

Referral criteria for timely palliative care in patients with metastatic cancer: A cross sectional study

Marine Sahut d'Izarn

msahut.dizarn@ght78sud.fr

Hospital of Versailles

David Hui

MD Anderson Cancer Center

Carole Bouleuc

Institut Curie, Paris-Cité University

Pascale Vinant

Cochin-HEGP Hospital, AP-HP, Paris-Cité University

Ingrid Joffin

Groupe Hospitalier Diaconesses croix saint Simon

Bruno Vincent

Beaujon Hospital, AP-HP

Claire Barth

Cochin-HEGP Hospital, AP-HP, Paris-Cité University

Laure Serresse

La Pitié Salpêtrière Hospital, AP-HP

Lucie Ya-de-Rauglaudre

Hospital of Versailles

Madalina Jacota

Ambroise Paré Hospital, AP-HP

Malamine Gassama

Ambroise Paré Hospital, AP-HP

Matthieu Stampa

Centre gériatrique départemental 13

Research Article

Keywords: early palliative care, metastatic cancer, healthcare integration, information needs

Posted Date: July 1st, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-9543274/v1>

License:  This work is licensed under a Creative Commons Attribution 4.0 International License.
[Read Full License](#)

Additional Declarations: No competing interests reported.

Abstract

Purpose: Consensual criteria for timely palliative care (PC) referral for patients with advanced cancer were defined through an international Delphi process. However, it is unclear how often patients meet criteria and how often they meet PC teams accordingly.

Methods: This prospective multicenter cross sectional study involved outpatients and inpatients with metastatic cancer from oncology departments in 8 hospitals. We assessed the proportion of patients who met referral criteria (primary outcome) and the proportion of patients who had PC team consultations in the past 3 months.

Results: 355 patients with metastatic cancer were included (average age 65.7 years; 52.4% female), with 265 (74.6%) outpatients and 90 (25.4%) inpatients. The most commonly met criteria were estimated prognosis < 1 year (N=235, 66.2%), need for assistance with decision-making or care planning (N=214, 60.3%), and severe physical symptoms (N=148, 41.7%). 334 (94.1%) of all patients met at least one criterion, and 71% met ≥ 2 criteria. Inpatients met referral criteria more frequently than outpatients did (98.9% versus 92.5%, $p=0.048$). Only 133 (37.5%) patients had a palliative care consultation in the past 3 months (32.5% of outpatients and 52.2% of inpatients, $P=0.001$).

Conclusion:

Screening for referral criteria revealed that a substantial majority of patients had supportive care needs warranting palliative care referral, particularly in the inpatient setting. Only a minority of these patients had a recent PC consultation, suggesting opportunities to streamline the referral process.

Trial registration: This trial was registered in ClinicalTrial.gov PRS with the ID NCT05339945 on April 21, 2022.

INTRODUCTION

Early integration of specialized palliative care alongside oncologic care improves quality of life, decreases intensive end-of-life care, and is an evidence-based practice recommended by international guidelines.[1–10] However, considering the progress in cancer treatments, some patients with advanced cancer may not require specialized palliative care initially. Moreover, given the limited availability of palliative care teams in many countries, referring all patients as soon as an incurable cancer is diagnosed is not currently feasible.[11] Thus, the medical literature has evolved from recommending the systematic involvement of palliative care teams at diagnosis of metastatic cancer to endorsing a targeted approach, “timely palliative care,” which aims to address the right patient, at the right time, within the right organization.[12]

In 2017, Hui et al. conducted a Delphi study to establish consensual referral criteria for outpatient palliative care, involving 60 international experts. Panelists reached consensus on 11 major criteria for referral (9 need-based and 2 time-based criteria, any criterion being a sufficient reason to propose

referral).[13] In a retrospective study, at least one of these criteria was found in 85% of 200 outpatients referred to an American supportive care clinic. The median overall survival after referral was 14 months. The authors conclude that standardized referral based on these criteria may promote even earlier referral.[14] Furthermore, these criteria were initially developed for outpatients and no studies have yet examined their applicability to hospitalized patients, who typically present with more advanced disease.

A clearer understanding of the proportion of patients who meet referral criteria versus those who are actually cared for by palliative care teams is needed to identify gaps in palliative care delivery and inform resource planning across outpatient and inpatient settings. In healthcare systems lacking a systematic referral strategy, identifying the criteria associated with palliative care use, and those that are not, will help design referral strategies and targeted educational interventions. In this multicenter study, we screened patients for referral criteria and examined the proportion of outpatients and inpatients with metastatic cancer who met the referral criteria, as well as the proportion of patients who received a recent palliative care consultation. The secondary objectives were to compare the prevalence of palliative care referral criteria between outpatients and inpatients, and to determine the factors associated with recent palliative care consultation.

METHODOLOGY

Study design

We conducted an observational, cross-sectional, multicenter study in eight hospitals in the Ile-de-France region. The participating centers did not routinely employ screening strategies for symptoms or palliative care needs, and patients were referred to palliative care teams at the discretion of the oncologist. When referred, patients generally first encounter hospital-based palliative care teams, and are then referred if necessary to home-based palliative care teams. Inpatients and outpatients are cared for by the same hospital-based palliative care team. Home-based palliative care teams can work alongside hospital teams. France is recognized as one of the countries with advanced palliative care development [15]. The Ile-de-France region is one of the best equipped areas in the country in terms of palliative care teams and units in the country [16].

One palliative care specialist at each site served as the local investigator and was responsible for including 40 patients from oncology department, in both outpatient and inpatient settings, from June 2022 to May 2023. Inclusion criteria were patients over 18 years old with metastatic cancer who were present in the participating oncology departments on study days, regardless of any prior palliative care consultation. The exclusion criteria were the lack of medical insurance (normally universal for French residents), visual/hearing impairment or aphasia, no understanding of French, inability to provide informed non-opposition as determined by the investigators (cognitive impairment), or a diagnosis of testicular cancer or ovarian choriocarcinoma (curable cancers).

