ASSESSING PALLIATIVE CARE DELIVERY AND VALUE IN CANCER

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Emory University School of Medicine

May 15th 2025

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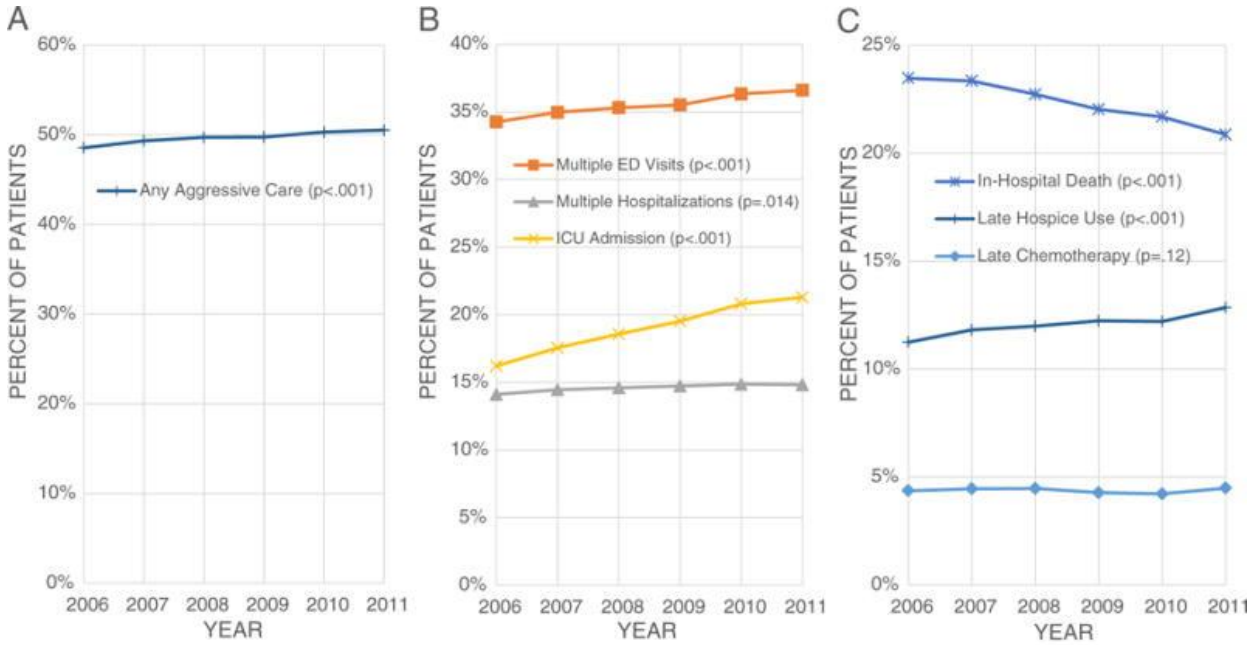
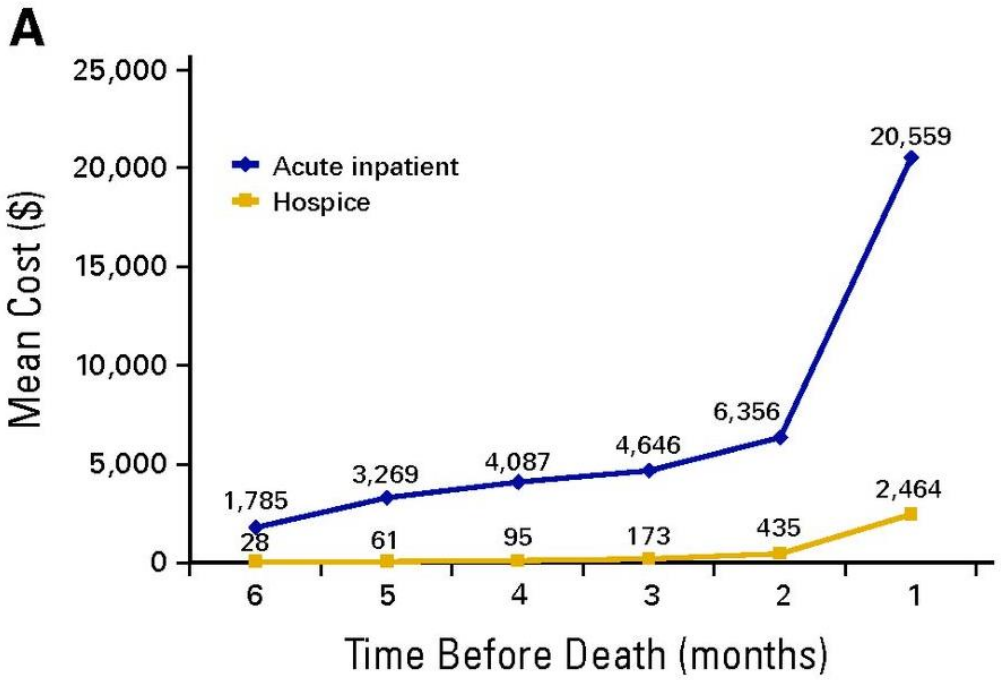
SUBOPTIMAL END-OF-LIFE OUTCOMES

High Aggressive Care Use



ED: Emergency department; ICU: Intensive care unit

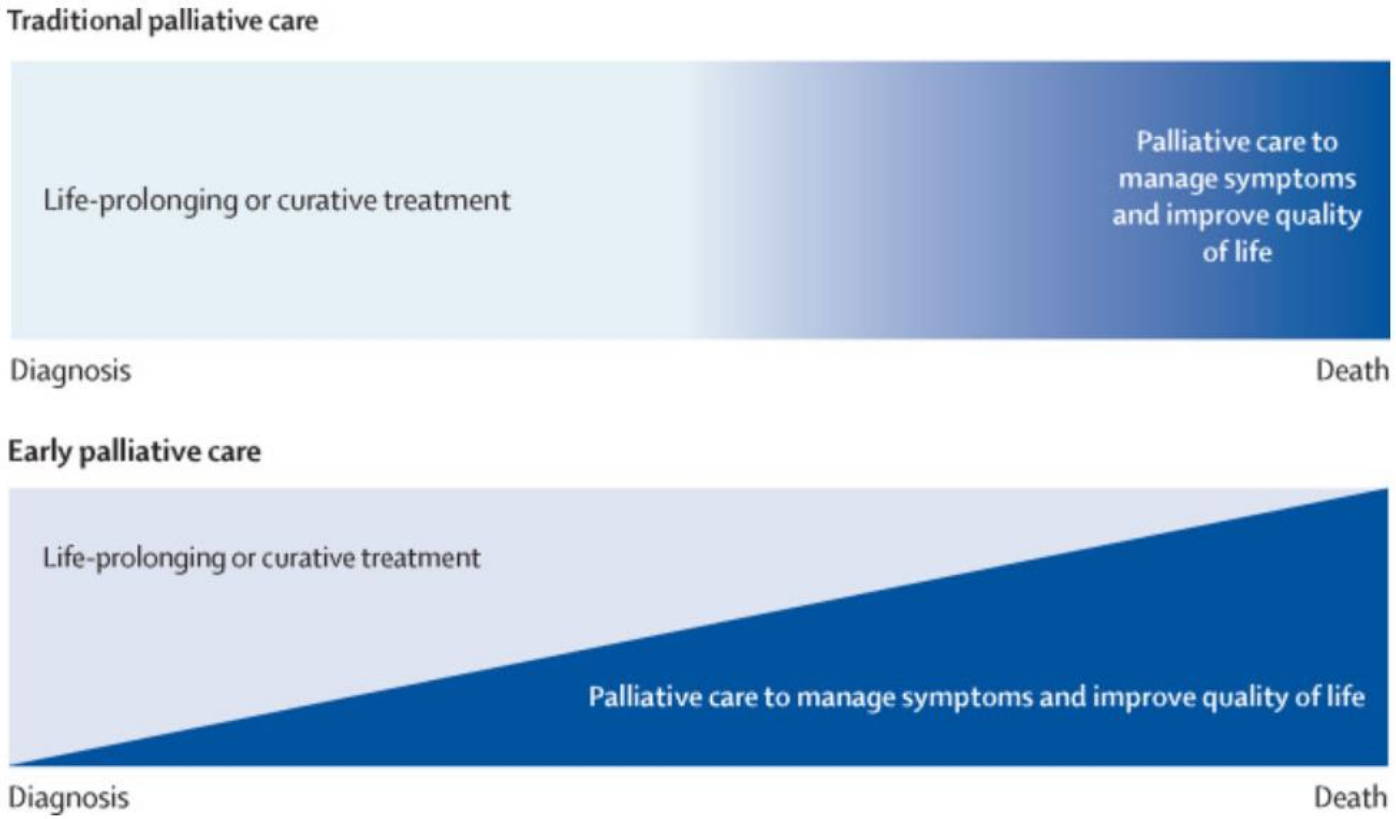
High End-Of-Life Costs



Source:
Wang SY, Hall J, Pollack CE, Adelson K, Bradley EH, Long JB, Gross CP. Trends in end-of-life cancer care in the Medicare program. J Geriatr Oncol. 2016 Mar;7(2):116-25. doi: 10.1016/j.jgo.2015.11.007
Chastek B, Harley C, Kallich J, Newcomer L, Paoli CJ, Teitelbaum AH. Health care costs for patients with cancer at the end of life. J Oncol Pract. 2012 Nov;8(6):75s-80s. doi: 10.1200/JOP.2011.000469.

WHAT IS PALLIATIVE CARE

Palliative care (PC) is specialized medical care for people with serious illnesses, focusing on providing relief from symptoms and stress. It encompasses physical, psychosocial, and spiritual care to improve the quality of life for patients and their families.



Source: Parikh RB, Kirch RA, Smith TJ, Temel JS. Early specialty palliative care--translating data in oncology into practice. N Engl J Med. 2013 Dec 12;369(24):2347-51. doi: 10.1056/NEJMsb1305469.

