Journey of the Patient With Melanoma: Understanding Resource Use and Bridging the Gap Between Dermatologist, Surgeon, and Oncologist in Different Health Care Systems

Cássia Rita Pereira da Veiga, PhD[1]; Claudimar Pereira da Veiga, PhD[1]; Ana Paula Drummond-Lage, PhD[2]; Alberto Julius Alves Wainstein, PhD[2]; and Andreia Cristina de Melo, MD, PhD[3]

abstract

PURPOSE New scientific evidence has led to modifications in the clinical practice of handling melanoma. In health care systems, there is currently a wide variety of clinical procedures to treat cancer, and the various routes have different effects on the survival of patients with cancer. Thus, this article aimed to evaluate the journey of patients with melanoma in the public and private health care systems in Brazil from the viewpoint of different medical professionals involved in the diagnosis and treatment of the disease. The study also considers the resources used for the complete delivery cycle of health care at different stages of the evolution of melanoma.

METHODS We conducted a behavioral study by applying a questionnaire to a group of medical professionals. A nonprobabilistic sampling method for convenience was used, justified by the heterogeneous national incidence and the limited availability of medical professionals who diagnose and treat melanoma.

RESULTS The questionnaire was answered by 138 doctors, including doctors from the Brazilian states with the highest concentration of medical specialists and regions with a higher melanoma incidence. The results of this study have the potential to enrich our understanding of the reality of Brazilian health care systems and, at the same time, allow us to discuss the multiple ways in which professionals from diverse specialist fields understand and explain decision making in health care. It is important to emphasize that the diagnosis and treatment of the melanoma patient is performed by several medical specialties, each responsible for different demands of care and resources according to the stage of evolution of the disease. In general, dermatologists and surgeons engage in early disease, while oncologists dedicate almost exclusively to advanced melanoma.

CONCLUSION Health care decision making is complex and, among other factors, depends on the diversity of available health resources and the knowledge of which treatments provide the greatest benefit to patients and greatest value to the system as a whole. This work can inform debates and reflection that are applicable not only in Brazil, but also in various other countries with similar realities.

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INTRODUCTION

Melanoma is the most aggressive form of skin cancer because of its increased potential for early dissemination and metastases and consequent high morbidity and mortality rates.[1] In Brazil, since the year 2000, the rates of melanoma have doubled, increasing from 2.52 to 4.84 per 100,000 population in men and from 1.93 to 3.22 per 100,000 population in women.[2] The treatment of cutaneous melanoma has undergone a number of changes over time,[3-5] which has resulted in changes in the clinical practice of managing this disease. Currently, in the Brazilian health care systems, a wide variety of clinical options are available as a result of inequality in scientific upgrades between institutions, the lack of consensus, the difference in

the availability of resources between institutions, and the difficulty in gaining access to resources. In the current scenario of diagnosing and treating melanoma, patients can follow different paths in the health care system, and different routes have different effects regarding the survival of patients with cancer.[6] In this sense, this study aimed to evaluate the journey of patients with melanoma in the public and private health care systems in Brazil with respect to the different medical professionals involved in the diagnosis and treatment of the disease, as well as the resources used for the complete health care delivery cycle in different phases of the evolution of melanoma.

The term patient journey is often seen as being defined as the mapping of processes to identify the clinical

CONTEXT

Key Objective
Are the journeys of patients with melanoma and health resource use similar in the private and public health care systems in Brazil?

Knowledge Generated
The diagnosis and treatment of patients with melanoma are performed by several medical specialties, each responsible for different demands for care and resources according to the stage of the disease. The formation of multidisciplinary medical teams is a recent occurrence in Brazil. In Brazil, decision making in health care is far from reaching a consensus, even for a specific disease such as melanoma, among professionals belonging to the same medical specialty or operating in the same health care delivery system. In the public heath care system, the limited availability of diagnostic and therapeutic options is a result of the underfunding of the sector. In the private system, the lack of protocols and nonrational use of resources can lead to losses in terms of efficiency and financial sustainability.

Relevance
In Brazil, a focus on the early stages of disease represents a great opportunity to reduce unequal access to diagnosis and treatment of deadly diseases such as melanoma.

trajectory of the patient and possible processes for improving health care delivery. Although previous studies have looked at the journey of patients with cancer using analyses of respective databases in other countries,[6-8] the health care system in Brazil has unique aspects, great heterogeneity between geographic regions,[2] and no centralized database with historical series of decision making in health care. Furthermore, whereas other studies have evaluated patients' journey through the eyes of the patients,[8-11] this study assesses the opinions of three medical specialties. Because the journey of the patient with cancer depends on the type of tumor and various pathways to diagnosis and treatment,[12] the current study focuses on melanoma, and its results have the potential to enrich our understanding of the Brazilian reality.

