

## Abstract

**Background and Objective:** Serious illness carries a high risk of mortality and either negatively impacts a person’s daily function or quality of life or excessively strains the unpaid caregiver(s). Palliative care focuses on reducing pain and other distressing symptoms to improve the quality of life of persons with serious illness and their caregivers. This study synthesized evaluation results from CMS-funded work on palliative support to increase our understanding of the components used (e.g., setting, workforce, duration) and to inform future CMS models and programs. These projects all sought to improve quality of life through expert symptom management and by reducing unnecessary or avoidable health service use.

**Methods:** Four CMS projects met the inclusion criteria for this synthesis.<sup>1</sup> Participants (hospices, home health agencies, medical practices) provided palliative care to enrolled Medicare fee-for-service beneficiaries with serious illness. We examined the following claims-based outcomes: Total Medicare spending (Parts A & B), service use (e.g., emergency department visits, inpatient admissions, hospice use). We also examined care experience assessed through surveys and interviews. Results and themes were summarized across projects to highlight their similarities and differences.

**Results:** Interdisciplinary care teams provided home visits and supported persons with serious illness and their caregivers, especially during periods of transition. Duration of care and survival varied widely within and across projects. Beneficiaries needed the most support around the time of enrollment in the project and closer to the end of life. Participating sites struggled to reach and enroll their target populations due in part to low referrals from primary care providers and specialists. Two palliative support projects (MCCM and AIM-Sutter) showed significant decreases in Medicare spending and one showed significant increases (CPC-Four Seasons). Beneficiaries and caregivers reported high satisfaction with palliative support.

**Discussion:** Palliative support improved beneficiaries’ and caregivers’ experience of care and quality of life through 24/7 access to the care team, home visits, and shared decision-making. However, misperceptions about palliative care made it difficult to recruit and enroll beneficiaries across all four projects. Better integration of palliative support in primary and specialist care practices may increase the uptake of palliative care. Referring providers need tools to help identify persons who could benefit from palliative care. New strategies are needed to ensure that health equity is achieved in palliative care.

**Conclusion:** A comprehensive approach to palliative care, including access to interdisciplinary teams, home visits, and shared decision-making could improve beneficiary care, appropriately adapted to the target population and setting. The Innovation Center has been exploring ways to integrate palliative care into the new Accountable Care Organization Realizing Equity, Access and Community Health (ACO REACH) model, Medicare Advantage Value-Based Insurance Design (VBID) model, and Enhancing Oncology Model (EOM).

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<sup>1</sup> This synthesis included results from the Medicare Care Choices Model (MCCM), two Health Care Innovation Awards (HCIA): Community-Based Palliative Care (CPC-Four Seasons) and Advanced Illness Management (AIM-Sutter), and the Medicare Health Care Quality (MHCQ-Meridian) demonstration.

## Introduction

Palliative care focuses on improving the quality of life for persons with serious illness and their caregivers. The CMS Innovation Center envisions “a health care system that achieves equitable outcomes through high quality, affordable, person-centered care.”<sup>2</sup> This vision calls for leveraging flexibilities to close gaps in care, including palliative support.

Section 1115A of the Social Security Act authorizes the Center for Medicare and Medicaid Innovation (Innovation Center) to test new payment and service delivery models that have the potential to reduce Medicare and Medicaid spending while maintaining or improving the quality of care. Since its inception in 2010, the Innovation Center has funded a number of projects focused on palliative care.

This study synthesized evaluation findings from four CMS palliative support projects (see **Table 1**). The purpose of this synthesis is to identify common themes and determine lessons learned related to palliative support. Findings are intended to help inform the development of new models and programs at CMS.

## Background

Serious illness is defined as “a health condition that carries a high risk of mortality and either negatively impacts a person’s daily function or quality of life, or excessively strains their caregivers” (Kelley & Bollens-Lund, 2018). Palliative care focuses on the reduction of distressing symptoms such as pain and dyspnea to improve the quality of life of persons with serious illness and their unpaid caregivers. Palliative care typically includes physical, emotional, social, and spiritual support. It involves symptom management and care coordination whether or not the beneficiary is receiving curative treatment or hospice care.<sup>3</sup>

Five percent of Medicare beneficiaries (3.2 million) die each year and many develop serious illnesses near the end of life, requiring costly services such as hospitalizations and post-acute care. Palliative care may be helpful at any point in the disease trajectory, and could be especially valuable soon after a person is diagnosed with serious illness (IOM, 2015; NASEM, 2022; National Consensus Project for Quality Palliative Care, 2018). Because it includes advance care planning and support for the patient’s goals of care, palliative care often serves as a bridge between curative treatment and hospice care.

Currently, CMS covers palliative care by paying physicians and licensed practitioners on a fee-for-service basis.<sup>4</sup> CMS also covers palliative care optionally through Medicare Advantage supplemental benefits, but not all providers offer these programs. The Medicare Advantage Value-Based Insurance Design (VBID) model includes a palliative care component.<sup>5</sup>

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<sup>2</sup> CMS Innovation Center 2021 strategy refresh, strategic direction: <https://innovation.cms.gov/strategic-direction>

<sup>3</sup> By contrast, the Medicare hospice benefit requires enrollees to waive payment for treatment of their terminal condition.

