

Organization and practices of pharmaceutical services in oncology within the Brazilian National Health System

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This study, based on the Giddens' Structuration Theory, aimed to analyze organization and pharmaceutical services practices for oncology care in five Brazilian municipalities by a multiple-case study design, having breast cancer as a marker condition. Oncology care-certified facilities were established as analysis sub-units. In-depth interviews were conducted with ten managers and fifteen health professionals. Research strategy also involved document analysis and direct observation of practices. Results were analyzed according to four main themes: organizational structure, financing, technologies and work process. We found little interaction of pharmaceutical services with levels of care, structural problems within facilities, insufficient funding, belated technology assessment and technology adoption, and shortfalls in work processes. These aspects contribute to precarious functioning of the cancer-care system.

Keywords: Pharmaceutical services. Medical oncology. Case reports. Delivery of health care. Brazilian National Health System.

Introduction

Pharmaceutical Services (PS) are a component of health care with the purpose of timely provision of safe and quality medicines, contributing to disease prevention and to the promotion and recovery of health¹. In the context of oncology, the main global goals related to PS involve the promotion of high-quality care, the protection of workers against the risks of exposure to chemotherapy, the avoidance of medication errors with antineoplastic agents, the development of ethical planning for management of medicines and contributing to improving the results of the use of antineoplastic agents².

In Brazil, according to the National Cancer Prevention and Control Policy, PS should be organized to meet the needs of cancer treatment, according to the regional plan for the organization of care pathways for different types of cancer, and the rules of incorporation of technologies into the Brazilian National Health System (SUS)³. It is understood as a diagonal and essential (sub) component for the other points of care in the network, and must act in an articulated way, fostering comprehensive and effective care and ensuring quality of care provided to the individual patient.

The activities of PS should be carried out in a multiprofessional, interdisciplinary and intersectoral way, articulating and integrating actions and services, in their multiple dimensions, at different levels of health care⁴. In the macropolitical context, the activities are directed to the establishment of principles and guidelines that seek to guarantee access and rational use of antineoplastic drugs. To be efficient, PS should be integrated into care, encompassing two major complementary aspects: one related to the technical management of PS (macromanagement) and the other to its clinical management (micromanagement). Both contribute to achieve positive clinical, economic and humanistic health outcomes⁵.

In order to ensure the proper functioning of the Oncology Care Network, it is the responsibility of the municipal entities to plan, schedule and organize the actions and health services necessary for the comprehensive care of cancer patients^{3,6}. However, the structuring of PS in oncology has been traversed by innumerable contextual factors related to the organization of the area, especially regarding the difficulties of access and continuity of treatment, insufficient funding, problems related to the provision of services and limitations in the integration between the various points of health care².

The objective of the present study was to analyze the organization and practices of pharmaceutical services in oncology in Brazilian municipalities from the understanding of health managers and professionals, using breast cancer as a tracer condition.

Methodology

The methodological approach employed in the study was based on Giddens' Structuring Theory. This theory proposes that there is a duality in structure, which corresponds to the agent's ability to mobilize the norms and resources available in an institution, producing routinized practices or fomenting transformations. This potential change can happen under conditions of total autonomy or coercion⁷. The choice of this theory was due to the need to analyze in an integrated way the two

dimensions of PS in oncology: the political and managerial components; and living work, in action.

The analytical framework was based on the strategic behavior analysis, proposed by Giddens⁷, seeking to understand how the activities happened within a context. At the core of the research were the practical and discursive consciousness, and the strategies established by the agents, considering the available structure, as well as the facilities and constraints present in social interactions⁷.

Based on this reference, an integrated case study was conducted⁸. The main unit of analysis (case) was the municipality and the subunit was the SUS-certified oncology care facility.

In order to select the cases, we considered all the municipalities that had, in their territory, chemotherapy services for the treatment of patients with breast cancer⁹. The cases were characterized by the geographic macro-region and the type of health region (HR) in which they were inserted (groups 1 to 5)¹⁰. The type of HR employed is based on the analysis of two dimensions – the socioeconomic situation and the supply and complexity of health services. This analysis seemed appropriate because it considered important contextual aspects in analyzing complex phenomena⁶, as is the case of pharmaceutical services in oncology.

