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Impact of Co-Management on the Quality of Healthcare Services: A Case Study Based on the Perception of Professionals in a Municipality in Paraná-Brazil

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Abstract

This study analyzes governance in Brazil's Unified Health System (SUS), focusing on care coordination between primary and specialized care based on the perceptions of professionals in a municipality in Paraná. Out of 69 professionals invited, 27 voluntarily participated in the study, including PHC physicians, cardiologists, managers, and regulators. Using a mixed-methods approach with online and printed questionnaires, the study identified critical gaps in access to cardiology, such as a shortage of specialists, diagnostic limitations in PHC, and infrequent interdisciplinary case discussions. Most referrals were due to clinical complexity or unavailable diagnostic tests at the primary care level. Although the number of PHC physicians meets national standards, challenges remain in the integration with specialized care. The findings suggest that improving care coordination requires investment in infrastructure, expansion of specialized staff, clear clinical protocols, and workforce retention strategies. Strengthening democratic governance in SUS depends on intersectoral articulation and participatory, effective decision-making.

Keywords

Primary Health Care (PHC), Health Professionals (or Healthcare Workforce), Mixed-Methods Research, Personnel Management (or Healthcare Management), Care Coordination

1. Introduction

Historically, governance within Brazil's Unified Health System (SUS) has been

intrinsically linked to the capacity for participatory political decision-making, exercised through collegial bodies that function as democratic deliberative spaces (Gurgel Junior, 2021). Since its constitutional creation, the National Congress has recognized the importance of establishing a model of participatory democracy within the SUS (Brazil, 1988), aligned with the principles of the VIII National Health Conference (Brazil, 1986) and the country's democratization process. At the same time, emphasis was placed on the need to establish an intergovernmental service framework with regional operations, responsible for health policies, ensuring autonomy for local governments.

These guidelines demand constant negotiations and agreements among different levels of government and subnational actors regarding the institutional direction of the SUS. From its inception, the SUS was conceived with a strong democratic and participatory influence, shaping the creation and operation of its collegial governance bodies. These spaces for public health policy pact-making emerged primarily for two reasons: first, to ensure democratic participation of society as a fundamental element in guaranteeing the right to universal social protection, as the SUS is enshrined in the 1988 Constitution and regulated by the Organic Health Laws as a state policy; second, due to the absence of a centralized hierarchical command within the intergovernmental structure, which necessitates negotiations to define directions and actions within a decentralized and complex health system.

The organization of this system, involving multiple dimensions and levels of action, requires decision-making processes based on continuous negotiations aimed at developing, approving, and implementing health policies, programs, and actions. In this context, governments recognize that strengthening public governance directly impacts the quality of services provided.

However, beyond these historical issues related to democratic participation and collective deliberation, structural factors within organizations operating within the health system contribute to a dynamic of non-hierarchical institutional relations (Gurgel Junior, 2021). The power attributed to system operators, due to control over work processes, leads to an inversion of hierarchies and potential institutional conflicts, complicating coordinated management. This dynamic reinforces the need for negotiations and agreements among health authorities, economic agents, and professional organizations (Gurgel Junior, 2021). In this sense, the concept of "governance" in the health field is applied at various scales, from international relations addressing global health issues to individual care in clinical contexts, passing through intergovernmental regional health systems (IBGE, 2022).

Care coordination plays a central role in promoting an efficient and humanized system, especially at local levels where the complexity of patient needs presents specific challenges. In the Paraná municipality studied here, health professionals work daily on integrating different levels of care and services, seeking to ensure continuous, accessible, and quality care. This article aims to explore the percep-

tions of these professionals, identifying key obstacles in care coordination and proposing strategies to overcome them.

This study employs a mixed-methods approach, combining quantitative and qualitative methods to critically analyze the dynamics of health work and their impacts on patient experience. The goal is to contribute to strengthening management and care practices in public health. Understanding the realities and needs of health professionals is fundamental for the formulation of policies and practices that promote more integrated, efficient, and user-centered care, reflecting a continuous commitment to improving the quality of services provided.