<sup>4</sup> Using Medicare claims codes for evaluation & management, chronic care management, transitional care management, and/or advance care planning. See <https://www.cms.gov/medicare/medicare-fee-for-service-payment/feeschedulegeninfo>

<sup>5</sup> VBID is not included in this synthesis because findings related to palliative care were not available at the time the analysis was conducted. See <https://innovation.cms.gov/innovation-models/vbid-hospice-benefit-overview>

Palliative care models typically rely on an interdisciplinary team of physicians, nurses, social workers, and spiritual advisors using capitated payments to cover care coordination and 24/7 access to the care team. Care components vary by setting (e.g., office-based or in-home), provider type (e.g., palliative care practice, hospice, home health agency, health system), and duration (e.g., length of enrollment).

According to the literature, palliative care may help improve beneficiary quality of life, reduce caregiver burden, and increase beneficiary and caregiver satisfaction with care (Bakitas et al., 2009; Davis et al., 2015; Dy et al., 2012). Yet, the evidence for Medicare savings (or cost neutrality) and reductions in Medicare service use are less clear. To increase our understanding of which settings, workforce structures, and duration work and do not work, this synthesis assessed the relative effectiveness of four CMS palliative support projects to date.

### ***Palliative Support Projects***

Four CMS palliative care projects met the inclusion criteria<sup>6</sup> for this synthesis (see **Table 1**). These projects all sought to improve the quality of life and reduce unnecessary or avoidable Medicare service use for persons with serious illness and their caregivers. Each project provided home visits delivered by an interdisciplinary team. Projects varied by workforce, provider type, and duration (see **Table 2**). An overview of each project appears in the appendix.

**Table 1. Four CMS Palliative Support Projects in this Synthesis**

<b>Project</b>	<b>Sponsor/site(s)</b>	<b>Years</b>	<b>Data Source</b>
Medicare Care Choices Model (MCCM)	141 hospices	2016–2021	<a href="#">Annual report 4</a>
HCIA* Community-Based Palliative Care (CPC-Four Seasons)	Four Seasons Compassion for Life, Duke University	2015–2017	<a href="#">Final evaluation report</a>
HCIA* Advanced Illness Management (AIM-Sutter)	Sutter Health	2012–2015	<a href="#">Final evaluation report</a>
Medicare Health Care Quality (MHCQ-Meridian) <sup>+</sup>	Meridian Health System	2012–2016	<a href="#">Final evaluation report</a>

\* HCIA = Health Care Innovation Awards round one or two

+ Demonstration

### ***Research Questions***

This synthesis addressed the following research questions:

1. How did the components of each project foster better health care for persons with serious illness and their unpaid caregivers?
2. What effect did these projects have on Medicare spending and service use?
3. What effect did these projects have on beneficiary and caregiver experience of care?

<sup>6</sup> Criteria for this synthesis included 1) beneficiaries in Medicare fee-for-service, 2) large enough sample to calculate impacts in the evaluation report.

## Methods

For each project, we looked at claims-based outcomes available across projects: Total Medicare spending, service use (e.g., emergency department [ED] visits, inpatient admissions, hospice use). We also examined care experience assessed through surveys and interviews. Each project had a similar theory of action: Offering palliative support to Medicare beneficiaries with serious illness and their caregivers would improve the quality of care, reduce or hold neutral total Medicare spending, and decrease ED visits and inpatient admissions, thereby improving beneficiary quality of life and care experience.

We summarized results and themes across projects to highlight similarities and differences. Observed differences in design components, outcomes, and care experience were integrated into key findings and lessons learned.

### *Measures*

We examined final regression-adjusted impact estimates, where available, using data from intervention and comparison beneficiaries, for the following outcomes:

- Total Medicare spending (Parts A & B)
- ED visits per 1,000 persons
- Hospitalizations per 1,000 persons
- Hospice enrollment
- Beneficiary and caregiver experience of care (from surveys, focus groups, and interviews)

### *Data Sources*

Data for this synthesis were drawn from the independent evaluation reports for each project. Sources of data included interviews with participants during site visits; focus groups with enrolled beneficiaries, caregivers and medical partners; surveys; and Medicare claims data.

## Results

Results appear below for each research question (RQ).

### **RQ1. How did the components of each project foster better care for persons with serious illness and their unpaid caregivers?**

#### **Key findings**

- Interdisciplinary care teams provided home visits and supported persons with serious illness and their caregivers, especially during periods of transition.
- Duration of care and survival varied widely within and across projects. Beneficiaries needed the most support around the time of enrollment and in the final days of life.
- Participating sites struggled to reach and enroll their target populations due in part to challenges obtaining referrals.

**Table 2. Components of Four CMS Palliative Support Projects**

Project	Setting	Workforce	Provider	Duration <sup>#</sup>
MCCM	Home	Nurse or social worker as care coordinator, IDT	Hospice	99 days (median)
HCIA CPC-Four Seasons	Home <sup>^</sup>	Nurse practitioner or physician assistant as case manager, IDT	Hospice, palliative care practice	70 days (median)
HCIA AIM-Sutter	Home	Nurse as care coordinator; IDT	Hospice, home health agency	355 days (mean)
MHCQ-Meridian	Home <sup>~</sup>	Social worker, nurse, or nurse practitioner as case manager; IDT	Outpatient palliative care departments in hospitals affiliated with Meridian Health System	294 days (mean)

HCIA = Health Care Innovation Awards round one or two

MCCM = Medicare Care Choices Model

MHCQ = Medicare Health Care Quality demonstration

<sup>#</sup> Duration of exposure to the intervention, based on length of enrollment in the project.