This option allowed grouping of municipalities around common characteristics, reducing the number of investigated cases, without compromising the variety of information available for analysis. Municipalities of each type in different HR, and located in different geographical regions, were selected, totaling five cases. In each municipality a facility was included, either as a High-Complexity Oncology Center (CACON) or a High-Complexity Oncology Unit (UNACON). In cases where there was more than one qualified service with similar characteristics, establishments that performed a greater number of chemotherapy procedures, according to information available in the Outpatient Information System of SUS (SIA-SUS) were preferably selected

The description of the characteristics of the selected municipalities involved the following information: area of coverage for oncology care, population coverage, location in border areas (national or state), number of SUS-certified oncology care facilities, type of SUS-certified oncology care facility (CACON or UNACON) and type of establishment (public or private) (Table 1).

The main research technique used was the semi-structured interview, and in a complementary way, data from documents and direct observation of health professional actions in the facilities.

The interviews were carried out with 25 agents within the organization and practices of pharmaceutical services in oncology, being five municipal managers of the care network; five managers of municipal pharmaceutical services; and fifteen professionals of the minimum health team for antineoplastic therapy (five physicians, five pharmacists and five nurses) in the SUS-certified oncology care facilities. The actors were in a strategic position and could provide essential information for understanding the phenomenon under investigation.

Table 1. Main characteristics of the municipalities and the highly-complex facilities for oncology care included in the case study.

Typology of the health region	Group 1	Group 2	Group 3	Group 4	Group 5
Geographical macro-region	Southeast	North	Northeast	Midwest	South
Number of municipalities covered by oncology care	53	15	56	34	97
Estimated reference population for oncology care	698.000	514.000	2.270.000	1.460.000	1.980.000
State border region	No	No	No	Yes	Yes
National border region	No	Yes	No	Yes	No
Number of units authorized in the municipality	1	1	3	4	2
Type of SUS-certified oncology care facility included in the study	UNACON	UNACON	CACON with pediatric oncology service	UNACON with pediatric oncology service	CACON
Type of property	Private Philanthropic	State Public	Private Philanthropic	State Public	Private Philanthropic

*CACON: High-Complexity Oncology Center; UNACON: High-Complexity Oncology Unit
Source: Authors

The interview scripts were constructed in order to apprehend the subjectivities and to know the routine and the experience of the interviewees^{6,8}. The following dimensions were considered: organizational structure, activities and practices, financing, logistics management and drug use, incorporation of technologies and information on medicines.

To avoid the identification of the subjects, matching initials were used according to the function, followed by the number corresponding to the type of HR where the municipality was inserted. Table 2 presents the main information about the interviewed agents.

In SUS-certified oncology care services, the following documents were retrieved and analyzed: list of selected drugs, therapeutic formulary, institutional protocols and operational procedures. Information from direct observation, related to service structure, service records and practices were recorded in a specific field journal and used in the analysis phase.

Operationally, the analysis took place in three phases. In the first, the material was organized with the purpose of identifying the most recurrent elements, the similarities and the differences. In the second, we sought to recognize the nuclei of meaning, identifying the most representative components of analysis of the highlighted themes. For this purpose, we used QSR NVivo 11[®] software. The results were systematized in four axes: organizational structure, financing, technologies and work processes. The third phase consisted of interpretation of the results and analytical inference, in order to give meaning and validity to the findings.

Table 2. Profile of health professionals (agents) that were interviewed

Interviewee	Area	Sex	Experience time in the position
M01	Languages	Female	9 months
M02	Nursing	Female	1 year and 6 months
M03	Social service	Female	1 year and 6 months
M04	Dentistry	Male	3 years
M05	Medicine	Male	4 years
MPS 1	Pharmacy	Male	4 years
MPS 2	Pharmacy	Male	4 years
MPS 3	Pharmacy	Male	4 years
MPS 4	Pharmacy	Female	12 years
MPS 5	Pharmacy	Male	10 years
MED1	Medicine	Male	2 years
MED2	Medicine	Female	1 years
MED3	Medicine	Female	3 years
MED4	Medicine	Female	17 years
MED5	Medicine	Male	6 years
PHARM1	Pharmacy	Female	1 year and 6 months
PHARM2	Pharmacy	Male	3 years
PHARM3	Pharmacy	Female	5 years
PHARM4	Pharmacy	Female	2 years and 6 months
PHARM5	Pharmacy	Female	18 years
NUR1	Nursing	Female	2 months
NUR2	Nursing	Female	6 years
NUR3	Nursing	Female	15 years
NUR4	Nursing	Male	7 years
NUR5	Nursing	Female	4 years

* MO: Manager of the Oncology Care Network; MPS: Manager of Municipal Pharmaceutical Services; MED: Physician of the SUS-certified oncology care facility; PHARM: Pharmacist of the SUS-certified oncology care facility; NUR: Nurse of the SUS-certified oncology care facility
Source: Authors

The research followed the postulates of the National Health Council Resolution 466/12 regulating research involving human subjects. The study was approved by the Research Ethics Committee of the Sérgio Arouca National School of Public Health, registered under number 55992716.8.0000.5240.

