



Original Article

Referral Practices of Cardiologists to Specialist Palliative Care in Canada

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ABSTRACT

Background: Patients with heart failure have palliative care needs that can be effectively addressed by specialist palliative care (SPC). Despite this, SPC utilization by this patient population is low, suggesting barriers to SPC referral. We sought to determine the referral practices of cardiologists to SPC.

Methods: Cardiologists across Canada were invited to participate in a survey about their referral practices to SPC. Associations between

RÉSUMÉ

Contexte : Les services de soins palliatifs spécialisés (SPS) peuvent répondre efficacement aux besoins des patients présentant une insuffisance cardiaque. Malgré tout, les patients de cette population n'ont pas beaucoup recours aux SPS, ce qui semble indiquer la présence d'obstacles à l'orientation vers les SPS. Nous avons entrepris de déterminer les pratiques des cardiologues en matière d'orientation des patients vers les SPS.

Heart failure is a complex clinical syndrome, in which abnormal heart function results in decreased cardiac output and/or systemic congestion.¹ It is a common disease, with 2.6 million people diagnosed worldwide.² Mortality from heart failure is high, with a 5-year survival rate of 45.5%.³ Heart failure is also associated with a high symptom burden,⁴⁻⁶ primarily dyspnea, pain, fatigue, and depression,^{7,8} and a high caregiver burden.⁹⁻¹² Finally, this disease is associated with high health care utilization, especially near the end of life.¹³⁻¹⁵

Specialist palliative care (SPC) is a field of medicine for which the primary objective is to improve the quality of life of patients and their caregivers. An interdisciplinary team prioritizes the assessment and management of physical and psychosocial symptoms throughout the disease course.¹⁶ In view of the high mortality, high symptom burden, and high caregiver burden associated with heart failure,^{4-12,17} the objectives of SPC are particularly compatible with the needs of this patient population. Several studies, including randomized controlled trials of patients with heart failure, have demonstrated the benefit of SPC in inpatient,^{18,19} outpatient,²⁰⁻²² and home²³⁻²⁵ settings, and these findings have been substantiated by 2 meta-analyses.^{26,27} Several cardiology associations recommend the provision of palliative care to this patient population.^{1,28-30}

Despite these benefits, SPC utilization by patients with heart failure is low,³¹ with referral rates of approximately 6%-8% for hospitalized American patients.^{32,33} A study of 499 palliative care specialists in the United Kingdom demonstrated that 27% of services did not have any patients with heart

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Ethics Statement: The research reported in this paper adhered to ethical guidelines.

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See page 467 for disclosure information.

referral practices and demographic, professional, and attitudinal factors were analyzed using multiple and logistic regression.

Results: The response rate was 51% (551 of 1082). Between 35.1% and 64.2% of respondents were unaware of referral criteria to local SPC services. Of the respondents, 29% delayed SPC referral because of prognostic uncertainty, and 46.8% believed that SPC prioritizes patients with cancer. In actual practice, nearly three-fourths of cardiologists referred late. Referral frequency was associated with greater availability of SPC services for patients with nonmalignant diseases ($P = 0.008$), a higher number of palliative care settings accepting patients receiving continuous infusions or pursuing acute care management ($P < 0.001$), satisfaction with services ($P < 0.001$), and less equation of palliative care with end-of-life care ($P < 0.001$). Early timing of referral was associated with greater availability of SPC services for patients with nonmalignant diseases and less equation of palliative care with end-of-life care.

Conclusions: The findings suggest that barriers to timely SPC referral include an insufficiency of services for patients with nonmalignant diseases especially in the outpatient setting, the perception that SPC services do not accept patients receiving cardiology-specific treatments, and a misperception about the identity of palliative care.

failure; of those that did, patients with heart failure comprised a median of 3% of the total workload.³⁴ In a cohort of 132 patients with heart failure who received SPC, 50% were at NYHA class IV. Among the patients who died, the median time from SPC consultation to death was just 21 days.³⁵

Thus, among patients with heart failure, SPC is used at a low frequency and late in the course of disease. The purpose of the current study was to determine the referral practices of cardiologists to SPC, access of their patients to these services, and the demographic, professional, and attitudinal factors associated with the frequency and timing of referral.