The 40 patients were included over several days, with the process spread over a maximum period of three months. In one center, the palliative care specialist was able to include two sets of 40 patients in two distinct oncology departments in the same hospital. In outpatient settings, on the days dedicated to the study, the investigator invited all consecutive patients seen in consultations or in the chemotherapy day hospital to participate. In inpatient settings, the investigator invited all hospitalized patients to participate in the study.

Data collected

The presence or the absence of the 11 major criteria of the international consensus were extracted from different sources. Table 1 details the criteria and the screening procedure.

Table 1

Assessment of Referral Criteria. [13] Abbreviations : EORTC QLQ C30 : European Organization for the Research and Treatment of Cancer- Quality of Life Questionnaire C 30. SCNS-SF34 : 34 item Supportive Care Needs Survey- Short Form

Criteria	Who	How	Positive screen
Need-based criteria			
Severe physical symptoms	Patients	- Symptom > 66.7 on EORTC-QLQ C30 (except from financial difficulties) - Physical functioning < 33.3 on EORTC QLQ C30 - Physical and daily living needs > 66.7 on SCNS-SF34	At least one
Severe emotional symptoms	Patients	- Emotional functioning < 33.3 on EORTC-QLQ C30 - Psychological needs > 66.7 on SCNS-SF34	At least one
Request for hastened death	Oncologists	Has the patient made or suggested a request for hastened death (suicidal ideation, euthanasia, assisted suicide) : Yes/No	Yes
Spiritual or existential crisis	Oncologists	Has the patient gone through or is he going through a spiritual or existential crisis : Yes/no	Yes
Assistance with decision making or care planning	Patients and oncologists	- Oncologists : Does the patient seek assistance for therapeutic decision making and care planning ? : Yes/no - Patients : Would you say that you would like to be assisted for decisions regarding your treatments or upcoming care ? : Yes/No	At least one Yes
Patient request for palliative care referral	Oncologists	Does the patient or his family wish to meet with a palliative care team ? : Yes/No	Yes
Delirium	Research staff in the medical record	Delirium history	Yes
Brain or leptomeningeal metastases	Research staff in the medical record	Existence of brain or leptomeningeal metastases	Yes

Criteria	Who	How	Positive screen
Need-based criteria			
Spinal cord compression or cauda equina	Research staff in the medical record	Existence of Spinal cord compression or cauda equina	Yes
Time-based criteria			
Within 3 months of diagnosis of advanced or incurable cancer for patients with median survival of 1 year or less	Oncologists	Would you be surprised if this patient died in the next 12 months? Yes/No	No
Diagnosis of advanced cancer with progressive disease despite second-line systemic therapy	Research staff in the medical record	- Progressive disease despite second line therapy - Patient undergoing third or more line of systemic therapy	At least one item

Table 2
Description of the study population

Age		Total	Outpatients	Inpatients	p-value
	mean(std)	65.7(12.6)	66(12.4)	65(13.3)	0.614
	med[IQ]	67.0[58.0;75.0]	68.0[59.0;75.0]	67.0[56.0;74.0]	
	min-max	24.0–93.0	28.0–93.0	24.0–91.0	
Sex	Men (%)	169 (47.6)	142 (53.6)	44 (48.9)	0.517
	Women (%)	186 (52.4)	123 (46.4)	46 (51.1)	
Performance status	0 (%)	89 (27.7)	80 (33.2)	9 (11.2)	< 0.0001
	1 (%)	129 (40.2)	101 (41.9)	28 (35.0)	
	2 (%)	80 (24.9)	52 (21.6)	28 (35.0)	
	3 (%)	20 (6.2)	8 (3.3)	12 (15.0)	
	4 (%)	3 (0.9)	0 (0.0)	3 (3.8)	
	Missing	34	24	10	
Type of cancer	Gynecological (%)	26 (7.3)	21 (7.9)	5 (5.6)	0.091
	Liver and biliary tracts (%)	3 (0.8)	3 (1.1)	0 (0.0)	
	ENT (%)	7 (2.0)	6 (2.3)	1 (1.1)	
	Pancreas (%)	44 (12.4)	31 (11.7)	13 (14.4)	
	Skin (%)	42 (11.8)	35 (13.2)	7 (7.8)	
	Lung (%)	65 (18.3)	56 (21.1)	9 (10.0)	
	Prostate (%)	19 (5.4)	14 (5.3)	5 (5.6)	
	Kidney (%)	7 (2.0)	5 (1.9)	2 (2.2)	
	Breast (%)	38 (10.7)	27 (10.2)	11 (12.2)	
	Digestive tract (%)	64 (18.0)	44 (16.6)	20 (22.2)	
	Other (%)	40 (11.3)	23 (8.7)	17 (18.9)	
Time between 1st metastasis and day of	mean(std)	24.9(30.6)	25.9(30.1)	21.8(32.1)	0.017

Age		Total	Outpatients	Inpatients	p-value
	mean(std)	65.7(12.6)	66(12.4)	65(13.3)	0.614
inclusion (months)	med[IQ]	13.8[4.5;35.1]	15.7[5.2;38.2]	12.0[2.2;27.6]	
	min-max	0.0-262.6	0.0-262.6	0.2-203.1	
	Missing	72	53	19	
Treatment received in the last 30 days	Surgery (%)	4 (1.1)	3 (1.1)	1 (1.1)	> 0.99
	Radiotherapy (%)	21 (5.9)	11 (4.2)	10 (11.1)	0.031
	Systemic treatment (%)	313 (88.2)	238 (89.8)	75 (83.3)	0.146
	Simple monitoring (%)	32 (9.0)	20 (7.5)	12 (13.3)	0.149
	Palliative care only (%)	6 (1.7)	4 (1.5)	2 (2.2)	0.646
Type of systemic treatment (in the last	N	313	238	75	
30 days)	Chemotherapy (%)	199 (63.6)	141 (59.2)	58 (77.3)	0.007
	Immunotherapy (%)	120 (38.3)	95 (39.9)	25 (33.3)	0.375
	Targeted therapy (%)	27 (8.6)	21 (8.8)	6 (8.0)	> 0.99
	Hormonotherapy (%)	21 (6.7)	19 (8.0)	2 (2.7)	0.18
Number of previous treatment lines	0 ou 1 Line (%)	203 (59.0)	163 (62.5)	40 (48.2)	0.035
	2 Lines (%)	66 (19.2)	48 (18.4)	18 (21.7)	
	3 Lines (%)	36 (10.5)	27 (10.3)	9 (10.8)	
	More of 4 lines (%)	39 (11.3)	23 (8.8)	16 (19.3)	
	Missing	11	4	7	

Age		Total	Outpatients	Inpatients	p-value
mean(std)		65.7(12.6)	66(12.4)	65(13.3)	0.614
Consultation with a palliative care team in the last 3 months (hospital-based and/or at home)	Yes (%)	133 (37.5)	86 (32.5)	47 (52.2)	0.001

Table 3
Prevalence of the international criteria among outpatients and inpatients.

