Evaluation of the Medicare Care Choices Model

Technical Appendices

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List of Acronyms and Abbreviations

CAHPS®	Consumer Assessment of Healthcare Providers and Systems	HCC	Hierarchical condition category
Caregiver survey	Caregiver Experience of Care Survey	HIV/AIDS	Human immunodeficiency virus/acquired immunodeficiency syndrome
CCN	CMS Certification Number	MCCM	Medicare Care Choices Model
CHF	Congestive heart failure	MHB	Medicare hospice benefit
CMS	Centers for Medicare & Medicaid Services	QAPI	Quality assurance and performance improvement
COPD	Chronic obstructive pulmonary disease	24/7	Twenty-four hours a day, seven days a week

Appendix A. Hallmarks of the Medicare Care Choices Model (MCCM)

The Medicare Care Choices Model (MCCM) builds upon the six hallmarks of hospice care, as shown in **Exhibit A.1**. In the sections below we describe the six hallmarks. The center of the exhibit illustrates the intended outcomes of MCCM.

Exhibit A.1 Six Hallmarks of Hospice Care Serve as the Foundation of MCCM

Source: Adapted from the Centers for Medicare and Medicaid Services. (2018). *The Medicare Care Choices Model Resource Manual,* revised November 2018 and available to MCCM participants.

A.1. CARE COORDINATION AND CASE MANAGEMENT

Care coordination and case management are vital to MCCM enrollees, many of whom receive services from multiple providers. Care coordination involves deliberately organizing activities and sharing information among all participants concerned with a patient's care. This means that individual needs and preferences are communicated at the right time to the right people and that this information is used to provide safe, appropriate, and effective care.[1] Case management is a process in which a person (alone or in conjunction with a team) manages multiple aspects of a patient's care. Key components of case management include planning and assessment, coordination of services, patient education, and clinical monitoring.[2]

MCCM hospices assist in the coordination and management of both treatment for the terminal condition and selected hospice services, facilitated by shared decision making among the enrollee, family, and his or her providers. MCCM hospice staff identify these partners and facilitate coordinated, complementary care. Care coordination and case management services provided by MCCM hospices may overlap with other care coordination and case management services received by MCCM enrollees.

A.2. 24/7 ACCESS TO HOSPICE TEAM

MCCM hospices are expected to provide access to nursing services, physician services, and drugs and biologicals on a 24-hours a day, seven days a week (24/7) basis. They also are required to provide beneficiaries and their families with a point of contact in the event the beneficiary's condition changes unexpectedly. By having 24/7 access to MCCM hospice professionals, MCCM enrollees benefit from the hospice's expertise in addressing pain, symptoms, and care management needs.

A.3. PERSON- AND FAMILY-CENTERED CARE PLANNING

Person- and family-centered care planning involves addressing physical, intellectual, emotional, social, and spiritual needs; and facilitating autonomy, access to information, and choice. MCCM hospices are expected to assess enrollee preferences and ensure that health outcomes and goals are person-specific, rather than reflecting what health care professionals or the health care system consider to be the "best" alternative or treatment. These values are reflected in the individualized care plan that MCCM staff develop for each enrollee.

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[1] Agency for Healthcare Research and Quality. (2014). *Care Coordination.* Retrieved on September 9, 2019 from http://www.ahrq.gov/professionals/prevention-chronic-care/improve/coordination/.

[2] Agency for Healthcare Research and Quality. (2011). *Comparative Effectiveness of Case Management for Adults with Medical Illness and Complex Care Needs*. Retrieved on September 9, 2019 from https://effectivehealthcare.ahrq.gov/topics/case-management/research-protocol.

A.4. SHARED DECISION MAKING

Shared decision making is a process of interactive, meaningful dialogue between the beneficiary and care providers about treatment options, including harms, benefits, and alternatives. The process of shared decision making also includes eliciting information from beneficiaries about their values and preferences, and using this information to tailor care delivered through MCCM to the needs of the individual.

A.5. SYMPTOM MANAGEMENT

Symptom management involves ongoing screenings and assessments to ensure timely and appropriate interventions that are consistent with the enrollee's preferences and goals. MCCM hospices ensure management of the MCCM beneficiary's pain and other symptoms based on 24/7 availability, and periodic comprehensive assessments and individualized plans of care. MCCM enrollees may also need interventions and support to address symptoms other than pain (e.g., shortness of breath, nausea, vomiting, fatigue, compromised skin integrity, functional/cognitive deficits, anxiety, lack of appetite/malnutrition, fear, depression, constipation, diarrhea). The symptom management MCCM hospices provide is expected to reduce the burden of hospital admission and physician office visits.

A.6. COUNSELING

Counseling entails a wide range of interventions that can include bereavement, dietary, and spiritual assistance and guidance. Similar to the Medicare hospice benefit, MCCM hospices offer appropriate levels of counseling to enrollees and their families based on a comprehensive assessment and individualized plan of care. Bereavement counseling should begin at the time of MCCM enrollment to help beneficiaries and their families and caregivers cope with beneficiaries' terminal conditions. Comprehensive assessment, re-assessment, advance care planning, and communication are essential elements of care for meeting these needs.

Appendix B. Evaluation Research Questions

In this appendix we provide the list of research questions addressed by the Medicare Care Choices Model (MCCM) evaluation, as shown in **Exhibit B.1**. By the end of the evaluation, we will have addressed all the research questions listed below. **This report addresses a subset of these questions, which are bolded in the exhibit**.

Exhibit B.1 MCCM Evaluation Research Questions

Research Domain	Question
Implementation effectiveness	**1. What are the characteristics of beneficiaries enrolled in the model, and participating hospices and the hospices' markets?**
	2. What are the reasons for beneficiary participation or non-participation?
	3. Are there any factors that limited the number of beneficiaries enrolled in the model? If so, to what degree?
	4. What are the characteristics of those beneficiaries and hospices that withdrew from the model, and why did they leave?
	5. What are the elements of care delivered under this model?
	6. What is the length of time to implement the organizational changes necessary to deliver services?
	7. What referral patterns are observed?
	8. What costs do hospices incur in providing services, and beneficiaries incur in receiving services?
	9. What features of hospices' administration and structure account for the successes or failures of their implementation of the model?
	10. Are learning system activities effective in preparing hospices to succeed and continue to succeed in the model?
	11. What participant, provider, and beneficiary perceptions contribute to or hinder the success of the model?
	12. What unintended consequences are observed?
Utilization and costs	**13. Do beneficiaries in the model elect the Medicare hospice benefit at a higher rate and earlier in their disease?**
	14. Do beneficiaries in the model have lower Medicare and Medicaid expenditures?
	15. Do beneficiaries in the model receive different patterns of supportive services and life-prolonging treatment?
	16. Do beneficiaries in the model have greater access to curative services, including medications?
Quality of care and health outcomes	17. Do beneficiaries in the model have better health outcomes?
	18. Do beneficiaries in the model receive better quality of care and/or experience a higher quality of life?
	19. Do beneficiaries in the model and their caregivers express greater satisfaction and improved experiences with their care?

Appendix C. Data Sources

In this appendix we describe the data sources used to generate findings documented in this report. These data sources include Medicare administrative data; Medicare Care Choices Model (MCCM) programmatic data from the MCCM portal and the MCCM implementation contractor; geographic data used to describe the markets in which MCCM and MCCM comparison hospices operate; Consumer Assessment of Healthcare Providers and Systems (CAHPS) Hospice Survey data; and primary data collected by the MCCM evaluation team in the form of site visits, interviews, and provider and beneficiary surveys. These data are described in greater detail in **Appendix D**, unless noted otherwise.

C.1. MEDICARE ADMINISTRATIVE DATA

- **Medicare Enrollment Database and Master Beneficiary Summary Files** were obtained from the Chronic Conditions Warehouse Virtual Research Data Center to characterize Medicare beneficiaries eligible for or enrolled in MCCM between January 1, 2015 and June 30, 2018. We used Medicare enrollment data to identify Medicare beneficiaries based on demographic characteristics and dual-eligibility status. We also used the data to select a comparison group of MCCM-eligible decedents who resided in markets served by comparison hospices.
- **Medicare claims data** were obtained from the Chronic Conditions Waterhouse Virtual Research Data Center documenting Medicare-covered services rendered between January 1, 2015 and June 30, 2018. Unless otherwise noted, we extracted claims data analyzed after a three-month, run-out period. We used these data to determine MCCM eligibility, characterize the health status of MCCM-eligible beneficiaries, identify transitions from MCCM to the Medicare hospice benefit, and characterize the care received by MCCM-enrolled and -eligible beneficiaries. We used the following claim types[3]:
  - Physician/supplier Part B
  - Durable medical equipment
  - Home health agency
  - Hospice
  - Inpatient

[3] We did not analyze Medicare Part D claims because MCCM does not require enrollees to be enrolled in a Part D plan. However, a subgroup analysis of those with Part D is planned for a future report.

  - Outpatient
  - Skilled nursing facility claims.

- **Centers for Medicare & Medicaid Services (CMS) Provider of Services files**[4] were obtained from the CMS.gov website documenting the characteristics of Medicare-approved hospices operating between calendar years 2015 and 2017. We used Provider of Services file data, in addition to other data, to characterize hospices enrolled in MCCM and to select a matched comparison group of hospices to support the impact analyses planned for future reports.

C.2. MCCM PROGRAMMATIC DATA

- The MCCM portal is a secure, online website for data entry. Data submitted by participating hospices via the MCCM portal document beneficiary referrals, enrollments, administration of clinical and functional assessments, encounters with hospice staff, receipt of MCCM-covered services, and quality metrics documented between January 1, 2016 and June 30, 2018. We used these data to examine implementation and operation of MCCM.
- **Reports and data provided by the MCCM implementation contractor** describe the implementation and operation of MCCM hospices and their participation in CMS-sponsored learning activities. This information includes MCCM applications, implementation and marketing plans, the MCCM Resource Manual, hospice program reports, monthly activity reports from the implementation contractor, and monthly hospice rosters.

C.3. DARTMOUTH ATLAS OF HEALTH CARE GEOGRAPHIC DATA

- The Dartmouth Atlas of Health Care[5] is a publicly available database documenting geographic variation in the organization, delivery, and cost of hospice care and other Medicare-covered services within market areas defined by hospital referral regions. We used 2014, 2015, and 2016 Dartmouth Atlas data to characterize the geographic market areas served by MCCM hospices and to select comparison hospices that were similar to MCCM hospices.

C.4. CAHPS HOSPICE SURVEY DATA

- CAHPS Hospice Survey data document the experiences of Medicare beneficiaries with care delivered by Medicare-certified hospices, as reported by caregivers, friends, and family members of deceased beneficiaries. We used CAHPS Hospice Survey data from

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[4] CMS. (2019). *Provider of Services Files.* Retrieved on September 5, 2019 from https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/Provider-of-Services/index.html.

[5] Dartmouth Atlas Data may be accessed at http://www.dartmouthatlas.org/.

hospices operating in 2016 to select matched comparison hospices that are similar to MCCM hospices.

C.5. PRIMARY DATA COLLECTED BY THE MCCM EVALUATION TEAM

- The MCCM evaluation team collects three types of primary data not available from Medicare administrative data and MCCM programmatic data. These data document organizational and operational characteristics of MCCM and comparison hospices, and the implementation experiences of staff and decedents who work in and are cared for in these hospices. Primary data collection activities include:
  - Qualitative interviews and site visits conducted in 2017 and 2018 (see **Appendix G**)
  - Organizational survey of MCCM and non-MCCM comparison hospices conducted in 2017 and 2018, and of MCCM hospices conducted only in 2018 (see **Appendix H**)
  - Caregiver survey of MCCM and non-MCCM decedents fielded in 2018 (see **Appendix I**)

Appendix D. Hospice, Market, and Beneficiary Characteristics

In this appendix we describe the specification of the measures of hospice, market, and beneficiary characteristics that we used to conduct the descriptive analyses presented in this report and to select matched comparison groups. . We also describe the data sources used to construct each measure and the rationale for their use.

D.1. HOSPICE CHARACTERISTICS

Below we include the measures that we used to 1) describe the characteristics of hospices participating in MCCM, and 2) select matched comparison hospices similar to hospices participating in MCCM, as shown in **Exhibit D.1**. For information on how we selected the comparison hospices, see **Appendix F.**

Exhibit D.1 Characteristics of MCCM Hospices and Comparison Hospices

Characteristic	Data Source[a]	Rationale	Description
Age	POS file[b]	The length of time that hospices have been in operation may be associated with implementation effectiveness, referral patterns, and patterns of care under MCCM.	Continuous measure of the year in which the hospice was initially certified to provide Medicare- and/or Medicaid-covered services.[c,d] We also specified hospice age as a categorical variable for the presentation of descriptive statistics as follows: • Founded in 1980s • Founded in 1990s • Founded in 2000s • Founded in 2010s
Census region	POS file[b]	Beneficiary preferences, case-mix, and care patterns may differ across geographic regions.	Categorical measure of the census region in which the hospice is located based on the United States Federal Information Processing Standards state code[e] corresponding to the hospice's mailing address: • Midwest (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin) • South (Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee) • Northeast (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont) • West (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming) • Other/unknown.
Chain affiliation	POS file[b]	Chain relationships may influence MCCM implementation and operations.	Categorical measure of whether the hospice is part of a: • State-based chain • Regional chain • National chain.
Duration of stay in hospice	Medicare claims	Duration of stay affects program costs and may serve as a proxy for case-mix, diagnosis type, and care type.	Continuous (0-100%) measure of the percentage of stays on MHB out of all stays that are[d]: • Under 7 days • Over 180 days. We used these measures to report the similarity of MCCM hospices and hospices in our matched comparison group. These cut points (less than 7 days and more than 180 days) inform whether MHB is serving its intended population, those with a 6- month prognosis.

Characteristic	Data Source[a]	Rationale	Description
Facility type	POS file[b]	Freestanding hospices may have different approaches than facility-based hospices in providing hospice care, and working with referring beneficiaries and caregivers.	Dichotomous (yes, no) measure of hospice type: • Freestanding • Facility-based.[e] We also used a categorical measure of the type of facility-based hospice based on affiliation with a: • Hospital • Skilled nursing facility • Nursing facility • Home health agency.
Hospice level of care[g]	Medicare claims	Level of care is associated with the intensity of services that hospices provide (e.g., general inpatient care and continuous home care are provided when the enrollee has more intensive care needs). Providing more intensive types of care is an indication that hospices are serving a population with greater needs.	Continuous (0-100%) measure of the percentage of days of MHB enrollment for each level of care[d]: • Continuous home care • General inpatient care • Inpatient respite care • Routine home care.
Hospice-level beneficiary demographics	Medicare Enrollment Database	Demographics of the beneficiaries enrolled in each hospice serve as a proxy for case-mix, preferences, and needs.	Continuous (0-100%) measure of the percentage of beneficiaries with each of the following demographics served by the hospice: • Female • White • Black • Hispanic • Asian • Other race • Ages under 65 • Ages 65-74 • Ages 75-84 • Ages 85+.[d,g]
Hospice enrollment duration	Medicare claims	Duration of MHB enrollment may be related to practice style, referral network characteristics, and enrollee characteristics.	Continuous (0-maximum) measure of the average duration of MHB enrollment in days for all beneficiaries enrolled in MHB.[d]
Non-hospice Medicare expenditures[g]	Medicare claims	Medicare expenditures outside of MHB serve as a proxy for non-hospice health care needs of beneficiaries, and may be correlated with the costs of providing hospice care.	Continuous ($0-maximum) measure of Medicare expenditures for care provided outside the hospice benefit while enrolled in MHB.[d,h]

Characteristic	Data Source[a]	Rationale	Description
Nursing home penetration	Medicare claims	Nursing home penetration helps characterize the types of patients typically served by the hospice.	Continuous (0-100%) measure of the percentage of routine home care days under MHB for beneficiaries residing in nursing homes (out of total routine home care days).[d]
Ownership	POS file[b]	Ownership may reflect the hospice's approach to carrying out MHB care, care philosophy, and underlying cost structures.	Categorical measure of the ownership type of the hospice provider.[i] Ownership-type codes used to construct these categories include: • Nonprofit 01 = Voluntary nonprofit – church 02 = Voluntary nonprofit – private 03 = Voluntary nonprofit – other • For-profit 04 = Proprietary – individual 05 = Proprietary – partnership 06 = Proprietary – corporation 07 = Proprietary – other • Government 08 = Government – state 09 = Government – county 10 = Government – city 11 = Government – city-county 12 = Combination of government and nonprofit • Other 13 = Other.
Quality of care ratings	Consumer Assessment of Healthcare Providers and Systems (CAHPS) Hospice Survey	Quality-of-care ratings may provide insight as to approaches hospices[f] use for care under MHB.	Continuous (0-100) measure of care quality from the CAHPS Hospice Survey in quarters 2 through 4 of 2015[a,h]: • Hospice team communication • Getting timely care • Overall rating.
Religious affiliation	POS file[b]	Hospices with a religious affiliation may carry out end-of-life care differently than those without this affiliation.	Dichotomous (yes, no) measure identifying whether the hospice has a religious affiliation.

Characteristic	Data Source[a]	Rationale	Description
Size	Medicare claims	Hospice size may affect a provider's ability to leverage resources and is also a proxy for average hospice costs.	Continuous (0-maximum) measure of the number of days of MHB services provided in FY 2015,[a,d] as defined by CMS for hospice payment and policy: https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-index-and-payment-rate-update-and-hospice-quality-reporting in Table 20. Size categories were based on the number of routine home care days the hospice provided MHB services in 2015 (the year before MCCM began): • Small: 0-3,499 routine home care days • Medium: 3.500-19,999 routine home care days • Large: 20,000 or more routine home care days

Note:

[a] For development of the hospice comparison group, we measured size on a fiscal year basis to provide a three-month "wash-out" period between September 30, 2015 and January 1, 2016, the MCCM start date, in order to limit the potential for anticipatory changes in service provision implemented prior to the start of MCCM that may confound estimates of MCCM impacts.

[b] We used the POS file from December 2015, which represents the year before MCCM implementation. We chose this year so that MCCM participation would not confound hospice characteristics in ways that may bias estimates of MCCM impacts. For eight new hospices in 2016, we used information in the POS file from December 2016.

[c] Based on the year in which the hospice was first approved to provide Medicare and/or Medicaid services, we constructed a variable that is equal to the year of CMS certification minus year 1982.

[d] For selection of the comparison hospices, in addition to the continuous variable, we included two variables: An indicator that is equal to one for all values exceeding the median (and zero otherwise), and an interaction between the comparison and indicator variables. This approach allowed us to account for a potentially nonlinear relationship between participation in MCCM and market characteristics (**Appendix F**).

[e] The U.S. Federal Information Processing Standards to census region crosswalk is available at: https://www2.census.gov/programs-surveys/popest/geographies/2011/state-geocodes-v2011.xls. When we identified comparison hospices that were similar to MCCM hospices (**Appendix F**), we stratified our matching algorithm by this characteristic (i.e., we matched each MCCM hospice to a comparison hospice that is identical in terms of this characteristic).

[f] Medicare expenditures outside the hospice benefit did not exist for 268 new hospices in 2015 and 2016, out of the total 4,162 hospices in the analysis. For these hospices, we estimated expenditures based on mean expenditures in hospices of the same ownership type, freestanding status, and data from hospices that serve the most beneficiaries from the same hospital referral region. For the 14 hospices that were missing ownership and status information, we estimated expenditures based on mean expenditures among hospices in the same hospital referral region.

[g] When demographic data were missing in FY2015 and information from FY2014 was available (for 39 of the 4,162 hospices in the analysis), we used information from FY2014. When information from FY2015 and FY2014 were not available (two hospices), we used information from FY2016. Whenever possible, we used information for FY2015, which represents the last year before MCCM implementation.

[h] Quality-of-care information was not available for 527 hospices with 10 or fewer respondents. We created a "missing" data indicator for the purpose of selecting comparison hospices.

[i] When using this variable in the selection of the comparison hospices, we combined the "other" and "government" hospices under a single category.

CMS = Centers for Medicare & Medicaid Services, FY = fiscal year, MHB = Medicare hospice benefit, POS = Provider of Services.

D.2. MARKET CHARACTERISTICS

We used publicly available data generated by the Dartmouth Atlas Project (referred to throughout as Dartmouth Atlas) to describe the characteristics of the markets served by MCCM hospices and to select a comparison group of similar hospices.[6] The Dartmouth Atlas defines geographically based health care markets using the concept of a hospital referral region (HRR). An HRR is a contiguous geographic region with a minimum population size of 120,000 individuals and contains at least one hospital that performs major cardiovascular procedures and neurosurgery.[7] The Dartmouth Atlas then uses CMS Medicare and Medicaid data files, including the Medicare Provider Analysis and Review (MedPAR), Part B, and outpatient claims data files, to analyze utilization, cost, and health outcomes within the HRRs.

To define hospice markets, we gathered the ZIP codes of all individuals enrolled in the Medicare hospice benefit in the United States in 2014, counted the number of beneficiary-ZIP code combinations served by each hospice in the United States and assigned the hospice to the HRR that contained the largest share of beneficiary ZIP codes. We then downloaded and tabulated data describing the characteristics of each HRR from the Dartmouth Atlas website, as shown in **Exhibit D.2**. For more information on how we determined comparison hospice markets, see **Appendix F.3.1**.

6 See the Dartmouth Atlas Project, Understanding Geographic Variations in Health Care. https://www.dartmouthatlas.org/. Accessed November 25, 2019.

7 Dartmouth Atlas Project, Appendix on the Geography of Health Care in the United States. https://www.dartmouthatlas.org/downloads/methods/geogappdx.pdf. Accessed November 25, 2019.

Exhibit D.2 Characteristics of MCCM and Comparison Hospice Markets

Characteristic	Data Source	Rationale	Description
Deaths occurring in hospital	Dartmouth Atlas, hrr_eolchronic_dead6699ffs file	Deaths occurring in a hospital may reflect geographic practice style, beneficiary health status, and preferences for end-of-life care	Continuous (0-100%) measure of the percentage of deaths occurring in a hospital as documented in the 100% MedPAR file for Medicare FFS beneficiaries during the measurement period.
Home health agency reimbursements per decedent	Dartmouth Atlas, hrr_stdprices_ffs file	HHA reimbursement may reflect geographic practice style, beneficiary health status, and preferences for end-of-life care	Continuous ($0-maximum) measure of risk-adjusted, per-decedent spending from the 100% HHA files for Medicare FFS beneficiaries during the last two years of life.
Hospice reimbursements per decedent	Dartmouth Atlas, hrr_eolchronic_dead6699ffs file	Hospice reimbursement may reflect the financial status of hospices and beneficiary access to end-of-life care	Continuous ($0-maximum) measure of risk-adjusted, per-decedent spending from the 100% hospice file for Medicare FFS beneficiaries during the last two years of life.
Hospice reimbursements per enrollee	Dartmouth Atlas, hrr_stdprices_ffs file	Hospice reimbursement may reflect the financial status of hospices and beneficiary access to end-of-life care	Continuous ($0-maximum) measure of risk-adjusted, annual per beneficiary spending from the 100% hospice file for Medicare FFS beneficiaries enrolled in hospice during the measurement period.
Hospital and skilled nursing facility reimbursements per decedent	Dartmouth Atlas, hrr_stdprices_ffs file	Hospital and skilled nursing facility reimbursements may reflect geographic practice style, beneficiary health status, and preferences for end-of-life care	Continuous ($0-maximum) measure of risk-adjusted, per-decedent spending from the 100% MedPAR file for Medicare FFS beneficiaries during the last two years of life.
Hospital care intensity index	Dartmouth Atlas, hrr_eolchronic_dead6699ffs file	This index may reflect geographic practice style, beneficiary health status, and preferences for end-of-life care	Continuous (0-maximum) measure of the amount of time spent in the hospital and the intensity of physician intervention during hospitalization, based on two variables: The number of days spent in the hospital and the number of inpatient physician visits experienced. For each variable, Dartmouth Atlas computes the ratio to the national average, and the index represents the simple average of these two ratios for Medicare FFS beneficiaries during the last two years of life.
Inpatient days per Medicare enrollee	Dartmouth Atlas, hrr_medutil_6599ffs file	Inpatient hospital reimbursements may reflect geographic practice style, beneficiary health status, and preferences for medical care	Continuous (0-maximum) measure of the number of inpatient days per Medicare FFS beneficiary from 100% MedPAR file during the measurement period.

Characteristic	Data Source	Rationale	Description
Intensive care unit days per decedent	Dartmouth Atlas, hrr_eolchronic_dead6699ffs file	Total intensive care unit days may reflect geographic practice style, beneficiary health status, and preferences for end-of-life care	Continuous (0-maximum) measure of the number of intensive care days divided by the number of Medicare FFS beneficiaries during the last two years of life from the 100% MedPAR files.
Medicare reimbursements per decedent	Dartmouth Atlas, hrr_eolchronic_dead6699ffs file	Medicare reimbursement per decedent may reflect geographic practice style, beneficiary health status, and preferences for end-of-life care	Continuous ($0-maximum) measure of the sum of per-decedent spending rates from the combined 100% MedPAR, HHA, hospice, durable medical equipment Part B, and outpatient files for Medicare FFS beneficiaries during the last two years of life.
Mortality among Medicare enrollees	Dartmouth Atlas, hrr_mortality_dead6599ffs file	Mortality rates may reflect geographic practice style, beneficiary health status, and preferences for end-of-life care	Continuous (0-100%) percentage of Medicare FFS beneficiaries who died during the measurement period.
Physician visit reimbursements per decedent	Dartmouth Atlas, hrr_eolchronic_dead6699ffs file	Payments for physician visits per decedent may reflect geographic practice style, beneficiary health status, and preferences for end-of-life care	Continuous ($0-maximum) measure of the sum of per-decedent spending from the 100% Part B and outpatient files for Medicare FFS beneficiaries during the last two years of life.
Physician visits per decedent	Dartmouth Atlas, hrr_eolchronic_dead6699ffs file	Physician visits per decedent may reflect geographic practice style, beneficiary health status, and preferences for end-of-life care	Continuous (0-maximum) measure of the number of all visits with an evaluation and management claim in the Part B file, and visits in federally qualified health centers and rural health centers in the outpatient file during Medicare FFS beneficiaries' last two years of life.

Note: To assign market characteristics to hospices, we first assigned hospices to hospital referral regions (HRRs) based on the most frequent HRR among their beneficiaries in 2014, which corresponds to the first year of participation in MCCM. We verified that the results from this analysis would be similar had we assigned hospices to HRRs based on 2015 data. When 2016 HRR information was missing and information for 2015 was available (158 out of 4,162 hospices in the analysis), we assigned hospices to HRRs based on the 2015 data. When HRR information in both 2016 and 2015 was missing, and 2014 data were available (41 hospices), we assigned hospices to HRRs based on the 2014 data. For all imputations, when two HRRs in the same year tied as the most frequent, we chose a single HRR at random. In the resulting data, 44 hospices were not assigned an HRR. Approximately 92% of hospices had at least 50% of their days in 2016 in a single HRR, and 72% of hospices had at least 75% of their days in a single HRR. We made no further imputations for these hospices. Medicare utilization, expenditures, and mortality rates were adjusted for age, sex, and race by the Dartmouth Atlas. For descriptions of variables found in documentation provided by the Dartmouth Atlas, see: http://www.dartmouthatlas.org/tools/faq/researchmethods.aspx.

FFS = fee-for-service; HRR = hospital referral region, ICU = intensive care unit, MedPAR = Medicare Provider Analysis and Review.

D.3. BENEFICIARY CHARACTERISTICS

Below we specify the measures that we used to 1) describe the characteristics of beneficiaries enrolled in MCCM, and 2) select a comparison group of beneficiaries eligible for but not enrolled in MCCM, as shown in **Exhibit D.3**. For information on how we selected the comparison group of MCCM-eligible decedents not in MCCM, see **Section F.3**.

Exhibit D.3 Characteristics of MCCM Enrollees and MCCM-Eligible Decedents Not in MCCM

Characteristic	Data Source	Description
Age	MCCM portal and Medicare Enrollment Database/Master Beneficiary Summary file	Continuous (0-maximum) and categorical (0-64, 65-74, 75-84, and 85+)[a] measure of the beneficiary's age , calculated as the MCCM enrollment date less the date of birth for MCCM enrollees, and six months before death less the date of birth for the comparison group comprising MCCM-eligible decedents.
Caregiver availability	MCCM portal	Categorical measure of five types of caregiver relationships reported at the time of MCCM enrollment (2016-2017) or the earliest measure recorded during an encounter (2018-present): • Spouse • Child/children • Paid caregiver other than family member • Other • No caregiver. These data are available only for MCCM enrollees.
Census region	Medicare Enrollment Database/Master Beneficiary Summary file	Categorical measure of the census region of the state listed in the beneficiary's mailing address during the measurement year. Categories used include: • South (Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee) • Midwest (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin) • Northeast (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont) • West (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming) • Other/unknown.

Characteristic	Data Source	Description
Centers for Medicare & Medicaid Services hierarchical condition category risk score	Medicare Enrollment Database/Master Beneficiary Summary file	Continuous [0-maximum) measure of future healthcare costs based on the ratio of predicted-to-actual Medicare fee-for-service expenditures by demographic characteristics and reason for Medicare entitlement, Medicaid enrollment, and clinical conditions.[b] The minimum score is bounded by zero. Higher scores indicate a more severe illness. We used the risk score from the most recent year prior to describe beneficiary health status.
Comorbidity	Chronic Conditions Warehouse	Continuous measure (0-100%) of the prevalence of the five most-common chronic conditions among MCCM enrollees as documented in the Chronic Conditions Data Warehouse (CCW) [c]: • Hypertension • Hyperlipidemia • Anemia • Ischemic heart disease • Chronic kidney disease.
Dual eligibility	Medicare Enrollment Database/Master Beneficiary Summary file	Dichotomous (yes, no) indicator that identifies whether the beneficiary is dually eligible for both Medicare and Medicaid during the measurement year.
Functional status	MCCM portal	Categorical measure of functional status at the time of MCCM enrollment (2016-2017) or during the earliest encounter that included a functional assessment (2018-present): • Independent: Able to carry on normal activity and no special care needed, and able to carry on normal activity with effort (these two categories were combined into one in 2018) • Needs some assistance • Dependent requiring considerable assistance and frequent care • Disabled and requires special care and assistance. These data are available only for MCCM enrollees.
Gender	Medicare Enrollment Database/Master Beneficiary Summary file	Dichotomous (male, female) indicator of the administratively recorded gender of MCCM enrollees and MCCM-eligible decedents not in MCCM.

Characteristic	Data Source	Description
Ineligibility indicator	MCCM portal	Dichotomous (0-1) indicator used to assess MCCM eligibility as listed in the November 18, 2018 MCCM Resource Manual for each of the following criteria: • Enrolled in Medicare Part A as primary insurance for the past 12 months • Enrolled in Medicare Part B as primary insurance for the past 12 months • Not enrolled in a Medicare-managed care plan such as Medicare Advantage, Health Care Pre-Payment Plan, or Program of All-inclusive Care for the Elderly • Certification by the community provider of six months or fewer to live if the end-stage condition runs its usual course in accordance with §418.22, co-signed by the hospice medical director • Given a diagnosis as identified by certain International Classification of Disease 10 codes for advanced cancer, COPD, HIV/AIDS, or CHF (each condition is recorded separately) • Had at least one hospital encounter in the last 12 months for emergency department visit, observation stay, or admission • Had at least three office visits with any Medicare-certified provider within the last 12 months • Has not elected the Medicare hospice benefit within the last 30 days • Lives in a traditional home and has continuously for the last 30 days • Patient's address is within the service area of the participating hospice. These data are available only for MCCM enrollees. We used Medicare claims data to simulate MCCM eligibility in the comparison group.
Living arrangement	MCCM portal	Dichotomous (0-1) indicator of living arrangement: • Lives with other person(s) • Lives alone. These data are available only for MCCM enrollees.
Location: Urban/rural	Medicare Enrollment Database/Master Beneficiary Summary file	Dichotomous (urban, rural) measure that identifies whether the beneficiary was a resident of a county that was included in a core-based statistical area as defined by the Office of Management and Budget.
Marital Status	MCCM portal	Categorical measure of marital status: • Never married • Married • Partner • Widowed • Divorced • Declined to report These data are available only for MCCM enrollees.
MCCM enrollment date	MCCM portal	Date of MCCM enrollment. These data are available only for MCCM enrollees.
MCCM screening date	MCCM portal	Date on which the MCCM hospice screened the beneficiary for MCCM eligibility. These data are available only for MCCM enrollees.

Characteristic	Data Source	Description
MCCM enrollment status	MCCM portal	Categorical measure of the enrollment status of Medicare beneficiaries referred to MCCM and MCCM enrollees: • Enrolled in MCCM • Declined to enroll in MCCM • Enrolled in MHB • Died prior to completing enrollment. These data are available only for MCCM enrollees.
MCCM-qualifying diagnosis	MCCM portal and Medicare claims	Dichotomous (0-1) indicator of MCCM-qualifying diagnoses based on 1,563 CMS-specified ICD-10 codes listed in the MCCM Resource Manual: – Cancer: C00.0-C96.9, C96.Z, D03 – Chronic obstructive pulmonary disorder: J43.0, J43.1, J43.2, J43.8, J43.9, J44.0, J44.1, J44.9, J47.0, J47.1, J47.9 – Congestive heart failure: I11.0, I13.0, I50.1-I50.43, I50.9 – Human immunodeficiency virus/acquired immune deficiency syndrome: B20-B24 • For MCCM enrollees, we used ICD-10 diagnostic codes reported by hospices in the MCCM portal at the time beneficiaries enrolled in the model. • For the comparison group of Medicare beneficiaries without MCCM portal records, we used a probabilistic model to identify a qualifying diagnosis recorded on claims. See **Section F.3** for more detail.
Race/ethnicity	Medicare Enrollment Database/Master Beneficiary Summary file	Categorical measure of race/ethnicity: • White • Black • Hispanic • Other.
Reason for declining MCCM	MCCM portal	Categorical measure of reasons for declining MCCM: • Not ready for palliative care • Declined care coordination • Declined staff in home • Other reason. These data are available only for MCCM enrollees.
Reason for disenrollment from MCCM	MCCM portal	Categorical measure of reasons for disenrollment from MCCM: • No longer terminally ill • Dissatisfaction with program • Declined to provide reason • Other. These data are available only for MCCM enrollees.
Reason for discharge from MCCM	MCCM portal	Categorical measure of reasons for discharge from MCCM: • Elected MHB • Died • Requested voluntary discharge from MCCM • Moved out of hospice service area • Resided in long-term nursing facility for more than 90 days • Discharged for cause • Transferred to another MCCM hospice • Other. These data are available only for MCCM enrollees.

Characteristic	Data Source	Description
Specialty of referring provider	MCCM portal	Categorical measure of the specialty of the referring provider; one of the following: • Oncology • Internal medicine • Family practice medicine • Cardiology • Pulmonology • Palliative care • Hematology • Endocrinology • Gastroenterology • Gynecology • Immunology • Infectious disease • Neurology • Pain management • Radiology • Urology • Other specialist. We assessed open-text responses for "other" specialty and matched the provider to specialties on the list, in particular, palliative care specialists. These data are available only for MCCM enrollees.

Note

[a] The small number of enrollees under age 65 (2.1% of enrollees to date are under 55) and over age 85 (2.6% are 95 and older) did not merit differentiating by age within those categories.

[b] A detailed description of the methodology used to form and update hierarchical conditions categories can be found at https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/RTC-Dec2018.pdf.

[c] A detailed description of the algorithms used to identify chronic conditions in the CCW can be found at https://www2.ccwdata.org/web/guest/condition-categories

CHF = congestive heart failure, COPD = chronic obstructive pulmonary disorder, HIV/AIDS = human immunodeficiency virus/acquired immune deficiency syndrome, MHB = Medicare hospice benefit, ICD-10 = International Classification of Disease 10 codes.

Appendix E. Service Delivery and Quality Measures

In this appendix we describe Medicare Care Choices Model (MCCM) service delivery measures, which include the frequency and types of services reported by MCCM hospices in the MCCM portal's Service and Activity Log; Medicare utilization and expenditures recorded in claims; and duration of MCCM and Medicare hospice benefit (MHB) enrollment derived from both sources. Additionally, we describe the quality measures that we used to evaluate the fidelity of MCCM in improving beneficiary and caregiver quality of life and quality care.

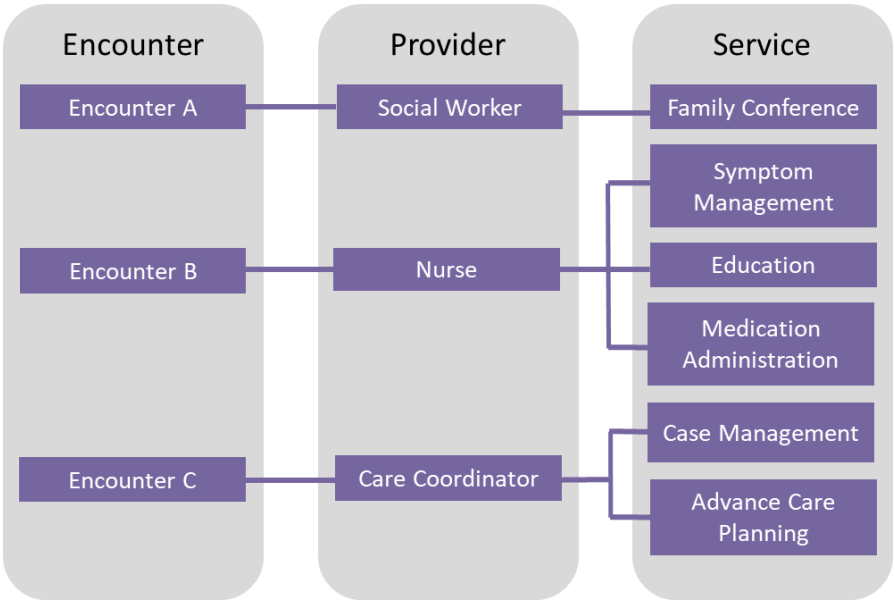
E.1. MEASURING CARE RECEIVED BY MCCM ENROLLEES

MCCM hospices record the services and activities received by MCCM enrollees and their caregivers in the MCCM portal. The MCCM portal is a secure, online website for entering structured data describing three distinct components of MCCM-delivered care depicted in **Exhibit E.1**. These care components include:

- **Encounters:** Meetings during which an MCCM hospice staff member acts on behalf of an MCCM enrollee or caregiver/family member. Meetings may take place in person, by phone, or online in the form of a visit, after-hours triage care, or interdisciplinary group meeting.
- **Providers**: Professionals or volunteers who deliver MCCM services to enrolled beneficiaries.
- **Services**: Types of care that occur during the encounters; typically, multiple services are delivered during a single encounter by a single provider.

When compiled, these data comprehensively describe the care provided by MCCM hospice staff to enrolled beneficiaries.

Exhibit E.1 Relationships among Components of MCCM-Delivered Care



Below we specify the measures that we used to describe the services and activities provided by MCCM hospice staff, as shown in **Exhibit E.2.** Revisions to the MCCM portal effective January 1, 2018 included changes to the data elements noted in the exhibit below, for example the method of recording of interdisciplinary group (IDG) meetings and initial and comprehensive assessments.

Exhibit E.2 Services and Activities Reported by Hospices in the MCCM Portal

Measure	Data Source	Description
Length of enrollment	MCCM portal	Continuous (0-maximum) measure calculated as the MCCM discharge date minus the MCCM enrollment date plus one (e.g., a person discharged on his or her admission day would have an enrollment length of one day, a person discharged the day after his or her enrollment day would have an enrollment length of two days).
Encounter[a]		
Encounter date	MCCM portal	Date on which MCCM hospice staff performed an action on behalf of an MCCM enrollee or caregiver/family member.
Encounters per month	MCCM portal	Continuous (0–maximum) measure of the total number of encounters for an enrollee first divided by that enrollee's length of MCCM enrollment, producing a daily rate of encounters, then multiplied by 30 to create a monthly rate of encounters.
Location	MCCM portal	Categorical measure of the location of encounter: • Beneficiary's home/residence • Skilled nursing facility • Inpatient rehabilitation facility • Inpatient hospital • Inpatient psychiatric facility • Place not otherwise specified.

Measure	Data Source	Description
Service delivery mode	MCCM portal	Categorical measure of service delivery mode for encounter: • Phone (clinical/support) • In person (home or community) • Mail • Video conferencing • Phone (administrative) • Email.
Provider type	MCCM portal	Categorical measure of the professional affiliation of the service provider for encounter: • MCCM RN care coordinator • Hospice RN/licensed practical nurse (LPN) • Nurse practitioner • Nursing aide • Hospice physician • Social worker • Pharmacist • Chaplain • Volunteer • Nutritional counselor • Bereavement counselor • Other spiritual counselor • Art therapist • Music therapist • Massage therapist • Pet therapist • Additional therapist • Administrative/non-clinical.
Recipient	MCCM portal	Categorical measure of the receipt of the encounter (one or more of the following): • Beneficiary • Family member • Paid/unpaid caregiver.
Encounter type		
First visit	MCCM portal	Dichotomous (yes, no) indicator designating whether the visit was the first visit.
Follow-up visit	MCCM portal	Dichotomous (yes, no) indicator designating whether the visit was a follow-up visit.
Post-inpatient discharge	MCCM portal	Dichotomous (yes, no) indicator designating whether the visit was a post-inpatient discharge.
Inpatient coordination of care	MCCM portal	Dichotomous (yes, no) measure designating whether the visit was related to inpatient coordination of care.
After-hours triage	MCCM portal	Dichotomous (yes, no) measure designating whether the visit was for after-hours triage care.

Measure	Data Source	Description
IDG meeting	MCCM portal	Dichotomous (yes, no) measure designating whether the encounter was an IDG meeting. • During 2016-June 2017, the portal did not systematically collect IDG meetings, which are also referred to as interdisciplinary team meetings by hospices • As of July 1, 2017, the Centers for Medicare & Medicaid Services instructed hospices to record IDG meetings by selecting "other" service type and writing "interdisciplinary group" or "IDG" in the open-text description. • Starting in 2018, the portal directly captured IDG meetings using a checkbox.
Service type[b]		
Advance care planning	MCCM portal	January 1, 2016 through December 31, 2017: Dichotomous (yes, no) indicator of the response to the question: *Was the patient asked about advance care planning such as goals of care, treatment preferences, transition to hospice, appointing a health care agent, etc.?* Starting January 1, 2018: Categorical measures of 2-part responses to the question: Part 1: *Was the patient asked about advance care planning such as goals of care, treatment preferences, transition to hospice, appointing a health care agent, etc.?* • No • Yes, and discussion occurred • Yes, but the enrollee refused to discuss • Yes, but enrollee is unable and party/caregiver refused to discuss Part 2: *If no, reason there was no counseling about advance care planning*: • Declined to discuss • Enrollee unable to discuss/participate • Outside hospice team member scope of practice • Other [free text]

Measure	Data Source	Description
Assessment	MCCM portal	Categorical measure of the timing of the administration of assessments of enrollee symptoms, health status, and psychological well-being: • 48-hour initial assessment • Comprehensive assessment within 5 days of admission • Subsequent comprehensive assessment that occurs every 15 days. January 1, 2016 through December 31, 2017: Because the assessment type was not differentiated in the original portal between 2016 and 2017, we developed a decision rule to determine the type of assessment. To do this, we assumed that an encounter was an initial assessment if: • The service type was "initial" and the encounter date was the same as the "date of completion of comprehensive assessment" reported on the enrollee baseline form from the MCCM portal. This may identify some visits as comprehensive assessments when they are not, as some hospices used "initial" service type to record the first visit by a discipline (e.g., RN/LPN) rather than the first visit for an enrollee. • The assessment was performed by an MCCM care coordinator, RN/LPN, nurse practitioner, or hospice physician; was in-person (including at a facility bedside); was provided to the enrollee (not a family member or caregiver); and occurred after a change in the enrollee's health status, a hospitalization, or an emergency department visit. Starting January 1, 2018: Hospices report initial and comprehensive assessments in the portal.
Bereavement support	MCCM portal	Dichotomous indicator of family and caregiver receipt of bereavement support: • Pre-death • Post-death.
Care coordination	MCCM portal	Categorical measure of ways that hospice staff coordinate with a wide range of professionals affiliated with outside entities about the health of MCCM enrollees during an encounter: • Primary care provider • Physician specialist • Palliative care provider • Home health agency • Other. This information is recorded at the encounter level. Only one provider type can be selected.
Counseling	MCCM portal	Categorical measure of type of counseling provided: • Nutritional • Psychological/emotional • Spiritual • Other.
Education	MCCM portal	Dichotomous (yes, no) indicator of whether education occurred.
Family conference	MCCM portal	Dichotomous (yes, no) indicator of whether a family conference occurred.
Homemaker services	MCCM portal	Dichotomous (yes, no) indicator of whether homemaker services were delivered.

Measure	Data Source	Description
Medication administration	MCCM portal	Dichotomous (yes, no) indicator of whether medication administration occurred.
Shared decision making	MCCM portal	Dichotomous (yes, no) indicator of whether shared decision making occurred.
Symptom management	MCCM portal	Dichotomous (yes, no) indicator of whether symptom management occurred.
Supportive/active listening	MCCM portal	Dichotomous (yes, no) indicator of whether supportive/active listening occurred.
Transitional planning	MCCM portal	Dichotomous (yes, no) indicator of whether transitional planning occurred.
Wound care	MCCM portal	Dichotomous (yes, no) indicator of whether wound care occurred.
Other	MCCM portal	Dichotomous (yes, no) indicator of whether other types of services were delivered.
Treatment preferences		
Treatment preferences updated	MCCM portal	Dichotomous (yes, no) measure for each treatment if preferences were updated: • Do not resuscitate • Do not intubate • Do not hospitalize • Antibiotic restrictions • Comfort care preferences • Parenteral nutrition preferences • Tube feeding preferences • Intravenous hydration preferences • Other In 2016-2017, the portal asked whether the hospice followed the patient's treatment preferences, but did not record the preferences. In 2018-present, the portal collects information about whether each treatment preference has been documented in the MCCM clinical record.

Note

[a] Encounter refers to any action by an MCCM provider to or for an MCCM enrollee or caregiver/family member.

[b] In 2016-2017, hospices could attribute multiple providers to an encounter but could not specify which provider performed which service. Thus, a single service may be attributed to multiple providers (i.e., be double-counted). In 2018-present, hospices can only attribute a single provider to an encounter, so each service is attributed to just one provider. Thus, data from 2016 to 2017 may result in a greater number of total services than data from 2018 to the present when summing across multiple providers.

IDG = interdisciplinary group, LPN = registered practical nurse, RN = registered nurse.

E.2. MEASURING MCCM QUALITY OF CARE

We used the portal-recorded data elements described above in **Section E.1** to measure the quality of care received by enrollees under MCCM. To do this, we adapted 11 specifications of National Quality Forum (NQF)-endorsed measures of advance care planning,[8] bowel regimen initiation, shortness-of-breath screening, shortness-of-breath treatment, pain management, pain outcomes, pain screening, and spiritual and religious discussions. We describe these measure specifications in **Exhibit E.3**.