Materials and Methods

Eligible participants included all cardiologists listed in a Canadian physician directory (Scott's Directory)³⁶ in 2018, which comprised 1082 individuals. In March 2018, participants were invited to complete the survey by post (hard copy returned by mail or fax) and by e-mail (online copy returned digitally); one reminder was sent for each invitation and a \$5 gift certificate for coffee was sent by post. It was not possible to identify nonrespondents because responses were anonymous. The study was reviewed and approved by the University Health Network Research Ethics Board (approval number 17-5437.3).

Méthodologie : Les cardiologues de partout au Canada ont été invités à participer à un sondage sur leurs pratiques en matière d'orientation des patients vers les SPS. Les associations entre ces pratiques et certaines caractéristiques démographiques, professionnelles et comportementales ont été analysées au moyen d'une régression multiple et logistique.

Résultats : Le taux de participation au sondage a été de 51 % (551 réponses sur 1 082 invitations). Entre 35,1 et 64,2 % des répondants ne connaissaient pas les critères pour l'orientation des patients vers les services locaux de SPS. Parmi les répondants, 29 % ont dit reporter l'orientation vers les SPS en raison du caractère incertain du pronostic, et 46,8 % croyaient que les SPS s'adressaient en priorité aux patients atteints d'un cancer. Dans la pratique, près des trois quarts des cardiologues ont orienté tardivement les patients. La fréquence des orientations a été associée à une disponibilité plus grande de services de SPS pour les patients atteints de maladies non cancéreuses ($p = 0,008$), à un nombre plus élevé de milieux de soins palliatifs admettant les patients nécessitant des perfusions continues ou prenant en charge les soins actifs ($p < 0,001$), à la satisfaction à l'égard des services ($p < 0,001$) et à une assimilation moins importante des soins palliatifs avec les soins de fin de vie ($p < 0,001$). L'orientation rapide des patients était associée à une disponibilité plus grande de services de SPS pour les patients atteints de maladies non cancéreuses et à une assimilation moins importante des soins palliatifs avec les soins de fin de vie.

Conclusions : Nos observations semblent indiquer que l'insuffisance des services destinés aux patients atteints de maladies non cancéreuses (en particulier dans le contexte des soins ambulatoires), la perception que les services de SPS n'admettent pas les patients nécessitant des traitements en cardiologie et la perception erronée de la finalité des soins palliatifs constituent des obstacles à l'orientation des patients vers les SPS en temps opportun.

We created a survey instrument to assess the following domains: physician demographics, training, and nature of cardiology practice; perceived availability and nature of SPC services; SPC referral practices; and opinions about SPC services. Demographic items included age, sex, years since medical training, postgraduate training, training in palliative care, whether or not they are in active practice, location of practice, facility of practice, type of practice (general cardiology, critical care, transplant medicine, congenital heart disease, heart failure, electrophysiology, mechanical assist devices, paediatric cardiology), and patient population, including percentage of patients with malignant disease and advanced cardiovascular disease and how many patients die per month. Questions about SPC services included availability of SPC services and disciplines and perceived requirements for access to SPC services including cessation of acute care management, do not resuscitate order, and cessation of continuous infusions assessed using a Likert scale with responses being often, sometimes, rarely, never, and unknown. SPC referral practice items included frequency of referral based on symptom burden, estimated prognosis, and spiritual, psychological, social needs of patients assessed using a Likert scale with responses of always, usually, sometimes, rarely, and never. Opinion items included perceptions about the availability, accessibility, and quality of SPC services; level of comfort with providing palliative care was assessed using a Likert scale with

Table 1. Respondent characteristics

Characteristic	No. of respondents	Percentage
Sex		
Female	124	22.5
Male	401	72.8
Missing	26	4.7
Age (y)		
< 40	83	15.1
40-49	170	30.9
50-59	135	24.5
60-69	105	19.1
≥ 70	39	7.1
Missing	19	3.4
Completed any postgraduate training*?		
No	250	45.4
Yes	301	54.6
Received any training in palliative care [†] ?		
No	274	49.7
Yes	277	50.3
Years since residency/fellowship		
≤ 5	75	13.6
6-10	82	14.9
11-20	132	24.0
> 20	240	43.6
Missing	22	4.0
Primary workplace		
Academic centre	365	66.2
Community hospital	112	20.3
Private practice	53	9.6
missing	21	3.8
Active practice		
Yes	534	96.9
No	17	3.1
Population/practice		
General cardiology	381	69.1
Critical care	68	12.3
Transplant medicine	25	4.5
Congenital heart disease	57	10.3
Heart failure	131	23.8
Electrophysiology	87	15.8
Mechanical assistive devices	22	4.0
Paediatric cardiology	51	9.3
Other	59	10.7
Province		
British Columbia	45	8.2
Prairie provinces [‡]	94	17.1
Ontario	217	39.4
Quebec	131	23.8
Atlantic provinces [§]	25	4.5
Unknown	39	7.1
Number of inpatients who die per month		
< 1	167	30.3
1-2	189	34.3
3-5	54	9.8
> 5	18	3.3
Missing	123	22.3
Number of outpatients who die per month		
< 1	332	60.3
1-2	136	24.7
3-5	16	2.9
> 5	5	0.9
Missing	62	11.3
	Mean	SD
Percentage of patients with active malignant disease	5.51	6.06