Criteria		Total	Outpatients	Inpatients	p value
Severe physical symptoms	At least one (%)	148 (41.7)	92 (34.7)	56 (62.2)	< 0.0001
Severe emotional symptoms	At least one (%)	65 (18.3)	46 (17.4)	19 (21.1)	0.524
Request for hastened death	Yes (%)	12 (3.4)	7 (2.6)	5 (5.6)	0.189
Spiritual or existential crisis	Yes (%)	61 (17.3)	40 (15.2)	21 (23.9)	0.088
	Missing	3	1	2	
Assistance with decision making or care planning according to the patient or the oncologist	Yes (%)	214 (60.3)	161 (60.8)	53 (58.9)	0.851
Patient request for palliative care referral	Yes (%)	51 (14.5)	30 (11.5)	21 (23.6)	0.008
	Missing	4	3	1	
Delirium	Yes (%)	1 (0.3)	1 (0.4)	0 (0.0)	> 0.99
Brain or leptomeningeal metastases	Yes (%)	63 (17.7)	44 (16.6)	19 (21.1)	0.419
Spinal cord compression or cauda equina	Yes (%)	3 (0.8)	1 (0.4)	2 (2.2)	0.159
Estimated survival < 1 year	Yes (%)	235 (66.2)	156 (58.9)	79 (87.8)	< 0.0001
Progressive disease despite second-line of systemic therapy	Yes (%)	75 (21.1)	50 (18.9)	25 (27.8)	0.101
At least one international criterion	Yes (%)	334 (94.1)	245 (92.5)	89 (98.9)	0.048

Table 4
Factors associated to palliative care team follow-up

Severe physical symptoms		Total	No Palliative care	Palliative care	p-value
	N (%)	148 (41.7)	82 (36.9)	66 (49.6)	0.025
Severe emotional symptoms	N (%)	65 (18.3)	33 (14.9)	32 (24.1)	0.043
Request for hastened death	N (%)	12 (3.4)	6 (2.7)	6 (4.5)	0.377
Spiritual or existential crisis	N (%)	61 (17.3)	29 (13.2)	32 (24.1)	0.014
	Missing	3	3	0	
Assistance with decision making or care planning according to the patient or the oncologist	N (%)	214 (60.3)	131 (59.0)	83 (62.4)	0.602
Patient request for palliative care referral	N (%)	51 (14.5)	23 (10.4)	28 (21.7)	0.006
	Missing	4	0	4	
Delirium	N (%)	1 (0.3)	0 (0.0)	1 (0.8)	0.375
Brain or leptomeningeal metastases	N (%)	63 (17.7)	39 (17.6)	24 (18.0)	> 0.99
Spinal cord compression or cauda equina	N (%)	3 (0.8)	2 (0.9)	1 (0.8)	> 0.99
Estimated survival < 1 year	N (%)	235 (66.2)	136 (61.3)	99 (74.4)	0.015
Progressive disease despite second-line systemic therapy	N (%)	75 (21.1)	44 (19.8)	31 (23.3)	0.519
At least one international criterion	N (%)	334 (94.1)	204 (91.9)	130 (97.7)	0.042

Patients completed a pen and paper questionnaire in the waiting room before meeting their oncologist in consultation, or during their stay in day-hospital or oncology department. They completed the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC-QLQC30) and the Supportive Care Needs Survey - Short Form (SCNS-SF34), and were asked if they would like to receive assistance with decision making or care planning (Yes/No). The EORTC QLQC30 and SCNS-SF34 are multidimensional validated tools widely used to assess supportive care needs. The EORTC-QLQC30 assesses quality of life with five multi-item functional scales (physical; role functioning; emotional; cognitive; and social and family life), and nine symptom scales. [17, 18] The SCNS SF34 measures

patients' own perception of their need for help in dealing with cancer across five domains: psychological, health system and information, physical and daily living, patient care and support, and sexuality needs. [19] The responses to the EORTC QLQ-C30 and SCNS-SF34 were converted into 0–100 scales according to the scoring manual, and mean scores were calculated [20]. As defined by Johnsen and al [21], a symptom or function assessment of the EORTC-QLQ30 was designated as “severe” when scores exceeded 66.7 for symptom scales or were below 33.3 for function scales. The SCNS-SF34 data were analyzed using the same approach; severe needs were defined by a score > 66.7.

For each patient, the referring oncologist completed a paper-based questionnaire to assess whether the patient was experiencing a spiritual or existential crisis, had expressed a request for hastened death, or wished to receive assistance with decision-making or care planning (Yes/No). They were asked if, according to them, the patient or his family would be willing to meet a palliative care team (Yes/No). To prevent the study from causing psychological distress due to the negative misconceptions regarding palliative care [15], the question was directed to the oncologist instead of the patient. Prognosis was estimated by asking the oncologist what is known as the “surprise question”: “Would you be surprised if this patient died in the next 12 months?”. [22, 23]

Research staff extracted sociodemographic data, disease characteristics, and clinical data from the medical records. Data collected included age, sex, performance status, history of delirium, time of diagnosis and time of first metastasis, primary tumor, existence of brain or leptomeningeal metastasis, or spinal cord compression, or *cauda equina* syndrome. Information on cancer treatments was also collected, including both prior therapies and treatments received within the last 30 days, as well as any consultations with a palliative care team member (nurse or physician), at hospital or at home, in the past 3 months, in order to identify patients who were actually receiving palliative care.