Our overall population for measurement was Medicare beneficiaries enrolled in MCCM between January 1, 2016 and June 30, 2018 with 7 or more days of MCCM enrollment. This restriction helped to ensure that hospice staff had time to conduct measured screenings in a manner consistent with the delivery of high-quality hospice care. We also excluded hospices with 10 or fewer enrollees on a measure-specific basis in order to ensure that the measure results we reported were stable and reliable.

We then applied measure-specific numerator and denominator exclusions to reflect clinically appropriate standards of practice. For instance, the MCCM advance care planning quality measure excludes encounters where an enrollee or caregiver could not respond to screening questions or refused care. We describe the measure-specific exclusions in **Exhibit E.3**, such as encounters where an enrollee declines or was unable to discuss the screening topic. Differences in the application of measure-specific denominator exclusions that contributed to the variation in sample sizes are presented in **Section 6** in the main report.

[8] The NQF measure of advance care planning that we adapted did include documentation of patient preferences regarding do not resuscitate and do not hospitalize orders. We report data on documentation of these orders separately in **Section 6.2**.

Exhibit E.3 Specifications for MCCM Quality Measures

Measure	Data Source	Description	NQF Endorsement	MCCM Numerator	MCCM Denominator
Advance care planning	MCCM portal	Percentage of eligible MCCM encounters in which the enrollee and/or responsible party/caregiver was asked about advance care planning	Adaptation of NQF 1641: Treatment Preferences; the enrollee/ responsible party was asked about preference regarding the use of cardiopulmonary resuscitation, life-sustaining treatments other than cardiopulmonary resuscitation, and hospitalization	Number of eligible MCCM encounters in which the enrollee and/or responsible party/caregiver was asked about advance care planning.	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM for at least seven days[a]: • Care coordinator, RN/LPN, NP, or physician provided encounter • Encounter occurred during in-person visit or at facility bedside • Encounter occurred within the first seven days of MCCM enrollment • Encounter occurred during an initial assessment, a subsequent comprehensive assessment, or a visit following a change in the enrollee's status, planned ED visit/hospitalization, or unplanned ED visit/hospitalization. We removed the encounter from the denominator if the enrollee declined to discuss or was unable to discuss.
Bowel regimen initiation	MCCM portal	Percentage of eligible MCCM encounters in which the enrollee treated with an opioid had a bowel regimen initiated	Adaption of NQF 1617: Patients Treated with an Opioid Who Are Given a Bowel Regimen; percentage of vulnerable adults treated with an opioid that are offered and/or prescribed a bowel regimen or documentation of why this was not needed	Number of eligible MCCM encounters in which the enrollee was treated with an opioid and had a bowel regimen initiated or was already on a bowel regimen. Unlike NQF 1617, there are no exclusions related to use of opioids prescribed in outpatient settings prior to enrollment in MCCM.	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Care coordinator, RN/LPN, NP, or physician provided encounter • Encounter occurred during an in-person visit or at facility bedside • Enrollee received services during a 48-hour initial assessment or a visit following a change in the enrollee's status • Enrollee was using opioids at the time. We removed the encounter from the denominator if a medical reason was provided as to why a bowel regimen for opioids was not needed (underlying medical condition) or why the MCCM enrollee did not want to take the scheduled opioids.

Measure	Data Source	Description	NQF Endorsement	MCCM Numerator	MCCM Denominator
Bowel regimen outcomes	MCCM portal	Percentage of eligible MCCM encounters in which the bowel regimen was effective	Not an NQF-endorsed measure	Number of eligible MCCM encounters in which the bowel regimen was effective	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Care coordinator, RN/LPN, NP, or physician provided encounter • In-person visit or at facility bedside • Enrollee must be the recipient of services, which occurred during a 48-hour initial assessment or a visit following a change in the enrollee's status • Enrollee must currently use opioids • MCCM hospice initiated the bowel regimen for the patient If the provider responded that the current bowel regimen was not effective for the enrollee, we removed the encounter from the denominator if the reason was that it was "too soon to determine." This outcome measure is available only for services recorded on or after January 1, 2018.
Dyspnea (shortness of breath) screening	MCCM portal	Percentage of eligible MCCM encounters in which the enrollee was screened for shortness of breath	Adaption of NQF 1639: Hospice and Palliative Care – Dyspnea Screening; percentage of hospice or palliative care enrollees who were screened for dyspnea during the hospice admission evaluation/ palliative care initial encounter	Number of eligible MCCM encounters in which the hospice screened the enrollee for shortness of breath.	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Care coordinator, RN/LPN, NP, or physician provided encounter • In-person visit or at facility bedside • Enrollee must be the recipient of services, which occurred during a 48-hour initial assessment or a visit following a change in the enrollee's status. We removed the encounter from the denominator if the provider gave the following reasons for not screening the enrollee for a condition: • Declined to discuss • Declined to acknowledge condition • Unable to respond.

Measure	Data Source	Description	NQF Endorsement	MCCM Numerator	MCCM Denominator
Dyspnea (shortness of breath) treatment	MCCM portal	Percentage of eligible MCCM encounters in which treatment was initiated when the enrollee was experiencing shortness of breath	Adaption of NQF 1638: Hospice and Palliative Care – Dyspnea Treatment; percentage of enrollees who screened positive for dyspnea and received treatment within 24 hours of screening	Number of eligible MCCM encounters in which treatment was initiated when the enrollee was experiencing shortness of breath.	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Care coordinator, RN/LPN, NP, or physician provided encounter • In-person visit or at facility bedside • Enrollee must be the recipient of services, which occurred during a 48-hour initial assessment or a visit following a change in the enrollee's status • MCCM hospice diagnosed the enrollee with dyspnea. We removed the encounter from the denominator if the reason that treatment for dyspnea was not given was that the enrollee declined treatment intervention.
Dyspnea (shortness of breath) outcomes	MCCM portal	Percentage of eligible MCCM encounters in which the treatment reduced shortness of breath	Not an NQF-endorsed measure	Number of eligible MCCM encounters in which the treatment was effective at reducing shortness of breath	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Care coordinator, RN/LPN, NP, or physician provided encounter • In-person visit or at facility bedside • Enrollee must be the recipient of services, which occurred during a 48-hour initial assessment or a visit following a change in the enrollee's status • Enrollee was diagnosed with dyspnea • MCCM hospice treated the patient for shortness of breath If the provider responded that treatment for dyspnea did not improve the enrollee's breathing, we removed the encounter from the denominator if the reason was that it was "too soon to determine." This outcome measure is available only for services recorded on or after January 1, 2018.

Measure	Data Source	Description	NQF Endorsement	MCCM Numerator	MCCM Denominator
Pain management	MCCM portal	Percentage of eligible MCCM encounters in which the enrollee screened positive for pain (mild, moderate, or severe) and had a pain management plan established or already in place	Adaption of NQF 1637: Hospice and Palliative Care – Pain Assessment; percentage of hospice or palliative care enrollees who screened positive for pain and received a clinical assessment of pain within 24 hours of screening	Number of eligible MCCM encounters in which the enrollee screened positive for pain (mild, moderate, or severe) and had a pain management plan established or already in place.	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Care coordinator, RN/LPN, NP, or physician provided encounter • In-person visit or at facility bedside • Enrollee must be the recipient of services, which occurred during a 48-hour initial assessment or a visit following a change in enrollee's status • Enrollee was screened for pain • Enrollee had mild, moderate, or severe pain • Provider initiated a pain management plan or the enrollee was already on a plan.
Pain outcomes	MCCM portal	Percentage of eligible MCCM encounters in which the treatment was effective at reducing pain	Adaption of NQF 0209: Comfortable Dying: Pain Brought to a Comfortable Level within 48 Hours of Initial Assessment; percentage of enrollees who reported being uncomfortable because of pain at the initial assessment and who, at the follow-up assessment, reported the pain was brought to a comfortable level within 48 hours	Number of eligible MCCM encounters in which the treatment was effective at reducing pain. Note that this is a departure from NQF 0209 in that this analysis did not examine the time sequence.	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Care coordinator, RN/LPN, NP, or physician provided encounter • In-person visit or at facility bedside • Enrollee must be the recipient of services, which occurred during a 48-hour initial assessment or a visit following a change in enrollee's status • Enrollee was screened for pain • Enrollee had mild, moderate, or severe pain • Provider initiated a pain management plan or enrollee must already be on a plan. We removed the encounter from the denominator if the reason given that the pain was not at an acceptable level was that the enrollee declined pain intervention. We removed the encounter from the denominator if the reason given that pain management did not achieve the patient's comfort goals was that it was "too soon to determine."

Measure	Data Source	Description	NQF Endorsement	MCCM Numerator	MCCM Denominator
Pain screening	MCCM portal	Percentage of eligible MCCM encounters in which the enrollee was screened for pain	Adaption of NQF 1634: Hospice and Palliative Care – Pain Screening; percentage of hospice or palliative care enrollees who were screened for pain during the hospice admission evaluation/ palliative care initial encounter	Number of eligible MCCM encounters in which the hospice screened the enrollee for pain.	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Care coordinator, RN/LPN, NP, or physician provided encounter • In-person visit or at facility bedside • Enrollee must be the recipient of services, which occurred during a 48-hour initial assessment or a visit following a change in the enrollee's status. We removed the encounter from the denominator if the provider gave the following reasons for not screening the enrollee for a condition: • Declined to discuss • Declined to acknowledge condition • Unable to respond.
Psychological and emotional well-being outcomes	MCCM portal	Percentage of eligible MCCM encounters in which the enrollee screened positive for psychological or emotional needs and follow-up plan was initiated	Not an NQF-endorsed measure	Number of eligible MCCM encounters in which the enrollee screened positive for having psychological or emotional needs and for which a follow-up plan was initiated.	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Care coordinator, RN/LPN, NP, physician, or social worker provided encounter • In-person visit or at facility bedside • Enrollee must be the recipient of services, which occurred during a 48-hour initial assessment or a visit following a change in the enrollee's status • Enrollee screened positive for psychological or emotional needs. We removed the encounter from the denominator if the provider gave the following reasons why a follow-up plan for psychological or emotional needs was not established or continued: • Enrollee refused to discuss • Enrollee functionally unable to participate • No caregiver present.

Measure	Data Source	Description	NQF Endorsement	MCCM Numerator	MCCM Denominator
Spiritual and religious discussion	MCCM portal	Percentage of eligible MCCM encounters in which a discussion of spiritual/religious concerns was attempted	Adaption of NQF 1647: Beliefs and Values; this measure reflects the percentage of hospice enrollees with documentation of a discussion of spiritual/religious concerns or documentation that the enrollee/ caregiver/family did not want to discuss	Number of eligible MCCM encounters in which a discussion of spiritual/religious concerns was attempted (pre-death or post-death).	Number of MCCM encounters meeting all of the following criteria for beneficiaries enrolled in MCCM at least seven days: • Physician, RN/LPN, care coordinator, social worker, chaplain, bereavement/grief counselor, or other spiritual counselor provided encounter • In-person visit or at facility bedside • Enrollee was the recipient of services, which occurred during an initial assessment within the first seven days of enrollment, a subsequent comprehensive assessment, or a visit following a change in the enrollee's status, planned ED visit/hospitalization, or unplanned ED visit/hospitalization. We removed the encounter from the denominator if the reason given that the enrollee was not asked about spiritual/religious concerns was that he or she declined to discuss or was unable to discuss.

Note

- Restricting the denominator to beneficiaries who were enrolled in MCCM for at least seven days ensured that all beneficiaries in our analysis had enough time to be screened and treated, or achieve a clinical outcome. We also excluded hospices with fewer than 10 enrollees in order to ensure that the measure results we reported were stable and reliable.

Unless noted, information required to specify the measure is available from the start of the model (January 1, 2016).

ED = emergency department, LPN = licensed practical nurse, NP = nurse practitioner, NQF = National Quality Forum, RN = registered nurse.

E.3. LINKING MCCM PORTAL DATA TO CMS CLAIMS DATA

We linked enrollee information recorded in the MCCM portal to Medicare claims and enrollment data. In cases where enrollee identifiers in the MCCM portal were incomplete and/or inaccurate, we developed and implemented the following 10-step matching algorithm to capture the enrollee who received services:

1. Health insurance claim number (HICN) or Medicare beneficiary identifier (MBI), last name, first name, and date of birth
2. HICN/MBI and phonetic coding of last and first names
3. HICN/MBI and first letter of first and last names
4. Phonetic coding[9] of last and first names, date of birth, state, and ZIP code
5. HICN and phonetic coding of last and first names
6. HICN only
7. Last name, phonetic coding of first name, and date of birth
8. Last name, phonetic coding of first name, ZIP code, and month or year of birth
9. We matched some enrollees manually by reviewing the Medicare Enrollment Database/Master Beneficiary Summary file data (instances when last names and first names were inverted)
10. Railroad HICNs.[10]

We applied each step in succession until we were able to identify a successful match. Through this process, we were able to match the 2,591 MCCM enrollees used for analysis in this report to a beneficiary identifier in the Chronic Conditions Warehouse.

[9] More information on the SOUNDEX phonetic coding system is available at: https://www.archives.gov/research/census/soundex.html.

[10] Some beneficiaries have health insurance claim values indicating they are Railroad Retirement Board beneficiaries (https://www.grotenhuisguide.com/A55956/grotenhuis.nsf/f9d12e89344f312585256d8e0068128f/2fb304c58af3e6cd85257bf10054aaf3/$FILE/HICNsuffixesprefixesfinal.pdf), which are not included in the Chronic Conditions Warehouse HIC-BENE_ID crosswalk.

E.4. MEASURING UTILIZATION OF MEDICARE HOME HEALTH SERVICES AND TRANSITIONS TO MHB

Using Medicare claims data, we analyzed use of Medicare home health services and transitions to MHB by MCCM enrollees and MCCM-eligible decedents not in MCCM, as discussed in the main report.

E.4.1 Home Health Services

We examined the use of Medicare home health services by beneficiaries while enrolled in MCCM to understand any overlap in care. We analyzed the six types of home health visits covered by Medicare, as shown in **Exhibit E.4.**

Exhibit E.4 Medicare Home Health Visit Types by Discipline

Home Health Discipline	Data Source	Description
Home health aide	Medicare claims	Continuous (0-100%) measure of the percentage of MCCM enrollees who received care from a home health aide while enrolled in MCCM with revenue code 057x
Medical social services	Medicare claims	Continuous (0-100%) measure of the percentage of MCCM enrollees who received medical social services at home while enrolled in MCCM with revenue code 056x
Occupational therapy	Medicare claims	Continuous (0-100%) measure of the percentage of MCCM enrollees who received occupational therapy at home while enrolled in MCCM with revenue code 043x
Physical therapy	Medicare claims	Continuous (0-100%) measure of the percentage of MCCM enrollees who received physical therapy at home while enrolled in MCCM with revenue code 042x
Skilled nursing	Medicare claims	Continuous (0-100%) measure of the percentage of MCCM enrollees who received skilled nursing at home while enrolled in MCCM with revenue code 055x
Speech therapy	Medicare claims	Continuous (0-100%) measure of the percentage of MCCM enrollees who received speech therapy at home while enrolled in MCCM with revenue code 044x

E.4.2 Transitions from MCCM to MHB

We calculated the percentage of MCCM enrollees who transitioned to MHB, the number of days from MCCM enrollment to MHB transition, and the number of days from MHB entry until death, as shown in **Exhibit E.5**.

Exhibit E.5 Length of MCCM and Medicare Hospice Benefit Enrollment

Measure	Data Source	Description
Days from MHB enrollment to death	Medicare claims	Continuous (0-maximum) measure of number of days from date of enrollment in MHB following discharge from MCCM to date of death, less any days the beneficiary was not enrolled in MHB during that time period.
Days from MCCM enrollment to MHB transition	MCCM portal	Continuous (0-maximum) measure of number of days from date of enrollment in MCCM to date of enrollment in MHB.
Days from MCCM enrollment to death	Medicare Enrollment Database/Master Beneficiary Summary file	Continuous (0-maximum) measure of number of days from date of enrollment in MCCM to date of death.

MHB = Medicare hospice benefit.

E.5. CHARACTERIZING HOSPICE AFFILIATIONS WITH PALLIATIVE CARE PROVIDERS

We used enrollment information from the MCCM portal and responses to the organizational survey, described below in **Appendix H**, to understand more fully the variation in hospices' affiliations with palliative care, shown in **Section 3.1.3** of the main report.

We identified the subset of 85 MCCM hospices with valid responses to questions in the organizational survey about palliative care affiliations. These hospices enrolled 2,591 beneficiaries through June 30, 2018. For these hospices, we calculated a hospice-specific enrollment ratio equal to the average number of new MCCM enrollments per month, divided by the hospice's monthly average of MHB enrollees who would have been eligible in 2015 for MCCM using the current eligibility criteria. The enrollment ratio is a measure of the hospices' success in enrolling beneficiaries who qualify for and are willing to enroll in MHB (a key subgroup of the MCCM-eligible population), controlling for hospice size.

Through August 2018, cohort 1 hospices had been enrolling beneficiaries for 32 months, and cohort 2 hospices had been enrolling beneficiaries for eight months. Higher enrollment ratios reflected greater levels of MCCM enrollment, controlling for the varying sizes of MCCM hospices. The Kruskal-Wallis non-parametric test was conducted to determine statistical significance of differences in affiliations with palliative care providers. These results appear in **Exhibit 3.5** of the main report.

Appendix F. Methodology for Determining Comparison Hospices and MCCM-Eligible Decedents Not in MCCM

In this appendix we describe the methodologies used to construct comparison groups for the Medicare Care Choices Model (MCCM) evaluation. In **Section F.1**, we explain how we used Medicare administrative data and propensity score matching to select a group of comparison hospices that were as similar as possible to the hospices participating in MCCM. We used the matched hospices as sampling frames for the administration of the organizational survey and the Caregiver Experience of Care Survey, as discussed in **Section F.2.**[11] In **Section F.3**, we describe how we used the matched comparison hospices to identify a comparison group of MCCM-eligible decedents[12] who resided in the geographic market areas of the comparison hospices. These comparison decedents would have been eligible for MCCM had a hospice in their community offered the model.[13]

F.1. SELECTION OF COMPARISON HOSPICES

F.1.1 Overview

A well-matched group of comparison hospices is essential to constructing the comparison group with which to measure the true impact of MCCM on beneficiary outcomes. Comparison hospices should be as similar as possible to hospices that elected to participate in MCCM in order to control for organizational and market characteristics that may confound estimates of MCCM impacts. The propensity score matching approach that we used to select comparison hospices that are similar to MCCM hospices is based on a wide range of observable hospice characteristics.

Propensity score matching can reduce potential bias and improve the accuracy of our impact evaluation to the extent that observable characteristics of hospices are correlated with unobservable characteristics that affect MCCM outcomes. For example, MCCM is a voluntary program and hospices managed by experienced, empathetic staff may have been more

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[11] See Appendices **H and I** for descriptions of the methodologies used to conduct the organizational survey and caregiver survey, respectively.

[12] Our focus on decedents helps to ensure that we are comparing MCCM enrollees to a population of Medicare beneficiaries who reached the end of life during our study period.

[13] In this report, MCCM enrollees and MCCM-eligible decedents in non-MCCM market areas are not matched at the beneficiary level and a comparison of average characteristics should not be interpreted as impacts of the model. In future reports, we will test the use of beneficiary-level matching in order to estimate the impact of MCCM on beneficiary-level outcomes.

likely to apply for MCCM and more successful in enrolling beneficiaries and promoting quality of life for enrolled beneficiaries. Our matching approach would account for these types of effects only to the degree that unobservable aspects of hospice staff are correlated with hospice characteristics that we directly observe in our data.

In the following sections, we describe the four-step process we used to select a matched comparison group of 236 Medicare-certified hospices that were similar to MCCM participating hospices in terms of the observable organizational characteristics and the geographic market areas they served. We briefly summarize the four-step process for selecting comparison hospices below.

Step 1: Select Observable Hospice-Level and Market-Level Characteristics

We identified organizational and market characteristics that may affect the implementation of MCCM as well as MCCM's impacts on health care utilization and Medicare expenditures, as discussed in **Section F.1.2**. See **Sections D.1** and **D.2** for descriptions of these characteristics and their potential to impact MCCM outcomes.

Step 2: Identify Comparison Hospices Using Propensity Score Matching

We used Medicare claims data to identify 4,039 non-MCCM hospices that operated with distinct Centers for Medicare & Medicaid Services (CMS) certification numbers (CCNs) and submitted at least one Medicare hospice benefit (MHB) claim during the year before MCCM implementation. From this group of non-MCCM hospices, we identified comparison hospices that were the most similar to MCCM hospices using propensity score matching, a well-established method for constructing comparison groups that are similar to the intervention group in terms of observed characteristics.[14] To implement this method, we calculated propensity scores for each MCCM and non-MCCM hospice. The propensity score is derived from a regression model that estimates the probability that a hospice would elect to participate in MCCM, if given the opportunity. For each MCCM hospice we selected three non-MCCM hospices with propensity scores that were closest in magnitude to the MCCM hospice's propensity score. The selected non-MCCM hospices comprised the comparison group of hospices.[15] After implementing this method as described in **Section F.1.3**, the final comparison group consisted of 236 non-MCCM hospices.

Step 3: Assessment of the Similarity of MCCM and Comparison Hospices

We assessed the effectiveness of the propensity score matching by measuring the degree to which the observable characteristics selected in Step 1 were similar between MCCM hospices and matched, non-MCCM comparison hospices. The similarity of observable characteristics

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[14] For example, see Rubin DB. (2001). Using propensity scores to help design observational studies: Application to the tobacco litigation. *Health Services and Outcomes Research Methodology*, *2*, 169-188.

[15] This process resulted in 272 matched comparison hospices.

between MCCM and comparison hospices is commonly referred to as "balance." We assessed balance by computing standardized differences in means across the two groups of hospices for the selected hospice- and market-level characteristics during the baseline period.[16] The standardized difference for each hospice characteristic is equivalent to the difference between the two group-level means divided by their pooled standard deviation.[17] We describe the methodology used to assess the similarity of MCCM and comparison group hospices in more detail in **Section F.1.4**.

Step 4: Compare Selected Matching Approach to Alternative Approaches

To assess the appropriateness of the selected matching approach, we identified comparison hospices using two alternative approaches. We then compared balance estimates from the alternative approaches to those using our selected approach. We summarize these findings in **Section F.1.5.**

F.1.2 Selection of Observable Hospice-Level and Market-Level Characteristics

We selected 18 hospice-level attributes and 12 market-level characteristics to include in the propensity score matching regression model. We identified these characteristics with the guidance of the project's clinical consultant based on her expert understanding of the organization, the delivery of palliative and hospice care, and the quality of end-of-life care. **Section D.1** and **Section D.2** provide a detailed description of the selected hospice- and market-level characteristics, respectively.

Our goal in selecting hospice characteristics was to identify measures that influence—*either directly or through associations with other observable hospice characteristics*—end-of-life outcomes, such as quality of life, shared decision making about end-of-life care, and cost of care. Because the objective was to identify a set of comparison hospices that were similar to MCCM hospices prior to implementation, hospice characteristics included in the propensity score matching regression model were estimated using data from CMS's fiscal year (FY) 2015, October 1, 2014 to September 30, 2015, a period prior to MCCM implementation.[18] Hospice-level characteristics were obtained from the CMS Provider of Services file, the Consumer Assessment of Healthcare Providers and Systems Hospice (CAHPS) Survey

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[16] We define the baseline period as 2014 and 2015, which reflects two years prior to MCCM implementation in January 1, 2016.

[17] Austin PC. (2009). Balance diagnostics for comparing the distribution of baseline covariates between treatment groups in propensity-score matched samples. *Stat Med*. *28*(25), 3083-3107. doi:10.1002/sim.3697.

[18] We used fiscal year data to identify comparison hospices in order to create a three-month time interval between measurement of hospice characteristics and the start of MCCM. This "wash-out" period helps prevent potential bias stemming from any changes in operations or ownership that hospices might implement in anticipation of participation in MCCM on January 1, 2016. When FY 2015 data were not available, we used information from FY 2014. When data from FY 2015 and FY 2014 were not available, we used information from FY 2016.

administered by the RAND Corporation, Medicare claims data, and the Medicare Enrollment Database.

Market-level characteristics may influence MCCM's impact on end-of-life outcomes through their effect on referral patterns, beneficiary preferences for curative treatment, and the availability of qualified and experienced staff, for instance. To control for these external factors of end-of-life outcomes, we included market-level characteristics in the propensity score matching regression model. We specified each market characteristic as three separate variables: a continuous variable, an indicator variable that is equal to one for all values exceeding the median (and zero otherwise), and an interaction variable between the continuous and indicator variables. This approach allowed us to account for a potentially non-linear relationship between hospice participation in MCCM and market-level characteristics. Market-level characteristics were obtained from the Dartmouth Atlas of Health Care for 2014 to reflect characteristics prior to CMS's selection of MCCM hospices.

To assign market-level characteristics to hospices, we assigned hospices to a hospital referral region (HRR) based on the most frequent HRR among their beneficiaries in 2016, which corresponds to MCCM's implementation year. Approximately 92 percent of hospices had at least 50 percent of their days in 2016 in a single HRR, and 72 percent of hospices had at least 75 percent of their days in a single HRR. We verified that the results from this analysis would be similar had we assigned hospices to HRRs based on 2015 data.[19]

F.1.3 Identification of Comparison Hospices Using Propensity Score Matching

We included the hospice-level and market-level characteristics selected in Step 1 in the propensity score matching regression model to identify a group of comparison hospices that were similar to MCCM hospices in terms of observable organizational and market features. We used the following four-step process to select the sample of comparison hospices:

Step 2.1: Select Non-MCCM Hospices

We started with 4,039 non-MCCM hospices in FY 2015,[20] the year before MCCM began, and selected every non-MCCM hospice with a distinct CMS CCN as a separate entity.

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19 When 2016 HRR information was missing and information for 2015 was available (158 out of 4,162 hospices in the analysis), we assigned hospices to HRRs based on the 2015 data. When HRR information in both 2016 and 2015 was missing, and 2014 data were available (41 hospices), we assigned hospices to HRRs based on the 2014 data. For all imputations, when two HRRs in the same year tied as the most frequent, we chose a single HRR at random. In the resulting data, 44 hospices were not assigned an HRR. We made no further imputations for these hospices.

20 We used fiscal year data to identify comparison hospices in order to create a three-month time interval between measurement of hospice characteristics and the start of MCCM. This "wash-out" period helps prevent potential bias stemming from any changes in operations or ownership that hospices might implement in anticipation of participation in MCCM on January 1, 2016. When FY

Step 2.2: Stratify Hospices Based on Selected Characteristics

To ensure that MCCM and non-MCCM hospices were matched on characteristics that are likely to affect outcomes of evaluation interest, we stratified the hospices based on: geographic region (Midwest, Northeast, South, or West), ownership type (for-profit, nonprofit, government-owned), and facility type (freestanding or not).

Step 2.3: Conduct Propensity Score Matching within Strata

Within strata, we narrowed the sample of potential comparison hospices using a propensity score matching model. Specifically, we predicted the probability of MCCM participation in a probit model, regressing MCCM participation on the hospice- and market-level characteristics selected in Step 1. For each MCCM hospice, we identified the three comparison hospices with propensity scores closest to that of the MCCM hospice (i.e., three-to-one nearest neighbor matching). For example, for a freestanding, nonprofit MCCM hospice located in the Northeast, we selected three freestanding nonprofit hospices that were also located in the Northeast and did not participate in MCCM. This matching process resulted in a group of 272 non-MCCM hospices with scores closest to those of the 102 MCCM hospices that were active at the time of matching. We matched with a replacement process, such that each non-MCCM hospice could serve as a match to one or more MCCM hospices.[21]

Step 2.4: Exclude and Replace Selected Hospices

After matching, we conducted a hospice-by-hospice review of the selected comparison hospices to address concerns related to spillover effects and other potential issues. Based on expert input, these refinements ensured that the group of comparison hospices represented a credible counterfactual for the experience of MCCM hospices. These refinements included:

a. Ensuring MCCM hospices located in Hawaii were matched to comparison hospices in Hawaii, as Hawaii has a unique demographic composition relative to the 48 contiguous states.

b. Excluding from the comparison group, hospices with the following characteristics:

    i. Hospices located in Alaska, since no Alaskan hospices have participated in MCCM.

2015 data were not available, we used information from FY 2014. When data from FY 2015 and FY 2014 were not available, we used information from FY 2016.

[21] Each MCCM hospice was matched to 3 non-MCCM hospices, with 74 non-MCCM hospices serving as comparisons for 2 or more MCCM hospices.

ii. Hospices sharing the same administrative, corporate, or health system structure as an MCCM hospice as they may share information technology, billing, quality, or other departments that may influence program design.[22]

iii. Hospices that are part of integrated health systems since they tend to have unique structures and governance that may affect the philosophy of care and the underlying cost structure.

iv. Hospices with incorrect ownership-type data.[23]

v. Hospices affiliated with the same chain as an MCCM hospice.[24]

c. Excluding hospices that had withdrawn from MCCM as of December 2017.[25]

We replaced excluded comparison hospices with the next-best comparison hospice (i.e., next-highest propensity score) within the stratum. Applying these refinements to the original 272 hospices identified by the matching process resulted in a final sample of 236 comparison hospices.[26]

F.1.4 Assessment of the Similarity between MCCM Hospices and Comparison Hospices

To evaluate the effectiveness of our matching approach, we measured the balance between the 91 MCCM hospices that were active as of January 1, 2018 and the group of 236 matched, comparison hospices. In columns [1] and [2] of **Exhibit F.1**, we present average hospice- and market-level characteristics for MCCM and matched, non-MCCM comparison hospices, respectively. In column [4], we report the standardized differences in means

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22 We identified hospices by their CMS CCN. In a few cases, several offices of the same hospice had different CCNs. Some of these offices were part of the intervention group, while others were part of the comparison group. Because these hospices share the same leadership and staff, we excluded them from the comparison group.

23 The data included broad categories of ownership: For-profit, nonprofit, government, or other. In a few cases, the category appeared incorrect and the evaluation team confirmed it from information on the hospice's website (e.g., some hospices listed as an ownership of "other" were known to be for-profit).

24 Chain is identified as a proprietary variable from the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Hospice Survey, which we have labeled as "chain affiliation" in **Exhibit F.1**.

25 This was the time period during which we identified comparison hospices through the propensity score matching process. We will consider the inclusion of withdrawn hospices in the comparison group as a robustness check in future years when MCCM participation stabilizes.

26 In a supplemental analysis not reported here, we verified that the final comparison group of 236 hospices is similar, in terms of organizational and market characteristics, to the original comparison group of 272 hospices. selected in 2016. Unless we observe significant differences between the intervention group and the comparison group at the end of the evaluation, we plan to continue using this comparison group of 236 hospices.

between MCCM hospices and matched, non-MCCM comparison hospices.[27] The general rule-of-thumb is that a standardized difference of less than 0.20 represents a negligible difference between the two groups. The threshold for acceptable imbalance ranges between 0.10 and 0.25, and depends on the importance of the covariate in question.[28] In column [3], we also present average characteristics for all other hospices in the United States (U.S.).

The results of our balance tests suggest that MCCM hospices and matched, comparison hospices were similar in terms of their observable characteristics**.** Even though some of the standardized differences between MCCM hospices and the comparison group are above 0.20, the magnitude of the differences was much smaller than the differences between MCCM hospices and all other hospices in the U.S. Although comparison hospices were generally similar to MCCM hospices, average non-hospice Medicare expenditures[29] were nearly twice as high for MCCM hospices than for comparison hospices. This difference may indicate that there are important preferences or characteristics of MCCM enrollees that we did not capture in hospice-level propensity score matching. This result emphasizes the importance of conducting beneficiary-level matching to reduce selection bias when calculating impacts. We will conduct beneficiary-level matching in preparation for future reports.

We also compared observable characteristics of MCCM hospices and matched comparison hospices to those of all other hospices in the U.S. MCCM and matched comparison hospices appear balanced in terms of geography, with a similar percentage of hospices in each group located in three regions of the U.S. As there are no MCCM hospices in the West, however, the geographic distribution of MCCM and comparison hospices differs from that of all other hospices in the U.S. Small differences emerged in the percentage of MCCM versus comparison hospices that were nonprofit: 68 percent versus 61 percent.[30] By contrast, the percentage of nonprofit ownership among the group of non-MCCM, non-matched hospices was 20 percent. MCCM and matched comparison hospices were also more likely to be large

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27 Standardized differences in means are the differences between the two sets of group means divided by their pooled standard deviation.

28 Stuart EA. (2010). Matching methods for causal inference: A review and a look forward. *Statistical Science 25*(1), 1-21; Normand SLT, Landrum MB, Guadagnoli E, Ayanian JZ, Ryan TJ, Cleary PD, McNeil BJ. (2001). Validating recommendations for coronary angiography following an acute myocardial infarction in the elderly: A matched analysis using propensity scores. *Journal of Clinical Epidemiology, 54*, 387-398.

29 These Medicare expenditures are the average total expenditures per hospice and include all non-hospice Medicare expenditures while their beneficiaries are enrolled in hospice care.

30 Stratification does not guarantee a perfectly proportional balance of ownership types. Stratification ensures that when matched hospices were selected, a hospice of a certain ownership could only be selected as a match for an MCCM hospice with the same ownership. The same hospice could serve as a match for more than one MCCM hospice (within a strata). More crucially, we did some post-matching adjustments, see **Section F.1.2** (e.g., dropping hospices in Alaska). Such tweaks could slightly alter the balances.

(78 percent and 61 percent vs. 28 percent), and established in the 1980s (51 percent and 43 percent versus 10 percent), compared with all other hospices nationally.

These findings suggest that the process used to select comparison hospices substantially improved the balance between MCCM and non-MCCM hospices. Note that even if we achieve balance on observable characteristics, the two groups may not match on unobservable characteristics, such as hospice leadership and implementation processes. Any unmeasured confounders that remain after matching may bias future impact estimates.[31]

Exhibit F.1 Standardized Differences between MCCM Hospices and Non-MCCM Comparison Hospices

Characteristic	MCCM Hospices (n = 91) [1]	Matched Comparison Hospices (n = 236) [2]	All Other Non-MCCM (Non-Matched Hospices) (n = 3,985) [3]	Standardized Difference in Means (1) versus (2) [4]
Ownership				
Nonprofit	68.1%	61.0%	20.1%	0.15
For-profit	17.6%	28.8%	66.9%	**0.27**
Government	1.1%	0.4%	3.6%	0.08
Other	13.2%	9.7%	9.5%	0.11
Size				
Large	78.0%	61.4%	27.6%	**0.37**
Medium	18.7%	36.0%	47.3%	**0.40**
Small	3.3%	2.5%	19.9%	0.04
Age				
Founded in 1980s	51.7%	42.8%	9.9%	0.18
Founded in 1990s	34.1%	37.3%	23.2%	0.07
Founded in 2000s	9.9%	15.7%	31.6%	0.17
Founded in 2010s	4.4%	4.2%	35.3%	0.01
Census region				
Midwest	36.3%	35.2%	20.9%	0.02
South	30.8%	28.0%	39.6%	0.06
Northeast	18.7%	21.2%	9.3%	0.06
West	0.0%	0.0%	29.0%	0.04
Facility type				
Freestanding	70.3%	67.4%	82.3%	0.06
Facility-based	29.7%	32.6%	17.7%	0.06

[31] This result comes from empirical studies that compared experimental impact estimates with estimates based on matching approaches. For example, Smith AJ, Todd, PE. (2005). Does matching overcome LaLonde's critique of nonexperimental estimators? *Journal of Econometrics 125,* 1-2, 305-353.

Characteristic	MCCM Hospices (n = 91) [1]	Matched Comparison Hospices (n = 236) [2]	All Other Non-MCCM (Non-Matched Hospices) (n = 3,985) [3]	Standardized Difference in Means (1) versus (2) [4]
Religious affiliation				
Yes	4.4%	2.5%	2.1%	0.10
No	95.6%	97.5%	97.9%	0.10
Chain affiliation				
Yes	47.3%	41.5%	43.6%	0.12
No	52.8%	58.5%	56.4%	0.12
Other characteristics				
Non-hospice Medicare expenditures	$1,083,462	$532,000	$239,052	**0.37**
Nursing home penetration	22.2%	21.8%	21.0%	0.03
Hospice level of care				
Days in routine home care	96.9%	97.6%	98.5%	**0.26**
Days in general inpatient care	2.6%	1.9%	0.9%	**0.27**
Days in continuous home care	0.2%	0.1%	0.1%	**0.23**
Days in inpatient respite care	0.3%	0.4%	0.3%	0.17
Duration of stay in hospice				
Stays under 7 days	32.9%	31.7%	25.2%	0.13
Stays over 180 days	12.0%	12.3%	17.0%	0.07
Hospice-level beneficiary demographics				
Age group: Under 65	4.4%	4.5%	4.6%	0.04
Age group: 65–74	14.7%	14.6%	14.2%	0.01
Age group: 75–84	27.0%	27.2%	28.3%	0.05
Age group: 85+	53.5%	53.1%	52.4%	0.04
Getting timely care	78.0	78.3	78.0	0.03
Hospice team communication	79.9	80.4	80.3	0.11
Overall rating	81.0	81.6	80.0	0.09
Mean length of stay on Medicare hospice benefit (days)	77.3	79.9	110.7	0.09
Quality of care ratings				
Race/ethnicity: White	90.4%	90.3%	84.2%	0.01
Race/ethnicity: Black	5.7%	5.4%	9.6%	0.04
Race/ethnicity: Asian	0.8%	1.0%	1.6%	0.05
Race/ethnicity: Hispanic	1.6%	1.5%	2.5%	0.01
Race/ethnicity: Other	1.5%	1.9%	2.0%	0.11
Sex: Female	37.5%	37.4%	36.0%	0.02
Market characteristics				
Deaths occurring in hospital	20.5	20.4	20.8	0.03
Home health agency reimbursements per decedent	$469	$465	$589	0.01
Hospice reimbursements per decedent	$6,551	$6,205	$6,757	0.19

Characteristic	MCCM Hospices (n = 91) [1]	Matched Comparison Hospices (n = 236) [2]	All Other Non-MCCM (Non-Matched Hospices) (n = 3,985) [3]	Standardized Difference in Means (1) versus (2) [4]
Hospice reimbursements per enrollee	$358	$348	$409	0.09
Hospital care intensity index	1.0	0.9	1.0	0.19
Hospital/skilled nursing facility reimbursements per decedent	$4,104	$4,096	$4,267	0.01
Inpatient days per Medicare enrollee	1.2	1.2	1.2	0.09
Medicare reimbursements per decedent	$67,106	$65,180	$70,512	0.16
Mortality among Medicare enrollees	4.3%	4.4%	4.4%	0.15
Physician visits per decedent	53.3	50.0	56.0	**0.21**
Physician visit reimbursements per decedent	$5,303	$4,978	$5,374	0.19
Intensive care unit days per decedent	5.1	4.6	5.6	**0.23**

Source: CMS Provider of Services file, December 2016; Consumer Assessment of Healthcare Providers and Systems (CAHPS) Hospice Survey, 2016; Dartmouth Atlas of Health Care 2014-2015; and 2015 CMS hospice claims, using https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-indexand-payment-rate-update-and-hospice-quality-reporting.

Note: This exhibit displays comparisons of 4,362 hospices that were operating in 2016 with at least 1 hospice claim in 2015: 91 hospices actively participating in MCCM at the time of analysis, 236 matched comparison hospices, and 3,985 non-MCCM, non-comparison group hospices. We excluded 50 hospices that withdrew from MCCM on or before December 31, 2018 from the analysis. The right-hand column displays standardized differences between characteristics of MCCM hospices and comparison hospices. The standardized difference is the mean difference between two populations and the standard deviation of the difference. Large differences between MCCM and comparison hospices, defined as those exceeding the threshold of 0.20, are highlighted in bold. We provide hospice- and market-level variable descriptions and data sources in **Exhibits D.1** and **D.2**, respectively.

F.1.5 Comparison of the Selected Matching Approach to Alternative Approaches

We assessed the sensitivity of our selected comparison group to alternative matching approaches. In this section, we briefly summarize these approaches and their key findings. The first alternative approach imposed a "caliper," or a maximum difference in the propensity score between matched MCCM decedents and candidate comparison group members. Following the literature, we used a tolerance level (caliper) of 0.2 and identified 3,459 hospices in an alternate group.[32] This approach produced a set of comparison hospices that was poorly matched to the MCCM hospices.

[32] For a description of this approach, see Caliendo M, Kopeinig SJ. (2008). Some practical guidance for the implementation of propensity score matching. *Economic Surveys 22,* 1, 31-72.

The second approach expanded the comparison group to the five nearest neighbors for every MCCM hospice. This five-to-one approach increased the total number of comparison hospices from 236 to 361. The resulting comparison group was similar to MCCM hospices across key characteristics, including facility type, ownership type, and chain affiliation.

Both of the alternative methods increased the number of potential comparison hospices and, in the case of the five-to-one matching, increased the similarity of organizational characteristics of MCCM hospices and comparison hospices. Nonetheless, in agreement with CMS, we used the comparison group identified by the three-to-one matching method to maintain consistency with the matching approaches previously used to select sampling frames for the organizational and caregiver surveys, as discussed in **Section F.2** below.

F.2. ASSESSMENT OF THE SIMILARITY BETWEEN MCCM HOSPICES AND COMPARISON HOSPICES REPRESENTED IN THE ORGANIZATIONAL AND CAREGIVER SURVEYS

We used the matched comparison hospices as sampling frames for the administration of organizational survey (**Appendix H)** and caregiver survey (**Appendix I)**. We administered wave 1 of the organizational survey to the initial 272 comparison hospices. We used the 236 comparison hospices to identify a subset of comparison hospices for the caregiver survey (**Appendix I**). In this section, we assess the similarity between 1) MCCM hospices and comparison hospices that received and responded to the organizational survey, and 2) MCCM hospices and comparison hospices selected for participation in the caregiver survey.

F.2.1 Assessment of the Similarity between MCCM and Comparison Hospices Represented in the Organizational Survey Sampling Frame.

We compared 113 MCCM hospices and 272 comparison hospices represented in the organizational survey sampling frame in **Exhibit F.2**. Standardized differences between the observable characteristics of the two groups of hospices that received organizational surveys were largely similar. The exceptions were size, non-hospice Medicare expenditures, and level of care, which had standardized differences of at least 0.20. For example, 79 percent of MCCM hospices that received the organizational survey were large hospices compared to 60 percent of comparison hospices that received the survey.

Exhibit F.2 Standardized Differences between Characteristics of MCCM Hospices and Comparison Hospices Represented in the Organizational Survey Sampling Frame

Characteristic	MCCM Hospices (n = 113)	Comparison Hospices (n = 272)	Standardized Difference
Ownership			
Nonprofit	63.7%	59.9%	0.08
For-profit	20.4%	27.2%	0.16
Government	0.9%	1.1%	0.02
Other	15.0%	11.8%	0.10
Size			
Large	78.8%	60.3%	**0.41**
Medium	18.6%	36.0%	**0.40**
Small	2.7%	3.7%	0.06
Age			
Founded in 1980s	48.7%	43.8%	0.10
Founded in 1990s	35.4%	35.7%	0.01
Founded in 2000s	11.5%	16.2%	0.14
Founded in 2010s	4.4%	4.4%	0.00
Census region			
Midwest	33.6%	32.4%	0.03
South	31.0%	27.9%	0.07
Northeast	20.4%	22.8%	0.06
West	15.0%	16.9%	0.05
Facility type			
Freestanding	68.1%	66.9%	0.03
Facility-based	31.9%	33.1%	0.03
Religious affiliation			
Yes	3.5%	2.9%	0.03
No	96.5%	97.1%	0.03
Chain affiliation			
Yes	45.1%	40.8%	0.09
No	54.9%	59.2%	0.09
Other characteristics			
Non-hospice Medicare expenditures	$1,043,038	$500,200	**0.38**
Nursing home penetration	21.2%	20.9%	0.02
Hospice level of care			
Days in routine home care	97.0%	97.6%	**0.20**
Days in general inpatient care	2.4%	2.0%	**0.20**
Days in continuous home care	0.2%	0.1%	**0.23**
Days in inpatient respite care	0.4%	0.4%	0.06
Duration of stay in hospice			
Stays under 7 days	32.3%	31.6%	0.09
Stays over 180 days	12.1%	12.2%	0.00

Characteristic	MCCM Hospices (n = 113)	Comparison Hospices (n = 272)	Standardized Difference
Hospice-level beneficiary demographics			
Sex: Female	37.7%	37.4%	0.04
Race/ethnicity: White	90.6%	90.6%	0.01
Race/ethnicity: Black	5.7%	5.7%	0.01
Race/ethnicity: Asian	0.8%	0.6%	0.09
Race/ethnicity: Hispanic	1.5%	1.5%	0.01
Race/ethnicity: Other	1.5%	1.6%	0.04
Age group: Under 654	4.6%	4.5%	0.01
Age group: 65–74	14.8%	14.9%	0.01
Age group: 75–84	27.2%	27.4%	0.03
Age group: 85+	52.9%	52.7%	0.02
Mean length of stay on Medicare hospice benefit (days)	78.7%	78.9%	0.01
Quality of care ratings			
Hospice team communication	79.8	80.5	0.12
Getting timely care	78.0	78.5	0.07
Overall rating	80.8	81.5	0.12
Market characteristics			
Deaths occurring in hospital	20.6	20.4	0.04
Home health agency reimbursements per decedent	$482	$467	0.06
Hospice reimbursements per decedent	$6,420	$6,204	0.12
Hospice reimbursements per enrollee	$357	$346	0.09
Hospital care intensity index	0.9	0.9	0.11
Hospital/skilled nursing facility reimbursement per decedent	$4,125	$4,115	0.02
Inpatient days per Medicare enrollee	1.2	1.2	0.08
Medicare reimbursements per decedent	$66,748	$65,619	0.10
Mortality among Medicare enrollees	4.4%	4.4%	0.08
Physician visits per decedent	52.0	50.2	0.12
Physician visit reimbursements for per decedent	$5,187	$5,011	0.10
Intensive care unit days per decedent	4.9	4.6	0.13

Source: CMS Provider of Services file, December 2016; Consumer Assessment of Healthcare Providers and Systems (CAHPS) Hospice Survey, 2016; Dartmouth Atlas of Health Care 20142015; and 2015 CMS hospice claims, using https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-indexand-payment-rate-update-and-hospice-quality-reporting.

Note: This exhibit displays comparisons of 385 hospices selected for representation in the organizational survey sampling frame. The sampling frame included 113 of 141 MCCM hospices that were active at the time wave 1 of the survey was administered, and 272 matched comparison hospices selected prior to administration of the survey. Note, the survey was administered prior to finalizing the selection of comparison hospices, which reduced the number of comparison hospices to 236. We describe the methods used to select hospices for the organizational survey in **Appendix H**. The right-hand column displays standardized differences between characteristics of MCCM hospices and comparison hospices to which we fielded the organizational survey. The standardized difference is the mean difference between two populations and the standard deviation of the difference. We highlight in bold large differences between MCCM and comparison hospices, defined as those exceeding the threshold of 0.20. We provide hospice- and market-level variable descriptions and data sources in **Exhibits D.1** and **D.2**, respectively.

