

Care coordination in primary health care: an evaluative study in a municipality in the Northeast of Brazil

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Abstract *International and Brazilian studies have highlighted the importance of the coordination of care for the organization of local health systems. This study aimed to analyze the coordination of care by Primary Health Care (PHC) in a municipal health system in the State of Bahia. This study was conducted in the lead municipality of the macro-region and involved two levels of analysis: PHC team and municipal management. Outlining conditions for the study were defined (hypertension and diabetes mellitus) and an objective image corresponding to the coordination of care was developed based on current national and international literature review. Semi-structured interviews with professionals, managers of PHC services were conducted and current documentary sources were also used. It was demonstrated that the coordination of care has not been met by municipal systems, where only 14 of the 22 proposed criteria have been met. The main difficulties and reasons were: a lack of health care protocols and the non-implementation of computer systems and telecommunication technologies. The results and the conceptual framework to assess the coordination of care are relevant contributions to this study, which can be applied to other contexts with similar characteristics.*

Key words *Health evaluation, Primary health care, Coordination of care, Non-communicable chronic disease*

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Introduction

The high prevalence of chronic conditions in Brazil has made it necessary for there to be reforms in the organization of health services with a view to improving integration^{1,2}. The increase in the amount of those suffering from non-transmissible chronic diseases (DCNT) has become an important challenge for health systems especially when one takes into consideration the significant increases that have taken place principally in developed countries³⁻⁵.

The coordination of care in Primary Health Care (PHC) has been internationally recognized as fundamental in the organization of health systems in order to obtain improvements in the provision of care. This is in terms of access, quality and the continuity of primary care either through the integration of services and actions between different levels or at the same level in the health system¹⁻⁶.

International studies have shown that coordinated health care actions lead to improvements in the continuity and the integral nature of primary health care possible: in so much as that they reduce the access barriers for different health services³⁻⁸. In the investigation, the coordination of care was defined as a process that aims to integrate actions and health services at the same or at different levels of primary health care in which different professionals use mechanisms and specific instruments to: plan assistance, manage the flow of patients, exchange information on users and assistant processes, deal with referrals (or not) and monitor patients with different health needs in order to facilitate the provision of continuous and integral care in opportune areas and times. The lack of coordination can contribute to mistakes being made in diagnosis and treatment which can increase costs for the system and result in inappropriate use of resources. Other ramifications include: long waiting lists, duplication of diagnosis tests and unnecessary hospitalizations^{1,7}.

In the ambit of primary health care (PHC), the assumption is that the care for chronic conditions should be guided by coordinated practices with a view to integrating the assistant levels and to facilitate the flow order and the counter-flow of people, products and information^{4,6,9-11}. However, journals highlight the magnitude of the problems related to the incipient coordination of care in the ambit of PHC shown through its fragilities in its structure and in the setting out of the flow of assistance in hospital primary health

care, accident and emergency care and specialize outpatients units^{4,6,8}.

The reform movements in the health systems in the last 20 years has shown the need for PHC to build itself up and act as a body that provides order to the health system. However, in Latin America reforms centered on the coordination of care are still in their early days, which may explain the limited number of studies that have been conducted on this theme in the region¹.

In Brazil, proposals in favor of coordination obtained momentum at the end of the 90s when a policy was developed that had a national reach. It proposed that the PHC should be the basis of the reorganization of the primary health care model^{1,12}. However, the primary health care model that is compacted and fragmented amongst the services, reflects the persistent reality that is characterized by a service that is fragmented and has difficulties in communicating between health care service providers. This justifies initiatives for the development of coordinating actions that facilitate assistant integration^{13,14}.

Many research studies in Brazilians municipalities have shown the problems that affect the condition of the PHC as being a preferential entrance into the system and its capacity to offer complete and coordinated primary health care. The referral mechanisms and subsequent referrals are fragile with there being a loss in health care services and difficulties in registering clinical data causing access barriers to specialized services^{1,12,13}. In these circumstances, in spite of attributing the function of care coordinator to PHC in the primary health care system, this remains a challenge for the teams^{1,14,15}.