Statistics

Considering the diversity and the prevalence of healthcare needs described in previous studies [14, 24], we calculated that a sample size of 360 patients (allowing for 5% of missing data) would provide sufficient precision to estimate both the prevalence of meeting the criteria for referral to palliative care teams and the prevalence of recent palliative care consultations. For example, this sample size would allow us to estimate an expected prevalence of palliative care consultations of 30% with a precision of 4.9%, thus a 95% CI of [25,1%-34,9%], or an expected prevalence of meeting the criteria for referral of 60% with a precision of 5.2%, thus a 95%CI of[54,8%-65,2%] ; or an expected prevalence of meeting the criteria for referral of 90% with a precision of 3.2%, thus a 95% CI of [86,8%-92,3%].

Descriptive variables were labelled by their number and percentage for categorical variables, and by their mean and standard deviation for continuous variables. For each variable, the number of patients with missing data was specified and the percentages were calculated based on the available data.

Comparisons were made between inpatients and outpatients, and between patients who had a recent palliative care consultation and those who had not, regarding referral criteria. Categorical variables were compared using Chi-squared or Fisher's exact tests.

Inclusion settings (outpatients or inpatients), sociodemographic and clinical factors, and referral criteria associated with recent palliative care consultation were analyzed using multivariate logistic regression. Variables with $p < 0.1$ in univariate analysis were included, except for cancer type, which was not representative. We performed 20 multiple imputations and applied a stepwise model using the Wald statistic. For each imputed dataset, palliative care team involvement was analyzed, and a set of variables was retained. The final model included all variables selected in at least 50% of cases.

All statistical analyses were performed using R (v3.0 R Foundation for Statistical Computing, Vienna Austria. <http://www.R-project.org>) and comparisons were performed at the 5% level of significance.

Compliance with Ethical Standards

None of the investigators had to disclose conflicts of interest. The study was conducted in accordance with the Declaration of Helsinki. Patients received oral and written information, and the investigator, according to French law regarding non-interventional studies, recorded their non-opposition. The French National Commission for Data Protection and Freedom (Northwest 1 People Protection Committee) approved this study.

RESULTS

Study sample

On the days dedicated to the study, 696 patients meeting the inclusion criteria were screened. In outpatient settings, 279 were not included due to the saturation of the investigators' inclusion possibilities. 56 patients refused to participate. 361 patients were included in the study, and 6 were excluded from the analysis due to missing data concerning palliative care consultations. A total of 355 patients were included in the final analysis. 90 (25.4%) were inpatients and 265 (74.6%) outpatients.

The average age was 66 years and 186 (52.4%) were women. Most patients had favorable performance status with 89 (27.7%) classified as PS 0 and 129 (40.2%) as PS 1. The cancers were of various primary sites mainly lung, digestive system, pancreas, skin and breast. The median time from the first metastasis to day of study inclusion was 13.8 months. A majority of patients ($N = 313$, 88.2%) received systemic treatment in the last 30 days. 203 (59%) were undergoing their first or second line of systemic treatment (table 2).

Prevalence of referral criteria

334 patients (94.1%) met at least one of the referral criteria (table 3). 23.1% of patients had a single criterion, more than two third of patients (71%) presented ≥ 2 criteria (Fig. 1) and nearly half of them (47.1%) presented ≥ 3 criteria. The most frequent criteria were estimated survival < 1 year ($N = 235$, 66.2%), need for assistance with decision-making or care planning ($N = 214$, 60.3%), and severe physical symptoms ($N = 148$, 41.7%). The less frequent were delirium history ($N = 1$, 0.3%), spinal cord compression or *cauda equina* ($N = 3$, 0.8%), and request for hastened death ($N = 12$, 3.4%).

Comparison between outpatients and inpatients

Inpatients were found to have poorer performance status ($p < 0.0001$) than outpatients despite being included earlier after the diagnosis of first metastasis (12 months versus 15.7 months, $p = 0.017$). They had more frequently received a recent palliative care consultation than outpatients (52.2% versus 32.5%, $p = 0.001$) (table 2).

Inpatients met the international criteria for palliative care referral more often than outpatients (98.9% versus 92.5%, $p = 0.048$), with more prevalent severe physical symptoms (62.2% versus 34.7%, $p < 0.0001$) and estimated survival < 1 year (87.8% versus 58.9%, $p < 0.0001$). They were more frequently perceived as being interested in a palliative care referral (23.6% versus 11.5%, $p = 0.008$) (table 3).

Factors associated with specialized palliative care team referral

133 (37.5%) patients received at least one palliative care consultation in the last 3 months (table 2). Estimated prognosis < 12 months, severe physical or emotional symptoms, spiritual or existential crisis, and patient or family request to meet a palliative care team were significantly associated with palliative care consultations ($p < 0.05$). The other criteria were not (table 4). In multivariate analysis, a performance status of 2 was the only factor associated with palliative care consultation (OR = 2.56, IC [1.30–5.06], $p = 0.007$).

DISCUSSION

According to criteria recognized by international consensus, 94% of patients in our study had an indication to meet a specialized palliative care team, yet only 37.5% of patients had a recent palliative care consultation. Inpatients had poorer performance status, were more likely to fulfill referral criteria, and significantly higher rates of recent palliative care consultation than outpatients. Factors associated with poor prognosis (brain or leptomeningeal metastasis, delirium, spinal cord compression, progressive disease despite a 2nd line of systemic therapy), need for assistance with decision making or care planning, and request for hastened death were not associated with palliative care follow-up.