F.2.2 Assessment of the Similarity between MCCM and Comparison Hospices Participating in the Caregiver Survey.

Caregiver survey. We examined standardized differences between the 61 MCCM hospices and 33 comparison hospices participating in the caregiver survey in **Exhibit F.3.** Hospices are considered to be participating in the caregiver survey if they provide lists of beneficiaries and caregivers from which the evaluation team can conduct survey sampling. We recruited 33 of the 236 matched comparison hospices for participation in the survey, as it would not have been an efficient use of project resources to sample from all 236 comparison hospices. Based on historical response rates to the CAHPS Hospice Survey, we determined that the subset of 33 hospices would be sufficient to meet sample size targets. We recruited a stratified sample of comparison hospices to promote balance across geographic regions and high and low performance on the CAHPS Hospice Survey. **Appendix I** describes the caregiver survey in further detail.

Overall, we found that MCCM and comparison hospices were similar across a wide range of characteristics, as shown in **Exhibit F.3**. Although there are several characteristics with standardized differences larger than 0.20 (e.g., proportion of beneficiaries who are White, Black, and Asian), many of these differences are not large enough to be substantively meaningful (e.g., differences in hospice size, census region, religious affiliation, levels of care, demographics, medical utilization, and quality-of-care scores). We believe that the comparison hospices are similar enough to MCCM hospices for the purposes of comparing caregiver survey responses. Nonetheless, some differences in survey responses between MCCM and comparison hospices may reflect, in part, differences in hospice characteristics. The caregiver survey was voluntary and our ability to balance our subgroup of 33 comparison hospices across the full range of hospice characteristics was limited.

Exhibit F.3 Standardized Differences between Characteristics of MCCM Hospices and Comparison Hospices Participating in the Caregiver Survey

Characteristic	MCCM Hospices (n = 61)	Comparison Hospices (n = 33)	Standardized Difference
Ownership			
Nonprofit	65.6%	69.7%	0.09
For-profit	18.0%	18.2%	0.00
Government	1.6%	0.0%	0.18
Other	14.8%	12.1%	0.08
Size			
Large	85.3%	81.8%	0.09
Medium	14.8%	15.2%	0.01
Small	0.0%	3.0%	**0.25**
Age			
Founded in 1980s	55.7%	57.6%	0.04
Founded in 1990s	29.5%	27.3%	0.05
Founded in 2000s	8.2%	9.1%	0.03
Founded in 2010s	6.6%	6.1%	0.02
Census region			
Midwest	37.7%	42.4%	0.10
South	31.2%	30.3%	0.02
Northeast	18.0%	21.2%	0.08
West	13.1%	6.1%	**0.24**
Facility type			
Freestanding	70.5%	78.8%	0.19
Facility-based	29.5%	21.2%	0.19
Religious affiliation			
Yes	3.3%	0.0%	**0.26**
No	96.7%	100.0%	**0.26**
Chain affiliation			
Yes	47.5%	30.3%	**0.36**
No	52.5%	69.7%	**0.36**
Other characteristics			
Non-hospice Medicare expenditures	$931,386	$615,448	**0.28**
Nursing home penetration	21.9%	26.5%	**0.29**
Hospice level of care			
Days in routine home care	96.8%	97.3%	**0.21**
Days in general inpatient care	2.7%	2.0%	**0.30**
Days in continuous home care	0.2%	0.3%	**0.23**
Days in inpatient respite care	0.4%	0.4%	0.09
Duration of stay in hospice			
Stays under 7 days	33.0%	32.4%	0.08
Stays over 180 days	11.9%	11.9%	0.01

Characteristic	MCCM Hospices (n = 61)	Comparison Hospices (n = 33)	Standardized Difference
Hospice-level beneficiary demographics			
Sex: Female	37.5%	37.3%	0.03
Race/ethnicity: White	91.0%	93.9%	**0.41**
Race/ethnicity: Black	6.1%	3.5%	**0.46**
Race/ethnicity: Asian	1.0%	0.3%	**0.39**
Race/ethnicity: Hispanic	0.5%	0.5%	0.07
Race/ethnicity: Other	1.4%	1.9%	0.14
Age group: Under 65	4.8%	4.6%	0.05
Age group: 65–74	14.6%	14.6%	0.00
Age group: 75–84	26.9%	27.3%	0.09
Age group: 85+	53.2%	52.9%	0.04
Mean length of stay on Medicare hospice benefit (days)	76.2	78.0	0.08
Quality of care ratings			
Hospice team communication	79.8	80.7	**0.21**
Getting timely care	78.1	80.1	**0.32**
Overall rating	80.6	81.9	**0.21**
Market characteristics			
Deaths occurring in hospital	20.0	20.0	0.02
Home health agency reimbursements per decedent	$423	$452	0.15
Hospice reimbursements per decedent	$6,501	$5,962	**0.29**
Hospice reimbursement per enrollee	$356	$329	**0.24**
Hospital care intensity index	0.9	0.9	0.02
Hospital/skilled nursing facility reimbursements per decedent	$4,060	$4,090	0.05
Inpatient days per Medicare enrollee	1.2	1.2	0.02
Medicare reimbursements per decedent	$65,863	$64,054	0.16
Mortality among Medicare enrollees	4.3%	4.4%	0.18
Physician visits per decedent	51.8	51.9	0.01
Physician visit reimbursements per decedent	$5,128	$5,139	0.01
Intensive care unit days per decedent	5.0	4.6	0.18

Sources: CMS Provider of Services file, December 2016; Consumer Assessment of Healthcare Providers and Systems (CAHPS), 2016; Hospice Survey Dartmouth Atlas of Health Care 2014-2015; and 2015 CMS hospice claims, using https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-indexand-payment-rate-update-and-hospice-quality-reporting.

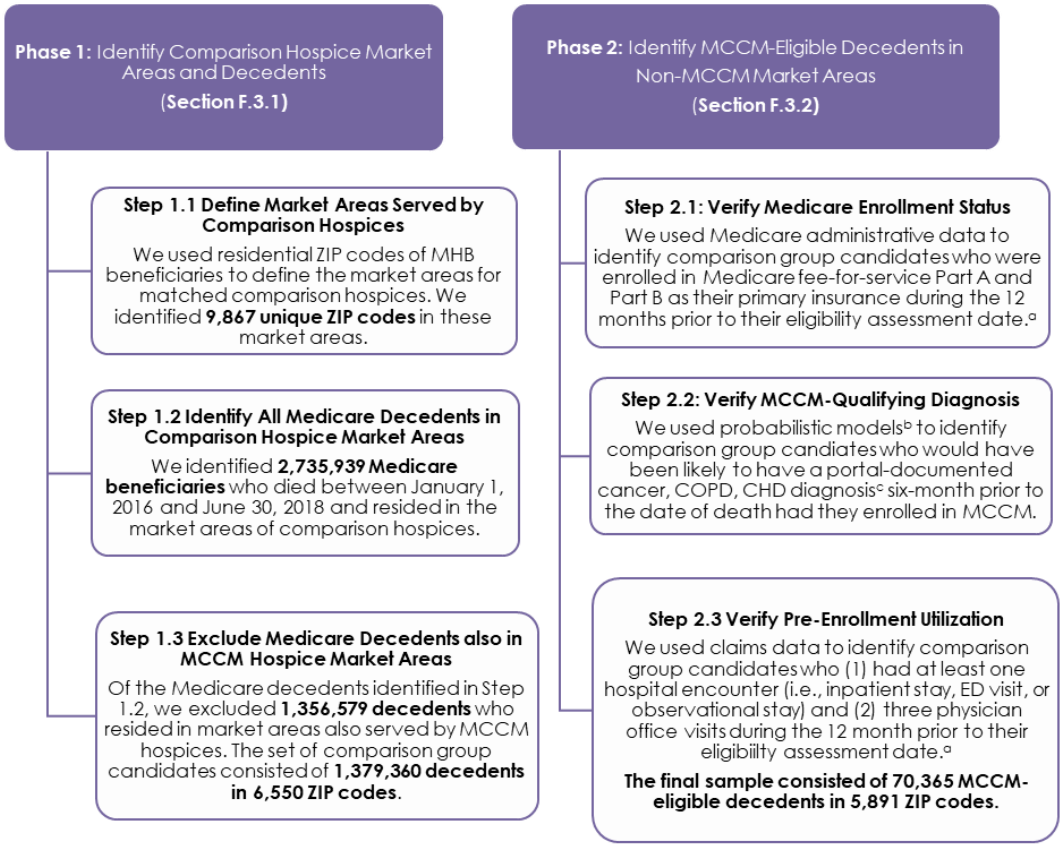
Note: This exhibit displays comparisons of hospices participating in the caregiver survey for beneficiaries who died between October 1, 2017 and June 30, 2018, based on characteristics documented in administrative data prior to the start of MCCM. The subgroup 61 MCCM hospices participating in the survey represents those MCCM hospices that were actively participating at the time of survey administration. The subgroup excludes hospices that had fewer than five enrollees in the model at the time of data collection and/or had no enrollees who died during the data collection period. The comparison group includes 33 hospices randomly selected for participation in the survey, as described in **Section I.2**. The right-hand column presents standardized differences between MCCM hospices and comparison hospices. The standardized difference is the mean difference between two populations and the standard deviation of the difference. We highlight in bold large differences between mean characteristics of MCCM and comparison hospices, defined as those exceeding the threshold of 0.20. We provide hospice and market variable descriptions and data sources in **Exhibits D.1** and **D.2**, respectively.

F.3. SELECTION OF A COMPARISON GROUP OF MCCM-ELIGIBLE DECEDENTS IN NON-MCCM MARKET AREAS

F.3.1 Overview

To compare individuals who enrolled in MCCM and those who did not, we used a two-phase approach to identify a group of Medicare decedents[33] who were eligible for MCCM six months prior to death, but could not enroll in MCCM because they did not reside in market areas served by MCCM hospices. We summarize each phase of our approach in **Exhibit F.4** and describe it in detail in **Section F.3.2** and **Section F.3.3**.

Exhibit F.4 Identification of the Comparison Group of MCCM-Eligible Decedents Who Resided in Non-MCCM Market Areas



Note

[a] The eligibility assessment date is six months prior to the date of death.

[b] The probabilistic modeling methodology is described in **Section F.3.4.**

[c] Due to the small number of MCCM enrollees with HIV/AIDs among MCCM enrollees, we used an alternative method to verify the diagnosis in comparison group candidates described in **Section F.3.4.**

[33] Our focus on decedents helps to ensure that we are comparing MCCM enrollees to a population of Medicare beneficiaries who reached the end of life during our study period.

F.3.2 Identification of Comparison Hospice Market Areas and Medicare Decedents

In phase one, we used a three-step process to identify the market areas served by the 236 matched, non-MCCM comparison hospices described above and the MCCM-eligible Medicare decedents who resided in these markets. We summarize these steps in the left panel of **Exhibit F.4**.

Step 1.1: Define Market Areas Served by Comparison Hospices

We identified the residential mailing ZIP codes of MHB enrollees who were under the care of the 236 matched comparison hospices during the time that MCCM was operational (January 1, 2016 through June 30, 2018). We then used the ZIP codes to define the geographic market areas served by the matched comparison hospices by:

- Limiting ZIP codes in each comparison hospice's market area to those from which 90 percent of the hospice's enrollees originate, to eliminate outlier ZIP codes for only a small number of enrollees.
- Excluding ZIP codes that were not in the comparison hospice's own state or an adjacent state (i.e., we ruled out a ZIP code as being in a hospice's market if it was more than one state away). For example, we eliminated all Florida ZIP codes from a Massachusetts hospice's market.

This process yielded 9,867 unique beneficiary ZIP codes in market areas served by the matched, comparison non-MCCM hospices.

Step 1.2: Identify All Medicare Decedents in Comparison Hospice Market Areas

We identified all Medicare beneficiaries (both MHB enrollees and those who had never enrolled in hospice care) who resided in each hospice's market area and died between January 1, 2016 and June 30, 2018. This process yielded 2,735,939 Medicare decedents who resided in market areas served by comparison hospices.

Step 1.3: Exclude Medicare Decedents also in MCCM Hospice Market Areas

Multiple hospices often served the same ZIP code. We excluded any ZIP codes that were served by MCCM hospices to ensure that the comparison group was composed solely of decedents who resided outside MCCM markets in areas where they could not have accessed MCCM.[34] This process yielded a set of geographically eligible comparison group candidates comprised of 1,379,360 Medicare decedents who resided in 6,550 ZIP codes.

[34] If a ZIP code was also served by an MCCM hospice, it was considered to be in the MCCM market area, and was excluded from the market areas for comparison hospices. Eliminating these ZIP codes from the comparison group avoids introducing selection bias into our results as Medicare beneficiaries could have accessed MCCM, and decedents who did not enroll in MCCM in these market areas may have declined to participate in MCCM.

F.3.3 Identification of MCCM-Eligible Decedents in Non-MCCM Market Areas

In phase two, we identified a comparison group of MCCM-eligible decedents who resided in non-MCCM market areas. To do this, we applied a subset of MCCM eligibility criteria that were verifiable with Medicare administrative and claims data to the 1,379,360 geographically-eligible comparison group candidates identified in phase one (as described in **Section F.3.2**).

Once identified, we used a three-step process to assess the MCCM-eligibility of the comparison group candidates six months prior to the candidates' date of death. We used the date six months prior to the date of death as a proxy for the point in time when comparison group candidates would have been assessed for enrollment in MCCM had they resided in an MCCM market area and were referred to MCCM. We summarize this process in the right panel of **Exhibit F.4**.[35]

Step 2.1: Verify Medicare Enrollment Status

We determined whether each geographically-eligible comparison group candidate was enrolled continuously in Medicare fee-for-service Part A and Part B as their primary insurance[36] during the 12 month period prior to the eligibility assessment date six months prior to the date of death. This process excluded comparison group candidates enrolled in Medicare managed care plans, such as Medicare Advantage, Health Care Pre-Payment Plans, and the Program of All-inclusive Care for the Elderly.[37]

We excluded from the comparison group all candidates who did not meet the Medicare enrollment status criteria.

Step 2.2: Verify MCCM-Qualifying Diagnosis

We cannot directly observe the clinical processes used by referring physicians and hospice medical directors to certify that Medicare beneficiaries had six months or less to live if the terminal condition were to run its usual course. To address this limitation, we verified the presence of a MCCM-qualifying diagnosis using estimates from three logistic regression

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35 In this section we describe our process for identifying our MCCM-eligible comparison group in the order in which we implemented them. Because MCCM enrollees must meet all eligibility criteria, however, the order in which we undertook each step does not affect the final number of comparison group members.

36 To determine whether the person met this criterion, we used the "National Claims History Primary Payer Code," which indicates whether the beneficiary had a primary insurer other than Medicare. We looked for this code on hospice claims and inpatient Part A claims that had occurred up to 12 months before the enrollment date.

37 We used the variable "indXX" to determine information on managed-care enrollment. A beneficiary was enrolled in managed care if the value of that variable was equal to "1," "2," "5," "A," "B," or "C."

models predicting the probability that a comparison group candidate would have had a portal-documented diagnosis of cancer, CHF, or COPD [38] six months prior to their date of death. We parameterized these models using the list of CMS- required MCCM-qualifying ICD-9 and ICD-10 codes[39] to estimate the probability that an MCCM-enrollee had one of the three diseases listed as the MCCM-qualifying diagnosis in the MCCM portal. We describe our predictive modeling methodology in **Section F.3.4**.

Using estimated probabilities, we assigned MCCM-qualifying disease categories to comparison group candidates in three stages:

1. Cancer: Candidates with at least an 80-percent probability of having cancer;
2. COPD: Candidates with at least a 60-percent probability of having COPD and not already assigned to the cancer category;
3. CHF: Candidates with at least a 60 percent probability of having CHF and not already assigned to the cancer or COPD categories.

Less than 0.5 percent of MCCM enrollees had a qualifying diagnosis of HIV/AIDS. As such, it was not possible to estimate reliably the probability of a qualifying diagnosis of HIV/AIDS. Instead, we assigned candidates to the HIV/AIDS category if they had a diagnosis of HIV/AIDS on their inpatient or Part B claims during the 12-month period prior to the date six months before their date of death and were not already assigned to the cancer, COPD, or CHF categories.

We excluded all candidates without an MCCM-qualifying diagnosis from the comparison group.

Step 2.3: Verify Pre-Enrollment Utilization

We determined whether comparison group candidates met the following MCCM eligibility criteria on the date six months prior to the date of their death:[40,41]

- Had at least one hospital encounter (an inpatient admission, emergency department visit, or observation stay) in the last 12 months

[38] Given the small number of MCCM enrollees with HIV/AIDS, we used a different method to verify HIV/AIDS for comparison group candidates, which we describe below.

[39] CMS provided the MCCM hospices with a list of 1,563 ICD-10 codes for use by referring physicians and hospices to document the presence of MCCM-qualifying diagnoses.

[40] In future reports, we will empirically model the likelihood of dying within six months; at such time, a diagnosis (and other eligibility) determination will not be limited to the date six months before death.

[41] We used eligibility criteria listed in the November 2018 revision of the MCCM Resource Manual.

- Had at least 3 office visits with a primary care or specialist provider in the last 12 months; an office visit was defined on a physician/supplier Part B claim or outpatient claim with the Healthcare Common Procedure Coding System codes of 99201-99499.
- Had not elected MHB in the last 30 days
- Had not resided in an institutional setting in the last 30 days.

We excluded candidates that did not meet *all* of these criteria from the comparison group.

Percent of Comparison Group Candidates Who Met Verifiable Eligibility Criteria

The three-step process described above yielded a comparison group of 70,365 MCCM-eligible decedents who resided in 5,891 ZIP codes in non-MCCM market areas. In **Exhibit F.5**, we report the percentage of comparison candidates who met all of the MCCM-eligibility criteria that are verifiable with administrative and claims data, including a sufficient probability of having an MCCM-qualifying diagnosis. While most beneficiaries met some criteria, such as having Medicare as their primary payer or being enrolled in Medicare Part A or B continuously in the past 12 months, meeting other criteria was less common, such as the presence of an MCCM-qualifying diagnosis or having at least one hospital encounter in the past 12 months.

Exhibit F.5 Percent of Comparison Candidates Meeting MCCM-Eligibility Criteria Defined in the MCCM Resource Manual and Verified with Medicare Administrative and Claims Data

MCCM Eligibility Criterion	Number of Beneficiaries Meeting the Criterion	Percent of Beneficiaries Meeting the Criterion
MCCM-qualifying diagnosis	105,467	7.6%
Medicare is primary payer	1,376,963	99.8%
Enrolled in Part A/B in previous 12 months continuously	1,272,136	92.2%
Not in Medicare Advantage anytime in previous 12 months	879,814	63.8%
At least 1 hospital encounter in previous 12 months	540,464	39.2%
At least 3 office visits in previous 12 months	831,556	60.3%
No MHB enrollment in previous 30 days	1,299,238	94.2%
Not institutionalized	1,185,957	86.0%
Total MCCM-eligible decedents	**70,365**	**5.1%**

Source: Medicare claims data, January 1, 2016-June 30, 2018.

Note: This exhibit displays an analysis of 1,379,360 comparison candidates consisting of Medicare beneficiaries who died between January 1, 2016 and June 30, 2018, and resided in comparison hospices' market areas. Eligibility was determined by simultaneously verifying each criterion listed in the exhibit. MCCM-eligible decedents are those who met all the verifiable criteria on the date six months prior to their date of death, as a proxy for the time when they would have been screened for enrollment in MCCM.

Unverified MCCM Eligibility Criteria

We did not verify the remaining MCCM eligibility criteria for the following reasons:

- **Beneficiary had not elected the Medicaid hospice benefit within the last 30 days**. We did not use this criterion due to concerns about whether Medicaid claims are timely enough to capture Medicaid hospice enrollment for the time periods we evaluated.
- **Beneficiary's address was within the service area of an MCCM hospice**. We did not use this criterion because the comparison group, by design, consists of residents outside of MCCM hospice market areas (but within the service area of matched comparison hospices).
- **A beneficiary who spends time in an assisted living facility can enroll in MCCM only after first waiting 30 days**. We were unable to identify individuals who spent time in an assisted living facility and we will explore the possibility of removing residents of assisted living facilities for future reports.

F.3.4 Development of the Approach Used to Verify MCCM-Qualifying Diagnoses

To enroll in MCCM, beneficiaries must have a qualifying diagnosis of cancer, COPD, CHF, or HIV/AIDS and an expected prognosis of six months or less to live. As we explain in **Section F.3.3**, we are not able to observe the clinical process that leads referring physicians and hospices to certify that a given individual has an MCCM-qualifying diagnosis with a six-month prognosis. In the absence of clinical documentation, we used predictions from logistic regression models to identify comparison group candidates who would have had a portal documented MCCM-qualifying diagnosis of cancer, COPD, or CHF on their eligibility assessment date.[42,43] We developed and verified indicators for assessing the presence of one of the MCCM-qualifying diseases among comparison group candidates using the process described below.

Specification of Logistic Regression Models to Predict Claims Documented MCCM-Qualifying Diagnoses among MCCM Enrollees

To specify the predictive models, we used logistic regression models to predict the probability that MCCM enrollees had one of the three diseases recorded in the MCCM portal based on diagnostic codes recorded on claims. To specify each of the predictive models, we counted the number of relevant diagnostic codes drawn from the universe of MCCM-

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42 We checked on the date six months prior to the date of death to simulate another criterion for MCCM, that of a six-month prognosis. For example, if someone died on July 1, we checked on January 1 of the previous year to determine if they had an MCCM-qualifying diagnoses in the 12 months prior to January 1.

43 We observed that HIV/AIDS is exceedingly rare among MCCM enrollees; and it was not possible to reliably estimate a model given the small number of cases. Instead, we assigned a qualifying diagnosis of HIV/AIDS to those beneficiaries not previously assigned to the cancer, COPD, or CHF disease categories with evidence of HIV/AIDS on their inpatient or Part B claims during the period 12 months prior to the date that is six months before their date of death.

qualifying ICD-10 codes developed by CMS. We specified the disease indicators using published literature and guidance from the project's clinical expert. Our goal was to mirror the clinical assessments used by referring physicians and hospices to determine the presence of a qualifying MCCM diagnosis and an accompanying six-month prognosis. The claim count measures we used to predict portal documentation of each of the three MCCM disease categories are shown in **Exhibit F.6.**

Exhibit F.6 Claims Data Used to Predict MCCM-Qualifying Diagnosis among MCCM Enrollees

MCCM-Qualifying Disease	Criteria Used to Assess Probability of the MCCM-Qualifying Diagnosis
Cancer	• Number of primary or secondary cancer diagnosis codes that occur on inpatient, carrier, or outpatient claims during the 12 months prior to the date that is 6 months before the beneficiary's date of death (if the diagnosis code appeared on a carrier or outpatient claim, the diagnosis must have appeared on at least 2 claims on separate days in the 12-month period) • Number of primary or secondary metastatic cancer diagnosis codes in that same 12-month period
COPD	• Number of primary or secondary COPD diagnosis codes that occur on inpatient, carrier, or outpatient claims during the 12 months prior to the date that is 6 months before the beneficiary's date of death (if the diagnosis code appeared on a carrier or outpatient claim, the diagnosis must have appeared on at least 2 claims on separate days in the 12-month period) • Number of hospitalizations with a primary diagnosis of COPD with either respiratory failure or pneumonia in that same 12-month period • Number of lung cancer diagnosis codes
CHF	• Number of primary or secondary CHF diagnosis code on the inpatient, carrier, or outpatient claim during the 12 months prior to the date that is six months before the beneficiary's date of death (if the diagnosis code appeared on a carrier or outpatient claim, the diagnosis must have appeared on at least two claims on separate days in the 12-month period) • Number of diagnosis codes of CHF in the hospital as the primary inpatient claim diagnosis and the presence of an intensive care unit/coronary care unit stay • Number of diagnosis codes of CHF in the hospital as the primary inpatient claim diagnosis and the presence of a respiratory failure diagnosis • Number of COPD claim counts as described in the row above[a]

Notes: On the date six months prior to the date of death, we assessed whether the individual met the list criteria in the one year prior to that date.

[a] We use counts of COPD diagnoses codes to predict CHF due to the frequent co-occurrence of the two illnesses.

CHF = congestive heart failure, COPD = chronic obstructive pulmonary disease, HIV/AIDS = Human immunodeficiency virus/acquired immunodeficiency syndrome.

Assignment of MCCM-Qualifying Diagnosis Flags

As a next step, we used predicted probabilities of the three MCCM-qualifying disease categories to set diagnosis flags that we used to generate and report descriptive statistics in the main findings report (see for example, **Exhibit 2.11** and **Exhibit 2.13**). As a starting point, we used a predicted probability of 80 percent or higher as a threshold for assigning the value of each diagnostic indicator flag. As part of the validation testing described below,

we analyzed the appropriateness of the 80 percent threshold. Based on the results of this analysis, we lowered the thresholds for setting qualifying diagnosis flags for COPD and CHF to 60 percent (as described above in **Section F.3.3**).

Validation of Predictive Modeling of MCCM-Qualifying Diagnoses

We validated the predictive models used to assign qualifying diagnoses flags for the comparison group with the probabilities assigned to MCCM enrollees derived from the same approach, and compared the probabilities of each disease category for the MCCM enrollees to their actual hospice-documented qualifying diagnosis as reported in the MCCM portal.[44] We considered instances where the predictive model identified the person as having cancer, for example, but there was no cancer listed in the MCCM portal, as false positives. We considered instances where the person had cancer listed in the MCCM portal but the predictive model did not identify the person as having that disease as false negatives. We summarize the findings from validation tests in **Exhibit F.7**.

Validation results suggest that our predictive model approach achieved a false-positive rate of less than 5 percent for each of the three predicted diagnoses. However, the false-negative rate for COPD and CHF was substantially higher than for cancer, as shown in **Exhibit F.7**. Also, we found it was challenging to differentiate in predictive modeling between portal-documented COPD and CHF (i.e., we may assign someone as having COPD based on claims; but often the portal indicates that person has CHF).

At the same time, we found false positive rates between 22.4 and 48.4 percent. This finding suggests that our method of verifying MCCM-qualifying diagnoses excludes a substantial number of comparison group candidates who would have had an MCCM-qualifying diagnosis had they been referred to MCCM. However, we intended that our approach would ensure the validity of our comparison group and only include in the comparison group those individuals with a high certainly of having an MCCM-qualifying diagnosis.

Overall, the validation results provide confidence that those in the comparison group truly had an MCCM-eligible diagnosis. In other words, we erred on the side of an overly restrictive comparison group to have more certainty that the comparison beneficiaries have the diagnoses.

[44] We do not include the HIV/AIDS diagnosis in our validation analysis because the diagnosis was not assigned probabilistically.

Exhibit F.7 Summary of Predicted Diagnosis Compared to Diagnosis Reported in MCCM Portal

Predicted MCCM-Qualifying Diagnosis	MCCM Enrollee Diagnosed with Cancer		MCCM Enrollee Diagnosed with COPD		MCCM Enrollee Diagnosed with CHF		False Positive Rate	False Negative Rate
	Yes	No	Yes	No	Yes	No		
Cancer	718	19	9	728	10	727	4.7%	22.4%
COPD	0	144	95	49	49	95	4.3%	48.4%
CHF	2	138	14	126	124	16	1.4%	43.4%
Not assigned	205	102	66	241	36	271		
Total	**925**	**403**	**184**	**1,144**	**219**	**1,109**		

Source: Medicare claims data and MCCM portal data, January 1, 2016-June 30, 2018.

Notes: We based this analysis on 1,328 MCCM enrollees dying on or before June 30, 2018, with a primary diagnosis of cancer, COPD, or CHF, as reported by MCCM hospices via the MCCM portal. Human immunodeficiency virus/acquired immunodeficiency syndrome is exceedingly rare among MCCM enrollees; and it was not possible to reliably estimate a model given the small number of cases. MCCM enrollees in the "Not Assigned" category did not receive a claims-based MCCM-qualifying diagnosis by the predictive modeling approach described in **Section F.3.4**. Unassigned individuals are not included in our MCCM-eligible comparison group.

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

Appendix G. Hospice Staff, Referring Provider, and Beneficiary/Caregiver Interviews

This appendix describes how we collected qualitative interview data from Medicare Care Choices Model (MCCM) participants; and how we analyzed the data, in conjunction with administrative data, to assess implementation effectiveness and beneficiary and provider satisfaction with the model. Qualitative data provide contextual information about MCCM participants' experiences that cannot be measured using quantitative data sources described in the other appendices. Below we describe the approaches we used to select interview subjects and extract data from interview transcripts to identify emerging themes regarding participants' experiences implementing MCCM.

G.1. OVERVIEW OF QUALITATIVE DATA COLLECTION ACTIVITIES

Our qualitative data collection activities included telephone and in-person interviews with actively participating hospices, telephone interviews with hospices that withdrew from the model, and telephone interviews with hospices with low enrollment. We used the approaches described below.

Actively participating hospices: For a subset of 32 participating hospices, we conducted telephone interviews and in-person interviews with hospice staff, referring providers, and MCCM enrollees and/or their caregivers using the selection criteria described in **Section G.2.1**. The interviews with hospice staff captured information about a range of issues, including organizational capacity; changes to infrastructure; care delivery; partnerships with hospitals, primary care practices, and community providers; and impacts of MCCM. Interviews with referring providers and enrollees captured information about their interactions with the participating hospice and their perceptions of the services provided under MCCM. We describe approaches and topics for conducting these interviews in **Section G.2**. Protocols for these interviews can be found in **Section G.7.1.**

Hospices that withdrew from the model: We conducted telephone interviews with leadership of 30 hospices that withdrew from MCCM to capture information regarding how hospices implemented the model, their reasons for withdrawal, and their feedback on improvements to MCCM. We describe approaches and topics for conducting these interviews in **Section G.3**. Protocols for these interviews can be found in **Section G.7.2.**

Hospices with initial low enrollment: We conducted telephone interviews with leadership of 14 hospices with initial low enrollment to understand the challenges they were facing in enrolling beneficiaries and to identify potential improvements to MCCM. We

describe approaches and topics for conducting these interviews in **Section G.4**. Protocols for these interviews can be found in **Sections G.7.3 and G.7.4.**

We summarize the number, purpose, and content of qualitative data collection efforts in **Exhibit G.1**. Because we interviewed only a subset of hospice staff, referring providers, beneficiaries, and caregivers participating in MCCM, the data collected may not be fully representative of all MCCM participants' experiences.

Exhibit G.1 Number and Purpose of Qualitative Data Collection Activities for the MCCM Evaluation

Activity	Interview Respondents	Discussion Topics	Number of Hospices Participating in 2017	Number of Hospices Participating in 2018
Case studies: In-person interviews with cohort 1 hospices (2017 and 2018)	Hospice staff, referring providers, beneficiaries, and caregivers	MCCM implementation and potential impacts of the model on hospices, referring providers, beneficiaries, and caregivers	10	7
Case studies: Telephone (2017) and in-person (2018) interviews with cohort 2 hospices	Hospice staff, referring providers, beneficiaries, and caregivers	MCCM implementation and potential impacts of the model on hospices, referring providers, beneficiaries, and caregivers	8	7
Withdrawal study: Telephone interviews with cohort 1 hospices (2017) and cohort 2 hospices (2018)	Hospice staff	Reasons for withdrawal, including barriers to beneficiary enrollment and hospice and market characteristics, and programmatic changes that could improve the MCCM experience for hospices that remain in the model	17[a]	13[b]
Low-enrollment study: Telephone interviews with cohort 1 hospices (2017) and cohort 2 hospices (2018)	Hospice staff	Reasons for limited enrollment and barriers to enrollment	6	8

Note

[a] These 17 interviews covered 20 hospices, as 1 interviewee represented 2 hospices under the same organization that withdrew from the model, while another interviewee represented 3 hospices.

[b] These 13 interviews covered 15 hospices, as 1 interviewee represented its hospice and 2 other hospices under the same organization.

G.2. INTERVIEWS WITH ACTIVELY PARTICIPATING HOSPICES

Conducting interviews with hospices in both cohorts allowed us to evaluate whether there are meaningful differences in their implementation approaches. To date, we have conducted interviews with 467 individuals as part of 32 in-depth case studies of actively participating hospices, as shown in **Exhibit G.2**.

- In the first year of data collection, we conducted in-person interviews with cohort 1 hospices and telephone interviews with cohort 2 hospices. Telephone interviews with cohort 2 hospices were sufficient for gathering data about their preparations and plans for the model because they had not yet begun providing MCCM services.
- In the second year of data collection, we conducted in-person interviews with both cohorts because they were both actively enrolling beneficiaries and providing MCCM services by that time.

Exhibit G.2 Allocation of Interviews with Actively Participating Hospices

Year 1 March-September 2017	Year 2 March-September 2018
18 actively participating hospices: • 10 cohort 1 (in-person) • 8 cohort 2 (via telephone)	14 actively participating hospices: • 7 cohort 1 (in-person) • 7 cohort 2 (in person)

G.2.1 Site Selection

Our goal was to select a representative mix of hospices based on the following characteristics (in order of priority):

Enrollment levels: We selected hospices with varying but high levels of enrollment in their first and second years of MCCM so that we could learn and then share with other hospices best and promising practices related to referral, marketing, and implementation activities.

Ownership status and facility type: We selected hospices with varying ownership (nonprofit or for-profit) and facility types (freestanding facility or facility-based) to examine whether and how differences in organizational structure and resources affected model implementation.

Geographic location and urban/rural status: We selected hospices in different geographic regions and a mix of urban and rural settings to see whether and how MCCM hospices' implementation approaches varied by geographic characteristics.

Size: We selected hospices of different sizes[45] to understand whether and how MCCM is implemented differently in small versus larger organizations.

We applied additional criteria to further narrow and diversify our list of hospices for hospice interviews. Specifically, we reviewed the distribution of MCCM-qualifying diagnoses[46] among MCCM enrollees to select a mix of hospices with a more even distribution of these conditions. Overall, MCCM hospices predominantly served enrollees with cancer and COPD, so we tried to include hospices that also served a CHF or HIV/AIDS population. We also considered the racial composition of hospices' service populations and prioritized hospices with a mix of races. We applied these additional criteria to assess whether MCCM encounters, services, referral sources, or other attributes vary depending on characteristics of the hospices' population.

The organizational characteristics of cohort 1 and cohort 2 hospices selected are presented in **Exhibit G.3**. While we sought variation in organizational characteristics, we found limited variation in both hospice size and geographic location. Our primary criteria for selection was enrollment and most hospices with higher enrollment were typically large and urban. We selected small hospices when possible; many of the smaller and rural hospices were captured in the withdrawn and low-enrollment hospice interviews (discussed below in **Sections G.3** and **G.4**, respectively).

[45] Size was defined as the number of routine home care days provided in a year.

[46] Target conditions are the four diagnoses for participation in MCCM: advanced cancer, congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), and human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS).

Exhibit G.3 Organizational Characteristics of Actively Participating Hospices Interviewed

Hospice Characteristic	2017 Cohort 1 Hospices (n = 10)	2017 Cohort 2 Hospices (n = 8)	2018 Cohort 1 Hospices (n = 7)	2018 Cohort 2 Hospices (n = 7)
Ownership status[a]	2 for-profit 6 nonprofit 2 other	4 for-profit 3 nonprofit 1 other	2 for-profit 3 nonprofit 2 other	2 for-profit 3 nonprofit 2 other
Facility type[a]	3 facility-based 7 freestanding	1 facility-based 7 freestanding	1 facility-based 6 freestanding	3 facility-based 4 freestanding
Geographic location[a]	4 Midwest 2 Northeast 3 South 1 West	2 Midwest 2 Northeast 3 South 1 West	1 Midwest 2 Northeast 2 South 2 West	2 Midwest 1 Northeast 2 South 2 West
Rural or urban[a]	2 rural 8 urban	8 urban	7 urban	1 rural 6 urban
Hospice size[b]	2 medium 8 large	2 medium 6 large	7 large	7 large

Note

[a] These characteristics were defined in the Centers for Medicare & Medicaid Services' Provider of Services file.

[b] Hospice size is defined using the number of routine home care days in fiscal year 2016. Hospices with 0-3,499 routine home care days are classified as small, 3,500-19,999 as medium, and 20,000+ as large, as defined in the Medicare Program; FY 2018 Hospice Wage Index and Payment Rate Update and Hospice Quality Reporting Requirements: https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-index-and-payment-rate-update-and-hospice-quality-reporting.

G.2.2 Interview Process

A list of activities that the project team performed to set-up, conduct, and document qualitative interviews that were conducted over the telephone or in-person during site visits is shown in **Exhibit G.4**.

Exhibit G.4 Qualitative Interview Activities

Before Conducting Interviews

- Develop a sampling frame and sampling criteria for selecting hospices
- Identify, select, and recruit MCCM hospices
- Develop and review/update interview guides
- Review the Nvivo codebook for any gaps based on interview protocols and findings in Annual Report 1
- Revise and obtain Centers for Medicare & Medicaid Services and Institutional Review Board approval on interview protocols
- Train all team members to conduct telephone interviews or in-person interviews during site visits, as appropriate, with hospice staff, referring providers, and beneficiaries and their caregivers
- Schedule and hold a planning call with points of contact at each selected hospice (30 minutes for each planning call)
- Confirm in-person or telephone dates with the hospice
- Coordinate with the hospice point-of-contact to schedule the visit, including completing the agenda to schedule interviews with the most-relevant hospice staff
- Prepare the visit package for evaluation team members and review background information for selected hospices to create baseline knowledge on hospice characteristics and their original MCCM implementation plans; background information comes from applications, implementation plans, quarterly reports submitted by the hospice, and other secondary data sources
- Make travel arrangements

During Interviews

- Conduct in-person and telephone interviews (1-2 days for in-person interviews or 90- or 120-minutes for telephone interviews)
- Complete telephone interviews with any stakeholders that cannot be completed in person

After Interviews

- Hold debrief with evaluation team members who conducted interviews and finalize interview notes
- Write summary report analyzing interview data to complete individual hospice case studies
- Code summary reports
- Analyze data across sites
- Develop cross-case findings

Recruitment and Scheduling Logistics

Before Interviews

After selecting hospices, we sent them an initial email explaining that they had been selected for an MCCM evaluation case study. Next, we held a 30-minute introductory telephone call with the primary points of contact at each selected hospice to explain the interview activity and process, answer any questions, and discuss logistics. After this call, we sent each hospice a template listing the types (i.e., roles) of people we wished to interview, and asked the point of contact to schedule the interviews for us. The hospices completed and returned the templates. The schedule included all relevant hospice staff, and had placeholders for referring provider and beneficiary interviews.

One month before the interviews were to be conducted, we held another call with hospices to discuss referring physician and beneficiary interviews, and requested their assistance in recruiting these interviewees. Prior to the call, we identified potential beneficiary interviewees based on their complexity of illness, overall characteristics, diagnosis, and

length of enrollment in the model, with information provided in the MCCM portal. We also identified a list of referring providers who had referred multiple enrollees to the MCCM hospice, as documented in the MCCM portal. We discussed these potential interviewees with the hospice to identify those most likely to be amenable to an interview. Hospices recruited referring providers and beneficiaries using a script provided by the evaluation team. Final interviewees were chosen from among those who were interested in being interviewed and were available during the planned in-person or telephone interview dates. A few days prior, the team checked back with the hospice to ensure the referring providers and beneficiaries/caregivers were still willing to be interviewed.

Further details on hospice staff, referring providers, and beneficiaries and caregivers are discussed below in **Section G.2.3**.

In preparation for the site visits, we reviewed background information about each selected hospice (from their MCCM applications and implementation plans, quarterly reports, and other secondary sources) to understand the hospice's structure and characteristics.

During In-Person Interviews

We conducted in-person interviews with hospice staff over the course of one to two days, although a few interviews were done via telephone with hospice staff who were unavailable on the days of our visit. When possible, interviews with referring physicians were conducted on the same days, and occasionally we went to their places of work for these interviews. When in-person interviews could not be scheduled, we attempted to interview referring providers over the phone. We conducted most beneficiary/caregiver interviews in the beneficiaries' homes. While onsite, the team met at the end of the first day to discuss themes from the day and identify any issues that needed follow-up the next day.

Data Collection Teams and Training

Before Interviews

Each interview team included a health services researcher and clinician familiar with MCCM and trained in qualitative interviewing techniques, as well as a note-taker. The team members participated in a two-hour training session that included a review of the process, protocols, and Annual Report 1 findings. The training was facilitated by senior project staff.

Conducting Interviews and Post-Interview Activities

During Interviews

Prior to starting an interview, a team member read aloud an Abt Associates (Abt) institutional review board-approved informed consent script that described the extent of confidentiality and anonymity the interviewee could expect, identified who would have access to his or her responses to the interview questions, and how the evaluation team would summarize and aggregate the information the interviewee would share. The interview team asked each interviewee for permission to audio-record the interview, and explained that the recordings would be used only to verify the information in our notes. Interviewees could refuse the audio-recording, but none did so.

After Interviews

After conducting the interviews, the team met to debrief and discuss the main themes and lessons learned. The note-taker finalized the notes and circulated them to the other team members to review for completeness. Recordings were used to clarify any unclear portions in the notes. The note-taker then drafted a 15-page summary report that was reviewed by the study team members. The final report was prepared for the Centers for Medicare & Medicaid Services (CMS) and coded for analysis.

G.2.3 Interview Respondents and Topics

During 2017 and 2018, we conducted interviews with individuals who provided operational support for MCCM within participating hospices, provided care and support to enrolled beneficiaries and their caregivers, referred potential enrollees to MCCM, and enrolled beneficiaries and caregivers, as shown in **Exhibit G.5**. In this section, we describe the specific functions these individuals performed, specialized methods (if any) used to recruit interview participants in these roles, and the specific topics we discussed during interviews.

Exhibit G.5 Allocation and Timing of Qualitative Interviews by Interviewee Role

Primary Role	Interviewee Roles	Number of Interviewees[a]	
		2017	2018
Operations	Hospice leadership (chief executive officer/president, executive leadership)	20	52
	Marketing/outreach	15	30
	Finance staff/business director	15	20
	Quality assurance and performance improvement teams	11	12
	Information technology manager/director/electronic health record staff	16	17
	Administrative/backup data entry	1	1
	MCCM coordinator/manager	5	2
Clinical and beneficiary-facing staff	Case manager (RN)	7	33
	Social worker	14	19
	Chaplain/spiritual support/musical therapist	4	13
	Hospice physician/medical director	13	12
	Hospice RN case managers (when transitioned to Medicare hospice benefit)	0	6
	Hospice admission/intake	3	6
	Clinical supervisor/educator	4	4
	Grief/bereavement and volunteer service manager	1	4
	Nurse (RN/licensed practical nurse)	5	3
	Home health aide	10	2
	Care coordinator	10	1
	Nurse practitioner/physician assistant	2	1
Referring providers	Referring provider	11	19
Beneficiaries and caregivers	Beneficiary/caregiver	16	27
Total		**183**	**284**

[a] We counted interviewees by title for the in-person interviews. Individuals were only counted once in their primary role. We did not count the roles for those interviewed as part of the telephonic cohort 2 case studies in 2017 as roles were not defined by the hospice at the interview time, which was prior to MCCM implementation. As we interviewed 8 cohort 2 hospices in 2017 and there were, on average, 2 participants at each telephone interview, the total number of individuals interviewed in 2017 was about 200.

RN = registered nurse.

Hospice Staff

We interviewed a diverse set of clinical and non-clinical staff at each hospice, from executive leaders to front-line care providers, to understand whether staff at all levels agreed about a given issue, and how each perceived MCCM. Many interviewees filled multiple roles within the organization and model. For example, in some hospices, the MCCM director was also the leader of quality improvement activities. We interviewed 284 individuals as part of the 2018 case studies, an increase from the 183 individuals interviewed in the in-person interviews in 2017. The reason for the difference was that the 2018 case studies with cohort 2 hospices were conducted in person, while the 2017 case studies with cohort 2 hospices were conducted via telephone. The in-person interviews

lasted a day-and-a-half, during which time we interviewed on average of 23 people. The in-person interviews allowed us to interview more people than we could interview during a 90-minute to 2-hour teleconference.

We used semi-structured interview protocols, which had been updated following the case studies conducted in 2017 (see the Annual Report 1). Interview protocols were based on the model's evaluation research questions, and revised based on earlier findings and a review of MCCM documents and data (including the MCCM implementation materials developed by CMS and the implementation contractor and MCCM programmatic data reported by hospices via the MCCM portal). Multiple evaluation team members, including clinicians, contributed to the development of the protocols.

During interviews with hospice staff, we discussed the topics shown in **Exhibit G.6**. The protocols were tailored to an interviewee's position and responsibilities. Further, we covered similar topics in multiple interviews to understand how responses or perspectives differed based on the interviewee's position.

Exhibit G.6 Topics Discussed with Hospice Staff

MCCM Research Question[a]	Topic Area	Hospice Clinical and Non-Clinical Staff									
		Executive Team	MCCM Director	Care Coordinator	Physicians, PAs, NPs	Marketers, Outreach	RNs & Nurse Aides	Social Workers	Financial Billing Staff	Data Analytics Staff	QAPI Coordinator
Hospice characteristics and organization											
9	Hospice characteristics (e.g., size, payer mix, staffing, services offered)	✓	✓			✓			✓	✓	
9	Marketplace competitiveness/competitors	✓	✓			✓			✓	✓	
9	Experience in other alternative payment models (federal, state, private)	✓	✓						✓	✓	
9	Partnerships with health systems, home health agencies, nursing homes, etc.	✓	✓	✓		✓		✓	✓	✓	✓
1	Characteristics of the beneficiary population served (diagnosis mix, special populations served, racial/ethnic make-up, cultural influences that affect provision of hospice-like care)	✓	✓	✓	✓	✓	✓	✓			✓
Service delivery, readiness to implement											
2, 4, 9	Reasons for organizational and beneficiary participation in the model	✓	✓		✓	✓		✓			
7, 9	Marketing and coordination with referring physicians and beneficiaries	✓	✓	✓	✓	✓	✓	✓			
7	Referral sources	✓	✓	✓		✓		✓			
9	Use of information technology	✓	✓		✓		✓	✓	✓	✓	
9	Electronic health record and data sharing with staff and across provider types	✓	✓	✓	✓		✓	✓	✓	✓	✓
5, 6, 8	Delivery of MCCM services • New services added to meet MCCM requirements • Changes to staff workflow to meet MCCM requirements • Identification of needed services for MCCM enrollees • Operation of or affiliation with a palliative care program	✓	✓	✓	✓	✓	✓	✓			✓

MCCM Research Question[a]	Topic Area	Hospice Clinical and Non-Clinical Staff									
		Executive Team	MCCM Director	Care Coordinator	Physicians, PAs, NPs	Marketers, Outreach	RNs & Nurse Aides	Social Workers	Financial Billing Staff	Data Analytics Staff	QAPI Coordinator
Impact of MCCM											
9, 11, 16, 17, 18, 19	Perception of impact and effectiveness of MCCM on: • Quality of care • Access to care • MCCM controlling costs • Beneficiary or caregiver satisfaction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9, 12	Potential unintended consequences for beneficiaries, the community, or nationwide	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note:

[a] See **Appendix B** for more information on the evaluation's research questions.

NP = nurse practitioner, PA = physician assistant, QAPI = Quality Assurance and Performance Improvement, RN = registered nurse.