Results and discussion

The four axes of analysis corresponded to the main aspects detected in the research and are considered relevant from the point of view of Giddens' Structural Theory, since social action develops based on rules and the use of resources by agents⁶.



Organizational structure

Regarding the organizational structure, there was consensus on the importance of organizing and structuring pharmaceutical services for the proper functioning of the cancer care network. However, the low coordination between primary care, responsibility of municipal management, and qualified facilities was highlighted, impacting on the capacity for resolution of cancer care.

With regard to pharmaceutical services in chemotherapy centers, the organizational structure should be based on normative requirements and meet standards of good practices for the compounding of antineoplastic drugs¹¹. In none of the visited services it was possible to verify the full observance of the criteria described in the standards.

Table 3 presents a summary of the structural aspects of PS identified in institutions that are qualified to perform chemotherapy.

Table 3. Structural aspects of pharmaceutical services in institutions qualified to perform chemotherapy.

Institution	MUN1	MUN2	MUN3	MUN4	MUN5
List of selected drugs	Not available	Available	Available	Available	Available
Therapeutic formulary	Not available	Not available	Available	Available	Available
Institutional protocols	Not available	Not available	Not available	Available	Available
Standard Operating Procedures	Not available	Available	Available	Available	Available
Chemotherapy Compounding Area	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate
Outpatient Dispensing	Oral Chemotherapy and HT	Oral Chemotherapy HT and support medication	Oral Chemotherapy and HT	Oral Chemotherapy, HT and support medication	Oral Chemotherapy and HT
Pharmacotherapeutic follow-up	Does not perform	Does not perform	Does not perform	Does not perform	Does not perform
Number of pharmacists in the chemotherapy service	1	2	5	4	2

*HT: Hormone therapy; Supportive drugs: Drugs used for the treatment of adverse effects caused by chemotherapy, such as: antiemetics, antiallergics, antithrombotics and others.

Source: Authors

The most relevant issue was the fact that the services presented several inadequacies in the rooms in which antineoplastics were prepared. This condition favors the risk of contamination of the drugs being handled and the health of the workers due to the occupational risk. The situation is worsened by the inappropriate use of personal protective equipment by handlers.

The preparation of antineoplastic drugs is an activity that must be performed exclusively by pharmacists¹¹. In Unit 5, trained technicians performed the process thus generating concern in other team members.

“Today we do not only have pharmacists manipulating, we have professionals who are prepared [...] but they are not graduates, they are not pharmacists.” (NUR5)

However, pharmacist chose not to get involved with handling, in order to be able to engage in other activities.

“... here in the institution we had to choose where to stay, which was the place that was most at risk of an error [...] We stayed outside [the manipulation room], we evaluated all prescriptions, drug interactions, we give medical support, we do consulting work...” (PHARM5)

The Brazilian health legislation mandates that top-level professionals in health¹² should perform the preparation of antineoplastic therapy. Handling by poorly trained professionals may favor occupational exposure, process failures, and patient risks¹³. As pointed out, the pharmacist tried to explain this practice precisely on grounds of patient safety, in addition to mentioning the limited number of pharmacists (two) working in oncology inside the facility.

Other units also highlighted issues related to the large volume of tasks in relation to the number of pharmacists. The excessive amount of work is one of the main reasons for errors committed by workers, besides being an important cause of illness¹⁴.

Another issue was the lack of PS structuring documents in some units. This situation compromises the organization of care and practices.

Outpatient dispensing occurred in all facilities, but in unit 5 a professional technician, without pharmaceutical supervision, performed it contrary to what is recommended in the current regulatory framework. It should be noted that the use of oral therapies for the treatment of cancer is not without risk. It is critical that patients and caregivers be adequately informed about storage, administration and disposal¹⁵. For some patients, it is necessary to adopt strategies that favor adherence to therapy, as well as actions aimed at the detection and management of adverse drug reactions.

Financing

Financing is an inductive resource for the development of health actions and services¹⁶. With regard to pharmaceutical services, the financial amounts may be allocated for the purchase of medicines and the structuring of services.

