, with the respective managers' contacts. Two PHC units were chosen, due to the greater receptivity of managers to the research proposal. At the managers' invitation, the teams were chosen after the project was presented at the unit meetings, and the teams expressed their interest. The inclusion criteria were a full professional staff, availability and interest of all team members to participate. Then, the researcher started to participate in team meetings; this inclusion brought them closer and allowed access to the activities developed by the teams being monitored.

The professionals (eight of them) of the two PHC teams were interviewed: two doctors, two nurses, two nursing technicians and two community health agents (CHA). Only one CHA from each team was interviewed, indicated by the nurse and/or physician of each team, considering the commitment and involvement with their duties. Both CHAs were readily available to participate in the research. There was no refusal by any professional to undergo the interviews. However, there was a longer delay in scheduling them with nursing technicians, under the justification of a more rigid work schedule that made it difficult their absence from the scheduled spaces.

The start of fieldwork was carefully performed, establishing a relationship of empathy, respect and horizontal dialogue, including the joint choice of spaces and acts to be observed, without invading unauthorized spaces and respecting the agreed days to be present. The interviews were scheduled with each professional according to their availability and were held in reserved spaces in the unit.

Observation with field diary records included team meetings, home visits, educational activities, nursing and medical consultations, inter-consultation with professionals from the Family Health Support Center - FHSC, carrying out procedures and welcoming spontaneous demands; as well as consultation to normative documents, published by the municipality, available in the units or online. It sought to apprehend, through the monitoring of daily experiences, in the interactions and relationships maintained with the field, the meaning and representations that the professionals attributed to the study object. Participant observation allowed for a closer relationship with the field and a better understanding of the complexity of the studied processes, functioning, above all, as a complement to the interviews.

The fieldwork took place between July and November 2016. The field material was transcribed and examined through reading, exploration and categorization, according to the identified meaning nuclei, description and interpretation of the results.

The study was approved by the Research Ethics Committee (REC) of *Instituto de Estudos em Saúde Coletiva*, of the *Universidade Federal do Rio de Janeiro* and by the Municipal REC of the MRJ.

Results

The evaluated teams assist groups with great social vulnerability, who belong to locations with high population density, irregular housing, difficult access, lack of sanitation and pavement and the presence of crime and drug trafficking. High social inequality was observed, evidenced by the contiguity with populations of medium and high purchasing power.

Both territories are characterized by the HDI below the region's average. Territory 1, with 53,338 inhabitants, consisting of a set of subnormal agglomerates, had an HDI of 0.533 (the lowest in the region) and per capita income of up to a minimum wage in 68% of households in 2010. Territory 2, with a population of 21,724 inhabitants, distributed partly in areas of subnormal agglomerates and partly in an urbanized area with regular dwellings, had, in 2010, an HDI of 0.690 and average per capita income of R$4,149, with 17% of households having a household income of up to one minimum wage[31].

There are three PHC units in territory 1. The health unit investigated has 11 family health teams and 03 oral health teams to treat an enrolled population of 30,356 inhabitants. The

team participating in the study (team 1) consists of 01 physician, 01 nurse, 01 nursing technician and 5 community health agents (CHAs). According to information in the electronic medical record, 2,483 people were followed by team 1. Of these, 67% were considered of black ethnicity and 65% were beneficiaries of federal and municipal government cash transfer programs. Approximately 20% of this population is comprised of elderly people, considered to be the ones who most often seek care, together with patients with chronic diseases, pregnant women and children. This population has a high incidence of tuberculosis, with approximately 300 new cases of the disease per 100,000 inhabitants each year, reflecting the context of poverty and crowding[32].

The health unit treating territory 2 is a health center consisting of 7 family health teams, a primary care team with specialist medical professionals and two oral health teams. The team participating in the study (team 2), which had the same composition as team 1, has an enrolled population of 2,800 people living in subnormal agglomerates in its entirety. Around 63% of these were black, 45% received benefits from cash transfer programs and approximately 15% were elderly. Added to the other populations in territory 1, it has the second highest infant (18.4) and late neonatal (9.2) mortality rates in the PA 2.1[31].

Both units had residency programs in Family Health for medicine and nursing and FHSC professionals. They have electronic medical records, not integrated with other PHC units and levels of assistance. The regulation of outpatient vacancies is performed by the unit's regulator physician, through the Regulation System (SISREG, Sistema de Regulação). The teams have access to care protocols (Quick Reference Guides) in digital and manual formats, as well as tools for referral to specialized services (referral and counter-referral forms) in printed format. They receive, via e-mail, a hospital discharge report of the patients in the territory ("post-hospital discharge guide") with information on the length and reason for hospitalization (Chart 1).