To achieve these aims, the following objectives were established: (a) General Objective: To identify the weaknesses and strengths in access to cardiology specialty in the Paraná municipality, based on the perceptions of managers and physicians from Primary Care (APS), Specialized Care (AE), and the Ambulatory Regulation Center (CRA). (b) Specific Objectives: 1) To investigate, from the perspective of APS medical professionals, the difficulties faced in care coordination. 2) To analyze the use of clinical protocols and the main reasons leading to referrals to cardiology.

2. Methodology

The research was conducted in a municipality in Paraná, whose population, estimates from the 2022 census, is 151,666 inhabitants, (IBGE, 2022) with a demographic density of 323.22 inhabitants/km^2.

This study is characterized as descriptive-exploratory, with a qualitative-quantitative approach. The qualitative research, perspective, (Bardin, 2016) is directly related to the universe of meaning, motivation, beliefs, values, and customs. This process is understood as part of social reality, as human beings differ not only in their attitudes but also in reflecting on and interpreting their actions within the lived context, as well as sharing with their peers the dimensions of human production, which can be summarized within the universe of relationships, representations, and intentionality.

Convenience sampling criteria were used to define the participants—professionals working in the health sector of this municipality—considering their availability to participate in the study, which is a crucial point. The dissemination of the research occurred within working groups so that participants had prior knowledge, and invitations to participate were made both through the WhatsApp™ instant messaging app group and personally by the researcher during team meetings. Subsequently, the instrument was made available via Google Forms®, shared in the local Medical Association group, among the directors' groups, and in the workplaces, allowing voluntary participation.

After one month, it was observed that the number of responses was insufficient, leading the researcher to adopt a new approach. Printed questionnaires were made available at the workplaces, accompanied by envelopes to ensure respondent confidentiality. One week later, the researcher collected the envelopes. To identify

differences and similarities in perceptions and experiences, comparisons were made between the data collected from different professional groups, defined as follows: APS (Primary Healthcare), CARDIO (Cardiologists), GES (Managers), and REG (Regulators). The decision to focus solely on the cardiology area was due to the relevance of these professionals working at the Municipality's Health Department, as well as time constraints related to the master's degree research.

3. Results

According to the guidelines established in the *Care Criteria and Parameters Booklet for Planning and Programming Actions and Health Services* within the scope of the Unified Health System, published by the Ministry of Health in 2017 (Brazil, 2017), a ratio of 6.5 cardiologists per 100,000 inhabitants—each working 40 hours per week—is recommended.

Considering the current population of the municipality, estimated at just over 150,000 residents, approximately 9.75 cardiologists would be required, which corresponds to about 1560 medical hours per month to meet local cardiological demands.

However, as of 2023, data from the municipality's transparency portal indicate that only two cardiologists are employed, each working 20 hours per week, totaling just 160 medical hours per month. This represents a deficit of approximately 7.75 cardiologists - or around 1400 medical hours per month - highlighting a significant insufficiency in cardiological services.

Conversely, Primary Health Care (PHC) in the municipality presents a more favorable scenario. On March 12, 2024, the Health Department published a list on the official municipal website identifying 113 professionals working in PHC, providing an estimated total of 9040 medical hours per month.

When compared to the Ministry of Health's recommendation of approximately 8000 monthly hours for primary care, this figure indicates that the PHC team is within the recommended parameters, suggesting an adequate capacity for basic health services.

Nonetheless, a detailed analysis of survey responses reveals a general concern about the shortage of physicians in the municipality, as illustrated in **Table 1**.

Table 1. List of the number of doctors.

