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Research Article

Systemic and Dynamic Analysis of Access to Health Care: The Example of Hematological Cancer in France

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Objective: Access to health care aims to improve people's health and reduce inequalities. This is a fundamental health policy concern. Over the past 40 years, research has identified several dimensions of access to health care but has often overlooked their interconnections. Based on a mixed geographical and relational method, our article aims to propose a systemic and dynamic analysis of the main dimensions of access to care.
Methods: The population studied in this work consists of all 364 hematological cancer patients. In the first step, we map the movements of these patients in order to categorize them according to their ease of access to care. In the second step, we conduct semistructured interviews to identify nonspatial dimensions of access to care.
Results: Our theoretical results focus on identifying the main links and articulations between dimensions of access to care. They confirm the importance of geographical accessibility in access to care, but, in a more original way, they show the central role of acceptability (confidence in healthcare professionals), itself determined by awareness.
Conclusion: This study suggests that policies to improve access to care should be accompanied by the development of patient awareness and acceptability. In practice, this can be achieved by combining tools such as cooperation between hospitals and healthcare professionals, professional networks, telemedicine, and local hospital accreditation.

Keywords: accessibility; cancer; dimensions; France; geographic map; health care

1. Introduction

Access to health care is a health, social, societal, environmental, economic, and political concern, designed to improve people's health and reduce health inequalities [1]. Generally speaking, access reflects the match between the characteristics and expectations of service providers and customers [2–4]. More specifically, access to health care is defined as the possibility of reaching and obtaining appropriate healthcare services in situations where there is a perceived need for care [5]. Thus, access to healthcare services is not just about going to a medical provider [6] but refers to the ability to access the right services at the right time to improve health outcomes for individuals [7].

The literature shows that access to health care depends both on the structural dimensions of access to health care related to healthcare systems (availability, affordability, adequacy, geographical accessibility, etc.) and on individual socioeconomic determinants related to patients (gender, level of education, income level, nationality). The structural dimensions of access to care are factors internal to the health system and managed by its administrators. The socioeconomic determinants are factors external to the health system, specific to each patient [8].

First, the structural dimensions of access to care make it possible to represent the main factors determining patients' accessibility to the health services available in their region. Second, the individual socioeconomic determinants describe

the capacity of each patient to access these health services according to their capacity to respond to the structural dimensions of access to care. Consequently, the identification of these structural dimensions of access to care is a priority and has been the subject of a significant body of literature aimed at precisely characterizing these dimensions [5, 9–14].

To date, these main studies have focused on the rather static study of the dimensions of the healthcare resources available and their adequacy with the demand for care [15]. However, in order to achieve the political objective of equal, equitable, or efficient access to care, it seems important to attach prime importance to the articulation of these dimensions in access to health care [16]. Indeed, access to health care is not just an individual problem, and it is also a systemic one encompassing a set of individual and collective dimensions [17]. Yet, most interventions to strengthen access to health care ignore the interconnections between the dimensions of the healthcare access system [18].

Indeed, in traditional approaches of access to health care, political decisions are supposed to influence the level of available medical resources, whereas in reality they also influence the interconnections between the dimensions of access to care and its complexity [19]. Also, there is a lack of research to analyze the dynamics of healthcare access systems. This is reflected in a failure to take into account the multiple and processual relationships between all the dimensions that make up healthcare delivery systems [20, 21].

This work aims to fill this gap. To do this, our research objective is to analyze, using a systemic and dynamic approach, the different ways in which the main dimensions of patient access to health care are connected to each other. To meet this objective, the system approach reflects the complexity of healthcare systems and patient access to care [18, 19]. This approach can more easily account for the way in which the different resources in a process of access to care are dynamically articulated.

To achieve a systematic approach specific to the issue of access to health care, we are developing a geographical and relational methodology [22]. This combines a geographic map analysis of patients' care pathways with a qualitative study using individual interviews to gather information on how patients perceive their care pathway [23, 24]. The combination of these two methods (geographical and narrative) should enable us to apply a dynamic reading of the main dimensions of patients' access to health care. To do this, we propose to mobilize the conceptual framework for analyzing access to care proposed by Penchansky and Thomas [2] and updated by Saurman [12] (the 6As model).