A large majority of patients included in our study met at least one criterion for palliative care referral, and over 70% met two or more criteria and nearly 50% met three or more criteria. Paiva et al. developed a 16-item checklist based on the international consensus and prospectively assessed 120 outpatients with advanced breast or gynecologic cancer. 23 (19%) of them were already referred to palliative care, and an

additional 82 (68%) patients would have been referred if the screening criteria had been applied [25]. A databased study of 38,851 Canadian outpatients with advanced lung cancer found that 82.4% met eligibility for palliative care referral based on 6 of the 11 major criteria defined by the international consensus.[26]. These studies did not involve actual referral because of the lack of palliative care resources.[27] Other screening tools like the 5-item tool developed by Glare from the National Comprehensive Cancer Network [28–30], EORTC-QLQ-C30 [31] and Edmonton Symptom Assessment System [32], the surprise question [23] or the PALLIA-10 [33] have been proposed. Nevertheless they were either too sensitive for clinical practice or had not yet proven their effectiveness on patient outcomes.

Timely palliative care requires criteria that enable the identification of eligible patients and increase opportunities for earlier referral. Although the precise mechanisms underlying this gap are not described, our study outlines a significant mismatch between patients' needs for palliative care and actual interventions delivered by palliative care teams. We can hypothesize that strict application of the international criteria would lead to a saturation of PC resources in many countries, raising public policy issues in terms of PC development. For individual cancer care centers, the definition of criteria to trigger palliative care team interventions should take into account the local resources in PC staff. Where PC teams are unable to meet all patients who meet at least one international criterion, higher referral thresholds could be considered. Our results suggest that a threshold of 2 or 3 criteria to trigger a referral to PC could be more sustainable while ensuring an allocation of PC resources to the most complex patients. In these situations, strengthening the PC skills of oncology clinicians and setting up weekly oncopalliative multidisciplinary meetings are also required to allow every patient to benefit from high-quality primary PC [12].

All but one inpatients met the referral criteria, presenting with more aggressive disease, more frequent severe physical symptoms, and poor prognosis compared to outpatients. As expected, inpatients had more severe conditions than outpatients, and the referral criteria appear all the more relevant in this population, and in fact half of them had recently met PC teams in our study. Our results highlight that particular attention should be paid to the palliative care needs of inpatients. Their uncontrolled symptoms and unstable clinical situations require advanced skills in palliative care from oncologists managing inpatients, and close collaboration with PC teams. Hospitalization for cancer complication should systematically trigger reassessment of the need for referral to PC teams. Regular interdisciplinary staff meetings between the oncology and the palliative care teams regarding hospitalized patients are needed and could improve appropriate referral [34, 35].

In our study, as in previous studies, severe symptoms are a common reason for oncologists to refer patients as well as limited life expectancy assessed by the surprise question [14, 36], suggesting oncologists recognize the expertise of palliative care for severe symptom management and end-of-life discussions. However, criteria such as delirium, brain metastasis, spinal cord compression, or disease progression despite a second line of systemic therapy were not, suggesting that oncologists might underestimate their poor prognostic significance. In their retrospective study, Hui et al. demonstrated

that delays between first documentation of referral criteria and palliative care referral were longer for patients with neurological involvement, prognosis ≤ 1 year, or progressive disease despite second line of systemic therapy, compared with severe physical or emotional symptoms [14]. Oncologist could also be avoiding the difficult task of providing information about poor prognosis, engaging in advance care planning and offering a palliative care consultation, especially when the patients have few or no symptoms. The absence of association between the patients' need for assistance with decision-making or care planning and the referral to palliative care despite more than 60% of outpatients meeting this criterion supports this hypothesis. Oncologists should be aware of the key role that palliative care teams could play in delivering progressive information and that early and longitudinal involvement of palliative care professionals is necessary to improve patient outcomes [9, 12, 37]. Our study highlights the need for training oncology teams on the criteria that should prompt consideration of referral to palliative care teams and strengthen the routine integration of these teams into oncology care.

These results could also be an opportunity to question new models of PC management. Innovative management strategies should be considered: stepped interventions [38], telehealth consultations for patients with difficult access to palliative care clinics [39], nursing-led palliative care interventions, or reinforcement of palliative care training for oncology teams that deliver first line palliative care could improve access to appropriate PC for patients who need it. Nevertheless, the complexity of the situations addressed by early palliative care requires teamwork. Unless intermediate solutions are accompanied by programs to develop palliative care services, palliative care teams will continue to be involved too late in the disease trajectory. Further research is needed to identify effective and sustainable strategies in order to improve appropriate access to palliative care in each health system.

Our study has several limitations: First, because of the specialties of the oncology departments where the inclusions took place, the distribution of cancers is not identical to those in the general population. Furthermore, whereas nearly two-thirds of patients were undergoing their first or second line of systemic treatment, the median time between the diagnosis of the first metastasis and the inclusion was 13.8 months, which is longer than the usual survival expectancy of cancers such as lung or pancreatic cancer. The inclusion of patients in an outpatient setting may have led to a selection of « long survivors ». These possible biases may have led to an underestimation of the real palliative care needs of the population of patients with metastatic cancer. Moreover, the study took place in oncology wards already involved in an integrated palliative care process and in the Ile-de-France region, a predominantly urban region, where the palliative care service is among the most developed in the country. It is possible that referral to palliative care would have been lower in other regions. Finally, we chose to assess for palliative care consultations only in the last 3 months in order to avoid considering patients lost to follow-up as receiving effective palliative care. Despite this precaution, as systematic monthly follow up is not possible in France for all patients referred to palliative care teams, patients may have presented new referral criteria between the last palliative care consultation and inclusion. Conversely, patients who met the referral criteria at the time of inclusion may not have had them previously, which would explain why they were not already referred to palliative care teams.

Despite these limitations, this study is one of the first multicenter studies exploring the prevalence of international palliative care referral criteria in real life among inpatients and outpatients and the alignment (or adequacy) with the palliative care offer. We believe these results could help clinicians and decision-makers.

CONCLUSION

Although mostly outpatients with good performance status, almost all patients met at least one criterion for palliative care referral. Only 37% of patients, with more severe conditions and poorer prognosis, had recently seen a palliative care specialist. Systematic screening of palliative care needs and educating clinicians on referral criteria could improve patient care, but considering the discordance between the patient's needs and the palliative care resources, multidisciplinary deliberation, programs for development of early palliative care, and research on innovative healthcare organizations are necessary.