Features	APS N = 20	Cardiologists N = 2	GES N = 3	REG N = 2
Highly insufficient	5 (30%)	0 (0%)	0 (%)	0 (0%)
Insufficient	9 (45%)	2 (100%)	0 (0%)	1 (50%)
Indifferent	0 (0%)	0 (0%)	1 (35%)	1 (50%)
Sufficient	1 (5%)	0 (0%)	1 (35%)	0 (0%)
I don't know/I am unaware of that information.	5 (25%)	0 (0%)	1 (35%)	0 (0%)

Within PHC, most physicians perceive a lack of professionals. According to the data, 25% consider the number of doctors to be extremely insufficient, while 45% assess it as insufficient. Only 5% believe the current number is adequate to meet demand.

Among cardiologists, the perception of insufficiency is unanimous, with 100% of respondents reporting a lack of specialists in the area.

In the management group, 67% also report a shortage of doctors, while 33% consider the number sufficient. Within the Regulation team (REG), 50% of the professionals indicate a shortage of physicians.

When analyzing the suggested improvements from participants, the most frequently mentioned was the hiring of more specialists. Professionals from Primary Health Care (PHC), Regulation (REG), and Cardiology (CARDIO) all highlighted this as a necessary measure, pointing to a recognized shortage of professionals. Both PHC and REG emphasized the need to increase the number of specialists to meet referral demands and reduce waiting lines. Illustrative examples include:

1) PHC 7: "*Hire more specialists*";

2) PHC 8: "*Hiring more professionals so that the referral demand does not stagnate*";

3) PHC 9: "*I believe there should be more cardiologists in the municipality*";

4) PHC 11: "*My suggestion is that the municipality hires more specialist doctors so that the waiting lines are not so long*";

5) REG 29: "*Hiring of new specialist professionals*";

6) CARDIO 36: "*Increase the number of specialists*," *emphasizing the need to expand the number of cardiologists and highlighting the scarcity in the area*.

In addition to hiring demands, previous research (Bardin, 2016) also pointed out other common suggestions for improvement, such as:

- Adjusting physical infrastructure
- Increasing the number of consultation rooms
- Expanding the professional workforce
- Improving the location of services
- Investing in continuing education
- Creating outreach groups
- Reducing disruptions during consultations
- Renewing materials for therapeutic workshops

Statistical data from the Regional Medical Council of Paraná (CRM-PR) and other sources reinforce important aspects of the local medical workforce.

As of 2024, Paraná has 37,762 active physicians—nearly doubling over the last 13 years—from 1.82 to 3.2 physicians per 1000 inhabitants, which is above the national average of 2.81 (CRM-PR, 2024).

In Curitiba, the capital of Paraná, there are 15,902 physicians, representing 43% of the state's total and yielding a density of 8.83 doctors per 1000 inhabitants—nearly three times higher than the state average.

Of the total physicians in Paraná:

- 56.2% (20,911) hold a Specialty Qualification Registration (RQE)
- 43.8% (16,233) are general practitioners
- Specifically, 1,363 physicians are registered with a cardiology specialty (CRM-PR, 2024)

According to the OECD, other countries show different physician densities per 1000 inhabitants:

- United States: 2.6
- Canada: 2.7
- Chile: 2.2

The evaluated municipality has a density similar to Curitiba (8.83), suggesting a relatively favorable availability of physicians compared to other areas of Brazil—or even to some developed countries.

Care coordination in health, according to Almeida et al. (2018), refers to the organization and integration of health services, aiming to ensure a holistic and efficient approach to patient care. This coordination involves communication and collaboration among all involved professionals, including physicians, nurses, therapists, and social workers, with the goal of improving service quality, reducing costs, and optimizing patient outcomes.

This strategy is particularly important in cases of chronic diseases, palliative care, or complex conditions that require the involvement of multiple health professionals.

Furthermore, care coordination includes treatment planning, managing referrals to specialists or additional services, and monitoring therapeutic results, ensuring each patient receives appropriate attention and avoiding gaps or redundancies in care.

It is equally essential to ensure that health professionals have sufficient time to establish proper contact with patients, perform accurate diagnoses, and plan effective treatments.

In this context, different professional groups were questioned about the adequacy of the time allocated to clinical consultations, as shown in **Table 2**.

Table 2. Time allocated for medical consultation.