METHODS

Questionnaire Design

To evaluate the most commonly used standard techniques in Brazil for diagnosing and treating melanoma, the study involved collecting primary data using online questionnaires and semistructured interviews for the following three types of medical specialists: dermatologists, surgeons, and clinical oncologists. (Details of the questionnaire design are provided in the Data Supplement.)

Sampling and Data Collection

In this study, a nonprobabilistic sampling method for convenience was used, justified by the heterogeneous national incidence and the limited availability of medical professionals who diagnose and treat melanoma. The questionnaire was administered from February 15 to July 15, 2018. It was forwarded directly to medical professionals who are known to diagnose and treat melanoma, including the members of the Brazilian Melanoma Group. The questionnaire was answered by 138 doctors (80 dermatologists,

32 surgeons, and 28 clinical oncologists), including those from the Brazilian states with the highest concentration of medical specialists[13] and regions with a higher melanoma incidence.[14] (The characteristics of respondents are provided in the Data Supplement.)

Statistical Analysis

In this study, sociologic investigation for behavioral research was used.[15] The primary data were analyzed using the statistical program SPSS version 22.0 (SPSS, Chicago, IL) to evaluate the descriptive statistics, frequency distribution, and cross-tabulation of study variables.

RESULTS

Characteristics and Journey of the Patient With Melanoma According to Medical Expertise

Dermatologist (percentages relative to 72 valid questionnaires). Most of the dermatologists who participated in the study (88.6%) received one to three new patients with melanoma in a working month, normally at stage 0 (52.9%) or I (74.3%). Patients suspected they had the disease as a result of a routine examination (51.4%), after self-examination of the skin (47.2%), or knowledge of the disease as a result of melanomas diagnosed in family members or friends (40.3%). According to the dermatologists, the presence of multiple risk factors related to melanoma (19.4%) and skin cancer prevention campaigns (12.5%) are less important when it comes to motivating people to consult a specialist.

After confirmation of the diagnosis of melanoma in patients with stage 0 to IA and stage IB to II disease, the patient is generally monitored by a multidisciplinary medical team, with the dermatologist participating in the staging and treatment along with the other specialists (33.3% of patients with stage 0 to IA disease and 47.2% of patients with stage IB to II disease), or is referred for surgery (59.8% of

patients with stage 0 to IA disease and 48.6% of patients with stage IB to II disease) to broaden the resection margin. Even in cases of advanced melanoma, when patients have compromised lymph nodes or metastatic disease, 36.1% of the dermatologists participate in the staging, treatment, and monitoring of the patient within a multidisciplinary medical team. Most stage III or IV patients are referred to a surgeon or clinical oncologist (63.9%) in the absence of a multidisciplinary medical team.

In addition to the consolidation of dermatologists in the multidisciplinary medical teams that provide full care for patients, the journey of a patient with melanoma, which begins with the dermatologist, often involves being referred to other specialists. In the early stages of the disease, approximately one in two dermatologists send the patient to a surgeon, whereas one in three dermatologists refer the patient directly to an oncologist when the disease is at an advanced stage. All the results of the questionnaire were evaluated by cross-tabulation. It was found that, from the viewpoint of the dermatologists, the characteristics and journey of patients with melanoma are the same among health care professionals who work in both the public and private systems and those who work exclusively in the private system. The journey of a patient with melanoma from the viewpoint of the dermatologist is summarized in Figure 1.

Surgeon (percentages relative to 31 valid questionnaires; 22 oncologic surgeons; 21 surgeons work in both the public and private health systems). The greatest percentage of the surgeons who participated in this project (45.2%) received one to three new patients with melanoma per month, whereas 12.9% of surgeons received four to five patients,

25.8% received six to 10 patients, and 16.1% received more than 10 patients. A higher concentration of patients with melanoma was found among oncologic surgeons (68.2% with four or more new patients with melanoma per month) and among surgeons who work in both the public and private health systems (61.9% with four or more new patients with melanoma per month).