Continued

Table 1. Continued.

	Mean	SD
Mean % of inpatients with advanced nonmalignant disease	22.67	19.83
Mean % of outpatients with advanced nonmalignant disease	12.84	13.82

SD, standard deviation.

*Master's or PhD.

†Didactic teaching, clinical rotations, continuing medical education, or formal training.

‡Alberta, Manitoba, and Saskatchewan.

§New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island.

responses of strongly agree, agree, neutral, disagree, and strongly disagree.

Statistical analysis

Cardiologists' perceptions of SPC were categorized into the following: satisfaction with SPC services, comfort with the administration of palliative care, equation of palliative care with end-of-life care, focus of SPC services on patients with cancer, and negative perceptions of the identity of palliative care (Supplemental Table S1). These categories of perceptions, rather than the responses to each of their constituent items, were included in the statistical analysis.

Summary statistics were used to describe respondent characteristics and referral practices. Similar to a previous survey of oncologists,³⁷ a distinct outcome was constructed regarding referral frequency, entitled the referral frequency index (RFI). The RFI was calculated using the question "How often do you refer your terminally ill patients with nonmalignant disease to SPC services?" with qualifiers of uncontrolled symptoms, estimated prognosis less than 1 year; uncontrolled symptoms, estimated prognosis greater than 1 year; symptom-free, estimated prognosis less than 1 year; symptom-free, estimated prognosis greater than 1 year; terminally ill, requires discharge planning; terminally ill, spiritual concerns; terminally ill, psychological problems; terminally ill, social problems. "Terminally ill" was not explicitly defined in the survey and was therefore subjective to the definitions of respondents. Each physician was assigned a score for each item, based on their responses; the individual scores were summed to create the RFI, with a higher RFI indicating a higher frequency of referral.

To assess timing of referral, several analyses were completed. Responses to the question "Taking into account all possible reasons for referral, at what point in the disease trajectory are your patients typically referred to SPC?" were grouped into the following 3 categories: early (at diagnosis of advanced disease), late (after several hospital admissions, after active treatments stopped, when patient dying), and never. Responses to the question "What is the typical life expectancy or prognosis of the patients you refer to SPC?" were grouped into early (>6 months of life), late (≤6 months of life), and never. Lastly, responses to the question "In ideal circumstances, when do you feel it is the best or optimal time to refer

a patient to SPC?" were grouped into early (at diagnosis of disease or >6 months of life) and late (at diagnosis of moderate or advanced disease ≤6 months of life). This statistical methodology was used in a previous study.³⁷

Associations between demographic characteristics, perceived availability and quality of SPC services, and cardiologist perceptions of palliative care, and the dependent variables of referral frequency and referral timing were analyzed using multiple regression and multiple logistic regression, respectively. All variables with $P \leq 0.05$ were included in a stepwise selection for the multivariable regression models; variables with $P \leq 0.10$ were included in the final models.

Results

Of 1082 cardiologists invited to participate, 551 (51%) responded. The majority of the respondents were male (401 of 551, 72.8%) and were between 40 and 59 years (305 of 551, 55.4%; [Table 1](#), [Supplemental Table S2](#)). A majority practiced in an academic centre (365 of 551, 66.2%) and practiced general cardiology (381 of 551, 69.1%). Approximately half of respondents (277 of 551, 50.3%) received some training in palliative care, including didactic teaching (181 of 551, 32.8%), clinical rotation (51 of 551, 9.3%), continuing medical education (82 of 551, 14.9%), or formal training (3 of 551, 0.5%). The majority of respondents who did not have any training in palliative care had been in practice for more than 20 years (154 of 275, 55.6%), whereas the majority of those who had some training in palliative care had been in practice less than 20 years (168 of 277, 60.6%; [Supplemental Table S3](#)).