EVIDENCE FROM RANDOMIZED CLINICAL TRIALS

Early integration of palliative care

- Improve quality of life
- Reduce aggressive care at the end-of-life

ORIGINAL ARTICLE

Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer

Authors: Jennifer S. Temel, M.D., Joseph A. Greer, Ph.D., Alona Muzikansky, M.A., Emily R. Gallagher, R.N., Sonal Admane, M.B., B.S., M.P.H., Vicki A. Jackson, M.D., M.P.H., Constance M. Dahlin, A.P.N., Craig D. Blinderman, M.D., Juliet Jacobsen, M.D., William F. Pirl, M.D., M.P.H., J. Andrew Billings, M.D., and Thomas J. Lynch, M.D. Author Info & Affiliations

Published August 19, 2010 | N Engl J Med 2010;363:733-742 | DOI: 10.1056/NEJMoa1000678 | VOL. 363 NO. 8

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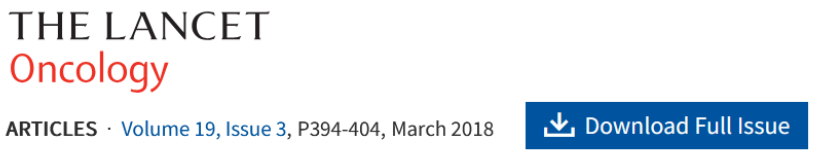
August 19, 2009

Effects of a Palliative Care Intervention on Clinical Outcomes in Patients With Advanced Cancer

The Project ENABLE II Randomized Controlled Trial

Marie Bakitas, DNSc, APRN; Kathleen Doyle Lyons, ScD, OTR; Mark T. Hegel, PhD; et al

jama.2009.1198



ARTICLES · Volume 19, Issue 3, P394-404, March 2018 Download Full Issue

Effect of early and systematic integration of palliative care in patients with advanced cancer: a randomised controlled trial

Gaëlle Vanbutsele, MSc [a] · Koen Pardon, PhD [a] · Prof Simon Van Belle, MD [b] · Veerle Surmont, MD [c] · Martine De Laat, MD [d] · Roos Colman, MSc [f] · et al. Show more

Affiliations & Notes Article Info Linked Articles (3)

PALLIATIVE CARE GUIDELINES

2024 ASCO Guidelines

Palliative Care for Patients With Cancer: ASCO Guideline Update

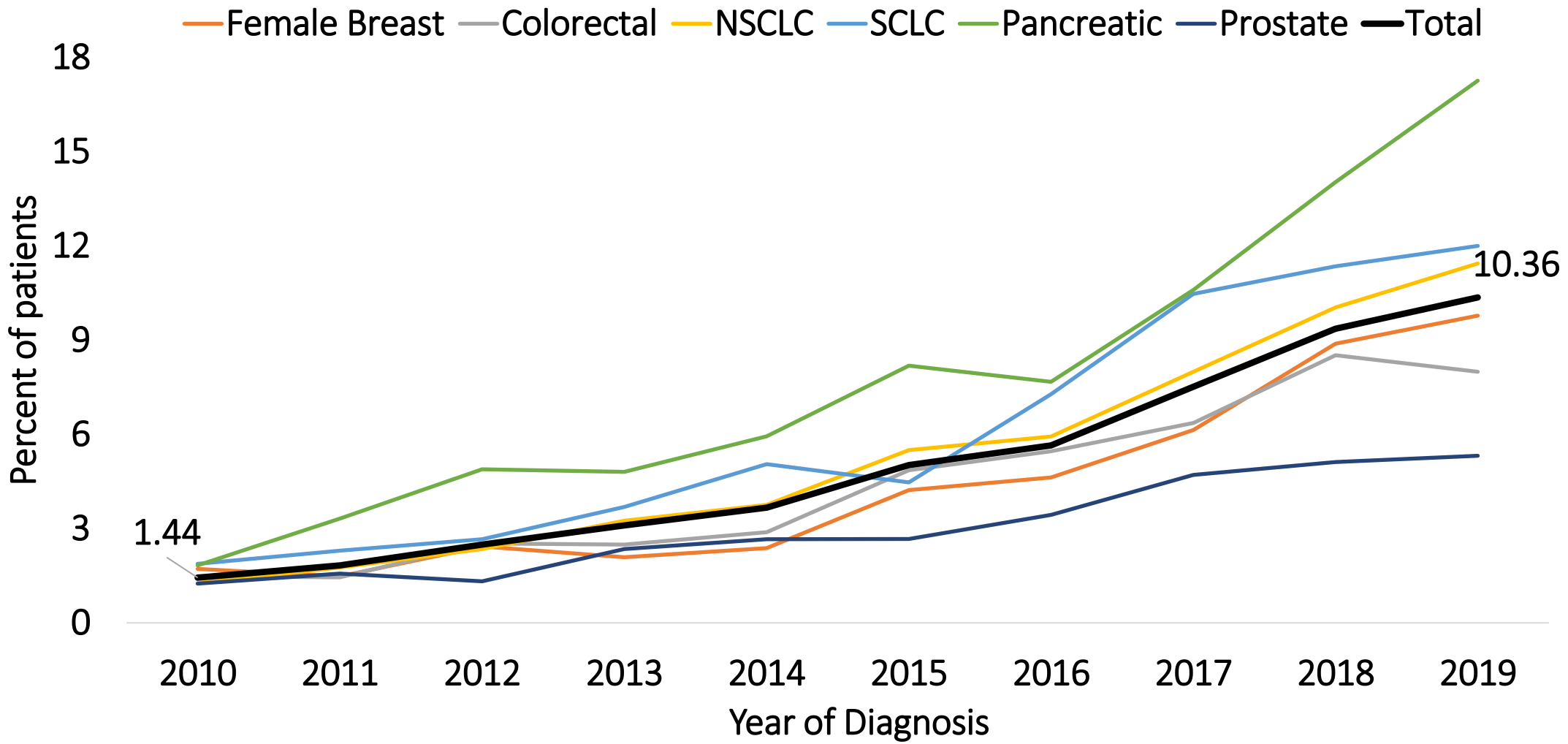
Authors: Justin J. Sanders, MD, MSc, Sarah Temin, MSPH, Arun Ghoshal, MBBS, MD, MRes, Erin R. Alesi, MD, Zipporah Vunoro Ali, MD, Cynthia Chauhan, MSW, James F. Cleary, MD, ... SHOW ALL ..., and Betty R. Ferrell, PhD AUTHORS INFO & AFFILIATIONS

The 2016 guideline recommended referral to specialist palliative care within 8 weeks of diagnosis of advanced cancer on the basis of the available evidence. Based on the same evidence and the emergence of workforce issues, the Expert Panel recommended changing the wording of the recommendation to early in the treatment process. The panel also recognizes the potential difficulty of interpreting the word *early* when discussing a palliative care referral. In available interventional studies, early has been defined as within 8-12 weeks from diagnosis.[17,32,52]

There is no standard time following diagnosis of an advanced cancer in which to refer patients to palliative care. However, in the context of current practice, the Expert Panel recommends that individuals interpret early as not waiting until cessation of antineoplastic-directed therapy but rather focusing on the presence of palliative needs.

Early also indicates palliative care engagement in the outpatient setting. Ideally,

EARLY PALLIATIVE CARE BILLING IS LOW



Hu X, Kwon Y, Jiang C, Fan Q, et al. Trend and Provider- and Organizational-Level Factors Associated With Early Palliative Care Billing Among Patients Diagnosed With Distant-Stage Cancers in 2010-2019 in the United States. J Clin Oncol. 2025 Mar 7:JCO2401935.

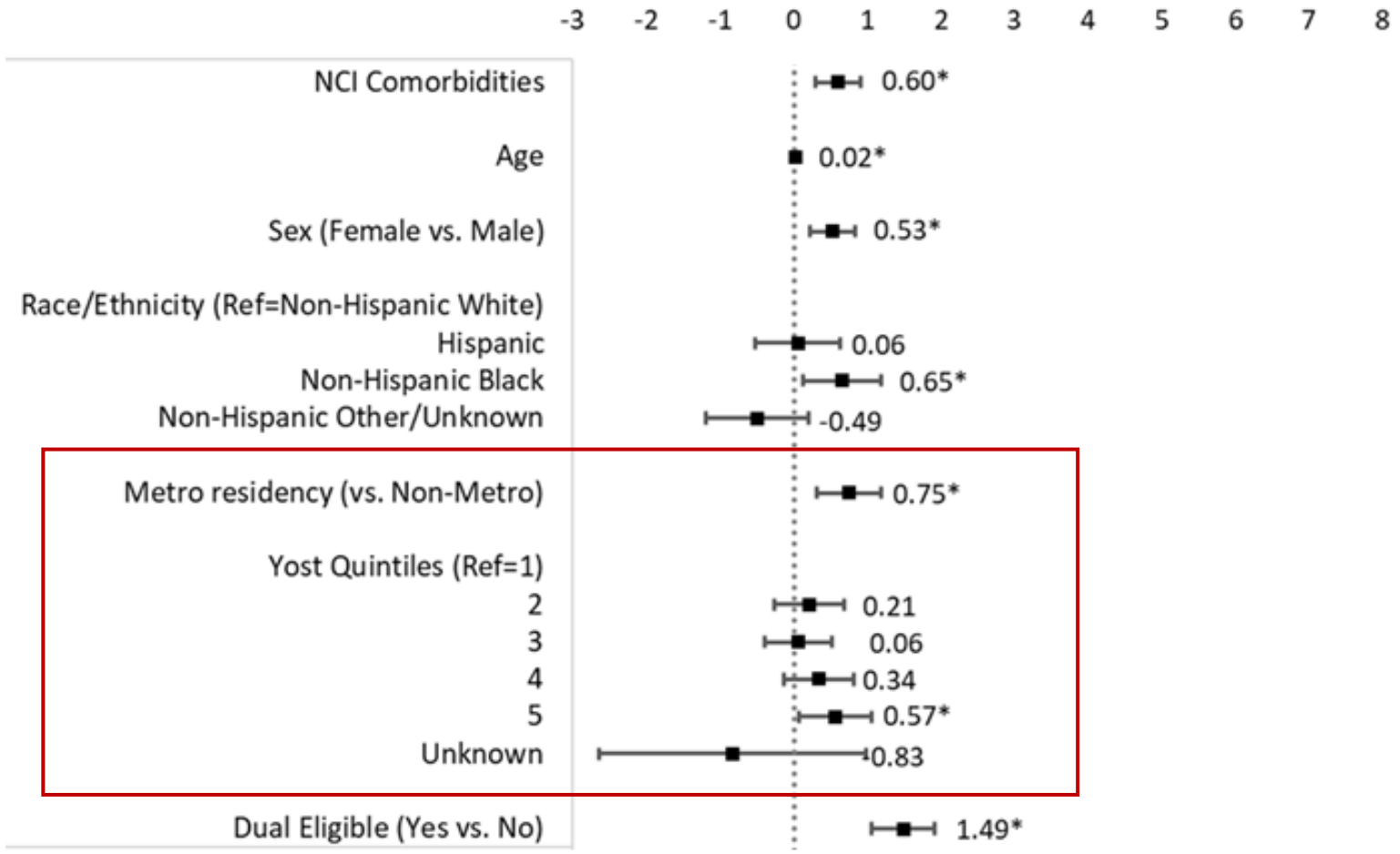
BARRIERS TO PALLIATIVE CARE

System

Provider

Patient

Patient Factors Associated with Early Palliative Care



Hu X, Kwon Y, Jiang C, Fan Q, et al. Trend and Provider- and Organizational-Level Factors Associated With Early Palliative Care Billing Among Patients Diagnosed With Distant-Stage Cancers in 2010-2019 in the United States. J Clin Oncol. 2025 Mar 7:JCO2401935.