The objective of this study was to evaluate the coordination of care in the ambit of PHC in one of the lead municipalities in the state of Bahia, in order to identify the main difficulties of the Primary Health Care teams in complying with their designated functions.

Methods

This was an evaluative study that adopted, as a methodological study, a single case study with two levels of analysis: municipal team and management analysis. To evaluate the coordination of care, certain conditions were set out in relation to arterial hypertension and mellitus diabetes taking into consideration: their high prevalence, the ample amount of epidemiological knowledge in existence, the existence of consensus on profes-

sional primary health care and the long amount of time for the insertion on the agenda of the national policies on prevention, treatment and control implemented in the ambit of the PHC.

The methodological option for the case study in the ambit of the municipality is justified due to the actions for care coordination that presents a direct relation with the local level for the provision of care which permits a deepening of contextual factors and determines good or bad operationalization.

An objective image corresponding to the coordination of care was developed based on a current review of the national and international scientific journals, in addition to reviewing official documents that provide standards for the outlined conditions in primary health care. This

objective image was adopted as a reference for the analysis of data (Figure 1) and it is described in detail in the other document¹⁶.

Characteristics of the case

The case study for this research was selected intentionally as corresponding to a municipal system that integrates the primary experience of the inter-state primary health care network in Brazil. It is a macro-regional reference area in the Northeast Region of Bahia with an estimated population of about 200 thousand inhabitants located 500km from the capital with a territorial extension of 6.500 km², a population density of 34.45 inhabitants/km² and a Human Development Index (HDI) of 0.71¹⁷.