The majority of respondents had access to inpatient services, including inpatient palliative care consults (358 of 551, 65.0%) and palliative care units (299 of 551, 54.3%). Fewer had access to ambulatory care (dyspnea clinic 30 of 551, 5.4%; outpatient palliative care clinic 194 of 551, 35.2%; pain clinic 262 of 551, 47.5%) and home care (home-visiting palliative care doctor/nurse practitioner 147 of 551, 26.7%; palliative home care 228 of 551, 41.4%). A similar pattern was observed for the availability of disciplines, including an SPC physician (inpatient 440 of 551, 79.9%; outpatient 278 of 551, 50.5%; [Table 2](#)).

A substantial proportion of respondents were unaware of referral criteria to local SPC services in the inpatient, outpatient, community, or palliative care unit settings; and with regard to the pursuit of acute care management, do not resuscitate status, or the receipt of continuous infusions, ranging from 35.1% (182 of 551) to 64.2% (334 of 551) ([Figure 1](#)). This pattern was most marked with regard to services in community settings.

Twenty percent (111 of 551) of cardiologists referred patients with uncontrolled symptoms and an estimated prognosis of more than 1 year, and 17.4% (96 of 551) usually/always referred symptom-free patients with an estimated prognosis of less than 1 year. A majority always/usually referred terminal patients for discharge planning (332 of 551, 60.3%), whereas approximately half rarely/never referred terminal patients for spiritual (276 of 551, 50.1%), psychological (275 of 551, 49.9%), or social concerns (289 of 551, 52.5%; [Figure 2](#)).

Table 2. Available SPC services and disciplines

Available services and disciplines	No. of respondents	%
PC services available		
PCU	299	54.3
Hospice	221	40.1
Outpatient PC clinic	194	35.2
Pain clinic	262	47.5
PC home care*	228	41.4
Home-visiting palliative care doctor/nurse practitioner	147	26.7
PC consults in hospital	358	65.0
Dyspnea clinic	30	5.4
Bereavement support	105	19.1
Psychosocial support	171	31.0
Disciplines		
Inpatients		
Specialized PC physician	440	79.9
Specialized PC nurse	339	61.5
Psychiatrist or psychologist	315	57.2
Social worker	397	72.1
PC social worker	159	28.9
Spiritual care specialist	333	60.4
Bereavement counsellor	102	18.5
N/A	37	6.7
Outpatients		
Specialized PC physician	278	50.5
Specialized PC nurse	215	39.0
Psychiatrist or psychologist	221	40.1
Social worker	252	45.7
PC social worker	90	16.3
Spiritual care specialist	113	20.5
Bereavement counsellor	78	14.2
N/A	52	9.4

N/A, not applicable; PCU, palliative care unit; SPC, specialist palliative care.

* Support at home that is proportional to a palliative care caseload, which could include a case coordinator, personal support worker, and nursing for symptom management.

A total of 71.3% (393 of 551) of cardiologists referred when estimated prognosis was less than 6 months. When asked about actual timing of referral, 74.2% (409 of 551) stated that they referred after several hospital admissions, after active treatments stopped, or when the patient was actively dying. When asked about referral in ideal circumstances, 31.9% (176 of 551) would refer at diagnosis of advanced disease and 40.8% (225 of 551) when estimated prognosis was between 3 months and 1 year; <1% (4 of 551) stated that they would refer to SPC at diagnosis regardless of estimated prognosis, and approximately 2% (10 of 551) stated that they would refer when estimated prognosis was more than 1 year ([Table 3](#)).

A majority of respondents (362 of 551, 65.7%) were satisfied with the quality of SPC services, and 42.5% (234 of 551) were satisfied with service availability. Only 34.7% (191 of 551) believed that SPC has adequate knowledge of the titration of cardiac-specific treatments. A smaller minority (98 of 551, 17.7%) were comfortable with providing palliative care to their own patients.