The literature offers us numerous conceptual frameworks identifying the dimensions of access to health care [5, 9, 10, 13]. One of the most widely used access frameworks is Andersen et al.'s [9] behavioral model of health service utilization. It measures access to care through two main dimensions: patients' favorable or unfavorable predispositions to using health services and their healthcare needs [9]. The Frenk framework [10] is another commonly cited framework that defines access as the ability of the population to seek and obtain care [10]. This framework measures access to care through the availability of resources, patients' ability to use them, and the performance of the healthcare system [10]. The conceptual framework for healthcare access developed by Levesque et al. [5] measures access to care through four main dimensions: patients' ability to identify health care, seek it, obtain it, and use it [13]. The 6As model is the one that has gone furthest in identifying the dimensions of access to care. It identifies six dimensions of access to health care that are most commonly observed and analyzed in both theory and practice [2, 16]: Acceptability refers to whether the customer is comfortable with the more immutable characteristics of the provider, and vice versa (age, gender, social class, ethnic origin of provider and patient, diagnosis, type of customer coverage); availability estimates the extent to which the provider has the necessary resources, such as personnel and technology, to meet the customer's needs; adequacy refers to the way in which the provider organizes itself in order to meet the customer's constraints and preferences (opening hours, management of telephone communications, ability of the customer to receive care without prior appointment); affordability is determined by the ratio of the provider's costs to the customer's ability and willingness to pay for the services; and accessibility in the geographical sense is determined by the ease with which the customer can physically reach the service provider's location [2]. Recently, Saurman [12] has proposed a sixth dimension awareness which refers to effective communication and information strategies mobilizing relevant users (clinicians, patients, community). These six dimensions are particularly suited to the cancer sector because they encompass a significant number of factors that determine access to health care for often lengthy care pathways, such as those encountered in oncology.

Therefore, we apply this 6As model to a cohort of patients from a French cancer center (CLCC—in French, *Centre de Lutte Contre le Cancer*), one of whose specialties is the treatment of hematological cancers.

2. Materials and Methods

2.1. Case Study. Blood cancer, also known as hematological cancer, is a complex disease that affects the blood, bone marrow, and lymphatic system. In France, this family of cancers affects almost 35,000 people every year, particularly children, young adults, and the elderly. The CLCC under study is a center of excellence for the diagnosis and management of hematological cancers, located in France's second-largest metropolis in terms of population. Every year, more than 11,000 hematology consultations are carried out at the CLCC. In 2016, an Ambulatory Medical Assistance (AMA) [25] program was set up in the hematology department of the CLCC. The aim of the AMA program is to reduce patient visits to hospital and to develop very close follow-up by specialized nurses (AMA nurses). This program is a relatively new monitoring practice, initially for patients treated with conventional (intravenous) chemotherapy, which was subsequently extended to patients receiving targeted (oral) therapies. This monitoring is similar to a remote monitoring system [26] and takes the form of

scheduled and regular outgoing calls according to a protocol and carried out by dedicated nurses. This program, developed in 2018 at the CLCC by the hematology department, is in line with the hospital's policy of providing care outside its walls and offering personalized follow-up to patients to promote their progressive empowerment and a successful transition to post-treatment care. It is based on the development and promotion of new nursing expertise. The evaluations carried out have shown the relevance of this system, which, following its trial period, was maintained and is now being rolled out on a larger scale. The 364 patients included in this study represent the entire active patient file of the AMA program over the last three years.

2.2. Research Design

2.2.1. Research Design and Analytical Process of the 1st Step. Based on a geographical and relational approach [22, 23], the first step aims to spatially map the criteria representative of patients' care pathways and then try to distinguish patients according to these criteria by categorizing them.

For each of the 364 patients included in the study, we first had data on the location of their home, their General Practitioner (GP), and their pharmacy. These geographical data enable us to integrate certain extra-hospital data into our study and supplement the AMA system data, which is more focused on the hospital pathway, even though this system relies on a communication network between hospitals, GPs, and pharmacists. Thanks to the AMA program, we had access to highly accurate data on the number of appointments (consultations, tests, chemotherapy), the number of prescriptions, and the number of trips made by patients as part of their care.

Then, in order to determine patient types according to their accessibility to medical services integrated into their care pathways, we used the hierarchical ascending classification method based on travel times calculated between each patient's home and the location of their GP, pharmacy, nearest hospital, and the CLCC Léon Bérard. The choice of these four medical services is explained by their integration in patients' care pathways. This method enabled us to define and map four types of patient according to their accessibility to the medical services included in their care pathway.