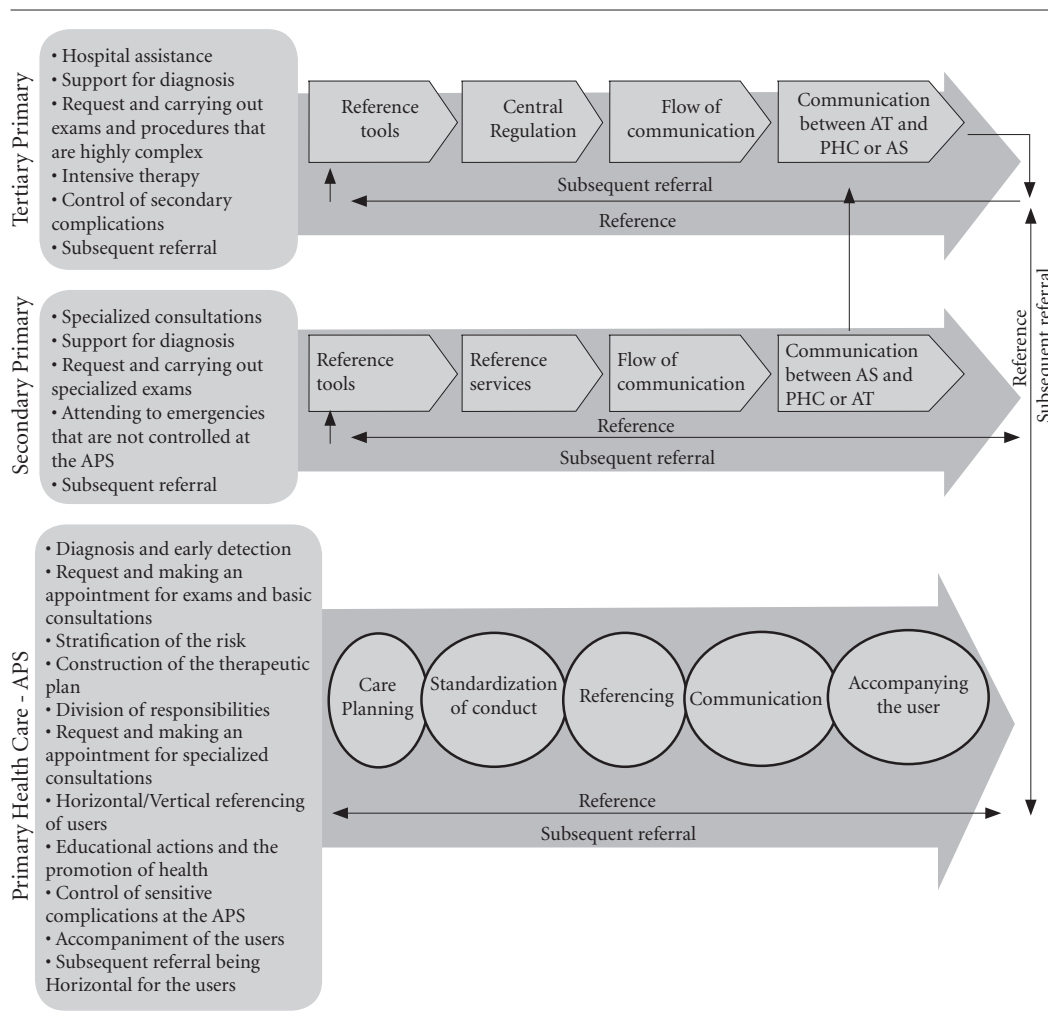


Figure 1. Image-objective of the coordination of care for those with hypertension and diabetes.

Source: scientific literature and revised normative documents.

In order to analyze the coordination of care, two teams in Family Health were selected with different results in relation to performance (team A, “successful” and team B, “not successful”). This selection corresponded to the analysis, by the authors, of the database of the first cycle for the external evaluation of the Improvement Program for Access and Quality of Primary Health Care (PMAQ-AB). We specifically analyzed the relative criteria with the coordination of care for module II (health professionals) based on a quantitative conference of the total criteria that was complied with and not complied with amongst the teams that adhered to the program, in order to classify those with very good and less than good performance in the actions for the coordination of care. This analysis was conducted based on a framework developed by the authors which contained criteria to be analyzed in the PMAQ-AB database. Lastly, the final classification of the teams was validated with the municipal management with the view to choosing those that would be the object of the in-depth investigation in the field.

The production of data in the field occurred in October 2013 and it had as sources of evidence, documents from the Municipal Secretary for Health (SMS), semi-structured interviews with the PHC managers, professionals from the Family Health Teams (EqSF) and information from the field research diary.

Two supporters of the Health District and the director of Primary Health Care were interviewed as representatives of the municipal management. For the interview with the professionals, eight teams were pre-selected based on the performance of the first cycle for the external evaluation of the PMAQ-AB. After this, the selection was refined to the choice of the two teams (“successful” and “unsuccessful”). One was located near to the urban zone (team A) and the other on the outskirts of the city (team B). After the selection of the EqSF, the doctor and the nurse were interviewed as they were professionals who were more directly involved in the activities for the coordination of care.

A semi-structured script was developed for the collection of information from documents and primary sources. An analysis of the results was done through the collation of the findings with an image-object perspective developed by the authors in such a way as to identify the presence of criteria for the coordination of care in the investigated teams.

The integrating analysis category that had an image-objective perspective guided the presen-

tation of the results through the following way: planning of individual assistance, standardization of conduct, referrals, communication and the accompanying of the users.

The research proposal was submitted to the Ethics Committee for Research (CEP) at the Instituto de Saúde Coletiva (ISC/UFBA) and it was approved. The municipal management authorized the research to be carried through giving its signature on the Institutional Consent form. All the interviewees filled in and signed a consent form in order to take part in the research.