Within SUS, chemotherapy funding is not related to the medicines that are used, but to the procedure that is performed. The reimbursement of treatment refers to an average monthly amount, according to the therapeutic scheme¹⁶. The purchase and delivery of the medicines are the responsibility of the contracted service provider. Only after the completion of the procedure, the High Complexity Procedure Authorization (APAC) must be filled out to obtain reimbursement. The interviewees agreed upon the fact that the financing of cancer treatment has been insufficient.

“So there was a flattening of the funding as a whole and there was this specific spike of the chemotherapy, both in diversity [...] but mainly in cost.” (MO4)

It is important to note that the amount financed through APAC does not include the payment of palliative care or of supportive medications necessary to control the diseases, signs and symptoms presented after the administration of outpatient chemotherapy¹⁷. This issue has translated into important coercion for the agents' actions, since in some municipalities the patients do not receive their complete treatment, either in the authorized facility or in municipal health establishments. Purchases of drugs that are given to support chemotherapy and that were dispensed in public outpatient facilities (2 and 4) occurred by means of institutional funding.

Several antineoplastic agents cause late and indirect effects that, if not adequately controlled, may compromise the entire treatment, by preventing the patient from carrying out a new cycle of chemotherapy, thus preventing continuity of care. In addition to being perverse to patients, the lack of a guaranteed continuous care promotes inefficiency in the use of public resources. The speech of one of the interviewees brings an important reflection on the subject.

“... the incidence of cancer is being massive ... and unfortunately we are seeing the patients arriving too late. So the cost of oncology is getting very onerous ... You cannot treat the patients with that expectation that you treat a little and will heal. No, you will treat them until they die.” (MED4)

The interviewee establishes a causal link between incidence, network breaches and the need to use more expensive therapies in the treatment phase. All the investment that will be employed will have a single outcome - death. Siqueira et al.¹⁸, when analyzing the economic impact of cancer on the SUS, identified that although there is a historic increase in funding for cancer care, 63% of the total cost is related to cancer mortality. The revision of this logic is imperative. The cancer care network needs to be broadly structured. This means that all services need to be strengthened, that knowledge about cancer should be widely disseminated and that combating risk factors and early diagnosis should be central issues in coping with neoplastic disease.

In the logic of financing, a theme that stood out was pharmacoeconomics, which constitutes a strategy to improve the efficiency of drug spending in relation to clinical outcomes¹⁹. It is an important tool for public management, since it helps the decision-making process, especially in oncology, due to the significant number of therapeutic options for the same type of tumor and the high cost of medicines²⁰. One of the interviewees points out the need to carry out the use of these instruments to review the APAC values.

“In reality, it is more the question of the value that APAC ‘institutes’ [adopts] for that treatment ... no matter how much we know that everyone has breast cancer, breast cancers are not the same [...] there are medications targeted for specific mutations [...] So it would be to benefit those who have these changes. But [...] SUS itself does not cover the research of many mutations ... So it is difficult to indicate medicines where we cannot make the [molecular]

diagnosis... But we know that a portion will have this diagnosis, [...] and, by having it, there is the benefit of the medications. It is a question of updating values and cost-benefit.” (MED2)

It is possible to perceive the interviewee’s concerns in trying not to burden the system, but to promote rationality in the process. Knowing that cancer has multifactorial and genetic causes, performing molecular diagnosis is extremely relevant before the definition of the therapeutic indication²¹. This strategy is also important to foster research and improve the oncology care policies and the process of health technology assessment²².

In the context of financing another point to be approached refers to the therapeutic audit, since the interviewees reported that this process has not been frequent. The health audit is understood as a set of technical procedures used to evaluate provided care, based on parameters considered acceptable, in order to avoid wastage of public resources and to promote economicity²³. In oncology, the audit is stated in regulation³, being an important instrument of management certification, efficiency and quality. However, the audit processes in SUS are not regular, and they are also crossed by political and economic interests, that direct where and how they will be performed²³.

Technologies

Health technologies are important allocative resources. In order to obtain the maximum benefit, their use must be accompanied by the disclosure of adequate information.

The incorporation of technologies in health systems should be preceded by an evaluation stage that considers ethical aspects, characteristics of efficacy and safety of technologies, economic issues and their contribution to the promotion, maintenance or rehabilitation of health²⁴. It is important, therefore, to have a group responsible for evaluating such aspects, and it may be a Technology Assessment Unit or a Pharmacy and Therapeutics Committee. The process of incorporating technologies in oncology is complex due to the large number of innovations, the high cost of new therapies and the high degree of uncertainty about the benefits to users²⁵.