The health network, present in PA 2.1, is also constituted of public services of medium and high complexity, and supplementary network services. The hiring/provision of services at PHC is done by contract with Social Health Organizations (SHO), and workers have contracts regulated by the Consolidation of Labor Laws (CLT - *Consolidação das Leis do Trabalho*). This scenario refers to a period (2009-2016) of investments in PHC, with expansion, structuring and qualification of services.

The PHC professionals understand the coordination of care, in general, as a process of communication, organization and operation of network services, which guarantees continuity and integrality of care and improves access and use of services. The common understanding of the coordination of care by the different categories can be attributed to the prominence given by the municipality to the topic, present in the normative documents that guide professional practices and addressed as a transversal topic in the qualification spaces promoted by the management and in team meetings. This can be observed through the number of times the phrase "coordination of care" and its related terms and examples appeared in the dialog spaces followed by the researcher and in the interviewees' discourses.

They mention specificities in the exercise of coordination of care by different professional categories. The articulations with services external to the unit are the responsibility of the physician and the nurse. The dependence of the physician for the scheduling of exams, consultations with specialists and hospitalizations was criticized for restricting the potential of PHC coordination of care; as well as the loss of value attributed to PHC, considered an obstacle to coordination. Nursing technicians and CHAs participate in the coordination of care inside the unit, giving their opinion on the conducts, flows and referrals, in shared care and team meetings. The CHAs also play a role in articulating with the community, providing information about the context of life and the particularities of families and territory, which only they have access to, as they belong to the community and move more frequently inside the users' homes:

During home visits, when I observe poor hygiene conditions, accumulated garbage at the door, still water, or, for example, a situation of neglect in the care of the child or elderly person, I inform the nurse, to see what the team can do. (ACS.Eq2/CHA.Team2).

If I am visiting a bedridden patient and I verify, through the tests, that they have a possible venous ulcer and need follow-up with the angiologist, I take the case to a team that discusses it and makes the referral process at SISREG. (Techn. Eq2/Nurse Tech.Team2).

There is a consensus that professionals at all levels of care should participate in the coordination of care and, even, the user, who is co-responsible for their own health:

I think that the coordination role is completely decentralized. It is mine, the doctor's, the resident's,

Ciência & Saúde Coletiva, 25(5):1799-1808, 2020

Chart 1. Characterization of the Research Subjects.

Subject coding	Age	Gender (F/M)	Professional qualification	Specialization in the Field	Time working in PHC (years)
ACS.Eq1 (CHA. Team1)	33	F	Medium level – Health agent	-	6
ACS.Eq2 (CHA. Team2)	49	F	Medium level – Health agent	-	4
Enf.Eq1 (Nurse. Team1)	32	F	Nurse	Master's Degree in public health and PhD in Public Health	4
Enf.Eq2 (Nurse. Team2)	37	F	Nurse	Master's Degree in public health	12
Med.Eq1 (Physician.Team1)	34	M	Physician	Residency in Family and Community Medicine	8
Med.Eq2 (Physician.Team2)	27	M	Physician	Residency in Family and Community Medicine	3
Téc.Eq1 (Nurse Tech.Team1)	44	F	Nurse technician	-	6
Téc.Eq2 (Nurse Tech.Team2)	40	M	Nurse technician	-	4

Source: Developed by the authors.

the CHA's, the manager's, the administration's, the PCC's (Primary Care Coordination), according to the role of each one of them. Even the individuals themselves are responsible for coordinating their care, even self-care. (Enf.Eq1/Nurse.Team1).

Coordination of care must be carried out by everyone. At the PHC level, by the team's professionals and manager. At the network level, by other health services and by PCC management. (Enf. Eq2;/Nurse.Team2).

However, ones recognizes, in theory, the primacy of PHC as the main organizer and coordinator, constituting the closest and most accessible domain, to which the user returns after specialized care, and appropriate to followed them during their journey at several points of treatment, with a greater possibility of articulating the different levels of care and adding information about the therapeutic itinerary and the care process. The expansion of PHC requires the coordination of care to improve access to specialized levels and their use, especially by users facing greater access barriers, allowing the circulation of people on the network, reducing negative outcomes and system costs.

From the physicians' viewpoint, coordinating care implies a filter function, in which the PHC assessment precedes access to the specialist. The unit's technical manager is assigned a collective, political and institutional dimension of coordination of care, related to the management of flows within and outside the unit (flows of access, embracement, reference and referral). Within the unit, coordination of care takes place more easily, due to the proximity of services and professionals (PHC team, oral health and FHSC), facilitating communication between them to discuss shared cases, as well as adjusting flows. Communication between professionals, between these and the users, and with other levels of care, emerges as the main challenge of coordinating care.

It was observed that the coordination of care is practiced daily by PHC professionals, although they do not always critically reflect on this practice or are aware of it, as actions tend to be automated over time. Even if there is distancing from the team, coordination occurs to some extent, as the user returns in search of continuity of care.