Results

54 EqSFs were implemented with an estimate coverage for the population of 93% of the Family Health Strategy (ESF) in the researched municipality in October 2013. The emergency health care services offered by the municipality has an advanced support unit, two basic support units and a central regulation center. The specialized outpatient's unit had two excellent services in the areas of cardiology and endocrinology as well as 14 laboratories for clinical analysis, a rehabilitation service and 25 image diagnostic services. There was a hospital network was made up of five exemplary hospitals that had different specialisms¹⁶. In the external evaluation period of the PMAQ-AB (cycle 1 - 2012), 45 primary health care teams (78%) followed the program.

With reference to the policy characteristics, the municipality was completely managed by the municipal system with an administrative continuity that was party political and the management of the SMS had been in place since 2009.

In 2011, the mortality profile was characterized predominantly by badly defined causes, followed by external causes and by diseases of the circulatory system, respectively. In 2013, pregnancy, labor and puberty, diseases of the circulatory system and digestive diseases¹⁸ were the main causes of hospital admissions in SUS. Also in this year, 98 users of hypertension services, five diabetics and 19 people with hypertension and diabetes were registered at the Family Health Unit.

The performance of two EqSFs with reference to the reach of the coordination of care was compared with the image-objective proposal. It was shown that the attribute of the coordination of care has not been operationalized adequately by the teams investigated, bearing in mind that 14 of the 22 criterion analyzed was not complied

with. Four were partially complied with and only four completely complied with by both (Table 1).

In relation to the planning of assistance for those with hypertension or diabetes, the main difference between the teams was related to the non-existence of the construction of shared therapeutic plans in one of them. Both did not have criteria or tools to stratify risks and to de-

fine, with more certainty, the flow of people and priority patients. This was the case for making appointments at their own unit as well as being directed to a cardiologist and endocrinologist.

In relation to the process for making appointments to have exams done and for specialist consultations for those with hypertension and diabetes, there was a convergence between the different

Table 1. Comparative analysis of the coordination of care between two Family Health Teams in the lead municipality, 2014.

Categories and corresponding criteria	Team A	Team B
I Planning of individual assistance	-	++
1. Construction of individual therapeutic plans shared amongst professionals in the team	-	+++
2. Planning of assistance based on the stratification of risks	-	-
3. Request and making an appointment for exams and basic consultations	++	+++
4. Request and making an appointment for exams and specialized consultations	++	++
5. Existence of lists and contacts of professionals and reference services	-	-
6. Identification and articulation with professionals from other levels in the construction of therapeutic projects	-	-
II Standardization of conduct	-	-
7. Existence of protocols and therapeutic guidance	-	-
8. Use of protocols and therapeutic guidance	-	-
9. Regular register of assistance given	++	++
III Referrals	-	++
10. Referral criteria used by the team that is consistent with the standard documents	++	++
11. Existence of tools for referrals and subsequent referrals of users	+++	+++
12. Existence of referrals and flows defined for those with hypertension and diabetes	-	-
13. Existence of contact with the central regulation unit in the referrals process (when necessary)	-	+++
14. Existence list/form with contacts and data from professionals and referral services in the network	-	-
IV Communication	-	-
15. Existence of telecommunications technology for the exchange of information	-	-
16. Flow and channel of institutionalized communication for the exchange of information amongst professionals e services	-	-
17. Existence of non-computerized tools for the exchange of information	+++	+++
18. Existence of regular information exchange amongst PHC professionals and others primary health care levels	-	-
19. Existence of discussions of regular cases amongst PHC professionals in the teams	-	-
20. Existence of discussions of regular cases amongst PHC teams and other levels in PHC	-	-
V Accompaniment of the users	++	++
21. Existence of regular registers of referrals that are carried out	+++	+++
22. Existence of tools for accompanying users	+++	+++

Note: Completely complied with (+++); Partially complied with (++); Not complied with (-).

Source: Own draft.

evidence sources. The two teams had a flow of similar appointments based on the distributed quotas done through the central municipal appointment unit (CMM) done in accordance with the district and EqSF. All of the appointments are decentralized and carried out at their own health unit via the integrated system with the CMM.