<sup>^</sup> An initial home visit took place with follow-up phone calls and visits at hospitals, clinics, nursing homes, assisted living facilities, and hospices.

<sup>~</sup> Home or wherever the enrolled beneficiary resided (e.g., in long-term care, but not in an acute care setting)

IDT = Interdisciplinary care team, consisting of physicians with experience and training in palliative care, nurses, social workers, health aides and spiritual advisors.

**Interdisciplinary care teams provided home visits and supported persons with serious illness, especially during periods of transition.** Across projects, interdisciplinary teams cared for enrolled beneficiaries, typically in their personal homes (see **Table 2**). Staff were on-call 24/7 to help with urgent needs and care transitions as needed. Nurses or social workers coordinated care in some projects (MCCM, AIM-Sutter), while nurse practitioners or physician assistants took an active role in others (CPC-Four Seasons, MHCQ-Meridian). Enrolled beneficiaries received palliative support even if they continued to receive curative treatment for their serious illness.

Interdisciplinary teams managed difficult symptoms and educated beneficiaries and their caregivers on disease management. They helped with complex medical decisions and provided psychosocial services. Teams coordinated care across multiple settings (home, hospital, home health, provider offices, on-call triage) and supported beneficiaries in developing individualized care goals. As such, these projects served as a bridge between curative, medical care and hospice care and operated closely with outpatient palliative care services.

Participating providers included hospices (across all projects), as well as palliative care practices (CPC-Four Seasons) and home health agencies (AIM-Sutter). Hospices were uniquely positioned to participate in these projects because they use interdisciplinary teams to care for beneficiaries in the Medicare hospice benefit.

**Duration of care and survival varied widely within and across projects. Beneficiaries needed the most support around the time of enrollment and closer to the end of life.** Eligibility criteria for each project required a life expectancy of 6 to 36 months (MCCM, CPC-Four Seasons, AIM-Sutter) or diagnosis with a

serious illness plus hospital discharge (MHCQ-Meridian). Actual survival after enrollment varied widely from just a few days or weeks to a few years, with median duration of enrollment in the project of 70 and 99 days for CPC-Four Seasons and MCCM, to a mean duration of 294 and 355 days for MHCQ-Meridian and AIM-Sutter (see **Table 2**). Providers tended to refer beneficiaries shortly before death. For example, one-quarter of those in CPC-Four Seasons died within 20 days of enrollment and received palliative care or hospice care or both for a relatively short time.

Longer enrollment created more opportunities for periodic conversations about goals of care and comprehensive care planning. Yet, there may be diminishing returns over long enrollment periods. In MCCM, enrollment over 12 months led to increased Medicare spending.<sup>7</sup> Beneficiaries needed the most support at model enrollment, less intense care as care needs stabilized, and more services in the final days or weeks of life as care transitioned, generally, to the Medicare hospice benefit.

**Table 3. Characteristics of Beneficiaries Enrolled in Four CMS Palliative Support Projects**

Project	Number <sup>#</sup>	Prognosis	Demographics	Diagnoses	HCC score <sup>a</sup>
MCCM	4,574	6 months	Age ≥80 (42%), Female (51%), Black (8%) White (86%), Duals (12%)	Cancer (72%), CHF (38%) COPD (34%) HIV/AIDS (0.4%)	5.6
HCIA CPC-Four Seasons	2,097 <sup>^</sup>	36 months	Age ≥85 (46%), Female (54%), Black (2%), White (97%) Duals (17%)	Cancer (13%), CHF (55%) COPD (33%)	3.9
HCIA AIM-Sutter	3,705	12 months	Age ≥85 (43%) Female (53%), Black (9%), White (78%), Dual (26%)	Cancer (21%), CHF (57%) COPD (39%) ESRD (62%)	4.6
MHCQ-Meridian	2,023	--	Age ≥85 (35%), Female (58%), Black (--%), White (--%), Dual (11%)	Cancer (26%), CHF (66%) COPD (55%) Dementia (26%) ESRD (42%)	4.2

HCIA = Health Care Innovation Awards round one or two

MCCM = Medicare Care Choices Model

MHCQ = Medicare Health Care Quality demonstration

<sup>#</sup> Number of beneficiaries included in the intervention group in the impact analysis.

<sup>^</sup> Number of beneficiaries who met the claims-based eligibility criteria in the intent-to-treat analysis. Only 791 (38%) of this group participated in CPC-Four Seasons.

-- indicates the measure was not available

ED = Emergency department; FFS = fee-for-service; HCC = hierarchical condition category

CHF = congestive heart failure, COPD = chronic obstructive pulmonary disease

<sup>7</sup> The estimated impacts differed by MCCM enrollees' survival: the largest reductions in net Medicare expenditures (in dollar terms) occurred among enrollees who lived 31 to 365 days after enrolling in MCCM while the largest percentage impacts were concentrated among enrollees who lived fewer than six months after enrolling in MCCM.