2.2.2. Research Method and Analytical Process of the 2nd Step. The second step aims to embody the situations observed on the maps, to see how access to care is experienced by patients. For this second step, from among the 364 patients in our study, we selected a sample of patients (Table 1) representative of each of the patient categories identified in the first step of this study. The interview guide was based on how patients experienced their care at the CLCC in relation to the 6As (Theme 1), what this meant for them in terms of personal organization and adaptation of their daily life (Theme 2), as well as appreciated dimensions of care and more critical points still in relation to the 6As (Theme 3). Furthermore, in order to enhance the depth of our analysis, we complemented the spatial classification of patients with a categorization based on gender and indicative socioprofessional status. This additional classification was inferred from participants' reported occupations and references made during interviews to their financial situation or family responsibilities. This multidimensional perspective allowed us to highlight variations in patient experiences, particularly in how trust in healthcare providers (acceptability) was expressed, and in the challenges, some patients (especially working women) faced in balancing treatment with professional commitments.

Once all the interviews had been transcribed, a detailed thematic and lexical content analysis was carried out on all the *verbatim* using the predefined grid base on the 6As model [15] (Table 2). To support a more nuanced interpretation of patient experiences, Table 1 was extended to include gender and indicative socioprofessional characteristics (employment status, retirement, student). This multidimensional classification allowed for cross-analysis and a better understanding of the diversity of patient trajectories and lived experiences.

The combination of geographic map analysis (1st step) and relational analysis (2nd step) should enable us to gain a better understanding of the choices made by patients in terms of access to care, by applying a dynamic reading of their dimensions (6As).

3. Results

In the following, we present the results of the two successive study steps.

3.1. Map Analysis Results. As explained in the methodology section, in a first step, to summarize patients' accessibility to healthcare services, we performed a hierarchical ascending classification based on the distances separating patients' homes from the nearest healthcare services (Figure 1).

The first category corresponds to Category 1 patients (Figure 1) who are located close to the CLCC (12.4 km on average). These patients are also close to other healthcare facilities and services (on average 2.4 km from a local hospital, 0.3 km from a GP, and 0.4 km from a pharmacy). These are the patients for whom access to healthcare services is easiest.

A second category of patients (Category 2) has good access to local health services (on average 0.8 km from a GP and 0.9 km from a pharmacy), as well as to local and regional hospitals (on average 4.5 km away), but are very far from the CLCC (on average 104 km). For these patients, the only accessibility issue is their distance from the CLCC, so the support of local hospitals in the care process can be particularly useful.

The third category of patients (Category 3) lives the furthest away from local hospitals (12.5 km on average), but has good access to the CLCC (47.8 km on average), and good access to local healthcare services (0.7 km on average to a GP and 0.9 km on average to a pharmacy), similar to Category 2. In this case, it is difficult to rely on local hospitals as intermediaries, and the CLCC's capacity to receive patients is key.

Table 1: Sample of interviewed patients.

Patients	Start of medical treatment (month and year)	Age range (years old)	Geographical location distance from the CLCC	Marital status	Socioprofessional status	Duration of the interview in minutes
Patient 1	April 2016	61–80 yo	20–25 min	Widow	Unknown	29
Patient 2	August 2018	26–45 yo	10 min	Married	Unknown	20
Patient 3	April 2018	26–45 yo	10 min	Single	Unknown	39
Patient 4	July 2018	26–45 yo	40 min	Co-habiting	Unknown	21
Patient 5	December 2017	26–45 yo	10 min	Married	Unknown	51
Patient 6	January 2018	26–45 yo	10–15 min	Single	Unknown	34
Patient 7	March 2018	61–80 yo	20–25 min	Married	Unknown	25
Patient 8	December 2017	46–60 yo	30 min (rural area)	Married	Unknown	22
Patient 9	April 2016	26–45 yo	> 2 h road (150 kms)	Single	Unknown	25
Patient 10	April 2018	61–80 yo	20 min	Married	Unknown	16
Patient 11	May 2017	81–100 yo	20–25 min	Married	Unknown	38
Patient 12	July 2018	81–100 yo	10 min	Married	Unknown	18
Patient 13	October 2017	81–100 yo	10–15 min	Widow	Unknown	23
Patient 14	March 2018	46–60 yo	30–35 min (rural area)	Married	Active	41
Patient 15	February 2018	46–60 yo	1 h	Divorced	Retired	22
Patient 16	September 2018	46–60 yo	35–40 min	Married	Unknown	27
Patient 17	August 2018	61–80 yo	25–30 min	Married	Unknown	30
Patient 18	April 2018	46–60 yo	25–30 min	Divorced	Unknown	12
Patient 19	September 2018	18–25 yo	10–15 min	Co-habiting	Unknown	34
Patient 20	June 2018	26–45 yo	1 h 28 min	Married	Active	40
Patient 21	June 2018	46–60 yo	1 h 59 min	Co-habiting	Retired	35
Patient 22	February 2019	46–60 yo	2 h 08	Divorced	Retired	23
Patient 23	March 2019	61–80 yo	22 min	Divorced	Active	94
Patient 24	January 2019	18–25 yo	8 min	Married	Unknown	44

Table 2: Coding grid.