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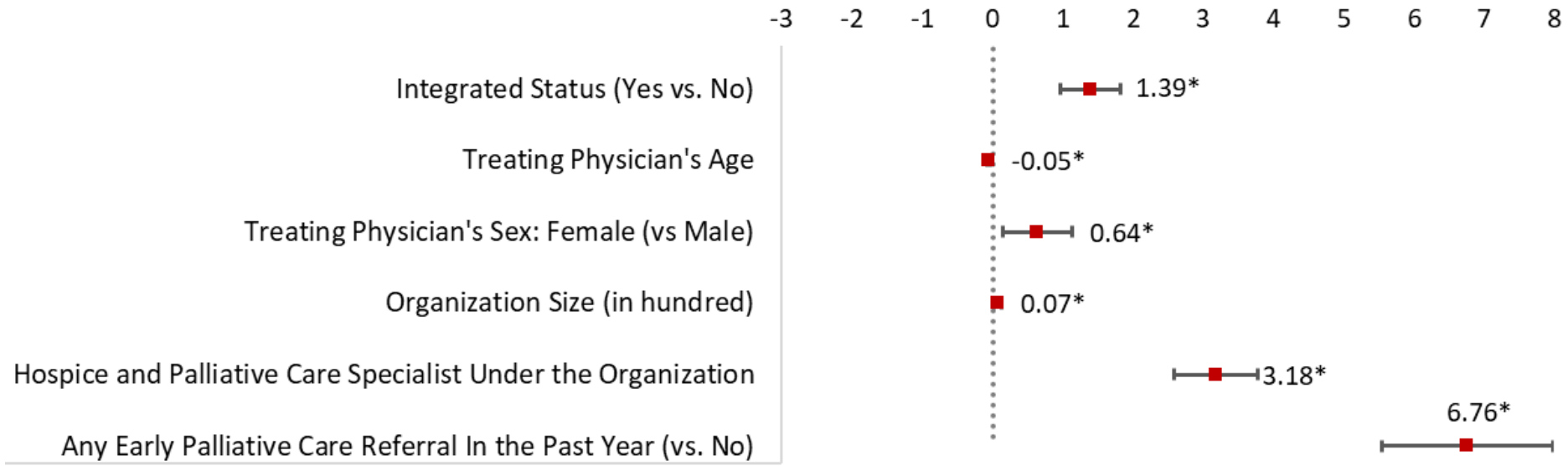

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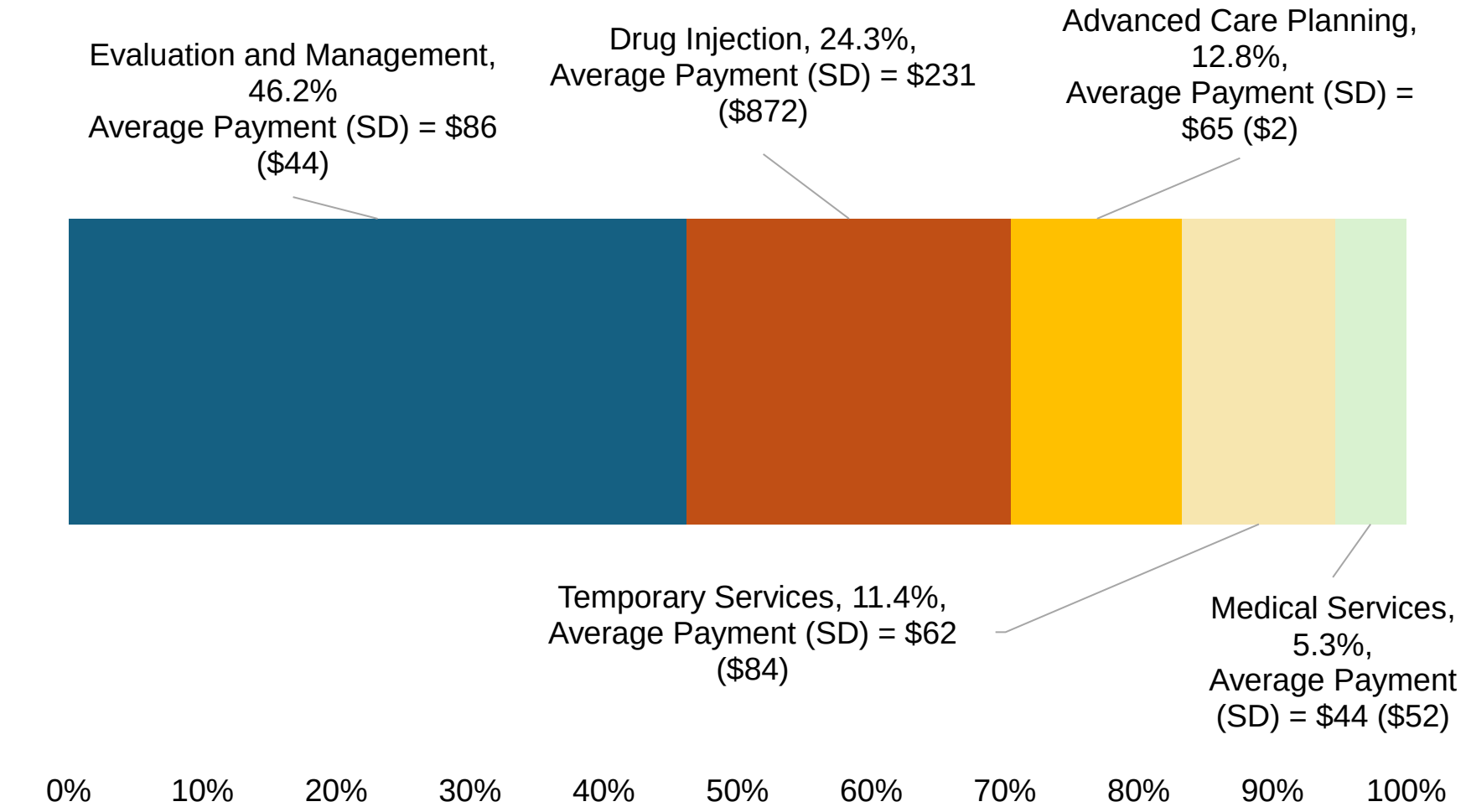
BARRIERS TO PALLIATIVE CARE

System

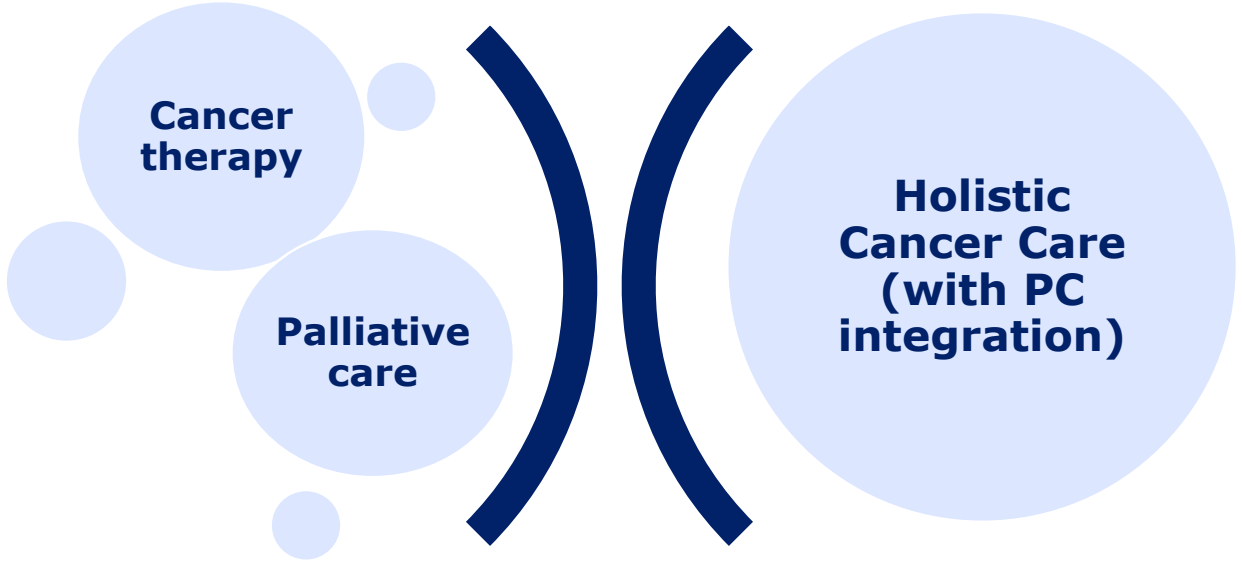
Provider

Patient

Average Medicare Payment Rate and Services Volume Billed by Palliative Care Specialist, 2019