Features	APS N = 20	Cardiologista N = 2	GES N = 3	REG. N = 2
Highly insufficient	6 (30%)	0 (0%)	0 (%)	-
Insufficient	10 (50%)	0 (0%)	0 (0%)	-
Indifferent	0 (0%)	0 (0%)	1 (35%)	-
Sufficient	4 (20%)	1 (50%)	1 (35%)	-
Very Sufficient	0 (0%)	1 (50%)	1 (35%)	-

Among Primary Health Care (PHC) professionals, the prevailing perception is that the time allocated for clinical consultations is insufficient. Data indicate that 30% consider the time to be highly insufficient, while 50% deem it insufficient,

highlighting that most believe the available period does not meet their needs. This perception may be related to the high workload and the demand for more time to provide more comprehensive care to patients.

Cardiologists, on the other hand, demonstrated complete satisfaction with the time allocated for consultations, with 50% considering it sufficient and the other 50% deeming it very sufficient. This difference can be attributed to the specific nature of cardiology consultations, which likely receive a more generous time allocation, possibly due to the higher complexity of cases handled in this specialty.

Meanwhile, managers showed a balanced distribution of neutral, sufficient, and very sufficient opinions, with no reports of time insufficiency. This assessment suggests that, from an administrative perspective, the time allocated for consultations is considered adequate.

The analysis of data regarding the criteria used by Primary Health Care (PHC) professionals for referring patients to cardiologists (Table 3) reveals important trends that reflect both clinical needs and structural limitations of the healthcare network.

Table 3. Criteria for referrals from Primary Care to Cardiology.

Features	APS N = 20	CARD N = 2	G N = 3	REG. N = 2
Management of complex diseases that require specialist evaluation.	18 (90%)	2(100%)	-	2 (100%)
Request for additional examinations that are not available in primary care.	9 (45%)	1 (50%)	-	2 (100%)
Investigation and management of diseases according to the Municipality's protocol.	6 (30%)	1 (50%)	-	0 (0%)
Persistence of the patient or the family.	2 (10%)	0 (0%)	-	0 (0%)
Request for other specialists.	1 (15%)	0 (0%)	-	0 (0%)

Most PHC professionals (90%), as well as all cardiologists and regulators (100%), identified the management of complex diseases as a key criterion for referral. This unanimity highlights the critical need for specialized evaluation in cases that exceed the capacity of PHC management, reinforcing the severity and complexity of such cases.

About 45% of PHC professionals and 50% of cardiologists, in addition to 100% of regulators, pointed out the need for complementary exams not available in PHC as a justification for referral. This finding reflects limitations in the diagnostic infrastructure at the primary care level and the resulting reliance on specialized resources found at higher levels of care.

Furthermore, 30% of PHC professionals and 50% of cardiologists emphasized the role of municipal clinical protocols in guiding referral decisions. However, regulators did not highlight this factor, suggesting that while local protocols are

relevant for some professionals, they are not the predominant influence in referral practices.

Only 10% of PHC professionals cited patient or family insistence as a reason for referral, indicating that decisions are largely driven by clinical and structural needs rather than external pressures.

Referrals initiated at the request of other specialists were mentioned in only 5% of responses, suggesting that this is a minor factor in the decision to refer patients to cardiologists.

The practice of multiprofessional and multidisciplinary case discussions is a fundamental element for quality care and integration. However, most Primary Health Care (PHC) professionals reported that these discussions occur only occasionally (42%) or rarely (21%). Only 26% indicated that such discussions happen frequently, and no participant stated that they are very frequent. This situation points to a gap in interdisciplinary collaboration, which is essential for comprehensive and coordinated care, as illustrated in Figure 1.

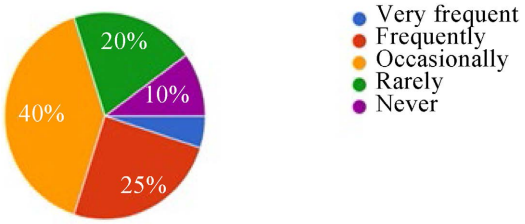

Figure 1. Discussions of multiprofessional/multidisciplinary clinical cases.