Dual = Dually eligible for Medicare and Medicaid

<sup>a</sup> HCC (mean) incorporates diagnosis history and demographics to estimate a score representing the expected costs of a Medicare beneficiary in the upcoming year. A score of one represents average expected expenditures. The analysis used the most recently available HCC algorithms to calculate HCC scores.

**Participating sites struggled to reach and enroll their target populations due in part to challenges obtaining referrals.** Enrolled beneficiaries were disproportionately older, over age 85, and white (MCCM and CPC-Four Seasons), with one project (AIM-Sutter) serving more non-white and dually eligible beneficiaries than the others (see **Table 3** and **Lessons Learned** related to health equity). Average HCC score, a measure of disease acuity, ranged from 3.9 to 5.6, reflecting a high disease burden in this population. Beneficiaries had to be enrolled for at least one year in traditional Medicare to be eligible for these projects, which excluded those in managed care, and limited enrollment.

Misperceptions about palliative care made it challenging to recruit and enroll beneficiaries across all four projects. In response, CMS held learning sessions for referring providers in MCCM and distributed a brochure to stakeholders to clarify the purpose of the model. CPC-Four Seasons created an educational module for people and their families/caregivers and referring providers, and a checklist to help clinicians identify eligible beneficiaries. These communication efforts succeeded to some extent, according to respondents interviewed by the evaluators, but enrollment remained low.

In MHCQ-Meridian, staff and providers reported that some physicians in the community continued to view palliative care as hospice care or pre-hospice care. These physicians sometimes decided not to refer to the demonstration because they did not want their patients to think that their doctors were “giving up.”

## RQ2. What effect did these projects have on Medicare spending and service use?

### Key findings

- Significant reductions in Medicare spending in two projects (MCCM and AIM-Sutter) and significant increases in one (CPC-Four Seasons).
- Significant reductions in ED visits and hospitalizations in one model (MCCM) and significant increases in ED visits in one (AIM-Sutter).
- Significant increases in Medicare hospice enrollment in two projects (MCCM, CPC-Four Seasons).

**Table 4. Impacts of Four CMS Palliative Support Projects**

Project	Total Medicare Spending	ED Visits	Inpatient Admissions	Hospice <sup>^</sup>
MCCM <sup>D</sup>	<b>-14%</b>	<b>-14%</b>	<b>-26%</b>	<b>29%</b>
HCIA CPC-Four Seasons	10% <sup>x</sup>	-12%	-10%	<b>59%</b>
HCIA AIM-Sutter <sup>D</sup>	<b>-\$4,968<sup>‡</sup></b>	<b>21<sup>§</sup></b>	<b>-58<sup>§</sup></b>	--
MHCQ-Meridian	\$457 <sup>‡</sup>	2.8%	-3%	-\$56 <sup>‡</sup>

Table Key: Bolded estimates are statistically significant at least at the p<0.05 level. <sup>x</sup> significant at the p<0.10 level. Green shading indicates statistically significant results in a favorable direction. Red/orange shading indicates statistically significant results in an unfavorable direction. Cells with gray shading indicate non-significant results. -- indicates the measure was not available.

<sup>D</sup> Decedent-only analysis

HCIA = Health Care Innovation Awards round one or two

MCCM = Medicare Care Choices Model

MHCQ = Medicare Health Care Quality demonstration

<sup>^</sup> Hospice was measured in MCCM as admissions and in CPC-Four Seasons and MHCQ-Meridian as expenditures.

<sup>\*</sup> per person, available only as a point estimate (with confidence interval) not as a % difference

<sup>§</sup> per 1,000 persons, available only as a point estimate (with confidence interval) not as a % difference

ED = Emergency department

**Significant reductions in Medicare spending in two projects (MCCM and AIM-Sutter) and significant increases in one (CPC-Four Seasons).** In MCCM and AIM-Sutter, Medicare savings (Parts A & B) were largely driven by decreased hospitalizations (see **Table 4**). CPC-Four Seasons, by contrast, showed a significant *increase* in total Medicare spending, driven by significantly higher hospice spending (and higher skilled nursing, not shown) despite decreased ED visits and inpatient admissions. In MHCQ-Meridian, no savings were observed, perhaps due to ED visits offsetting savings in other categories.

**Significant reductions in ED visits and hospitalizations in one model (MCCM) and significant increases in ED visits in one (AIM-Sutter).** In MCCM, reductions in ED visits and hospitalizations were driven by increased enrollment in the Medicare hospice benefit (see **Table 4**). In AIM-Sutter, a significant increase in ED visits may reflect the high disease acuity of enrolled beneficiaries. Enrolled beneficiaries in all projects were encouraged to contact the care team with concerns, particularly after-hours and on weekends, rather than calling 911.

**Significant increase in Medicare hospice enrollment in two projects (MCCM, CPC-Four Seasons).** Increased hospice enrollment in MCCM (29%) drove Medicare savings. By contrast, increased hospice expenditures in PC-Four Seasons (59%) did not offset savings from decreased ED visits and hospitalizations (see **Table 4**).