In general, patients with melanoma are referred to the surgeon by the dermatologist (100%) and, less frequently, the clinical oncologist (38.7%). These patients usually arrived at the clinic or were staged in their first consultation with stage I (77.4%) or II (64.5%) disease. The principal reasons for the first consultation involved broadening the resection margins (83.9%) and performing sentinel lymph node biopsy (SLNB) to aid in staging (64.5%). Broadening the resection margin is a common practice in patients with stage 0 to IA (93.5%), IB to II (93.5%), and III (77.4%) disease. As the disease evolves, the surgeon assumes an important role in the SLNB (stage IB to II, 93.5%) and the lymphadenectomy (resectable stage III [rIII], 83.9%). The choice regarding the type of surgical procedure is principally determined by the degree of evolution of the disease, specifically by the thickness of the tumor (83.3%) and the staging of the patient (66.7%). In general, at the end of the surgical treatment, patients with stage 0 to IA (41.9%), stage IB to II (58.1%), stage rIII (67.7%), and unresectable stage III and stage IV (45.2%) disease remain in the care of the surgeon as part of a multidisciplinary medical team. This occurs more frequently among professionals who work in both the public and private health systems (stage 0 to IA, 61.5%; IB to II, 66.7%; rIII, 66.7%; and unIII and IV, 64.3%) and among oncologic surgeons
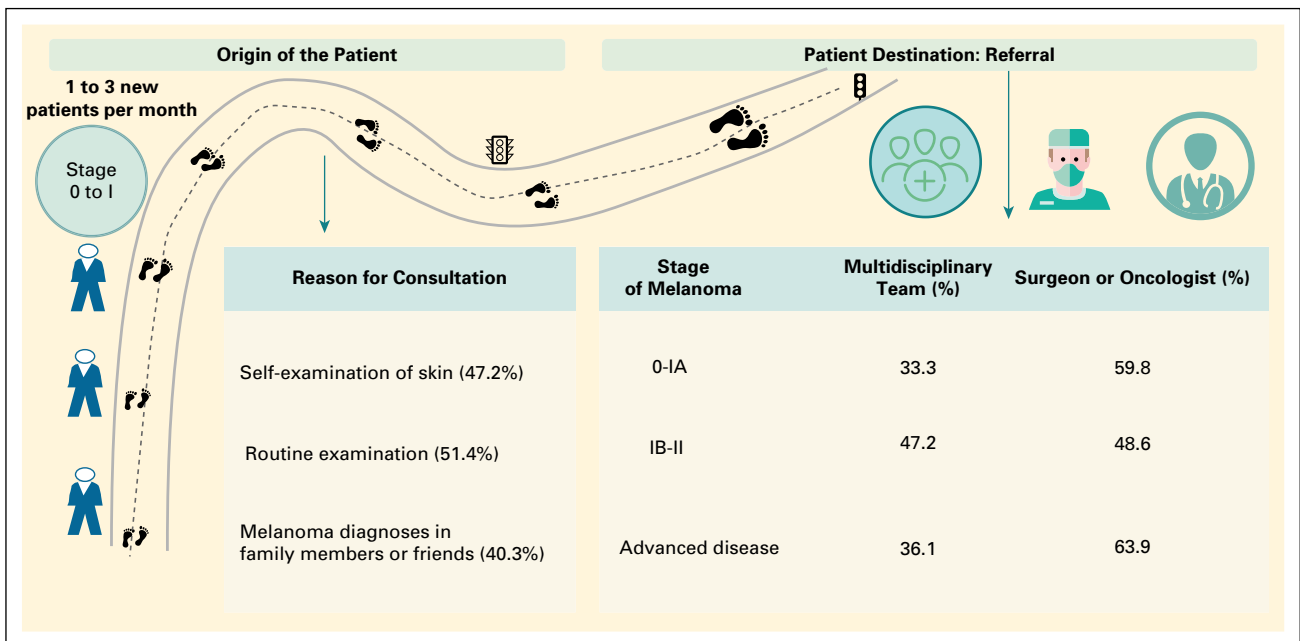

Reason for Consultation	Stage of Melanoma	Multidisciplinary Team (%)	Surgeon or Oncologist (%)
Self-examination of skin (47.2%)	0-IA	33.3	59.8
Routine examination (51.4%)	IB-II	47.2	48.6
Melanoma diagnoses in family members or friends (40.3%)	Advanced disease	36.1	63.9

FIG 1. Journey of the patient with melanoma from the dermatologist's point of view.

(stage 0 to IA, 76.9%; IB to II, 77.8%; rIII, 81.0%; and unIII and IV, 85.7%).

In the absence of a multidisciplinary medical team, one in three surgeons referred patients with stage 0 to IA disease to a dermatologist (35.5%), and approximately one in five surgeons continued to monitor patients in the early stages of the disease clinically (stage 0 to IA, 16.1%; stage IB to II, 19.4%). Patients with stage rIII disease (29.0%) or stage unIII and IV disease (48.4%) were referred to a clinical oncologist for treatment. The journey of a patient with melanoma from the viewpoint of the surgeon is illustrated in Figure 2.