Even with the decentralization in the regulation process, it was noted that the lack of planning for offers, had repercussions on the monthly variation for the offers of the quotas and it did not establish a regularity in its distribution which interferes in the planning for the teams. This is because the PHC professionals do not have the ability to foresee the number of people to be directed to the units which will occur every month to the cardiologist, for example.

Important difficulties in the process for making appointments were noted such as simultaneous request for exams and consultations for more than one health service. Other difficulties included: insufficiency in the quantity of distributed quotas by the municipality and the existence of pre-established schedules for the distribution of consultations and specialized exams in a quantitative way for each PHC team.

The differences of opinions between professionals and managers on appointment agendas and the existence of demand that has not been met for access to consultations with cardiologists, endocrinologists and ophthalmologists, showed a lack of communication between these actors as well as the non-existence of monitoring mechanisms and regular evaluations of the PHC services.

An analysis of the distribution process for the quotas of exams and consultations in the municipality showed the carrying out of estimates just guided by the normative assistance parameters through the number of attached users to the PHC teams and also by the offer which is often insufficient. The management of the quotas was not based on epidemiological criteria. Nor was it based on necessity and the stratification of risk for those with hypertension and diabetes. It was not discussed and shared with the health professionals which is a factor that may contribute to the inadequate distribution of the exams and the consultations without considering the needs of the “uncompensated” patients.

Professionals and managers agreed with reference to the insufficiency of the offer and the bad distribution of the quotas for consultations and specialized exams in the face of considerable from users. It can be re-stated that the profile and

technical competency of the PHC professional was shown, by the management, as a “inducer” of people being forward to units. This made planning difficult as well as the optimization of the distribution of the respective quotas in the municipality.

We noted that they did not know the professional contacts and reference services in the network although the municipality had a Reference Guide for the Inter-state Network for Health with data relative to all services. This probably has an influence on the capacity of the PHC professionals sharing responsibilities in the construction of care plans for those with hypertension or diabetes.

The only tools identified in the health units for regularly registering assistance was the “minutes-book” used just by nurses and the medical reports used by both doctors and nurses. We did not observe the existence of computerized registers for the researched teams.

For both of the teams, we observed little importance given to the medical reports which was reflected in the lack of standardization of the registers. This was also the case for: the non-existence of numbering on the pages and, in some of them, the identification of the professional responsible for the register, illegibility and conservation problems since the various pages were damaged and were not placed in chronological order.

All the professionals and the managers who were interviewed noted the non-existence of clinical protocols in primary health care that provides guidance on defining the assistance flow for those with hypertension and diabetes. They mentioned specific protocols for professionals working in nursing that were not updated. Just one of the professionals on team B referred to the use of protocols developed by the Ministry of Health (MS). In spite of this, it was reinstated recently, the hiring of a professional by the municipal management to develop clinical protocols whose focus will be on providing guidance for those with hypertension and diabetics.

All of the professionals and managers were unanimous on the reference process for specialized primary health care that would take place through a request from a PHC doctor in which a reference form was filled out and with attached reports or procedural request forms.

With reference to people being referred to emergency services, we identified that both teams were not recognized as a preferential entrance and that there was poor communication between the PHC professionals and the emergency services professionals.

There was also little communication between the PHC teams and the Municipal Central Regulation Unit (CRM). We observed that there was a limited understanding of primary health care professionals on the importance of improving direct communications with the CRM. Just one professional from team B referred to some type of direct communication. The participation of the district supporters was highlighted in the intermediation of contacts and information between the PHC teams and the other network services.

The main reason for referrals was: the need to confirm diagnosis with the cardiologist, accompaniment of routine appointments through complementary laboratory exams and cardiology evaluations. This was the case even through the occurrence of decompensation pressure or glycaemia and with the last one there was unanimity amongst the professionals and managers.