Acceptability	Acceptability of the exchange with healthcare professionals and/or the healthcare facility, acceptability of the diagnosis (trust)
Awareness	Access to information and understanding for action (literacy)
Availability	Adequate human and technical resources available at the point of delivery of the care service.
Adequacy	Convenient opening hours, quick and easy contact (by phone or on site)
Affordability	Financial resources for travel, childcare, appointments for parents, paid supportive care to relieve symptoms, etc.
Geographical accessibility	Ease of travel/territorial configuration and topography: distance to travel, easy travel infrastructure (public transport access), easy parking, etc.

Finally, the last category (Category 4) includes patients whose access to all healthcare structures and services is the most difficult. Access to the CLCC is remote (79 km on average). Access to local hospitals is good (8.9 km on average), while access to local health care is relatively poor (3.6 km on average to a GP and 4 km on average to a pharmacy) (Figure 1).

In a second step, we construct a sample of patients representative of each of these categories (24 patients) and interview them (see Appendix 1 for extracts of coded verbatims—v1, v2, etc.—for each patient—P1, P2, . . ., P24, etc.).

3.2. Identify the Dimensions of Access to Care and Their Links in Patient Discourse. In a second step, the interviews we conducted enabled us to analyze patients' perceptions of the six dimensions of access to care in the 6As model (Appendix 1) and their systemic articulations.

3.2.1. Acceptability. Acceptability refers to confidence in patients' exchanges with healthcare professionals and their diagnoses. The patients we interviewed emphasize the strong confidence they have developed in their hematologist and their nurse. Nurses are part of patients' lives, and every week, patients look forward to their calls as a beneficial appointment (P1-v5; P5-v2). Similarly, the regular exchanges between nurses and patients create a special kind of knowledge: the nurses' ability to understand patients' reactions, both psychological and physiological (E10-v1).

Perhaps surprisingly, GPs are rarely involved in care pathways of the patients surveyed. This loose link does not help to build a relationship of trust with the GP. However, this relative lack of trust in the GP mainly concerns patients who are closest to the CLCC (P2-v1; P19-v3; P19-v4). Those who live further away don't mention it and have to trust their GP, who remains the most accessible medical professional. So, for all patients, the adequacy of resources is conditioned by acceptability.