Oncologist (percentages relative to 28 valid questionnaires; 17 oncologists work in the private health system and 11 work in the public health system). Most of the oncologists who operate in the private health care system (82.4%) received one to three new patients with melanoma per month, whereas the majority of oncologists in the pubic system (54.6%) received more than four patients newly diagnosed with the disease per month. This information suggests that the number of patients with melanoma is higher in the public health system and/or that some services are segmented among oncologists by therapeutic recommendations regarding how patients are referred to specific professionals. In general, patients were referred to clinical oncologists by the surgeon (private health system, 88.2%; public health system, 63.6%) or the dermatologist (private health system, 58.8%; public health system, 36.4%). However, some patients (45.5%) were referred by other oncologists in the public system, strengthening the hypothesis of segmentation by therapeutic recommendation. Furthermore, because the Sistema Único de Saúde functions as a gatekeeper system, few patients consult an oncologist in the public system of their own accord (9.1%), but they can be referred by any medical specialist (18.2%).

Normally, in the first consultation with an oncologist, the patient already had a histopathologic diagnosis (private

health service, 94.1%; public health service, 100%) and was at an advanced stage of the disease (stage III: private system, 58.8%; public system, 90.9%; stage IV: private health system, 76.5%; public health system, 90.9%). It should also be highlighted that although 41.2% of the oncologists who work in the private system diagnose and treat patients at earlier stages of the disease, only 18.2% of those in the public system experience this reality.

This study did not find that multidisciplinary medical teams participated in the decision making of the oncologist. In general, the study demonstrated that the oncologist assumed the role of coordinating the referral of the patient to other essential medical specialties for activities related to staging and treatment, but with the patient's commitment to return to the oncologist at the end of the process. The journey of the patient with melanoma from the viewpoint of the clinical oncologist in the public and private health systems is illustrated in Figure 3.

Type and Frequency of Resources Used in Melanoma Diagnosis and Treatment

Dermatologist (percentages relative to 72 valid questionnaires). Of the professionals involved in the journey of the patient with melanoma, the dermatologist is the one who consumes the least resources to diagnose and treat patients. The results of this study showed that the dermatologist only uses physical examination, biopsy, and histopathologic analysis to diagnose patients, whereas the intracutaneous management of the lesion is delegated to other specialties. The type and frequency of resources used in diagnosing and treating patients with melanoma were similar among the health professionals who worked concomitantly in the public and private systems and those who worked exclusively in the private system.

Surgeon (percentages relative to 31 valid questionnaires; 22 oncologic surgeons; 21 surgeons work in both the public and private health systems). For patients with suspected
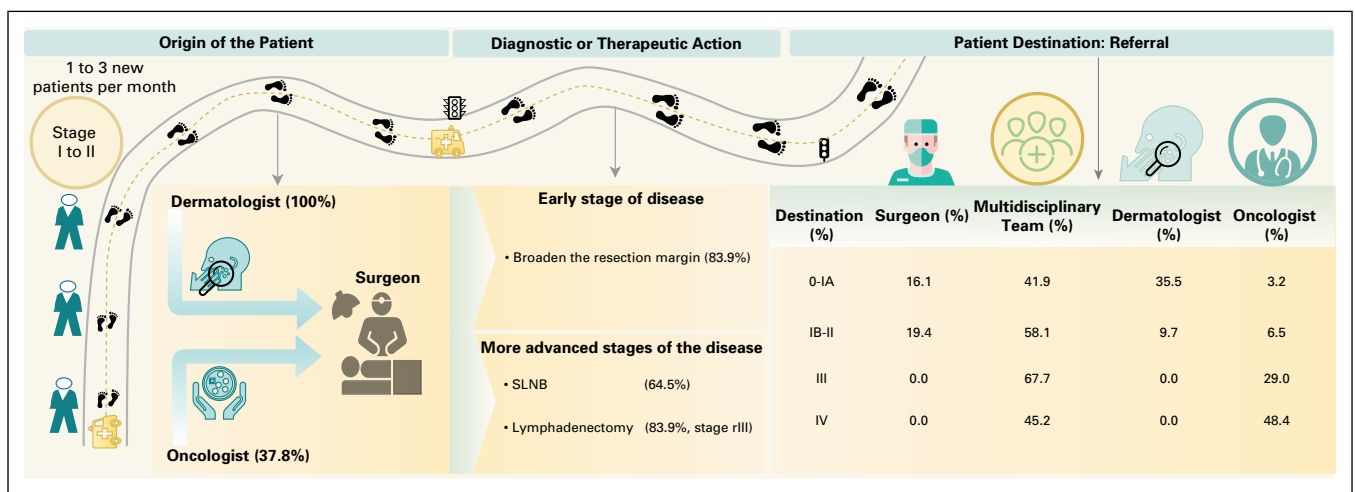

