

Christian Sinclair, MD, Luke Nelson, MD, Aaron Katz, PharmD, PhD, Joanna Veazey Brooks, MBE, PhD
University of Kansas Medical Center, Kansas City, KS, United States

INTRODUCTION

- Hospice provides many benefits including quality end-of-life care for patients and support for their caregivers.
- These benefits are correlated with hospice length of stay (LOS) and increase over time.
- Short hospice LOS <7 days is a marker of suboptimal outcomes.
- Palliative care is equally important for providing quality end-of-life care and can positively impact hospice LOS.
- Outpatient palliative care embedded into a cancer center can serve patients and their families, which provides the opportunity for continuity of care over time.
- We evaluated whether earlier referral to outpatient palliative care is associated with longer hospice LOS.

METHODS

- This was a retrospective study of existing medical record data collected as part of an established palliative care patient registry at a single institution.
- All patients with cancer who were referred to palliative clinic within 365 days of death and admitted to hospice were included.
- The primary outcome was hospice LOS, measured as the time of admission to hospice to the date of death
- Patients were stratified by cancer type and by timing of referral to palliative care prior to death (<28 days, 28-90 days, 91-180 days, 181-365 days); "all cancer types" included breast, GI, GU, GYN, lung, other solid tumors, and hematologic malignancies.
- We used descriptive statistics to summarize our findings and one-way ANOVA and Mood's median tests to assess associations between hospice LOS and timing of referral to palliative care.

DATA

Table 1: Mean duration of hospice by timing of referral to palliative care and cancer type

Cancer type		Referred to palliative care <28 days prior to death	Referred to palliative care 28-90 days prior to death	Referred to palliative care 91-180 days prior to death	Referred to palliative care 181-365 days prior to death	P-value*	All patients referred to palliative care <=365 days prior to death
All cancer types	n	48	249	219	192		708
	Mean (SD)	6.6 (6.2)	14.1 (14.0)	24.3 (27.4)	33.7 (43.9)	<0.0001	22.0 (30.0)
GI cancer	n	15	97	84	57		253
	Mean (SD)	8.1 (8.1)	15.2 (14.6)	20.6 (20.8)	28.0 (29.3)	0.0004	19.5 (21.2)
Lung cancer	n	8	22	15	22		67
	Mean (SD)	10.0 (7.0)	14.2 (16.3)	16.0 (17.4)	29.5 (41.4)	0.1778	19.1 (27.5)
Breast cancer	n	3	18	17	15		53
	Mean (SD)	2.7 (0.6)	9.6 (9.9)	34.4 (31.7)	37.6 (42.1)	0.0176	25.1 (31.7)

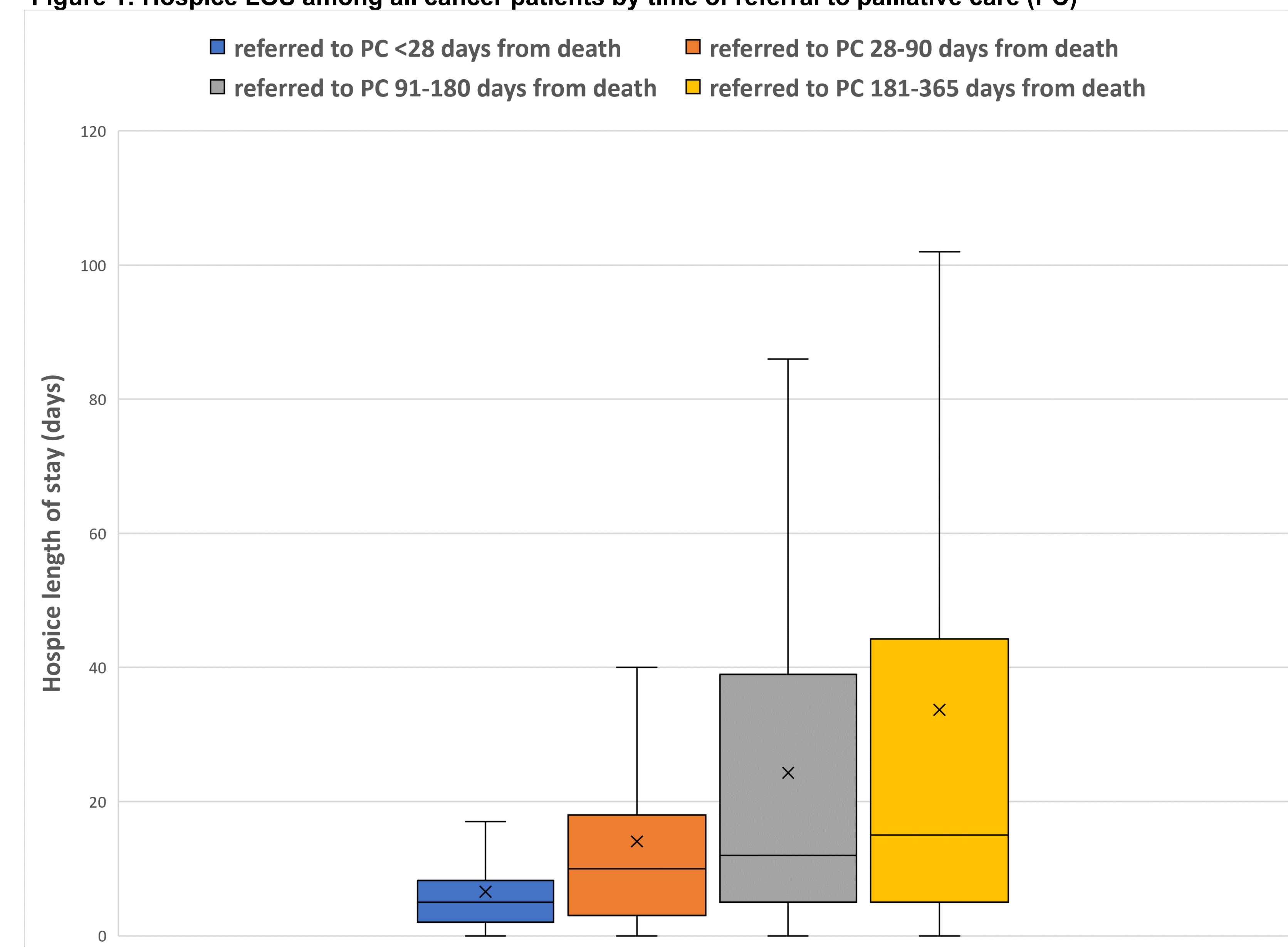
* P-value for the one-way ANOVA comparing the means for duration of hospice across groups (based on timing of referral to palliative care)