Referring Providers

Referrals to MCCM come from a variety of sources, including physician offices, hospitals, skilled nursing facilities, or directly from potential beneficiaries or their caregivers. We interviewed a sample of these providers, which included physicians, discharge planners, palliative care providers, and social workers—hereafter "referring providers," to understand how they perceive model benefits and their experiences in coordinating care with the hospice. Using data from the MCCM portal, we identified providers who referred more than one beneficiary to the model who subsequently enrolled.[47]

Although we proposed a few names to hospices based on our data, our final sample of referring providers was based on the hospice's connections with those providers and the provider's availability. This approach may introduce some potential bias into our final sample. In consultation with Abt's Institutional Review Board and CMS, we determined it was preferable to leverage the hospice's relationships with these providers due to known challenges with "cold calling" providers to recruit them for participation in research. Most referring providers we interviewed specialized in one of the four MCCM diagnoses, including oncology, cardiology, infectious disease, and pulmonology. A few providers had hybrid specialties across these diagnoses, or more cross-cutting specialties, such as palliative care.

During interviews with referring providers, we discussed the following topics:

- How they learned about MCCM
- How they talk about MCCM with beneficiaries
- How they coordinate care (including medications and equipment) with hospice staff
- Satisfaction with the care their patients receive under the model
- Perceptions of MCCM's impacts on the quality of care, health outcomes, and potential cost savings for Medicare
- Perceptions of potential unintended consequences associated with MCCM

MCCM Beneficiaries and/or Caregivers

MCCM focuses on person-centered care, shared decision making, and coordination between referring physicians and the hospice. We interviewed enrollees and/or caregivers to understand how they learned about MCCM, the impact of services received under the model, and their overall feedback. Generally, when caregivers were present for the interviews, they were close family members (e.g., spouse, parent, child).

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[47] We interviewed referring providers who had been successful in the referring process, as these data were available through the MCCM portal. In future years, we will investigate interviewing providers who referred no beneficiaries or only one, or referred but did not meet the eligibility criteria, to provide broader perspectives of referring providers.

Using data reported by MCCM hospices via the MCCM portal, we identified beneficiaries enrolled in the model. We selected beneficiaries with diverse primary diagnoses and demographic characteristics, and varying lengths of enrollment in MCCM (i.e., longer-term and newly enrolled) for our interviews. Oftentimes, our data lagged from the hospice's real-time MCCM census, and we relied heavily on the hospice to identify beneficiaries and caregivers who they felt would be amenable to being interviewed and have availability. Relying on hospice staff to recruit beneficiaries for these interviews introduces potential bias into our findings. In consultation with Abt's Institutional Review Board and CMS, we decided to accept this source of bias as a means of reducing the burden on beneficiaries and their caregivers. Hospice staff had established relationships with these beneficiaries and their caregivers, and were in a position to present the interview request during routine contact rather than researchers from the evaluation team attempting to recruit beneficiaries. Additionally, this process protected beneficiary privacy by avoiding the transference of personal data such as telephone numbers from the hospice to the team at Abt.

During interviews with MCCM beneficiaries and/or their caregivers, we discussed the following topics:

- The beneficiary's needs and the care they received before enrolling in MCCM
- Communication about enrollment and the decision making process (e.g., how the beneficiary was informed of the model, what influenced their decision to enroll)
- Services provided by the hospice (e.g., aide services, spiritual support) and coordination of care (e.g., appointment support, pain management, medication management)
- Overall impact of MCCM on the beneficiary and the caregiver

G.3. INTERVIEWS WITH HOSPICES THAT WITHDREW FROM MCCM

The MCCM Participation Agreement allows hospices to withdraw from MCCM at any time, after providing a 90-day written notice to CMS. Reasons for hospices withdrawing may have important implications for MCCM's success and scalability, and could also lead CMS to make programmatic changes to improve the model for those hospices that remain.

We reached out to hospices at the end of the 90 days to schedule an interview. Of the 50 hospices that withdrew through December 31, 2018, we interviewed staff from a total of 33 hospices; 11 hospices declined our interview request and 6 hospices withdrew before the model start date. In 2017, we conducted a group interview with four hospices with separate CMS certification numbers (CCNs) that were part of the same parent organization. In 2018, we conducted a group interview with three hospices with separate CCNs that were part of the same parent organization. In each of these two instances, we conducted only one interview, but applied the information across the multiple CCNs.

We attempted to conduct telephone interviews with leaders from every hospice that withdrew from MCCM after the model start date; however, we were unable to do so due to three primary reasons:

1. We had incorrect contact information and could not reach the hospice
2. The hospice never responded to repeated attempts to connect
3. The hospice refused to participate in the interview

During interviews with withdrawn hospices, we discussed the following topics:

- Application and start-up phase (e.g., marketing of the model in the community)
- Beneficiary enrollment, model implementation, and techniques used to follow model requirements
- Experiences using the MCCM portal
- Perceived value of CMS's implementation support
- Programmatic changes that might improve experiences of the remaining hospices
- Programmatic changes that might lead the hospice to consider participation if the model's offerings were expanded in the future
- We describe the organizational characteristics of withdrawn MCCM that participated in qualitative interviews in **Exhibit G.7**.

Exhibit G.7 Organizational Characteristics of Interviewed Withdrawn Hospices

Characteristic	2017 Cohorts 1 and 2 (n = 17)	2018 Cohorts 1 and 2 (n = 13)
Ownership status[a]	3 for-profit 13 nonprofit 1 other	3 for-profit 8 nonprofit 2 other
Facility type[a]	6 facility-based 11 freestanding	6 facility-based 7 freestanding
Geographic location[a]	4 Midwest 2 Northeast 7 South 4 West	5 Midwest 3 Northeast 1 South 4 West
Rural or urban[a]	2 rural 15 urban	1 rural 12 urban
Hospice size[b]	3 medium 14 large	1 medium 12 large

Note

[a] These characteristics were defined in the Centers for Medicare & Medicaid Services' Provider of Services file.

[b] Hospice size is defined using the number of routine homecare days in fiscal year 2016. Hospices with 0-3,499 routine homecare days are classified as small, 3,500-19,999 as medium, and 20,000+ as large; see https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-index-and-payment-rate-update-and-hospice-quality-reporting.

G.4. INTERVIEWS WITH MCCM HOSPICES WITH LOW ENROLLMENT

An important element of the MCCM evaluation is to understand the challenges hospices encounter in enrolling beneficiaries. Hospices enter information in the MCCM portal about why some beneficiaries who are referred and screened do not enroll, but additional contextual information from the perspective of hospice staff is also valuable. We therefore interviewed leaders from MCCM hospices that had little or no enrollment.

We conducted two rounds of interviews with hospices with low MCCM enrollment, using the criterion of zero to three beneficiaries enrolled in the model. Twenty-four cohort 1 hospices in 2017 and 26 cohort 2 hospices in 2018 met this criterion. We used the following additional selection criteria to narrow the samples to the final selection for recruitment, which was seven cohort 1 hospices and 10 cohort 2 hospices (and two alternates):

- **Ownership status and facility type:** We selected hospices having varying ownership (nonprofit or for-profit) and facility types (freestanding facility or facility-based).
- **Geographic location and urban/rural status:** We interviewed hospices from different census regions to understand if there were differences in regions related to low or limited enrollment, and how the hospices tried to overcome these barriers.
- **Timing of enrollment (where applicable):** For hospices with one or two enrollees, we selected some whose first enrollment happened relatively early and others whose first

enrollment happened relatively late to examine whether the timing of implementation was a factor in first enrollment.

- **Engagement:** We selected hospices having different levels of engagement with CMS learning activities to understand how hospices engaged in these activities despite low enrollment.

From the original sample of seven cohort 1 hospices, one hospice did not respond to our recruitment efforts, so we interviewed six cohort 1 hospices. For the 10 cohort 2 hospices that were selected, we interviewed eight hospices as two hospices did not agree to participate.[48]

During interviews with MCCM hospices with low enrollment, we discussed the following topics:

- Other service lines offered by the hospice, including palliative care and home health
- Beneficiary populations served
- Market characteristics, including whether there are competing community-based palliative care programs
- Approach to marketing MCCM to providers and beneficiaries, and responses to these marketing efforts
- Whether specific MCCM-eligibility requirements posed particular challenges or disqualified beneficiaries who would have otherwise been eligible
- Staffing and training approaches for model implementation, and structure for delivering services
- Preliminary model impacts
- Need for and experience with technical assistance provided by CMS and its contractors

We describe the organizational characteristics of MCCM hospices with low enrollment that participated in qualitative interviews in **Exhibit G.8**.

[48] Prior to recruitment, two hospices were dropped from our sample due to ineligibility (i.e., enrollment increased above three beneficiaries); because of this, we reached out to both of our proposed alternates for interviews. Of the 10 remaining hospices that we contacted for an interview, 8 were interviewed and 2 were not due to non-response. Because of the two hospices that became ineligible for an interview due to increased enrollment, we also interviewed the hospices originally proposed as alternates.

Exhibit G.8 Organizational Characteristics of Interviewed Hospices with Low Enrollment

Characteristic	2017 Cohort 1 (n = 6)	2018 Cohort 2 (n = 8)
Ownership status[a]	2 for-profit 3 nonprofit 1 other	1 for-profit 7 nonprofit
Facility type[a]	1 facility-based 5 freestanding	1 facility-based 7 freestanding
Geographic location[a]	1 Midwest 4 South 1 West	1 Midwest 3 South 4 West
Rural or urban[a]	6 urban	2 rural 6 urban
Hospice size[b]	1 medium 5 large	1 small 1 medium 6 large

Note: These characteristics were defined in the Centers for Medicare & Medicaid Services' Provider of Services file.

[a] These characteristics were defined in the Centers for Medicare & Medicaid Services' Provider of Services file.

[b] Hospice size is defined using the number of routine homecare days in fiscal year 2016. Hospices with 0-3,499 routine homecare days are classified as small, 3,500-19,999 as medium, and 20,000+ as large, as defined in the Medicare Program; FY 2018 Hospice Wage Index and Payment Rate Update and Hospice Quality Reporting Requirements: https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-index-and-payment-rate-update-and-hospice-quality-reporting.

As with our other interviews, we promised each interviewee anonymity to the extent possible. If specific needs or questions arose during interviews that the hospice wanted CMS to address, we encouraged them to reach out to their CMS project officers.

G.5. REPORTS AND INTERVIEW NOTES

We documented interview results in two ways:

- Summary reports and accompanying PowerPoint slides for the interviews conducted with actively participating hospices
- Notes for interviews conducted with hospices that withdrew from the model and those with initial low enrollment

To the greatest extent possible, the materials contained de-identified information, so that the specific hospice and interview respondents were not able to be recognized. Characteristics of these materials are detailed in **Exhibit G.9**. These materials were developed for internal learning at CMS and for the evaluation team's analysis.

Exhibit G.9 Characteristics of Reports and Interview Notes

Title	Type of Interviewed Hospice	Description	Primary Audience	Length
Reports and PowerPoint Slides	Actively participating hospices	Individual reports and slides were developed for each hospice	CMS	15-20 pages
Notes	Withdrawn hospices Initial low enrollment hospices	Detailed notes were created	Evaluation team	8-10 pages

G.6. QUALITATIVE DATA ANALYSIS

G.6.1 Codebook Development

All qualitative data collected through the interviews were coded and analyzed using Nvivo, a qualitative data analysis software package. The initial codebook was developed using deductive methods, based on the interview protocols and evaluation research questions; and focused on relevant concepts, themes, and characteristics. The codebook was expanded to identify additional themes as additional interviews were completed. The process of adding and refining codes continued until no new themes were identified and the codebook was considered final for the year. The evaluation team also addressed any codebook inconsistencies, redundancies, or imprecision. In future years, the codebook will be enhanced to include additional relevant themes.

G.6.2 Coder Training and Inter-Coder Reliability Checks

To ensure that analysts understood how to apply the codebook, a senior researcher had the analysts code the first two summary reports, and then assessed the degree of inter-rater reliability using Cohen's kappa coefficients generated by Nvivo's query function. The senior researcher reviewed inconsistencies, and clarified coding instructions with the analysts and re-assessed inter-rater reliability. The senior researcher repeated this process until confident that the analysts could apply the coding protocol as instructed. Next, the analysts coded a third summary report. If the Cohen's kappa coefficient was consistently above 0.80 (which is generally recognized as "almost perfect agreement"[49]), then the analysts coded the remaining summary reports independently. If not, the senior researcher provided additional instructions and re-assessed inter-rater reliability testing.

The codebook used for in-person and telephone interviews with actively participating hospices, interviews with withdrawn hospices, and interviews with low-enrollment hospices is presented in **Exhibit G.10**. While the codebook provides instructions specific to the codes and nodes used in the Nvivo software, additional details provided by the interview

[49] Marston L. (2010). *Introductory Statistics for Health and Nursing Using SPSS*. Sage Publications, Ltd., Thousand Oaks, CA.

respondents were also analyzed. This includes details related to organizational characteristics, such as geographic location (region of the United States and urban/rural setting); nonprofit/for-profit ownership, and hospice size; and timing of participation in the model.

Exhibit G.10 Codebook for Qualitative Data Analysis for MCCM Evaluation

Main Codes	Subsidiary Codes	Definition	Type of Interview Respondent		
			In Person	With-drawn	Low Enrollment
Hospice characteristics	Facility type	Whether the hospice is freestanding or facility-based.	✓	✓	✓
	Services provided	Whether the hospice provides home health, palliative care, or other services other than traditional hospice services.	✓	✓	✓
	Beneficiary population being served	Demographics, socioeconomic status, etc., of the beneficiaries the hospice serves.	✓	✓	✓
	Type of payers for population served	Distribution of payer type among the hospice's beneficiaries.	✓	✓	✓
	Geographic service area	Whether the hospice is offering MCCM in all the same geographic areas it offers hospice care, if there are certain geographic areas that the hospice is targeting for MCCM, or if there are any broader discussions of where the hospice offers services.	✓	✓	✓
Competitive marketplace	N/A	Information about the market in which the hospice operates, including whether there are many hospices, whether any of them are also participating in MCCM, etc.	✓	✓	✓
Overlapping models	N/A	Discussions about the hospice's experience with other care or payment model initiatives. This might include whether the hospice is a part of an accountable care organization, if it has any commercial insurers with similar programs, or whether it is working with any oncology practices participating in the CMS Oncology Care Model.	✓	✓	✓
MCCM entry	N/A	How the hospice made entry decisions, the data the hospice used to help make this decision, the hospice's prior experience with payment reform or value-based purchasing that might have driven the decision, and who was involved in the entry decision.	✓	✓	✓

Main Codes	Subsidiary Codes	Definition	Type of Interview Respondent		
			In Person	With-drawn	Low Enrollment
MCCM implementation	Barriers to implementation	Barriers to implementing MCCM.	✓		
	Facilitators for implementation	Facilitators to implementing MCCM.	✓		
	Changes in implementation over time	Changes to how things have been done over time.	✓		
	Referral networks	Discussions about the hospice's general relationship with referral sources. This might include relationships with health systems that send many beneficiaries to the hospice, specific referral programs with palliative care programs, community-based physicians, etc.	✓	✓	✓
	MCCM marketing and beneficiary identification	Discussions about how the hospice is marketing the model to referral sources to try and identify eligible beneficiaries. This might include how the hospice is identifying eligible beneficiaries, and whether it is targeting referring physicians/hospitals/etc. as referral sources. This might include discussions about marketing to referral sources, whether the hospice is doing any direct-to-beneficiary education, etc.	✓	✓	✓
	Confirming eligibility for MCCM	Discussions about how the hospice is confirming that a beneficiary meets the eligibility criteria to be part of MCCM. This might include how the hospice confirms the various eligibility criteria, the role of the medical director in the enrollment process, and any challenges or barriers that the hospice is encountering with regard to eligibility criteria.	✓		
	Staffing for MCCM	Discussions about how the hospice has staffed MCCM. This might include new hires to meet model requirements, reassignment of existing staff to MCCM, or other workflow changes.	✓	✓	✓
	Training for MCCM	Mentions of staff training, including changes to the organization's orientation/onboarding process.	✓		
	Delivery of MCCM services	Discussions of how the hospice is delivering services under MCCM, including whether it is doing in-person or telephonic visits, how the hospice assesses a beneficiary's needs, the creation of care plans, etc.	✓	✓	✓

Main Codes	Subsidiary Codes	Definition	Type of Interview Respondent		
			In Person	With-drawn	Low Enrollment
MCCM implementation *(continued)*	Role of palliative care teams	Discussion of involvement with a palliative care team in MCCM. This might be related to referrals of beneficiaries to MCCM, or concurrent treatment of MCCM beneficiaries by a palliative care service. The palliative care service could be hospital-based or employed by the hospice.	✓		
	Referral networks	Discussions of how the hospice is approaching the requirement to coordinate all of the care an MCCM enrollee is receiving. This might include the mechanics of care coordination (e.g., who does what).	✓	✓	✓
	Use of technology for MCCM	Discussions of the hospice's use of technology, including an electronic health record, in its implementation of MCCM. This might include whether the hospice had to adopt any new technologies for the model or how electronic health records are integrated into other aspects of its MCCM implementation.	✓		
	Experience with MCCM portal	Discussions of the hospice's experience with the MCCM portal. This might include who is uploading the data, the kinds of encounters the hospice is entering into the portal, and any suggestions for changes in the portal.	✓	✓	
	Twenty-four hours a day, 7 days a week access	Discussions about how the hospice provides 24 hours a day, 7 days a week access for MCCM beneficiaries. This might include the mention of how the hospice provides after-hours care, educates beneficiaries about seeking after-hours care, etc.	✓		
	Financial monitoring and billing	Whether the hospice is tracking the financial impact of MCCM participation, any challenges or barriers the hospice has encountered with billing for MCCM claims, etc.	✓	✓	✓
	Suggested changes to the model	Suggestions on how to change the model structure and requirements; this might include changes to eligibility criteria, billing suggestions, etc.	✓	✓	✓
	Barriers to enrollment	Information on the primary barriers to enrolling beneficiaries in MCCM.	✓	✓	✓

Main Codes	Subsidiary Codes	Definition	Type of Interview Respondent		
			In Person	With-drawn	Low Enrollment
MCCM implementation *(continued)*	Participation in technical assistance and support activities	The hospice's experiences with technical assistance and support activities, including webinars and technical assistance received from CMS or its contractors.	✓	✓	✓
Quality monitoring for MCCM	N/A	Discussions of how the hospice is doing routine quality monitoring for MCCM. This should include whether the hospice is tracking MCCM enrollees separately for quality assurance and performance improvement, whether it has dedicated staff for MCCM quality assurance and performance improvement, and whether it has any performance improvement projects for MCCM specifically.	✓		
Perception of impact	Transition to hospice	Discussions about MCCM enrollees' transitions to hospice. This might involve the percentage of MCCM enrollees that have made this transition and how the hospice approaches the transition.	✓	✓	✓
	Health outcomes/ quality	Discussions of how the hospice sees MCCM impacting enrollee health outcomes and quality of care.	✓	✓	✓
	Opportunities to reduce Medicare expenditures	Discussions of how the hospice sees MCCM saving Medicare money.	✓	✓	✓
	Health care utilization	Discussions of how the hospice sees MCCM impacting the use of health care services. This includes changes in emergency department use, hospitalizations, intensive care unit use, aggressive treatment in the last two weeks of life, etc.	✓	✓	✓
	Beneficiary/care giver satisfaction	Discussions of how MCCM might be impacting beneficiary/caregiver satisfaction with the care they are receiving for their illness from either the hospice or any other providers.	✓	✓	✓
	Provider satisfaction	Code discussions of how MCCM might be impacting clinician/staff satisfaction at both the hospice and referring clinicians. This might include referring physicians' opinions of MCCM.	✓	✓	✓
	Financial impact on the hospice of MCCM participation	Any Information on the financial impact of MCCM participation on the hospice itself, separate from "financial monitoring and billing."	✓	✓	✓

Main Codes	Subsidiary Codes	Definition	Type of Interview Respondent		
			In Person	With-drawn	Low Enrollment
Reasons for withdrawal	N/A	Documentation of the primary reasons the hospice withdrew from MCCM.		✓	
Sustainability and spread	N/A	Discussions of MCCM sustainability or spread. This might include the resources needed to sustain the model at the hospice, including staff thoughts on whether the amount of the monthly, per-beneficiary, per-month payment needs to be adjusted.	✓		
Unintended consequences	N/A	Discussions of potential unintended consequences of MCCM.	✓	✓	✓
Memorable quotes	N/A	Memorable quotes that could be used to illustrate a point.	✓	✓	✓

Note: All codes were used in coding the summary reports.

G.6.3 Qualitative Data Analysis and Reporting

After each in-person and telephone interview with actively participating hospices, we prepared a summary report, as described above. These reports do not mention the name of the hospice or any interviewee. After coding themes from the reports, we analyzed the data across hospices and interviewees by aggregating at the theme level, and results were compared across hospices to understand the range of opinions and experiences. Themes from withdrawn and low-enrollment hospice interviews were also coded using Nvivo. The aggregate findings were reported in a memorandum submitted to CMS.

In the main findings report, primarily in Section 3, we analyzed themes across various levels:

- **Timing of implementation:** Comparing and contrasting hospices interviewed in each year (2016, 2017, and 2018), as the time for implementation activities varies based on the time the hospice has been active in the model; we also examined the differences based on cohort, as cohort 1 hospices had additional time implementing the model as they started enrolling beneficiaries in January 2016 and cohort 2 hospices started enrolling in January 2018.
- **Type of interviewed hospice:** Comparing and contrasting hospices that were actively participating versus a hospice with low enrollment versus a hospice that withdrew.
- **Organizational characteristics:** Comparing and contrasting hospices based on affiliations with other healthcare organizations and palliative care programs.

Themes from interviews were coded using qualitative analytic software. It is important to note that we based emergent themes on the limited number of interviews conducted to date, so these themes may not be generalizable to the entire group of MCCM hospices and

enrollees. We include findings in this report only if interviewees from more than one MCCM hospice described similar experiences. When reporting on findings from qualitative interviews, we use the word "few" to denote two to three hospices, "several" to denote four to eight hospices, "many" to denote more than eight but fewer than three-fourths of hospices, and "most" to indicate three-fourths or more of hospices. For most topics, we have data from 24 hospices, but qualitative interviews differ from surveys in that the approach is conversational and free-flowing, with the result that not all respondents answered every question. Hence, the number of hospices with data on a given topic varies, and we considered this carefully when characterizing the relative prevalence of a given finding.

G.6.4 Next Steps for Interviews

We will conduct two more rounds of interviews with active hospices in both 2019 and 2020:

1. Interviews with hospices we previously interviewed (in 2019, this will be with hospices we interviewed in 2017). These telephone interviews will provide the evaluation team with insight as to how the hospices shifted their implementation approaches over time and the hospices' plans for sustainability after the model ends. We anticipate conducting six interviews in each of the remaining two years.
2. Interviews with hospices we have not yet interviewed. We will conduct in-person site visits with hospices throughout the country, following the protocol identified in **Section G.2**. We anticipate conducting 12 interviews in each of the remaining 2 years.
   - We will continue to conduct interviews with hospices that withdraw from MCCM, using the protocol identified in **Section G.3**.
   - Additionally, we will conduct detailed analysis related to the timing of enrollment, organizational characteristics (hospice size, ownership, and location), and enrollment levels to provide insight into MCCM implementation successes and challenges.

G.7. INTERVIEW PROTOCOLS[50]

G.7.1 Protocols for Interviews with Active MCCM Hospices

[50] As discussed in **Sections G.2**, **G.3**, and **G.4,** protocols differed based on the role of the respondent and the type of interview (active, withdrew, low enrollment).

Medicare Care Choices Model Evaluation

Interview Protocol: Hospice Executive Leadership/MCCM Director

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you, and from staff at [NAME OF HOSPICE], but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Market & Hospice Characteristics

Characteristics of hospices participating in the model

- Please briefly describe the hospice:
  - Is the hospice owned by a health system?
  - Does the hospice provide any specialized services (e.g. ventilator care, special services, home health, palliative care)? Does the hospice also provide home health services?
  - Does the hospice provide care in the nursing home setting?
  - Has the hospice recently merged with another hospice, or provider organization, or undergone a significant expansion? Do you anticipate any mergers or expansions in the foreseeable future?
  - What proportion of the (traditional) hospice patients are Medicare beneficiaries/private pay/Medicaid patients?

- Please briefly describe your staff:
  - Does the hospice organization employ physicians? If so, how many and what are their roles (e.g. medical director, direct care provider)?
  - Does the hospice utilize nurse practitioners/physician assistants?
  - Other interdisciplinary team members (i.e. nurses, LPNs, social workers, chaplains, volunteer coordinator, bereavement coordinator)?
  - Does the hospice use volunteers to provide services to patients enrolled in MCCM? If so, what services do they provide?

- What is the average annual number of traditional hospices patients your hospice serves and what is their average length of stay?
  - How many MCCM patients has your hospice enrolled to date? What is your current MCCM census?
  - To date, what is the average length of time that MCCM patients stay in the program before transitioning to traditional hospice, dying, or withdrawing from the program?

Competitive marketplace

- How would you describe the local health care market in which your hospice operates?
  - How many hospitals, home health agencies, and nursing homes, serve your area?
  - How competitive is the hospice market?

- Are you aware of other local hospices that are participating in MCCM? If so, have you had any interaction with them?

- Have you noticed shifts in the local market for hospice care in recent years (e.g. more hospices entering the market, hospices closing, mergers, or a shift toward for-profit providers) or changes in referral patents to hospice?

- How widespread is managed care in this area?
  - What percentage of your hospice patients are covered by Medicare Advantage plans?
  - How common is participation in Medicare Advantage among your patients? Do any of the Medicare Advantage plans that your patients are enrolled in operate a model similar to MCCM?

Experience in and overlap with other alternative payment models

- Is your hospice participating in other payment or care delivery reform initiatives that might overlap with MCCM? If so, please describe them and your experiences with them.
  - Do these models have similar goals to MCCM? What are the main elements of these models? How are they similar to or different from MCCM?
  - [If part of a health system] Is your health system participating in any other payment or care delivery initiatives that overlap with MCCM or hospice?

- Are you aware of any oncology practices in your community that are participating in the Oncology Care Model (OCM) – a new Medicare program to improve the care of Medicare beneficiaries diagnosed with cancer?
  - [IF YES] Are any of your patients enrolled in MCCM also being treated by an oncology practice that is participating in OCM?
    - [If YES] Since both OCM and MCCM have a requirement for care coordination, how do you work with the oncology practice to coordinate care for these patients?

- Are there local Accountable Care Organizations that your hospice is either a part of or has a preferred provider agreement with?
  - If yes, is care coordination a component of these models?

- Are there other payment or care delivery models ongoing in your area such as:
  - Bundled Payment for Care Improvement
  - Comprehensive ESRD Care Model
  - Comprehensive Primary Care Plus
  - Independent at Home Demonstration
  - [IF YES] How are these impacting your participation in MCCM?

- Do you foresee future changes in referral patterns as your hospice continues in the MCCM?

Program Implementation

Reasons for MCCM Participation

- Why did the hospice decide to participate in MCCM?
    - Who was involved in this decision (e.g. leadership, direct care staff)?
    - Was the hospice already involved in certain required elements of MCCM, such as care coordination, shared-decision making or other care redesign activities?
    - Did competition in your community or any other market characteristics impact your decision to apply to participate in MCCM?

- At the time of applying to MCCM, what were the perceived advantages and disadvantages of participation? Have those changed over time?

Enrollment/Marketing and coordination with referring physicians and beneficiaries

We'd like to talk a little bit about how the hospice is approaching enrollment into MCCM.

- What has been the primary strategy for identifying patients who may be eligible to enroll in MCCM?
    - Are staff working directly with physicians or individuals working in other organizations (e.g. discharge planners/case managers) to identify potential MCCM patients?
    - Are you marketing the program directly to patients?

- [If working with physicians] How are you working with physicians to market the MCCM to them and their patients?
    - How are physicians identified to work with?
    - Have you developed educational materials about MCCM for these physicians? If so, do you have copies of these materials you could share?
    - Since the start of MCCM, has the group of physicians you work with changed?
    - Has having MCCM led serving a different patient population than your hospice previously served?

- [If working directly with patients] How do staff identify potential patients who may be eligible to enroll in MCCM?
    - Have staff developed educational materials about MCCM for these patients? If so, do you have copies of these materials you can share with us?
    - Has having MCCM led to serving a different patient population than your hospice previously served?

- [If working with individuals in other organizations] How is your hospice staff working with these individuals to market the MCCM to them and their patients?
    - How did staff identify individuals within organizations to work with?
    - Have staff developed educational materials about MCCM for these individuals? If so, do you have copies of these materials you can share with us?

  - Since the start of MCCM, have referral patterns for traditional hospice services from these individuals changed in anyway?

- In general, what has worked well in these relationships? What are you planning to do differently to continue to enroll patients in the program?
  - Is there particular messaging about the program that resonated particularly well with patients, physicians, or others to whom you market the program? Is there particular messaging that was poorly received?
  - What challenges have your staff faced when educating others about MCCM? What have you done to overcome the challenges?
  - What are your staff planning to do differently to continue to enroll patients in the program?

Referral processing and eligibility verification

- Walk us through the process of receiving and processing referrals to MCCM.
  - How do you go about verifying if the patient meets the MCCM eligibility criteria?
  - Who is responsible for receiving referrals and verifying eligibility? Is this the same team that receives hospice referrals or are the two processes separate?
  - How long does it take between receiving a referral and enrolling a patient in MCCM?
  - What are the challenges you have encountered in verifying eligibility criteria?

- Have these approaches changed since participation in MCCM began?
  - Have referral sources or volume of referrals from particular sources changed because of MCCM?
  - How have referrals to traditional hospice been affected by the addition of the MCCM?

Delivery of MCCM services

We'd like to understand what the hospice has changed about how it delivers care in order to comply with MCCM requirements.

- Prior to joining MCCM, did the hospice offer a palliative care program to patients before they elected the Medicare hospice benefit? If not, was the hospice affiliated with one operated by another entity?

- Once a patient enrolls in MCCM, can you walk us through the immediate next steps?
  - How and when is an initial assessment of the patient conducted in order to determine what services will be offered to the patient?
  - Who participates in the initial assessment?

- Do you create a care plan for each MCCM patient?
  - If so, does the care plan include the care they are receiving from other community providers?

  - If the patient and/or their family member involved in developing the care plan?
  - How do you communicate the care plan to the appropriate providers (e.g., the patient's referring physician, home health provider, etc.)?

- If the hospice is part of a larger system:
  - How has the health system or hospital been involved in care redesign initiatives to meet the MCCM requirements?
  - Are you able to access health system resources (e.g., support staff, office/clinical space, supportive services) for your patients?

Care coordination across multiple providers

As you know, one of the requirements of MCCM is to coordinate all of the care that a patient receives, including from your hospice and other outside providers such as a patient's oncologist or cardiologist.

- Did hospice staff have any experience coordinating care with other curative providers prior to your participation in MCCM?
  - If your hospice staff previously coordinated care, how has this activity and your operations changed with your participation in MCCM?

- How do you approach this requirement to coordinate care?
  - What elements of care does the staff coordinate for patients? Appointment/test/procedure scheduling? Prescription fills/refills and durable medical equipment? Transportation needs or appointment follow-ups?
  - What about services from home health agencies such as aides, PT, OT or IV infusion?

- What systems do staff use to coordinate care (e.g. electronic communication, secure fax, EHR portal)? Who can access these systems within the hospice or outside of the hospice?

- Are you able to track if a patient has visited an Emergency Department (ED) or been admitted to the hospital? If yes, do you track it for all patients or just those in MCCM?

- What has worked well so far in the area of care coordination? What are you planning to do differently as the model implementation proceeds?
  - What have been the barriers to effective care coordination?

- When an MCCM patient elects the Medicare hospice benefit, how does that transition take place?
  - Are there any differences in hospice election among the MCCM patient cohort compared to your hospice's experience prior to MCCM (e.g. are patients electing hospice sooner in their disease trajectory)?

Staff hiring and training/workflow redesign

- Have you created a training program for your clinicians and staff about the requirements and components of MCCM – and their role in meeting these requirements? Have you created any training materials? (If so, could you share them with us?)
    - Which staff are you training? Is the training different for different staff? How long are the trainings?
    - Who created the training?
    - Is training ongoing as the model continues so that new staff receive information on the model?
    - [If applicable] Are your volunteers receiving training on MCCM?

- Have there been any changes in staffing levels or roles due to MCCM?
    - Were new staff hired specifically to implement MCCM? If so, for what roles?

- Have you implemented any deliberate workflow redesign for your staff to meet MCCM requirements? Whose workflows are you focused on, and what is being changed? Do you anticipate additional changes in the future?

Use of technology, data collection and reporting

- What information systems does the hospice use to track and manage patients (e.g. an EHR, paper charting)? Is this the same or different for MCCM patients?
    - If the hospice uses an EHR: Were any changes made to the EHR to facilitate participation in MCCM? If so, can you describe these changes?
        - Can your EHR flag MCCM patients?
        - Do all members of the IDT have access to the EHR?
    - Do you have access to any of the hospital's EHR systems? If so, how do you use this access to monitor your MCCM patients?

- Are there any new technologies or processes you plan to use to coordinate care for MCCM patients? For example, new telephonic technologies for conferencing calling, text or instant messaging with patients or among staff?

- What kind of routine quality monitoring does your hospice do? How has quality monitoring changed since participating in MCCM?
    - Are you tracking specific quality measures? Are you tracking these specifically for MCCM participants, or do you track these for all hospice beneficiaries?
    - Are there certain measures that are the most important indicators of success in the model?
    - Who is able to access quality data within the hospice? Individuals from your larger organization (if appropriate)? Is it shared with direct care staff?

  - Do you share quality data with referral sources or other partners? Do they share such data with you?
  - Do you have plans to collect more or different quality measures in the future?

- We'd like to hear about your experience uploading data to the MCCM portal.
  - Who is responsible for gathering and submitting data to the MCCM portal?
  - Do you have a formal process for verifying that the information submitted is accurate?
  - Are the data easily accessible for submission to the portal (e.g. from your EHR), or do you have to enter it manually?
  - How much time does your team spend uploading information to the MCCM portal?

Financial Impact/Monitoring

- What has been the financial impact of MCCM on your hospice? Is this impact consistent with your expectations? If not, how so?

- Did your hospice do any fundraising to supplement MCCM reimbursement?
  - If so, what kind of fundraising did you do? How was this received by donors/foundations?

- What are the key financial indicators the hospice is monitoring for MCCM?

- In your experience, how does the cost of caring for beneficiaries under MCCM compare to the current reimbursement for MCCM? For what types of patients is the cost of providing care most out of line with the MCCM reimbursement?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact MCCM is having on the care your patients receive, as well as the cost implications to Medicare of the program.

- What impacts do you expect MCCM to have on the quality of care your hospice delivers to patients enrolled in the Model?
    - Do you anticipate that MCCM will have any impact on the quality of care your traditional hospice patients (e.g. non-MCCM) receive?

- How do you think MCCM will impact your patient's access to care, both hospice care as well as care focused on prolonging life?
    - Do you anticipate any challenges in access? In particular, do you anticipate any special challenges for patients with certain socio-demographic characteristics in ensuring access?
    - Are you monitoring access or barriers to care?

- Thinking about costs to Medicare and other payers, do you see the MCCM controlling costs? If so, how and where?

- What impact do you think MCCM is having on patient or caregiver satisfaction with the care they are receiving? Satisfaction for staff at your hospice? Physician or referrer satisfaction?

- Has your hospice participated in any of the MCCM learning system activities (e.g. webinars, enrollment initiatives)?
    - If so, how has your participation in these activities impacted your implementation of MCCM? How have you used what you learned?
    - Are there topics that you'd like to have addressed in future activities?

Unintended Consequences/Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about what the potential unintended consequences, both negative and positive, the MCCM might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Medicare Care Choices Model Evaluation

Interview Protocol: Care Coordinator/Care Manager

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you, and from staff at [NAME OF HOSPICE], but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Market & Hospice Characteristics

Introduction/background

To start off, can you tell me a little bit about yourself?

- How long have you worked in this hospice? In any hospice?
- What is your training?
- Have you always worked as a care coordinator at this hospice? If not, what was your role prior to assuming this duty?

Please describe your role and day-to-day responsibilities as they relate to the MCCM program.

- Do you work exclusively with MCCM patients?
- Do you have responsibilities outside of the MCCM? If so, can you describe them?

Characteristics of the patient population served

- Can you tell me about the patient population served by MCCM and how this differs from the traditional hospice population?
    - In particular, in the MCCM program, do you serve one type of diagnosis predominately? If so, are there particular factors you believe led to this?
    - Are there certain target populations or diagnoses that you notice are harder to serve under MCCM (e.g. AIDS patients)? If so, why? How are you going about addressing these challenges?

- Are there groups of patients with certain beliefs (e.g., cultural, religious) that may influence their acceptance of hospice care?
    - Please describe the segment of the population and their beliefs.
    - What is the influence of these beliefs on their potential acceptance of MCCM?

Experience in and overlap with other alternative payment models

- Are you aware of any oncology practices in your community that are participating in the Oncology Care Model (OCM) – a new Medicare program to improve the care of Medicare beneficiaries diagnosed with cancer?
    - [IF YES] Are any of your patients enrolled in MCCM also being treated by an oncology practice that is participating in OCM?
        - [If YES] Since both OCM and MCCM have a requirement for care coordination, how do you work with the oncology practice to coordinate care for these patients?

Program Implementation

Enrollment/marketing and coordination with referring physicians and beneficiaries

We'd like to talk a little bit about how the hospice is approaching enrollment into the MCCM.

- What has been the primary strategy for identifying patients who may be eligible to enroll in MCCM?
    - Are you working directly with physicians or individuals working in other organizations (e.g. discharge planners/case managers) to identify potential MCCM patients?
    - Are you marketing the program directly to patients?

- [If working with physicians] How are you working with physicians to market the MCCM to them and their patients?
    - How do you identify physicians to work with?
    - Have you developed educational materials about MCCM for these physicians? If so, do you have copies of these materials you could share?
    - Since the start of MCCM, has the group of physicians you work with changed?
    - Has having MCCM led to serving a different patient population than your hospice previously served?

- [If working directly with patients] How do you identify potential patients who may be eligible to enroll in MCCM?
    - Have you developed educational materials about MCCM for these patients? If so, do you have copies of these materials you could share?
    - Has having MCCM led to serving a different patient population than your hospice previously served?

- [If working with individuals working in other organizations] How are you working with these individuals to market the MCCM program to them and their patients?
    - How did you identify which individuals within organizations you would work with?
    - Have you developed educational materials about MCCM for these individuals? If so, do you have copies of these materials you can share with us?
    - Since the start of MCCM, have your referral patterns for traditional hospice services from these individuals changed in anyway?

- In general, what has worked well in each of these relationships (e.g. with patients, physicians or other organizations)? What are you planning to do differently to continue to enroll patients in the program?
    - Is there particular messaging about the program that resonated particularly well with patients, physicians, or others to whom you market the program? Is there particular messaging that was poorly received?

  - What challenges have you faced when educating others about MCCM? What have you done to overcome the challenges?
  - What are you planning to do differently to continue to enroll patients in the program?

Care coordination across multiple providers

As you know, one of the requirements of MCCM is to coordinate all of the care that a patient receives, including from your hospice and other outside providers such as a patient's oncologist or cardiologist.

- How do you approach this requirement to coordinate care?
  - What elements of care do you coordinate for patients? Appointment/test/procedure scheduling? Prescription fills/refills and durable medical equipment? Transportation needs or appointment follow-ups?
  - What about services from home health agencies such as aides, PT, OT or IV infusion?

- What systems do staff use to coordinate care (e.g. electronic communication, secure fax, EHR portal)? Who can access these systems within the hospice or outside of the hospice?

- Are you able to track if a patient has visited an Emergency Department (ED) or been admitted to the hospital? If yes, do you track it for all patients or just those in MCCM?

- What has worked well so far in the area of care coordination? What are you planning to do differently as the model implementation proceeds?
  - What have been the barriers to effective care coordination?

- When an MCCM patient elects the Medicare hospice benefit, how does that transition take place?
  - How do you approach talking to the patient about switching from the MCCM program to the hospice benefit? When do you typically have these conversations?
  - Are there any differences in hospice election among the MCCM patient cohort compared to your hospice's experience prior to MCCM (e.g. are patients electing hospice sooner in their disease trajectory)?

Staff hiring and training/workflow redesign

- Did you receive any specific training for MCCM or your role? If so, please tell us about it. Who provided the training? What topics were covered?

Use of technology, data collection and reporting

- What information systems does the hospice use to track and manage patients (e.g. an EHR, paper charting)? Is this the same or different for MCCM patients?
  - If the hospice uses an EHR: Were any changes made to the EHR to facilitate participation in MCCM? If so, can you describe these changes?

    - Can your EHR flag MCCM patients?
    - Do all members of the IDT have access to the EHR?

- Are there any new technologies or processes you plan to use to coordinate care for MCCM patients? For example, new telephonic technologies for conferencing calling, text or instant messaging with patients or among staff?

- How is clinical and non-clinical information shared with providers (e.g. referring physicians/hospitals) outside of your hospice?
    - What information is shared?
    - Is this mode of information sharing effective?
    - Have there been any changes regarding with whom information is shared, the type of information shared, or systems for sharing information since entering the MCCM?
    - Do you foresee future changes necessary as you continue in the MCCM program?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact MCCM is having on the care your patients receive, as well as the cost implications to Medicare of the program.

- What impacts do you expect MCCM to have on the quality of care your hospice delivers to patients enrolled in the Model?
    - Do you anticipate that MCCM will have any impact on the quality of care your traditional hospice (e.g. non-MCCM) patients receive?

- How do you think MCCM will impact your patient's access to care both to hospice care as well as care focused on prolonging life?
    - Do you anticipate any challenges in access? In particular, do you anticipate any special challenges for patients with certain socio-demographic characteristics in ensuring access?
    - Are you monitoring access or barriers to care?

- Thinking about costs to Medicare and other payers, do you see the MCCM controlling costs? If so, how and where? Are you monitoring any key financial indicators?

- What impact do you think MCCM is having on patient or caregiver satisfaction with the care they are receiving? Satisfaction for staff at your hospice? Physician or referrer satisfaction?

Unintended Consequences/Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about what the potential unintended consequences, both negative and positive, MCCM might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Medicare Care Choices Model Evaluation

Interview Protocol: Data Analytics Staff

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you, and from staff at [NAME OF HOSPICE], but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Background

To start off, can you tell me a little bit about yourself?

- How long have you worked in this hospice? In any hospice?
- What is your training?
- Please describe your role as it relates to MCCM.

Program Implementation

Use of technology, data collection and reporting

- What information systems does the hospice use to track and manage patients (e.g. an EHR, paper charting)? Is this the same or different for MCCM patients?
    - If the hospice uses an EHR: Were any changes made to the EHR to facilitate participation in MCCM? If so, can you describe these changes?
        - Can your EHR flag MCCM patients?
        - Do all members of the IDT have access to the EHR?

- Did you have to build any capabilities into your EHR to accommodate the MCCM reporting requirements?
    - If so, what was included in this undertaking? Who was involved? How long did it take you?
    - Did you receive any support from your EHR vendor or other outside consultants?

- Are there any new technologies or processes you plan to use to coordinate care for MCCM patients? For example, new telephonic technologies for conferencing calling, text or instant messaging with patients or among staff?

- How is clinical and non-clinical information shared with providers (e.g. referring physicians/hospitals) outside of your hospice?
    - What information is shared?
    - Is this mode of information sharing effective?
    - Have there been any changes regarding with whom information is shared, the type of information shared, or systems for sharing information since entering MCCM?
    - Do you foresee future changes necessary as you continue in MCCM?

- We'd like to hear about your experience uploading data to the implementation portal.
    - Who is responsible for gathering and submitting data to the MCCM portal?
    - Do you have a formal process for verifying that the information submitted is accurate?
    - Are the data easily accessible for submission to the portal (e.g. from your EHR), or do you have to enter it manually?

- Have you participated in any of the MCCM learning system activities (e.g. webinars, enrollment initiatives)?
    - If so, have you found these to be beneficial? How have you used what you learned?
    - Are there topics that you'd like to have addressed in future activities?

Data analytics/quality monitoring

- What kind of routine quality monitoring does your hospice do? How has quality monitoring changed since participating in MCCM?
    - Are you tracking specific quality measures? Are you tracking these specifically for MCCM participants, or do you track these for all hospice beneficiaries?
    - Are there certain measures that are the most important indicators of success in the model?
    - Who is able to access quality data within the hospice? Individuals from your larger organization (if appropriate)? Is it shared with direct care staff?
    - Do you share quality data with referral sources or other partners? Do they share such data with you?
    - Do you have plans to collect more or different quality measures in the future?

Unintended Consequences/Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about what the potential unintended consequences, both negative and positive, MCCM might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Medicare Care Choices Model Evaluation

Interview Protocol: Financial/Billing Staff

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you, and from staff at [NAME OF HOSPICE], but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Market & Hospice Characteristics

Characteristics of hospices participating in the model

- Please briefly describe your organization:
  - Is the hospice owned by a health system?
    - If so, are any other components of the organization participating in MCCM or any other alternative care delivery or payment models?
  - Have you recently merged with another hospice, or provider organization, or undergone a significant expansion? Do you anticipate any mergers or expansions in the foreseeable future?
  - What proportion of your patients are Medicare beneficiaries/private pay/Medicaid patients?

- What is the average annual number of traditional hospices patients the hospice serves, and what is their average length of stay?
  - How many MCCM patients does your hospice have (or expect) annually?
  - To date, what is the average duration that MCCM patients stay in the program before transitioning to traditional hospice, or withdrawing from the program?

Competitive marketplace

- How would you describe the local health care market in which your hospice operates?
  - How many hospitals, home health agencies, and nursing homes, serve your area?
  - How competitive is the hospice market?

- Are you aware of other local hospices that are participating in MCCM? If so, have you had any interaction with them?

- Have you noticed shifts in the local market for hospice care in recent years (e.g. more hospices entering the market, hospices closing, mergers, or a shift toward for-profit providers) or changes in referral patents to hospice?

- How widespread is managed care in this area?
  - What percentage of your patients are covered by Medicare Advantage plans?
  - How common is participation in Medicare Advantage among your patients? Do any of the Medicare Advantage plans that your patients operate a model similar to MCCM?

Experience in and overlap with other alternative payment models

- Is your hospice participating in other payment or care delivery reform initiatives that might overlap with MCCM? If so, please describe them and your experiences with them.
  - Do these models have similar goals to MCCM? What are the main elements of these models? How are they similar to or different from MCCM?

- Are there local Accountable Care Organizations that your hospice is either a part of or has a preferred provider agreement with?
  - If yes, is care coordination a component of these models?

Program Implementation

Financial impact/monitoring

- What has been the financial impact of MCCM on your hospice? Is this impact consistent with your expectations? If not, how so?

- Did your hospice do any fundraising to supplement MCCM reimbursement?
  - If so, what kind of fundraising did you do? How was this received by donors/foundations?

- What are the key financial indicators the hospice is monitoring for MCCM?