The tools used for referrals of users were restricted to the procedural request form, the referral form, subsequent referrals and the medical report accepted by the users as well as the document review. It is worth highlighting that in both teams it was evident that there was a lack of motivation for filling out the reference form whose principal justification was the lack of a routine referrals done by both the professionals in secondary and tertiary care. This seems to have compromised the exchange of unpredictable information for the communication between the PHC teams and the other professionals in the network and for monitoring the referrals carried out.

Managers and professionals stated that the main reason for the absences of people being referred to specialized services was the fragility of the primary health care network as well as: the lack of telecommunication technologies, a lack of awareness, habit and unwillingness on the part of the professionals.

Documents that provide guidance on the definition of the flow of assistance were identified. This was an example of the improvised protocol for access to exams and procedures of medium complexity as well as the cardiology protocol and the Regional Action Plan of Emergency Services in Primary Health Care (both being restricted to the use of the CRM). This is in addition to the Reference Guide for the Interstate Primary Health Care Network. It can be reiterated that none of the tools were referred to by the professionals and managers or identified in the researched teams.

Thus, as a main obstacle for the referencing of users, they highlighted: the absence of clinical

protocols, telecommunication technologies that help the communication capabilities of the PHC professionals, professionals from other primary health levels, disorganization and insufficiency in the offer of consultations and exams. This was accepted through restricted access to exams and specialized consultations, the absence of accompaniment of the PHC professionals in other primary health care points and the disordered trajectory in the network services.

Both teams faced important communication problems both in a horizontal and vertical way. There was evidence suggesting the non-existence of discussions on complex cases for those with hypertension or diabetes as a means to make viable the exchange of information amongst PHC professionals and amongst these and secondary and tertiary care.

We observed that the PHC professionals were unaware of the network specialists which revealed that element of communication was non-existent. The vertical communication was also made difficult by the non-existence of computerized register and the integration amongst the different services and by the importance attributed to the register of clinical information.

In spite of the difficulties that were mentioned, managers mentioned a current initiative with aimed to train PHC professionals and in relation to secondary care to even out communication between both levels through the project, "Clinical Management in the Territory". This was carried out at the same time and in partnership with the municipalities of Belo Horizonte-MG e Campinas-SP.

It is worth mentioning that there was an important disagreement between the managers and the professionals on inter-professional communication as they first affirmed the existence of discussions on cases and district meetings as a vehicle for communication. However, this was not evident in the interview with the professionals. Certainly, there was acceptance of the fact of there being a distance between their own teams and between their respective district supporters.

PMAQ-AB was designated by the management as the instigator of positive changes in the communication process for the teams since it has been providing incentives for discussions on monitoring of the indicators and agreed results even though this had not been stated by the professionals in the teams.

The main tools and the means identified to make communication viable restricts itself to the reference form and the subsequent referrals or

telephone contact. It is worth mentioning that the use of the reference form and subsequent referrals has not been successful in the municipality. This is the case when taking into account the infrequency of subsequent referrals.

In relation to telephone contact, only the managers made references to this means to establish communication with the professionals. However, in the face of observance of the infrastructure of the health units there was no evidence of the existence of telephone device for the specific use of the professionals in the unit. It can also be highlighted that even in the face of the possibility of communication via telephone, the professionals did not show that they had any knowledge or show any register of contacts with professionals and referral services in the network.

The accompaniment of those with hypertension or diabetes was something very difficult for the teams both in relation to the duration of the referrals and afterwards the subsequent referral. When there was a necessity for accompaniment being more intensive for the users, managers and professionals gave accounts of carrying out home visits or arranging routine medical appointments at a health clinic.

The majority of the referrals were not monitored, possibly due to the non-existence of telecommunications technology in the researched units. One example was the electronic medical record that would permit better integration of information. The lack of subsequent referrals made the returning of information difficult being unpredictable in relation to the monitoring and improving of the therapeutic plan by the PHC team so that the team depended on the home visits or the return of the patient to the consultation at the unit on a spontaneous basis.

