

Evaluating Fiscal Outcomes of Palliative Care Clinics in Public Hospitals

Authors: J. Brian Cassel, Health Services Researcher, Virginia Commonwealth University; and Kathleen Kerr, Partner, Transforming Care Partners

The primary purpose of outpatient palliative care (OPPC — specialty palliative care offered in clinics or physician offices) is to improve care for people with serious illness by providing an additional layer of support for patients, families, and health system staff dealing with challenging circumstances; reducing pain and other symptoms; improving communication about prognosis; and clarifying goals of care. It can be provided concurrently with disease-focused treatments. A landmark clinical trial with late-stage non-small cell lung cancer patients by Temel et al. found substantial improvement in quality of life, reduced depressive symptoms, and survival that was 2.7 months longer among those randomized to receive palliative care in addition to standard cancer care.¹

In addition to the value provided to patients and families, palliative care clinics can also reduce costs for hospitals and health plans by making some emergency visits and hospital admissions unnecessary.² This document describes the methods for analyzing and evaluating these types of fiscal outcomes for palliative care clinics.

Intended Audience

This document provides guidance for several analyses that can be used to quantify the financial outcomes of palliative care clinics. The intended audiences are the health system data/financial analysts who will conduct the analyses and the palliative care clinical leaders who will partner with analysts to verify the scope of work and assist with interpreting results. The document includes sections that refer to fields in billing and administrative data, financial measures, and methods for manipulating data — some of which may be unfamiliar to many clinicians. The goal is not for the palliative care clinical leaders to develop the expertise needed to conduct these analyses. Rather, clinical leaders should aim to understand the broad strokes of the analytic approaches, with enough depth to make the case that the findings are a reliable representation of palliative care clinic outcomes.

Preparatory Tasks

Before initiating any analyses, do some exploratory assessments to confirm goals and to verify that the needed data are ready to be analyzed.

- **Have multiple conversations** that include palliative care leaders, data analysts, finance leaders, and others who have asked for or will be interested in your palliative care program outcomes. Clarify the goals and expectations ahead of time, as well as the time frame or urgency of the analyses. Who will interpret the findings? How will they be used in making decisions? Do stakeholders want to see only that your clinic's impact is in the same general direction as published findings, or is a specific return on investment expected? You can also use these conversations to voice a preference or expectation that the financial findings will be presented alongside case vignettes and other evidence of the value of palliative care, such as the impact on health outcomes and patient experience of care.

- **Understand what kinds of financial data are available.** While the recommended analyses focus mostly on frequency and length of hospitalizations, impacts should also be evaluated in terms of costs and revenues, if possible. Some hospitals do not have cost accounting systems and instead use a charge-to-cost ratio to estimate costs. It is important to understand which data are available, as that will dictate which types of analyses are possible. However, do not worry if your hospital has limited data (for example, only has charges); the granularity of analyses used to assess PC program outcomes will be no better or worse than other fiscal analyses done at your hospital.

Overview of Analyses

- **Conduct descriptive analyses** of palliative care clinic data including the number of unique patients, their demographics, the number of palliative care clinic visits, the number of weeks per year the clinic is open to see patients, etc. Use these analyses to also examine month-to-month trends to ensure your data have no unexpected spikes or drops in PC visit volumes that may be due to missing or messy data. Chart reviews or even just brief vignettes will help to paint a picture of what palliative care clinics do and achieve.
- **Evaluate clinic patients' hospital admissions** in the final month or two of life, including the admitting or primary diagnoses, or both, or chief complaint. The number of hospitalizations for symptoms such as pain should be low. Chart reviews about patients' hospital stays may add context and nuance to the data analyses.
- **Compare outpatient palliative care recipients to other patients** if possible. Although conducting a randomized controlled trial or using rigorous statistical matching (e.g., using propensity scores) may be beyond the scope of your resources, other methods could be used to estimate outcomes adequately for your health system administrators.

Descriptive Analyses

Descriptive analyses provide the context for outcome evaluations. The kinds of questions that can be answered with descriptive analyses include:

- How many unique patients have used the palliative care clinic?
- How many had at least three visits (an indicator of the “dose” of outpatient palliative care)?
- How many outpatient visits do they typically have (minimum, mean, median, maximum)?
- How long are visits, and what disciplines are involved?
- Who is referring their patients to the clinic?
- Why were they referred, or what were patients' chief complaints (if available)?
- What were patients' symptoms, quality of life, prognosis, or other measures (if available)?
- What are the patients' demographics and clinical characteristics?