Regarding the perception of time allocated for these discussions, 15% of PHC professionals assessed the time as extremely insufficient, and 40% as insufficient. This indicates significant dissatisfaction, potentially harming care integration and the ability to reach consensus in complex case management.

Among cardiologists, half stated that the time dedicated to multiprofessional discussions is extremely insufficient, while the other half remained neutral. No cardiologist reported feeling that time was sufficient or very sufficient for these activities, as illustrated in Table 4.

Table 4. Time allocated for clinical case discussions by the multidisciplinary/multidisciplinary team.

Features	APS N = 20	CAR N = 2	GES N = 3	REG N = 2
Highly insufficient	3 (15%)	1 (50%)	-	-
Insufficient	8 (40%)	0 (0%)	-	-
Indifferent	2 (10%)	1 (50%)	-	-
Sufficient	7 (35%)	0 (0%)	-	-
Very Sufficient	0 (0%)	0 (0%)	-	-

These results suggest the need to reassess time allocation for both clinical con-

sultations and multiprofessional case discussions. While cardiologists reported satisfaction with consultation time, dissatisfaction regarding time for discussions was unanimous. Among PHC professionals, the perception of insufficient time may negatively impact care quality and professional well-being.

Regarding the guidance provided by cardiologists to Primary Health Care (PHC) physicians about patient follow-up, the results of this study show significant variation in perception among professional groups (Table 5).

According to the data, 60% of PHC physicians and 100% of regulators stated that cardiologist recommendations occur "occasionally" or "frequently," suggesting a perception that recommendations are made with some regularity but are not consistent or systematic.

Table 5. Recommendations/guidelines for primary care physicians on patient follow-up.

Features	APS N = 20	CAR N = 2	Gestor N = 3	REG N = 2
Never	3 (15%)	0 (0%)	-	0 (0%)
Rarely	5 (25%)	0 (0%)	-	0 (0%)
Occasionally	6 (30%)	0 (0%)	-	1 (50%)
Frequently	6 (30%)	2 (100%)	-	1 (50%)
Very frequent	0 (0%)	0 (0%)	-	0 (0%)

On the other hand, 40% of PHC physicians reported receiving recommendations from cardiologists either rarely (25%) or never (15%), indicating a sense of inconsistency or lack of systematic communication between the levels of care.

In contrast, all cardiologists (100%) reported that they provide recommendations frequently, which highlights a discrepancy in perception between those who issue the recommendations and those who are supposed to receive them.

Additionally, the study documented a suggestion for optimizing communication and reducing wait times: the implementation of teleconsultations before in-person appointments. One PHC professional (APS 23) proposed a model in which:

"*A web-based pre-consultation is conducted before the in-person appointment, as occurs in Curitiba. The primary care doctor sends the consultation to the specialist, who responds directly in the medical record with the exams the patient should undergo and whether they should be referred for an in-person consultation.*"

4. Discussion

The data point to a severe shortage of cardiologists in the municipality, which directly affects access to specialized care for cardiovascular diseases—the leading cause of death in the region. The discrepancy between the estimated need and the current supply reveals structural gaps in the allocation of healthcare professionals and a potential failure in workforce planning for specialized care.

Although the number of hours in Primary Health Care (PHC) meets national recommendations, the perception among PHC professionals suggests that these indicators may not fully reflect the reality of care delivery. The sense of insufficient staffing could stem from the uneven distribution of professionals among health units, increasing population demands, or a mismatch between service needs and professional capacity.

The unanimous view among cardiologists regarding the lack of specialists is particularly alarming, especially given their crucial role in treating high-prevalence chronic conditions. This scenario highlights the urgency of implementing public policies aimed at attracting and retaining specialized professionals in the public system.

Furthermore, the differing perceptions between professional groups - such as management, regulation, and care delivery—underline the need for integrated planning and intersectoral dialogue. A fragmented view of healthcare needs may hinder effective responses to human resource challenges.