Twenty-nine percent (160 of 551) of respondents delayed SPC referral because of uncertainty about prognosis. Only 18.7% (103 of 551) believed that patients without symptoms did not need SPC before the last weeks of life. Twelve percent (66 of 551) were uncomfortable with referring their patients to a service called "Palliative Care"

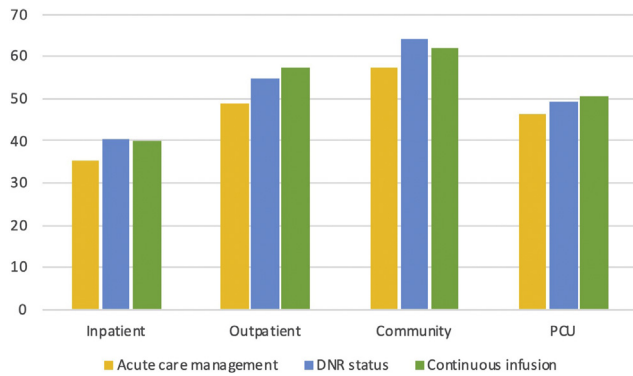


Figure 1. Percentage of respondents who did not know about local SPC services' referral criteria. DNR, do not resuscitate; PCU, palliative care unit; SPC, specialist palliative care.

until close to death, 57.4% believed that their patients have negative perceptions of the term “Palliative Care,” and 44.1% (243 of 551) stated that they would be more likely to refer to SPC earlier if it was renamed “Supportive Care.” A total of 42.1% (232 of 551) and 46.8% (258 of 551) of respondents believed that SPC prioritizes and is designed to meet the needs of patients with cancer, respectively (Figure 3, Supplemental Table S4).

Frequency of referral to SPC (Supplemental Table S5)

A high RFI was associated with a higher number of SPC services available to patients with nonmalignant diseases ($P = 0.008$), a higher number of palliative care settings accepting patients receiving continuous infusions often/sometimes ($P < 0.001$) or pursuing acute care management often/sometimes ($P < 0.001$), and higher satisfaction with SPC services ($P < 0.001$). A low RFI was associated with equating palliative care with end-of-life care ($P < 0.001$) and male sex ($P < 0.001$).

Timing of referral

Cardiologists were more likely to agree/strongly agree that early referral would be ideal if they had a higher number of SPC services available to patients with nonmalignant diseases ($P = 0.011$), were male ($P = 0.006$), or 1 or more of their inpatients died per month ($P = 0.048$). Conversely, agreement that late referral is ideal was associated with equating palliative care with end-of-life care ($P < 0.001$) and older age of the cardiologist ($P = 0.023$; Supplemental Table S6).

Cardiologists were more likely to refer early relative to late based on prognosis if they had a higher number of palliative care settings accepting patients receiving continuous infusions often/sometimes ($P < 0.001$), were female ($P < 0.001$), did not know about local SPC services' referral criteria ($P = 0.045$), or completed residency or fellowship within 5 years ($P = 0.025$). Cardiologists were more likely to refer late relative to early based on prognosis if they did not have a palliative care clinic for patients with nonmalignant diseases ($P = 0.025$) or equated palliative care to end-of-life care ($P < 0.001$; Supplemental Table S7).

Cardiologists were more likely to refer early relative to never based on prognosis if they had a higher number of SPC services available to patients with nonmalignant diseases ($P = 0.012$) or worked in an academic hospital ($P = 0.004$). Cardiologists were more likely to never refer relative to refer early based on prognosis if they were older ($P = 0.013$) or did not know about local SPC services' referral criteria ($P < 0.001$).

Regarding actual reported referral patterns, early referral relative to late referral was associated with a higher number of palliative care settings accepting patients pursuing acute care management often/sometimes ($P < 0.001$) or receiving continuous infusions often/sometimes ($P < 0.001$), and not knowing about local SPC services' referral criteria ($P = 0.005$). Late referral relative to early referral was associated with not having a palliative care clinic for patients with