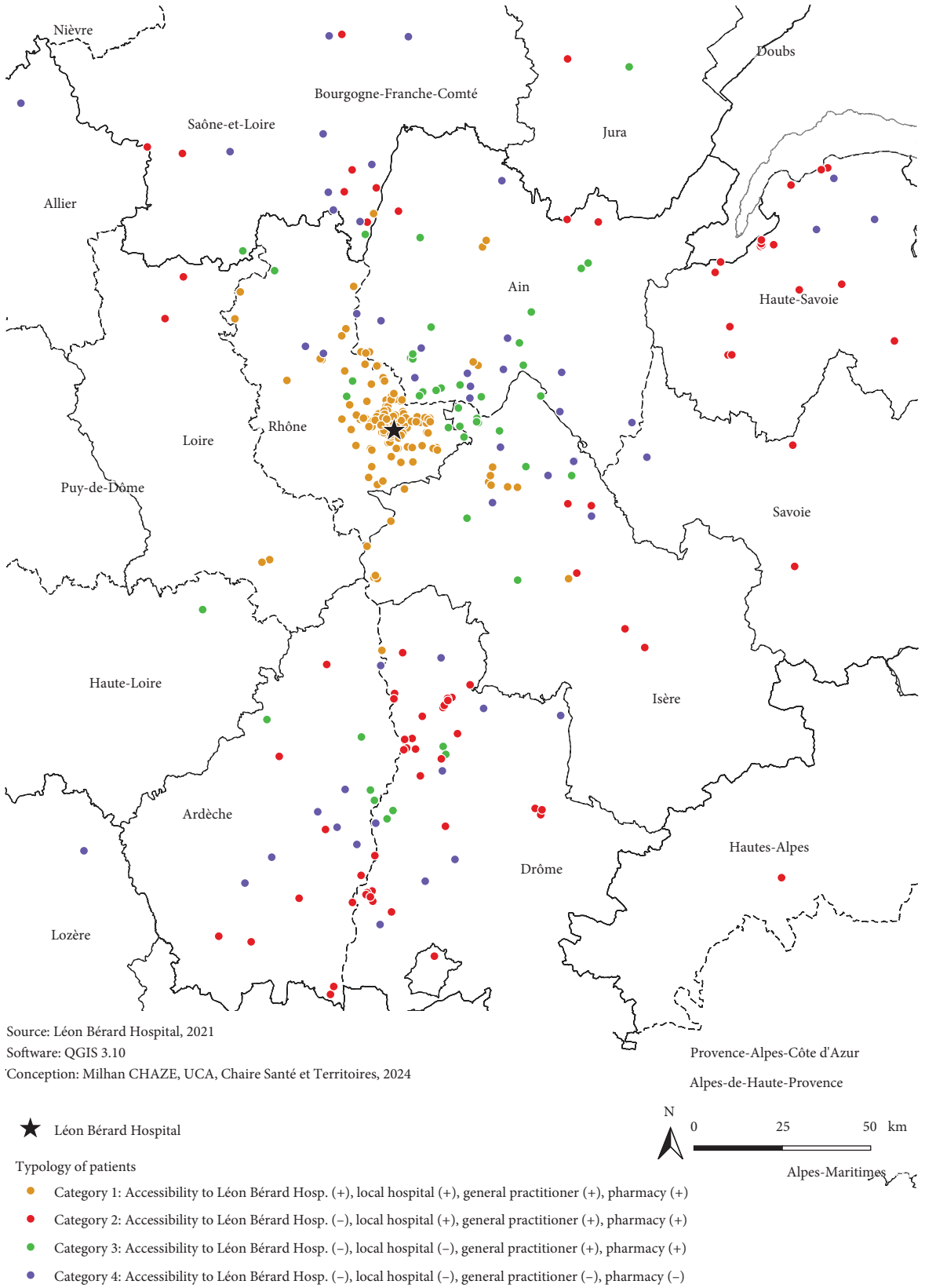

Figure 1: Classification of patients according to accessibility to care services.

In any case, in the discourse of those interviewed, acceptability is above all personal and social (P7-v4; P14-v3). Thus, acceptability is often linked to the hope that the patient places in the healthcare system to provide a solution to his condition (P14-v4; P16-v2). Additional nuances emerged regarding gender and socioeconomic background. Some female patients found it difficult to discuss intimate issues with physicians and preferred the empathetic, confidential relationship developed with specialist nurses (P5-v2). Socioeconomically, a few patients with greater financial means (e.g., P23) reported using complementary therapies such as osteopathy or acupuncture, suggesting disparities in access to non-reimbursed supportive care. If, in his imagination, his treatment is in vain, he will not seek access to care. This is particularly true for patients who are farthest from the CLCC and from specialty care (Category 3). So, to understand acceptability, we need to look at its links with the availability and adequacy of resources, as well as awareness.

3.2.2. Awareness (Access to Information and Understanding). Access to information (awareness) is particularly important and involves several aspects: knowledge of care structures, acquisition of knowledge about the disease and treatments. The results of our interviews show that, whatever the patient category, patients do not have much information on the management of this type of illness. Indeed, the GP seems to play a relatively minor role in providing information and guidance to patients (P7-v1; P14-v1; P4-v1). Paradoxically, however, patients are very receptive to advice and need to have a clear idea (P17-v1). Irrespective of the category to which they belong, the patients interviewed recognize that the introduction of the AMA system makes a significant contribution to patient literacy (P1-v1; P7-v2; P19-v1; P22-v1). Patients particularly appreciate exchanges with the nurse specialist (AMA) because she uses a language they understand, which is not always the case with exchanges with the hematologist (P5-v1; P13-v1). This makes awareness very closely linked to acceptability, as it determines to a very large extent the trust that patients can place in healthcare professionals and their diagnoses.

3.2.3. Availability. Availability refers to two dimensions: attention paid to the patient (cognitive availability) and the right size of the resource to avoid waiting. The AMA system relies on a high level of availability of resources, particularly nurses. Whatever the category of patients concerned, this availability generates a certainty in them that they will be effectively monitored, which brings them psychological comfort (P1-v2; P8-v1; P4-v2; P13-v1; P18-v1). The cognitive availability and resources offered by this system more than compensate for the lack of awareness deplored by all categories of patients. This proves, for all patient categories, the strong link between the "availability" and "awareness" dimensions of the 6A models.

