ATI Advisory

# Technical Report: Modeling Potential Medicare Spending Impacts from Earlier Hospice Election

*April 9, 2026*

## Background

Medicare's hospice benefit provides comprehensive palliative care for Part A beneficiaries with terminal illnesses who elect to forgo curative care. Hospice was designed to prioritize pain management, comfort, and patient choice, but it may also generate Medicare savings by replacing costly treatments and intensive hospital care at the end of life. The potential for hospice to reduce Medicare spending has been consistently supported in rigorous studies, from the 1986 congressionally mandated evaluation of budget neutrality[1] to more recent research showing net savings under the current hospice benefit,[2] even among for-profit hospices and long stays.[3] Evidence also suggests that earlier hospice election can improve patient outcomes by minimizing unnecessary suffering and avoiding futile interventions[4,5,6,7] while reducing Medicare spending.[8,9]

[1] Greer et al., "An Alternative in Terminal Care: Results of the National Hospice Study," *Journal of Chronic Diseases* 39, no. 1 (1986): 9–26.
[2] "Value of Hospice in Medicare," NORC at the University of Chicago, March 2023.
[3] Gruber et al., "Dying or Lying? For-Profit Hospices and End-of-Life Care," *American Economic Review* 115, no. 1 (2025): 263–94.
[4] Obermeyer et al., "Association Between the Medicare Hospice Benefit and Health Care Utilization and Costs for Patients with Poor-Prognosis Cancer," *JAMA* 312, no. 18 (2014): 1888.
[5] Kranker et al., "Medicare Care Choices Model Improved End-of-Life Care, Lowered Medicare Expenditures, and Increased Hospice Use," *Health Affairs* 42, no. 11 (2023): 1488–97.
[6] Kelley et al., "Hospice Enrollment Saves Money For Medicare And Improves Care Quality Across a Number of Different Lengths-of-Stay," *Health Affairs* 32, no. 3 (2013): 552–61.
[7] Aldridge et al., "Association Between Hospice Enrollment and Total Health Care Costs for Insurers and Families, 2002-2018," *JAMA Health Forum* 3, no. 2 (2022): e215104.
[8] Taylor, "The Effect of Hospice on Medicare and Informal Care Costs: The U.S. Experience," *Journal of Pain and Symptom Management* 38, no. 1 (2009).
[9] Taylor et al., "What Length of Hospice Use Maximizes Reduction in Medical Expenditures near Death in the US Medicare Program?," *Social Science & Medicine* 65, no. 7 (2007): 1466–78.

However, less is known about how earlier initiations of hospice could impact Medicare spending. To shed light on this question, the Research Institute for Home Care and the National Alliance for Care at Home commissioned ATI Advisory (ATI) to model the potential effect on Medicare spending if beneficiaries currently enrolling in the eight weeks before death were to elect hospice five days earlier. ATI's model drew from high-quality studies of hospice value and timing, estimating more than $1 billion of potential savings per year. This technical brief outlines the findings of ATI's Early Hospice Election Model, as well as its approach, limitations, and sources of evidence.

## Model Scope & Scenario

ATI's model suggests the potential Medicare Parts A and B spending impact under a scenario where all Medicare hospice beneficiaries were to elect hospice five days earlier. Such a scenario may occur under a modest policy change: for example, on average, beneficiaries who participated in the Medicare Care Choices Model (MCCM)[10] elected hospice 23 days earlier than a similar comparison group.

## Key Findings

**If all Medicare beneficiaries who enroll in hospice care within eight weeks of death were to enter hospice 5 days earlier, ATI's model suggests Medicare could save between $1.19 billion to $1.50 billion per year.**[11,12] This suggests earlier hospice enrollment could add substantially to the savings associated with current hospice benefit use, estimated by NORC to be $3.7 billion in 2019 in a recent study.[2]

This estimate, from the Early Hospice Election Model described in this technical brief, is based on ATI's review of the best available evidence to apply to this scenario. The model draws on two studies that estimated Medicare savings associated with hospice election occurring within different periods of time before death. Both studies drew on linked survey and Medicare claims data.

[10] The Medicare Care Choices Model, piloted from 2016 through 2021 by Medicare's Innovation Center, altered the hospice benefit's requirement of forgoing curative care, leading beneficiaries in the model to experience 42 days of hospice coverage instead of 19 days among a matched comparison group. See Kranker et al, 2023.
[11] The model results are additive, so that a policy effecting this change among only 10% of beneficiaries would yield 10% of the estimated benefit.
[12] ATI adjusted all dollar amounts in this brief to 2026 dollars based on medical care inflation.