### **RQ3. What effect did these projects have on beneficiary and caregiver experience?**

#### **Key findings**

- Palliative care improved the quality of life of enrolled beneficiaries and their caregivers.
- Beneficiaries and caregivers reported high satisfaction with palliative support.

**Palliative care improved the quality of life of enrolled beneficiaries and their caregivers.** Beneficiaries and caregivers reported that their quality of life improved as a result of better symptom management by the palliative care team. Enrollees and their caregivers also benefitted from psychosocial and spiritual support, referrals to community-based resources (e.g., caregiver education and support), and help with shared decision-making.

Each project established internal quality metrics and reported programmatic data to CMS. MHCQ-Meridian, for example, met targets set for all 10 internal quality measures; however, similar data were not available for the matched comparison group, so it was not possible to determine the effect in the absence of the demonstration. Comparison group data also were not available in the other projects to calculate impacts on quality for measures like depression and goals of care met.

**Beneficiaries and caregivers reported high satisfaction with palliative support.** Across projects, beneficiaries and unpaid caregivers reported positive experiences and high satisfaction with the care they received. In MCCM, 96% of caregivers indicated that they would recommend the model to friends and



family. However, caregivers of MCCM enrollees who did not transition to the Medicare hospice benefit reported less satisfaction.<sup>8</sup>

In general, caregivers reported lower stress and improved sense of security and self-confidence as a caregiver. They reported that home visits and 24/7 triage for after-hours and weekend care were the most useful services in their daily lives. Enrolled beneficiaries and unpaid caregivers were highly satisfied with the integration of social and spiritual services, frequency of visits (at least once per month in MHCQ-Meridian and MCCM, for example), continuity of personnel, longevity of services, integration of family members, and ability to meet their unique needs. Beneficiaries and unpaid caregivers reported improvements in well-being, better understanding of their disease processes, and emotional support.

## Discussion

Findings from all four projects have important implications for the development of future models and programs at CMS.

### Lessons Learned

- Palliative support improved beneficiaries' and caregivers' experience of care and quality of life and had mixed effects on Medicare spending. However, low enrollment in these projects prevented CMS from scaling them to the larger Medicare program. Future palliative care projects will need to focus on improving enrollment in order to produce the evidence needed to support scaling decisions.
- Better integration of palliative support in primary and specialist care practices may increase the uptake of palliative care. Referring providers need tools to help identify persons who could benefit from palliative care.
- New strategies are needed to ensure that health equity is achieved in palliative care.

**Palliative support improved beneficiaries' and caregivers' experience of care and quality of life and had mixed effects on Medicare spending.** Enrolled beneficiaries received expert symptom management through these projects. Beneficiaries and caregivers reported improvements in well-being, self-care behaviors, understanding of their disease and how to manage it, and social and emotional support. Across projects, caregivers reported that home visits and the triage hotline for after-hours and weekend care were the most useful services.

The emphasis in MCCM and AIM-Sutter on coordinating care across settings supported a seamless transition to hospice for enrolled beneficiaries, (see **Table 4**). MHCQ-Meridian's intervention, which consisted of education and home visits, showed no significant impacts. Palliative support was already part of the health system's hospital and outpatient care, which may be one reason that the added benefit of the demonstration did not produce a significant effect (see **Limitations**).

**Low enrollment in these projects prevented CMS from scaling them to the larger Medicare program. Future palliative care models will need to focus on improving enrollment in order to produce the**

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<sup>8</sup> Caregivers of most MCCM enrollees who did not transition to hospice before they died reported that the enrollee preferred not to enroll in hospice, they died too soon to enter hospice, or they or their family did not perceive the need for additional services through the Medicare hospice benefit. The hospice benefit offered the following benefits that MCCM did not:

**evidence needed to support scaling decisions.** All four projects enrolled fewer beneficiaries than projected. Participants struggled to educate referring providers, beneficiaries, and families about the purpose of palliative care and how it differs from the Medicare hospice benefit. Providers were reluctant to refer patients to these projects and often did so when the individual was near death and had less time to benefit from palliative care.

Low enrollment also stemmed in part from the fact that these projects targeted a small subset of Medicare beneficiaries with serious illness (prognosis of 6 – 36 months, depending on the project). Five percent of Medicare beneficiaries (3.2 million) die each year. The focus on only four targeted diseases<sup>9</sup> further contributed to low enrollment in MCCM. High Medicare Advantage penetration further constrained the numbers of beneficiaries who were eligible to enroll in these fee-for-service projects.

**Better integration of palliative support in primary and specialist care practices may increase the uptake of palliative care.** *Referring providers need tools to help identify persons who could benefit from palliative care.* Better integration of palliative care expertise within primary and specialist care could, potentially, increase referrals and lead to higher use of palliative care services.

CPC-Four Seasons, for example, trained primary care providers and specialists in how to judge whether and when to refer beneficiaries to palliative care based on the surprise question: (*would you [the clinician] be surprised if this person died in the next three years?*),<sup>10</sup> primary diagnosis, physical limitations, prognosis, and other elements listed in a screening tool they developed. CPC-Four Seasons provided a 40-hour immersion course on palliative care and cultural competency, with follow-up communication to experienced practitioners. Physician outreach led to increased program enrollment, especially toward the end of the performance period.