It was observed that a good part of the professionals had difficulties in describing the means of accompaniment of the user and were unaware of tools. However, based on the document analysis, tools used by the teams were identified. In both there were minute books, lists with registers of referrals and individual forms for the accompaniment of those with hypertension and diabetes in MS. Team A, had, in addition to past items, the register form for Hiperdia and a form for accompaniment of the individual developed for specific use by the Health Community Agent (ACS).

In spite of the fragility in the accompaniment of the users, both teams designated ACS as an important actor of this process; since it exercises the role of integrating information relative to the users at the PHC teams be it through visits or

through active searches of those that did not turn up for appointments (Table 2).

Discussion

This study permits the appointing of obstacles for the coordination of care by the PHC in a municipal health system based on an innovative methodology and based on a national and international review that is current. This made the summarization of the criteria possible as well as the dimensions that estimated, in a robust way, the reach of the coordination.

The obstacles to coordinating care that was shown, varies in relation to the questions related to the work process of the teams and the questions connected to the organization of the offer in the service network and support of the municipal management. Also, this was identified in other evaluative studies that gave credence to these factors being the main determinant in relation to constraining principals for the operationalization of the coordination of care at the PHC^{10,11,13,15}.

There were no expressive differences amongst team in nearly all of the evaluated criteria for the coordination of care, in spite of the difference performance revealed in the analysis of the PMAQ-AB database during the selection process. This might be related to the constraining macro-organization produced by the municipal management that affected directly the capacity of both to coordinate care. Also, is it might be related by wide analytical status researched through the image-objective approach adopted in this study which used new criteria connected to the work process and the dimensions of micro and macro organizations of the municipal health system. It is possible, also, that the conception of the coordination of care adopted by the PMAQ-AB had theoretical limitations that did not permit the capture the practices of the coordination of care by the PHC in a sensible and specific way.

What was predominant were the difficulties related to the standardization of conduct, referrals and communication that confirms the evidence from national and international studies which identified serious problems with the continuity of information and the establishment of assistant flows in PHC^{2,7,8,14,19,20}.

In relation to the standardization of conduct, the use of protocols was not shown to be routine even though international investigations showed that its use is fundamental for accompaniment,

Table 2. Systemization of agreement and disagreements between professionals and managers, according to criteria for the coordination of care evaluated.

Categories and corresponding criteria	Agreement	Disagreement
I Planning of individual care		
1. Construction of individual therapeutic plans shared amongst professionals in the team	++	-
2. Planning of care based on the stratification of risks	++	-
3. Request and making an appointment for exams and basic consultations	++	-
4. Request and making an appointment for exams and specialized consultations	++	-
5. Existence of lists and contacts of professionals and reference services	++	-
6. Identification and articulation with professionals from other levels in the construction of therapeutic projects	++	-
II Standardization of conduct		
7. Existence of protocols and therapeutic guidance	++	-
8. Use of protocols and therapeutic guidance	++	-
9. Regular register of care given	++	-
III Referrals		
10. Referral criteria used by the team that is consistent with the standard documents	++	-
11. Existence of tools for referrals and subsequent referrals of users	++	-
12. Existence of referrals and flows defined for those with hypertension and diabetes	++	-
13. Existence contact with the central regulation unit in the referrals process (when necessary)	++	-
14. Existence list/form with contact and data from professionals and referral services in the network	-	++
IV Communication		
15. Existence of telecommunications technology for the exchange of information	++	-
16. Flow and channel of institutionalized communication for the exchange of information amongst professionals e services	-	++
17. Existence of non-computerized tools for the exchange of information	++	-
18. Existence of regular information exchange amongst PHC professionals and others primary health care levels	++	-
19. Existence of discussions of regular cases amongst PHC professionals in the teams	-	++
20. Existence of discussions of regular cases amongst PHC teams and other levels in PHC	++	-
V Accompaniment of the users		
21. Existence of regular registers of referrals that are carried out	++	-
22. Existence of tools for accompanying users	++	-

Key: (++) Discordance

Source: Own draft.

the rational definition of assistant flows, an increase in the technical competency of professionals and the quality of the services^{21,22}.