## Methods

### LITERATURE REVIEW

ATI conducted a literature review with a structured search strategy to identify evidence with predetermined requirements of study scope and design quality. ATI pulled all relevant results based on titles and abstracts found in five queries on Google Scholar related to hospice, Medicare spending, cost effectiveness, and early election. ATI sought evidence that was either experimental or used a matched or balanced cohort design. ATI screened all studies against the following "PECO" framework:

- **Population:** Medicare beneficiaries eligible for hospice (not disease-specific)
- **Exposure:** Earlier election of hospice, or election of hospice in different windows of time before death
- **Comparator:** Clinically and demographically similar cohorts
- **Outcome:** Medicare Parts A and B spending

ATI reviewed 36 initially identified studies against the following screening steps to ultimately identify two studies for model inclusion:

1. Eight studies were removed for misalignment with the PECO framework
2. 20 studies were excluded for lacking a matched cohort design
3. Two more studies were omitted for PECO misalignment
4. Two studies were excluded for presenting only visual rather than extractable savings data
5. Two studies were excluded for being disease-specific and therefore inapplicable to the modeled population.

This left two studies (Aldridge and colleagues, 2022; Kelley and colleagues, 2013) in our preliminary model. These studies focused on all Medicare decedents between 2002-2018 and 2002-2008, respectively, and provided the most robust study designs estimating Medicare savings across time-before-death windows among all hospice decedents. Find more detail in the Appendix.

### EARLY HOSPICE ELECTION MODEL INPUTS

ATI's Early Hospice Election Model estimates the average incremental daily Medicare savings for hospice beneficiaries based on the days from hospice election to death, then applies the incremental savings associated with the savings associated with the five days prior to hospice election for each hospice beneficiary who currently elects hospice within the last eight weeks of life.

This model relies on the Aldridge and Kelley studies to arrive at incremental daily savings, and our model relies on these studies' data and public reports to estimate of the annual number of hospice beneficiaries who elect hospice each day before death, for the 56 days (eight weeks) before death.

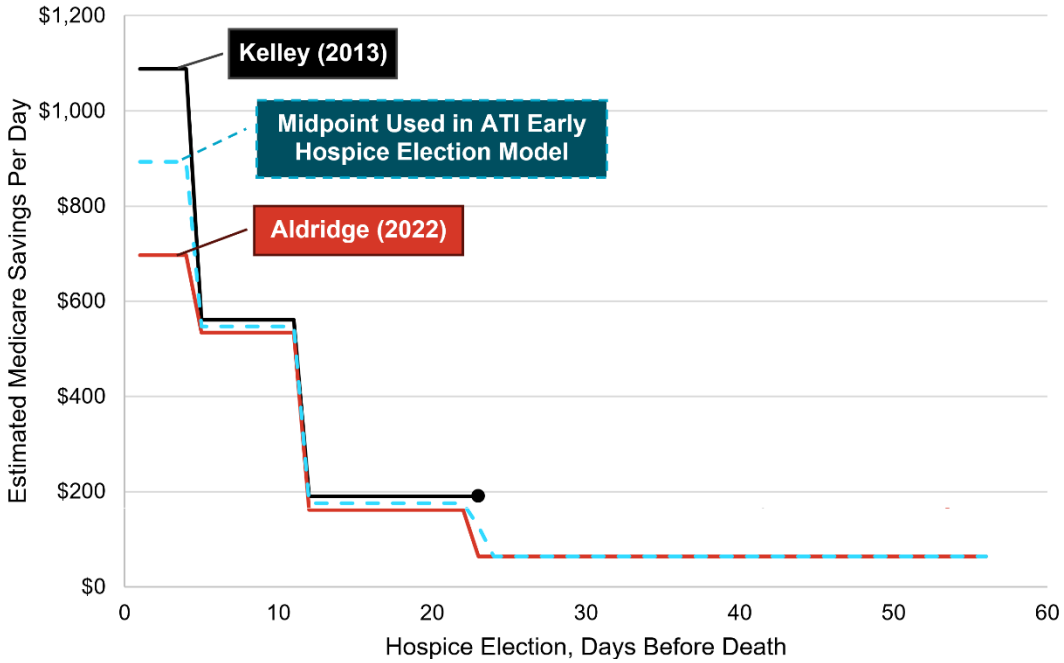
### Incremental Daily Savings

The two articles included in the model provided savings estimates specific to hospice decedent cohorts who elected hospice within a specific period of time before death. ATI calculated incremental daily savings as each window's incremental savings divided by the window's incremental days-to-death from the prior window (closer to death). Specifically, ATI defined each window's incremental savings as the difference in Medicare savings for that window compared to the prior window. ATI defined each window's incremental days-before-death as the difference in the window's midpoint day (e.g., day 11 for a window from days 8 through 14) compared to the prior window's midpoint day.