Physician champions at each of the participating hospitals in MHCQ-Meridian received stipends to promote the demonstration and conduct outreach and educational activities in their respective hospitals. These efforts helped increase referrals across participating sites.

**New strategies are needed to ensure that health equity is achieved in palliative care.** These projects enrolled predominantly older, white individuals, in urban and suburban areas. The literature shows wide disparities in access to hospice and palliative care among non-white populations (Lin et al., 2022; Ornstein et al., 2020). New approaches are needed in future models to address these concerns (Hughes, 2022).

## Limitations

Results across projects are not directly comparable because:

- Implementation occurred at different points in time from 2012 - 2021.
- Each project served a different segment of the seriously ill population, with different expected survival (6 – 36 months) and diseases.
- Enrolled populations varied according to the unique characteristics of the regions and states where the projects were implemented.

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<sup>9</sup> MCCM targeted beneficiaries with cancer, congestive heart failure, chronic obstructive pulmonary disease, and HIV-AIDS.

<sup>10</sup> See **Limitations** for a discussion of how reliance on clinical judgment led to challenges in the evaluation across all four projects.

- Evaluation methods varied and increments differed (e.g., percentage change, rates per 1,000, quarterly or annualized effects).
- Evaluations included beneficiaries who met specified criteria, not the entirety of the population that enrolled in the project and received services.
- New beneficiaries entered the project at different intervals and varied in their exposure to the intervention (due to late referrals).
- Qualitative findings from interviews and focus groups only included those beneficiaries and their family members who were willing and able to participate. Severe symptoms and/or caregiver burden may have limited who volunteered for interviews and focus groups.

Despite these concerns, this synthesis allowed for broad patterns to be observed (see **Table 4**) and lessons learned to be drawn to help inform new models.

Additional technical and methodological issues limited the evaluation,<sup>11</sup> as follows:

- Low enrollment and low market penetration limited the generalizability of these results to the broader Medicare beneficiary population.
- Reliance on clinical judgment to identify beneficiaries to enroll in these projects hindered construction of an adequate comparison group.

**Low enrollment and low market penetration limited the generalizability of these results to the broader Medicare beneficiary population.** As discussed above, all four projects faced challenges recruiting eligible beneficiaries, due in part to misperceptions about palliative care among referring providers, individuals who might use palliative care, and their families/caregivers. Many referred beneficiaries were ineligible for these projects because they were enrolled in Medicare Advantage plans that had optionally chosen to cover some palliative care. Providers and beneficiaries volunteered to participate in these projects, so self-selection bias also limited the generalizability of these results nationally.

In MCCM, around half of model enrollment came from just five hospices. A large number of participating hospices withdrew from the model (over 60 percent) largely due to enrollment challenges. This, and the small number of beneficiaries served by the model (representing less than one percent of those who lived near participating hospices and met the claims-based MCCM eligibility criteria), limited the generalizability of the model to the broader CMS beneficiary population.

In CPC-Four Seasons, the evaluation included only 14 percent of all beneficiaries enrolled in the project in the final intent-to-treat analysis, which focused on just one county. Low uptake of the project prevented the inclusion of other geographic areas. Results were not generalizable to the 86 percent of enrollees not included in the evaluation, nor to the broader Medicare beneficiary population.

In AIM-Sutter, reductions in Medicare expenditures were statistically significant only when measured in the last 30 days of life.<sup>12</sup> Total spending was higher than the comparison group when measured over the entire enrollment period and in the last year of life. The cross-sectional evaluation design and short period of time examined (last 30 days of life) made this decedent-only analysis more exploratory than definitive.

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<sup>11</sup> See evaluation reports linked to each project in **Table 1** for a full discussion of methods and limitations in the technical appendix of each report.

<sup>12</sup> Compared with longer look back periods, the 30-day analysis appeared to be less biased, due to greater similarity between intervention and comparison group beneficiaries at that time interval than other look-back periods.

The large difference in results for MHCQ-Meridian between the second and third reports (from \$9,000 savings per beneficiary to zero savings) shows how difficult it is to evaluate palliative care projects. Drawing beneficiaries from a different set of comparison hospitals drove the change in results between the two reports.

**Reliance on clinical judgment to identify beneficiaries to enroll in these projects hindered construction of an adequate comparison group.** Medicare claims data do not contain all the information referring providers used to identify beneficiaries for these projects. Clinicians relied on medical record data and their judgment of a 6 – 36 month expected survival, depending on the project. Proxies for disease stage were constructed for the comparison group using HCC scores, health services use in the year prior to model enrollment, and assessment data (available for only a subset of beneficiaries), but this added to the risk of selection bias.

In MCCM, the evaluation focused on decedents-only to equalize the intervention and comparison groups on disease trajectory. This helped account for high disease acuity in the target population, and mimicked the eligibility requirement for a 6-month prognosis. The decedent-only analysis precluded an analysis of the effect of these projects on mortality.