Some aspects of palliative care clinics may be captured better through chart reviews. For example, describing changes to medications needed to manage symptoms, including changes in dosage, may be easier through a few examples than through analyses. Chart reviews can be an excellent way of depicting how different disciplines were involved and what they focused on and achieved. These reviews can also be used to describe concurrent treatment (such as immunotherapy or chemotherapy for cancer).

Evaluate Clinic Patients' Subsequent Hospitalizations

From a utilization and finance perspective, the major outcome of early, concurrent palliative care is a reduction in subsequent hospitalizations, especially in the final months of life. This is achieved through better symptom management, careful consideration of the benefits and burdens of further treatment of their disease, educating the patient and family about acting quickly to address symptoms, and referral to home-based services such as home health, home-based palliative care (where available), and hospice.

For patients using outpatient palliative care (without comparison to patients who did not), measure their hospitalizations subsequently. Steps include:

- Consider limiting the analysis to those who had at least three palliative care (PC) visits.
- Count hospitalizations after the first visit, and a sum of hospitalized days, per patient.
- Compute the number of months from first PC visit to last health system contact per patient.
- Count the percentage of patients admitted to the hospital in their final 30 days of life.
- Tally other useful indicators such as those who died in hospital, intensive care unit (ICU) days, and costs where available and as desired.
- Produce meaningful outcome statistics such as “less than 10% of PC patients were hospitalized after they began using the clinic,” “only 5% of PC patients died in the hospital,” “no PC patients spent more than two days in the ICU or died in the ICU.”

Chart reviews help to provide context and explanation for the hospitalizations that do occur — for example, how many were essentially unavoidable, such as those for sepsis, febrile neutropenia, stroke, injury or trauma, severe bowel obstruction, or to receive disease-focused treatment? How many were possibly avoidable if more symptom management, communication, or other services had been available? The latter is the number you are trying to minimize. Chart reviews can also help to characterize what any such hospitalizations were like — was an inpatient palliative care service involved? Were the patient's preferences and wishes regarding treatment honored?

How many end-of-life hospitalizations should there be — zero? There is no right number of hospitalizations toward the end of life for patients with serious illnesses such as cancer and heart failure. In general, outpatient palliative care tries to minimize the potentially avoidable, symptom-driven admissions, and it is not mutually exclusive with ongoing treatment, hospitalization, or emergency department (ED) visits per se. It would be inappropriate to expect that outpatient PC would entirely eliminate all hospitalizations, especially given the “essentially unavoidable” clinical scenarios above. This issue is discussed further below, after the summary of the outcomes from cancer studies at the University of California, San Francisco (UCSF), and Virginia Commonwealth University.

Compared to Whom?

The third set of analyses compares palliative clinic patients' utilization to what happened with similar patients in the absence of outpatient palliative care. There are several ways to accomplish this, listed here in ascending order of complexity and data analysis resources needed:

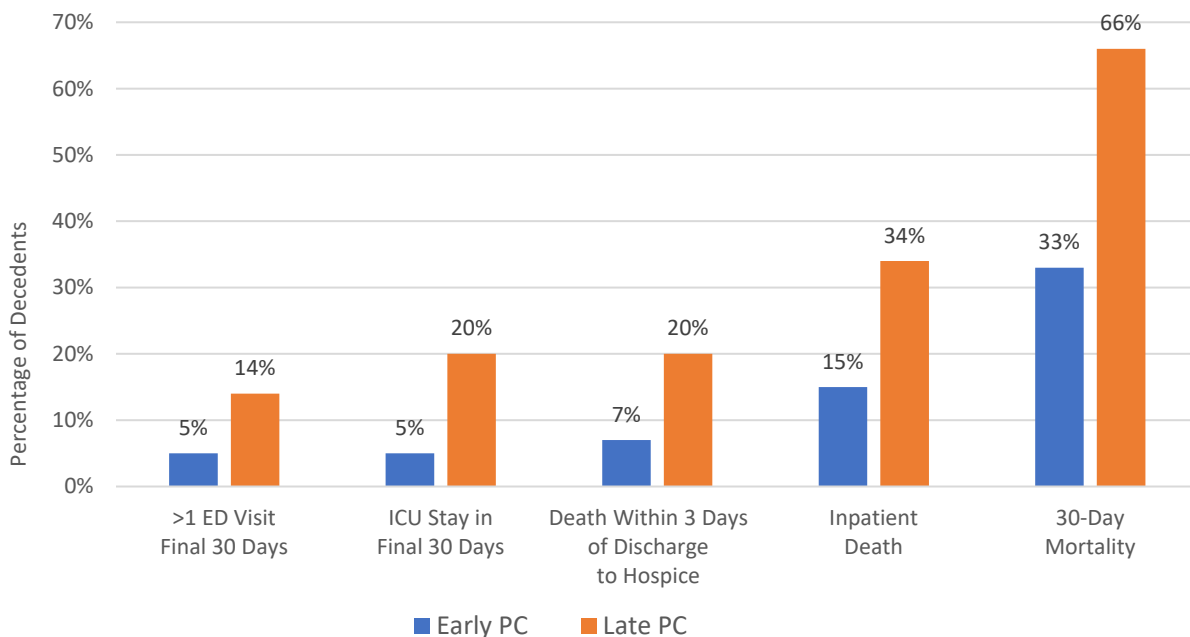
- Compare outpatient PC recipients to similar patients in the year(s) before the palliative care clinic started. For example, “Only 15% of outpatient PC cancer patients died in the hospital, compared to over 30% of similar cancer patients before the clinic began.”