Despite the reports of committees for the incorporation process in some municipalities (2 and 5), issues related to the technologies necessary for cancer care had not been discussed in these forums. Only three SUS-certified oncology care facilities (3, 4 and 5) had committees. In the other services (1 and 2) the process of defining the incorporation of new medicines was physician-centered. It was pointed out that in the institutions that had a functioning committee the interviewed oncologists did not know of its existence.

“ Gosh! I can’t tell. If there is a committee, I don’t know, I really don’t know.” (MED5)

Another highlighted issue was the delay in the incorporation of drugs for the treatment of cancer in SUS. All the professionals spoke on this point and used as a prime example the delay of the National Committee for Technology Incorporation

(Conitec) to authorize the use of trastuzumab for the treatment of metastatic breast cancer.

“... the National Health System (SUS) takes a long time to include several types of drugs in our protocol. And the largest example we have is the presence of trastuzumab itself, in the treatment of metastatic breast...” (MED1)

Conitec’s analysis process for the incorporation of medicines must consider the scientific evidence on the clinical and economic benefits in relation to the technologies already available in SUS²⁶. It is usual to observe in the reports issued by the Committee mentions to the lack of real-world data for Brazilian patients, which could support decision-making²⁴. Despite the truth of the argument, the difficulties in carrying out these studies can not be denied, due to, the breaches in the care network, the lack of reliable information on therapies used in the institutions and on the non-existent measurement of clinical results stemming from practice^{4,18}.

The use of scientific evidence, both clinical and economic, capable of guiding decision-making is recommended for the appropriate process of evaluation of technologies²⁴. Only one unit described having access and using the electronic databases that provide scientific information. However, the initiative was individual rather than institutional. The insufficient use of scientific evidence has been related to a variety of factors, from difficulties in interpreting, adapting and applying scientific knowledge, to the barriers to access literature, especially because many databases are paid²⁷.

Lack of access to up-to-date and appropriate information favors biased and misguided choices. In cancer care, where frequent updates occur, the use of scientific evidence improves care, minimizes the risk of inappropriate use of technologies and financial resources, and provides a better quality of life for people with cancer²⁸.

In addition, it is essential to adopt information mechanisms on the incorporated technologies to reach comprehensiveness of care. Information on medicines is understood as a right of the citizen, since their absence brings risks that can be harmful to life²⁹. None of the visited municipalities or authorized facilities reported having a formal medicines information service for patients and/or professionals.

Work processes

The analysis of the work processes of PS sought to understand how the system was built, in the municipal organization as well as in the SUS-certified oncology care facility, especially regarding its integration to the other actions and health services.

Modifying routinized practices at transformation points in structural relationships is a complex process. The optimization of the clinical results in oncology is highly dependent on the convergence of the actions performed in the different health services through which patients make their way³⁰. In spite of this, several managers did not even acknowledge oncology treatment as an integral part of PS.

Pharmaceutical services in Brazilian municipalities have maintained their focus on the logistics process⁴. Even considering the limitation of this approach, cancer patients

have not been included in the planning of actions. Fragmentation of care, due to the non-perception of the needs of cancer subjects, hardly contributes to effective actions.

The handling of chemotherapy was the most cited activity among the interviewees. It was noted that a large part of the professionals interviewed understood pharmaceutical services only as a set of activities carried out exclusively by pharmacists.

The absence of standard drug forecasting processes was observed. This creates difficulties for the organization of services and contributes to medicines shortages. An important issue refers to the mechanisms for requesting centralized-purchase medicines from the Ministry of Health.

“For example, in the case of trastuzumab: there are months that the spreadsheets arrive ... monthly [...] There are months that the spreadsheet already comes quarterly...” (PHARM1)

The interviewees highlighted problems of shortages of medicines provided by the Ministry of Health, considered essential for the treatment of cancer and / or that have a high cost²⁶. Irregularities in the supply of medicines have been causes for effective enforcement of lawsuits³¹.

An aspect observed in the facilities was the insufficient assessment of the medical prescription by the pharmacists. This process involves dose verification, compatibility, stability, potential interactions and feasibility of treatment¹¹. In cases of inconsistencies in the prescriptions, the physician should be informed and the changes must be duly registered. Prescription errors can produce fatal results. In addition to the attentive observation of the pharmacist, the use of alerts in computerized systems has been used as a strategy to mitigate errors in oncology³².