Declarations

Ethics approval:

The study was conducted in accordance with the Declaration of Helsinki. This study was approved by a French ethics committee (Northwest 1 People Protection Committee).

Funding:

The sponsor was Assistance Publique – Hôpitaux de Paris (Délégation à la Recherche Clinique et à l'Innovation). The study was funded by the Fondation de France and the Ile-de-France regional health agency.

Competing interests: The authors have no competing interests to declare that are relevant to the contents of this article.

Author Contribution

Marine Sahut d'Izarn, Matthieu de Stampa, Pascale Vinant, Carole Bouleuc, Ingrid Joffin and Bruno Vincent contributed to the study conception and design. Material preparation, data collection, and analysis were performed by Marine Sahut d'Izarn, Pascale Vinant, Carole Bouleuc, Ingrid Joffin, Bruno Vincent, Laure Seresse, Claire Barth, Madalina Jacota and Malamine Gassama. David Hui contributed to the interpretation of the results. Lucie Ya-de-Rauglaudre contributed to the writing and English editing of the manuscript. The first draft of the manuscript was written by Marine Sahut d'Izarn and Matthieu de Stampa and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Acknowledgement

We thank the Fondation de France and the Ile-de-France regional health agency for financing this study, and the Assistance Publique – Hôpitaux de Paris (Délégation à la Recherche Clinique et à l'Innovation) which was the promoter. We thank the staff of the Clinical Research Unit AP-HP Paris Saclay Ouest involved in the project: Uthamy Thanabalasingam (data manager), Oussama Merzougui (research staff), Silia Mouas (research staff), Yanis Issad (research staff), Marouane Neguez (clinical research assistant), Nawal Derridj (manager), Rawan Belmokhtar (project manager).

Data Availability

Data are available upon reasonable request. The procedures carried out with the French data privacy authority (CNIL, Commission nationale de l'informatique et des libertés) and the european regulation (GDPR) do not provide for the transmission of the database, nor do the information and consent documents signed by the patients. Consultation by the editorial board or interested researchers of individual participant data that underlie the results reported in the article after deidentification may nevertheless be considered, subject to prior determination of the terms and conditions of such consultation and in respect for compliance with the applicable regulations. For all inquiries, please contact the following : drc-secretariat-promotion@aphp.fr

References

1. Temel JS, Greer JA, Muzikansky A, Gallagher ER, Admane S, Jackson VA, et al. Early palliative care for patients with metastatic non-small-cell lung cancer. *N Engl J Med* 2010;363:733–42. <https://doi.org/10.1056/NEJMoa1000678>.
2. Greer JA, Pirl WF, Jackson VA, Muzikansky A, Lennes IT, Heist RS, et al. Effect of early palliative care on chemotherapy use and end-of-life care in patients with metastatic non-small-cell lung cancer. *J Clin Oncol* 2012;30:394–400. <https://doi.org/10.1200/JCO.2011.35.7996>.
3. Zimmermann C, Swami N, Krzyzanowska M, Hannon B, Leighl N, Oza A, et al. Early palliative care for patients with advanced cancer: a cluster-randomised controlled trial. *Lancet* 2014;383:1721–30. [https://doi.org/10.1016/S0140-6736\(13\)62416-2](https://doi.org/10.1016/S0140-6736(13)62416-2).
4. Bakitas MA, Tosteson TD, Li Z, Lyons KD, Hull JG, Li Z, et al. Early Versus Delayed Initiation of Concurrent Palliative Oncology Care: Patient Outcomes in the ENABLE III Randomized Controlled Trial. *J Clin Oncol* 2015;33:1438–45. <https://doi.org/10.1200/JCO.2014.58.6362>.
5. Temel JS, Greer JA, El-Jawahri A, Pirl WF, Park ER, Jackson VA, et al. Effects of Early Integrated Palliative Care in Patients With Lung and GI Cancer: A Randomized Clinical Trial. *J Clin Oncol* 2017;35:834–41. <https://doi.org/10.1200/JCO.2016.70.5046>.
6. Kavalieratos D, Corbelli J, Zhang D, Dionne-Odom JN, Ernecoff NC, Hanmer J, et al. Association Between Palliative Care and Patient and Caregiver Outcomes: A Systematic Review and Meta-