Table 2: Median duration of hospice by timing of referral to palliative care and cancer type

Cancer type		Referred to palliative care <28 days prior to death	Referred to palliative care 28-90 days prior to death	Referred to palliative care 91-180 days prior to death	Referred to palliative care 181-365 days prior to death	P-value*	All patients referred to palliative care <=365 days prior to death
All cancer types	n	48	249	219	192		708
	Median (IQR)	5.0 (2.0-8.3)	10.0 (3.0-18.0)	12.0 (5.0-39.0)	15.0 (5.0-44.3)	<0.0001	11.0 (4.0-27.0)
GI cancer	n	15	97	84	57		253
	Median (IQR)	5.0 (2.5-10.0)	10.0 (5.0-22.0)	12.0 (6.0-24.8)	19.0 (6.0-42.0)	0.0102	12.0 (5.0-24.0)
Lung cancer	n	8	22	15	22		67
	Median (IQR)	9.0 (4.5-16.3)	7.0 (1.0-21.3)	12.0 (4.0-18.5)	12.0 (2.0-40.5)	0.9762	10.0 (2.0-21.0)
Breast cancer	n	3	18	17	15		53
	Median (IQR)	3.0 (2.5-3.0)	6.5 (2.0-12.0)	30.0 (3.0-61.0)	11.0 (5.5-63.0)	0.1059	11.0 (3.0-34.0)

* P-value for Mood's median test comparing the medians for duration of hospice across groups (based on timing of referral to palliative care)

Figure 1: Hospice LOS among all cancer patients by time of referral to palliative care (PC)



RESULTS

- A total of 708 patients referred to palliative clinic between January 2018 and February 2023 were included.
- Most patients presented with GI (253), lung (67), or breast (53) cancer.
- In general, patients who were referred to palliative care early (≥ 28 days prior to death) had longer hospice LOS compared to patients who were referred late (<28 days prior to death).
- Among all cancer types and among patients with GI cancers, both the mean and median hospice LOS differed significantly by timing of referral to palliative care.**
- For each cancer type, hospice LOS varied noticeably within each category for timing of referral to palliative care.

CONCLUSION

- Earlier referral to outpatient palliative care may result in longer hospice LOS, which can meaningfully impact cancer patients and their families; conversely, late referral limits opportunities to engage with patients and can lead to shorter stays in hospice.
- In order to provide optimal care for cancer patients, palliative care clinics should be embedded within cancer centers and early referrals encouraged.

REFERENCES

- Greer JA, Pirl WF, Jackson VA, Muzikansky A, Lennes IT, Heist RS, Gallagher ER, Temel JS. 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 Feb 1;30(4):394-400.
- Hui D, Kim SH, Roquemore 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 Jun 1;120(11):1743-9.
- Robbins SG, Hackstadt AJ, Martin S, Shinall MC Jr. Implications of Palliative Care Consultation Timing among a Cohort of Hospice Decedents. *J Palliat Med.* 2019 Sep;22(9):1129-1132.
- Scheffey C, Kestenbaum MG, Wachterman MW, Connor SR, Fine PG, Davis MS, Muir JC. Clinic-based outpatient palliative care before hospice is associated with longer hospice length of service. *J Pain Symptom Manage.* 2014 Oct;48(4):532-9.
- Temel JS, Greer JA, Muzikansky A, Gallagher ER, Admane S, Jackson VA, Dahlin CM, Blinderman CD, Jacobsen J, Pirl WF, Billings JA, Lynch TJ. Early palliative care for patients with metastatic non-small-cell lung cancer. *N Engl J Med.* 2010 Aug 19;363(8):733-42.
- Yeh JC, Urman AR, Besaw RJ, Dodge LE, Lee KA, Buss MK. Different Associations Between Inpatient or Outpatient Palliative Care and End-of-Life Outcomes for Hospitalized Patients With Cancer. *JCO Oncol Pract.* 2022 Apr;18(4):e516-e524.