In summary, while quantitative indicators suggest adequacy in some areas, the qualitative perceptions of those on the frontlines point to significant operational and organizational weaknesses that impact access, quality, and equity in healthcare delivery.

The consistent call among professionals for hiring more specialists—especially cardiologists—reveals a persistent perception of insufficient access to specialized care, despite statistical indicators suggesting high physician density. This reflects a disconnect between workforce availability and system functionality, likely influenced by how professionals are distributed, retained, and managed within the public health network.

While official workforce data show numerical adequacy, particularly in Curitiba and surrounding areas (CRM-PR, 2024), the professionals' perceptions highlight functional bottlenecks in access and service flow. Such discrepancies may arise from inequitable distribution, high turnover, or inadequate integration between PHC and specialized care services.

These findings are consistent with Bardin's (2016) observations, in which professionals suggested not only workforce expansion but also structural, operational, and educational improvements to ensure better service delivery.

This reinforces the importance of Human Resources Management (HRM) as a strategic tool. Initially conceived to harmonize individual potential with institutional goals (Brazil, 2017), HRM has evolved since the late 1970s from a cost-centered to an investment-centered approach (Brazil, 2017). This shift gained momentum in the 1980s, as external pressures and global competitiveness required more adaptive and committed workforces (Oliveira, 2010).

The functionalist model in HRM promotes structured methods—such as training, evaluation, and compensation - alongside strategic goals like employee satisfaction, retention, and alignment with institutional performance (Oliveira, 2010). However, these goals can only be realized when HR decisions are coherent and

strategically aligned, ensuring that employees are not only recruited and trained but also effectively retained and supported.

In the current scenario, strategic human resource planning is crucial to overcome regional disparities and secure adequate access to care. Efforts should prioritize financial incentives, continuing education, and workplace improvements to increase retention and reduce service gaps - especially in high-demand specialties like cardiology.

Although the evaluated municipality does not face a generalized shortage in the medical labor market, the data suggest the need for coordinated strategies, including:

- Hiring of cardiologists
- Strengthening links between PHC and Specialized Care (SC)
- Developing public policies that promote professional stability and value healthcare workers

As Oliveira (2010) points out, organizations should not only focus on attracting talent but also on achieving institutional goals through employee development and engagement.

In conclusion, ensuring equitable access to health services requires not only workforce quantity but also strategic management, targeted investment, and structural alignment across all levels of care.

The data reveal a notable discrepancy in perceptions regarding the adequacy of time allocated for clinical consultations among different professional groups (as shown in **Table 2**). While cardiologists and managers express satisfaction with consultation times, the majority of PHC professionals report significant dissatisfaction. This divergence may reflect differences in the volume of patients, nature of care provided, and institutional expectations within each role.

The dissatisfaction reported by PHC professionals (30% highly insufficient, 50% insufficient) likely stems from the demanding nature of their work, which involves not only managing acute conditions but also conducting preventive care, chronic disease management, and health education. These tasks require extended time with patients to ensure comprehensive assessments and effective treatment planning. The perception of insufficient time may lead to professional burnout, reduced quality of care, and lower patient satisfaction.

In contrast, the positive evaluation by cardiologists may result from their handling of more complex cases, which tend to be allotted longer appointments. Specialized care settings may also benefit from more structured schedules and resource availability, contributing to a more favorable perception of time adequacy.

The neutral to positive responses from managers suggest a potential gap between administrative expectations and clinical realities. While the managerial view may be based on system-wide averages or operational targets, it may not fully capture the day-to-day challenges faced by frontline providers. This misalignment can hinder efforts to implement effective care coordination strategies, as described by Almeida et al. (2018), who emphasize the importance of integrated, patient-

centered approaches.

Overall, the findings support the need for tailored consultation time policies that reflect the unique demands of each level of care. Adjusting consultation durations in PHC, for instance, could improve working conditions, enhance care quality, and strengthen coordination between services—key goals of an efficient health system.