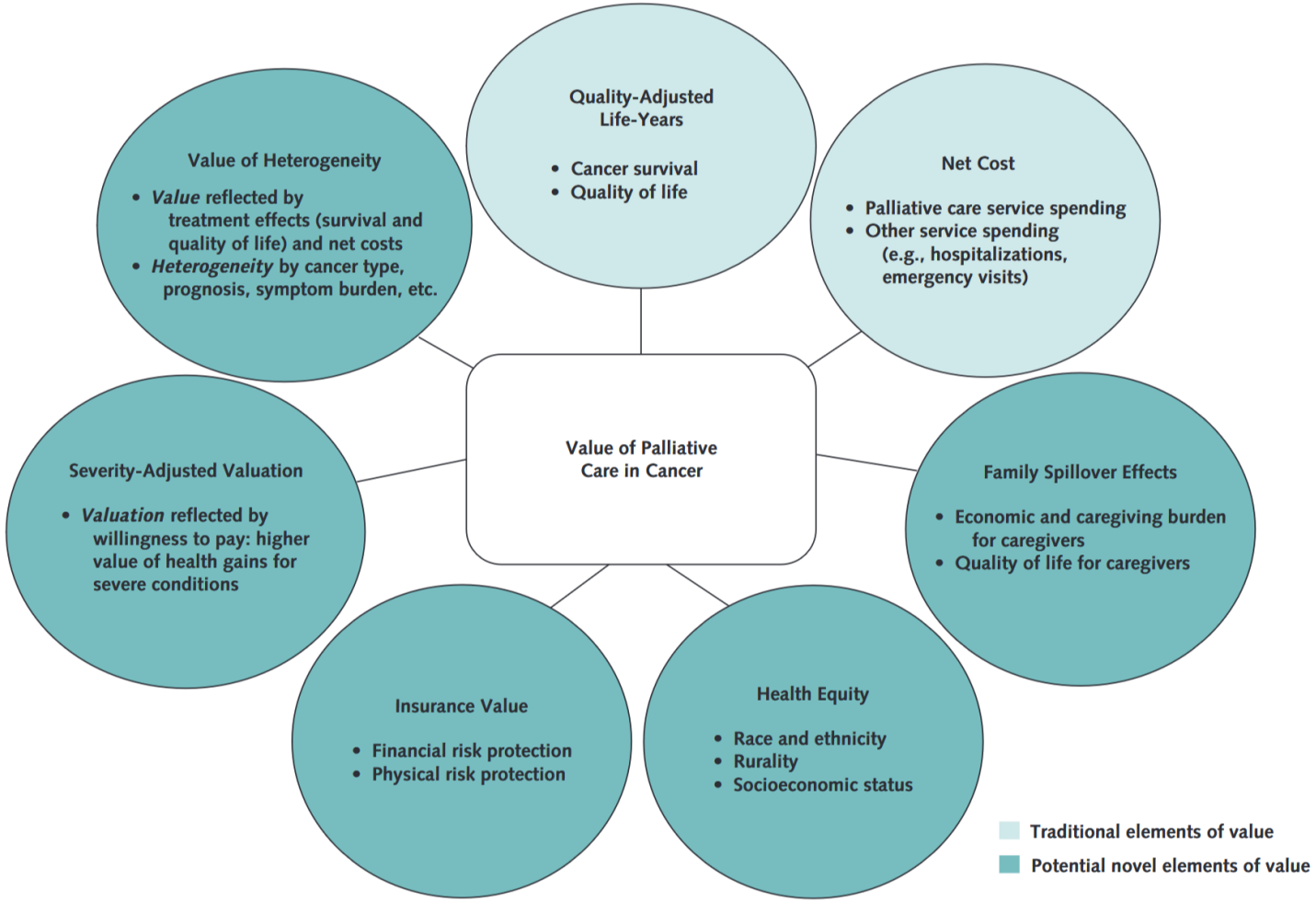
SYSTEM-LEVEL PAYMENT REFORM



	Fee-For-Service	Value-Based
Patient	• Late / no palliative care integration • Cancer-directed treatment as priority / competing event	• Early palliative care integration • Cancer-directed treatment + best supportive care
Provider	• Financially unsustainable for palliative care programs	• Financially sustainable for palliative care program
System	• Volume-driven • Limited access in lower resource areas	• Outcome focus, and prioritize high-value use • Equitable access

PALLIATIVE CARE VALUE ASSESSMENT FRAMEWORK

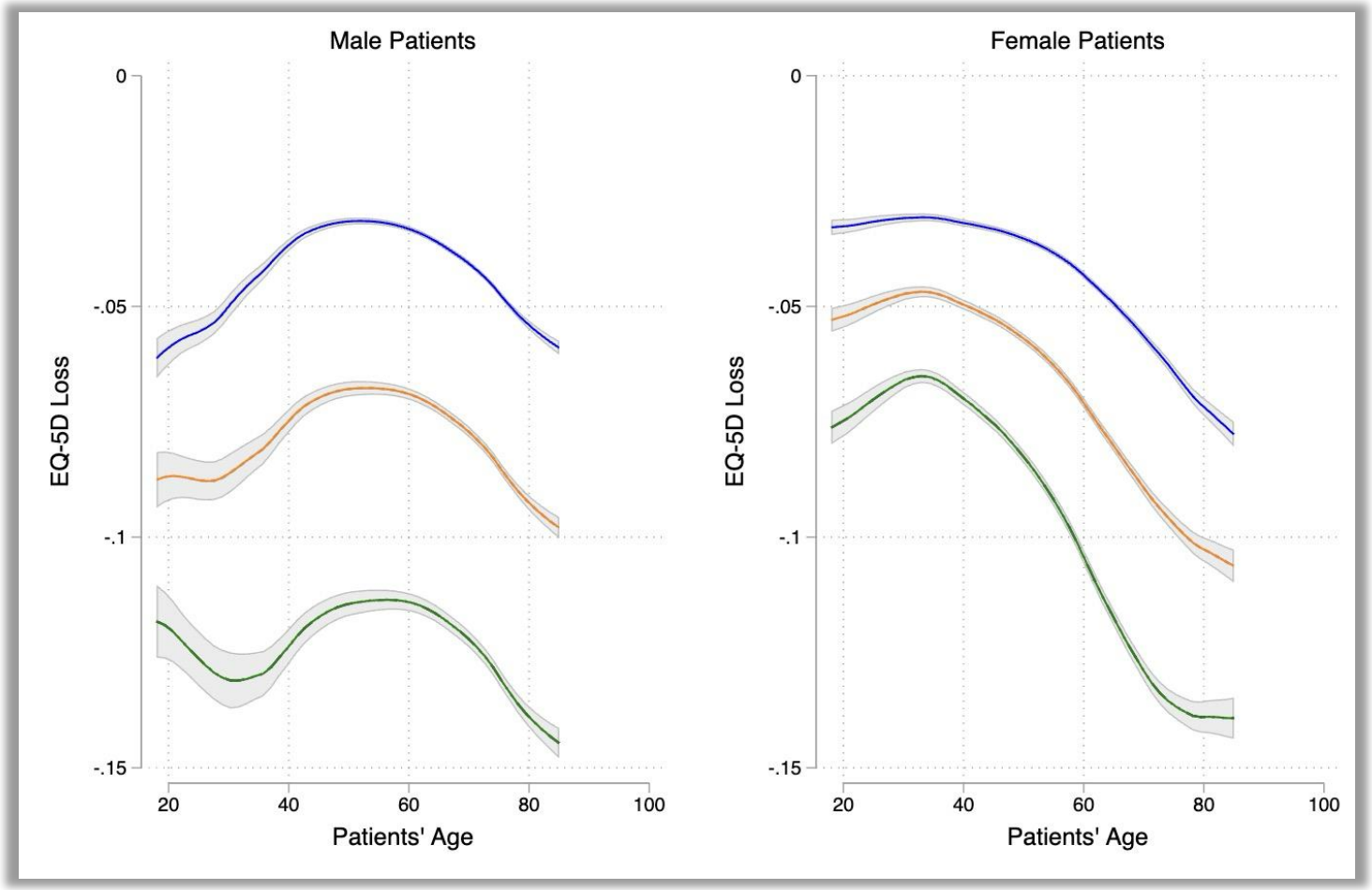
Figure. Value assessment framework for palliative care in cancer.



Hu X, Jiao B, Pan X, Nip R, Jiang C. Illuminating the Value of Palliative Care in Cancer: A path to incentivizing high-value cancer care. Ann Intern Med. 2024 Nov 19. doi: 10.7326/ANNALS-24-00702.

FAMILY SPILLOVER EFFECTS

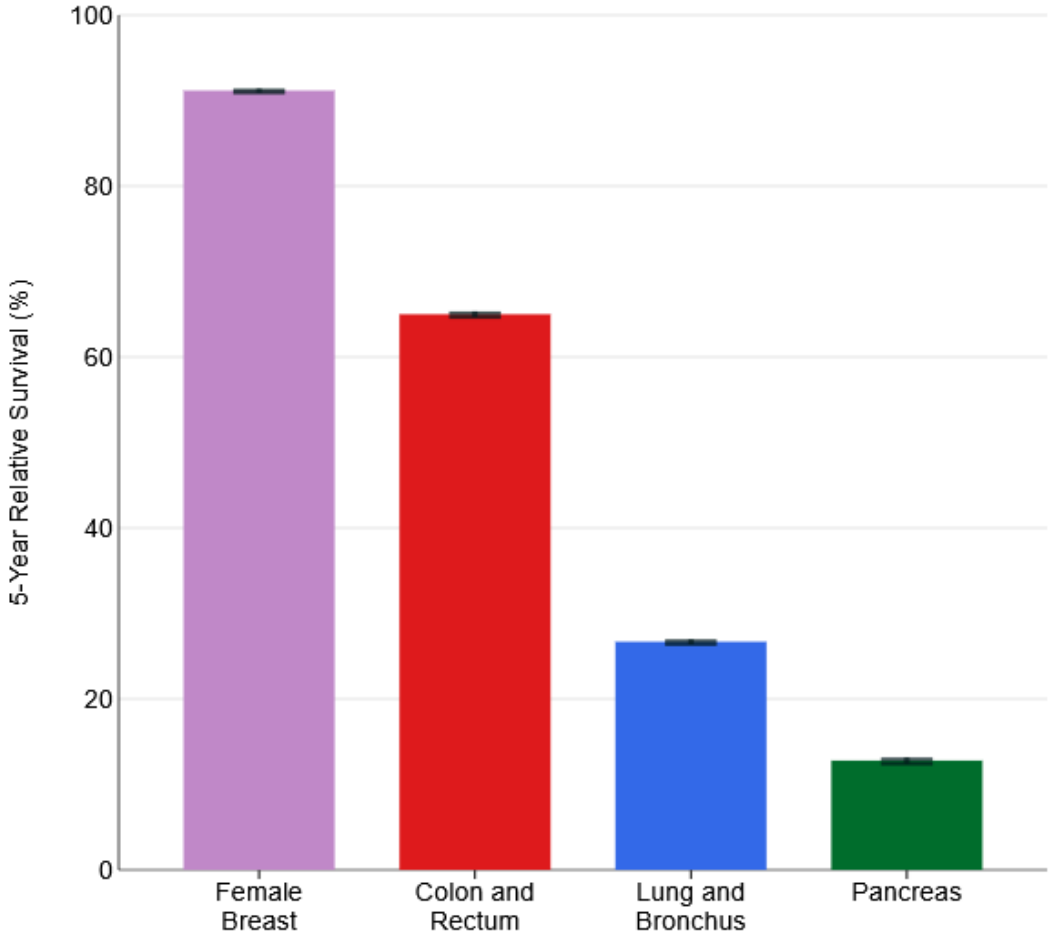
Family member's QoL reduction associated with individual's cancer diagnosis, by age and sex