- In your experience, how does the cost of caring for beneficiaries under MCCM compare to the current MCCM reimbursement? For what types of patients is the cost of providing care most out of line with the MCCM reimbursement?

Billing for MCCM

- Are you involved with submitting MCCM claims? If so, how has this process gone for you?
  - Have your claims been reimbursed to date? Do you have any outstanding claims?
  - Has your MAC been helpful in resolving any issues related to MCCM billing?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact that MCCM is having on the care your patients receive, as well as the cost implications of the program.

- Thinking about costs to Medicare and other payers, do you see the MCCM controlling costs? If so, how and where?

- Has your hospice participated in any of the MCCM learning system activities (e.g. webinars, enrollment initiatives)?
    - If so, how has your participation in these activities impacted your implementation of MCCM? How have you used what you learned?
    - Are there topics that you'd like to have addressed in future activities?

Unintended Consequences/Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about potential unintended consequences, both negative and positive, the MCCM program might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Medicare Care Choices Model Evaluation

Interview Protocol: Marketing Staff

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you, and from staff at [NAME OF HOSPICE], but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Background

To start off, can you tell me a little bit about yourself?

- How long have you worked in this hospice? In any hospice?
- What is your training?
- Have you always worked in this role at the hospice? Have you held any other roles here?
- Please describe your understanding of MCCM and your involvement with the program to date

Program Implementation

Enrollment/marketing and coordination with referring physicians and beneficiaries

We'd like to talk a little bit about how the hospice is approaching enrollment into the MCCM.

- What has been the primary strategy for identifying patients who may be eligible to enroll in MCCM?
    - Are staff working directly with physicians or individuals working in other organizations (e.g. discharge planners/case managers) to identify potential MCCM patients?
    - Are you marketing the program directly to patients?

- [If working with physicians] How are you working with physicians to market the MCCM to them and their patients?
    - How are physicians identified to work with?
    - Have you developed educational materials about MCCM for these physicians? If so, do you have copies of these materials you could share?
    - Since the start of MCCM, has the group of physicians you work with changed?
    - Has having MCCM led to serving a different patient population than your hospice previously served?

- [If working directly with patients] How do staff identify potential patients who may be eligible to enroll in MCCM?
    - Have staff developed educational materials about MCCM for these patients? If so, do you have copies of these materials you can share with us?
    - Has having MCCM led to serving a different patient population than your hospice previously served?

- [If working with individuals in other organizations] How is your hospice staff working with these individuals to market the MCCM to them and their patients?
    - How did staff identify individuals within organizations to work with?
    - Have staff developed educational materials about MCCM for these individuals? If so, do you have copies of these materials you can share with us?
    - Since the start of MCCM, have referral patterns for traditional hospice services from these individuals changed in anyway?

- In general, what has worked well in these relationships? What are you planning to do differently to continue to enroll patients in the program?
    - Is there particular messaging about the program that resonated particularly well with patients, physicians, or others to whom you market the program? Is there particular messaging that was poorly received?
    - What challenges have you faced when educating others about MCCM? What have you done to overcome the challenges?
    - What are you planning to do differently to continue to enroll patients in the program?

- How have you maintained MCCM referral sources over time? Have you do any reeducation?
    - When a physician refers a patient to MCCM, do you follow-up with any information about whether that patient was eligible for the model?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact MCCM is having on the care your patients receive, as well as the cost implications to Medicare of the program.

- What impact do you think MCCM is having on patient or caregiver satisfaction with the care they are receiving? Satisfaction for staff at your hospice? Physician or referrer satisfaction?

Unintended Consequences/ Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about potential unintended consequences, both negative and positive, the MCCM program might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Medicare Care Choices Model Evaluation

Interview Protocol: Licensed Nurses/Nurse Aides

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you, and from staff at [NAME OF HOSPICE], but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Introduction

To start off, can you tell me a little bit about yourself?

- How long have you worked in this hospice? In any hospice?
- Do you have experience working in other care settings?
- What is your training?

Please describe your role and day-to-day responsibilities as they relate to the MCCM program.

- Do you work exclusively with MCCM patients?
- Do you have responsibilities outside of the MCCM program? If so, can you describe them?

Characteristics of the patient population served

- What are the primary diagnoses of the patients your traditional hospice serves?
    - In particular, in your MCCM program, do you serve one type of diagnosis predominately? If so, are there particular factors you believe led to this?
    - Are there certain target populations or diagnoses that you notice are harder to serve under MCCM (e.g. AIDS patients)? If so, why?

- What is the general composition of the patient population your hospice serves in terms of race/ethnicity, average age, insurance coverage, and religion?
    - Do the patients in the MCCM have a similar mix of characteristics to those of your traditional hospice patient population, or are they different? If they are different, how so?

- Are there particular groups of patients with certain beliefs (e.g., cultural, religious) that may influence their acceptance of hospice care?
    - Please describe these groups of the population and their beliefs.
    - What is the influence of these beliefs on their potential acceptance of MCCM?

Program Implementation

Delivery of MCCM services

We'd like to understand what the hospice has changed about how it delivers care in order to comply with MCCM requirements.

- Prior to joining MCCM, did the hospice offer a palliative care program to patients before they elected the Medicare hospice benefit? If not, was the hospice affiliated with one operated by another entity?

- How do you assess a patient who is referred to MCCM to ensure they meet eligibility criteria?
    - Who completes this assessment? How long does it take?

- Once a patient enrolls in MCCM, can you walk us through the immediate next steps?

  - How and when is an initial assessment of the patient conducted in order to determine what services will be offered to the patient?
  - Who (i.e., what IDT members) participates in the assessment?

- Do you create a care plan for the MCCM patient?
  - If so, does the care plan include the care they are receiving from other curative providers?
  - Is the patient and/or their family member involved in developing the care plan?
  - How do you communicate the care plan to the appropriate providers (e.g., the patient's referring physician, home health provider, etc.)?

- Has your hospice added any new services to meet MCCM requirements that were previously not offered?

Care coordination across multiple providers

As you know, one of the requirements of MCCM is to coordinate all of the care that a patient receives, including from your hospice and other outside providers such as a patient's oncologist or cardiologist.

- How is the hospice approaching this requirement to coordinate care with outside providers?
  - Do you have dedicated care coordinators or navigators?
  - What elements of care does the staff coordinate for patients? Appointment/test/procedure scheduling? Prescription fills/refills and durable medical equipment? Transportation needs or appointment follow-ups?
  - What about services from home health agencies such as aides, PT, OT or IV infusion?

- What systems do staff use to coordinate care (e.g. electronic communication, secure fax, EHR portal)? Who can access these systems within the hospice or outside of the hospice?

- We're interested in the transition between MCCM and traditional hospice. How do you approach this topic with your patient?
  - When do you typically approach this topic with your patients?
  - Who else is involved in these conversations?
  - Are there any differences in hospice election among the MCCM patient cohort compared to your hospice's experience prior to MCCM (e.g. are patients electing hospice sooner in their disease trajectory)?

Staff hiring and training/workflow redesign

- Did you receive any specific training about the MCCM program?
    - When did you receive this training?
    - What was covered in the training?
    - Who delivered the training?

- Has your workflow changed at all to meet MCCM requirements?

Use of technology, data collection and reporting

- What information systems does the hospice use to track and manage patients (e.g. an EHR, paper charting)? Is this the same or different for MCCM patients?
    - If the hospice uses an EHR: Were any changes made to the EHR to facilitate participation in MCCM? If so, can you describe these changes?
        - Can your EHR flag MCCM patients?
        - Do all members of the IDT have access to the EHR?

- How is clinical and non-clinical information shared with providers (e.g. referring physicians/hospitals) outside of your hospice?
    - What information is shared?
    - Is this mode of information sharing effective?
    - Have there been any changes regarding with whom information is shared, the type of information shared, or systems for sharing information since entering the MCCM?
    - Do you foresee future changes necessary as you continue in the MCCM?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact MCCM is having on the care your patients receive, as well as the cost implications to Medicare of the program.

- What impacts do you expect MCCM to have on the quality of care your hospice delivers to patients enrolled in the Model?
    - Do you anticipate that MCCM will have any impact on the quality of care your traditional hospice patients receive?

- How do you think MCCM will impact your patient's access to care?
    - Do you anticipate any challenges in access? In particular, do you anticipate any special challenges for patients with certain socio-demographic characteristics in ensuring access?
    - Are you monitoring access or barriers to care?

- Thinking about costs to Medicare and other payers, do you see the MCCM controlling costs? If so, how and where?

- What impact do you think MCCM is having on patient or caregiver satisfaction with the care they are receiving? Satisfaction for staff at your hospice? Physician or referrer satisfaction?

Unintended Consequences/Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about potential unintended consequences, both negative and positive, the MCCM program might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Medicare Care Choices Model Evaluation

Interview Protocol: Physicians/NPs/PAs

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

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Do you have any questions?

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Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Market & Hospice Characteristics

Introduction/background

To start off, can you tell me a little bit about yourself?

- How long have you worked in this hospice? In any hospice?
- Do you have experience working in other care settings?
- What is your training?

Please describe your role and day-to-day responsibilities as they relate to the MCCM program.

- Do you work exclusively with MCCM patients?
- Do you have responsibilities outside of the MCCM program? If so, can you describe them?

Characteristics of the patient population served

- What are the primary diagnoses of the patients your hospice serves?
    - In particular, in your MCCM program, do you serve one type of diagnosis predominately? If so, are there particular factors you believe led to this?
    - Are there certain target populations or diagnoses that you notice are harder to serve under MCCM (e.g. AIDS patients)? If so, why?

- What is the general composition of the patient population your hospice serves in terms of race/ethnicity, average age, insurance coverage, and religion?
    - Do the patients in the MCCM program have a similar mix of characteristics to those of your traditional hospice patient population, or are they different? If they are different, how so?

- Are there particular groups of patients in your local market with certain beliefs (e.g., cultural, religious) that may influence their acceptance of hospice care?
    - Please describe these groups of the population and their beliefs.
    - What is the influence of these beliefs on their potential acceptance of MCCM?

Program Implementation

Reasons for MCCM entry

- Do you know why this hospice decided to participate in MCCM?
    - Were you involved in this decision?
    - Was your organization already involved in certain required elements of MCCM, such as care coordination, shared-decision making or other care redesign activities?

Delivery of MCCM services

We'd like to understand what the hospice has changed about how it delivers care in order to comply with MCCM requirements.

- Prior to joining MCCM, did the hospice offer a palliative care program to patients before they elected the Medicare hospice benefit? If not, was the hospice affiliated with one operated by another entity?

- Has your hospice added any new services to meet MCCM requirements that were previously not offered?

Care coordination across multiple providers

As you know, one of the requirements of MCCM is to coordinate all of the care that a patient receives, including from your hospice and other outside providers such as a patient's oncologist or cardiologist.

- How is your hospice approaching this requirement to coordinate care with outside providers?
    - Do you have dedicated care coordinators or navigators?
    - What elements of care does the staff coordinate for patients? Appointment/test/procedure scheduling? Prescription fills/refills and durable medical equipment? Transportation needs or appointment follow-ups?
    - What about services from home health agencies such as aides, PT, OT or IV infusion?

- What systems do staff use to coordinate care (e.g. electronic communication, secure fax, EHR portal)? Who can access these systems within the hospice or outside of the hospice?

- Are you able to track if a patient has visited an Emergency Department (ED) or been admitted to the hospital? If yes, do you track it for all patients or just those in MCCM?

- We're interested in the transition between MCCM and traditional hospice. How do you approach this topic with your patient?
    - When do you typically approach this topic with your patients?
    - Who else is involved in these conversations?
    - Are there any differences in hospice election among the MCCM patient cohort compared to your experience prior to MCCM (e.g. are patients electing hospice sooner in their disease trajectory)?

Staff hiring and training/workflow redesign

- Did you receive any specific training about the MCCM program?
    - When did you receive this training?
    - What was covered in the training?
    - Who delivered the training?

- Has your workflow changed at all to meet MCCM requirements?

Use of technology, data collection and reporting

- What information systems does the hospice use to track and manage patients (e.g. an EHR, paper charting)? Is this the same or different for MCCM patients?
    - If the hospice uses an EHR: Were any changes made to the EHR to facilitate participation in MCCM? If so, can you describe these changes?
        - Can your EHR flag MCCM patients?
        - Do all members of the IDT have access to the EHR?

- How is clinical and non-clinical information shared with providers (e.g. referring physicians/hospitals) outside of your hospice?
    - What information is shared?
    - Is this mode of information sharing effective?
    - Have there been any changes regarding with whom information is shared, the type of information shared, or systems for sharing information since entering the MCCM?
    - Do you foresee future changes necessary as you continue in the MCCM?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact MCCM is having on the care your patients receive, as well as the cost implications to Medicare of the program.

- What impacts do you expect MCCM to have on the quality of care your hospice delivers to patients enrolled in the Model?
    - Do you anticipate that MCCM will have any impact on the quality of care your traditional hospice patients receive?

- How do you think MCCM will impact your patient's access to care?
    - Do you anticipate any challenges in access? In particular, do you anticipate any special challenges for patients with certain socio-demographic characteristics in ensuring access?
    - Are you monitoring access or barriers to care?

- Thinking about costs to Medicare and other payers, do you see the MCCM controlling costs? If so, how and where?

- What impact do you think MCCM is having on patient or caregiver satisfaction with the care they are receiving? Satisfaction for staff at your hospice? Physician or referrer satisfaction?

Unintended Consequences/Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about potential unintended consequences, both negative and positive, the MCCM might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Medicare Care Choices Model Evaluation

Interview Protocol: QAPI Coordinator

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you, and from staff at [NAME OF HOSPICE], but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Background

To start off, can you tell me a little bit about yourself?

- How long have you worked in this hospice? In any hospice?
- Do you have experience working in other care settings?
- What is your training?
- Have you always worked as a QAPI/process improvement coordinator at this hospice? If not, what was your role prior to assuming this duty?
- What has been your involvement with MCCM?

Program Implementation

Quality monitoring/process improvement for MCCM

- What information systems does the hospice use to track and manage patients (e.g. an EHR, paper charting)? Is this the same or different for MCCM patients?
    - If the hospice uses an EHR: Were any changes made to the EHR to facilitate participation in MCCM? If so, can you describe these changes?
        - Can your EHR flag MCCM patients?
        - Do all members of the IDT have access to the EHR?

- Are there any new technologies or processes you plan to use to coordinate care for MCCM patients? For example, new telephonic technologies for conferencing calling, text or instant messaging with patients or among staff?

- How is clinical and non-clinical information shared with providers (e.g. referring physicians/hospitals) outside of your hospice?
    - What information is shared?
    - Is this mode of information sharing effective?
    - Have there been any changes regarding with whom information is shared, the type of information shared, or systems for sharing information since entering the MCCM?
    - Do you foresee future changes necessary as you continue in the MCCM?

- What kind of routine quality monitoring does your hospice do? How has quality monitoring changed since participating in MCCM?
    - Are you tracking specific quality measures? Are you tracking these specifically for MCCM participants, or do you track these for all hospice beneficiaries?
    - Are there certain measures that are the most important indicators of success in the model?
    - Who is able to access quality data within the hospice? Individuals from your larger organization (if appropriate)? Is it shared with direct care staff?
    - Do you share quality data with referral sources or other partners? Do they share such data with you?

  - Do you have plans to collect more or different quality measures in the future?

- If the hospice is part of a larger system:
  - How has the health system or hospital been involved in care redesign initiatives to meet the MCCM requirements?
  - Are you able to access health system resources (e.g., support staff, office/clinical space, supportive services) for your patients?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact MCCM is having on the care your patients receive, as well as the cost implications to Medicare of the program.

- What impacts do you expect MCCM to have on the quality of care your hospice delivers to patients enrolled in the Model?
  - Do you anticipate that MCCM will have any impact on the quality of care your traditional hospice patients receive?

- How do you think MCCM will impact your patient's access to care?
  - Do you anticipate any challenges in access? In particular, do you anticipate any special challenges for patients with certain socio-demographic characteristics in ensuring access?
  - Are you monitoring access or barriers to care?

- Thinking about costs to Medicare and other payers, do you see the MCCM program controlling costs? If so, how and where?

- What impact do you think MCCM is having on patient or caregiver satisfaction with the care they are receiving? Satisfaction for staff at your hospice? Physician or referrer satisfaction?

Unintended Consequences/ Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about potential unintended consequences, both negative and positive, the MCCM program might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Medicare Care Choices Model Evaluation

Interview Protocol: Social Workers/Chaplains

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you, and from staff at [NAME OF HOSPICE], but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Market & Hospice Characteristics

Introduction/background

To start off, can you tell me a little bit about yourself?

- How long have you worked in this hospice? In any hospice?
- Do you have experience working in other care settings?
- What is your training?

Please describe your role and day-to-day responsibilities as they relate to the MCCM program.

- Do you work exclusively with MCCM patients?
- Do you have responsibilities outside of the MCCM program? If so, can you describe them?

Characteristics of the patient population served

- What are the primary diagnoses of the patients your traditional hospice serves?
    - In particular, in your MCCM program, do you serve one type of diagnosis predominately? If so, are there particular factors you believe led to this?
    - Are there certain target populations or diagnoses that you notice are harder to serve under MCCM (e.g. AIDS patients)? If so, why?

- What is the general composition of the patient population your hospice serves in terms of race/ethnicity, average age, insurance coverage, and religion?
    - Do the patients in the MCCM have a similar mix of characteristics to those of your traditional hospice patient population, or are they different? If they are different, how so?

- Are there particular groups of patients in your local market with certain beliefs (e.g., cultural, religious) that may influence their acceptance of hospice care?
    - Please describe these groups of the population and their beliefs.
    - What is the influence of these beliefs on their potential acceptance of MCCM?

Referral patterns

- Can you walk us through the typical referral process for Medicare patients to hospice (prior to MCCM)?
    - Does the process vary by referral source (e.g. physician versus SNF)?

- Have these approaches changed since participation in the MCCM began?
    - Have referral sources or volume of referrals from particular sources changed because of MCCM?
    - Have these referral sources been informed about the MCCM? Who was informed (hospital case managers, discharge planners, home health agency staff, physician practices, other providers)? In what way? How was this information received?

  - How have referrals to traditional hospice been affected by the addition of the MCCM?

- Do you foresee future changes in referral patterns as your hospice continues in the MCCM?

Program Implementation

Delivery of MCCM services

We'd like to understand what the hospice has changed about how it delivers care in order to comply with MCCM requirements.

- Prior to joining MCCM, did the hospice offer a palliative care program to patients before they elected the Medicare hospice benefit? If not, was the hospice affiliated with one operated by another entity?

- How do you assess a patient who is referred to MCCM to ensure they meet eligibility criteria?
  - Who completes this assessment? How long does it take?

- Once a patient enrolls in MCCM, can you walk us through the immediate next steps?
  - How and when is an initial assessment of the patient conducted in order to determine what services will be offered to the patient?
  - Who (i.e., what IDT members) participates in the assessment?

- Do you create a care plan for each MCCM patient?
  - If so, does the care plan include the care they are receiving from other curative providers?
  - If the patient and/or their family member involved in developing the care plan
  - How do you communicate the care plan to the appropriate providers (e.g., the patient's referring physician, home health provider, etc.)?

- Has your hospice added any new services to meet MCCM requirements that were previously not offered?

- If the hospice is part of a larger system:
  - How has the health system or hospital been involved in care redesign initiatives to meet the MCCM requirements?
  - Are you able to access health system resources (e.g., support staff, office/clinical space, supportive services) for your patients?

Care coordination across multiple providers

As you know, one of the requirements of MCCM is to coordinate all of the care that a patient receives, including from your hospice and other outside providers such as a patient's oncologist or cardiologist.

- Did staff have any experience coordinating care with curative providers prior to your participation in MCCM?
    - If hospice staff previously coordinated care, how has this activity and your operations changed with your participation in MCCM?

- How do you approach this requirement to coordinate care?
    - Do you have dedicated care coordinators or navigators?
    - What elements of care does the staff coordinate for patients? Appointment/test/procedure scheduling? Prescription fills/refills and durable medical equipment? Transportation needs or appointment follow-ups?
    - What about services from home health agencies such as aides, PT, OT or IV infusion?

- What systems do staff use to coordinate care (e.g. electronic communication, secure fax, EHR portal)? Who can access these systems within the hospice or outside of the hospice?

- Are you able to track if a patient has visited an Emergency Department (ED) or been admitted to the hospital? If yes, do you track it for all patients or just those in MCCM?

- What has worked well so far in the area of care coordination? What are you planning to do differently as the model implementation proceeds?
    - What have been the barriers to effective care coordination?

- When an MCCM patient elects the Medicare hospice benefit, how does that transition take place?
    - How do you approach talking to the patient about switching from the MCCM program to the hospice benefit? When do you typically have these conversations?
    - Are there any differences in hospice election among the MCCM patient cohort compared to your hospice's experience prior to MCCM (e.g. are patients electing hospice sooner in their disease trajectory)?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact = MCCM is having on the care your patients receive, as well as the cost implications to Medicare of the program.

- What impacts do you expect MCCM to have on the quality of care your hospice delivers to patients enrolled in the Model?
    - Do you anticipate that MCCM will have any impact on the quality of care your traditional hospice patients receive?

- How do you think MCCM will impact your patient's access to care?
    - Do you anticipate any challenges in access? In particular, do you anticipate any special challenges for patients with certain socio-demographic characteristics in ensuring access?
    - Are you monitoring access or barriers to care?

- Thinking about costs to Medicare and other payers, do you see the MCCM controlling costs? If so, how and where?

- What impact do you think MCCM is having on patient or caregiver satisfaction with the care they are receiving? Satisfaction for staff at your hospice? Physician or referrer satisfaction?

Unintended Consequences/Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about potential unintended consequences, both negative and positive, the MCCM program might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Medicare Care Choices Model Evaluation

Interview Protocol: Case Study Interviews with MCCM Enrollees or Caregivers

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research]. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker].*

You are being asked to participate in this interview because you or your loved one is currently receiving services under the MCCM program. The MCCM is a new way of providing Medicare services where eligible people get additional services to improve their quality of life.

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate [name hospice gave their MCCM program], which is part of the MCCM. The purpose of this evaluation is to help CMS understand how hospices participating in this model coordinate services, and how it affects your/your loved one's quality of life, quality of care and Medicare costs.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you/your loved one choose(s) not to participate, or to stop the interview at any time, you/your loved one will not be penalized in any way. [If interview is taking place in a hospice inpatient facility: We will be sure to close the door so that our conversation will not be overheard by anyone else.] Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your/your loved one's health care providers, the government, or anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you/your loved one, and from staff at [NAME OF HOSPICE], but we will not include your/your loved one's name in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and to record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Background

1. Tell me a little about yourself/the patient and about his/her needs which led them to receive care from [HOSPICE NAME]. Do you/the patient have a live-in caregiver, or do you live alone?

2. Have you heard about the Medicare Care Choices Model? [If not, remind the patient using the name of the hospice and the specific name of the program used]
    a. When did you/the patient start to receive services as part of the Medicare Care Choices Model? [Use the actual name of the MCCM program if that information is available prior to the interview].

3. Prior to enrolling in the program, what type of support for your illness, if any, were you/the patient receiving from family, friends, or medical providers (e.g. visits from home health agency)?

Communication and Decision Making Regarding Enrolling in MCCM

1. Tell me about your decision to enroll in the program.
    a. What was important in your decision?
    b. Who did you discuss the decision with?
    c. What were you told about the program? From whom did you receive this information?
    d. What services were appealing to you?
    e. Did you have any concerns about the program?
    f. How were you doing before enrolling in the program? What supports were you receiving?

2. How did you/the patient first learn about the option to participate in the MCCM?

3. In your opinion, did the timing of this discussion seem appropriate?

4. Did anyone other than you/the patient participate in decision making related to participation in the program (e.g., other family members, pastors or chaplains)? If so, was there support among the individuals involved in the decision making?

5. Did you/the patient consider any other options for care while considering MCCM (e.g., home care, palliative care, or hospice services)? If so, why was enrollment in MCCM a preferable option?

Provision and Coordination of Care through MCCM

1. What types of services are you currently receiving from [HOSPICE NAME]? Were you involved in identifying the need for these services?

2. Are these services meeting your needs? If no, what other services do you feel you need?

3. Does someone from the hospice visit you/the patient at home? If yes:
   - Who and how often?
   - Are the visits scheduled, on an as-needed basis or both?
   - Are the visits helpful? Why or why not?

4. If you/the patient needs assistance after business hours, do you normally call the hospice, or do you contact your physician's office?
   - Do you find staff from the hospice are generally responsive to these needs?

5. Did the hospice obtain any equipment for you to use in your home? If so:
   - What types of equipment?
   - What led to the provision of the equipment (e.g., patient request, clinical assessment, patient concern over inability to perform a task independently)?
   - Is it helpful and sufficient to meet your/the patient's needs?

6. Do you use any medications to help your symptoms or keep you/the patient comfortable? If yes,
   - What is the hospice's role in helping you/the patient to obtain the medications?
   - Has your medication regimen changed since you/the patient enrolled in MCCM?
   - Is your/the patient's medication regimen meeting your/the patient's expectations for symptom relief?
   - Has the hospice provided suggestions for individualized non-medication approaches to help you manage your symptoms? If yes, are these helpful?

7. Did the decision to join the MCCM program change the level of involvement of your/the patient's usual physician(s) in your/the patient's care? If so
   - Please describe the change.
   - How do you/the patient feel about the change?

8. Has the frequency of appointments with your/the patient's physician(s) changed? If so:
   - What has changed?
   - How do you/the patient feel about the changes?

9. How do staff from [HOSPICE NAME] ensure that the care you are receiving is well coordinated?
   - Do they help you schedule appointments?

- Do they help with arrangements for transportation if you need it?
- Do they coordinate sharing your records or test results?
- Are these services sufficient to meet your/the patient's needs?

Impact of MCCM

1. Which services that you're receiving have helped you the most? What services could be improved?

2. How has MCCM impacted your/the patient's:
   - Quality of life?
   - Family's quality of life?
   - Care?
   - Symptom management?
   - Financial issues related to your care?
   - Concerns about the future?
   - Any other ways in which the program or these services have affected you?

3. Is there anything about the MCCM program that you would like to add that we did not discuss?

Medicare Care Choices Model Evaluation

Interview Protocol: Referring Provider Interview Guide

Hello, I'm (*NAME*) from [Abt Associates/OHSU/L&M Policy Research. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which [NAME OF HOSPICE] is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because you have referred your patients for participation in this program.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers or staff at [NAME OF HOSPICE], with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from you, and from staff at [NAME OF HOSPICE], but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free. You may also contact the OHSU IRB at (503) 494-7887 or at irb@ohsu.edu.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Background

1. Please start off by telling me a little bit about yourself and your practice.
    a. How long have you been affiliated with this practice?

2. Does your practice:
    a. Participate in a hospice network? If so, is the hospice network participating in MCCM?
    b. Collaborate with a practice/system that has a palliative care or hospice program? If the provider practice/system has a hospice program, are they participating in MCCM?

Awareness of the MCCM Program

1. What is your understanding of the MCCM program [Use this name of the program at the hospice]?

2. When and how did you first learn about MCCM? Did you learn about MCCM from [HOSPICE NAME] or some other source?
    a. Did [HOSPICE NAME] provide any training or information to you about their program?

3. Do MCCM-participating hospices actively market to you/your practice? If so:
    a. What outreach or marketing materials did they provide that were particularly useful to you, your staff, and/or your patients?

4. How have your expectations about MCCM aligned with your experiences so far?

Facilitation of Patient Referrals to MCCM and Provision of Patient Care and Coordination

1. At what point do you initiate conversations with patients and families about hospice care?
    a. Has anything about these conversations changed because of MCCM?

2. Tell me about how your patients learn about MCCM. Do you generally introduce the program to them, or do they bring it up to you?

3. Is there a subset of patients for whom you think the model is most appropriate?

4. How do patients and their families react to the information you share with them about the model?
    a. What do you think contributes to this reaction?
    b. How do your patients react to the connection between MCCM and traditional hospice care?

5. Do you feel the MCCM eligibility requirements are appropriate? Do you think there should be any changes to the eligibility requirements?

6. How many patients have you referred to MCCM? If some of the referred patients did not enroll, why do you think they did not enroll?

7. How is care of patients enrolled in MCCM coordinated between you and the MCCM hospice?
    a. How do you communicate with the MCCM hospice? Does this differ from how you communicate with other service providers such as home health agencies?
    b. Is communication from the hospice on an as-needed basis, a routine basis, or both?
    c. Do you feel you have adequate access to the hospice/MCCM staff if you have questions or need anything for your patients?

8. Has direct communication between you and your patients/their families changed since they enrolled in MCCM? If so, how?

9. Is there an MCCM program coordinator (or someone from the program) who visits your practice? If so, what is the frequency and purpose(s) of the visits?

10. Are you and your staff comfortable addressing patient and family questions regarding the model? If not, are additional sources of information readily available to you?

11. Does your practice share any clinical information with the MCCM hospice? If so, how is this done (e.g. secure fax or e-mail, portal into EHR)?
    a. Does the MCCM hospice share clinical information with you? If so, how is this done?

12. For your patients enrolled in MCCM, has access to medications for symptom management or medical equipment changed in any way? If so, how?

MCCM Program Impacts

1. What impact do you think the MCCM has had on:
    a. Patient quality of care and life?
    b. Caregiver/family member quality of life?
    c. Emergency department use?
    d. Symptom management?
    e. Satisfaction with the care your patients are receiving?
    f. Your and your staff's ability to coordinate and manage your patients' care?

2. How do you monitor the quality of care received by your patients who are enrolled in MCCM? Do you receive any formal feedback reports from the hospice?

    a. Thinking about the MCCM as a whole, are there any potential downsides you worry about for your patients specifically, and for all patients enrolled in the model nationwide?
3. In closing, is there anything else about the MCCM that you think is important for us to know?

G.7.2 Protocols for Interviews with Withdrawn Hospices

Medicare Care Choices Model Evaluation

Interview Protocol: Hospices that Withdrew from MCCM

Name/Position of Interviewee:
Abt interviewer:
Site:
Date:

Hello, I'm (*NAME*) from Abt Associates. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization had agreed to participate prior to recently withdrawing. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. You are being asked to participate in this interview because your organization recently ended its participation in the MCCM.

Our interview today should last about [INSERT TIME]. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of Abt Associates. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from all hospices that participated in the model, but subsequently withdrew, but we will not include your name or the name of your organization, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Market & Hospice Characteristics

Characteristics of hospices participating in the model

- Please briefly describe the organization:
  - Is the hospice owned by a health system?
    - If so, are any other components of the organization participating in MCCM or any other alternative care delivery or payment models?
  - Does the hospice provide any specialized services (e.g. ventilator care, special services)?
  - Does the hospice provide care in the nursing home setting?
  - What proportion of the (traditional) hospice patients are Medicare beneficiaries/private pay/Medicaid patients?

- Please briefly describe your staff:
  - Does the hospice organization employ physicians? If so, how many and what are their roles (e.g. medical director, direct care provider)?
  - Does the hospice utilize nurse practitioners/physician assistants?
  - Other interdisciplinary team members (i.e. nurses, LPNs, social workers, chaplains, volunteer coordinator, bereavement coordinator)?
  - Does the hospice use volunteers to provide services to patients enrolled in MCCM? If so, what services do they provide?

- Does the hospice have dedicated care coordinators?
  - If so, did you always had dedicated care coordinators or was this a new role for MCCM?
  - What are the qualifications/training of the person in this role?

- What is the average annual number of traditional hospices patients you serve and what is their average length of stay?
  - How many MCCM patients did your hospice enrolled while you were participating in the Model?
  - What was the average length of time that MCCM patients stayed in the program before transitioning to traditional hospice, dying or withdrawing from the program?

Competitive marketplace

- How would you describe the local health care market in which you operate?
  - How many hospitals, home health agencies, and nursing homes, serve your area?
  - How competitive is the hospice market?

- Are you aware of other local hospices that are participating in MCCM? While you were participating in the Model, did you have any interaction with other local hospices participating in MCCM?

- Have you noticed shifts in the local market for hospice care in recent years (e.g. more hospices entering the market, hospices closing, mergers, or a shift toward for-profit providers) or changes in referral patents to hospice?

Characteristics of the patient population served

- What are the primary diagnoses of the patients your hospice serves?
  - In particular, in your MCCM program, did you serve one type of diagnosis predominately? If so, are there particular factors you believe led to this?
  - Are there certain target populations or diagnoses that you noticed were harder to serve under MCCM (e.g. AIDS patients)? If so, why?

- What is the general composition of the patient population you serve in terms of race/ethnicity, average age, insurance coverage, and religion?
  - Did the patients who were in MCCM have a similar mix of characteristics to those of your traditional hospice patient population, or are they different? If they are different, how so?

Referral patterns

- Did your hospice see referral patterns change as a result of your participation in the MCCM program?

Experience in and overlap with other alternative payment models

- Is your hospice participating in other payment or care delivery reform initiatives that overlapped with MCCM? If so, please describe them and your experiences with them.
  - Do these models have similar goals to MCCM? What are the main elements of these models? How are they similar to or different from MCCM?

- Are you aware of any oncology practices in your community that are participating in the Oncology Care Model (OCM) – a new Medicare program to improve the care of Medicare beneficiaries diagnosed with cancer?
  - [IF YES] Were any of your patients enrolled in MCCM also being treated by an oncology practice that is participating in OCM?
    - [If YES] Since both OCM and MCCM have a requirement for care coordination, how did you work with the oncology practice to coordinate care for these patients?

- Are there local Accountable Care Organizations that your hospice is either a part of or has a preferred provider agreement with?
  - If yes, is care coordination a component of these models?

- Are there other payment or care delivery models ongoing in your area such as:
  - Bundled Payment for Care Improvement

- Comprehensive ESRD Care Model
- Comprehensive Primary Care Plus
- Independent at Home Demonstration
- [IF YES] How did these impacting your participation in MCCM?

Program Experience

Reasons for MCCM entry/withdrawal

- Why did the hospice organization decide to participate in MCCM?
  - Who was involved in this decision (e.g. leadership, direct care staff)?
  - Was the hospice already involved in certain required elements of MCCM, such as care coordination, shared-decision making or other care redesign activities?
  - Did competition in your community or any other market characteristics impact your decision to apply to participate in MCCM?

- When did the hospice make the decision to apply for MCCM? What were the perceived advantages and disadvantages of participation? Did those changed over time in a way that led to your decision to withdrawn?

- What are the primary reasons that your organization decided to withdraw from MCCM?

- How did you transition patients who were enrolled in the Model at the time that your hospice stopped participating?

Delivery of MCCM services

We'd like to understand what the hospice changed about how it delivers care in order to comply with MCCM requirements.

- Prior to joining MCCM, did the hospice offer a palliative care program to patients before they elected the Medicare hospice benefit? If not, was the hospice affiliated with one operated by another entity?

- How did you assess a patient who is referred to MCCM to ensure they meet eligibility criteria?
  - Who completes this assessment? How long does it take?

- Did your hospice add any new services to meet MCCM requirements that were not previously offered? Now that you've withdrawn from the program, are you still offering these services?

Care coordination across multiple providers

As you know, one of the requirements of MCCM is to coordinate all of the care that a patient receives, including from your hospice and other outside providers such as a patient's oncologist or cardiologist.

- Did hospice staff have any experience coordinating care with other curative providers prior to your participation in MCCM?

  - If your hospice staff previously coordinated care, how did this activity and your operations change with your participation in MCCM?

- How did you approach this requirement to coordinate care?
  - Did you have dedicated care coordinators or navigators?
  - What elements of care did the staff coordinate for patients? Appointment/test/procedure scheduling? Prescription fills/refills and durable medical equipment? Transportation needs or appointment follow-ups?
  - What about services from home health agencies such as aides, PT, OT or IV infusion?

Staff hiring and training/workflow redesign

- Did you create a training program for your clinicians and staff about the requirements and components of MCCM – and their role in meeting these requirements?
  - Which staff did you training?
  - Who created the training?

- Were there any changes in staffing levels or roles due to MCCM?
  - Was new staff hired specifically to implement MCCM? If so, for what roles?

Financial impact/monitoring

- What was the financial impact of MCCM on your hospice? Was this impact consistent with your expectations? If not, how so?

- In your experience, how did the cost of caring for beneficiaries under MCCM compare to the current reimbursement for MCCM? For what types of patients was the cost of providing care most out of line with the MCCM reimbursement?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact MCCM had on the care your patients received while your hospice participated in the program.

- In general, what impact do you think MCCM had on the care your MCCM enrolled patients?
  - On the quality of care they received?
  - On their access to care?
  - On their satisfaction with the care they received?

- Thinking about costs to Medicare and other payers, did you see the MCCM controlling costs? If so, how and where? Were you monitoring any key financial indicators?
- Had your hospice participated in any of the MCCM learning system activities (e.g. webinars, enrollment initiatives)?
  - If so, did you found these to be beneficial? How did you use what you learned?
  - Are there topics that you would have liked to have been addressed?

Unintended Consequences/Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about what were the potential unintended consequences, both negative and positive, MCCM might have had on your patients, or nationwide.

- What about non-participating hospices? Do you think they reaped any benefits or experienced any disadvantages?

Is there anything else you'd like to share with us about your participation in MCCM that we haven't covered today?

G.7.3 Protocols for Interviews with Hospices with Low Enrollment – Cohort 1

Medicare Care Choices Model Evaluation

Interview Protocol: Hospices with Low Enrollment

Name/Position of Interviewee:
Abt interviewer:
Site:
Date:

Hello, I'm (*NAME*) from Abt Associates. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. **Part of our evaluation is to understand the barriers that hospices may be facing enrolling patients in the model.** You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about an hour. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing our report. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a report for CMS that includes information we learn from your organization, as well as several others, but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Market & Hospice Characteristics

Characteristics of hospices participating in the model

- Please briefly describe the hospice:
  - Is the hospice owned by a health system?
    - If so, are any other components of the organization participating in MCCM or any other alternative care delivery or payment models?
  - Does the hospice provide any specialized services (e.g. ventilator care, special services, home health, palliative care)?
  - Does the hospice provide care in the nursing home setting?
  - Has the hospice recently merged with another hospice, or provider organization, or undergone a significant expansion? Do you anticipate any mergers or expansions in the foreseeable future?
  - What proportion of the (traditional) hospice patients are Medicare beneficiaries/private pay/Medicaid patients?

- What is the average annual number of traditional hospices patients your hospice serves and what is their average length of stay?
  - How many MCCM patients has your hospice enrolled (or expect to enroll)?
  - To date, what is the average length of time that MCCM patients stay in the program before transitioning to traditional hospice, dying, or withdrawing from the program?

Competitive marketplace

- How would you describe the local health care market in which your hospice operates?
  - How many hospitals, home health agencies, and nursing homes, serve your area?
  - How competitive is the hospice market?

- Are you aware of other local hospices that are participating in MCCM? If so, have you had any interaction with them?

- Have you noticed shifts in the local market for hospice care in recent years (e.g. more hospices entering the market, hospices closing, mergers, or a shift toward for-profit providers) or changes in referral patents to hospice?

- How widespread is managed care in this area?
  - What percentage of your hospice patients are covered by Medicare Advantage plans?
  - How common is participation in Medicare Advantage among your patients? Do any of the Medicare Advantage plans that your patients are enrolled in operate a model similar to MCCM?

Experience in and overlap with other alternative payment models

- Is your hospice participating in other payment or care delivery reform initiatives that might overlap with MCCM? If so, please describe them and your experiences with them.
  - Do these models have similar goals to MCCM? What are the main elements of these models? How are they similar to or different from MCCM?

- Are there local Accountable Care Organizations that your hospice is either a part of or has a preferred provider agreement with?
  - If yes, is end-of-life care a component of these models?

- Are there other payment or care delivery models ongoing in your area such as:
  - Acute Illness Management (AIM) programs
  - PACE (or Program for all-inclusive care for the elderly)
  - [IF YES] How are these impacting your participation in MCCM?

Program Implementation

Reasons for MCCM entry

- Why did the hospice decide to participate in MCCM?
  - Who was involved in this decision (e.g. leadership, direct care staff)?
  - Was the hospice already involved in certain required elements of MCCM, such as care coordination, shared-decision making or other care redesign activities?
  - Did competition in your community or any other market characteristics impact your decision to apply to participate in MCCM?

- When did the hospice make the decision to apply for the MCCM? What were the perceived advantages and disadvantages of participation? Have those changed over time?

Referral patterns

- Can you walk us through the typical referral process for an MCCM patient?
  - Does the process vary by referral source (e.g. physician versus SNF versus hospital)?
- Do you foresee future changes in referral patterns as your hospice continues in the MCCM?

Enrollment/marketing and coordination with referring physicians and beneficiaries

- What has been the primary strategy for identifying patients who may be eligible to enroll in MCCM? For example, are you working with representatives of a hospital/health system, community-based physician practices, direct-to-patient marketing, etc.?
  - Are you marketing the program directly to patients?
  - Have you developed educational materials about MCCM for these groups?

- In general, what has worked well in these relationships? What are you planning to do differently to continue to enroll patients in the program?
    - Is there particular messaging about the program that resonated particularly well with patients, physicians, or others to whom you market the program? Is there particular messaging that was poorly received?
    - What challenges have your staff faced when educating others about MCCM? What have you done to overcome the challenges?
    - What are your staff planning to do differently to continue to enroll patients in the program?

Barriers to eligibility

- How has your organization gone about confirming a patient's eligibility for MCCM?

- Are there certain eligibility criteria that are posing a barrier to enrollment in the model (e.g. six-month prognosis, disease categories, living at home, no Medicare advantage)?

Delivery of MCCM services

We'd like to understand what the hospice has changed about how it delivers care in order to comply with MCCM requirements.

- Has your hospice added any new services to meet MCCM requirements that were previously not offered?
- If the hospice is part of a larger system:
    - How has the health system or hospital been involved in care redesign initiatives to meet the MCCM requirements?
    - Are you able to access health system resources (e.g., support staff, office/clinical space, supportive services) for your patients?

Opportunities for improving the model

- What specific changes to the model could CMS make that would address some of the challenges to enrollment that your hospice has faced?

- Has your hospice participated in any of the MCCM learning system activities (e.g. webinars, enrollment initiatives)?
    - If so, how has your participation in these activities impacted your implementation of MCCM? How have you used what you learned?

- Are there any topics that you would like to see future webinars from CMS cover?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact MCCM is having on the care your patients receive, as well as the cost implications to Medicare of the program.

- What impacts do you expect MCCM to have on the quality of care your hospice delivers to patients enrolled in the Model?
    - Do you anticipate that MCCM will have any impact on the quality of care your traditional hospice patients (e.g. non-MCCM) receive?
- Thinking about costs to Medicare and other payers, do you see the MCCM controlling costs? If so, how and where?

Unintended Consequences/Spillover

Stepping back and considering the MCCM program as a whole, we're interested in your thoughts about what the potential unintended consequences, both negative and positive, the MCCM might have on your patients, or nationwide.

- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

G.7.4 Protocols for Interviews with Hospices with Low Enrollment – Cohort 2

Medicare Care Choices Model Evaluation

Interview Protocol: Hospices with Low Enrollment – Cohort 2

Name/Position of Interviewee:
Abt interviewer:
Hospice name:
CCN:
Date:

Hello, I'm (*NAME*) from Abt Associates. Thank you for your willingness to participate in today's discussion. I am working with *[introduce the note taker and partner, if appropriate].*

Abt Associates is a private research company that has been hired by the Centers for Medicare & Medicaid Services (CMS) to evaluate the Medicare Care Choices Model (or M-C-C-M) program in which your organization is participating. The purpose of this evaluation is to help CMS understand how hospices participating in the MCCM redesign care delivery and coordinate both hospice and curative services in one program. A second purpose is to identify potential needs for support or technical assistance that CMS may be able to provide to all participating hospices. We are also evaluating the contextual factors that may affect program success, and most importantly, the impact of the program on quality of care, health outcomes, utilization, and Medicare spending. **Part of our evaluation is to understand the issues that hospices may be facing when enrolling patients in the model and other early implementation experiences.** You are being asked to participate in this interview because you are either directly involved in this program, or it involves your patients.

Our interview today should last about an hour. Participating is voluntary. If you choose not to participate, or to stop the interview at any time, you will not be penalized in any way. Also, we would like to audio record this interview, with your permission, to help as we are writing up our findings and reporting them to CMS. The notes and recordings of our interview will not be shared with your employers, with the government, or with anyone outside of the study team. If you do not wish to be recorded, that is fine. We will write a summary memo and a report for CMS that includes information we learn from your organization, as well as several others, but we will not include your name, in any report to the government. While there is a minimal risk that your confidentiality might not be preserved, we have safeguards that will protect the confidentiality of your information to the extent allowable under the law.

Do you have any questions?

If you have any questions that I cannot answer at this time, or at any time after this interview, you may contact Lynn Miescier at the Centers for Medicare and Medicare Services at (410) 786-4928. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this research, you may do so by calling 1-877-520-6835 toll free.

Given the information that I have just reviewed with you, do I have your permission to proceed with this interview and record our conversation?

If Yes, Great. [RECORD VERBAL CONSENT]

If yes to proceeding with the interview but not recording it: That is fine. We will just take notes during the interview. Thank you.

Market & Hospice Characteristics

Characteristics of hospices participating in the model

- Please briefly describe the hospice:
  - Is the hospice owned by a health system?
    - If so, are any other components of the organization participating in MCCM or any other alternative care delivery or payment models?
  - Does the hospice provide any specialized services (e.g. ventilator care, special services, home health, palliative care)?
  - Does the hospice provide care in the nursing home setting?
  - Has the hospice recently merged with another hospice, or provider organization, or undergone a significant expansion? Do you anticipate any mergers or expansions in the foreseeable future?
  - What proportion of the (traditional) hospice patients are Medicare beneficiaries/private pay/Medicaid patients?

- What is the average annual number of traditional hospices patients your hospice serves and what is their average length of stay?
  - How many MCCM patients has your hospice enrolled (or expect to enroll)?
  - To date, what is the average length of time that MCCM patients stay in the program before transitioning to traditional hospice, dying, or withdrawing from the program?

Competitive marketplace

- How would you describe the local health care market in which your hospice operates?
  - How many hospitals, home health agencies, and nursing homes, serve your area?
  - How competitive is the hospice market?

- Are you aware of other local hospices that are participating in MCCM? If so, have you had any interaction with them?

- Have you noticed shifts in the local market for hospice care in recent years (e.g. more hospices entering the market, hospices closing, mergers, or a shift toward for-profit providers) or changes in referral patents to hospice?

- How widespread is managed care in this area?
  - What percentage of your hospice patients are covered by Medicare Advantage plans?
  - How common is participation in Medicare Advantage among your patients? Do any of the Medicare Advantage plans that your patients are enrolled in operate a model similar to MCCM? If so, please describe these similar models and your experiences with them.

Experience in and overlap with other alternative payment models

- Is your hospice participating in other payment or care delivery reform initiatives that might overlap with MCCM? If so, please describe them and your experiences with them.
  - Do these models have similar goals to MCCM? What are the main elements of these models? How are they similar to or different from MCCM?

- Are there local Accountable Care Organizations that your hospice is either a part of or has a preferred provider agreement with?
  - If yes, is end-of-life care a component of these models?