The results clearly indicate that the primary drivers of referrals from PHC to cardiology services are the management of complex diseases and the unavailability of necessary complementary exams in primary care settings (as shown in **Table 3**). These two criteria dominate across all groups surveyed, reflecting a shared recognition of the limits of PHC in addressing certain diagnostic and treatment needs.

The overwhelming agreement on complexity as a referral criterion emphasizes the central role of cardiologists in managing high-risk or advanced clinical conditions. At the same time, the strong association of referrals with the lack of diagnostic resources underscores the structural weaknesses in PHC infrastructure, particularly in relation to access to specialized tests and imaging.

Although local protocols are acknowledged by some PHC professionals and cardiologists as referral criteria, their limited mention suggests that standardized guidelines are not the main driver for most decisions. This may indicate a need for broader dissemination and training on protocol usage or point to the overriding importance of clinical judgment in real-world scenarios.

The minimal influence of patient or family insistence on referral decisions indicates a relatively high level of professional autonomy and integrity in clinical decision-making. This is a positive finding, as it implies that referrals are made based on patient need rather than external demands.

The low frequency of referrals requested by other specialists further confirms that most referrals are initiated within PHC settings based on direct clinical evaluation, not due to inter-specialty consultation chains.

Overall, these findings point to the importance of investing in PHC capacity-building, both in terms of workforce training and diagnostic support. Enhancing PHC's ability to manage moderately complex conditions and perform key diagnostic exams could reduce unnecessary referrals, improve care continuity, and alleviate pressure on specialized services. Additionally, reinforcing adherence to clear and evidence-based protocols could support more consistent and efficient decision-making, contributing to better patient outcomes and more integrated care delivery.

The findings also indicate that the current practice of multiprofessional discussions in PHC is sporadic and insufficiently structured, as evidenced in **Figure 1** and **Table 4**. Given that coordinated, team-based care is a cornerstone of comprehensive service delivery, the low frequency of such discussions signals an area requiring urgent attention. These activities are not only crucial for integrated care planning but also for building consensus among diverse professionals, which is

especially important in managing chronic or complex conditions.

The dissatisfaction with the time allocated for these discussions, especially among PHC professionals and cardiologists, reinforces the perception that workloads and time constraints are obstructing optimal care delivery. Limited time for collaborative case review can reduce diagnostic accuracy, delay interventions, and fragment care.

Health system managers should account for these perceptions when adjusting work schedules and responsibilities to foster multiprofessional integration. Effective care coordination depends on the regular and structured exchange of clinical information between professionals and across levels of care (OECD, 2017). Communication tools such as shared electronic health records, interprofessional meetings, and integrated treatment planning are essential for avoiding duplication, delays, and gaps in patient care.

According to Almeida et al. (OECD, 2017), strategies to improve coordination include implementing team-based care models, using information and communication technologies, and adopting patient-centered approaches. However, these strategies require structural investment and cultural adaptation, especially in regions where interdisciplinary practices are not yet fully consolidated.

National literature also highlights the importance of strengthening PHC coordination mechanisms. Almeida et al. (2018) emphasizes that coordination actions must be stimulated through structured practices, open dialogue, and expanded support systems. Similarly, broader communication with the population is critical for strengthening PHC (Almeida et al., 2018).

Policy analysis confirms that initiatives like the National Primary Care Policy (PNAB), Family Health Support Centers (NASF), Care Networks (RAS), and PMAQ-AB are instrumental in reinforcing care coordination. Tools such as the Primary Care Notebooks (Brazil, 2023) have provided technical guidance for improving referral and counter-referral mechanisms.

Managers identified NASF as a key strategy to enhance coordination by expanding PHC problem-solving capacity and optimizing referral pathways. Evaluations of PMAQ reinforce the role of matrix support in strengthening PHC teams by adding specialized knowledge and increasing their ability to resolve cases at the local level.