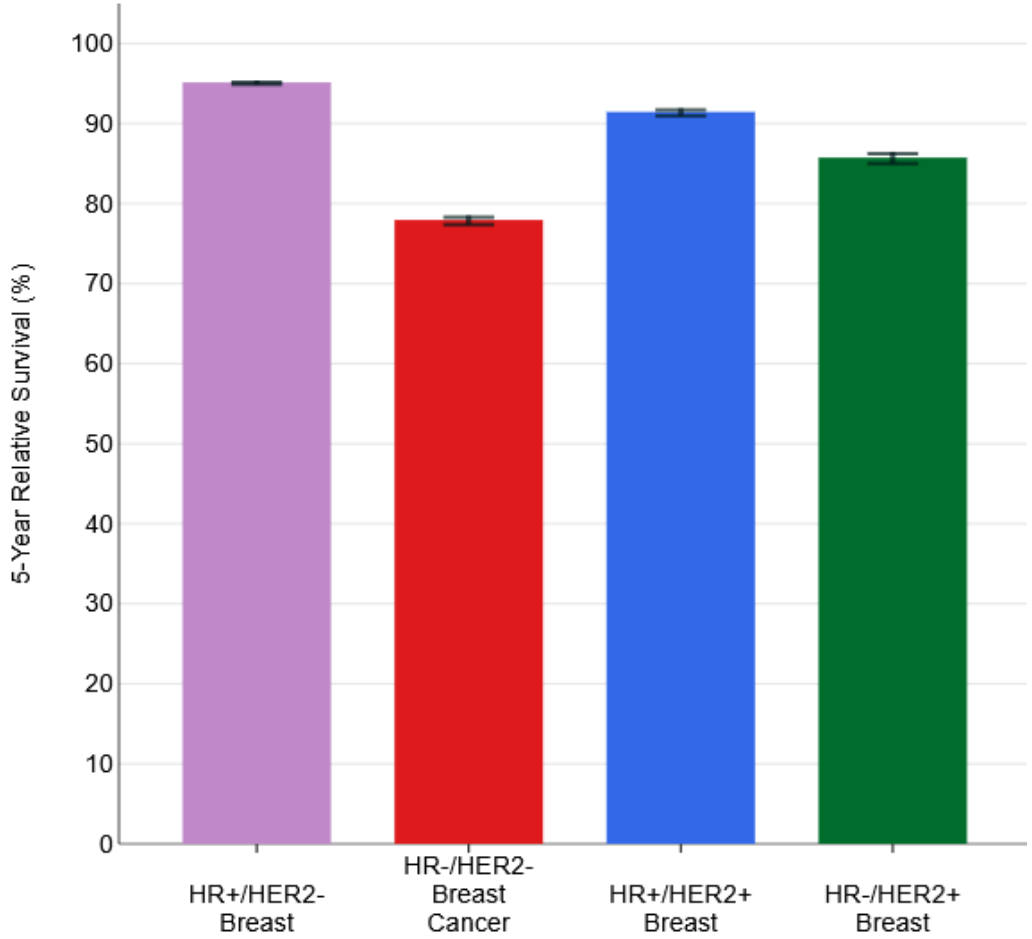
Zhao S, Yu R, Hu X, Jiang C, Pan X, Jiao B. Measuring the Spillover Effect of Cancer on Family Members' Health: A US-Based Empirical Analysis. (Work in progress)