For an example, consider calculating incremental daily savings for the second of two windows of days-before-death in the Aldridge study. The first window was 1 to 7 days before death, and the second was 8 to 14 days before death. The study estimates $2,789 in savings for the first window (days 1–7) and $6,531 for the next window (days 8–14). ATI's model estimated daily savings of $535 ([$6,531 - $2,789] / 7 days) for the second window. The model applied this daily savings to days 5 through 11 before death (the seven days after the first window's midpoint, day 4, through the second window's midpoint, day 11).

ATI computed incremental daily savings for both studies included in the model **(see Figure 2)**. ATI's Early Hospice Election Model uses the midpoint between the incremental daily savings estimates provided by the two included studies.

**Figure 2. Incremental Daily Savings from Hospice Enrollment by Election Days from Death (Eight-Week Horizon)**




### Population Enrolling Each Day-Before-Death

ATI used two approaches to estimate the number of hospice decedents per year who elect hospice a given number of days before death. The two approaches apply different distributions of hospice election days-before-death, but both assume 1.29 million Medicare beneficiaries die each year in the hospice benefit, based on estimates for 2023 published by MedPAC in 2025.[13]

- **Approach 1:** The "Aldridge days" approach draws from the hospice-election sample sizes in each window included in the study from Aldridge and colleagues.[7]
- **Approach 2:** The "MedPAC days" approach draws from the 2025 MedPAC report,[13] which provided the top and bottom deciles and quartiles of hospice elections by days-before-death.

## EARLY HOSPICE ELECTION MODEL CALCULATIONS

ATI's model then sums the savings associated with an earlier hospice election. The following logic was applied to each day of hospice election before death, from day 1 through day 56 before death. First, ATI summed the incremental

[13] "Hospice Services," in *MedPAC Report to the Congress: Medicare Payment Policy* (Washington, DC, 2025).

daily savings across the five days earlier than the day being analyzed (for day 7, this would sum savings associated with days 8 through 12). ATI then multiplied this per-beneficiary savings associated with a five-day-earlier hospice election by the number of beneficiaries estimated to elect hospice on the day being analyzed (for day 7 alone, this would be $2,367 times 24,808 beneficiaries using the MedPAC days approach, or times 37,002 using the Aldridge days approach).

## Limitations & Key Assumptions

ATI used the best available evidence and most defensible modeling approach, but key limitations remain in the evidence that limit confidence in this model finding. ATI's literature review identified no study that provided strong causal evidence specific to earlier hospice election. Instead, the studies included in the model are observational in nature while using quasi-experimental approaches. Specifically, both included studies construct clinically and demographically balanced comparison groups using propensity scores, then regressing Medicare savings on other clinical and demographic factors to further adjust for confounding differences between the treated and comparison group.

The studies included in ATI's model focused on Medicare savings associated with hospice election windows. ATI's model applies these study findings to the modeled scenario by assuming that the differences in savings between election windows is entirely attributable to the timing of election, and not to unobserved differences in the typical clinical profiles, risks, or prognoses facing individuals who elect hospice at different times. Though the model may understate potential savings, given evidence from a disease-specific study from Obermeyer and the MCCM evaluation (detailed in the Appendix).

# Appendix

## Description of Included Studies

### ALDRIDGE AND COLLEAGUES (2022)[7]

The authors analyzed the Medicare Current Beneficiary Survey linked to Medicare claims from 2002 through 2018, comparing Medicare spending between hospice beneficiaries and a balanced comparison group of decedents. The comparison group balance was based on demographics (age and Census region), functional impairment (receiving help with 3+ activities of daily living or ADLs), and clinical conditions (dementia and cancer). The study's final regression model further adjusted for the year of death, additional demographics (age, sex, race and ethnicity, region and metropolitan area), socioeconomic indicators (marital status, education status, Medicaid status), functional impairment (help with 3+ ADLs), and serious illness ("dementia, heart disease, stroke, lung disease, cancer, and diabetes").