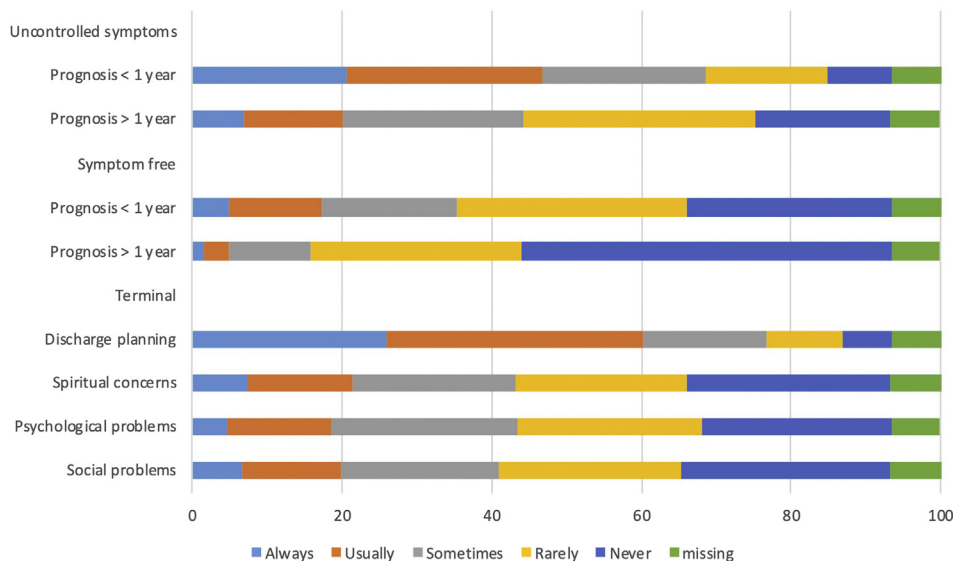


Figure 2. Referral practices.

Table 3. Timing of SPC referral

Referral characteristic	No. of respondents	Percentage
Prognosis at which patients are referred		
< 1 wk	18	3.3
< 1 mo	145	26.3
1-6 mo	230	41.7
> 6 mo to 1 y	84	15.2
> 1 y	3	0.5
Never referred	35	6.4
Missing	36	6.5
Timing of actual referral		
At diagnosis, regardless of prognosis	0	0.0
At diagnosis of moderate disease	3	0.5
At diagnosis of advanced disease	87	15.8
After several hospital admissions	130	23.6
After active treatments stopped	204	37.0
When patient is actively dying	75	13.6
Never	14	2.5
Missing	38	6.9
Timing of ideal referral		
At diagnosis, regardless of prognosis	4	0.7
At diagnosis of moderate disease	20	3.6
At diagnosis of advanced disease	176	31.9
< 1 wk of life	3	0.5
< 1 mo of life	41	7.4
1-2 mo of life	34	6.2
3-6 mo of life	102	18.5
> 6 mo to 1 y of life	123	22.3
> 1 y of life	10	1.8
Missing	38	6.9

SPC, specialist palliative care.

nonmalignant diseases ($P < 0.001$) and equating palliative care with end-of-life care ($P < 0.001$; [Supplemental Table S8](#)).

Early referral relative to never referring was associated with a higher number of SPC services available to patients with

nonmalignant diseases ($P = 0.007$), not knowing about local SPC services' referral criteria ($P = 0.018$), and being comfortable with the administration of palliative care ($P = 0.007$). Never referring relative to early referral was associated with equating palliative care with end-of-life care ($P = 0.019$), and not knowing about local SPC services' referral criteria ($P = 0.018$).

Discussion

The objective of our study was to examine the referral practices of Canadian cardiologists to SPC, access of their patients to these services, and the demographic, professional, and attitudinal factors that are associated with the frequency and timing of referral. Although the majority of cardiologists referred to SPC, they tended to do so late in their patients' disease course. In actual practice, nearly three-fourths of cardiologists referred late. In ideal circumstances, <1% of them would refer at diagnosis and approximately 2% would do so when estimated prognosis is longer than 1 year. Referral frequency was associated with the availability of SPC services for patients with nonmalignant diseases, the perception that SPC services do not accept patients receiving cardiology-specific treatments, satisfaction with services, and equation of palliative care with end-of-life care. Timing of referral based on prognosis, actual timing of referral, and ideal timing of referral were all associated with the availability of SPC services for patients with nonmalignant diseases and equation of palliative care with end-of-life care.