The protocols are important auxiliary tools in the institutional decision-making and guiding the construction of the patients' therapeutic plans. The establishments qualified as high-complexity facilities in oncology in SUS must elaborate their institutional protocols based on the Clinical Protocols and Therapeutic Guidelines published by the Ministry of Health³³. This condition, however, was not observed in some of the institutions.

“We end up following the international guidelines very much [...] there is no institutional protocol ... defined ... the conduct is personal for every doctor. [...] We define the schemes according to the APAC values...” (MED3)

The use of protocols from other institutions, including international ones, or their absence, may be an incentive to take the matter to the Courts. In addition, the lack of definition of institutional protocols promotes iniquities, due to the fact that there is no standard of treatment³⁴. Allowing therapeutic choices to be based on individualized decisions provides inequalities and allows the patient to be offered treatments with a lower standard than the ones recommended by SUS³⁵. The use of APAC as a parameter to define the treatment of patients is also worth noting. Despite the present underfunding, disregarding the actual needs of the individual with cancer due to the value that will be reimbursed reveals the perversion of the system and a certain disregard for human life.

Adding on the subject of protocols, it is emphasized that these should be elaborated in a collective way, by the whole multidisciplinary team, and must be properly agreed upon by all parties involved in the care network. Different, albeit concerted views contribute to the improvement of the quality of care and to reduce costs³⁶. However, the process of defining the protocols was centered on the physician, in the visited facilities.

Despite the formal existence of the teams, the speakers emphasized that the health work processes remain physician-centered. Breaking with this outdated care model is vital for the system, since teamwork improves planning and adherence to antineoplastic therapy³⁷.

Another important mechanism of interaction is the use of information systems that are able to articulate the network and promote data exchange on the patient, ensuring the success of pharmacotherapy³⁰. In one of the municipalities the deployment of this tool for the entire network of care was highlighted, being understood as a facilitating resource.

“It is being implemented now [information systems], both in hospital and in the basic units. So I will have access to the patient’s information wherever he goes, anywhere in the network.” (MPS 2)

It is essential for health professionals and the patients to have a single medical record, avoiding to be seen in a fragmented way by the various professionals who care for them.

The interviewees addressed several topics describing the practices of pharmaceutical services in oncology, involving macro-political and managerial aspects, in different contexts. However, no effective results were identified with the actions and practices. Mobilizing and articulating knowledge, rules, resources, intentions, subjectivities as well as monitoring and practical awareness (tacit knowledge) of the agents is necessary in order to transform the scenario. This context is the basis on which rests the duality of structure, proposed by Giddens’ Structural Theory.

It was possible to notice that the interviewees, once in contact with their own views, demonstrated the need for a change in cancer care. This situation resembles the monitoring process – when the agent acts and monitors the social environment and its own performance – as described in Giddens’ Structural Theory⁷. The interviewees’ speeches allowed noticing explanations about what their practice was and why they did it in a specific way, in what Giddens calls *cognoscitivity*⁷.

The different characteristics of the municipalities seemed to have no impact on the results. However, it was noted that only public institutions offered medication to control the symptoms of treatment and that private establishments had greater ease in the acquisition process, avoiding shortages.

As practical limitations of the study we point out the impossibility to interview all the professionals involved in pharmaceutical services in oncology in the investigated institutions, or to include other services qualified to perform chemotherapy in the selected municipalities. However, it is believed that the individuals who participated in the interviews were able to have a systemic approach on the investigated phenomenon



and that the direct observation performed in the services allowed access to other professionals as well as to performed practices.

Final considerations

When studying pharmaceutical services in oncology, we observed the commitment in the organization and practices adopted in Brazilian municipalities, highlighting the non-compliance with norms related to the organizational structure. According to the interviewees, the underfunding of cancer care, inadequacies in the process of technology incorporation, and the hindrances of work processes have exerted significant constraints and contributed to the precarious functioning of the system.

The study revealed that it is necessary to promote greater integration in pharmaceutical services for oncology, in the primary and highly-complex care settings, promoting comprehensive care for cancer patients, since the available rules and resources do not guarantee entire treatments.

When assessing human agency, the approximation with reality allowed us to identify routinized practices and transformation points. Thus, it was possible to produce knowledge that may be of interest to several stakeholders - patients, managers, health professionals, researchers and others - on pharmaceutical services in oncology within SUS

If there are no changes in the *modus operandi* that have been adopted, it will not be possible to adequately structure pharmaceutical services within the oncology care network.

Authors' contributions

All authors participated actively in all stages of preparation of the manuscript.

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