VALUE OF HETEROGENEITY

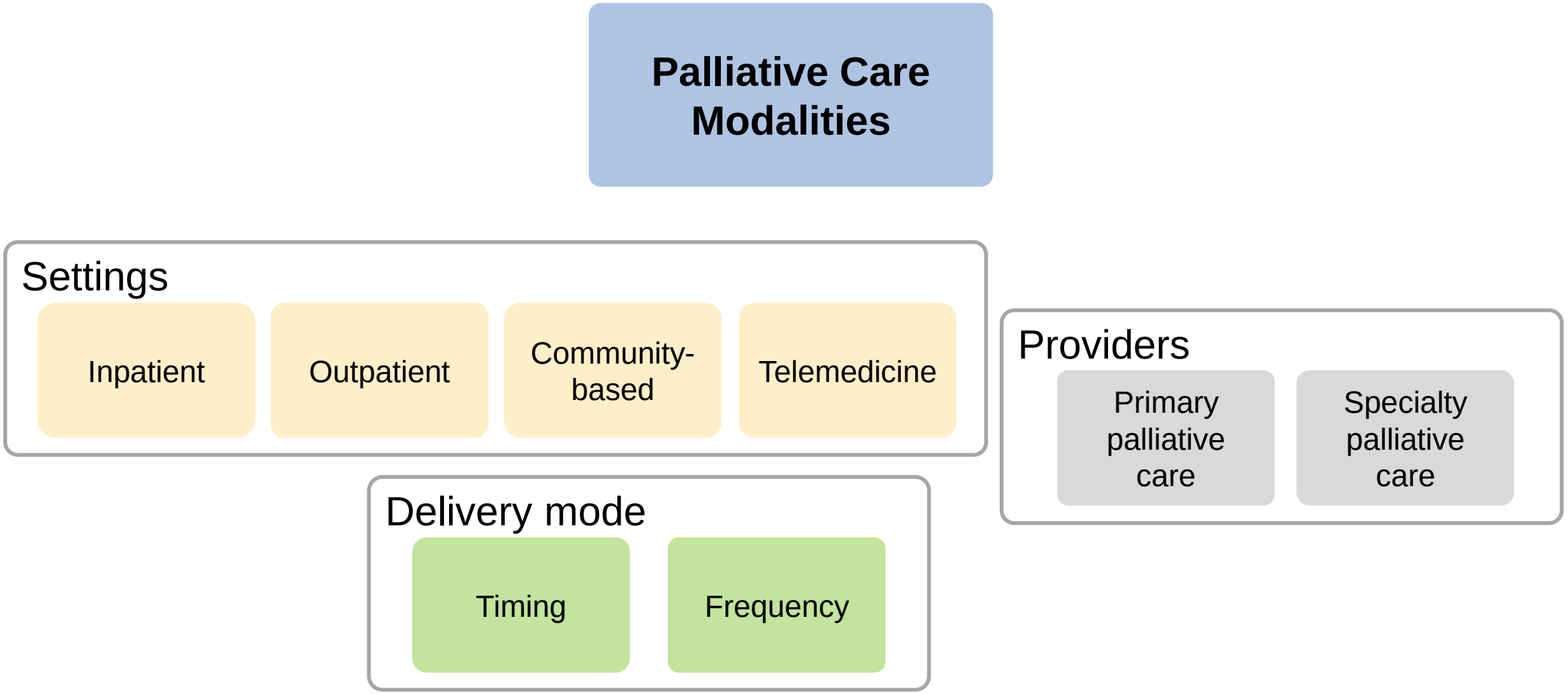
Variation in Prognosis by Cancer Sites



Variation in Prognosis by Breast Cancer Subtypes

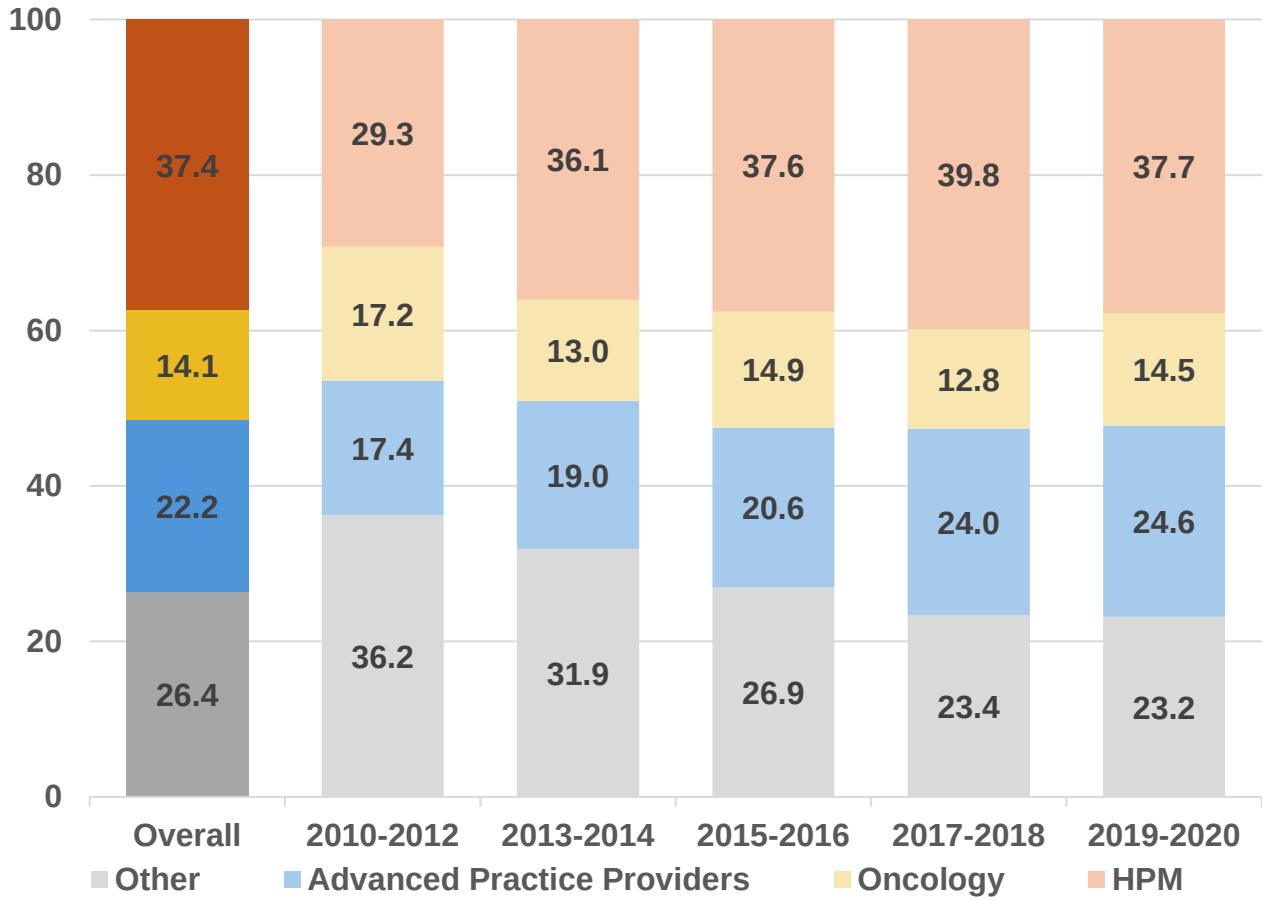


VALUE OF HETEROGENEITY

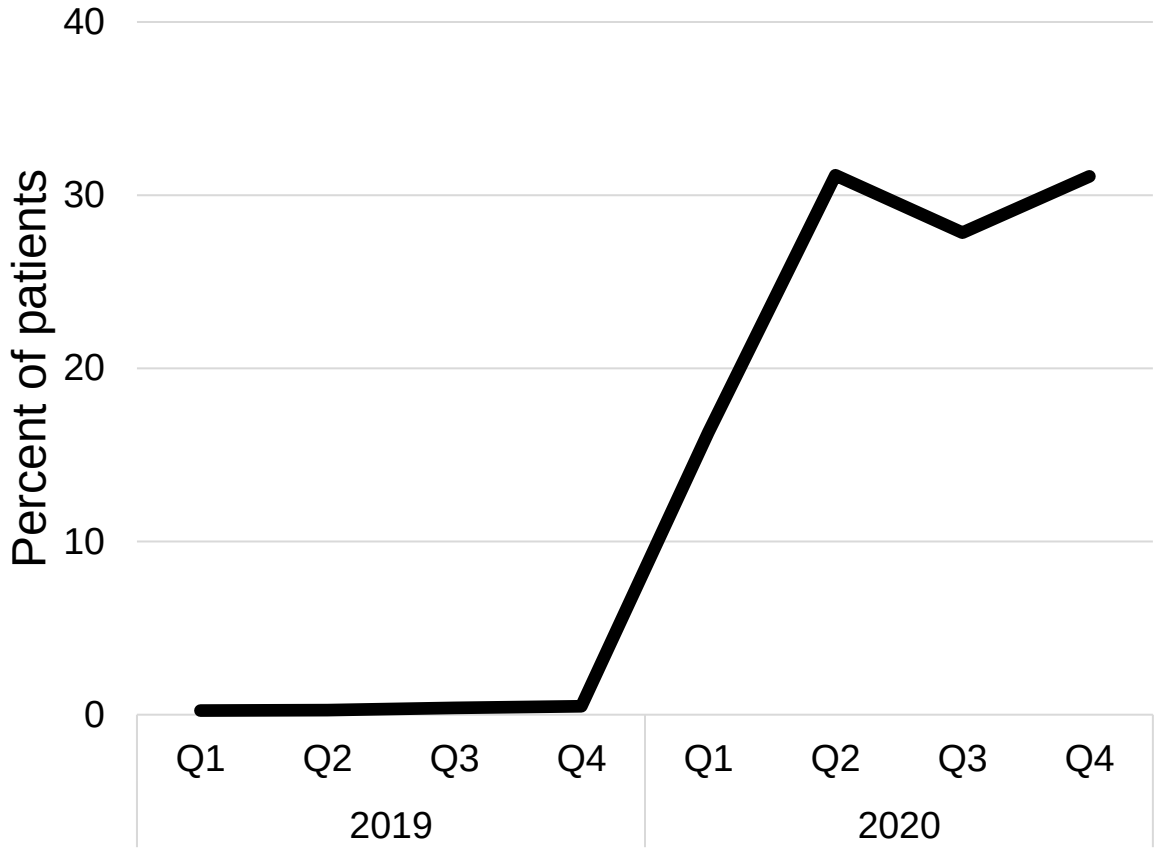


VALUE OF HETEROGENEITY

Diverse type of providers delivering palliative care



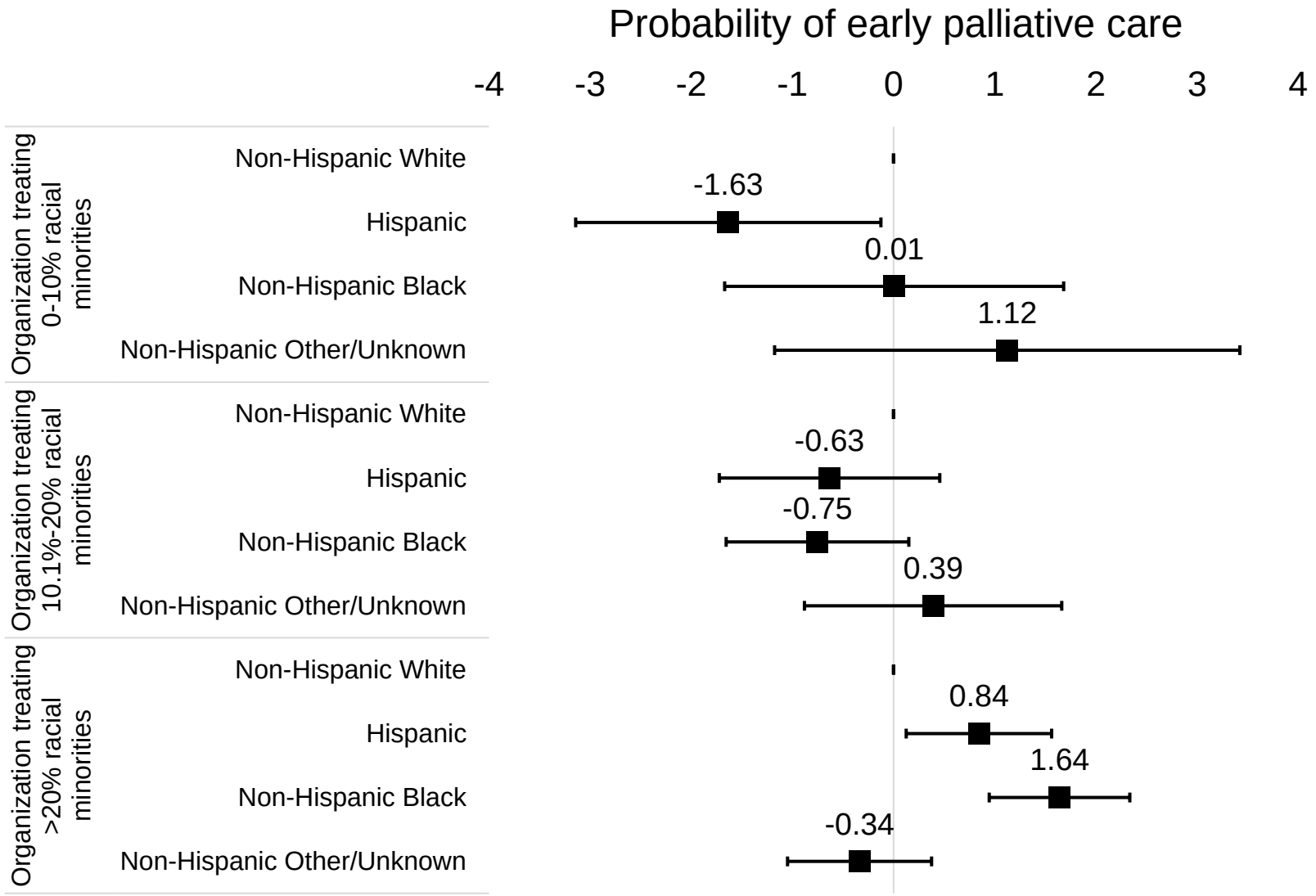
Emerging telemedicine delivery in palliative care



Hu X, Fan Q, Jiang C, et al. Uptake of and factors associated with telemedicine use for palliative care among patients diagnosed with advanced cancers during the onset of COVID-19. *JCO Oncol Pract*. 2024;20(10_suppl):53-53. doi:10.1200/OP.2024.20.10_suppl.53

HEALTH EQUITY

Organization representation of racial and ethnic patients moderates
individual racial disparities in early palliative care



Hu X, Jiang C, Kwon Y, Fan Q, Shi KS, Zhao J, Warren J, Yabroff KR, Han X. Moderating effects of organizational minority representation on racial and ethnic differences in early palliative care receipt among patients diagnosed with advanced cancers in 2010-2019 in the US.. JCO Oncol Pract 20, 52-52(2024).