- Keep track of patients referred to the clinic who declined the services, and use them as a comparison group. They should be similar to the clinic users in that all were referred by their physicians.
- Determine date of death (from cancer registry or other source) and then compare “early” palliative care clinic patients — those who started the clinic more than 90 days before death — to patients who started in the final month of life. The late and early palliative care groups both eventually elected to use palliative care, minimizing the “selection bias” of comparing people who used a service to those who did not.
- Conduct a rigorous propensity-based matching, which requires advanced statistical expertise. Steps required for this approach and references to examples are provided in the document [Fiscal Analyses for Inpatient Palliative Care Programs in Public Hospitals \(PDF\)](#) (Analysis #1, Early-PC).

Examples

The first example is from UCSF’s clinic-based palliative care service, comparing 204 cancer decedents who had palliative care only in the final 90 days of life (“Late PC”) to 93 cancer decedents who first had palliative care more than 90 days before death (“Early PC”). Most of the Late PC was provided by the inpatient palliative care service during hospitalizations, and most of the Early PC was provided in the clinic. This study compared the two groups without a formal patient-matching method. The outcomes were focused on ED and hospital use in the final 30 days of life. The analysis found that the Late-PC patients were two to four times more likely to meet all five utilization metrics than Early-PC patients (see Figure 1).

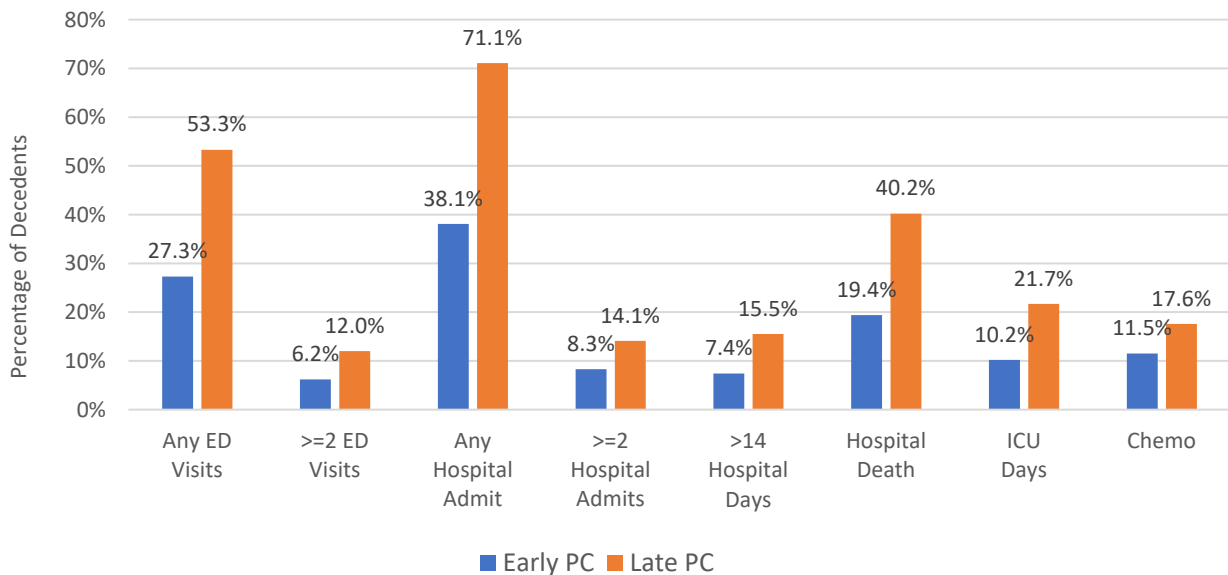
Figure 1. Early versus Late Palliative Care at UCSF