### KELLEY AND COLLEAGUES (2013)[6]

The authors analyzed Health and Retirement Study survey data linked to Medicare claims from 2002 through 2008, comparing Medicare spending between hospice beneficiaries and a matched group of decedents. The comparison group was balanced on demographic factors (age, sex, race and ethnicity, education, marital status), socioeconomic indicators (net worth and insurance coverage), functional impairment and long-term care residence, clinical conditions, and measures of local health system capacity (supply of hospital beds and specialist physicians, and the hospital care intensity index). The final regression model additionally adjusted for prior utilization by including the number of hospital days during the six months before the target hospice enrollment period, to account for preexisting differences in healthcare use as a predictor of subsequent spending.

## Related Studies Not Included in the Model

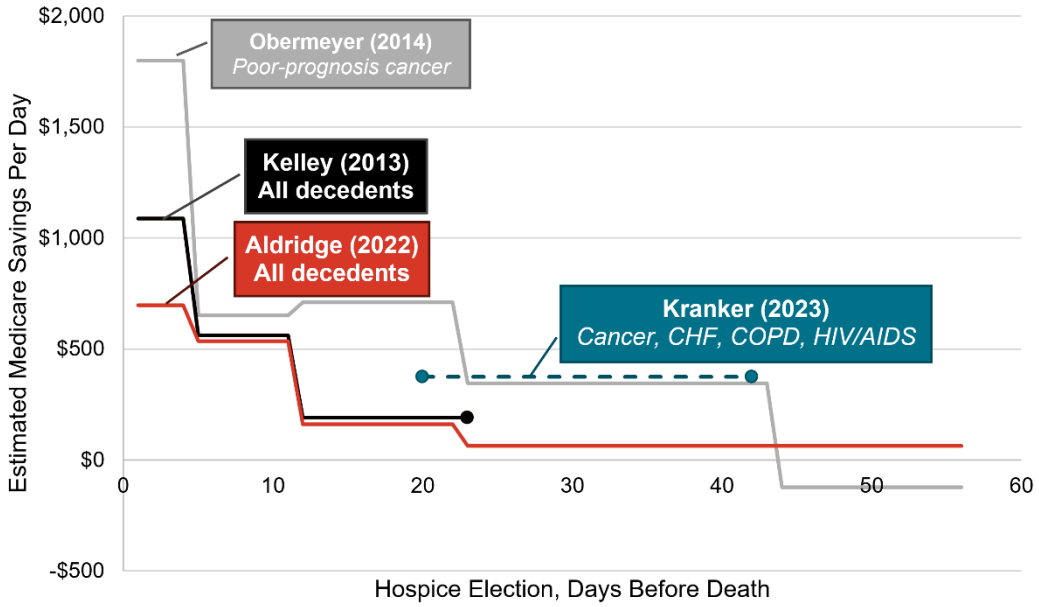
The model relies on a key assumption that the Medicare-spending impact of hospice election timing can be inferred from differences in estimated Medicare savings by windows of hospice-election timing. Further research specific to the causal impacts of earlier hospice elections would be needed to validate this assumption. However, the two included studies are directionally concordant with each other, and are aligned with the higher daily savings estimates from both

the cancer-specific Obermeyer study (which provides a more uniform clinical profile of study participants) and from the Medicare Care Choices Model evaluation (which found large savings from a natural experiment increasing hospice lengths of stay). **Appendix Figure A** (next page) provides the incremental daily savings from these two additional studies alongside the savings from the Aldridge and Kelley studies.

Obermeyer and colleagues focused solely on poor-prognosis cancer and yielded daily incremental savings (though with greater per-beneficiary savings) for this disease-specific group that were in line with the studies used in ATI's model. The Obermeyer study's incremental daily savings were 2.6 times the incremental daily savings used in ATI's Early Hospice Election Model for days 1 through 56 before death, on average.

Kranker and colleagues' evaluation of the Medicare Care Choices Model found even greater Medicare savings associated with earlier hospice election before death. In this natural experiment where a policy change caused a 23-day earlier hospice election before death, the evaluation estimated a savings of $8,604 of Medicare savings attributable to hospice election.[14] That finding implies a $377 incremental daily savings from days 20 through 42, which is 4.6 times the $81 average incremental daily savings in ATI's Early Hospice Election Model for those days.

**Appendix Figure A. Incremental Daily Savings from Hospice Enrollment by Election Days from Death, Including Studies Not in Model**




[14] All dollar amounts in this appendix are adjusted to 2026 dollars by ATI Advisory based on medical care inflation as of February of each year.

## Future Research

Given the limitations ATI faced in modeling Medicare savings associated with earlier hospice election, ATI encourages future experimental or quasi-experimental research testing how differences in hospice election timing causally affects the Medicare savings associated with the hospice benefit. Future research should also validate any Medicare savings estimates by seeking to detect a causal effect of hospice election timing on specific categories high-cost service utilization.