INSURANCE VALUE

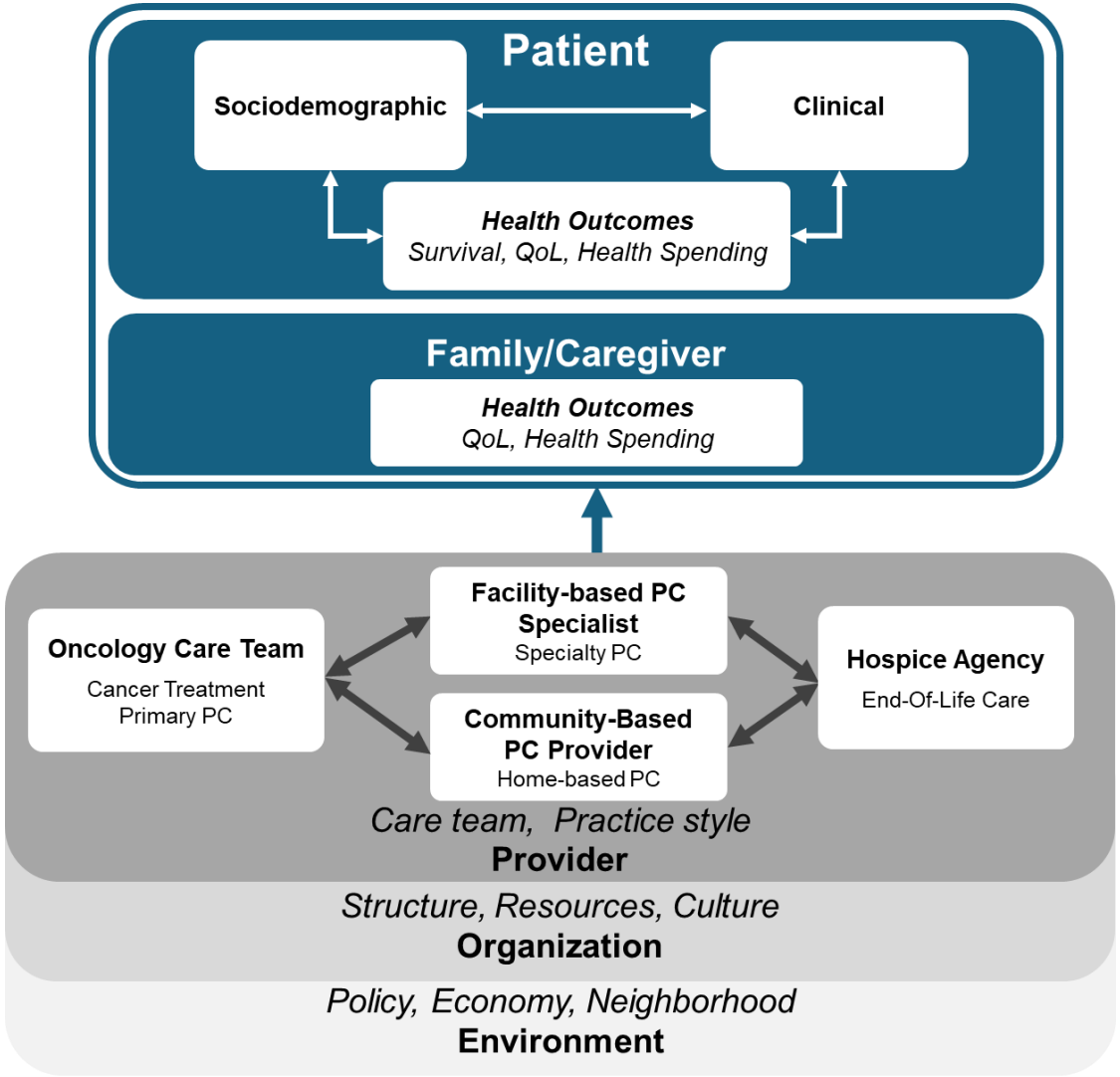
Past and ongoing alternative payment initiatives

Projects	Sector	Payment Model	Care Model	Findings
Medicare Care Choice Model	Medicare	Add-on fee to hospice agencies	Hospice-led PC program	Total spending ↓ Acute care use ↓ Hospice ↑
Advanced Illness Management - Sutter	Medicare	Budget support by CMMI	Home-based PC program	Total spending ↓ Acute care use ↑
Medicare Health Care Quality	Medicare	Budget support by CMMI	Outpatient PC program	Total spending → Acute care use →
A health plan	Private	Case rate payment	Home-based PC program	Acute care spending → Acute care use →

GAPS IN ALTERNATIVE PAYMENT INITIATIVES

- **Financial health risk protection:**
  - Healthcare utilization and costs: mixed evidence
  - No evaluation of changes in patient out-of-pocket costs
- **Physical risk protection:**
  - Lack of quality-of-life evaluation – the goal of palliative care
  - No evaluation on caregivers

COMPREHENSIVE VALUE ASSESSMENT TOWARDS HIGH-VALUE PALLIATIVE CARE



Health impact of early PC

↓

Value assessment of early PC

↓

Policy Reform

Thank you!

Questions or comments?

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Collaborators

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Changchuan Jiang, MD, MPH
Xuesong Han, PhD
Robin Yabroff, PhD

APPENDIX

DATA

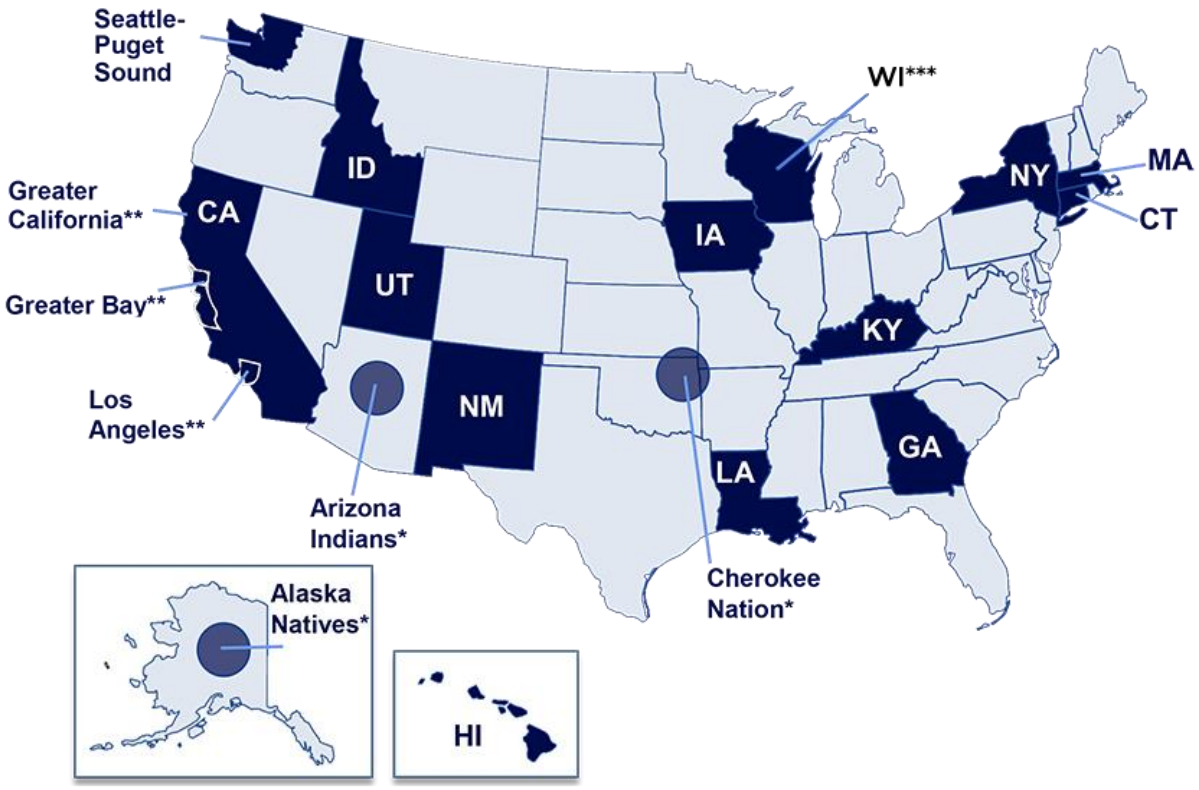
SEER-Medicare Linkage (2010-2020)

SEER

A population-based cancer registry dataset that covers 21 regions in the US, covering 34.6% of total US population

Measures:

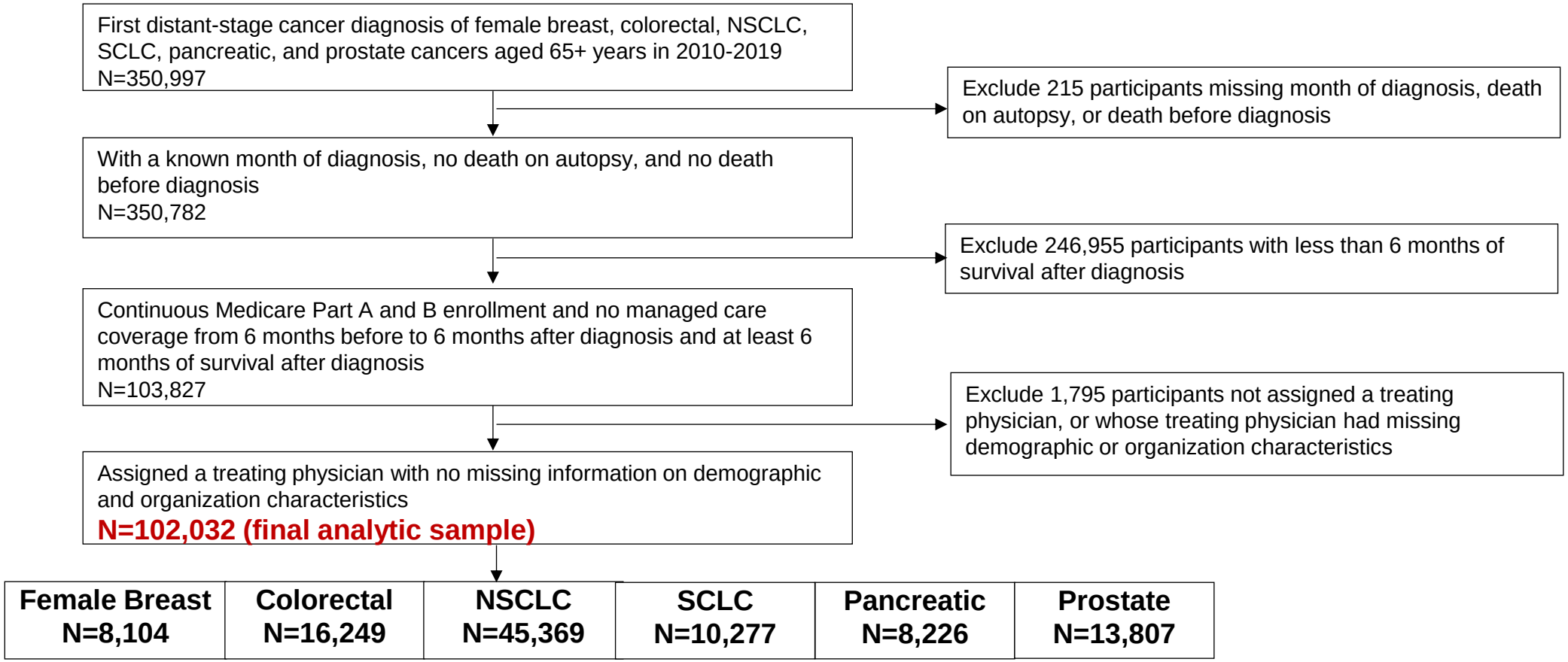
- Patient cancer history (from first diagnosis to present)
- Demographic information
- Linked area-level measures from American Community Survey