This remote availability of AMA nurses limits the need for other forms of health care that are more difficult to set up, such as recourse to emergency services, particularly for patients with remote access to care (categories 3 and 4) (P14-v2; P21-v1; P9-v1; P20-v1). However, this system also has its limitations in terms of access to resources. The main one is that it does not operate at weekends or in the evenings. At these times, while some patients are able to manage the effects of their treatment, others have had to contact the CLCC switchboard, or even the local emergency services. In such cases, some patients cite a human resource less suited to their needs (P1-v3; P19-v2).

3.2.4. Adequacy. Adequacy concerns the ability of care providers to respond to the constraints and preferences of users (opening hours, management of phone communications, customer's ability to receive care without prior appointment). Surprisingly, the adequacy of the CLCC's resources is generally perceived as better than the adequacy of a nearby GP. Indeed, the CLCC system is seen as an opportunity for patients treated at the CLCC. Patients appreciate having a single point of entry to deal with their questions, rather than multiple contacts. This single point of entry is an important element of accessibility, especially for patients who are not far from the CLCC (P1-v4; P3-v1; P4-v3) (Categories 1 and 2). For these patients, it appears that perceptions of the adequacy of the care on offer are highly dependent on perceptions of the availability of resources.

On the other hand, for patients further away from the CLCC (Categories 3 and 4), optimal disease management can also go hand in hand with the provision of supportive care such as adapted sports, nutrition, and sophrology, but these services are only available at the CLCC (P7-v1; P15-v1; P16-v1). For these patients, it appears that their perceptions of the adequacy of the care on offer, over and above a sufficient volume of services, are strongly correlated with the question of geographical accessibility.

3.2.5. Affordability. This aspect of accessibility was rarely mentioned directly. Just one patient (P23) out of 24 mentioned the use of an osteopath, fasciatherapist, and acupuncturist because she could afford them (P23-v1; P23-v2). The lack of mention by interviewees can be partly explained by the specific nature of the French system of financial coverage for patients' healthcare costs. The French health insurance system, which is managed by social partners (representing employers and employees) and the government, provides 100% coverage for cancer patients, including transport, medication, and, of course, hospitalization. As a result, affordability is not really an issue for patients or healthcare professionals. Cancer patients do not pay for their medical expenses and do not have to pay any money up front for these costs.

Therefore, overall, it is not possible to show that affordability could be related to the other dimensions of the 6As model. In particular, it has not been demonstrated here that affordability is linked to geographical accessibility, notably because of the specific characteristics of the French health insurance system.

3.3. Geographical Accessibility. Finally, in virtually every interview, geographical accessibility was spontaneously mentioned. Distance is a real difficulty, requiring patients to have the organizational and financial resources to get to the CLCC. The difficulties of geographical accessibility are compounded by the fact that patients may live far from their place of work. Travel is a source of fatigue, in addition to that caused by illness and treatment (P1-v6; P9-v2; P7-v5). Unsurprisingly, these difficulties of geographical accessibility are mainly mentioned by the most distant patients, located more than 20 min from the CLCC (Categories 2, 3, and 4). In case of emergency, these patients prefer to be hospitalized in a local hospital and only on a scheduled basis at the CLCC (P15-v2; P16-v3; P22-v2).

For patients whose access to care is generally good (Categories 1 and 2), the fact that they have different contacts (replacements for their GP) reinforces the difficulty of trust, which also ties in with the question of acceptability (P13-v2; P17-v2; P5-v3). In contrast, patients who are the most distant from care (Categories 3 and 4) make greater use of the GP (P9-v4; P15-v3; P20-v3; E22-v3). These patients are also more willing to undergo part of their treatment in local hospitals, whose spatial access is better than that of the CLCC (P14-v5; P14-v6). This demonstrates the strong link between the geographical accessibility of care and its acceptability to patients.

In some cases, difficulties of geographical access have been compensated for by what amounts to "telediagnosis" (P9-v3; P20-v2). The availability of telemedicine is particularly sought after by patients with difficult access to care (Category 4), as it helps to compensate for geographical remoteness. This finding also demonstrates the connections between the dimension of resource availability and that of geographical accessibility.

4. Discussion

4.1. Theoretical Implications: Enriching the Reading of the 6As Model. Access to health care is multifaceted [26] and requires a systemic understanding of its dimensions. The results of our geographical and relational study of access to care make a significant contribution to the literature, by explicitly highlighting the links between the six dimensions of the 6As model, while specifying how these links are constructed for each category of patient (Table 3).