A study by Lacerda & Almeida (2023) explored the actual use of coordination tools by PHC physicians and found that, despite acknowledging their importance, these tools are often underused. Challenges include undervaluing longitudinal care, lack of trust between PHC and specialists, limited digitalization of units, and ongoing reliance on paper-based referrals and discharge summaries.

Furthermore, poor communication among health professionals was found to result in adverse outcomes. Management should encourage strategies that integrate both "light technologies," such as shared consultations and personalized therapeutic plans, and digital solutions to improve information flow and interaction between PHC, specialized care, and management teams.

Work overload continues to be a key barrier to integration and communication across care levels. Overcoming this issue will require structural adjustments and institutional support. The COVID-19 pandemic experience demonstrated the potential of mobile apps and digital tools for case tracking, reinforcing the need to provide health workers with institutional mobile devices and data plans as part of their standard equipment.

The observed discrepancy in perceptions between PHC physicians and cardiologists regarding the frequency of recommendations (as shown in Table 5) reflects a communication gap that may undermine care coordination. While cardiologists affirm that they regularly provide guidance, a significant portion of PHC professionals report that such recommendations are either infrequent or entirely absent. This divergence may be due to several factors, including inconsistent documentation, limited feedback loops, or systemic barriers to information flow.

The perception by regulators that cardiologists provide follow-up recommendations supports the cardiologists' self-reports, but it contrasts with the experiences of PHC physicians who are the intended recipients of this information. This inconsistency suggests that even when recommendations are made, they may not reach the appropriate professionals in a timely or effective manner.

Such misalignments in communication can compromise patient safety, delay care, and contribute to inefficiencies in the health system. They also hinder the continuity of care, particularly for patients with chronic or complex conditions who require coordinated efforts across different care levels.

The suggestion to implement teleconsultations prior to face-to-face appointments presents a promising solution. This strategy could streamline referrals, reduce unnecessary visits, and ensure that patients arrive at specialist consultations with necessary preliminary exams completed. It may also foster more efficient use of specialist time and improve PHC physicians' ability to manage cases with ongoing specialist input.

Ultimately, effective care coordination depends not only on clinical skills but also on management practices that promote integration and responsiveness across the health system. As highlighted, efficient team and care management involve recruiting and developing qualified professionals, ensuring continuous education, creating a collaborative work environment, and fostering strong communication within the team and with patients.

Strengthening the integration between primary and specialized care through better communication practices, shared records, and technology-supported consultation models will likely enhance care quality, increase patient and provider satisfaction, and optimize health outcomes.

5. Conclusion

The research conducted on the dynamics of work in health and its impact on patient experience revealed essential insights about the governance of the Unified Health System (SUS), especially regarding Primary Care and specialization in car-

diology within the studied municipality in Paraná. The results demonstrate a complex relationship among professionals, managers, and users, intertwined with health needs and the challenges faced in care coordination. The significant shortage of cardiologists and perceptions about the time dedicated to consultations, both in primary and specialized care, highlight the urgency of addressing gaps in service availability and quality.

However, it is important to acknowledge the limitations of this study. The temporal scope, limited due to the nature of the master's program, initially allowed for an analysis of health professionals' perceptions without the depth that prolonged follow-up could provide. Additionally, the convenience sampling, although suitable for the context, may not fully reflect the diversity of opinions and experiences across different health units. The use of qualitative tools, such as in-depth interviews and focus groups, could complement the quantitative data and offer a more comprehensive understanding of the studied phenomenon.

Given these limitations, future research is recommended to adopt a longitudinal approach, involving multiple municipalities and exploring the experiences of different professional categories within SUS. It would also be pertinent to investigate how the implementation of digital technologies and telehealth models can influence consultation time management and contribute to care efficiency. Furthermore, promoting closer dialogue among various specialties and primary care should be a priority, aiming to build a more integrated and patient-centered health system.

Thus, the importance of this research lies not only in identifying system weaknesses but also in its potential contribution to developing health policies that enhance care coordination, ensuring that SUS fulfills its objectives of providing universal, equitable, and quality access to health.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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