The lack of planning and the insufficiency in the offer of consultations and specialized exams modified the emergency strategy that could guar-

antee opportune referrals and better standardization. In other health systems, the evidence showed the construction of assistant plans with the collaborative logic amongst professionals and amongst them and users²³⁻²⁵. In addition to this, the implementation of the computerized

access regulation system for making medical appointments for exams and consultations, made it possible for improvements in monitoring of the waiting in lines, waiting times and the control of the appointment diary. Also, this was the case for opportune referrals amongst network services in other municipalities^{24,25} being in a situation that is absent in the case studied.

The unanimity on the absence of subsequent referrals showed the low level of participation for secondary and tertiary levels in the integration of the network for the studied municipality. These problems are also common in other local health systems in which there is a low level of communication amongst the professionals and an absence of information technology and communication which puts the care integrity at risk^{1,13,14,26,27}.

Several studies have shown that computerizing health services facilitates communication between people, access to clinical reports and the results of exams and progress^{22,28,29} reports. This is the case in addition to having unlocked the potential in monitoring referrals carried out by PHC teams in such a way that makes different data available in one database which refers to the whole gamut of care given to users^{23,30,31}. Considering this, the absence of computerized services in the studied municipality is worrying in so much as it limits the capacity for coordination.

The problems shown in the accompaniment of the users was similar to those found in other research principally in relation to a lack of computerized mechanisms for this accompaniment^{26,32}. National and international experiences that have implemented computerized and integrated systems have shown the viability of the regulation of user access to the rest of the primary health care services and that simultaneously it is possible and viable to manage waiting lists, monitoring the flow of patients, conduct and factors that are present in other services^{4,7,8,24}.

Therefore, as seen in this study, the PHC teams for other scenarios also showed weak participation in the referrals process for emergency situations and low levels of communication with rapid response services, which revealed the challenges in the coordination of care in acute situations outlined and noted in this study^{33,34}.

In the face of the identified problems, it is worth mentioning that evidence in the international plan signal positive impacts for the professional educational strategy on changes in health practices that reflected on improving the quality of the registers and the referrals for other services for different levels of primary health care^{23,25,27,34}.

This seems relevant for making improvements possible, relative to the work process of the PHC teams in the studied municipality.

Other evidence, however, suggested that the coordination of care involves not just health professionals and managers but also the participation of users as a necessary condition for the PHC reach, through participative channels that include them in the decision-making process^{4,31}, even though this type of interaction with the community has revealed its non-existence in the investigated case.

The contrast of the results of this study with the journals showed that complying with the function of care coordination in relation to chronic conditions is not a simple attribute that is limited to the organization of a work process for PHC, but principally there are contextual determinations of the municipal system that derive from the macro-structural organization network for primary health care and management support.

The obstacles that have been identified here have permitted us to show the challenges for the coordination of care in PHC in municipal health systems that have similar characteristics to the case that was studied. The model of analysis proposed in this investigation which was anchored on current national and international journals including classical and empirical studies, contributed to the incorporation of theoretical-methodical elements in the evaluative study on the coordination of care in PHC. This has widened the capacity of the measurement of attributes in the primary health plan and in relation to its integration with the other levels in the services.

Collaborations

IRS Aleluia and MG Medina participated in developing the idea for this paper as well as: setting its scope, providing analysis and interpretation of the data, drafting the critically reviewed paper and approving the version to be published. PF Almeida and ALQ Vilasbôas participated in providing analysis and interpretation of the data, drafting and critically reviewing the paper and approving the version to be published.

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