Source: Adapted from Colin Scibetta et al., “[The Costs of Waiting: Implications of the Timing of Palliative Care Consultation Among a Cohort of Decedents at a Comprehensive Cancer Center](#),” *Journal of Palliative Medicine* 19, no. 1 (Jan. 2016): 69–75.

The second example is from the palliative care program at Virginia Commonwealth University (VCU), using the same threshold of 90 days before death for Early PC versus Late PC, and focusing on ED and hospital use in the final 30 days of life, as in the UCSF study. This study examined 433 pairs of solid tumor patients, with each Early-PC patient matched one-to-one to a similar Late-PC patient using propensity scores. All utilization was significantly less for the Early-PC group (see Figure 2). For example, 40% of Late-PC patients died in the hospital compared to 19% of Early-PC patients. In the final month of life, total direct costs for Early-PC patients were \$6,788, while costs for Late-PC patients were nearly double that at \$13,864 (not shown).

Figure 2. Outcomes for Early versus Late Palliative Care at VCU: Utilization in the Final 30 Days of Life



Source: J. Brian Cassel et al., “Early Palliative Care for Patients with Solid Tumors and Hematological Malignancies: Impact on Quality Metrics and Costs of Care,” *Supportive Care in Cancer* 25, no. S2 (Apr. 22, 2017): 185.

There are several things to emphasize from these two examples. First, note that 33%–38% of Early-PC patients still had a hospital admission in the final month of life, 5%–10% used the ICU, and 15%–19% died in the hospital. (Similarly, in a secondary analysis of the Temel study, 34% of the PC patients were hospitalized in the final 30-day period.)³ These figures underscore the guidance provided earlier that one should not expect outpatient PC to eliminate ED visits or hospitalizations altogether.

Second, the impact of Early PC is substantial: in both the UCSF and VCU studies, the Early-PC patients were half as likely to be admitted to the hospital, use the ICU, or die in the hospital compared to the Late-PC group. (In the Temel study, the impact was a bit more modest, with 34% of the PC group vs. 43% of the standard care group admitted to the hospital in the final 30 days.)

Use these findings as guardrails for your stakeholders’ expectations and to help interpret and validate your own results. Is your impact in the same ballpark as these or other studies, or are there dramatic differences that need to be further investigated? [Additional references](#) describing outcomes of clinic-based PC programs are also available.

Final Thoughts — Putting It All Together

How much time and expertise you spend on describing clinic-based PC and evaluating outcomes is up to you, but most hospital executives want some kind of analysis using their own patients, programs, and data. That is, executives appreciate the findings published in research, but it is often insufficient; they also want to see internal analyses.

Presentations of financial outcomes for palliative care programs should be prefaced by descriptions of the clinical service and examples of clinical, patient-centered, and experiential outcomes. What is the status quo when palliative care specialists do not enter the picture? What impact does the PC team have on pain, suffering, confusion, miscommunication? How does the PC team contribute to higher-quality care? Reiteration of these themes helps to reinforce the message that PC is primarily a patient-centered specialty that happens to have a positive impact on costs of care. For more information, refer to [Making the Case for Outpatient Palliative Care](#).

Endnotes

¹ Jennifer S. Temel et al., "[Early Palliative Care for Patients with Metastatic Non-Small-Cell Lung Cancer](#)," *New England Journal of Medicine* 363, no. 8 (Aug. 19, 2010): 733–42.

² Colin Scibetta et al., "[The Costs of Waiting: Implications of the Timing of Palliative Care Consultation Among a Cohort of Decedents at a Comprehensive Cancer Center](#)," *Journal of Palliative Medicine* 19, no. 1 (Jan. 2016): 69–75.

³ Joseph A. Greer et al., "[Cost Analysis of a Randomized Trial of Early Palliative Care in Patients with Metastatic Nonsmall-Cell Lung Cancer](#)," *Journal of Palliative Medicine* 19, no. 8 (Aug. 2016): 842–48.