* Subcontract under New Mexico
** Three regions represent the state of California: Greater Bay, Los Angeles, and Greater California
***Research support registry only; not under contract to submit data

SAMPLE

A retrospective population-based cohort of patients diagnosed with metastatic breast, colorectal, lung, pancreas, and prostate cancers from 2010-2019



GOAL OF ANALYSIS

1. Trend of early palliative care billing (within 3 months of cancer diagnosis)

Diagnosis codes: ICD-9 (V66.7) and ICD-10 (Z51.5)
Specialty Codes: 17 (Hospice and Palliative Medicine)

2. Patient-, provider-, and organization-factors associated with early palliative care billing

3. Palliative care modalities

Provider specialty
Settings

4. Disparities

ANALYSIS

1. Describe the trend of early palliative care receipt by year of diagnosis

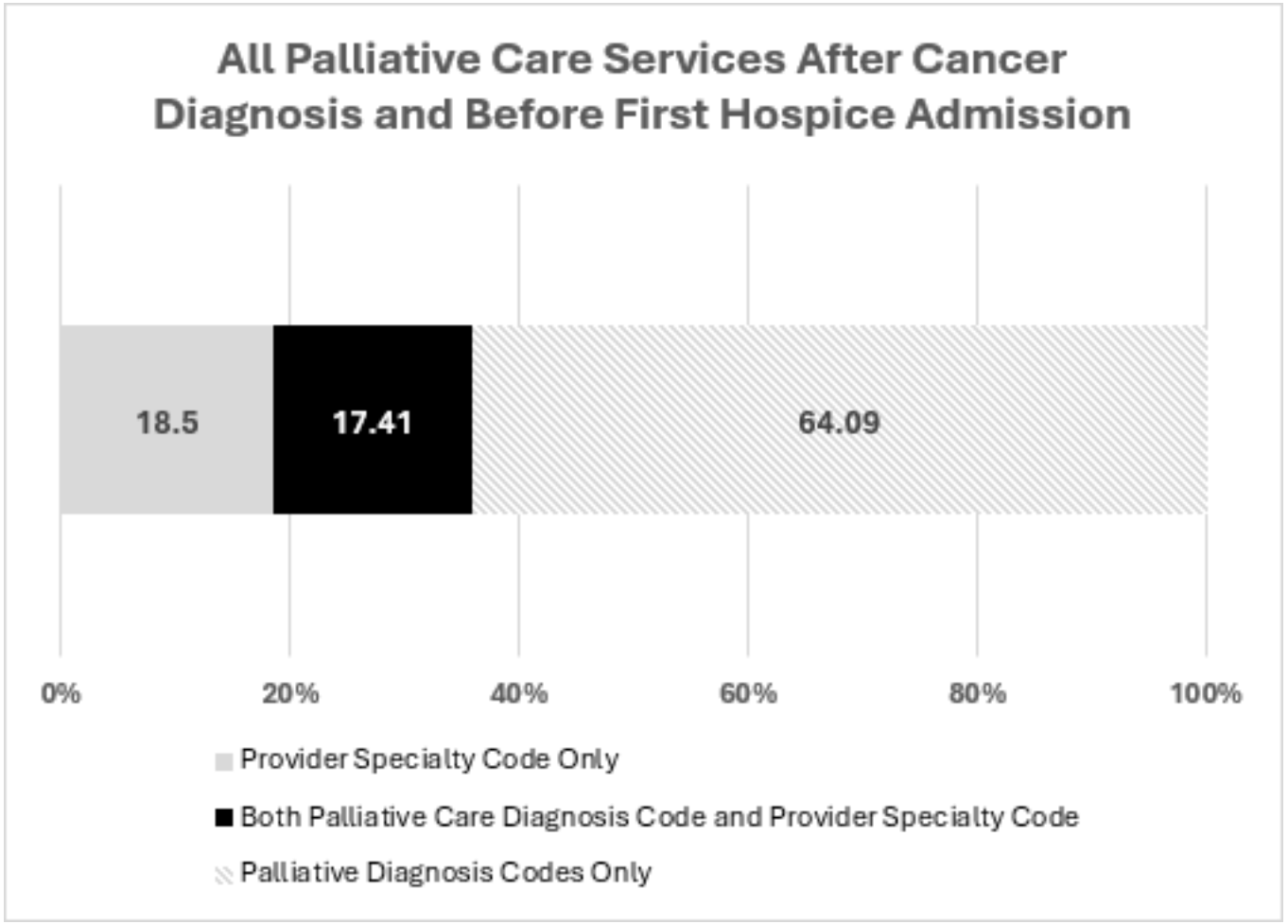
2. Examine contribution of provider variation to early palliative care receipt

- Multivariable linear probability model with **physician fixed effects** to estimate:

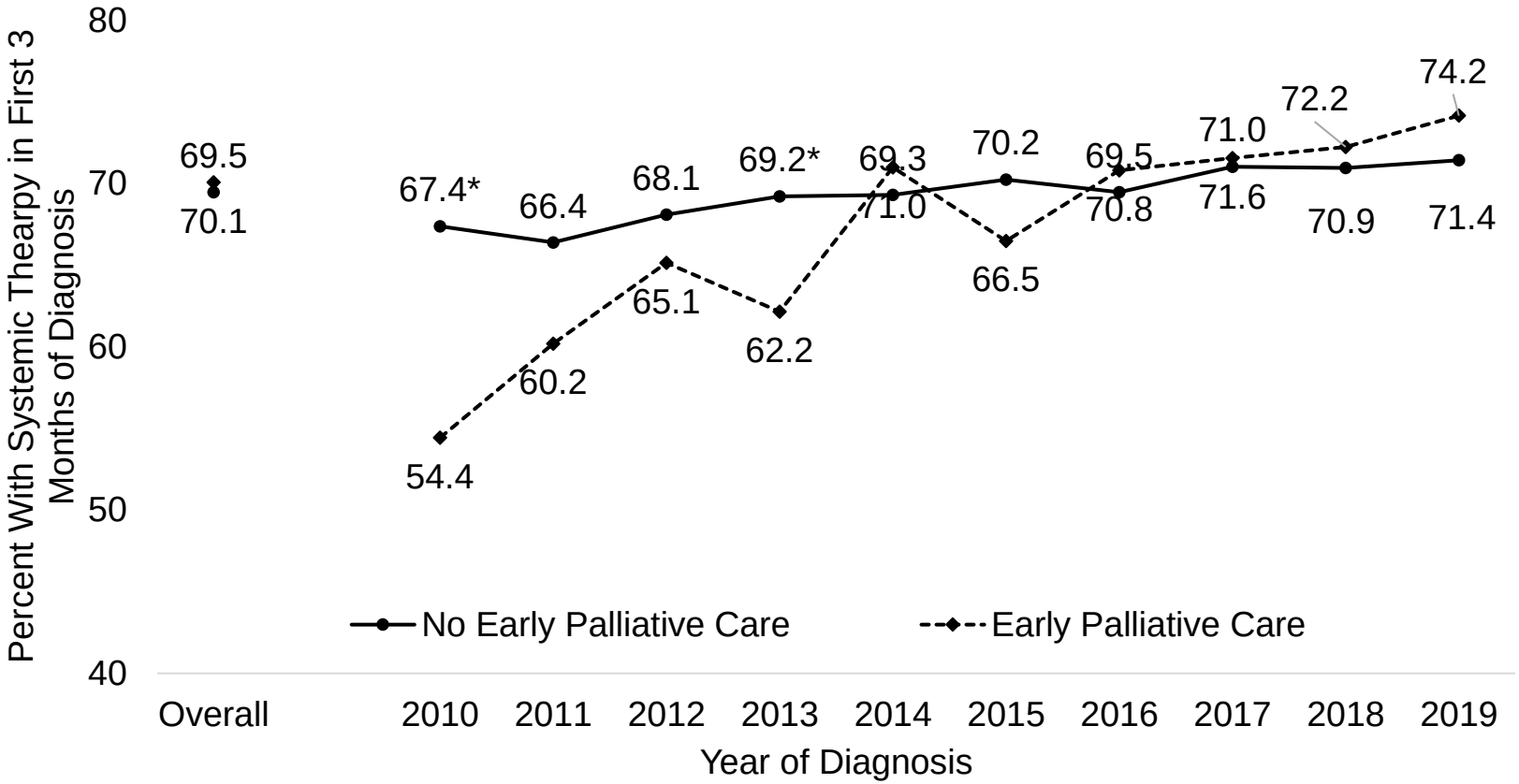
$$\text{Contribution of Provider Variation} = \frac{Between\text{-}Provider\ Variation}{Between\text{-}Provider + Within\text{-}Provider\ Varition}$$

3. Example the association between observable provider characteristics and early palliative care receipt

PALLIATIVE CARE BILLING IDENTIFICATION



RECEIPT OF SYSTEMIC THERAPY IN THE FIRST 3 MONTH OF DIAGNOSIS AMONG PATIENTS WITH AND WITHOUT EARLY PALLIATIVE CARE



Notes: P-value < 0.05

SPECIFIC AIMS

Aim 1: (*Health Impact*) Examine the associations of early PC with health outcomes and identify patient subgroups with high benefits from various PC modalities.

We will evaluate the association of early PC initiated within 3 months of cancer diagnosis and various PC modalities (facility- vs. community-based, specialty vs. primary PC) with survival, end-of-life care, healthcare utilization, and costs.

Aim 2: (*Value*) Evaluate the economic impact of early PC by patient characteristics and PC modalities.

We will develop a discrete-time state-transition microsimulation model to assess long-term societal costs and cost-effectiveness of early PC compared to no PC. Transition probabilities will be estimated using machine learning methods, with model development following a rigorous split-sample approach for training, calibration, and validation. Model parameters, including transition probabilities, costs, QoL, and caregiving burden, will be drawn from SEER-Medicare data, national surveys, and published RCTs.

Aim 3: (*Policy Implications*) Inform policy and payor practice by evaluating the impacts of VBID models compared to traditional FFS model from the societal perspective.

Collaborating with our policy council, we will simulate relevant policy reforms (e.g., reducing patient cost-sharing, increasing provider reimbursement rates, and implementing bundled payments for PC) and estimate the impact of these reforms on PC utilization and associated health and economic outcomes.