Destination (%)	Surgeon (%)	Multidisciplinary Team (%)	Dermatologist (%)	Oncologist (%)
0-IA	16.1	41.9	35.5	3.2
IB-II	19.4	58.1	9.7	6.5
III	0.0	67.7	0.0	29.0
IV	0.0	45.2	0.0	48.4

Origin of the Patient — 1 to 3 new patients per month — Stage I to II — Dermatologist (100%) — Surgeon — Oncologist (37.8%)

Diagnostic or Therapeutic Action — Early stage of disease — • Broaden the resection margin (83.9%) — More advanced stages of the disease — • SLNB (64.5%) — • Lymphadenectomy (83.9%, stage rIII)

Patient Destination: Referral

FIG 2. Journey of the patient with melanoma from the surgeon's point of view. rIII, resectable stage III; SLNB, sentinel lymph node biopsy.
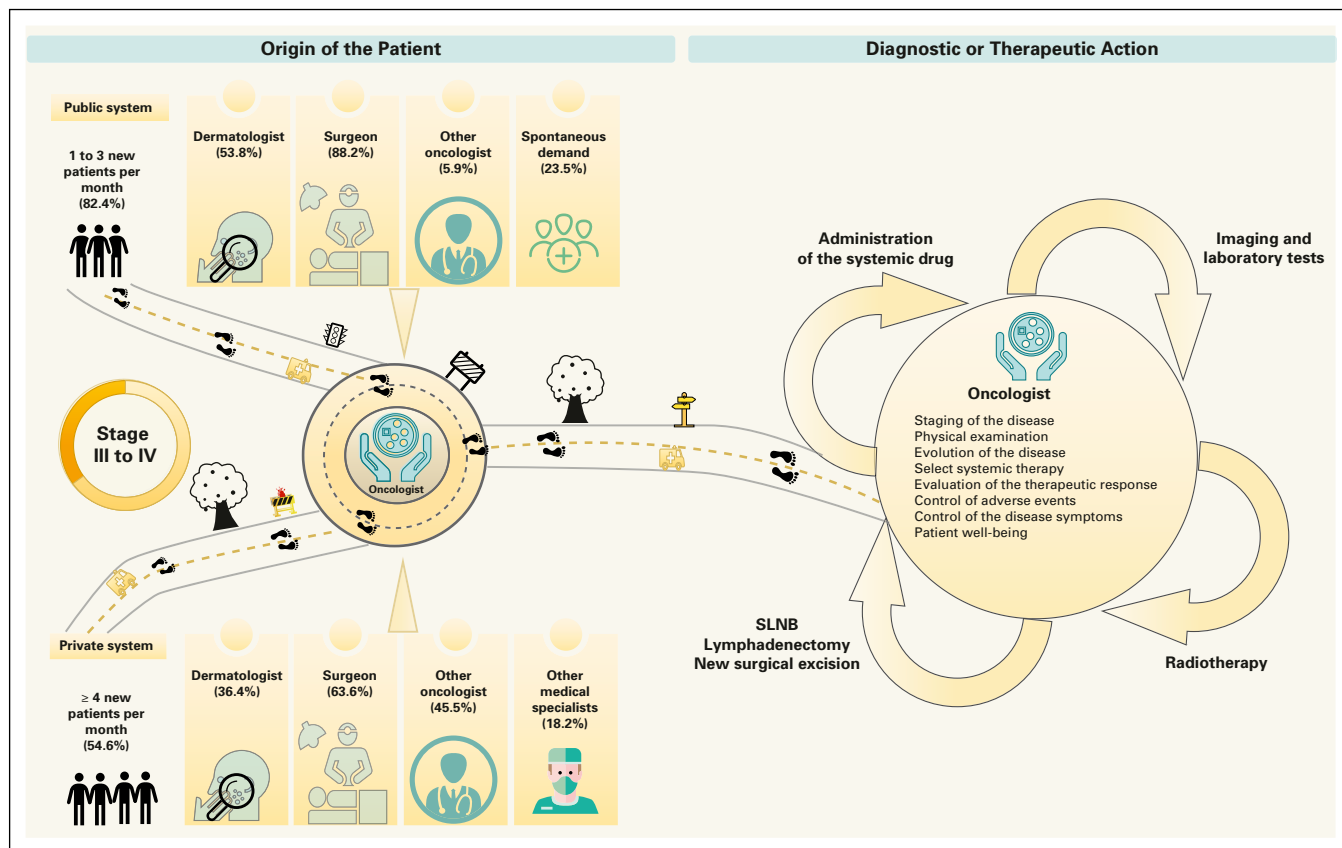
FIG 3. Journey of the patient with melanoma from the oncologist's point of view. SLNB, sentinel lymph node biopsy.