In CPC-Four Seasons, the evaluation consisted of an intent-to-treat analysis in one county. A rigorous impact analysis of all enrolled beneficiaries was not possible because enrollment into the project relied on clinical judgment and other factors that could not be replicated using CMS administrative data. Many factors could not be measured, including the “surprise question” (would you be surprised if this person died in the next three years).<sup>13</sup>

In AIM-Sutter, the evaluator focused on those in the last 30 days of life as the primary analysis because at that interval, the intervention and comparison groups were more similar. Overall, AIM-Sutter enrollees were more than three times likely to die during the analytic period, despite matching on the claims-based criteria for AIM-Sutter program eligibility. This suggests that unobservable factors (e.g., clinical judgment, frailty, physical functioning) drove the differences between the intervention and comparison groups. These impact estimates must be interpreted with caution.

The inability to recreate in the comparison group the clinical judgment used to enroll beneficiaries in these projects led to a high risk of bias in the evaluation. A medical record review would be one alternative to construct a more comparable group for this type of project, but that was not feasible. Additional strategies, such as selecting comparison beneficiaries from among those who enrolled in hospice are likely to add bias to the estimates and limit interpretability of the findings.

A randomized design would help to avoid or minimize many of these issues by ensuring that the intervention and comparison groups are alike in both observable factors (e.g., age, claims history) and unobservable factors (e.g., clinical judgment of prognosis/expected survival, disease acuity, functional status).

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<sup>13</sup> Not all eligibility requirements were observable in claims, due to reliance on clinical judgment (e.g., the surprise question), physical limitations such as fall risk; presence of serious illness, such as an advanced or end-stage disease; and social determinants such as housing status, substance abuse, and lack of caregiver support.

## Conclusion

Beneficiaries enrolled in these palliative care projects and caregivers reported that palliative support improved their care experience and quality of life. Two out of four projects (MCCM and AIM-Sutter) showed significant impacts but a number of caveats apply. Low enrollment limited the generalizability of these projects to other care settings and the broader Medicare population. To help increase enrollment, all four projects educated clinicians on how to identify persons for palliative care, based on their diagnoses and prognoses. Beneficiaries and families also learned from education to clear up misperceptions about palliative care. Despite these efforts, more needs to be done – and sooner – to avoid these issues in future models.

The Innovation Center has been exploring ways to integrate palliative care into the new Accountable Care Organization Realizing Equity, Access and Community Health (ACO REACH) model, Medicare Advantage Value-Based Insurance Design (VBID) model, and Enhancing Oncology Model (EOM). A comprehensive approach to palliative care, including access to interdisciplinary teams, home visits, and shared decision-making, could improve care, appropriately adapted to the target population and setting.

## Appendix

A summary of each palliative support project and a link to the evaluation report<sup>14</sup> used in this synthesis appear below, followed by an overview of each project and its payment approach (see **Table A.1**), eligibility requirements (see **Table A.2**), and a list of services (see **Table A.3**).

**Medicare Care Choices Model (MCCM).** MCCM tested whether offering eligible Medicare beneficiaries the option to receive supportive services at the end of life without forgoing payment for the treatment of their terminal conditions (which is required to enroll in the Medicare hospice benefit) improved beneficiaries' quality of life and care, increased their satisfaction, and reduced Medicare expenditures. Eligible beneficiaries were referred to participating hospices and could voluntarily enroll in the model. MCCM focused on beneficiaries who were eligible for (but not enrolled in) the Medicare hospice benefit (*6-month prognosis*) and had at least one of four conditions: a terminal diagnosis of cancer, congestive heart failure, chronic obstructive pulmonary disease, or human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS). An interdisciplinary team provided supportive services to enrolled beneficiaries who could continue to receive treatment for their terminal condition through fee-for-service Medicare. This model tested a provision in the Affordable Care Act related to concurrent hospice care.

**Community-Based Palliative Care (CPC) – Four Seasons Compassion for Life/Duke University.** Four Seasons, a nonprofit hospice and palliative care practice based in western North Carolina, received a cooperative agreement under Round 2 of the Health Care Innovation Awards to expand an existing community-based palliative care (CPC) program to other providers and nearby communities. The awardee hypothesized that palliative care received *at least one year* before the death of a Medicare beneficiary with a life-limiting illness could improve quality of life and reduce the cost of health care. The CPC program provided person-centered palliative care to beneficiaries through a collaborative, multidisciplinary care team that served enrollees' needs holistically. Services focused on achieving the person's goals related to symptom management, quality of life, psychosocial and spiritual support, coordination with community-based resources, and advance care planning. This award also supported activities to educate enrollees, families, and providers about palliative care.

**Advanced Illness Management (AIM) – Sutter Health (Sutter).** AIM-Sutter, a health system located in California, coordinated care across multiple care settings (hospital, home health, provider offices, on-call triage) for beneficiaries with late-stage illness and their caregivers. A unified electronic health record (EHR) system and nurse-led, interdisciplinary teams supported the project. AIM-Sutter relied on a rubric of five pillars of care: 1) personal goals and advance care planning, 2) symptom management, 3) medication management, 4) follow-up with provider(s), and 5) patient engagement. AIM-Sutter targeted Medicare beneficiaries with a high burden of disease, who met the criteria for hospice services but were not enrolled in hospice, had experienced rapid or significant functional or nutritional decline, had recurrent and unplanned hospitalizations, or who were considered by providers *likely to die in the next 12 months*. AIM-Sutter sought to enroll beneficiaries before they were hospice-eligible (e.g., earlier in their disease trajectory), to provide palliative care and advance care planning, and to increase the election of hospice care where appropriate. Another important set of objectives related to the awardee's goal of testing the replicability of the AIM model.