- Are there other payment or care delivery models ongoing in your area such as:
  - Acute Illness Management (AIM) programs
  - PACE (or Program for all-inclusive care for the elderly)
  - [IF YES] How are these impacting your participation in MCCM?

Program Implementation

Reasons for MCCM entry

- Why did the hospice decide to participate in MCCM?
  - Who was involved in this decision (e.g. leadership, direct care staff)?
  - Was the hospice already involved in certain required elements of MCCM, such as care coordination, shared-decision making or other care redesign activities?
  - Did competition in your community or any other market characteristics impact your decision to apply to participate in MCCM?

- When did the hospice make the decision to apply for the MCCM? What were the perceived advantages and disadvantages of participation? Have those changed over time?

Referral patterns

- Can you walk us through the typical referral process for an MCCM patient?
  - Does the process vary by referral source (e.g. physician versus skilled nursing facility (SNF) versus hospital)?

- Do you foresee future changes in referral patterns as your hospice continues in the MCCM?

Enrollment/marketing and coordination with referring physicians and beneficiaries

- What has been the primary strategy for identifying patients who may be eligible to enroll in MCCM? For example, are you working with representatives of a hospital/health system, community-based physician practices, direct-to-patient marketing, etc.?
  - Are you marketing the program directly to patients?
  - Have you developed educational materials about MCCM for these groups?

- In general, what has worked well in these relationships? What are you planning to do differently to continue to enroll patients in the program?
    - Is there particular messaging about the program that resonated particularly well with patients, physicians, or others to whom you market the program? Is there particular messaging that was poorly received?
    - What challenges have your staff faced when educating others about MCCM? What have you done to overcome the challenges?
    - What are your staff planning to do differently to continue to enroll patients in the program?

Barriers to eligibility

- How has your organization gone about confirming a patient's eligibility for MCCM?
- Are there certain eligibility criteria that are posing a barrier to enrollment in the model (e.g. six-month prognosis, disease categories, living at home, no Medicare Advantage)?
- What are the main barriers or challenges to enrolling patients in MCCM?

Delivery of MCCM services

We'd like to understand what the hospice has changed about how it delivers care in order to comply with MCCM requirements.

- How is your MCCM implementation going so far?
- Has your hospice added any new services to meet MCCM requirements that were previously not offered?
- If the hospice is part of a larger system:
    - How has the health system or hospital been involved in care redesign initiatives to meet the MCCM requirements?
    - Are you able to access health system resources (e.g., support staff, office/clinical space, supportive services) for your patients?

  What has been your hospice's primary strategy for identifying potential MCCM enrollees? Are you marketing the model to physician offices? Hospital staff? Directly to the community?
    - How have these marketing efforts been received?
    - Have you adjusted your marketing strategy at all since beginning MCCM implementation?

- Please tell us about how your hospice has chosen to implement MCCM.
    - How do you receive MCCM referrals and go about verifying that the individual meets the MCCM eligibility criteria?
        - Have there been any challenges related to verifying eligibility for the model?
    - What has been your staffing approach? Did you hire any designated MCCM staff?
    - Which disciplines have been involved in serving MCCM enrollees (or do you anticipate will be involved)?

- Have you trained your staff on MCCM? If so, who have you trained and what topics has the training covered?
    - What has been the staff response to what they know about MCCM?

Opportunities for improving the model

- What specific changes to the model could CMS make that would address some of the challenges to enrollment that your hospice has faced?
    - What kind of support does your hospice need to overcome enrollment challenges? Please describe in detail.
    - What are your thoughts about the MCCM reimbursement structure and billing process?

- Has your hospice participated in any of the MCCM learning system activities (e.g. webinars, enrollment initiatives)?
    - If so, how has your participation in these activities impacted your implementation of MCCM? How have you used what you learned?
        - What has been most and least useful and why?

- Are there any topics that you would like to see covered in future webinars from CMS?

- Do you have any unaddressed needs for support or questions about the MCCM?

Perception of Impact

Now we'd like to talk a little bit about your perception of the impact MCCM is having on the care your patients receive, as well as the cost implications to Medicare.

- What impacts do you expect MCCM to have on the quality of care your hospice delivers to patients enrolled in the Model?
    - Do you anticipate that MCCM will have any impact on the quality of care your *traditional hospice patients* (e.g. non-MCCM) receive?

- Thinking about costs to Medicare and other payers, do you see the MCCM controlling costs? If so, how and where?

Unintended Consequences/Spillover

Although it's early in your MCCM implementation, I'd like you to step back and consider MCCM as a whole. We're interested in your thoughts about what potential unintended consequences, both negative and positive, MCCM might have on the beneficiaries you serve, or nationwide.

- What can be done to maximize the *positive* consequences?
- What can be done to minimize the *negative* consequences?
- What about non-participating hospices? Are they reaping any benefits or experiencing any disadvantages?

Is there anything else that you'd like to share with us about your participation in MCCM that we have not covered above?

Appendix H. Organizational Survey of MCCM and Comparison Hospices

In this appendix we discuss the organizational survey of the Medicare Care Choices Model (MCCM) and non-MCCM comparison hospices. The purpose of the survey is to collect data not available from other sources used in this evaluation. Consistent with this objective, the survey includes information about MCCM hospices' administrative structure, staffing approaches, and affiliations with other health care providers. We also fielded surveys to a group of matched comparison hospices to assess differences in the features of MCCM hospices and traditional hospices.

Organizational survey results described in the main body of this report were collected in two waves. Wave 1 was fielded in fall 2017 for MCCM hospices in cohorts 1 and 2, and in winter 2018 for comparison hospices. Wave 2 was fielded in fall 2018 for MCCM cohorts 1 and 2 only.

The sections below describe the survey development process, including survey content, sampling methodology, fielding procedures, and analysis of survey responses.

H.1. SURVEY CONTENT

The organizational survey questionnaires build upon existing surveys in the published literature[51] that explore the organizational characteristics of hospices, marketing practices, and their impacts on care processes. The topics covered in the organizational survey are shown in **Exhibit H.1**.

[51] Barry CL, Carlson MD, Thompson JW, et al. (2012). Caring for grieving family members: Results from a national hospice survey. *Medical Care, 50,* 578-584.

Exhibit H.1 Organizational Survey Domains

MCCM Research Question [a]	Topics	MCCM Cohort 1	MCCM Cohort 2	Comparison Hospices
Organizational Characteristics of Hospices				
1, 9	Use of electronic health records	✓	✓	✓
1	Affiliation with other health care providers	✓	✓	✓
1	Participation in payment innovations	✓	✓	✓
1	Affiliation with or operation of palliative care program	✓	✓	✓
Service delivery for hospice beneficiaries				
1, 3, 9	Special programs for management of chronic medical conditions or advanced serious illness	✓	✓	✓
1, 9	Weekend and after-hours coverage	✓	✓	✓
1	Staffing of home-based hospice teams	✓	✓	✓
Readiness to implement MCCM				
3	Marketing to physicians	✓	✓	
3	Marketing to beneficiaries	✓	✓	
10	Staff training for MCCM	✓	✓	
3, 5, 6	Business model changes to accommodate MCCM	✓	✓	
Service delivery in MCCM				
3	Recruitment and enrollment of beneficiaries	✓	✓	
9	Staffing MCCM	✓	✓	
5	Coordination with community practitioners	✓	✓	
9	Quality assurance and performance improvement activities	✓	✓	✓
Impact of MCCM				
10, 11	Perceived impact on quality of care, outcomes	✓	✓	✓
10, 11	Unintended consequences of the model	✓	✓	

Note

[a] The full list of MCCM research questions may be found in **Appendix B** of this document.

We completed a draft of the cohort 1 survey instrument in May 2017 and conducted a cognitive test with five staff from four demographically diverse MCCM hospices that agreed to participate in the activity. We sent test participants a paper version of the questionnaire and cover letter, and asked them to complete the questionnaire. The evaluation team then conducted a 90-minute webinar with the pre-test volunteers to obtain their feedback about question wording, question clarity, answer categories, and question ordering. Based on this feedback, we revised the cohort 1 instrument and submitted it to the Centers for Medicare & Medicaid Services (CMS) for review and approval.

We developed the cohort 2 and comparison hospice survey based on the approved version of the cohort 1 instrument. Questions in the cohort 2 survey mirror those in the cohort 1 survey. However, cohort 1 completed the wave 1 survey after 18 months of MCCM implementation, while cohort 2 completed the wave 1 survey during the ramp-up period before MCCM implementation. The wording and focus of several questions in the wave 1

survey were changed in order to account for this discrepancy. For instance, while the cohort 1, wave 1 survey asked about changes that had been implemented since the hospice began using the model, the cohort 2, wave 1 survey asked about changes that the hospices planned to make during MCCM implementation.

For the second wave of data collection for MCCM hospices, we modified the wave 1 cohort 1 and cohort 2 instruments by removing questions that were no longer applicable, such as questions about pre-implementation and early implementation activities. The wave 2 survey largely focused on continued implementation efforts by cohort 1 hospices and on actual implementation efforts for cohort 2 hospices. We did not survey the comparison hospices during wave 2. We also added several new questions that extended the topics addressed in the cohort 1 instrument that were identified during qualitative interviews or secondary data analysis as important topics to explore further. The new questions address payers for traditional hospice enrollees, changes to marketing efforts, affiliations with home health agencies, and coordination of care with community providers.

Survey instruments administered in 2018 to MCCM hospices (wave 2) and comparison hospices (wave 1) are included in **Section H.8**. Survey instruments administered in 2017 to MCCM hospices (wave 1) are included in the technical appendix of MCCM Evaluation Annual Report 1 (https://innovation.cms.gov/files/reports/mccm-firstannrpt.pdf).

H.2. SURVEY ELIGIBILITY AND SAMPLING

Each wave of survey data collection among MCCM hospices included all hospices in cohorts 1 and 2 that were participating in the model at the time of the survey, as shown in **Exhibit H.2**. We sent the comparison survey to the matched hospices in the original 272 comparison hospice sample (see **Appendix F** for more information on how the comparison hospices were selected). As shown in **Exhibit F.3**, most variables had a standardized difference of less than 0.20, which indicates that characteristics of the MCCM and comparison hospices who participated in the organizational survey were similar. Given the large number of covariates used for matching relative to the size of the hospice samples, it is expected that some variables (like the level-of-care variables shown in **Exhibit F.3**) have larger standardized differences. To ensure that key characteristics of comparison hospices were similar to those of MCCM hospices, we stratified the matching by census region (i.e., Northeast, Midwest, South, or West), ownership type, and facility type. For these reasons, we are not concerned regarding the larger standardized differences on certain variables shown in **Exhibit F.3**.

H.3. SURVEY ADMINISTRATION

We administered the survey using Survey Gizmo, an online survey tool that offers a variety of question formats including multiple choice, Likert scales, drop-down selections, and entry of free text. We identified a point of contact at each MCCM hospice using the hospice roster maintained by the implementation contractor. For comparison hospices, we used a national

hospice database[52] to obtain contact information. For comparison hospices without contact information in the national database, we called the hospices and reached out to several national hospice associations, in order to identify contact information for these hospices.

Invited respondents received an email containing the following information:

- An explanation of the purpose of the survey and why they were being asked to complete it; for MCCM participating hospices, this included a reminder that cooperating with evaluation activities is a condition of participation in the model.
- An approximate estimate of how long the survey takes to complete; we estimated the MCCM hospice survey would take up to 30 minutes to complete and the comparison hospice survey would take approximately 15 minutes to complete.
- Letters of support for the survey from CMS, the National Hospice and Palliative Care Organization, the National Partnership for Hospice Innovations, and the National Association for Home Care and Hospice.
- A unique survey link assigned to their hospice.

We invited the point of contact at each MCCM and comparison hospice to be the main respondent; however, the survey instructions noted that multiple individuals at the hospice might need to provide input on the responses.

Cohort 1 and cohort 2 hospice respondents were given approximately three months to complete the survey. During this period, we sent two email reminders and called non-responding hospices. We also mailed all non-responding hospices a hard-copy mail survey with a pre-addressed and stamped return envelope.

The fielding process for the comparison hospices was the same as for cohort 1 and cohort 2 hospices, with several minor differences. Comparison hospices received a $50 electronic gift card in the email survey package as an incentive to complete and return the survey. Additionally, the survey period was longer for comparison hospices than for MCCM hospices, lasting approximately six months.

Cohorts 1 and 2 both completed the first wave of organizational surveys between October and December 2017, and the second wave between October and December 2018. Comparison hospices completed the survey between January and June 2018. .

[52] Hospice Analytics. (2019). *National Hospice Locator by State.* Retrieved on June 24, 2019 from http://www.nationalhospiceanalytics.com/locator/hospice-by-state.

H.4. RESPONSE RATES

Response rates for all survey groups in both waves of data collection are shown in **Exhibit H.2**. For waves 1 and 2, response rates for the MCCM hospices were quite high (80 to 88 percent). The comparison group had a response rate of 51 percent.

Exhibit H.2 Similar Response Rates Obtained from Waves 1 and 2 of the Organizational Survey

Survey Group	2017 (Wave 1)			2018 (Wave 2)		
	Number of Surveys Administered	Number of Surveys Completed	Response Rate	Number of Surveys Administered	Number of Surveys Completed	Response Rate
Cohort 1 hospices	58	49	84.5%	49	39	79.6%
Cohort 2 hospices	55	45	81.8%	42	35	88.1%
Comparison hospices	272	139	51.1%	N/A	N/A	N/A

Source: Response rates to the organizational survey wave 1 that was fielded September-December 2017 for cohorts 1 and 2, and January-June 2018 for comparison hospices; and survey wave 2, which was fielded October-December 2018 for cohorts 1 and 2.

Note: This exhibit displays the number of organizational surveys administered and complied. Abt Associates received 94 completed surveys from wave 1 hospices and 74 completed surveys from wave 2 hospices. Five hospices submitted two wave 1 surveys; for these hospices, we selected the more complete survey and deleted the less-complete one from the database. For one hospice that entered its name and CMS Certification Number but no other data, we deleted that hospice's submission.

We used 272 matched hospices for the comparison group for the organizational survey, due to the timing of fielding. We finalized the comparison frame of 236 hospices used in the administrative data analysis after fielding the comparison group organizational survey. We did not survey comparison hospices in wave 2, and administered fewer surveys in 2018 than in 2017 due to hospices withdrawing from the model between waves. A total of 71 MCCM hospices (n = 37) from cohort 1 and (n = 34) from cohort 2 responded to both wave 1 and wave 2 of the survey.

Most of the results presented in the main report come from the 71 MCCM hospices that completed both wave 1 and wave 2 surveys. These findings include responses from 63.8 percent of cohort 1 hospices (37 of 58), 61.8 percent of cohort 2 hospices (34 of 55), and 51.1 percent of comparison hospices (139 of 272).

H.5. SURVEY DATA ANALYSIS

We report the results of two types of analyses in **Section 3** and **Section 4** of the main report

- Counts of the number of responding hospices reporting specific types of implementation practices
- Unadjusted comparisons of the proportion of survey respondents reporting the organizational characteristics, marketing and referral practices, and impacts on care processes by reported characteristic and type of hospice. Hospice types included MCCM cohort 1 hospices, MCCM cohort 2 hospices, and comparison hospices.

Except where otherwise noted, we restricted findings in **Section 3** and **Section 4** of the main report to the subset of 71 cohort 1 and 2 hospices that completed both waves of the survey. A total of 37 cohort 1 hospices and 34 cohort 2 hospices completed surveys in both waves. Exhibit notes and footnotes include information about which cohorts and waves of the organizational survey were used in each analysis. Hospices that did not answer particular survey questions were omitted from analyses using responses to these questions. As appropriate, we conducted chi-square tests to determine whether reported characteristics of hospices were statistically different across hospice types.

H.6. POWER TO DETECT DIFFERENCES BETWEEN MCCM AND COMPARISON HOSPICES

The power of a statistical test tells us the probability that a statistical test will detect a true difference between groups. The magnitude of the detectable difference depends on the size of the groups being compared given the probability of rejecting the null when it is true (i.e., alpha) and the probability of correctly rejecting the null hypothesis (i.e., power).

We conducted an analysis of the magnitude of detectable effect sizes based on the number of cohort 1 and 2 MCCM hospices (n = 71) and comparison hospices (n = 139) responding to wave 1 and 2 of the organizational survey with 80-percent power and an alpha of 0.10. Based on these assumptions, we are able to detect differences in mean scores between MCCM hospices and comparison hospices, ranging from 13 to 18 percentage points, depending on the hypothesized value of the survey item expressed as a percentage ranging between approximately 20 to 70 percent.[53]

H.7. SURVEY LIMITATIONS AND MITIGATION STRATEGIES

Survey research provides opportunities to gather a significant amount of information from many subjects simultaneously. For the evaluation of MCCM, we used the data we obtained from the organizational survey of participating and comparison hospices to leverage the data collected through case studies and secondary data sources. While survey data collection has benefits over case studies and secondary data, there are also potential limitations to this mode of data collection.

We took a number of steps to mitigate low response rates. These steps included sending email reminders and hard-copy mail surveys to hospices that did not immediately complete the survey. The CMS project officer for each hospice also called cohort 1 and cohort 2 non-

[53] The effect sizes associated with those differences (13 to 18 percentage points) in this context are roughly 0.36, which would be considered a"medium" effect size according to Cohen's cutoffs. See Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.

responders to encourage their response to the survey. We also provided a $50 incentive to all comparison hospices in the sample.

As a means of encouragement for non-responding MCCM hospices, we sent up to two email reminders and one hard-copy mail survey with an addressed and stamped return envelope. The CMS project officer for each hospice also phoned cohort 1 and cohort 2 non-responders to encourage their response to the survey. These efforts help to generate high response rates among cohort 1 and cohort 2 MCCM hospices (see **Exhibit H.2**).

H.8. CHARACTERISTICS OF HOSPICES RESPONDING TO THE ORGANIZATIONAL SURVEY

We compared characteristics of cohort 1 hospices to cohort 2 hospices that responded to either or both waves of the survey and found that hospices were generally similar in all categories except for age of the hospice, as shown in **Exhibit H.3**.

Exhibit H.3 Characteristics of MCCM Hospices Responding to the Organizational Survey, by Cohort and Wave

Hospice Characteristic	Cohort 1 Hospices, Wave 1 (n = 49)	Cohort 1 Hospices, Wave 2 (n = 39)	Cohort 2 Hospices, Wave 1 (n = 45)	Cohort 2 Hospices, Wave 2 (n = 35)
Ownership				
Nonprofit	66.7%	68.4%	68.9%	68.6%
For-profit	18.8%	18.4%	17.8%	11.4%
Government	12.5%	10.5%	13.3%	20.0%
Other	2.1%	2.6%	0.0%	0.0%
Size				
Large	79.2%	84.2%	75.6%	77.1%
Medium	16.7%	13.2%	22.2%	20.0%
Small	4.2%	2.6%	2.2%	2.9%
Age				
Founded in 1980s	58.3%	60.5%	42.2%	51.4%
Founded in 1990s	27.1%	26.3%	42.2%	37.1%
Founded in 2000s	10.4%	7.9%	13.3%	11.4%
Founded in 2010s	4.2%	5.3%	2.2%	0.0%
Census region				
Midwest	22.9%	21.1%	17.8%	20.0%
South	33.3%	29.0%	28.9%	34.3%
Northeast	33.3%	39.5%	37.8%	31.4%
West	10.4%	10.5%	15.6%	14.3%
Location				
Urban	83.3%	86.8%	84.4%	85.7%
Rural	16.7%	13.2%	15.6%	14.3%

Hospice Characteristic	Cohort 1 Hospices, Wave 1 (n = 49)	Cohort 1 Hospices, Wave 2 (n = 39)	Cohort 2 Hospices, Wave 1 (n = 45)	Cohort 2 Hospices, Wave 2 (n = 35)
Facility type				
Freestanding	66.7%	73.7%	71.1%	71.4%
Facility-based	33.3%	26.3%	28.9%	28.6%
Religious affiliation				
Yes	4.2%	2.6%	4.4%	5.7%
No	95.8%	97.4%	95.6%	94.3%
Chain affiliation				
Yes	50.0%	50.0%	40.0%	37.1%
No	50.0%	50.0%	60.0%	62.9%
Other characteristics				
Mean length of stay (in days) on the Medicare hospice benefit in fiscal year 2016	77.2	74.2	76.9	73.9
Percentage of beneficiaries enrolled in Medicare managed care plans prior to enrolling in the Medicare hospice benefit	24.8%	26.1%	24.6%	25.3%

Sources: CMS Provider of Services file, 2016; Medicare Enrollment Database and Master Beneficiary Summary File, January 1, 2016-June 30, 2018.

Note: This exhibit displays characteristics of cohort 1 and 2 hospices responding to the organizational survey by wave. Hospice size is defined using the number of routine home care days in fiscal year 2016. Hospices with 0-3,499 routine homecare days are classified as small, 3,500-19,999 as medium, and 20,000+ as large, as defined in the Medicare Program; FY 2018 Hospice Wage Index and Payment Rate Update and Hospice Quality Reporting Requirements: https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-index-and-payment-rate-update-and-hospice-quality-reporting. Urban and rural classifications are defined in CMS's Provider of Services File.

A variety of hospice staff with different job titles responded to the organizational survey, as shown in **Exhibit H.4**. Hospice directors and clinical staff completed the majority of the MCCM surveys, and director-level staff and hospice directors primarily responded to the comparison surveys. Other types of staff also completed a large percentage of both the MCCM and comparison surveys, but were not consistently categorized across the waves.

Exhibit H.4 Organizational Roles of Survey Respondents

Respondent Role	Cohort 1 Hospices, Wave 1 (n = 37)	Cohort 1 Hospices, Wave 2 (n = 39)	Cohort 2 Hospices, Wave 1 (n = 34)	Cohort 2 Hospices, Wave 2 (n = 35)	Comparison Hospices (n = 133)
Chief executive officer/chief financial officer/corporate level positions	2.7%	5.1%	17.6%	11.4%	40.6%
Clinical staff	18.9%	17.9%	23.5%	17.1%	1.5%
Hospice director	18.9%	15.4%	26.5%	34.3%	33.8%
No role in traditional hospice program	10.8%	12.8%	2.9%	5.7%	0.0%
Other[a]	48.6%	48.7%	29.4%	31.4%	24.1%

Source: The organizational survey wave 1 was fielded September-December 2017 for cohorts 1 and 2, and January-June 2018 for comparison hospices. The organizational survey wave 2 was fielded October-December 2018 for cohorts 1 and 2.

Note: This exhibit displays the percentage of survey respondents serving each of five types of organizational roles by cohort and wave that were consistently measured across wave and cohort. The information reported in this table was provided by 71 hospices that responded to wave 1 and 2 of the survey. While 139 comparison hospices submitted surveys, 6 of those surveys were not useable for this analysis due to missing responses. Therefore, our analysis of comparison hospices is based on survey data from 133 hospices.

[a] The other category included the following roles: hospice operations manager, marketing/outreach managers, MCCM directors, palliative program managers, social workers, and support services managers.

H.8.1 Balance between MCCM and Comparison Hospice Respondents in Survey Data Collection

We compared the organizational and market characteristics of MCCM and comparison group hospices responding to the organizational survey using standardized differences.[54] Standardized differences are a widely used measure of the effectiveness of propensity score matching, and are defined as the ratio of the mean difference between two variables divided by the standard deviation of the difference. A standardized difference less than 0.20 indicates a given characteristic is adequately balanced between the two groups. Instances of poor matches (i.e., standardized differences of 0.20 and higher) are shown in bold, as shown in **Exhibit H.5**.

Characteristics of MCCM and comparison hospices responding to the survey should be similar since the comparison group was matched to the MCCM hospices on observable organizational characteristics. Standardized differences above 0.20 may indicate that hospices that responded to the survey may differ from those that did not.

Any differences between survey respondents and non-respondents could suggest that the survey results might not be generalizable to the population they were intended to represent. Non-response bias can occur if respondents and non-respondents differ in ways that are

[54] Organizational survey response rates are shown in **Exhibit H.2**.

correlated with outcomes of interest measured by the survey, such as organizational and operational characteristics of hospices

Given the large number of covariates used for matching, it is not unreasonable that some variables (like age) have larger standardized differences, particularly for characteristics with small sample sizes. To ensure that comparison hospices were similar to MCCM hospices on the most-observable characteristics we felt were important to match on, we stratified the matching by census region (i.e., Northeast, Midwest, South, or West), ownership type, and facility type. Based on those two reasons we are less concerned about bias stemming from the larger standardized differences related to age.

MCCM hospices responding to both waves 1 and 2 were largely similar to the comparison group hospices responding to the survey, although these groups differed on two characteristics, as shown in **Exhibit H.5.** MCCM hospices and comparison hospices differed in a number of instances. Examples include the number of hospice days provided in calendar year 2016 (standardized difference = 0.34), affiliations with a chain of hospices (standardized difference = 0.35), and non-hospice Medicare expenditures (standardized difference = 0.38).

We were unable to use standardized differences to trace differences in survey responses between MCCM and comparison hospices because of the small number of non-responding MCCM hospices, which was less than 11 for both cohorts during both waves of the survey. Sample sizes of this magnitude raise the risk of inferential disclosure of respondents' identity based on patterns in reported data.[55] Also, because small sample sizes are more variable, they generate larger, less stable standardized differences than would a larger sample for the same difference in means.

Instead of standardized differences, we used visual inspection to identify patterns in the characteristics of cohort 1 and cohort 2 hospices across survey waves 1 and 2. This process did not reveal consistent patterns of difference with two exceptions. These exceptions suggested that MCCM hospices that responded to the survey were less likely to be affiliated with a chain and operate in markets with lower Medicare spending at the end of life.

Because the number of comparison hospices not responding to the organizational survey was relatively large (n = 139), we used standardized differences to compare their characteristics to those of comparison group hospices that did respond to the survey, as shown in **Exhibit H.6**. We found that the characteristics of responding and non-responding comparison group hospices were largely similar. Exceptions included differences in nonprofit status (standardized difference = 0.54), age (standardized difference = 0.54), chain

[55] The consent procedures for the organizational survey indicate that the respondent's identify will be kept confidential. Suppressing survey data from MCCM hospices with less than 11 respondents is a method for safeguarding confidentiality.

affiliation (standardized difference = 0.41), and different aspects of quality of care (standardized differences between 0.26 and 0.47).

The differences that we observed between organizational respondents and non-respondents that suggest that responses to the organizational survey do not fully represent the full population of MCCM and comparison group hospices. Non-response bias may occur if differences between respondents and the target population are correlated with evaluation outcomes.

Exhibit H.5 Standardized Differences between MCCM Hospices and Comparison Hospices Responding to Both Waves of the Organizational Survey

Characteristic	MCCM Hospices (n = 71)	Comparison Hospices (n = 139)	Standardized Difference
Ownership			
Nonprofit	66.2%	72.7%	0.14
For-profit	19.7%	15.1%	0.12
Government	1.4%	1.4%	0.00
Other	12.7%	10.8%	0.06
Size			
Large	80.3%	65.5%	**0.34**
Medium	16.9%	31.7%	**0.35**
Small	2.8%	2.9%	0.00
Age			
Founded in 1980s	54.9%	50.4%	0.09
Founded in 1990s	31.0%	40.3%	**0.20**
Founded in 2000s	9.9%	6.5%	0.12
Founded in 2010s	4.2%	2.9%	0.07
Census region			
Midwest	33.8%	36.0%	0.05
South	32.4%	28.1%	0.09
Northeast	22.5%	24.5%	0.05
West	11.3%	11.5%	0.01
Facility type			
Freestanding	64.8%	69.1%	0.09
Facility-based	35.2%	30.9%	0.09
Religious affiliation			
Yes	2.8%	0.7%	0.16
No	97.2%	99.3%	0.16
Chain affiliation			
Yes	47.9%	30.9%	**0.35**
No	52.1%	69.1%	**0.35**
Other characteristics			
Non-hospice Medicare expenditures	$983,268	$560,506	**0.38**
Nursing home penetration	20.5%	20.3%	0.01
Hospice level of care			
Days in routine home care	96.8%	97.2%	0.12
Days in general inpatient care	2.5%	2.3%	0.11
Days in continuous home care	0.2%	0.1%	**0.23**
Days in inpatient respite care	0.4%	0.4%	0.14
Duration of stay in hospice			
Stays under 7 days	31.1%	32.2%	0.12
Stays over 180 days	12.2%	12.2%	0.01

Characteristic	MCCM Hospices (n = 71)	Comparison Hospices (n = 139)	Standardized Difference
Hospice-level beneficiary demographics			
Sex: Female	37.0%	37.5%	0.07
Race/ethnicity: White	90.7%	91.4%	0.07
Race/ethnicity: Black	5.7%	5.7%	0.01
Race/ethnicity: Asian	0.5%	0.5%	0.07
Race/ethnicity: Hispanic	2.0%	0.8%	0.19
Race/ethnicity: Other	1.1%	1.6%	**0.24**
Age group: Less than 65	4.6%	4.8%	0.06
Age group: 65–74	14.7%	14.8%	0.03
Age group: 75–84	26.9%	26.7%	0.05
Age group: 85+	53.4%	53.1%	0.03
Mean length of stay on Medicare hospice benefit (days)	80.3	78.4	0.06
Quality of care ratings			
Team communication	79.9	81.5	**0.34**
Overall hospice rating	81.3	83.0	**0.32**
Getting timely care	79.2	79.8	**0.05**
Market characteristics			
Deaths occurring in hospital	20.6	20.3	0.07
Home health agency reimbursements per decedent	$509	$439	**0.30**
Hospice reimbursements per decedent	$6,321	$6,123	0.10
Hospice reimbursements per enrollee	$358	$342	0.12
Hospital care intensity index	0.9	0.9	0.12
Hospital/skilled nursing facility reimbursements per decedent	$4,135	$4,066	0.12
Medicare reimbursements per decedent	$66,576	$64,199	**0.21**
Mortality	4.4%	4.4%	0.06
Inpatient days per Medicare enrollee	1.2	1.2	0.09
Physician visits per decedent	51.0	48.9	0.14
Physician visit reimbursements per decedent	$5,108	$4,876	0.14
Intensive care unit days per decedent	4.7	4.5	0.12

Sources: CMS Provider of Services file, December 2016; Dartmouth Atlas of Health Care 2014-2015, and 2015 CMS hospice claims, using: https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-indexand-payment-rate-update-and-hospice-quality-reporting.

Note: This exhibit compares the characteristics of MCCM and comparison group hospices that responded to the organizational survey. Characteristics of MCCM hospices are shown for those hospices that completed both waves of the organizational survey. The 71 total MCCM hospices includes 36 cohort 1 hospices that responded to both wave 1 and 2 surveys, and 35 cohort 2 hospices that responded to both wave 1 and 2 surveys. The number of non-responding hospices was less than 10 per cohort. The characteristics of comparison hospices are shown for one wave of data collection. Hospice size was defined using the number of routine home care days in fiscal year 2015. Hospices with 0–3,499 routine home care days are classified as small, 3,500–19,999 as medium, and 20,000+ as large.

Exhibit H.6 Standardized Differences between MCCM Hospices Responding to the Organizational Survey and Non-Respondents (Comparison – Wave 1)

Characteristic	Comparison Hospices, Wave 1 Respondents (n = 136)	Comparison Hospices, Wave 1 Non-Respondents (n = 133)	Standardized Difference
Ownership			
Nonprofit	72.8%	47.1%	**0.54**
For-profit	15.4%	39.0%	**0.55**
Government	1.5%	0.7%	0.07
Other	10.3%	13.2%	0.09
Size			
Large	65.4%	55.2%	**0.21**
Medium	31.6%	40.4%	0.18
Small	2.9%	4.4%	0.08
Age			
Founded in 1980s	50.0%	37.5%	**0.25**
Founded in 1990s	40.4%	30.9%	**0.20**
Founded in 2000s	6.6%	25.7%	**0.54**
Founded in 2010s	2.9%	5.9%	0.14
Census region			
Midwest	35.3%	29.4%	0.13
South	28.7%	27.2%	0.03
Northeast	24.3%	21.3%	0.07
West	11.8%	22.1%	**0.28**
Facility type			
Freestanding	70.6%	63.2%	0.16
Facility-based	29.4%	36.8%	0.16
Religious affiliation			
Yes	0.7%	5.1%	**0.26**
No	99.3%	94.9%	**0.26**
Chain affiliation			
Yes	30.9%	50.7%	**0.41**
No	69.1%	49.3%	**0.41**
Other characteristics			
Non-hospice Medicare expenditures	$566,684	$433,716	0.13
Nursing home penetration	20.4%	21.5%	0.07
Hospice level of care			
Days in routine home care	97.1%	98.0%	**0.31**
Days in general inpatient care	2.3%	1.6%	**0.28**
Days in continuous home care	0.1%	0.1%	0.10
Days in inpatient respite care	0.4%	0.3%	**0.24**
Duration of stay in hospice			
Stays under 7 days	32.2%	30.9%	0.14
Stays over 180 days	12.2%	12.1%	0.01

Characteristic	Comparison Hospices, Wave 1 Respondents (n = 136)	Comparison Hospices, Wave 1 Non-Respondents (n = 133)	Standardized Difference
Hospice-level beneficiary demographics			
Sex: Female	37.5%	37.4%	0.01
Race/ethnicity: White	91.3%	90.0%	0.12
Race/ethnicity: Black	5.9%	5.5%	0.04
Race/ethnicity: Asian	0.5%	0.8%	**0.23**
Race/ethnicity: Hispanic	0.8%	2.1%	**0.23**
Race/ethnicity: Other	1.6%	1.6%	0.01
Age group: Less than 65	4.8%	4.3%	**0.21**
Age group: 65–74	14.9%	14.9%	0.01
Age group: 75–84	26.8%	28.0%	**0.25**
Age group: 85+	53.0%	52.4%	0.06
Mean length of stay on Medicare hospice benefit (days)	78.6	79.2	0.02
Quality of care ratings			
Team communication	81.5	79.4	**0.38**
Overall hospice rating	83.1	79.9	**0.47**
Getting timely care	79.4	77.6	**0.26**
Market characteristics			
Deaths occurring in hospital	20.2	20.6	0.09
Home health agency reimbursements per decedent	$440	$494	**0.24**
Hospice reimbursements per decedent	$6,136	$6,273	0.07
Hospice reimbursement per enrollee	$343	$349	0.05
Hospital care intensity index	0.9	0.9	0.15
Hospital/skilled nursing facility reimbursement per decedent	$4,057	$4,173	**0.20**
Inpatient days per Medicare enrollee	1.2	1.2	0.05
Medicare reimbursement per decedent	$64,069	$67,170	**0.29**
Mortality among Medicare enrollees	4.4%	4.4%	0.09
Physician visits per decedent	48.8	51.6	**0.20**
Physician visit reimbursements per decedent	$4,855	$5,167	**0.20**
Total intensive care unit days per decedent	4.5	4.8	0.15

Sources: CMS Provider of Services file, December 2016; Dartmouth Atlas of Health Care 2014-2015; and 2015 CMS hospice claims, using: https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-indexand-payment-rate-update-and-hospice-quality-reporting.

Note: This exhibit compares the characteristics comparison group hospices that responded and did not respond to the organizational survey. Characteristics are for comparison hospices responding to and for those not responding in the organizational survey, wave 1. Hospice size was defined using the number of routine home care days in fiscal year 2015. Hospices with 0–3,499 routine home care days are classified as small, 3,500–19,999 as medium, and 20,000+ as large.

H.9. ORGANIZATIONAL SURVEY INSTRUMENTS[56]

H.9.1 Cohort 1 Organizational Survey, Wave 2[57]

MCCM Cohort 1 Organizational Survey

(Wave 2 – September 2018)

Evaluation of the CMS Medicare Care Choices Model

[56] As discussed in **Appendix H.1**, protocols differed based on the type of hospice (cohort 1, cohort 2, or comparison) and wave (wave 1 or wave 2).

[57] The wave 1 survey instrument is included in the MCCM Annual Report 1 Technical Appendix.

DIRECTIONS

This survey is intended to be completed by a staff member who is thoroughly familiar with the Medicare Care Choices Model (MCCM) being implemented in the hospice, as well as the care provided to patients receiving traditional hospice services. Some input on the survey may be required from traditional hospice staff. If you have any questions about who from the hospice is the most appropriate to respond to this survey, please contact MCCMEvaluation@abtassoc.com.

Please keep the following in mind as you complete the survey:

- Please read each question carefully and respond to the question by selecting the box next to the response that most closely represents your opinion.
- Please select only one box for each question, unless the question says to "Choose all that apply."
- The survey should take you about 30 minutes to complete.
- We ask that you complete this survey within 1 week of receiving your invitation email.
- If you do not have all the information needed to answer the survey questions, you can work with another colleague within the hospice to help answer the questions.
- If your colleague works in a different location, you can share the survey link with them. However, only one person can enter data into the survey at a time.
- The link provided to you functions on different devices; once information is saved by clicking "Back" or "Next", you will be able to access this information on any device through the original link.
- Use the survey's navigation buttons (“Back” and “Next”) to move through the survey. Your responses will be saved each time you press the “Back” or “Next” navigation buttons.
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- Before you exit, save any information entered by clicking "Back" or "Next" at the bottom of the screen. When you click the link and re-enter the survey, you should be directed to where you left off.
- When you reach the last question of the survey, you will see a “Submit” button.
- There is no confirmation warning after you press the “Submit” button. Therefore, do not press “Submit” until you are sure that you have completed all the survey questions.

If you have questions about this survey, please email MCCMEvaluation@abtassoc.com

Thank you for taking the time to complete the survey.

Allison J. Muma, MHA
Abt Associates Inc.
Organizational Survey Lead, MCCM Evaluation

As part of your MCCM participation agreement, you are again being asked to respond to this web-based online survey about the Medicare Care Choices Model (MCCM) being implemented by the Centers for Medicare & Medicaid Services (CMS). As you know, MCCM provides a new option for Medicare beneficiaries to receive select services from participating hospices while continuing to receive care for their terminal condition from providers in the community.

CMS has contracted with a team of independent researchers, led by Abt Associates, to evaluate MCCM. This survey is part of the MCCM evaluation. This is the second wave of data collection using this survey; the first wave of the survey was fielded in October 2017. This current wave of data collection will ask some of the same questions as in the first survey, but also includes some revised questions, as well as a few brand new questions.

It should take approximately 30 minutes to complete the on-line survey.

Your involvement in this survey is required as a condition of participation in the MCCM; your responses will help CMS learn about implementation of the model, changes to implementation over time and success factors in model implementation. There are no foreseeable risks involved in participating in this survey.

Your survey responses will be sent directly to a database where data will be stored in a password protected electronic format. An aggregate report will be sent to CMS, and no information in the report will be attributed to you or your hospice. No one at CMS will be able to identify you or your answers.

If you have questions at any time about the survey or the MCCM evaluation, you may contact MCCMEvaluation@abtassoc.com. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this survey, you may do so by calling 1-877-520-6835 toll free.

You may print a copy of this consent form for your records. Clicking on the "Agree" button indicates that you have read and understand the above information.

☐ Agree (If a respondent does not agree to the consent, they will not be able to move forward in the survey)

Characteristics of the Survey Respondent

First we would like some brief information about the primary survey respondent.

1. What is your current role in the MCCM? Please check all that apply.
   - □ MCCM director/project manager/program lead
   - □ RN care coordinator
   - □ Direct care (nursing, aide, therapy)
   - □ Marketing
   - □ Social work
   - □ Quality assurance and performance improvement (QAPI) coordinator
   - □ Finance/billing
   - □ Information technology
   - □ Other (specify): _____
   - □ No role with the MCCM

2. Has your role in the MCCM changed within the past 12 months?
   - □ Yes
     - i. If yes, what was your previous role in the MCCM?
       - □ MCCM director/project manager/program lead
       - □ RN care coordinator
       - □ Direct care (nursing, aide, therapy)
       - □ Marketing
       - □ Social work
       - □ QAPI coordinator
       - □ Finance/billing
       - □ Information technology
       - □ Other (specify): _____
   - □ No

3. What is your current role in the traditional hospice? Please check the response that most closely represents your primary role in the hospice.
   - □ Chief executive officer (CEO)/president
   - □ Chief financial officer (CFO)
   - □ Chief operating officer (COO)
   - □ Hospice director
   - □ Medical director
   - □ Vice-president of clinical operations
   - □ Director of marketing
   - □ Director of quality assurance and performance improvement
   - □ QAPI coordinator
   - □ Direct care (nursing, aide, therapy)
   - □ Marketing
   - □ Social work
   - □ Finance/billing
   - □ Information technology
   - □ Other: (specify) _____
   - □ No role with the traditional hospice

4. How many years have you been with this hospice? Please round to the closest whole number. If less than 6 months, please use "0".

		# Years with the hospice

Hospice Characteristics and Organization

Next we would like some background information about the hospice in which you work. Please respond with respect to the traditional hospice program, not the MCCM. If you do not have a role in the traditional hospice, or if you do not have knowledge about the characteristics and organization of the traditional hospice, it may be necessary to seek input on these questions from other hospice staff.

5. Please indicate the types of health care organizations the hospice has a formal affiliation (i.e., a close association/connection with) or contract with. Check all that apply:

- □ Hospital
- □ Inpatient rehabilitation facility
- □ Palliative care program
- □ Nursing facility/skilled nursing facility
- □ Home health agency
- □ Assisted living community
- □ Continuing care retirement community
- □ Physician practice
- □ Other: _____
- □ None of the above

6. Has this hospice been part of a merger, acquisition or change of ownership within the past 12 months?

- □ Yes
- □ No

7. Please indicate the percent of each payer source in the traditional hospice population, using whole numbers from 0 to 100:

Payer source	Percent of current hospice patients			
Medicare				
Medicaid				
Private pay				
Charity care				
Other (specify):				

8. Is the hospice currently participating in other payment models or payment demonstration programs, either with the federal or state government or with commercial payers/organizations? Check all that apply:

- □ Bundled payment programs
- □ Preferred provider network
- □ Shared savings programs
- □ Accountable care organizations
- □ Medical home
- □ Other: _____
- □ Hospice is not participating in payment models/demonstrations other than MCCM

9. What type of medical record does the hospice utilize?
   - □ Electronic
   - □ Paper
   - □ Mix of electronic and paper

10. Please indicate the settings of care for which the hospice has access to electronic health record information. Please check one response column for each setting of care.

Setting of Care	Amount of Access		
	No access	Some access	Full access
Hospital			
Inpatient rehabilitation facility			
Palliative care program			
Nursing facility/Skilled nursing facility			
Home health agency			
Assisted living community			
Continuing care retirement community			
Physician practice			
Other:			

11. How concerned is hospice leadership about staff turnover within the hospice?
   - □ Not at all concerned
   - □ Slightly concerned
   - □ Moderately concerned
   - □ Extremely concerned

12. Does the hospice currently have a pre-hospice program or bridge program, to promote eventual hospice enrollment for persons with serious illnesses who either do not want to enroll in hospice or are not yet eligible for hospice?
   - □ Yes
     - □ Was this program in place prior to the implementation of MCCM?
       1. Yes
       2. No
     - □ How is this program funded?
       1. Through a state Medicaid program
       2. Through a Medicare managed care plan
       3. Through a commercial payer
       4. Other (specify):
   - □ No

Service Delivery in MCCM

*The following set of questions focus on **services provided through MCCM** rather than through the traditional hospice, and also includes several questions about referrals into MCCM.*

13. In the past 12 months, have there been changes in MCCM leadership, i.e., the MCCM director/project manager/program lead?
    a. Yes
    b. No

14. In the past 12 months, has the hospice hired and/or reassigned hospice staff specifically for MCCM? Please check one response option for each staff type.

Staff type	Hospice hired for this position within the past 12 months	Hospice reassigned existing staff for this position within the past 12 months	Hospice both hired and reassigned existing staff for this position within the past 12 months	Hospice neither hired nor reassigned existing staff for this position within the past 12 months
RN				
LPN				
Nurse practitioner				
RN care coordinator/case manager				
Nursing aide				
Social worker				
Physician				
Chaplain				
Bereavement counselor				
Administrative staff				
Marketing staff				
Other (specify):				

15. In the past 12 months, has the hospice made changes in marketing efforts for MCCM?
    a. Yes
        a. Hospice changed target audiences for MCCM marketing efforts
        b. Hospice changed frequency of marketing efforts
        c. Hospice changed messaging of marketing efforts
        d. Hospice changed geographic location of marketing efforts
        e. Other (specify):
    b. No

16. Please indicate the audience for **current** MCCM marketing and/or education efforts. For each row, check all settings that apply. If you do not market MCCM to a particular audience, please check the far right column.

Audience	Setting of Care				
	In hospitals	In physician practices	In home health agencies	In other settings	Does not market MCCM to this audience
Patients					
Family members/ caregivers					
Physicians					
Nursing staff					
Social workers					
Discharge planners					
Palliative care teams					
Pastoral staff/chaplains					
Finance staff					
Other (specify):					

17. Has the hospice changed any of the following business and/or clinical operations in the past 12 months to better accommodate the MCCM? Check all that apply.
    - □ Patient intake processes
    - □ Patient care protocols
    - □ Care coordination for the provision of therapy services (physical therapy (PT), speech therapy (ST), occupational therapy (OT))
    - □ Coordination of durable medical equipment (DME)
    - □ Medical records
    - □ Data collection/reporting
    - □ Information Technology
    - □ Marketing/Public Relations
    - □ Billing/Finance
    - □ QAPI
    - □ Other (specify):
    - □ None of the above

18. Over the past 12 months, has the hospice made any changes related to receiving and acting on referrals for either MCCM or traditional hospice as a result of participation in the MCCM?

	No changes	Changes implemented for ***MCCM***	Changes implemented for ***traditional hospice***	Changes implemented for ***both MCCM and traditional hospice***
Process for ***receiving*** referrals	□	□	□	□
Timing of response to referrals	□	□	□	□
Staff involved in responding to referrals	□	□	□	□
Process for ***responding*** to referrals	□	□	□	□
Communication to the referring entity following a referral	□	□	□	□
Other (specify):	□	□	□	□

19. Over the past 12 months, please indicate whether staff have received any MCCM training and who provided that training. If the training was not provided to staff, please check the column "Training not provided." For each training topic, check all columns that apply.

Training topics	Provided by the hospice	Provided by CMMI or the MCCM implementation contractor	Provided by another source	Training not provided
MCCM eligibility	□	□	□	□
MCCM marketing and outreach	□	□	□	□
MCCM enrollment strategies	□	□	□	□
MCCM billing processes	□	□	□	□
Using the MCCM portal	□	□	□	□
Coordination of palliative and curative care	□	□	□	□
Delivery of clinical services in the home	□	□	□	□
QAPI	□	□	□	□
Other (specify):	□	□	□	□

20. Does the hospice utilize grant money, rely on existing donations, or conduct fund raising to supplement MCCM reimbursement?
    a. Yes
        □ Utilize grant money
        □ Rely on existing donations
        □ Conduct fund raising to supplement MCCM reimbursement
    b. No
    c. Not sure

21. What are key features of the MCCM that are currently used to describe the benefits of the model to potential enrollees and/or their caregivers? Check all that apply.
    a. Help with disease and symptom management
    b. Support when making complex medical decisions
    c. Additional patient and family support
    d. Coordination of care with other medical professionals
    e. 24/7 access to hospice staff
    f. Ability to continue treatment for (CHF), chronic obstructive pulmonary disease (COPD), and human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS
    g. Other:

22. Is the traditional hospice program affiliated with (i.e., have a close association/connection with) a home health agency that refers patients into the MCCM?
    a. Yes
    b. No

23. Does the traditional hospice program operate or affiliate with (i.e., have a close association/connection with) a ***hospital-based palliative care program*** that refers patients into MCCM?
    a. Yes
        a. Does the hospice share staff with the hospital-based palliative care program?
            □ Yes
            □ No
    b. No

24. Does the traditional hospice program operate or affiliate with (i.e., have a close association/connection with) a ***community-based palliative care program*** that refers patients into MCCM?