melanoma, there was a high level of consensus among the surgeons regarding performing a biopsy at all stages of the disease (86.7%, 86.7%, 80.0%, and 70.0% for stages 0 to IA, IB to II, rIII, and unIII and IV, respectively). For stages unIII and IV, the pathologic information seems to be less important to the surgeon, probably because of the more limited actions of this professional in the diagnosis and treatment of the patient with metastatic disease. Information on *BRAF* status was considered relevant to the staging process only in patients with stage rIII and stages unIII and IV (63.0% and 73.0%, respectively), whereas information on programmed death ligand 1 status was generally not requested, irrespective of the stage of the disease.

Before the surgical procedure, the surgeon normally evaluates the patient using laboratory tests (stage 0 to IA, 70.0%; IB to II, 80.0%; rIII, 87.0%; and unIII and IV, 73.0%) and imaging tests (stage 0 to IA, 53.0%; IB to II, 73.0%; rIII, 97.0%; and unIII and IV, 90.0%) for all stages of the disease. Regarding laboratory tests, a blood count (63.3% to 80.0% of patients with stage 0 to IV disease), blood glucose test (43.3% to 53.3%), renal function evaluation (43.3% to 53.3%), and lactate dehydrogenase (LDH; 50.0% to 80.0%) are often requested, irrespective of stage. A liver function evaluation is an additional test requested in for patients with stage rIII (60.0%) and stage unIII and IV (60.0%) disease. Regarding imaging tests and

without considering the primary site of the disease, x-rays (70.0%) and ultrasound (50.0%) are the most frequent resources used before surgery for patients with stage 0 to IA disease. X-rays (53.3%) and computed tomography (CT; 53.3%) are most often used in patients with stage IB to II disease, and magnetic resonance imaging (63.3%) and positron emission tomography (PET)–CT (73.3%) are most often used in patients with stages rIII and unIII and IV.

After the surgical procedure, surgeons tend not to request laboratory tests for patients with stage 0 to IA (70.0%) and stage IB to II (60.0%) disease. Conversely, for patients with advanced stages of disease, 50% of surgeons use laboratory tests in the postsurgery phase. In these patients, the laboratory evaluation is practically limited to the level of LDH (57.0% to 60.0%). Most surgeons request imaging tests after surgery. Imaging tests are used for patients with stage IB to II (75.0%), rIII (83.0%), and unIII and IV (79.0%) disease. There was less consensus regarding the choice of imaging test among the respondents, with a preference for ultrasound (43.3%) in patients with stage IB to II disease; CT (46.7%), magnetic resonance imaging (40.0%), and PET-CT (50.0%) in patients with stage rIII disease; and magnetic resonance imaging (43.3%) and PET-CT (56.7%) in patients with stage unIII and IV disease. It should be highlighted that, in general, the cross-tabulation analysis showed that for oncologic surgeons and

other surgeons, and for professionals who work simultaneously in the public and private health systems and those who work exclusively in the private system, the type and frequency of resources used to diagnose and treat melanoma were similar.

Oncologist (percentages relative to 28 valid questionnaires; 17 oncologists work in the private health system and 11 work in the public health system). Oncologists normally receive patients at an advanced stage of the disease. However, when they receive patients with suggestive lesions, they request a biopsy. There is a high level of consensus among the professionals regarding the need for pathologic information on the histology, Breslow depth, and ulceration status for all staging processes. The *BRAF* status is requested in patients with stage rIII (64.7%) and stages unIII and IV (100%) disease by oncologists in the private health system, but only in patients with stages unIII and IV (90.9%) by oncologists in the public health system. Information on programmed death ligand 1 status was not considered necessary in the staging of the patient, irrespective of the stage of disease.

Requesting laboratory tests when staging the patient is a common practice at all stages of the disease for oncologists who work in the private and public health systems. However, the requested laboratory tests vary according to the stage of the disease, with more laboratory information requested for stages rIII and unIII and IV. In the private system, only the full blood count (stage 0 to IA, 52.9%; IB to II, 58.8%; rIII, 94.1%; and unIII and IV, 100%) and LDH (stage 0 to IA, 58.8%; IB to II, 64.7%; rIII, 82.4%; and unIII and IV, 94.1%) were requested at all stages of the disease. The results of imaging tests were considered important by oncologists in the private system and public system for patients with stage IB to II (64.7% and 72.7%, respectively), rIII (100% and 100%, respectively), and unIII and IV (100% and 100%, respectively). For the oncologists in the public system who requested imaging tests in the staging process, the main options were x-rays (72.7%) for stage IB to II, CT for stages rIII (63.6%) and unIII and IV (72.7%), and PET-CT only at the most advanced stages of the disease (unIII and IV, 54.5%). Conversely, for patients with advanced disease, oncologists who work in the private system requested magnetic resonance imaging (stage rIII, 52.9%; stages unIII and IV, 52.9%) and PET-CT (stage rIII, 70.6%; stages unIII and IV, 88.2%).