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<sup>14</sup> Each report includes evaluation results, an assessment of implementation effectiveness, and a technical appendix.

**Medicare Health Care Quality (MHCQ) – Meridian Health System (Meridian).** The MHCQ-Meridian demonstration was a late-life, outpatient palliative care and chronic disease management program that supplemented Meridian inpatient, outpatient, and facility-based palliative care services with *residential* (home or non-acute facilities) and *telephonic follow-up* services. The demonstration aimed to build a coordinated care system for patients with advanced diseases through the palliative care services and additional services provided by the demonstration. The demonstration had four main objectives: 1) improve quality of life of patients and families, 2) provide aggressive management of physical symptoms and psychosocial stressors, 3) provide patients and families with the education and emotional support needed to make informed decisions relative to end of life care, and 4) coordinate care among physicians, facilities, services, family, and community outside hospital walls. Under this demonstration, MHCQ-Meridian brought team-based care to patients in residential settings, although without some of the hospital-based resources available to inpatient palliative care departments.

**Table A.1. Overview of Four CMS Palliative Support Projects in the Synthesis**

Years	Project	Overview	Payment	Participants	Beneficiaries <sup>^</sup>
2016 – 2021	Medicare Care Choices Model <sup>R</sup> (MCCM)	Supportive services provided by interdisciplinary team to Medicare beneficiaries who were eligible for but not enrolled in the Medicare hospice benefit (6-month prognosis) and continued to receive treatment for their terminal condition through FFS Medicare.	\$400 PBPM	49 hospices (141 hospices initially)	4,574 in impact analysis (out of 6,427 enrolled)
2015 – 2017	HCIA Community-based Palliative Care (CPC) – Four Seasons/Duke	Person-centered palliative care for Medicare FFS beneficiaries with life-limiting illnesses provided by multi-disciplinary care teams headed by a nurse practitioner or physician assistant. Integrated care focused on symptom management, disease management education, coordination with community-based resources, advance care planning.	Medicare FFS payment	5 sites (hospice and palliative care practices)	791 from CPC-Four Seasons included in intent-to-treat impact analysis (out of 5,652 enrolled)
2012 – 2015	HCIA Advanced Illness Management (AIM) – Sutter	AIM coordinated care across multiple care settings (hospital, home health, provider offices, on-call triage) for late-stage patients and their caregivers. It is supported by a unified electronic health record (EHR) system and nurse-led, interdisciplinary teams. Its organization relies on a rubric of five pillars of care: (1) personal goals and advance care planning, (2) symptom management, (3) medication management, (4) follow-up with provider(s), and (5) patient engagement.	Medicare FFS payment	10 sites (hospice and home health agencies)	3,705 in impact analysis (out of 9,406 enrolled)

Years	Project	Overview	Payment	Participants	Beneficiaries <sup>^</sup>
2010 – 2016	Medicare Health Care Quality* (MHCQ) – Meridian	Outpatient palliative care and chronic disease management that supplemented inpatient, outpatient, and facility-based palliative care services with residential (home or non-acute facilities) and telephonic follow-up. The demonstration aimed to build a coordinated care system for persons with advanced diseases.	\$147 PBPM	Meridian Health System (4 hospitals)	2,023 in impact analysis (out of 3,095 enrolled)

HCIA = Health Care Innovation Awards round one or two

\* Demonstration

<sup>^</sup> Number of Medicare fee-for-service beneficiaries included in evaluation

<sup>R</sup> Randomized; enrollment was too low during the first two years of the model test to make use of the participant-level randomized design.

FFS = Fee for service, PBPM = Per beneficiary per month

The following matrices summarize the eligibility requirements and services offered across projects.

**Table A.2. Eligibility Requirements Across Four CMS Palliative Support Projects**

Criterion	MCCM	HCIA CPC-Four Seasons	HCIA AIM-Sutter	MHCQ-Meridian
Medicare FFS <sup>^</sup> (Parts A and B)	x	x	x	x
Terminal diagnosis - prognosis	6 months	36 months	12 months	--
Reside at home	x	x	x	x
Not in hospice	x	x	x	x
Discharged directly from hospital				x
Hospital encounter in last 12 months	x	x		

HCIA = Health Care Innovation Awards round one or two

MCCM = Medicare Care Choices Model

MHCQ = Medicare Health Care Quality demonstration

<sup>^</sup> FFS = fee for service, not in Medicare Advantage

**Table A.3. Services Offered Across Four CMS Palliative Support Projects**

Service	MCCM	HCIA* CPC-Four Seasons	HCIA* AIM-Sutter	MHCQ-Meridian
Advance care planning	x	x	x	x
Bereavement counseling	x			
Care coordination	x	x	x	x
Care plan	x	x	x	x
Education	x	x	x	x
Emotional support	x	x	x	x
24/7 access to care team	x	x	x	
Interdisciplinary team (IDT)	x	x	x	x
Medication consult/interaction	x	x	x	
Symptom/pain management	x	x	x	x

HCIA = Health Care Innovation Awards round one or two

MCCM = Medicare Care Choices Model

MHCQ = Medicare Health Care Quality demonstration



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