- analysis. JAMA 2016;316:2104–14. <https://doi.org/10.1001/jama.2016.16840>.
7. Ferrell BR, Temel JS, Temin S, Alesi ER, Balboni TA, Basch EM, et al. Integration of Palliative Care Into Standard Oncology Care: American Society of Clinical Oncology Clinical Practice Guideline Update. J Clin Oncol 2017;35:96–112. <https://doi.org/10.1200/JCO.2016.70.1474>.
 8. Ferrell BR, Firn JI, Temin S, Sanders JJ. Palliative Care for Patients With Cancer: ASCO Guideline Clinical Insights. JCO Oncol Pract 2024;20:1304–7. <https://doi.org/10.1200/OP.24.00225>.
 9. Hui D, Cherny NI, Wu J, Liu D, Latino NJ, Strasser F. Indicators of integration at ESMO Designated Centres of Integrated Oncology and Palliative Care. ESMO Open 2018;3:e000372. <https://doi.org/10.1136/esmoopen-2018-000372>.
 10. Dans M, Kutner JS, Agarwal R, Baker JN, Bauman JR, Beck AC, et al. NCCN Guidelines® Insights: Palliative Care, Version 2.2021. J Natl Compr Canc Netw 2021;19:780–8. <https://doi.org/10.6004/jnccn.2021.0033>.
 11. Schenker Y, Arnold R. Toward Palliative Care for All Patients With Advanced Cancer. JAMA Oncol 2017;3:1459–60. <https://doi.org/10.1001/jamaoncol.2017.1059>.
 12. Hui D, Hannon BL, Zimmermann C, Bruera E. Improving patient and caregiver outcomes in oncology: Team-based, timely, and targeted palliative care. CA Cancer J Clin 2018;68:356–76. <https://doi.org/10.3322/caac.21490>.
 13. Hui D, Mori M, Watanabe SM, Caraceni A, Strasser F, Saarto T, et al. Referral criteria for outpatient specialty palliative cancer care: an international consensus. The Lancet Oncology 2016;17:e552–9. [https://doi.org/10.1016/S1470-2045\(16\)30577-0](https://doi.org/10.1016/S1470-2045(16)30577-0).
 14. Hui D, Anderson L, Tang M, Park M, Liu D, Bruera E. Examination of referral criteria for outpatient palliative care among patients with advanced cancer. Support Care Cancer 2020;28:295–301. <https://doi.org/10.1007/s00520-019-04811-3>.
 15. Tripodoro VA, Fidalgo JFL, Pons JJ, Connor SR, Garralda E, Bastos F, et al. First-Ever Global Ranking of Palliative Care: 2025 World Map Under the New WHO Framework. Journal of Pain and Symptom Management 2025;70:447–58. <https://doi.org/10.1016/j.jpainsymman.2025.07.026>.
 16. Cousin F, Gonçalves T, Dauchy S, Marsico G. Atlas des soins palliatifs et de la fin de vie en France Troisième édition – 2023 n.d.
 17. Aaronson NK, Ahmedzai S, Bergman B, Bullinger M, Cull A, Duez NJ, et al. The European Organization for Research and Treatment of Cancer QLQ-C30: a quality-of-life instrument for use in international clinical trials in oncology. J Natl Cancer Inst 1993;85:365–76. <https://doi.org/10.1093/jnci/85.5.365>.
 18. Kaasa S, Bjordal K, Aaronson N, Moum T, Wist E, Hagen S, et al. The EORTC core quality of life questionnaire (QLQ-C30): validity and reliability when analysed with patients treated with palliative radiotherapy. Eur J Cancer 1995;31A:2260–3. [https://doi.org/10.1016/0959-8049\(95\)00296-0](https://doi.org/10.1016/0959-8049(95)00296-0).
 19. Brédart A, Kop J-L, Griesser A-C, Zaman K, Panes-Ruedin B, Jeanneret W, et al. Validation of the 34-item Supportive Care Needs Survey and 8-item Breast module French versions (SCNS-SF34-Fr and SCNS-BR8-Fr) in breast cancer patients: Validation of the SCNS-SF34 and BR8 French version in

- breast cancer patients. *European Journal of Cancer Care* 2012;21:450–9.
<https://doi.org/10.1111/j.1365-2354.2012.01356.x>.
20. Fayers P, Aaronson N, Bjordal K, Sullivan M, EORTC Study Group on Quality of Life. EORTC QLQ-C30 Scoring Manual 1995.
 21. Johnsen A, Petersen M, Pedersen L, Groenvold M. Symptoms and problems in a nationally representative sample of advanced cancer patients. *Palliat Med* 2009;23:491–501.
<https://doi.org/10.1177/0269216309105400>.
 22. Moss AH, Lunney JR, Culp S, Auber M, Kurian S, Rogers J, et al. Prognostic significance of the “surprise” question in cancer patients. *J Palliat Med* 2010;13:837–40.
<https://doi.org/10.1089/jpm.2010.0018>.
 23. Mittmann N, Liu N, MacKinnon M, Seung SJ, Look Hong NJ, Earle CC, et al. Does early palliative identification improve the use of palliative care services? *PLoS One* 2020;15:e0226597.
<https://doi.org/10.1371/journal.pone.0226597>.
 24. Wang T, Molassiotis A, Chung BPM, Tan J-Y. Unmet care needs of advanced cancer patients and their informal caregivers: a systematic review. *BMC Palliat Care* 2018;17:96.
<https://doi.org/10.1186/s12904-018-0346-9>.
 25. Paiva CE, Paiva BSR, Menezes D, Zanini LE, Ciorlia JB, Miwa MU, et al. Development of a screening tool to improve the referral of patients with breast and gynecological cancer to outpatient palliative care. *Gynecol Oncol* 2020;158:153–7. <https://doi.org/10.1016/j.ygyno.2020.04.701>.
 26. Iqbal J, Sutradhar R, Zhao H, Howell D, O’Brien MA, Seow H, et al. Operationalizing Outpatient Palliative Care Referral Criteria in Lung Cancer Patients: A Population-Based Cohort Study Using Health Administrative Data. *Journal of Palliative Medicine* 2020;23:670–7.
<https://doi.org/10.1089/jpm.2019.0515>.
 27. Hui D, Heung Y, Bruera E. Timely Palliative Care: Personalizing the Process of Referral. *Cancers (Basel)* 2022;14:1047. <https://doi.org/10.3390/cancers14041047>.
 28. Glare PA, Semple D, Stabler SM, Saltz LB. Palliative care in the outpatient oncology setting: evaluation of a practical set of referral criteria. *J Oncol Pract* 2011;7:366–70.
<https://doi.org/10.1200/JOP.2011.000367>.
 29. Glare P, Plakovic K, Schloms A, Egan B, Epstein AS, Kelsen D, et al. Study using the NCCN guidelines for palliative care to screen patients for palliative care needs and referral to palliative care specialists. *J Natl Compr Canc Netw* 2013;11:1087–96. <https://doi.org/10.6004/jnccn.2013.0130>.
 30. Kim JY, Peters KB, Herndon JE, Affronti ML. Utilizing a Palliative Care Screening Tool in Patients With Glioblastoma. *J Adv Pract Oncol* 2020;11:684–92. <https://doi.org/10.6004/jadpro.2020.11.7.3>.
 31. Groenvold M, Petersen MA, Damkier A, Neergaard MA, Nielsen JB, Pedersen L, et al. Randomised clinical trial of early specialist palliative care plus standard care versus standard care alone in patients with advanced cancer: The Danish Palliative Care Trial. *Palliat Med* 2017;31:814–24.
<https://doi.org/10.1177/0269216317705100>.