    □ Yes
        a. Does the hospice share staff with the community-based palliative care program?
            □ Yes
            □ No
    □ No

25. For MCCM hospices with multiple service lines, such as home health, palliative care, private duty nursing, etc., how do incoming patients get referred to the appropriate service?

    ☐ The hospice receives referrals for all service lines *centrally* and determines the most appropriate service line for the patient

    ☐ Referral sources indicate the preferred service line for their patient

    ☐ Other (specify):

    _____

26. The Medicare certification number (CCN) associated with your MCCM program is XXXXXX.
    a. How many physical hospice locations are covered by that certification number? A physical location can be an inpatient unit or a hospice office. For example, if a hospice organization includes 1 inpatient unit and 2 home hospice offices, the response to this question would be "3".

    ☐☐ # hospice locations

    b. How many physical locations under that CCN are participating in MCCM?

    ☐☐ # hospice locations participating in MCCM

    c. Has the hospice changed the number of physical locations participating in MCCM?

    ☐ Yes, the hospice *increased* the number of physical locations participating in MCCM

    ☐ Yes, the hospice *decreased* the number of locations participating in MCCM

    ☐ No, the hospice *did not change* the number of locations participating in MCCM

27. Which factors are currently the most important when deciding about geographic locations to target for the MCCM? Please rank order from most important to least important (via drag and drop).
    - □ Commitment level to participate in MCCM by usual hospice referral sources in that location
    - □ Number of patients with MCCM diagnoses (cancer, CHF, COPD, HIV/AIDS) in that location
    - □ Desire to serve an underserved population
    - □ Proximity of palliative care programs to that location
    - □ Proximity and driving times of hospice staff to that location
    - □ Other (please specify) _____

28. Is the MCCM RN care coordinator/case manager dedicated to MCCM only or shared with other traditional hospice programs?

    □ Dedicated to MCCM only

    □ Shared with other traditional hospice programs

    □ Unsure

29. In the past 12 months, has the process to coordinate care with community providers who see MCCM patients changed?

    □ Yes
        a. Please describe how this process has changed.
        _____
        _____

    □ No

30. Does the hospice typically know if an MCCM patient is hospitalized?
    - □ Yes
        a. How does the hospice know when an MCCM patient is hospitalized?
            - □ Call from the patient/caregiver
            - □ Call from hospital staff
            - □ Automatic notification from the EHR or health information exchange
            - □ Other (specify): _____
    - □ No (skip to Q32)

31. If an MCCM patient is hospitalized, *how does the hospice receive updates* from the hospital or the primary physician on the patient's condition?
    - □ Call from the patient/caregiver
    - □ Call from hospital staff
    - □ Automatic notification from the EHR or health information exchange
    - □ Other (specify): _____

32. Does the hospice typically know if an MCCM patient has gone to an emergency department (ED)?
    - □ Yes
        a. Who informs the hospice of the ED visit by the MCCM patient?
            - □ Call from the patient/caregiver
            - □ Call from the ED staff
            - □ Call from the primary physician
            - □ Automatic notification from the EHR or health information exchange
            - □ Other (specify): _____
    - □ No

33. Has the hospice incorporated MCCM into its QAPI program?
    - □ Yes
    - □ No

34. What feedback on care processes and outcomes is provided to the MCCM staff? Check all that apply.
    - □ Provision of disease and symptom management
    - □ Provision of advance care planning
    - □ Transition of patients to the Medicare hospice benefit (MHB)
    - □ Emergency department visits
    - □ Coordination with providers/staff outside the hospice
    - □ Hospitalizations
    - □ Patient satisfaction
    - □ Family satisfaction
    - □ Medication errors
    - □ Other _____
    - □ None of the above

35. To date, how successful is the MCCM program with respect to each of the following aspects of patient recruitment? Please check one response for each row.

Recruitment Aspect	Degree of Success				
	Not at all successful	Slightly successful	Moderately successful	Very successful	Extremely successful
Identifying referral sources					
Buy-in from referring providers					
Identifying eligible beneficiaries					
Patient/family buy-in					
Referral to MHB enrollment/conversion rate					

Impacts of MCCM and Lessons Learned

Lastly, we would like to ask some questions about the potential impact of MCCM and lessons learned to date through participation in the model.

36. Please indicate the impact you believe MCCM is having on the following aspects of care. Please check only one response for each row.

Aspect of Care	Level of Impact			
	No impact	Minor impact	Moderate impact	Major Impact
Disease and symptom management	□	□	□	□
Advance care planning	□	□	□	□
Clarification of patient preferences that result in do not resuscitate (DNR) order	□	□	□	□
Clarification of patient preferences that results in do not hospitalize (DNH) order	□	□	□	□
Coordination of care among the referring physician and MCCM staff	□	□	□	□
Transitions from the hospital or other inpatient setting.	□	□	□	□
Support to the patient and their caregivers	□	□	□	□
Timing of referral to hospice	□	□	□	□
Other:	□	□	□	□

37. Considering potential challenges to implementing and sustaining MCCM, prioritize the following challenges from highest to lowest by dragging and dropping each challenge to the column on the right.

- □ Consumers and/or health care providers lack an understanding of the difference between MCCM and the traditional hospice
- □ Getting the primary physician to sign the certificate of terminal illness (CTI) can be difficult
- □ The eligibility requirements restrict access to MCCM for certain patients who might benefit from the model (specify):
- □ Coordinating care across health care settings consumes significant staff time
- □ The monthly per patient payment is not commensurate with the costs of providing MCCM services
- □ Staff training needs are very different for MCCM than for traditional hospice care

38. Please describe actual or potential unintended consequences (either positive or negative) for patients or the hospices that are associated with the MCCM.
39. Please provide suggestions for CMS on changes that can be made to MCCM to improve enrollment of patients.
40. Is there anything else you would like to tell us about the MCCM?

H.9.2 Cohort 2 Organizational Survey, Wave 2

MCCM Cohort 2 Organizational Survey

(Wave 2 – October 2018)

Evaluation of the CMS Medicare Care Choices Model

DIRECTIONS

This survey is intended to be completed by a staff member who is thoroughly familiar with the Medicare Care Choices Model (MCCM) being implemented in the hospice, as well as the care provided to patients receiving traditional hospice services. Some input on the survey may be required from traditional hospice staff. If you have any questions about who from the hospice is the most appropriate to respond to this survey, please contact MCCMEvaluation@abtassoc.com.

Please keep the following in mind as you complete the survey:

- Please read each question carefully and respond to the question by selecting the box next to the response that most closely represents your opinion.
- Please select only one box for each question, unless the question says to "Choose all that apply."
- The survey should take you about 30 minutes to complete.
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- If you do not have all the information needed to answer the survey questions, you can work with another colleague within the hospice to help answer the questions.
- If your colleague works in a different location, you can share the survey link with them. However, only one person can enter data into the survey at a time.
- The link provided to you functions on different devices; once information is saved by clicking "Back" or "Next", you will be able to access this information on any device through the original link.
- Use the survey's navigation buttons (“Back” and “Next”) to move through the survey. Your responses will be saved each time you press the “Back” or “Next” navigation buttons.
- The navigation bar at the bottom of the screen will give you an indication of how much of the survey you have left to complete.
- Before you exit, save any information entered by clicking "Back" or "Next" at the bottom of the screen. When you click the link and re-enter the survey, you should be directed to where you left off.
- When you reach the last question of the survey, you will see a “Submit” button.
- There is no confirmation warning after you press the “Submit” button. Therefore, do not press “Submit” until you are sure that you have completed all the survey questions.

If you have questions about this survey, please email MCCMEvaluation@abtassoc.com

Thank you for taking the time to complete the survey.

Allison J. Muma, MHA
Abt Associates Inc.
Survey Lead, MCCM Evaluation

As part of your MCCM participation agreement, you are again being asked to respond to this web-based online survey about the Medicare Care Choices Model (MCCM) being implemented by the Centers for Medicare & Medicaid Services (CMS). As you know, MCCM provides a new option for Medicare beneficiaries to receive select services from participating hospices while continuing to receive care for their terminal condition from providers in the community.

CMS has contracted with a team of independent researchers, led by Abt Associates, to evaluate MCCM. This survey is part of the MCCM evaluation. This is the second wave of data collection using this survey; the first wave of the survey was fielded in October 2017. This current wave of data collection will ask some of the same questions as in the first survey, but also includes some revised questions, as well as a few brand new questions.

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Your involvement in this survey is required as a condition of participation in the MCCM; your responses will help CMS learn about implementation of the model, changes to implementation over time and success factors in model implementation. There are no foreseeable risks involved in participating in this survey.

Your survey responses will be sent directly to a database where data will be stored in a password protected electronic format. An aggregate report will be sent to CMS, and no information in the report will be attributed to you or your hospice. No one at CMS will be able to identify you or your answers.

If you have questions at any time about the survey or the MCCM evaluation, you may contact MCCMEvaluation@abtassoc.com. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this survey, you may do so by calling 1-877-520-6835 toll free.

You may print a copy of this consent form for your records. Clicking on the “Agree” button indicates that you have read and understand the above information.

☐ Agree (If a respondent does not agree to the consent, they will not be able to move forward in the survey)

Characteristics of the Survey Respondent

First we would like some brief information about the primary survey respondent.

1. What is your current role in the MCCM? Please check all that apply.
   - □ MCCM director/project manager/program lead
   - □ RN care coordinator
   - □ Direct care (nursing, aide, therapy)
   - □ Marketing
   - □ Social work
   - □ Quality assurance and performance improvement (QAPI) coordinator
   - □ Finance/billing
   - □ Information technology
   - □ Other (specify): _____
   - □ No role with the MCCM

2. Has your role in the MCCM changed within the past 12 months?
   - □ Yes
     - i. If yes, what was your previous role in the MCCM?
       - □ MCCM director/project manager/program lead
       - □ RN care coordinator
       - □ Direct care (nursing, aide, therapy)
       - □ Marketing
       - □ Social work
       - □ QAPI coordinator
       - □ Finance/billing
       - □ Information technology
       - □ Other (specify): _____
   - □ No

4. What is your current role in the traditional hospice? Please check the response that most closely represents your primary role in the hospice.
   - □ Chief executive officer (CEO)/president
   - □ Chief financial officer (CFO)
   - □ Chief operating officer (COO)
   - □ Hospice director
   - □ Medical director
   - □ Vice-president of clinical operations
   - □ Director of marketing
   - □ Director of quality assurance and performance improvement
   - □ QAPI coordinator
   - □ Direct care (nursing, aide, therapy)
   - □ Marketing
   - □ Social work
   - □ Finance/billing
   - □ Information technology
   - □ Other: (specify) _____
   - □ No role with the traditional hospice

6. How many years have you been with this hospice? Please round to the closest whole number. If less than 6 months, please use "0".

		# Years with the hospice

Hospice Characteristics and Organization

Next we would like some background information about the hospice in which you work. Please respond with respect to the traditional hospice program, not the MCCM. If you do not have a role in the traditional hospice, or if you do not have knowledge about the characteristics and organization of the traditional hospice, it may be necessary to seek input on these questions from other hospice staff.

7. Please indicate the types of health care organizations the hospice has a formal affiliation (i.e., a close association/connection with) or contract with. Check all that apply:

- □ Hospital
- □ Inpatient rehabilitation facility
- □ Palliative care program
- □ Nursing facility/skilled nursing facility
- □ Home health agency
- □ Assisted living community
- □ Continuing care retirement community
- □ Physician practice
- □ Other: _____
- □ None of the above

8. Has this hospice been part of a merger, acquisition or change of ownership within the past 12 months?

- □ Yes
- □ No

9. Please indicate the percent of each payer source in the traditional hospice population, using whole numbers from 0 to 100:

Payer source	Percent of current hospice patients
Medicare	
Medicaid	
Private pay	
Charity care	
Other (specify):	

8. Is the hospice currently participating in other payment models or payment demonstration programs, either with the federal or state government or with commercial payers/organizations? Check all that apply:
   - □ Bundled payment programs
   - □ Preferred provider network
   - □ Shared savings programs
   - □ Accountable care organizations
   - □ Medical home
   - □ Other: _____
   - □ Hospice is not participating in payment models/demonstrations other than MCCM

9. What type of medical record does the hospice utilize?
   - □ Electronic only
   - □ Paper only
   - □ Mix of electronic and paper

10. Please indicate the settings of care for which the hospice has access to <u>electronic</u> health record information. Please check one response column for each setting of care.

Setting of Care	Amount of Access		
	No access	Some access	Full access
Hospital			
Inpatient rehabilitation facility			
Palliative care program			
Nursing facility/Skilled nursing facility			
Home health agency			
Assisted living community			
Continuing care retirement community			
Physician practice			
Other:			

11. How concerned is hospice leadership about staff turnover within the hospice?
   - □ Not at all concerned
   - □ Slightly concerned
   - □ Moderately concerned
   - □ Extremely concerned

12. Does the hospice currently have a pre-hospice program or bridge program, to promote eventual hospice enrollment for persons with serious illnesses who either do not want to enroll in hospice or are not yet eligible for hospice?
   - □ Yes
     - □ Was this program in place prior to the implementation of MCCM?
       1. Yes
       2. No
     - □ How is this program funded?
       1. Through a state Medicaid program
       2. Through a Medicare managed care plan
       3. Through a commercial payer
       4. Other (specify):
   - □ No

Service Delivery in MCCM

*The following set of questions focus on **services provided through MCCM** rather than through the traditional hospice, and also includes several questions about referrals into MCCM.*

13. In the past 12 months, have there been changes in MCCM leadership, i.e., the MCCM director/project manager/program lead?
    - □ Yes
    - □ No

14. In the past 12 months, has the hospice hired and/or reassigned hospice staff specifically for MCCM? Please check one response option for each staff type.

Staff type	Hospice ***hired for*** this position within the past 12 months	Hospice ***reassigned*** existing staff for this position within the past 12 months	Hospice *both* ***hired and reassigned*** existing staff for this position within the past 12 months	Hospice ***neither hired nor reassigned*** existing staff for this position within the past 12 months
RN				
LPN				
Nurse practitioner				
RN care coordinator/case manager				
Nursing aide				
Social worker				
Physician				
Chaplain				
Bereavement counselor				
Administrative staff				
Marketing staff				
Other (specify):				

15. When did the hospice implement formal marketing efforts for MCCM? Please check only one response option.
    a. Prior to the start of cohort 2 (prior to January 1, 2018)
    b. Within one to three months after the start of cohort 2
    c. More than three months after the start of cohort 2
    d. Other (specify): _____

16. In the past 6 months, has the hospice made changes in marketing efforts for MCCM?
    c. Yes
        f. How did the hospice change its marketing efforts for MCCM?
            - □ Hospice changed target audiences for MCCM marketing efforts
            - □ Hospice changed frequency of marketing efforts
            - □ Hospice changed messaging of marketing efforts
            - □ Hospice changed geographic location of marketing efforts
            - □ Other (specify):
    d. No

17. Please indicate the audience for **current** MCCM marketing and/or education efforts. For each row, check all settings that apply. If you do not market MCCM to a particular audience, please check the far right column.

Audience	Setting of Care				
	In hospitals	In physician practices	In home health agencies	In other settings	Do not market MCCM to this audience
Patients					
Family members/ caregivers					
Physicians					
Nursing staff					
Social workers					
Discharge planners					
Palliative care teams					
Pastoral staff/chaplains					
Finance staff					
Other (specify):					

18. Has the hospice changed any of the following business and/or clinical operations in the past 6 months to better accommodate the MCCM? Check all that apply.

- □ Patient intake processes
- □ Patient care protocols
- □ Care coordination for the provision of therapy services (physical therapy (PT), speech therapy (ST), occupational therapy (OT))
- □ Coordination of durable medical equipment (DME)
- □ Medical records
- □ Data collection/reporting
- □ Information technology
- □ Marketing/public relations
- □ Billing/finance
- □ QAPI
- □ Other (specify):
- □ None of the above

19. Over the past 6 months, has the hospice made any changes related to receiving and acting on referrals for either MCCM or traditional hospice as a result of participation in the MCCM?

	No changes	Changes implemented for ***MCCM***	Changes implemented for ***traditional hospice***	Changes implemented for ***both MCCM and traditional hospice***
Process for ***receiving*** referrals	□	□	□	□
Timing of response to referrals	□	□	□	□
Staff involved in responding to referrals	□	□	□	□
Process for ***responding*** to referrals	□	□	□	□
Communication to the referring entity following a referral	□	□	□	□
Other (specify):	□	□	□	□

20. Does the hospice utilize grant money, rely on existing donations, or conduct fund raising to supplement MCCM reimbursement?
    a. Yes
        a. Please indicate the source of that MCCM supplemental funding:
            □ Grant money
            □ Existing donations
            □ Fund raising
    b. No
    c. Not sure

21. For each of the topics listed below, please indicate whether training was provided to staff in preparation for MCCM, and who provide the training. If training on a specific topic was not provided to hospice/MCCM staff, please check the box in the column "Training not provided." For each training topic, check all columns that apply.

Training topics	Provided by the hospice	Provided by CMMI or the MCCM implementation contractor	Provided by another source	Training not provided
MCCM eligibility	□	□	□	□
MCCM marketing and outreach to physicians	□	□	□	□
MCCM enrollment Strategies	□	□	□	□
MCCM billing processes	□	□	□	□
Using the MCCM portal	□	□	□	□
Coordination of palliative and curative care	□	□	□	□
Delivery of clinical services in the home	□	□	□	□
Quality Assurance and Performance Improvement (QAPI)	□	□	□	□
Other (specify): _____	□	□	□	□

22. What are key features of the MCCM that are currently used to describe the benefits of the model to potential enrollees and/or their caregivers? Check all that apply.
    a. Help with disease and symptom management
    b. Support when making complex medical decisions
    c. Additional patient and family support
    d. Coordination of care with other medical professionals
    e. 24/7 access to hospice staff
    f. Ability to continue treatment for cancer, congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD) and human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS)
    g. Other:

23. Is the traditional hospice program affiliated with (i.e., have a close association/connection with) a home health agency that refers patients into the MCCM?
    a. Yes
    b. No

24. Does the traditional hospice program operate or affiliate with (i.e., have a close association/connection with) a ***hospital-based palliative care program*** that refers patients into MCCM?
    a. Yes
        b. Does the hospice share staff with the hospital-based palliative care program?
            □ Yes
            □ No
    b. No

25. Does the traditional hospice program operate or affiliate with (i.e., have a close association/connection with) a ***community-based palliative care program*** that refers patients into MCCM?
    □ Yes
        b. Does the hospice share staff with the community-based palliative care program?
            □ Yes
            □ No
    □ No

26. For MCCM hospices with multiple service lines, such as home health, palliative care, private duty nursing, etc., how do incoming patients get referred to the appropriate service?

    □ The hospice receives referrals for all service lines *centrally* and determines the most appropriate service line for the patient

    □ Referral sources indicate the preferred service line for their patient

    □ Other (specify): _____

27. The Medicare certification number (CCN) associated with your MCCM program is XXXXXX.
    a. How many physical hospice locations are covered by that certification number? A physical location can be an inpatient unit or a hospice office. For example, if a hospice organization includes 1 inpatient unit and 2 home hospice offices, the response to this question would be "3".
       ☐☐ # hospice locations
    b. How many physical locations under that CCN are participating in MCCM?
       ☐☐ # hospice locations participating in MCCM
    c. Has the hospice changed the number of physical locations participating in MCCM?
       - ☐ Yes, the hospice *increased* the number of physical locations participating in MCCM
       - ☐ Yes, the hospice *decreased* the number of locations participating in MCCM
       - ☐ No, the hospice *did not change* the number of locations participating in MCCM

28. Which factors are currently the most important when deciding about geographic locations to target for the MCCM? Please rank order from most important to least important (via drag and drop).
    - □ Commitment level to participate in MCCM by usual hospice referral sources in that location
    - □ Number of patients with MCCM diagnoses (cancer, COPD, CHF, HIV/AIDS) in that location
    - □ Desire to serve an underserved population
    - □ Proximity of palliative care programs to that location
    - □ Proximity and driving times of hospice staff to that location
    - □ Other (please specify) _____

29. Is the MCCM RN care coordinator/case manager dedicated to MCCM only or shared with other traditional hospice programs?
    - □ Dedicated to MCCM only
    - □ Shared with other traditional hospice programs
    - □ Unsure

30. In the past 6 months, has the process to coordinate care with community providers who see MCCM patients changed?
    - □ Yes
      a. Please describe how this process has changed.
      _____
      _____
    - □ No

31. Does the hospice typically know if an MCCM patient is hospitalized?
    - □ Yes
        a. How does the hospice know when an MCCM patient is hospitalized?
            - □ Call from the patient/caregiver
            - □ Call from hospital staff
            - □ Automatic notification from the EHR or health information exchange
            - □ Other (specify): _____
    - □ No (skip to Q33)

32. If an MCCM patient is hospitalized, *how does the hospice receive updates* from the hospital or the primary physician on the patient's condition?
    - □ Call from the patient/caregiver
    - □ Call from hospital staff
    - □ Automatic notification from the EHR or health information exchange
    - □ Other (specify): _____

33. Does the hospice typically know if an MCCM patient has gone to an emergency department (ED)?
    - □ Yes
        a. Who informs the hospice of the ED visit by the MCCM patient?
            - □ Call from the patient/caregiver
            - □ Call from the ED staff
            - □ Call from the primary physician
            - □ Automatic notification from the EHR or health information exchange
            - □ Other (specify): _____
    - □ No

34. Has the hospice incorporated MCCM into its QAPI program?
    - □ Yes
    - □ No

35. What feedback on care processes and outcomes is provided to the MCCM staff? Check all that apply.
    - □ Provision of disease and symptom management
    - □ Provision of advance care planning
    - □ Transition of patients to the Medicare hospice benefit (MHB)
    - □ Emergency department visits
    - □ Coordination with providers/staff outside the hospice
    - □ Hospitalizations
    - □ Patient satisfaction
    - □ Family satisfaction
    - □ Medication errors
    - □ Other _____
    - □ None of the above

36. To date, how successful is the MCCM program with respect to each of the following aspects of patient recruitment? Please check one response for each row.

Recruitment Aspect	Degree of Success				
	Not at all successful	Slightly successful	Moderately successful	Very successful	Extremely successful
Identifying referral sources					
Buy-in from referring providers					
Identifying eligible beneficiaries					
Patient/family buy-in					
Referral to MHB enrollment/conversion rate					

Impacts of MCCM and Lessons Learned

Lastly, we would like to ask some questions about the potential impact of MCCM and lessons learned to date through participation in the model.

37. Please indicate the impact you believe MCCM is having on the following aspects of care. Please check only one response for each row.

Aspect of Care	Level of Impact			
	No impact	Minor impact	Moderate impact	Major Impact
Disease and symptom management	□	□	□	□
Advance care planning	□	□	□	□
Clarification of patient preferences that result in do not resuscitate (DNR) order	□	□	□	□
Clarification of patient preferences that results in do not hospitalize (DNH) order	□	□	□	□
Coordination of care among the referring physician and MCCM staff	□	□	□	□
Transitions from the hospital or other inpatient setting.	□	□	□	□
Support to the patient and their caregivers	□	□	□	□
Timing of referral to hospice	□	□	□	□
Other:	□	□	□	□

38. Considering potential challenges to implementing and sustaining MCCM, prioritize the following challenges from highest to lowest by dragging and dropping each challenge to the column on the right.
    - □ Consumers and/or health care providers lack an understanding of the difference between MCCM and the traditional hospice
    - □ Getting the primary physician to sign the certificate of terminal illness (CTI) can be difficult
    - □ The eligibility requirements restrict access to MCCM for certain patients who might benefit from the model (specify):
    - □ Coordinating care across health care settings consumes significant staff time
    - □ The monthly per patient payment is not commensurate with the costs of providing MCCM services
    - □ Staff training needs are very different for MCCM than for traditional hospice care

39. Please describe actual or potential unintended consequences (either positive or negative) for patients or the hospices that are associated with the MCCM.

40. Please provide suggestions for CMS on changes that can be made to MCCM to improve enrollment of patients.

41. Is there anything else you would like to tell us about the MCCM?

H.9.3 Comparison Hospices Organizational Survey, Wave 1

Organizational Survey of Non-MCCM Hospices (Wave 1)

Evaluation of the CMS Medicare Care Choices Model

In 2016, the Centers for Medicare & Medicaid Services (CMS) began implementation of the Medicare Care Choices Model (MCCM), a new payment model for Medicare beneficiaries to receive select services from participating hospices while continuing to receive care for their terminal condition from providers in the community. CMS has contracted with a team of independent researchers, led by Abt Associates, to evaluate the MCCM to help CMS determine whether the model improves beneficiary outcomes, patient satisfaction with care and lowers Medicare expenditures. As part of that evaluation, you are being asked to respond to this web-based survey about the organizational characteristics of your hospice. Your responses will help CMS understand how hospices that are not participating in the model compare to those hospices that are participating in the model. Several national hospice associations support this model and encourage your participation in the survey.

It should take approximately 20 minutes to complete the on-line survey. Your hospice will be provided with a $50 gift card upon submission of a completed survey.

Your involvement in this survey is voluntary. There are no foreseeable risks to you/your hospice for participating in this survey.

Your survey responses will be sent directly to a database where data will be stored in a password protected electronic format. An aggregate report will be sent to CMS, and no information in the report will be attributed to you or your hospice. No one at CMS will be able to identify you, your hospice, or your answers.

If you have questions about the survey or the MCCM evaluation, you may contact MCCMEvaluation@abtassoc.com. If you would like to contact the Abt Associates Institutional Review Board with any questions or concerns about this survey, you may do so by calling 1-877-520-6835 toll free.

You may print a copy of this consent form for your records. Clicking on the "Agree" button indicates that you have read and understand the above information.

☐ Agree (If a respondent does not agree to the consent, they will not be able to move forward in the survey)

DIRECTIONS

This survey is intended to be completed by a staff member who is thoroughly familiar with the care provided to patients receiving traditional hospice services. This may be a staff person in leadership/management or someone in a direct care position. If you have any questions about who from the hospice is the most appropriate to respond to this survey, please contact MCCMEvaluation@abtassoc.com.

Please keep the following in mind as you complete the survey:

- The survey will take about 20 minutes to complete.
- We ask that you complete this survey within one week of receiving your invitation email.
- We will provide your hospice with a $50 gift card upon submission of a completed survey
- Please read each question carefully and respond to the question by selecting the box next to the response that most closely represents your opinion.
- Please select only one box for each question, unless the question says to "Choose all that apply."
- If you do not have all the information needed to answer the survey questions, you can work with another colleague within the hospice to help answer the questions.
- If your colleague works in a different location, you can share the survey link with them. However, only one person can enter data into the survey at a time.
- The link provided to you functions on different devices; once information is saved by clicking "Back" or "Next", you will be able to access this information on any device through the original link.
- Use the survey's navigation buttons (Back and Next) to move through the survey. Your responses will be saved each time you press the Back or Next navigation buttons.
- The navigation bar at the bottom of the screen will give you an indication of how much of the survey you have left to complete.
- Before you exit, save any information entered by clicking "Back" or "Next" at the bottom of the screen. When you click the link and re-enter the survey, you should be directed to where you left off.
- When you reach the last question of the survey, you will see a “Submit” button.
- There is no confirmation warning after you press the “Submit” button. Therefore, do not press “Submit” until you are sure that you have completed all the survey questions.

If you have questions about this survey, please email MCCMEvaluation@abtassoc.com
Thank you for taking the time to complete the survey.

Allison J. Muma, MHA
Abt Associates Inc.
Project Director, MCCM Evaluation

Characteristics of the Survey Respondent

We would first like some brief information about the primary survey respondent.

1. What is your role in the hospice? Please check the response that most closely represents your primary role in the hospice.
   - □ Chief Executive Officer (CEO)/President
   - □ Chief Financial Officer (CFO)
   - □ Chief Operating Officer (COO)
   - □ Hospice Director
   - □ Medical Director
   - □ Vice-President of Clinical Operations
   - □ Director of Marketing
   - □ Director of Quality Assurance and Performance Improvement
   - □ QAPI Coordinator
   - □ Direct care (nursing, aide, therapy)
   - □ Marketing
   - □ Social work
   - □ Finance/billing
   - □ Information technology
   - □ Other: (specify) _____
   - □ No role with the traditional hospice

2. How many years have you been with this hospice? Please round to the closest whole number. If less than 6 months, please use "0".

		# Years with this hospice

Hospice Characteristics and Organization

We would like some background information about the hospice in which you work.

3. Please indicate the types of health care organizations the hospice has an affiliation or contract with. Check all that apply:
   - □ Hospital
   - □ Inpatient rehabilitation facility
   - □ Palliative care program
   - □ Nursing facility/skilled nursing facility
   - □ Home health agency
   - □ Assisted living community
   - □ Continuing care retirement community
   - □ Personal care home
   - □ Medical home
   - □ Physician practice

- □ Other: _____
- □ None of the above

4. Has this hospice been part of a merger, acquisition or change of ownership within the past two years?
   - □ Yes
   - □ No

5. Is the hospice currently participating in payment models or payment demonstration programs, either at the federal or state level? Check all that apply:
   - □ Bundled payment programs
   - □ Preferred provider network
   - □ Shared savings programs
   - □ Accountable care organizations
   - □ Medical home
   - □ Other: _____
   - □ Hospice is not participating in payment models/demonstrations other than MCCM

6. What type of medical record does the hospice utilize?
   - □ Electronic
   - □ Paper
   - □ Mix of electronic and paper

7. How concerned is hospice leadership about staff turnover within the hospice?
   - □ Not at all concerned
   - □ Slightly concerned
   - □ Moderately concerned
   - □ Extremely concerned

Service Delivery in the Hospice

The next set of questions focus on services delivered by the hospice.

8. Does the hospice have special care ***programs*** (such as care algorithms or protocols) or special care ***teams*** for the management of the following medical conditions? For each medical condition, please select one response option.

Medical Condition	Availability of special care programs or special care teams			
	Hospice has special care ***programs*** for this condition	Hospice has special care ***teams*** for this condition	Hospice had ***both*** special care programs/special care teams for this condition	Hospice had ***neither*** special care programs/special care teams for this condition
Cancer				
CHF				
COPD				
HIV/AIDS				

9. Does the hospice enroll:
   a. Patients receiving chemotherapy?
      □ Yes
      □ No

   b. Patients receiving transfusions?
      □ Yes
      □ No

   c. Patients who might need an intrathecal catheter for pain or other symptom control?
      □ Yes
      □ No

   d. Patients who wish to continue to receive palliative radiation?
      □ Yes
      □ No

   e. Patients without family or other caregivers?
      □ Yes
      □ No

10. Does the hospice have a pre-hospice program or bridge program, to promote eventual hospice enrollment for persons with serious illnesses who either do not want to enroll in hospice or are not yet eligible for hospice?
    - □ Yes
    - □ No

11. Does the hospice operate/affiliate with a ***hospital-based palliative care***?
    - □ Yes
    - □ No

12. Does the hospice operate/affiliate with a ***community-based palliative care program***?
    - □ Yes
    - □ No

13. Does the hospice have experience coordinating care with other health care providers whose goal of care is to extend life?
    - □ Yes
    - □ No

14. Does the hospice program have a distinct admitting team whose function is to admit patients outside of normal business hours?
    - □ Yes
    - □ No

15. Does the hospice program have capacity to call in staff in the event of a high number of calls outside of normal business hours?
    - □ Yes
    - □ No → Skip to Q17

16. How does the hospice provide coverage when there is an unexpectedly high number of calls outside of normal business hours? Please check all that apply.
    - □ Call in full-time direct care staff to work overtime
    - □ Call in part-time direct care staff to work overtime
    - □ Call in per diem direct care staff
    - □ Utilize designated on-call direct care staff
    - □ Call in director-level staff to provide direct patient care
    - □ Reorganize and/or extend hours for previously-scheduled staff
    - □ None of the above

17. For a traditional hospice team that focuses on care of patients in their homes, please indicate the average daily assigned caseload for each of the following staff types (please round to the nearest whole number):

    Hospice RN | | |

    Social worker | | |

    Pastoral care/chaplain | | |

Interest in the Model

18. Did your hospice consider submitting an application to participate in the MCCM?
    - □ Yes → Skip to Q19
    - □ No → Skip to Q20

19. Why did your hospice ultimately decide not to submit an application to participate in the MCCM? Select all that apply.
    - □ Concerns with the eligibility criteria
    - □ Concerns with the monthly reimbursement
    - □ Inadequate leadership support/buy-in/interest
    - □ Inadequate staff for the model
    - □ Other (specify) _____

20. Why did your hospice not consider submitting an application to participate in the MCCM? Select all that apply.
    - □ Concerns with the eligibility criteria
    - □ Concerns with the monthly reimbursement
    - □ Inadequate leadership support/buy-in/interest
    - □ Inadequate staff for the model
    - □ Other (specify) _____

Thank you for completing this survey. Your input will be very helpful for the evaluation of the MCCM. As a thank you for completing the survey, we will be sending your hospice a $50 gift card via US mail.

Appendix I. Caregiver Experience of Care Survey

In this appendix we discuss the development and administration of the Caregiver Experience of Care Survey (caregiver survey) used to assess beneficiary and family experiences with the Medicare Care Choices Model (MCCM). Specifically, the caregiver survey addresses the degree to which beneficiaries in the model receive a better quality of care and a higher quality of life (and death), and have better care experiences than comparable beneficiaries who received traditional hospice care without the model. This appendix describes the caregiver survey development process, including a comparison of the content of each of the three versions of the survey, survey sampling and administration, analytic methods, and characteristics of hospices and survey respondents.

I.1. SURVEY CONTENT

The caregiver survey contains two sets of questions: 1) items from the Consumer Assessment of Healthcare Providers and Systems (CAHPS), and 2) supplemental items we developed specifically for the MCCM evaluation.

The CAHPS Hospice Survey measures key processes that together comprise high-quality hospice care, for which the primary informal caregiver (i.e., family member or close friend) of the hospice enrollee is the best or only source of information. The CAHPS Hospice Survey is grounded in a conceptual model developed from a review of existing surveys,[58] a previous review of guidelines for quality end-of-life care,[59] National Quality Forum Preferred Practices in Palliative Care, and the work of the National Consensus Project for Quality Palliative Care.[60] The eight CAHPS Hospice Survey measures are endorsed by National Quality Forum #2651. Supplemental items for the caregiver survey were developed and tested to span several care domains prioritized by the Centers for Medicare & Medicaid Services (CMS), as shown in **Exhibit I.1**.

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[58] Lendon, JP, Ahluwalia, SC, Walling, AM. (2015). Measuring experience with end-of-life care: A systematic literature review. *Journal of Pain Symptom Management*, *49,* 904-915.

[59] Teno, JM, Casey, VA, Welch, L, Edgman-Levitan, S. (2001). Patient-focused, family-centered end-of-life medical care: Views of the guidelines and bereaved family members. *Journal of Pain Symptom Management – Special Section on Measuring Quality of Care at Life's End II*, *22,* 738-751.

[60] Clinical Practice Guidelines for Quality Palliative Care. (2013). *National Consensus Project for Quality Palliative Care 3rd edition*. Retrieved on July 24, 2019 from http://www.nationalconsensusproject.org/Guidelines_Download2.aspx.

Exhibit I.1 Caregiver Experience of Care Survey Measures by Domain

CAHPS Hospice Survey Measures	Supplemental Items
• Composites – Communication with family – Getting timely help – Treating enrollee with respect – Emotional and spiritual support – Help for pain and symptoms – Training family to care for enrollee • Global ratings – Overall rating of the hospice – Willingness to recommend the hospice	• Shared decision making regarding transitions to hospice – Discussions and involvement in decision – Timing of referral to hospice care – Reasons for enrolling or not enrolling in hospice care • Other experiences of care – Care coordination, with particular emphasis on coordination between curative and MCCM care teams – Consistency of care with beneficiary preferences, including continued access to services for the qualifying diagnosis prior to hospice enrollment – Overall rating of MCCM – Willingness to recommend MCCM • Quality of life

Survey Development. To develop the supplemental items specific to MCCM for the caregiver survey, we first conducted an environmental scan to identify existing survey items in several domains of interest, and modified and added to these to meet the model's evaluation needs. The environmental scan included an extensive review of published and gray literature, a review of CAHPS instruments validated for other care settings, and expert input from within the evaluation team. We began with survey items identified in an earlier literature review conducted for the development of the CAHPS Hospice Survey,[61] and updated that review to include articles published after 2012. We also added items from other relevant surveys nominated by team members and expert advisors. Items that overlapped substantially with those in the CAHPS Hospice Survey instrument were excluded since it already served as the foundation for the caregiver survey.

Team members then reviewed candidate items and coded them into the priority domains. We evaluated available survey items within each domain, focusing on those that other researchers had previously validated or are in widespread use. We prioritized items that focused on the construct of interest [e.g., MCCM with or without enrollment in the Medicare hospice benefit (MHB)] and applied to a wide range of beneficiary and caregiver experiences. We also prioritized items with similar response categories (e.g., scales) or those that could be adapted to mirror the response categories on the CAHPS Hospice Survey.

[61] Lendon, JP, Ahluwalia, SC, Walling, AM et al. (2015). Measuring experience with end-of-life care: A systematic literature review. *Journal of Pain Symptom Management*, *49,* 904–915.

Cognitive Testing. After selecting and adapting items, we began cognitive testing to inform the selection of items for the caregiver survey, and to improve the wording of questions and response options. Between June and October 2017, we conducted 21 cognitive interviews over 2 phases. In the first phase, we conducted nine cognitive interviews to test the new supplemental items. In the second phase, we conducted 12 cognitive interviews to test the full survey that contained both the CAHPS Hospice Survey questions and the new supplemental questions. The caregiver survey instrument was revised during each phase of interviews, with questions and transition statements added, dropped, revised, and/or reordered. All interview participants, primary caregivers of beneficiaries who had died within the past six months, were recruited from six cohort 1 MCCM hospices. These hospices were selected because they had a relatively large number of MCCM enrollees, were not currently participating in a site visit or other activity as part of the MCCM evaluation, and were located in different regions of the country.

The first phase of cognitive interviews included primary informal caregivers of deceased beneficiaries who had been enrolled in MCCM, including both those who did and did not later transition to MHB. The second phase also included caregivers of deceased beneficiaries who had enrolled in MHB but not MCCM. Cognitive interviews were conducted in person or by telephone. During each interview, participants were asked to read, answer, and discuss items that were being considered for inclusion in the questionnaire. For telephone interviews, materials were mailed to participants before the interviews; the cover letter instructed participants not to review the materials until the interviews, which were audio-recorded.

MCCM Terminology. One of the main challenges in developing the caregiver survey was finding a way to refer to MCCM that caregivers would consistently recognize, and that would differentiate the model from regular hospice care. We knew this would be a challenge early on, as each hospice participating in MCCM selected its own name for the model. The caregivers who participated in cognitive testing interviews had different ways of referring to MCCM as well, and several did not recognize the official MCCM name. Participants also had many ways of describing what MCCM was, including "palliative care," "the step before hospice," "pre-hospice," or simply "hospice."

During the testing, we modified the instrument version designed for MCCM enrollee caregivers so that all instances of MCCM were now referred to as a "special program" and the term was underlined in all of the questions. We tested several different ways of introducing MCCM-specific questions and settled on the following introduction that was most easily understood, provided a general overview of MCCM, and referred to palliative care:

> Prior to starting full hospice care, your family member was enrolled in a special program that allowed him or her to continue receiving treatment for his or her terminal illness while receiving palliative or some supportive care from the hospice. You may know this special program as: [MCCM PROGRAM NAME]. The

> next questions are about your family member's experience with this special program.

The combination of this introduction and use of the term "special program" to refer to MCCM helped participants think only about MCCM when answering the questions.

Another challenge was how to discuss the transition from MCCM to MHB, given the ways in which people referred to the model. Some of the cognitive testing participants referred to MCCM as "hospice" or as the name of the hospice program, even though they recognized that MCCM was different and special. We tested several different ways of referring to hospice, and participants overwhelmingly preferred the phrase, "full hospice care." As an additional method of ensuring that survey respondents consistently understood "full hospice care," we added the following transition statement:

> The decision to enroll in hospice involves a shift in the focus of care from extending life as much as possible to one that focuses on comfort. The next questions are about your family member's decision to enroll in full hospice care.

Instrument Development. Results of the cognitive interviews were used to finalize the subset of items for inclusion in the caregiver survey, and to refine the wording of both the supplemental items and the modified CAHPS Hospice Survey items regarding care in non-hospice settings. The resulting caregiver survey instruments included three different versions, each appropriate for different populations of deceased beneficiaries whose caregivers were sampled for the survey, as described in **Exhibit I.2**. The final caregiver survey instruments took approximately 20 minutes to complete. Questions were predominantly closed-ended, with two open-ended questions that asked for (1) information about the decision to enroll in hospice care, and (2) examples of successes or problems with the care.

The CAHPS Hospice Survey items, which account for the majority of the caregiver survey items, had previously been translated into Spanish using the following process. Two translators worked independently to complete a translation of each item into Spanish; these two translations were placed into a spreadsheet that also included the English-language version of the items. Working across the spreadsheet, a bilingual reviewer reviewed the document and added a column for her comments and a column for her decision on the best translation of each item. The reviewer then met with the translators to discuss any issues or problems identified during her review, and the final translation was determined. For the caregiver survey items, two independent translations were obtained and then two independent reviewers reviewed the items for appropriate language and literacy level,

and to ensure that the items harmonized with those in the existing CAHPS Hospice Survey.[62]

I.2. SURVEY ELIGIBILITY AND SAMPLING

The caregiver survey was administered to the following four groups of caregivers: All caregivers of MCCM enrollees who met the survey eligibility criteria, including MCCM enrollees who elected MHB (Group 1) and enrollees who did not elect MHB and died while still receiving MCCM services (Group 2); and comparison Medicare beneficiaries who met MCCM-eligibility criteria and were receiving care from MCCM hospices (Group 3) or from comparison hospices (Group 4), as described in **Exhibit I.2**.[63]

We determined that we needed only a subset of comparison hospices from among the 236 propensity score matched comparison hospices to ensure we had a sufficient number of completed surveys to support statistically precise comparisons; sampling from all 236 matched hospices was also not feasible. To identify and recruit a subset of comparison hospices that was similar to the MCCM hospices, we categorized the 236 comparison hospices across strata defined by census regions and performance on the CAHPS Hospice Survey.[64] We then reached out to hospices across the strata to recruit them for participation in the caregiver survey, with a goal of recruiting at least 31 hospices to have adequate power for the evaluation; 33 hospices agreed to participate.[65]

The caregiver survey sample design calls for sampling one comparison beneficiary in each of the two comparison groups (Group 3 and Group 4) for every MCCM enrollee sampled; however, fewer than this number of comparison beneficiaries were available for this annual report.[66]

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62 The caregiver survey was offered in Spanish; however, none of the surveys analyzed for this report were completed in Spanish.

63 All MCCM hospices were eligible to participate in the caregiver survey, regardless of the number of MCCM enrollees within the hospice.

64 The two strata for CAHPS Hospice Survey performance are whether the standardized difference is above or below the median of the MCCM hospice performance on the CAHPS Hospice Survey overall rating measure.

65 MCCM and comparison hospices participating in the caregiver survey were similar to one another with regard to ownership, age, facility type, duration of stay in hospice, and patient age. More comparison hospices than MCCM hospices were small and unaffiliated with a chain, and fewer comparison hospices than MCCM hospices were located in the West, as shown in **Exhibit F.4**.

66 For a comparison of beneficiary characteristics between the groups, please see **Exhibit I.5**; and for a description of the statistical power to detect differences between the groups, see **Section I.6**.

Exhibit I.2 Caregiver Survey Data Collection Approach, by Decedent/Caregiver Group

Group	Decedent/Caregiver Group	Sample Size	MCCM	MHB	Hospice Type	Survey Version
1	Caregivers of MCCM enrollees who elected MHB	All cases	Yes	Yes	MCCM hospice	MCCM + MHB: CAHPS Hospice Survey (47 items) + 15 supplemental MCCM items
2	Caregivers of MCCM enrollees who did not elect MHB (i.e., who died while still receiving MCCM services)	All cases	Yes	No	MCCM hospice	MCCM only: Modified CAHPS Hospice Survey (42 items) + 16 supplemental MCCM items
3	Caregivers of hospice decedents who met MCCM-eligibility criteria and received care from MCCM hospices, but who were not enrolled in MCCM	Equal to the number of MCCM cases (MCCM + MHB and MCCM only)	No	Yes	MCCM hospice	MHB comparisons from MCCM hospices and non-MCCM hospices: CAHPS Hospice Survey (47 items) + 13 supplemental MCCM items
4	Caregivers of hospice decedents who met MCCM-eligibility criteria and received care from matched comparison hospices	Equal to the number of MCCM cases (MCCM + MHB and MCCM only)	No	Yes	Propensity score matched comparison hospice	

Note: The caregiver survey versions administered to the 3 groups of caregivers of deceased beneficiaries who received hospice care (Groups 1, 3, and 4) include all 47 items from the CAHPS Hospice Survey. The modified CAHPS Hospice Survey administered to Group 2 excludes five items from the CAHPS Hospice Survey that are not relevant for MCCM enrollees who did not elect MHB. The number of MCCM items also differs across versions. The MCCM + MHB version of the caregiver survey includes all MCCM items from the domains of interest. The MCCM-only version of the caregiver survey includes one additional screener item meant to ascertain whether the deceased beneficiary or caregiver had ever had a conversation with anyone from the "special program" about enrolling in full hospice care. Caregiver surveys administered to the two comparison groups (Groups 3 and 4) do not include the overall rating and willingness-to-recommend questions specific to the "special program."

CAHPS = Consumer Assessment of Healthcare Providers and Systems, MHB = Medicare hospice benefit.

Eligibility. To maintain consistency with the CAHPS Hospice Survey national implementation effort and minimize disruption and potential error, deceased beneficiaries and caregivers were eligible for inclusion in the caregiver survey sample, using the same criteria as those for the ongoing national CAHPS Hospice Survey, with one exception [67]:

- Deceased beneficiary was age 18 or over
- Deceased beneficiary had a caregiver on record

[67] Caregivers who requested that they not be contacted (those who signed "no publicity" requests while in hospice care, or otherwise requested not to be contacted) were excluded.

- Deceased beneficiary's caregiver had a home address in the United States or a United States territory
- Deceased beneficiary had a caregiver other than a non familial legal guardian

Caregiver surveys were not sent to beneficiaries who were discharged from a hospice while alive, because this population would require a separate survey instrument and administration procedures.[68] Caregivers were not eligible for the CAHPS Hospice Survey if the beneficiary died within 48 hours of admission to hospice care because of these caregivers' limited experience with hospice care. This restriction was not applied for the caregiver survey because most MCCM participants who elected MHB had more than 48 hours of experience with the model. In future reports, if and when a sufficient number of completed surveys are collected from this group, we will compare responses from respondents with less than 48 hours in MHB with all other caregiver survey data, to assess comparability.