With regard to difficulties, the reductionist training of professionals is seen as a factor that inhibits the coordination of care, as it does not problematize the health-disease process and does not encourage networking. This training does not favor the understanding of the health system as a network of services, with PHC as the center of communication, nor the perception of the importance of communication and coordination to guarantee comprehensive and continuous care:

I followed the PHC service in London, England for a month, and I remember that I was impressed at how perfectly performed and automatic it was; that, after every consultation at a secondary care

service, the physician, the nurse, the professional who had treated the user, sent a counter-referral letter, which was not small, to the PHC. (Med.Eq2/Physician.Team2).

The lack of completion, the lack of information or the illegible handwriting in the counter-referral form are recurrent and reinforce the finding that the communication constitutes an obstacle:

It bothers us when we refer someone, specifying our question in the referral form, and do not receive information about what was done in the other service. It's complicated. We did not send this patient for the pleasure of seeing them move to the other side of the city or to get rid of them, especially when it comes to vulnerable groups as we treat here. We referred them to have that professional's contribution. It is complicated when the information arrives by mouth, sometimes the patient does not even know what was done or we do not know if the information was exactly the same. (Med.Eq2/Physician.Team2).

PHC manages the access to secondary services by SISREG and the lack of communication means lack of commitment. Cancellations due to service problems are not rescheduled and the user returns to the PHC without receiving care. The "notificareg" field is used to record problems in scheduling, but often the referral service does not provide feedback.

The proposed alternatives are typing the counter-referral and communicating by e-mail with the PHC team, but the most logical thing would be for SISREG to incorporate this information. Regarding hospitalizations, the adopted Referral Discharge System brings the user's name, reason and duration of hospitalization, which is limited information to coordinate care. There are situations of post-hospitalization users without a hospital document informing the diagnosis and the performed procedures:

For instance, for terminally-ill patients, we usually do not officially know there is no longer a curative treatment and it will only be palliative care at home. Generally, we go on thinking and reaching an indirect conclusion, because the consultations become rarer and rarer, no more chemotherapy was prescribed or they were discharged, but normally we do not receive a letter saying that the patient is out of therapeutic possibility. (Med .Eq1/Physician.Team1).

The absence of an integrated medical record system inhibits the exchange of information. Electronic medical records do not have communication between PHC and network services. Integrating the medical records, allowing access to conducts, test results and diagnoses outlined in other services, is one of the great challenges identified by the professionals:

The patient arrives: 'I had a consultation there, they prescribed this to me'. But there is nothing official. And there is no mechanism for demanding this, so that the specialized service can respond to the PHC. (Med.Eq1/Physician.Team1).

The sharing of information and the articulation between services are very deficient. For nurses and doctors, these difficulties reflect the fragmented structure of the system and the peripheral position of PHC. PHC is not recognized by specialized services as the sector responsible for longitudinal and continuous care, the care coordinator. Combined with fragmentation, the population's culture, accustomed to the logic of consumption of health actions and services, contributes to searching for specialists without prior assessment by the PHC.

The medical and multiprofessional residency programs; permanent education actions; support from the Primary Care Coordination (PCC); Quick Reference Guides, manuals and instructional protocols can help reduce the problems.

Considering the isolated advances and the difficulties and challenges faced in the coordination of care by the teams, the professionals alert to the persistent devaluation of the PHC. There is a concern about the exclusion of PHC from the agenda of priority public policies in the Brazilian political scenario, especially in a country where the majority of PHC users belong to marginalized, poor populations and who face different barriers in accessing and using health services.

Discussion

The professionals understand the coordination of care, its meaning, obstacles and challenges based on the respective places and roles played in the team and their previous experiences, in line with the concept found in the literature[18,20-24]. The attributes of the PHC[15] regarding the integrality, continuity and longitudinality of care, appear in the professionals' viewpoint.

Despite the medical preponderance, the understanding of a shared role between professionals and with the network prevails, to be apprehended by professionals since their training. The coordination of care involves teamwork, collaboration between professionals and integration of services[9,24,33,34], as well as the citizens' partici-

pation, co-responsible for their own health, in the participatory channels of inclusion in decision-making processes[17,34-37]. It is worth stressing the importance of the CHAs when integrating information related to users, through home visits and active search for absentees[19].

In some studies, the coordination of care is not the PHC prerogative, but an organizational attribute of health services, a system strategy to improve integration between levels of care, translated into the perception of continuity of care. However, the PHC, strengthened in its attributes, is recognized as the ideal to coordinate the user's therapeutic itinerary in most episodes[20,23]. A strong PHC is characterized by the ability to solve most health problems in a timely manner, with accessibility, equity and continuity[38]; and having support, political, financial and human resources, it conditions the ability to coordinate care[14,20,28].