Our findings about timing of referral are similar to a recent survey of health care professionals in cardiology from Japan.³⁸ In our study, less than half of respondents were satisfied with the availability of SPC. Availability informed whether and how early cardiologists made such referrals. It is known that SPC for patients with heart failure is not as widely available as it is for patients with cancer.^{8,39-41}

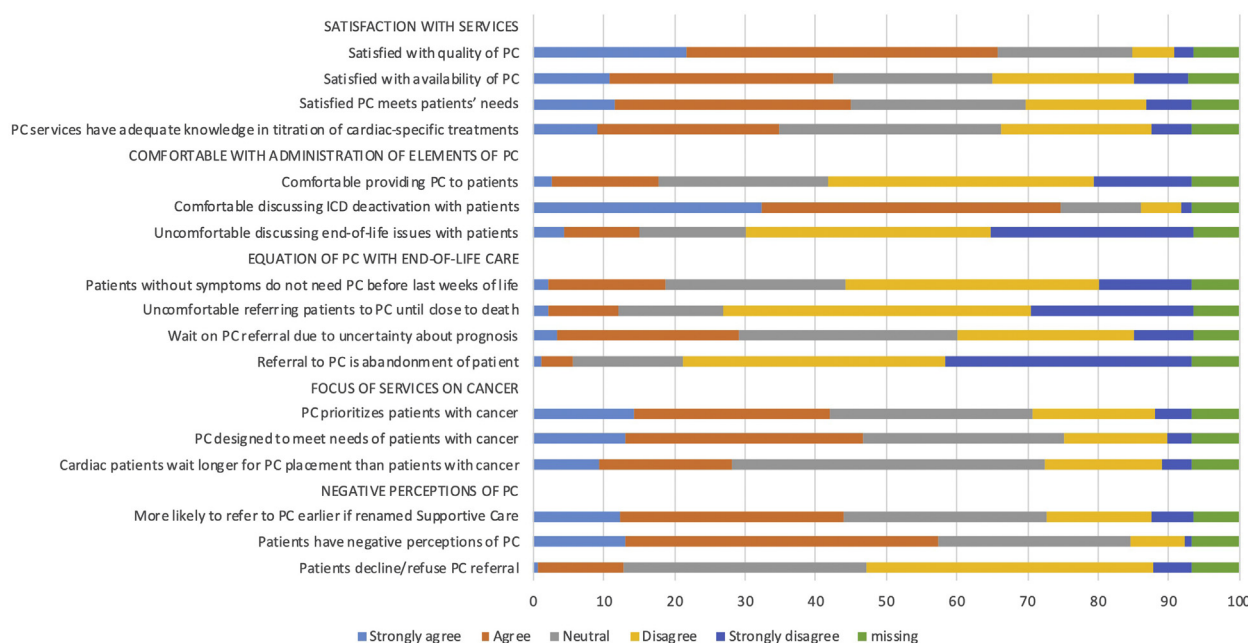


Figure 3. Attitudes toward SPC referral. ICD, implantable cardioverter defibrillator; PC, palliative care; SPC, specialist palliative care.

However, there are regional differences in the availability of SPC services to patients with nonmalignant diseases. That is, our results do not reflect the clinical reality of all cardiologists in Canada, especially ones who work in settings wherein there is a robust SPC program for their patients and correspondingly, ready access of their patients to these services. In addition, although the perceived availability of outpatient SPC services was lower than that of inpatient services, this pattern has also been observed among oncologists.³⁷ Perceived acceptance by SPC services of patients receiving heart failure treatments increased the frequency and optimized the timing of referral. This finding is substantiated by a previous study that identified difficulty in discontinuing cardiac medications as a primary barrier to SPC referral.³⁸ Our results demonstrate that palliative care is being inaccurately synonymized with end-of-life care, an issue highlighted by previous reviews on this topic.^{6,42-45} This attitude informed whether and how early cardiologists made referrals to SPC. Collectively, these findings suggest that barriers to timely SPC referral include an insufficiency of services for patients with nonmalignant disease especially in the outpatient setting, disqualification of patients because they may be pursuing acute care management or receiving continuous infusions, and a misperception that palliative care is equivalent to end-of-life care.

Regression analysis demonstrated that if cardiologists did not know about local SPC services' referral criteria, there was a likelihood of referring early than late, and a relatively greater likelihood of never referring than referring early. That is, cardiologists who did not know about these referral criteria were most likely to never refer, less likely to refer early, and least likely to refer late. Those who never referred may not have known about these referral criteria as a consequence of not having referred.