First and foremost, as these results underline, acceptability appears a central dimension in this accessibility. Acceptability is dependent on the information available to patients (awareness). In the case of hematological cancer, acceptability also means putting one's health in the hands of trusted professionals. The presence of a nurse simultaneously increases the availability and adequacy of resources, confirming the need for systemic thinking on access to care [18, 19] (Table 3).

Second, the results of this study show that awareness is an essential dimension of acceptability. Official texts mention the obligation to inform patients as precisely as possible [27]. The nurses make a major contribution to reducing any information asymmetries. They contribute to educating patients about their illness and treatments (health literacy) [28], well beyond the simple awareness-raising recommended by Saurman [12]. The CLCC's AMA system facilitates patient navigation [25].

Our case study clearly shows that these first two dimensions (acceptability and awareness) play a central role in improving access to care for cancer patients. Raising patient awareness by increasing the acceptability of care allows these two dimensions to lay the foundations for improved access to care for all patients. This is an important and original theoretical contribution because it contrasts with past findings in the health sector in general, which tended to demonstrate the central role of geographical accessibility, sometimes in conjunction with affordability, in promoting access to care for patients [29, 30].

Third, the centrality of acceptability in the construction of access to care is reinforced by its strong links with the availability of resources (Table 3)—patients appreciate being able to have contact with nurses when they feel the need. This result highlights the acquisition of experience in interacting with the healthcare system [18]. It shows that availability cannot be disconnected from the trust they place in healthcare professionals and their diagnoses [31] nor from adequacy to demand.

In fact, and fourth, in our study, adequacy is emphasized from two angles: from the point of view of the competence of the interlocutors, that is, AMA nurses, specialist doctors, GPs, and even pharmacists (1), but also from the point of view of capacity in terms of the quantity of resources present or absent (2). However, this recourse to resources such as the skills of healthcare professionals is strongly linked to acceptability. Two aspects that had not yet been mentioned in work involving the 6As.

Finally, in the context of our study, affordability was rarely mentioned spontaneously, probably due in part to the fact that French social insurance organizations cover 100% of healthcare expenses throughout the course of the disease for the patients included in our study. As our results indicate, given the absence of any mention of this dimension by the patients interviewed, in the specific case of France, affordability does not appear to be closely related to the other dimensions of the 6As model. In the future, it would be useful to extend our analysis to a similar healthcare case but in a different national insurance context.

In contrast, for the patients interviewed in our study, geographical accessibility also appears to be a central variable. Geographical distance is a real difficulty for patients. As demonstrated by major previous studies [14, 24, 29, 30], our study identifies geographical access as an essential variable for improving access to care. Nevertheless, we also demonstrate that, in the construction of access to care for the patients in our study, this geographical accessibility is strongly linked to acceptability (itself linked to awareness), but also to the availability of resources and their adequacy (Table 3).

The combination of these last five major dimensions of access to health care for the patients in our study begins to outline the first contours of the systemic functioning of patients' access to care (Table 3). This systemic access-to-care network is based on a first part of articulations

Table 3: Systemic analysis of links between dimensions of access to care.

Systemic links	Awareness	Acceptability	Adequacy	Geographical accessibility	Availability	Affordability
Awareness		All types of patients				
Acceptability	All types of patients		All types of patients	Close patients (categories 1 and 2)	Patients far from specialized medicine (category 3)	
Adequacy		All types of patients		All types of patients	Close patients (categories 1 and 2)	
Geographical accessibility		Close patients (categories 1 and 2)	All types of patients		Very distant patients (category 4)	
Availability		Patients far from specialized medicine (category 3)	Close patients (categories 1 and 2)	Very distant patients (category 4)		
Affordability						

Note: systemic access-to-care network.

between awareness, acceptability, and adequacy, which concern all patients (Table 3). This first part of the network shows the importance of awareness, which relies above all on trust in healthcare professionals and their diagnoses (acceptability), but also helps to reinforce it. This patient confidence (acceptability) authorizes all patients to use the medical resources available and benefit from their adequacy, which is largely reinforced in our study by the AMA system (Table 3).

This first part of the access-to-care network seems to play a decisive role in improving patients' access to care. Synchronously and almost simultaneously, this first part of the access-to-care network links up with geographical accessibility and the availability of resources, enabling all patients, according to their greater or lesser ease of spatial access to care (Categories 1–4), either to access the medical resources that are most accessible to them (Table 3).