The need to organize the health system with the establishment of networks is evident, in which the coordination of care is assumed as an expanded responsibility of PHC. But, despite the initiatives of municipal managers, either in progress or implemented, the difficulties remain, with contextual determinations that derive from the macro-structural organization of the network and government support[17,38,39]. In this study, the identified difficulties come from the communication failures between services, the devaluation of PHC, the low professional qualification and the weaknesses of the instruments adopted to integrate the assistance levels.

Decentralization of regulation is important to strengthen PHC as a gateway, aiming to provide equity in access and increase the power of coordination of care. A study on the decentralization of ambulatory regulation in the MRJ, which took place in 2012, demonstrated advances in access to specialized services, due to the increase in the number of consultations and regulated exams since then. It was suggested to reduce the waiting time and increase the coordination capacity by the PHC teams, inducing greater responsibility for professionals in the monitoring of users when carrying out the procedures regulated by them[40]. However, this and other studies highlight that the insufficiency in the provision of specialized care, aggravated by the little integration between the state and federal networks, creates artificial bottlenecks due to the lack of regulation, making access to specialized services difficult[17,19,23,40].

The absence of integrated computed medical records and the use of traditional referral and counter-referral guides are pointed out in this and other studies as insufficient for the organization of HCN with information continuity and coordination by PHC[17,41-43].

Studies suggest that the coordination between care levels can be facilitated by improving the collection and dissemination of information about patients and providers and by using Information and Communication Technologies, such as integrated electronic medical records, computed referral and counter-referral instruments, regulatory tools and others, which can provide data related to the users' care line and allow the management of processes and flows[17,21,22,24,38]. Therefore, investment in integration instruments, which allow access to procedures, test results and diagnoses outlined in different services, is essential for PHC care management. The integration of care depends on the quality of the coordination processes, which, in turn, depend on the effectiveness of communication established between people[24].

The coordination of care depends on qualified and engaged professionals, aware of the importance of communicating and sharing information. It requires the strengthening of team work[44] and, the communicative action can constitute a path for the transformation of daily practice, from an authoritarian, fragmented and individualistic perspective into a democratic, integrated vision, based on collective work, solidarity and communication[45].

Some authors consider that PHC does not have material and symbolic conditions to exercise the role of a communicating center and to make the connection between the several points of the network[24,46]. Therefore, the central characteristic of the PHC in the constitution of HCN must be configured in a two-way relationship. In the same way that there is no HCN without a robust PHC capable of coordinating care, PHC is unable to exercise its role without a solid regional arrangement and a virtuous articulation between federated entities[47].

Greater investment in infrastructure, information technology, staff training, work flows and processes is essential; professionals committed to a horizontal work process, combining specialization with interdisciplinarity; disruption with the hegemonic characteristics of the current care model; strengthening the role of the generalist in conducting care; and users and specialists open to new organizational models[24].

Management has a primary role in order to contribute to:

[...] *a more efficient and effective health production process in priority areas and with quality, opening the possibility for "intelligent" rearrangements that are established to face or overcome the social diversities and complexities that are posed to health services*[17](p.715).

Countries, of which health systems are organized based on PHC, have better health levels and greater equity, since the access and scope of activities of community projection and the opportunity for continued attention and coordination of care contribute to reduce health inequities[4,5,16]. Therefore, the benefits of an appropriate coordination of care is translated into individual gains for the user and gains for the system, regarding the allocation of resources more equitably in areas of greater social vulnerability, helping to reduce health inequalities[20,48].

Thus, the challenges to coordinate care are shared by different health systems, at national and international sites. Despite the unfavorable context, efforts are needed to expose the advantages of PHC-based systems, and the large-scale benefits for the consolidation of health systems, regarding equity, accessibility, clinical and sanitary efficacy and economic efficiency, which allows care integration. Therefore, it is necessary to carry out studies like the present one, which share local experiences, presenting innovations and challenges regarding the way coordination of care is carried out in PHC, improving the dialogue and reflection in the field of public health.

Finally, the limits of this study comprise the possibility that the results do not reflect the challenges and strategies adopted in locations where PHC does not have the tools for coordination, qualified professionals or significant political prioritization, as seen in the investigated period and territories. The choice of these locations, when also considering the indication by the managers and professionals, led to a scenario with a more effective coordination of care and with greater awareness and criticality of the subjects regarding this practice. Studies that investigate other locations, with different perspectives of analysis and a greater number of social actors, may bring counterpoints to the results obtained here and, thus, expand knowledge on the subject.

Collaborations

The authors contributed to the study conception, planning, analysis and interpretation of data; writing, critical review; and final version of the text. This manuscript is derived from the master's degree thesis of the main author, under the advisory of the second author.

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