After staging and beginning treatment, patients were monitored by physical examinations at all stages of the evolution of the disease in the private health system (stage 0 to IA, 76.5%; IB to II, 76.5%; rIII, 94.1%; and unIII and IV, 94.1%) and the public health system (stage, 0 to IA, 90.9%; IB to II, 90.9%; rIII, 100%; and unIII and IV, 100%) and, for patients with stages rIII and unIII and IV disease, by laboratory and imaging tests. In the private system, the frequency of monitoring was biannual for patients at stages 0 to IA (52.9%) and IB to II (82.4%) and monthly for those at an advanced stage (rIII, 70.6%; unIII and IV, 70.6%). In the public health system, monthly clinical monitoring was restricted to patients with stages unIII and IV (72.7%). Regarding laboratory tests, in the private system and public system, only the full blood count (rIII, 82.4% and 81.8%; unIII and IV, 94.1% and 100%, respectively), liver function tests (rIII, 64.7% and 72.7%; unIII and IV, 76.5% and 90.9%, respectively), renal function tests (rIII, 64.7% and 72.7%; unIII and IV, 82.4% and 100%, respectively), and LDH (rIII, 41.2% and 90.9%; unIII and IV, 76.5% and 100%, respectively) were requested exclusively for stages rIII, unIII, and IV disease. Regarding imaging tests, the oncologists in the public health system requested x-rays for patients with stage IB to II disease (72.7%) and CT for patients with stage rIII disease (90.9%) and stages unIII and IV disease (100%). In the private health system, CT (rIII, 52.9%; unIII and IV, 64.7%) and PET-CT (rIII, 52.9%; unIII and IV, 70.6%) were requested for all patients with an advanced disease.

SLNB is a common practice for patients with stage IB to II disease (private health system, 76.5%; public health system 81.8%) and stage rIII disease (private health system, 82.4%; public health system, 90.9%). When the pathologic result is negative for the SLNB, adjuvant treatment is not recommended (public health system, 100%; private health system, 88.2%). In patients with a positive SLNB, lymphadenectomy is a common practice (public health system, 63.6%; private health system, 41.2%). If the pathologic result of the SLNB is positive, the patient receives adjuvant treatment (public health system, 81.2%; private health system, 94.1%). There is no consensus concerning the options chosen for adjuvant treatment. In the public health system, approximately one in two oncologists (45.5%) would use interferon alfa in first-line treatment, and approximately one in three oncologists (27.3%) would follow this with clinical observation in the second and third lines of treatment. In the private health system, where more resources are available, approximately one in two oncologists (47.1%) would use anti–programmed cell death 1 (PD-1) therapy in the first line, and approximately one in three oncologists (29.4%) would follow this with targeted therapy in the second line.

When the disease becomes metastatic in patients with melanoma, systemic treatment is recommended. In the private health system, *BRAF*-mutant patients with low-volume disease are treated with an anti–PD-1 agent (76.5%) in the first line, a BRAF and MEK inhibitor (64.7%) in the second line, and anti–cytotoxic T-cell lymphocyte-4 (CTLA-4; 35.3%) in the third line of treatment. In the public health system, these patients are submitted sequentially to chemotherapy (72.7%), radiotherapy (45.5%), and palliative care (54.5%). The systemic treatment of *BRAF*-mutant patients with high-volume disease in the private system involves the use of a BRAF and MEK inhibitor (88.2%) in the first line of treatment and an anti–PD-1 agent (70.6%) in the subsequent lines. For the first, second, and third lines of treatment, the options chosen in

the public system are chemotherapy (81.8%), radiotherapy (45.5%), and palliative care (63.6%), respectively.

Patients with low-volume, *BRAF* wild-type melanoma are treated with an anti–PD-1 agent (88.2%), anti–CTLA-4 (52.9%), and chemotherapy (35.3%) in the private health system and with chemotherapy (72.7%), radiotherapy (36.4%), and palliative care (54.5%) in the public system in the first, second, and third lines of treatment, respectively. The systemic treatment of patients with high-volume, *BRAF* wild-type disease involves anti–PD-1 and anti–CTLA-4 (47.1%) in the first line, anti–PD-1 (41.2%) in the second line, and anti–CTLA-4 in the third line of treatment in the private health system. In the public system, these patients are submitted sequentially to chemotherapy (90.9%), radiotherapy (36.4%), and palliative care (63.6%). In the presence of brain metastasis, radiotherapy assumes an important role.