4.2. Managerial Implications: Rethinking Access to Complex Care. From a managerial point of view, our study shows that better access to care requires reinvestment in several dimensions (acceptability and awareness in particular) in order to attenuate certain spatial inequalities [32]. Improving geographical access to care [2, 5, 10, 12] seems to be strongly linked to the other dimensions of access to care (acceptability, awareness, availability, adequacy). Implementing policies to improve access to health care therefore requires systemic management, which, as demonstrated by the network of links highlighted by our study (Table 3), could be based on developing confidence (acceptability) and information (awareness).

In practice, to support the implementation of policies to improve access to care, this systemic access-to-care network could be developed, for example, through cooperation between centers of expertise and local hospitals. This could take the form of opening local hematology units to manage certain situations, provide certain treatments, and offer support care as close as possible to the patient. This could also lead, for example, to the labeling of local hospitals developing this expertise. The creation of local hematology networks involving GPs, pharmacists, and local hospitals, to support the work of centers of expertise, is one way of improving access to care for patients, based on organizational configurations that have yet to be devised (mobile units or digital access, for example) [33].

5. Conclusion

The aim of this article was to analyze the different ways in which the main dimensions of patient access to health care are connected to each other, based on the study of a complete cohort of patients managed for hematological cancer. Our results present several important contributions.

On a theoretical level, by describing in detail the links between the determinants of the 6As, this study highlights, for the first time, the importance of these links in the construction of patients' access to care. In addition, still on a theoretical level, but without claiming to generalize this result for the moment, our results show, in an original way, the central place occupied by acceptability in the construction of access to care and indirectly that of awareness. This is an original contribution of our study, which shows that alongside

geographical accessibility, availability of care, and adequacy of resources, particularly in oncology, confidence in healthcare professionals (acceptability) combined with patient awareness are key factors in building links between the different determinants of access to care. This contribution therefore enables us to begin to sketch the first outlines of a network of 6As articulations in which these last two determinants occupy an essential place, particularly in oncology.

Methodologically, our work demonstrates the relevance of combining spatial and nonspatial approaches to analyze the determinants of access to care. Combining a geographic map approach with a qualitative one enables us to identify the systemic relationships and articulations between the determinants of access to care, and, in practical terms, to encourage innovative approaches to care, while thinking about cooperation between healthcare professionals in the area where the patient lives. Finally, in terms of organizational and managerial recommendations, this work highlights the need for collaboration between the CLCC and local hospitals, in order to improve the match between supply and demand, as well as the acceptability of local resources.

However, despite their novelty, these contributions have several limitations. The first is the nonexhaustiveness of our unique and specific case study. The large amount of data collected in this study was made possible by the AMA system implemented in this case which does not fully integrate elements of primary, community, and outpatient care. The geographic mapping approach developed in this study complements the AMA system's hospital-centered data by beginning to integrate outpatient elements such as the locations of GPs and pharmacists. However, in the future, in order to improve the comprehensiveness of our results, the application of our 6As systemic analysis, based on a geographical and relational methodology, should be replicated in other cases in order to collect more consistent extra-hospital data.

The second significant limitation of our work stems from our approach to access to care, which remains very hospital-centric. Another limitation concerns the uniqueness of the study setting and its hospital-focused perspective on access to care. Data were drawn from a specialized cancer center with an innovative follow-up system (AMA), making the context both relevant and atypical. Future research could build on this framework to explore access to care in relation to other chronic conditions, in rural or overseas territories. Nevertheless, the geographic map analysis carried out here identifies several categories of access to patient care and opens up prospects for applying our methodological approach to other regions and healthcare interventions (town medicine, isolated or disadvantaged areas, medico-social care, etc.).

Data Availability Statement

The data from this study are available upon express request from the corresponding author of this article.

Conflicts of Interest

The authors declare no conflicts of interest.

Author Contributions

Milhan Chaze: investigation, methodology, project administration, and writing–original draft. Laurent Mériade: conceptualization, data curation, formal analysis, investigation, project administration, writing–original draft, writing–review and editing, and supervision. Corinne Rochette: conceptualization, investigation, data curation, formal analysis, and supervision. Stephanie Malartre-Sapienza: conceptualization, investigation, and data curation. Anne Sophie Michallet: conceptualization, investigation, data curation, and supervision.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section. *(Supporting Information)*

Appendix 1. Presentation of all verbatim quotations cited in the manuscript.

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