Nearly a third of respondents delayed referral to SPC because of uncertainty about prognosis. This finding is echoed in several previous studies that have identified the unpredictable course of heart failure as a barrier to referral.^{6,37,44-53} There are no standardized "transition points" in heart failure that may suggest the initiation of SPC referral. However, qualification for SPC services should be needs-based and not prognosis-based,⁵⁴⁻⁵⁷ a recommendation made by guidelines.¹ A total of 42% and 46.8% of respondents believed that SPC prioritizes and is designed to meet the needs of patients with cancer, respectively. This is echoed in a previous survey of physicians and nurses in variable specialties³⁸ wherein palliative care's primary focus on cancer was judged to be a barrier to SPC referral. These attitudes could explain why relative to patients with cancer, a lower proportion of patients with noncancer diagnoses receive SPC.^{48,58} However, there is evidence that access to SPC among patients with primary cardiac diagnoses is increasing. A retrospective study of a palliative care program demonstrated that, over 12 years, the percentage of inpatient referrals to the program by cardiologists increased from 6.0% to 9.6%, and the percentage of outpatients with heart disease connected to the program increased from 1.4% to 13.9%.⁵⁹

A total of 44.1% of respondents were more likely to refer to SPC earlier if it was renamed "Supportive Care," and 57.4% of respondents believed that their patients have negative perceptions of the term "Palliative Care." This suggests that there may be some discomfort among cardiologists about discussing palliative care with their patients. Debate remains among palliative care specialists about rebranding, as has been discussed recently.⁶⁰ There is evidence that, among medical oncologists and patients with cancer, the term supportive care is received more favourably than palliative care.⁶¹⁻⁶³ This has not been studied among cardiologists and patients with heart failure. Only 34.7% of respondents believed that SPC has adequate knowledge in titration of cardiac-specific treatments. Doubt about the optimal medical management of patients with heart failure by palliative care specialists was discerned in previous surveys.^{47,48} Although training in palliative care has historically and primarily been in patients with cancer, there is a growing acknowledgement of the need to build capacity in the management of patients with nonmalignant diseases. The establishment of the Royal College fellowship program in 2017, whose trainees are primarily specialists in Internal Medicine, and our anecdotal experience of subspecialists pursuing formal training in palliative care suggests that competence in titration of cardiac-specific treatments among palliative care specialists is likely to increase over time.

Low referral frequency was associated with male sex. Because males in this cohort were older and had been practicing for a longer time, it is possible that the low priority assigned to palliative care during their medical training and formative years in practice have informed their current referral practices to palliative care. This has been observed in a previous survey that found that female sex was associated with earlier referral to SPC based on prognosis and earlier ideal timing of referral.³⁷

The present study has one of the highest number of respondents and a comparable response rate amongst similar studies; among previous surveys, the response rate ranged from 14% to 100%.^{34,38,40,45,46,48,64,65} Previous studies have provided a qualitative analysis of the factors that inform SPC referral for patients with cardiac diseases; our study provides a quantitative analysis of factors associated with referral and its frequency.

Our study has several limitations. First, the responses by cardiologists may not reflect their clinical reality. The fact that a high percentage of respondents were not aware of referral criteria to SPC services suggests that they may also not have been aware of SPC services that are available to them. Second, the number of cardiologists in Canada was 1514 in 2018, 77.9% of whom were men and 22.1% women,⁶⁶ such that nearly 30% of cardiologists were not invited to participate in the survey and that our sample has a slight overrepresentation of women. It is unknown why Scott's Directory did not comprise all of these individuals. Although two-thirds of respondents practiced in an academic centre, this is similar to the distribution of facility of practice among cardiologists in Canada.⁶⁶ However, it is unknown whether the respondents practiced in an urban or rural area.

SPC is less accessible in rural settings, such that the results of this survey may paint a picture that is more optimistic than the reality that is experienced by cardiologists who practice in rural settings.⁶⁷ These features decrease the generalizability of our results. Finally, although our study demonstrates trends in the frequency and timing of referral to SPC among cardiologists, it is unable to explain why these trends were observed, which could be answered by a qualitative study of cardiologists.

Conclusions

Although the majority of Canadian cardiologists referred to SPC, they tended to do so late in their patients' disease course. Less frequent and later referral was associated with less availability of SPC services for patients with nonmalignant diseases and equation of palliative care with end-of-life care. This study identifies possible barriers to SPC referral among cardiologists and demonstrates the need to build palliative care services that are available to cardiac patients and accepting of their treatments, and to provide education to cardiologists about the identity of palliative care. Finally, the study suggests the importance of raising awareness of local SPC services among cardiologists. Future studies are needed to provide evidence-based suggestions for building an ideal model of palliative care for patients with cardiac diseases.

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Supplementary Material

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