32. Hui D, Titus A, Curtis T, Ho-Nguyen VT, Frederickson D, Wray C, et al. Implementation of the Edmonton Symptom Assessment System for Symptom Distress Screening at a Community Cancer Center: A Pilot Program. *Oncologist* 2017;22:995–1001. <https://doi.org/10.1634/theoncologist.2016-0500>.
33. Molin Y, Gallay C, Gautier J, Lardy-Cleaud A, Mayet R, Grach M-C, et al. PALLIA-10, a screening tool to identify patients needing palliative care referral in comprehensive cancer centers: A prospective multicentric study (PREPA-10). *Cancer Med* 2019;8:2950–61. <https://doi.org/10.1002/cam4.2118>.
34. Pronost A-M, Le Gouge A, Leboul D, Gardembas-Pain M, Berthou C, Giraudeau B, et al. Relationships between the characteristics of oncohematology services providing palliative care and the sociodemographic characteristics of caregivers using health indicators: social support, perceived stress, coping strategies, and quality of work life. *Support Care Cancer* 2012;20:607–14. <https://doi.org/10.1007/s00520-011-1139-3>.
35. Bauchetet C, Préaubert-Sicaud C, Ceccaldi J, Farsi F, Donadey FL, Jaulmes D, et al. Recommandations pour la mise en place de staffs pluriprofessionnels (SPP) dans les services de soins. *Bulletin du Cancer* 2020;107:254–61. <https://doi.org/10.1016/j.bulcan.2019.11.004>.
36. Penrod JD, Garrido MM, McKendrick K, May P, Aldridge MD, Meier DE, et al. Characteristics of Hospitalized Cancer Patients Referred for Inpatient Palliative Care Consultation. *J Palliat Med* 2017;20:1321–6. <https://doi.org/10.1089/jpm.2017.0111>.
37. Hui D, Kim SH, Roquemoire J, Dev R, Chisholm G, Bruera E. Impact of timing and setting of palliative care referral on quality of end-of-life care in cancer patients. *Cancer* 2014;120:1743–9. <https://doi.org/10.1002/cncr.28628>.
38. Zimmermann C, Pope A, Hannon B, Bedard PL, Rodin G, Dhani N, et al. Symptom screening with Targeted Early Palliative care (STEP) versus usual care for patients with advanced cancer: a mixed methods study. *Support Care Cancer* 2023;31:404. <https://doi.org/10.1007/s00520-023-07870-9>.
39. Greer JA, Temel JS, El-Jawahri A, Rinaldi S, Kamdar M, Park ER, et al. Telehealth vs In-Person Early Palliative Care for Patients With Advanced Lung Cancer: A Multisite Randomized Clinical Trial. *JAMA* 2024;332:1153–64. <https://doi.org/10.1001/jama.2024.13964>.

Figures

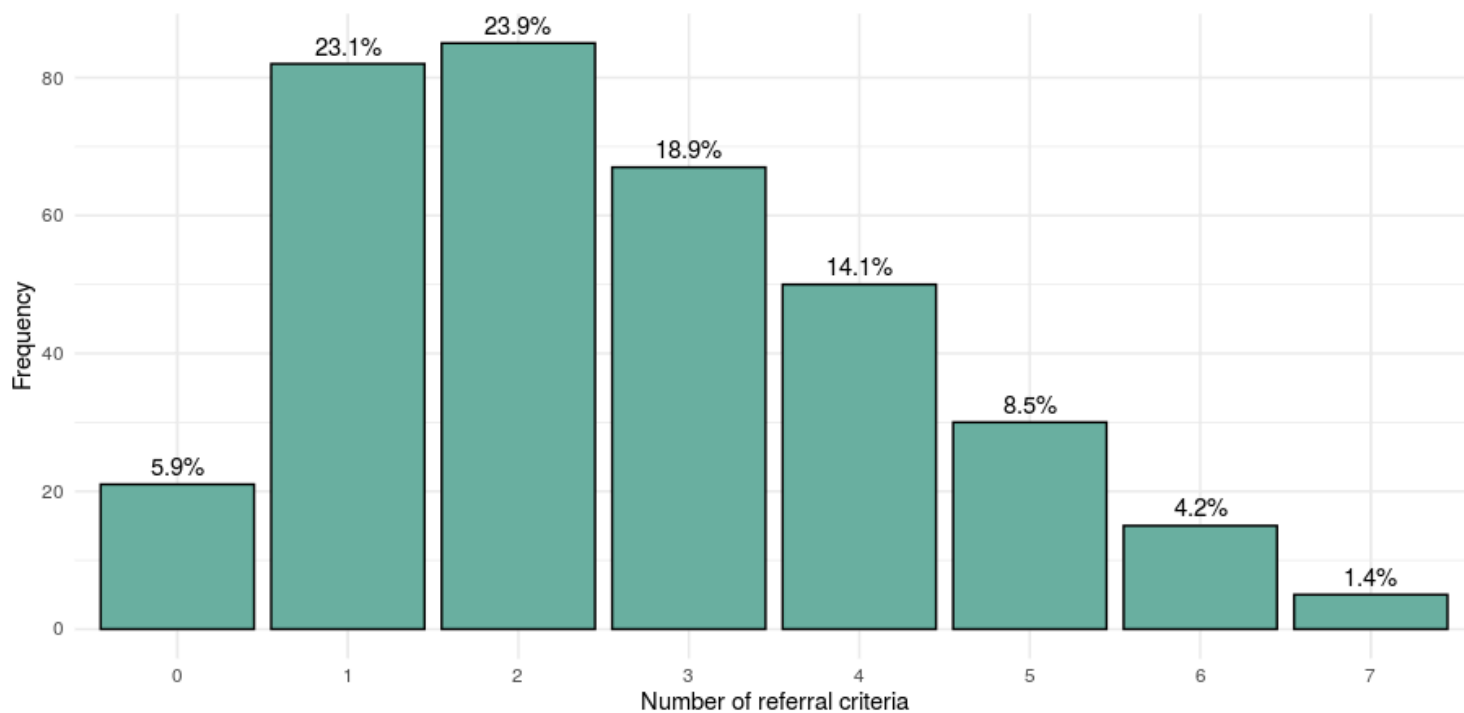


Figure 1

Number of international consensus criteria per patient

The x-axis shows the number of simultaneous criteria per patient, and the y-axis the proportion of patients meeting this number of criteria.