After initiating metastatic melanoma treatment and to monitor the progress of the disease and/or the development of an adverse event, the patient can be assessed through a physical examination (public health system, 100%; private health system, 88.2%), complete laboratory test (public health system, 90.9%; private health system, 64.7%), and imaging tests (public health system, 90.9%; private health system, 100%), all on a monthly basis. Regarding imaging tests, patients are monitored via CT (public health system, 100%; private health system, 76.5%), magnetic resonance imaging (public health system, 63.6%; private health system, 70.6%), and PET-CT, the latter exclusively in the private health system (88.2%). (Additional information on the results is provided in the Data Supplement).

DISCUSSION

This study makes three important contributions to the literature, and at the same time, it enables a discussion of the multiple ways that surgeons, dermatologists, and oncologists understand and explain decision making in health care. The first contribution is showing that we are far from a consensus when it comes to decision making in health care in Brazil, even for a specific disease such as melanoma, among professionals belonging to a medical specialty or operating in the same health care delivery system. In Brazil, the public health care system has protocols and directives for treating melanoma. However, the limited list of diagnostic and therapeutic options is not imposed by technical information but by the underfunding of the sector. In this case, the variety of clinical procedures is a result of the difference in the availability of resources among public institutions and the level of facility in accessing them. The private health care system, in contrast, has access to a wider variety of resources that can be used in accordance with the latest scientific advances. However, the lack of protocol and nonrational use of resources can lead to a wide variety of clinical procedures.

The second contribution of this study is related to the equity between the two health care systems in Brazil, which occurs only in the earliest stages of melanoma. The results confirm that the new scientific evidence that is available and the resulting innovations in health care have resulted in increased segregation of health care in the country.[16,17] There are no differences in the patient's journey and the type and frequency of resources used by dermatologists and surgeons to treat melanoma in the public and private health systems. However, for advanced disease, when the patient with melanoma is diagnosed and treated by an oncologist, there have been considerable advances in how melanoma is diagnosed and treated, such as the use of PET-CT imaging and treatment with high-cost drugs. In this recent context, unequal access to resources for patients with advanced disease between the Brazilian public and private health care systems has become a greater challenge. In Brazil, a focus on identifying disease early represents a great opportunity to reduce inequality of access to diagnosis and treatment of deadly diseases such as melanoma.

Finally, the third and last contribution of the study is that it highlights a new Brazilian reality in the diagnosis and treatment of patients with melanoma—the formation of multidisciplinary medical teams reported by dermatologists and surgeons who participated in the study. The formation of multidisciplinary medical teams is a recent occurrence in Brazil, and there is no doubt that the work of the Brazilian Melanoma Group has directly contributed to the increase in medical awareness regarding the importance of the performance of multidisciplinary medical teams in the journey of the patient with melanoma. Given the importance of this topic, it is fundamental that future research evaluate the impact of multiprofessional medical work on early diagnosis, the time between diagnosis and treatment, disease-free survival, the use of health resources, and the journey of the patient with melanoma.

The primary data obtained in this study have limitations. However, the content analysis is empirically valid, and the research results have provided strategic information previously unpublished in Brazil that would not be accessible otherwise because of the geographic dimensions of the country and the difficulty in accessing the participating medical specialists. Future studies could explore the opinions of other specialists involved in treating melanoma and the patients' journey from the viewpoint of family members or the patients themselves because the community needs to be aware of what will happen after patients are diagnosed with melanoma. Studies could even investigate the strategic management of the cost of various pathways to melanoma diagnosis and treatment. This work was not intended to be exhaustive with regard to such a complex theme. Rather, it was intended to stimulate debate and reflection that is applicable not only in Brazil, but also to a range of countries with similar realities.

AFFILIATIONS
[1]Federal University of Paraná, Curitiba, Paraná, Brazil
[2]Faculty of Medical Sciences of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil
[3]Brazilian National Cancer Institute, Hospital do Câncer II, Rio de Janeiro, Rio de Janeiro, Brazil

CORRESPONDING AUTHOR
Cássia Rita Pereira da Veiga, PhD, Federal University of Paraná, 632 Lothário Meissner Ave, Jardim Botânico, 80210-170, Curitiba, Paraná, Brazil; e-mail: cassia.veig@gmail.com.

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