Sampling. We used Medicare claims data to identify potential comparison beneficiaries who met MCCM-eligibility criteria as of the time of their first hospice enrollment, as hospice enrollment represents a time in the beneficiary's disease trajectory when he or she could have been referred to MCCM (i.e., when a provider determined that he or she had a prognosis of six months or less to live). Specifically, we used claims to verify the following MCCM-eligibility criteria:

- Enrollment in Part A and Part B, but not in Medicare-managed care plans, for the 12 months prior
- At least 1 hospital encounter (emergency department, observation stay, admission) and 3 office visits in the 12 months prior
- No enrollment in MHB in the 30 days prior
- No current stay in a nursing home, assisted living facility, skilled nursing facility, or inpatient rehabilitation facility
- A primary or secondary diagnosis of advanced cancer, congestive heart failure, chronic obstructive pulmonary disease, or human immunodeficiency virus/acquired immunodeficiency syndrome at the time of first hospice enrollment

We identified MCCM-eligible diagnoses for comparison beneficiaries from the following data sources in the following order: Primary diagnosis provided by the hospice in its sample file, primary diagnosis on claims, and secondary diagnosis on claims. A beneficiary was considered to have an MCCM-eligible diagnosis based on a secondary diagnosis *unless the*

[68] Beneficiaries discharged alive from hospices were excluded from the CAHPS Hospice Survey sample (and therefore, the caregiver survey) because the survey content and administration procedures are designed for bereaved caregivers and family members.

non-MCCM-eligible primary diagnosis implied a different disease trajectory and expected cause of death. A list of primary diagnoses with this implication was developed by the team's clinical advisor and includes end-stage renal disease and chronic kidney disease; progressive neurogenerative diseases such as Parkinson's, Alzheimer's, and non-Alzheimer's dementia; stroke; Merkel cell carcinoma; and cirrhosis of the liver.

Note that since all beneficiaries considered as possible comparisons for the caregiver survey were enrolled in MHB, they automatically satisfied two additional MCCM-eligibility requirements: A six-month prognosis and residence within the hospice's service area.

I.3. SURVEY ADMINISTRATION

Before the caregiver survey began, each hospice signed a Data Use Agreement with the evaluation team. This allowed each hospice's authorized CAHPS Hospice Survey vendor to send us the sample files needed for sampling and for administering the survey. Hospices sent their monthly CAHPS Hospice Survey sample files to their contracted survey vendors as they normally do to meet CMS requirements for that survey. The survey vendors then sent us the monthly sample files through a secure file transfer site.

Evaluation survey specialists selected the sample of beneficiaries' caregivers that would receive the caregiver survey by matching information from the hospice sample files to MCCM enrollment data from the MCCM portal (for MCCM enrollees who transitioned to MHB) or hospice claims files (for comparisons). When the MCCM portal indicated that an MCCM enrollee died while still receiving care under the model, we contacted the MCCM hospice to request necessary information for the survey sampling. After our sample was selected, we returned the sample list to survey vendors so that they could administer the CAHPS Hospice Survey to all those who were not sampled for the caregiver survey. Upon completion of the data collection, we submitted CAHPS Hospice Survey-eligible responses to the CAHPS Hospice Survey Data Warehouse, following the protocols and deadlines outlined in that survey's Quality Assurance Guidelines.[69] This ensured that all hospices participating in the caregiver survey met their ongoing requirements to collect and submit CAHPS Hospice Survey data.

To maximize response rates, we administered the caregiver survey by mail with telephone follow-up for non-respondents. This mixed mode of administration has the highest response rates of any CMS-approved modes for the CAHPS Hospice Survey (which is the basis for the caregiver survey).[70] The survey administration followed the same timeline and protocol as used for the CAHPS Hospice Survey. First, a survey was mailed to the caregiver two-three

[69] For more information on Quality Assurance Guidelines, please visit: https://hospicecahpssurvey.org/en/quality-assurance-guidelines/.

[70] Parast, L, Elliott, MN, Hambarsoomian, K, Teno, JM, Anhang Price, R. (2018). Effects of survey mode on Consumer Assessment of Healthcare Providers and Systems (CAHPS) Hospice Survey scores. *Journal of the American Geriatrics Society, 66*(3), 546-552.

months after the beneficiary's death, during the first seven days of the month (e.g., surveys for beneficiaries who died during the month of January were mailed between April 1 and April 7). If the survey was not returned within 21 days after it was mailed, we began calling; up to five telephone call attempts were made to complete the interview with the caregiver. If a mail survey was returned before these five calls were made, calls to the caregiver ceased. The field period ended 42 days after the initial survey mailing. Bilingual interviewers conducted the telephone interviews and used the Spanish-language version of the questionnaire with caregivers who preferred to be interviewed in Spanish.

I.4. RESPONSE RATES

The overall response rate to the caregiver survey for October 2017 through June 2018 was 47.4 percent, ranging from 30.6 percent for MCCM-only caregivers to 54.1 percent for MCCM + MHB caregivers, as shown in **Exhibit I.3**. For reference, the CAHPS Hospice Survey rate, when it was administered in the same mode as the caregiver survey (mail with telephone follow-up), was 40.9 percent.[71] Response rates can vary based on a number of factors, including decedent and caregiver characteristics.[72]

The response rate for MCCM-only caregivers was substantially lower than for the other groups. It is possible that those caregivers are less familiar, or less involved, with the care received by these deceased beneficiaries. To maximize the number of surveys for the MCCM-only group, surveys were administered to caregivers for all MCCM-only beneficiaries who had died in the prior year and had not previously been included in the survey sample. There was more of a lag between the beneficiary's death and receipt of the survey for these caregivers, which may have reduced the response rate. Increased lag time can result in both less-interested caregivers and fewer locatable ones. With the older cases excluded, the response rate for the MCCM-only group was 38 percent (lower than for the other groups but much higher than among the older cases). The consequence of the lower response rate among the MCCM-only group is that estimated differences between this group and other groups will be less precise.

[71] The CAHPS Hospice Survey response rate is for the 233 hospices that administered the survey using the same mode as the caregiver survey (mail with telephone follow-up). The caregiver survey response rate is calculated for the 94 hospices (61 MCCM and 33 comparison) participating in the caregiver survey.

[72] Parast, L, Haas, A, Tolpadi, A, Elliott, MN, Teno, JM, Zaslavsky, AM, Anhang Price, R. (2018). Effects of caregiver and decedent characteristics on CAHPS Hospice Survey scores. *Journal of Pain and Symptom Management, 56*(4), 519-529.

Exhibit I.3 Caregiver Survey Response Rates

Type of Survey	Number of Surveys Completed	Response Rate
MCCM + MHB	210	54.1%
MCCM only	37	30.6%
MHB comparisons from MCCM hospices	128	48.3%
MHB comparisons from matched hospices	104	44.1%

Note: Response rate = completed surveys/(total sample - ineligibles).

Source: Caregiver Experience of Care Survey responses for MCCM enrollees and comparisons who died between October 1, 2017 and June 30, 2018.

MHB = Medicare hospice benefit.

I.5. SURVEY DATA ANALYSIS

We calculated two types of scores:

- Mean scores for each survey item having response options on a zero to 10 scale (overall rating of the model, hospice, or quality of life).
- Top-box scores for CAHPS Hospice Survey composite measures and willingness to recommend, and MCCM-specific supplemental items. Top-box scores reflect the proportion of respondents who provide the most positive response(s).

To ensure accurate comparisons across groups, we adjusted for factors that are a part of the standard case-mix adjustment for CAHPS Hospice Survey measures,[73] with adaptations for the MCCM population, as described below. Variables selected for adjustment are beneficiary and caregiver characteristics that vary in their distribution across hospices, and are associated with systematic differences in how caregivers respond to the survey, which include[74]:

- Response percentile [ranked lag time between death and survey response among caregivers in all groups (i.e., ranking days between death and survey response among all respondents, then dividing by the total sample size for all groups)].
- Beneficiary age at death.
- Payer for hospice care (including categories for combinations of Medicare with other payers; because all MCCM enrollees must have Medicare as their primary payer, we use fewer payer categories than for the CAHPS Hospice Survey).

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[73] Information regarding case-mix adjustment of CAHPS Hospice Survey measures is available at: www.hospicecahpssurvey.org/en/scoring-and-analysis.

[74] Parast, L, Haas, A, Tolpadi, A, Elliott, MN, Teno, JM, Zaslavsky, AM, Anhang Price, R. (2018). Effects of caregiver and decedent characteristics on CAHPS Hospice Survey scores. *Journal of Pain and Symptom Management, 56*(4), 519-529.

- Primary diagnosis using MCCM-eligible diagnosis categories, where cancer is further categorized into colon cancer, pancreatic cancer, lung cancer, breast cancer, prostate cancer, other MCCM-eligible cancer, and an "other diagnosis" category.
- Duration (in days) of the final episode of hospice care. In addition to the categories used for the CAHPS Hospice Survey, there is a category for less than two days; these individuals were eligible for the caregiver survey, even though they are not considered eligible for the national CAHPS Hospice Survey.
- Caregiver respondent age.
- Caregiver respondent education.
- Relationship of caregiver respondent to the deceased beneficiary.
- Language (survey in Spanish or home language of Spanish versus all other languages).

In addition to these CAHPS Hospice Survey adjustments, we adjusted for the settings in which the caregiver respondent indicated that the decedent received hospice care, because the setting is known to be a strong predictor of beneficiary and family experiences of care, and the distribution of settings varies somewhat across MCCM and comparison groups.[75]

The three caregiver groups for beneficiaries who enrolled in MHB (MCCM + MHB and the two comparison groups) were included in a single regression model, which allowed for more precise estimates of the model's effects. We used a separate regression model for the MCCM-only group because beneficiaries in that group received fewer hospice-like services before death than those who elected MHB, and MCCM care may be delivered by a different care team than MHB. In addition, the MCCM-only version of the survey uses slightly different wording for most questions, inquiring about the special program team rather than the hospice team, for example, and about "discussions" regarding enrollment in hospice care rather than the actual decision to enroll in hospice. For the time period of data in this annual report, only 37 survey responses came from MCCM-only respondents; some items, such as those that compose the CAHPS Hospice Survey measure regarding training the family to care for the beneficiary, had as few as 12 respondents. Given the small number of completed surveys for MCCM-only respondents, results for this group should be viewed as preliminary, and are described qualitatively rather than quantitatively in this report.

[75] We are currently refining methods for identifying disease severity using claims data. Once these approaches have been finalized, we will assess whether an adjustment for disease severity is warranted to ensure fair comparisons between groups. When additional survey response data are available, we will assess whether the adjustment approach described in this report is sufficient to address observable differences in characteristics between groups, or whether a propensity score approach is preferable, whereby each decedent/caregiver group is weighted back to a reference population (e.g., the MCCM/MHB group). We will also enhance our modeling approach to account for the clustering of responses within hospices, and explore the heterogeneity of effects of MCCM across participating hospices. We will run the regression model separately for each of the MCCM-specific supplemental items and each of the CAHPS Hospice Survey measures.

We reviewed open-ended comments submitted in response to two items on the survey regarding (1) reasons for enrolling or not enrolling in MHB, and (2) overall experiences with the model and/or MHB. Two researchers identified common themes and then coded each comment, and we calculated counts of each theme for each of the caregiver-respondent groups.

I.6. POWER TO DETECT DIFFERENCES BETWEEN MCCM AND COMPARISON GROUPS

The power of a statistical test tells us the probability of finding a statistically significant result. In this report, we have 80-percent power to detect differences in scores of approximately 5.6 to 12.8 percentage points between the intervention group (MCCM + MHB and MCCM only) and the comparison groups, depending on the item and the scoring method (i.e., mean or top-box score). Specifically, we have 80-percent power to detect the following differences:

- 6.4 to 7.7 points for top-box scores on items regarding shared decision making to enroll in MHB, reported in **Section 5** in the main report
- 6.4 to 12.8 points for top-box scores on items regarding consistency of care with beneficiary preferences, reported in **Section 6** in the main report
- 8.0 points for mean-reported quality of life, reported in **Section 6** in the main report
- 6.4 to 12.8 points for top-box scores on CAHPS Hospice Survey measures of hospice care experiences and willingness to recommend the hospice, reported in **Section 6** in the main report
- 5.6 points for the mean overall rating of MCCM and of the hospice, reported in **Section 6** in the main report

Many of the observed differences between groups in this annual report cannot be distinguishable at this level of precision, and statistical tests should be interpreted with caution. For example, as shown in **Exhibit J.26,** the largest observed difference for top-box scores on items regarding shared decision making to enroll in MHB is 5.8 points, corresponding to a response that a member of the MCCM team/hospice team talked with the enrollee or family *the right amount* about the reasons for enrolling or not enrolling in a hospice. This 5.8-point difference is smaller than the 6.3- to 7.7-point difference for which we have 80-percent power, suggesting that a non-statistically significant result is expected. However, as more data are collected, the power will become sufficient for detecting medium-sized differences, as detailed in the following paragraphs.

For reference, prior analyses of enrollee experience measure scores from the CAHPS Hospice Survey data suggest that differences of 1 point on a zero-to-100 scale (i.e., 1 percentage point) can be considered small, differences of 3 points (i.e., 3 percentage points) can be considered medium, and differences of 5 points (i.e., 5 percentage points)

can be considered large.[76] For instance, a 5-point difference in hospice team communication on a zero-to-100 scale is associated with a 4-percentage-point difference in a willingness to definitely recommend the hospice. This suggests that even seemingly small differences in survey scores reflect substantially different care experiences.[77]

We projected our estimated power to detect differences between caregiver survey groups by the end of the evaluation by using data on MCCM enrollment and lengths of stay through 2018, and assuming that response rates for each group remain similar to those observed in the first several months of data collection. With these assumptions, at the end of the evaluation, we anticipate having 80-percent power to detect differences in the following scores:

- **Mean scores** between the MCCM/MHB group and the comparison groups were 1.9, 2.0, and 2.8 points for the overall rating of the model, the overall rating of the hospice, and the reported quality of life, respectively (i.e., medium-sized differences).
- **Top-box scores** between the MCCM/MHB group and the comparison groups were 2.3 to 4.3 points across the CAHPS Hospice Survey composite measures and caregiver survey-specific items regarding shared decision making to enroll in MHB and consistency of care with beneficiary preferences (i.e., medium-sized differences).
- In summary, using the definitions of small, medium, and large differences in enrollee experience noted above, we expect to have sufficient power to detect small-to-medium sized effects by the end of the evaluation.

I.7. CHARACTERISTICS OF HOSPICES WITH CAREGIVER SURVEY RESPONDENTS

Exhibit I.4 compares characteristics of MCCM hospices with caregiver survey responses to comparison hospices with caregiver survey responses. The standardized differences indicate that, on average, there are some differences in characteristics between MCCM and comparison hospices with caregiver survey responses. MCCM hospices with caregiver survey responses are less likely to be nonprofit or small, more likely to be in the West and to have a chain affiliation, more likely to care for Black and Asian beneficiaries, and more likely to have larger hospice reimbursements. Some characteristics with standardized differences above 0.20 are not substantively different (e.g., 96.8 percent versus 97.3 percent for routine home care in MCCM and comparison hospices, respectively). Similar differences are shown in **Exhibit F.4**. Overall, we believe that the MCCM and comparison hospices with caregiver survey responses are similar enough across a broad range of characteristics to

[76] Quigley, DD, Elliott, MN, Setodji, CM, Hays RD. (2018). Quantifying magnitude of differences in patient experiences with healthcare measures. *Health Services Research, 53* Suppl 1, 3027-3051.

[77] Anhang Price, R, Stucky B, Parast L, Elliott MN, Haas A, Bradley M, Teno JM. (2018). Development of valid and reliable measures of patient and family experiences of hospice care for public reporting. *Journal of Palliative Medicine 21*(7), 924-932.

allow for comparison of caregiver survey responses. Nonetheless, some differences in survey responses between MCCM and comparison hospices may reflect, in part, the differences in hospice characteristics.

Exhibit I.4 Standardized Differences between MCCM and Comparison Hospices with Caregiver Survey Respondents

Characteristic[a]	MCCM Hospices (n = 56)	Comparison Hospices (n = 30)	Standardized Difference
Ownership			
Nonprofit	66.1%	76.7%	**0.24**
For-profit	17.9%	10.0%	**0.23**
Government	1.8%	0.0%	0.19
Other	14.3%	13.3%	0.03
Size			
Large	85.7%	83.3%	0.07
Medium	14.3%	13.3%	0.03
Small	0.0%	3.3%	**0.26**
Age			
Founded in 1980s	55.4%	63.3%	0.16
Founded in 1990s	30.4%	23.3%	0.16
Founded in 2000s	7.1%	6.7%	0.02
Founded in 2010s	7.1%	6.7%	0.02
Census region			
Midwest	35.7%	40.0%	0.09
South	33.9%	30.0%	0.08
Northeast	16.1%	23.3%	0.18
West	14.3%	6.7%	**0.25**
Facility type			
Freestanding	71.4%	76.7%	0.12
Facility-based	28.6%	23.3%	0.12
Religious affiliation			
Yes	3.6%	0.0%	**0.27**
No	96.4%	100.0%	**0.27**
Chain affiliation			
Yes	46.4%	26.7%	**0.42**
No	53.6%	73.3%	**0.42**
Other characteristics			
Non-hospice Medicare expenditures	$951,629	$646,124	**0.27**
Nursing home penetration	21.5%	24.1%	0.19
Hospice level of care			
Days in routine home care	96.8%	97.3%	**0.22**
Days in general inpatient care	2.7%	2.1%	**0.29**
Days in continuous home care	0.2%	0.3%	0.16
Days in inpatient respite care	0.4%	0.4%	0.06

Characteristic[a]	MCCM Hospices (n = 56)	Comparison Hospices (n = 30)	Standardized Difference
Duration of stay in hospice			
Stays under 7 days	32.7%	32.5%	0.03
Stays over 180 days	12.1%	11.6%	0.12
Hospice-level beneficiary demographics			
Sex: Female	37.2%	37.4%	0.03
Race/ethnicity: White	90.8%	94.2%	**0.49**
Race/ethnicity: Black	6.2%	3.7%	**0.45**
Race/ethnicity: Asian	1.1%	0.2%	**0.42**
Race/ethnicity: Hispanic	0.6%	0.5%	0.02
Race/ethnicity: Other	1.4%	1.3%	0.02
Age group: Under 65	4.7%	4.8%	0.02
Age group: 65–74	14.6%	14.4%	0.04
Age group: 75–84	26.9%	27.1%	0.04
Age group: 85+	53.4%	53.2%	0.02
Mean length of stay on Medicare hospice benefit (days)	77.7	76.0	0.08
Quality of care ratings			
Team communication	79.9	80.8	**0.20**
Overall hospice rating	80.8	82.2	**0.23**
Getting timely care	78.2	79.6	**0.24**
Market characteristics			
Deaths occurring in hospital	20.0	20.0	0.02
Home health reimbursements agency per decedent	$428	$454	0.13
Hospice reimbursements per decedent	$6,546	$5,962	**0.32**
Hospice reimbursements per enrollee	$361	$324	**0.35**
Hospital care intensity index	0.9	1.0	0.02
Hospital/skilled nursing facility reimbursements per decedent	$4,068	$4,077	0.02
Medicare reimbursements per decedent	$66,263	$64,406	0.16
Inpatient days per Medicare enrollee	1.2	1.2	0.17
Mortality among Medicare enrollees	4.4%	4.4%	0.04
Physician visits per decedent	52.6	52.5	0.00
Physician visit reimbursements per decedent	$5,211	$5,235	0.01
Intensive care unit days per decedent	5.1	4.6	**0.20**

Sources: CMS Provider of Services file, December 2016; Dartmouth Atlas of Healthcare 2014-2015; and 2015 CMS hospice claims, using: https://www.federalregister.gov/documents/2017/08/04/2017-16294/medicare-program-fy-2018-hospice-wage-indexand-payment-rate-update-and-hospice-quality-reporting.

Note:

[a] Characteristics are for the 56 MCCM hospices and 30 comparison hospices responding to the caregiver survey for which there were survey responses for beneficiaries who died between October 1, 2017 and June 30, 2018. Comparisons to hospices with no responses are not shown, as there were very few hospices with no respondents during the same time period: 5 MCCM hospices and 3 comparison hospices. Reported standardized differences are between MCCM hospices and comparison hospices. Hospice size is defined using the number of routine home care days in fiscal year 2015, the year before the model started. Hospices with 0-3,499 routine home care days are classified as small, 3,500-19,999 as medium, and 20,000+ as large.

I.8. CHARACTERISTICS OF CAREGIVER SURVEY RESPONDENTS AND THE BENEFICIARIES FOR WHOM THEY REPORT CARE EXPERIENCES

MCCM and comparison beneficiaries differed substantially with regard to diagnosis, with 71 percent of MCCM enrollees who transitioned to MHB having cancer, compared to 56-61 percent of comparison beneficiaries in MCCM and comparison hospices. Among comparison beneficiaries, 24-32 percent had a diagnosis of congestive heart failure, compared to 19 percent of MCCM + MHB and MCCM-only beneficiaries, as shown in **Exhibit I.5**. Differences in characteristics underscore the importance of adjusting for beneficiary and caregiver characteristics when comparing across groups. Details regarding how scores are adjusted are included in **Section I.5,** and additional survey items included in the caregiver survey are shown in **Exhibit I.6.**

Exhibit I.5 Characteristics of Caregiver Survey Respondents

Characteristic	MCCM + MHB (n = 210)	MCCM + MHB: Cohort 1 (n = 163)	MCCM + MHB: Cohort 2 (n = 47)	MCCM Only (n = 37)	Comparisons from MCCM Hospices (n = 128)	Comparisons from Matched Non-MCCM Hospices (n = 104)
Decedent age at death						
18-64*	6.7%	6.7%	6.4%	2.7%	4.7%	2.9%
65-74*	26.7%	26.4%	27.7%	27.0%	23.4%	23.1%
75-84*	41.9%	40.5%	46.8%	43.2%	32.0%	30.8%
85+*	24.8%	26.4%	19.1%	27.0%	39.8%	43.3%
Decedent gender						
Male	54.8%	55.8%	51.1%	56.8%	58.6%	53.8%
Female	45.2%	44.2%	48.9%	43.2%	41.4%	46.2%
Decedent race/ethnicity						
White	90.5%	90.2%	91.5%	81.1%	90.6%	91.3%
Black	4.8%	5.5%	2.1%	8.1%	3.9%	1.0%
Hispanic	1.4%	0.6%	4.3%	0.0%	0.8%	1.9%
Other	1.9%	1.8%	2.1%	5.4%	3.1%	2.9%
Length of final episode of hospice care						
Less than 2 days**	8.6%	6.7%	14.9%	0.0%	5.5%	5.8%
2 to 5 days**	16.7%	11.7%	34.0%	8.1%	14.8%	23.1%
6 to 12 days**	18.1%	20.9%	8.5%	8.1%	10.9%	17.3%
13 to 29 days**	21.9%	23.3%	17.0%	13.5%	20.3%	16.3%
30 to 80 days**	20.0%	18.4%	25.5%	40.5%	21.9%	21.2%
81+ days	14.8%	19.0%	0.0%	29.7%	26.6%	16.3%
Payer for hospice services						
Medicare only***	71.9%	77.9%	51.1%	13.5%	74.2%	53.8%
Medicare and Medicaid***	2.9%	3.1%	2.1%	0.0%	0.8%	2.9%
Medicare and private***	8.6%	11.0%	0.0%	5.4%	5.5%	32.7%
Other***	11.0%	7.4%	23.4%	0.0%	15.6%	8.7%
Final setting of hospice care						
Home	71.0%	72.4%	66.0%	18.9%	72.7%	64.4%
Nursing home	6.7%	7.4%	4.3%	0.0%	4.7%	4.8%
Acute care hospital	2.4%	1.2%	6.4%	0.0%	3.1%	2.9%
Hospice inpatient unit	19.5%	18.4%	23.4%	0.0%	19.5%	26.0%
Diagnosis						
Cancer***	71.0%	68.7%	78.7%	51.4%	60.9%	55.8%
Congestive heart failure***	18.6%	20.2%	12.8%	18.9%	24.2%	31.7%
Chronic obstructive pulmonary disease***	9.5%	10.4%	6.4%	29.7%	14.8%	12.5%

Characteristic	MCCM + MHB (n = 210)	MCCM + MHB: Cohort 1 (n = 163)	MCCM + MHB: Cohort 2 (n = 47)	MCCM Only (n = 37)	Comparisons from MCCM Hospices (n = 128)	Comparisons from Matched Non-MCCM Hospices (n = 104)
Other (including human immunodeficiency virus/acquired immunodeficiency syndrome)***	1.0%	0.6%	2.1%	0.0%	0.0%	0.0%
Decedent education						
8th grade or less	3.8%	4.9%	0.0%	8.1%	4.7%	12.5%
Some high school but did not graduate	7.6%	9.2%	2.1%	8.1%	7.0%	5.8%
High school graduate or General Education Development	34.3%	30.7%	46.8%	27.0%	39.1%	27.9%
Some college or two-year degree	21.0%	22.7%	14.9%	27.0%	24.2%	24.0%
Four-year college graduate	13.8%	14.1%	12.8%	18.9%	10.9%	11.5%
More than four-year college degree	17.6%	16.0%	23.4%	8.1%	11.7%	13.5%
Caregiver relationship to decedent						
Spouse or partner	48.1%	49.7%	42.6%	48.6%	51.6%	44.2%
Child, son-in-law, or daughter-in-law	41.9%	42.3%	40.4%	40.5%	42.2%	44.2%
Other relative or friend	9.5%	8.0%	14.9%	10.8%	6.3%	10.6%
Respondent age						
18-64	46.2%	45.4%	48.9%	37.8%	38.3%	39.4%
65-74	26.7%	27.0%	25.5%	35.1%	38.3%	31.7%
75-84	21.0%	19.6%	25.5%	21.6%	15.6%	18.3%
85+	3.8%	4.9%	0.0%	2.7%	7.0%	7.7%
Respondent gender						
Male	20.0%	23.3%	8.5%	10.8%	26.6%	25.0%
Female	77.1%	73.6%	89.4%	86.5%	72.7%	74.0%
Respondent education						
8th grade or less	1.0%	0.6%	2.1%	0.0%	0.8%	1.0%
Some high school but did not graduate	2.9%	3.7%	0.0%	0.0%	4.7%	3.8%
High school graduate or General Education Development	27.6%	29.4%	21.3%	27.0%	28.1%	23.1%
Some college or two-year degree	27.6%	25.2%	36.2%	27.0%	27.3%	32.7%
Four-year college graduate	19.0%	19.0%	19.1%	21.6%	19.5%	14.4%
More than four-year college degree	20.5%	20.2%	21.3%	21.6%	18.8%	21.2%

Characteristic	MCCM + MHB (n = 210)	MCCM + MHB: Cohort 1 (n = 163)	MCCM + MHB: Cohort 2 (n = 47)	MCCM Only (n = 37)	Comparisons from MCCM Hospices (n = 128)	Comparisons from Matched Non-MCCM Hospices (n = 104)
Respondent language spoken at home						
English	97.6%	96.9%	100.0%	97.3%	98.4%	97.1%
Some other language	1.0%	1.2%	0.0%	0.0%	0.0%	0.0%

Sources: CAHPS Hospice Survey responses for MCCM enrollees and comparison MHB enrollees who died between October 1, 2017 and June 30, 2018.

Note: Beneficiary and caregiver characteristics are derived from four sources:

- Information that hospices provide to their CAHPS Hospice Survey vendors in sample frame files, including decedent age at death, gender, diagnosis, and length and setting of final episode of hospice care
- Caregiver responses to survey questions, including decedent race/ethnicity and education; caregiver relationship to decedent; respondent's age, gender, and education; and language spoken at home
- Information available in the MCCM portal
- Information available in hospice claims.

Hospices do not include MCCM-only beneficiaries in their sample frame files because these individuals never elected MHB and their caregivers are not eligible for the CAHPS Hospice Survey. Thus, information regarding MCCM-only beneficiaries was gathered via telephone calls to the hospice rather than via sample frame data. As a result, there is generally a higher rate of missing data for the MCCM-only group than for the other groups for variables that the hospice reports. The percentage of beneficiaries/caregivers for whom data are missing for each characteristic is not shown.

Significance was evaluated by conducting chi-squared tests (for categorical variables) of each characteristic (among the non-missing categories), with statistical significance at the 10% (*), 5% (**), and 1% (***) levels. Tests compared:

- All MCCM + MHB caregiver respondents (cohorts 1 and 2)
- All MCCM-only caregiver respondents (cohorts 1 and 2)
- Comparison caregiver respondents in MCCM hospices, and respondents from matched comparison hospices.

Diagnosis reflects the first MCCM-eligible diagnosis, identified as follows:

- Primary diagnosis provided by the hospice to the survey vendor.
- Primary diagnosis in the MCCM portal for MCCM enrollees.
- Primary diagnosis on claims for comparison respondents.
- Secondary diagnoses in the MCCM portal for MCCM enrollees, or secondary diagnosis in claims for comparison respondents.
- Although some individuals may be eligible for MCCM due to having more than one diagnosis, only the first MCCM-eligible diagnosis using the specified order is shown here and used for adjustments. The "other diagnosis" category includes human immunodeficiency virus/acquired immunodeficiency syndrome, as well as all non-MCCM-eligible diagnoses. "Other payer for hospice services" reflects beneficiaries for whom the hospice reported a combination of primary and secondary, and other payers that are not encompassed by the three listed categories (Medicare only, Medicare and Medicaid, Medicare and Private). These "other payer" sources include Medicare and Other; Medicare, Medicaid, and Other; and Medicare, Medicaid, and Private.

CAHPS = Consumer Assessment of Healthcare Providers and Systems, MHB = Medicare hospice benefit.

Exhibit I.6 Caregiver Survey Supplemental Items by Survey Version

MCCM + MHB	MCCM Only	Hospice Only (administered to comparisons in MCCM and comparison hospices)
CARE RECEIVED FROM SPECIAL PROGRAM	**ADDITIONAL QUESTIONS ABOUT THE SPECIAL PROGRAM**	**ADDITIONAL QUESTIONS ABOUT HOSPICE CARE**
41. Prior to starting full hospice care, your family member was enrolled in a special program that allowed him or her to continue receiving treatment for his or her terminal illness while receiving palliative or some supportive care from the hospice. You might know this special program as [MCCM PROGRAM NAME]. The next questions are about your family member's experience with this special program. How often did the team from this special program seem informed and up-to-date about your family member's treatment from providers that are not part of this program? 1 Never 2 Sometimes 3 Usually 4 Always	36. How often did the special program team seem informed and up-to-date about your family member's treatment from providers that are not part of the program? 1 Never 2 Sometimes 3 Usually 4 Always	41. The following additional questions focus on care your family member received from the hospice. How often did the hospice team seem informed and up-to-date about your family member's treatment? 1 Never 2 Sometimes 3 Usually 4 Always
42. Did the team from this special program speak to you or your family member about what types of care or services he or she wanted? 1 Yes, definitely 2 Yes, somewhat 3 No	37. Did the special program team speak to you or your family member about what types of care or services he or she wanted? 1 Yes, definitely 2 Yes, somewhat 3 No	42. Did the hospice team speak to you or your family member about what types of care or services he or she wanted? 1 Yes, definitely 2 Yes, somewhat 3 No
43. Did the team from this special program provide care that respected your family member's wishes? 1 Yes, definitely 2 Yes, somewhat 3 No	38. Did the special program team provide care that respected your family member's wishes? 1 Yes, definitely 2 Yes, somewhat 3 No	43. Did the hospice team provide care that respected your family member's wishes? 1 Yes, definitely 2 Yes, somewhat 3 No

MCCM + MHB	MCCM Only	Hospice Only (administered to comparisons in MCCM and comparison hospices)
44. Did the team from this special program do anything that went against your family member's wishes? 1 Yes, definitely 2 Yes, somewhat 3 No	39. Did the special program team do anything that went against your family member's wishes? 1 Yes, definitely 2 Yes, somewhat 3 No	44. Did the hospice team do anything that went against your family member's wishes? 1 Yes, definitely 2 Yes, somewhat 3 No
45. Using any number from 0 to 10, where 0 is the worst experience possible and 10 is the best experience possible, what number would you use to rate your family member's experience with this special program? (0 to 10 scale)	40. Using any number from 0 to 10, where 0 is the worst experience possible and 10 is the best experience possible, what number would you use to rate your family member's experience with this special program? (0 to 10 scale)	
46. Would you recommend this special program to your friends and family? 1 Definitely no 2 Probably no 3 Probably yes 4 Definitely yes	41. Would you recommend this special program to your friends and family? 1 Definitely no 2 Probably no 3 Probably yes 4 Definitely yes	
YOUR FAMILY MEMBER'S TRANSITION TO FULL HOSPICE CARE	**DISCUSSIONS ABOUT HOSPICE CARE**	**YOUR FAMILY MEMBER'S TRANSITION TO HOSPICE CARE**
	42. The decision to enroll in hospice involves a shift in the focus of care from extending life as much as possible to one that focuses on comfort. The next questions are about your family member's decision to enroll or not enroll in full hospice care. Did you or your family member ever talk with anyone from the special program about enrolling in full hospice care? 1. Yes 2. No --> If No, go to Question 46	

MCCM + MHB	MCCM Only	Hospice Only (administered to comparisons in MCCM and comparison hospices)
47. The decision to enroll in hospice involves a shift in the focus of care from extending life as much as possible to one that focuses on comfort. The next questions are about your family member's decision to enroll in full hospice care. In your opinion, was the decision to enroll in full hospice care made too early, at the right time, or too late? 1 Too early 2 At the right time 3 Too late	43. In your opinion, did the discussion about enrolling in full hospice care happen too early, at the right time, or too late? 1 Too early 2 At the right time 3 Too late	45. The decision to enroll in hospice involves a shift in the focus of care from extending life as much as possible to one that focuses on comfort. The next questions are about your family member's decision to enroll in hospice care. In your opinion, was the decision to enroll in hospice care made too early, at the right time, or too late? 1 Too early 2 At the right time 3 Too late
48. How much did you talk to a member of the team from the special program about the reasons for enrolling or not enrolling in full hospice care? 1 Too little 2 Right amount 3 Too much	44. How much did you talk to a member of the special program team about the reasons for enrolling or not enrolling in full hospice care? 1 Too little 2 Right amount 3 Too much	46. How much did you talk to a member of the hospice team about the reasons for enrolling or not enrolling in hospice care? 1 Too little 2 Right amount 3 Too much
49. Did you feel that the team from the special program allowed you to ask as many questions as you wanted about enrolling in full hospice care? 1 Yes, definitely 2 Yes, somewhat 3 No	45. Did you feel that the special program team allowed you to ask as many questions as you wanted about enrolling in full hospice care? 1 Yes, definitely 2 Yes, somewhat 3 No	47. Did you feel that the hospice team allowed you to ask as many questions as you wanted about enrolling in hospice care? 1 Yes, definitely 2 Yes, somewhat 3 No
50. Were you or your family member involved in the decision to enroll in full hospice care as much as you would have wanted? 1 Yes, definitely 2 Yes, somewhat 3 No	46. Were you or your family member involved in the decision about enrolling in full hospice care as much as you would have wanted? 1 Yes, definitely 2 Yes, somewhat 3 No	48. Were you or your family member involved in the decision to enroll in hospice care as much as you would have wanted? 1 Yes, definitely 2 Yes, somewhat 3 No

MCCM + MHB	MCCM Only	Hospice Only (administered to comparisons in MCCM and comparison hospices)
51. Was the decision to enroll in full hospice care made free of pressure from anyone from the special program? 1 Yes, definitely 2 Yes, somewhat 3 No 4 I was not involved in this decision	47. Was the decision about enrolling in full hospice care made free of pressure from anyone from the special program? 1 Yes, definitely 2 Yes, somewhat 3 No 4 I was not involved in this decision	49. Was the decision to enroll in hospice care made free of pressure from anyone from the hospice? 1 Yes, definitely 2 Yes, somewhat 3 No 4 I was not involved in this decision
52. Did your family member continue to receive treatment for his or her terminal illness for as long as he or she wanted? 1 Yes, definitely 2 Yes, somewhat 3 No	48. Did your family member continue to receive treatment for his or her terminal illness for as long as he or she wanted? 1 Yes, definitely 2 Yes, somewhat 3 No	50. Did your family member continue to receive treatment for his or her terminal illness for as long as he or she wanted? 1 Yes, definitely 2 Yes, somewhat 3 No
53. Using any number from 0 to 10, where 0 is the worst quality of life possible and 10 is the best quality of life possible, what number would you use to rate the quality of your family member's life during the time he or she was receiving care from the special program? (0 to 10 scale)	49. Using any number from 0 to 10, where 0 is the worst quality of life possible and 10 is the best quality of life possible, what number would you use to rate the quality of your family member's life during the time he or she was receiving care from the special program? (0 to 10 scale)	51. Using any number from 0 to 10, where 0 is the worst quality of life possible and 10 is the best quality of life possible, what number would you use to rate the quality of your family member's life during the time he or she was receiving care from the hospice? (0 to 10 scale)
54. What are the reasons your family member switched from the special program to full hospice care? [OPEN END]	50. What are the reasons your family member did not to switch from the special program to full hospice care? [OPEN END]	52. What are the reasons your family member enrolled in hospice? [OPEN END]
62. In thinking about your experiences with the special program and the hospice, was there anything that went well or that you wish had gone differently for you and your family member? Please tell us about those experiences. [OPEN END]	58. In thinking about your experiences with this special program, was there anything that went well or that you wish had gone differently for you and your family member? Please tell us about those experiences. [OPEN END]	60. In thinking about your experiences with the hospice, was there anything that went well or that you wish had gone differently for you and your family member? Please tell us about those experiences. [OPEN END]

I.9. CAREGIVER EXPERIENCE OF CARE SURVEY INSTRUMENT FOR MCCM ENROLLEES WHO TRANSITION TO MHB

CAHPS® Hospice Survey

Please answer the survey questions about the care the patient received from this hospice:

[HOSPICE NAME]

All of the questions in this survey will ask about the experiences with this hospice.

If you want to know more about this survey, please call [TOLL FREE NUMBER]. All calls to that number are free.

OMB#0938-1257

CAHPS® Hospice Survey

SURVEY INSTRUCTIONS

- Please give this survey to the person in your household who knows the most about the hospice care received by the person listed on the survey cover letter.
- Use a dark colored pen to fill out the survey.
- Place an X directly inside the square indicating a response, like in the sample below.

  ☐ Yes

  ☒ No

- You are sometimes told to skip over some questions in this survey. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

  ☒ Yes ➔ ***If Yes, Go to Question 1***

  ☐ No

THE HOSPICE PATIENT

1. How are you related to the person listed on the survey cover letter?

1☐ My spouse or partner
2☐ My parent
3☐ My mother-in-law or father-in-law
4☐ My grandparent
5☐ My aunt or uncle
6☐ My sister or brother
7☐ My child
8☐ My friend
9☐ Other (please print):

_____

2. For this survey, the phrase "family member" refers to the person listed on the survey cover letter. In what locations did your family member receive care from this hospice? Please choose one or more.

1☐ Home
2☐ Assisted living facility
3☐ Nursing home
4☐ Hospital
5☐ Hospice facility/hospice house
6☐ Other (please print):

_____

YOUR ROLE

3. While your family member was in hospice care, how often did you take part in or oversee care for him or her?

1☐ Never ➔ **If Never, go to Question 41**

2☐ Sometimes

3☐ Usually

4☐ Always

YOUR FAMILY MEMBER'S HOSPICE CARE

As you answer the rest of the questions in this survey, please think only about your family member's experience with the hospice named on the survey cover.

4. For this survey, the <u>hospice team</u> includes all the nurses, doctors, social workers, chaplains and other people who provided hospice care to your family member. While your family member was in hospice care, did you need to contact the hospice team during evenings, weekends, or holidays for questions or help with your family member's care?

1☐ Yes

2☐ No ➔ **If No, go to Question 6**

5. How often did you get the help you needed from the hospice team during evenings, weekends, or holidays?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

6. While your family member was in hospice care, how often did the hospice team keep you informed about when they would arrive to care for your family member?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

7. While your family member was in hospice care, when you or your family member asked for help from the hospice team, how often did you get help as soon as you needed it?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

8. While your family member was in hospice care, how often did the hospice team explain things in a way that was easy to understand?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

9. While your family member was in hospice care, how often did the hospice team keep you informed about your family member's condition?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

10. While your family member was in hospice care, how often did anyone from the hospice team give you confusing or contradictory information about your family member's condition or care?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

11. While your family member was in hospice care, how often did the hospice team treat your family member with dignity and respect?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

12. While your family member was in hospice care, how often did you feel that the hospice team really cared about your family member?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

13. While your family member was in hospice care, did you talk with the hospice team about any problems with your family member's hospice care?

1☐ Yes

2☐ No ➔ **If No, go to Question 15**

14. How often did the hospice team listen carefully to you when you talked with them about problems with your family member's hospice care?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

15. While your family member was in hospice care, did he or she have any pain?

1☐ Yes

2☐ No ➔ **If No, go to Question 17**

16. Did your family member get as much help with pain as he or she needed?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

17. While your family member was in hospice care, did he or she receive any pain <u>medicine</u>?

1☐ Yes

2☐ No ➔ **If No, go to Question 21**

18. Side effects of pain medicine include things like sleepiness. Did any member of the hospice team discuss side effects of pain medicine with you or your family member?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

19. Did the hospice team give you the training you needed about what side effects to watch for from pain medicine?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

20. Did the hospice team give you the training you needed about if and when to give more pain medicine to your family member?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

4☐ I did not need to give pain medicine to my family member

21. While your family member was in hospice care, did your family member ever have trouble breathing or receive treatment for trouble breathing?

1☐ Yes

2☐ No ➔ **If No, go to Question 24**

22. How often did your family member get the help he or she needed for trouble breathing?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

23. Did the hospice team give you the training you needed about how to help your family member if he or she had trouble breathing?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

4☐ I did not need to help my family member with trouble breathing

24. While your family member was in hospice care, did your family member ever have trouble with constipation?

1☐ Yes

2☐ No ➔ **If No, go to Question 26**

25. How often did your family member get the help he or she needed for trouble with constipation?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

26. While your family member was in hospice care, did he or she show any feelings of anxiety or sadness?

1☐ Yes

2☐ No ➔ **If No, go to Question 28**

27. How often did your family member get the help he or she needed <u>from the hospice team</u> for feelings of anxiety or sadness?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

28. While your family member was in hospice care, did he or she ever become restless or agitated?

1☐ Yes

2☐ No ➔ **If No, go to Question 30**

29. Did the hospice team give you the training you needed about what to do if your family member became restless or agitated?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

30. Moving your family member includes things like helping him or her turn over in bed, or get in and out of bed or a wheelchair. Did the hospice team give you the training you needed about how to safely move your family member?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

4☐ I did not need to move my family member

31. Did the hospice team give you as much information as you wanted about what to expect while your family member was dying?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

HOSPICE CARE RECEIVED IN A NURSING HOME

32. Some people receive hospice care while they are living in a nursing home. Did your family member receive care from this hospice while he or she was living in a nursing home?

1☐ Yes

2☐ No ➔ **If No, go to Question 35**

33. While your family member was in hospice care, how often did the nursing home staff and hospice team work well together to care for your family member?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

34. While your family member was in hospice care, how often was the information you were given about your family member by the nursing home staff different from the information you were given by the hospice team?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

YOUR OWN EXPERIENCE WITH HOSPICE

35. While your family member was in hospice care, how often did the hospice team listen carefully to you?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

36. Support for religious or spiritual beliefs includes talking, praying, quiet time, or other ways of meeting your religious or spiritual needs. While your family member was in hospice care, how much support for your religious and spiritual beliefs did you get from the hospice team?

1☐ Too little

2☐ Right amount

3☐ Too much

37. While your family member was in hospice care, how much <u>emotional</u> support did you get from the hospice team?

1☐ Too little

2☐ Right amount

3☐ Too much

38. In the weeks <u>after</u> your family member died, how much emotional support did you get from the hospice team?

1☐ Too little

2☐ Right amount

3☐ Too much

OVERALL RATING OF HOSPICE CARE

39. Please answer the following questions about your family member's care from the hospice named on the survey cover. Do not include care from other hospices in your answers.

Using any number from 0 to 10, where 0 is the worst hospice care possible and 10 is the best hospice care possible, what number would you use to rate your family member's hospice care?

0☐ 0 Worst hospice care possible

1☐ 1

2☐ 2

3☐ 3

4☐ 4

5☐ 5

6☐ 6

7☐ 7

8☐ 8

9☐ 9

10☐ 10 Best hospice care possible

40. Would you recommend this hospice to your friends and family?

1☐ Definitely no

2☐ Probably no

3☐ Probably yes

4☐ Definitely yes

CARE RECEIVED FROM SPECIAL PROGRAM: [MCCM PROGRAM NAME]

41. Prior to starting full hospice care, your family member was enrolled in a special program that allowed him or her to continue receiving treatment for his or her terminal illness while receiving palliative or some supportive care from the hospice.

You may know this special program as:

[MCCM PROGRAM NAME]

The next questions are about your family member's experience with this special program.

How often did the team from this special program seem informed and up-to-date about your family member's treatment from providers that are not part of this program?

1☐ Never

2☐ Sometimes

3☐ Usually

4☐ Always

42. Did the team from this special program speak to you or your family member about what types of care or services he or she wanted?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

43. Did the team from this special program provide care that respected your family member's wishes?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

44. Did the team from this special program do anything that went against your family member's wishes?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

45. Using any number from 0 to 10, where 0 is the worst experience possible and 10 is the best experience possible, what number would you use to rate your family member's experience with this special program?

0☐ 0 Worst experience possible

1☐ 1

2☐ 2

3☐ 3

4☐ 4

5☐ 5

6☐ 6

7☐ 7

8☐ 8

9☐ 9

10☐ 10 Best experience possible

46. Would you recommend this special program to your friends and family?

1☐ Definitely no

2☐ Probably no

3☐ Probably yes

4☐ Definitely yes

YOUR FAMILY MEMBER'S TRANSITION TO FULL HOSPICE CARE

47. The decision to enroll in hospice involves a shift in the focus of care from extending life as much as possible to one that focuses on comfort. The next questions are about your family member's decision to enroll in full hospice care.

In your opinion, was the decision to enroll in full hospice care made too early, at the right time, or too late?

1☐ Too early

2☐ At the right time

3☐ Too late

48. How much did you talk to a member of the team from the special program about the reasons for enrolling or not enrolling in full hospice care?

1☐ Too little

2☐ Right amount

3☐ Too much

49. Did you feel that the team from the special program allowed you to ask as many questions as you wanted about enrolling in full hospice care?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

50. Were you or your family member involved in the decision to enroll in full hospice care as much as you would have wanted?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

51. Was the decision to enroll in full hospice care made free of pressure from anyone from the special program?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

4☐ I was not involved in this decision

52. Did your family member continue to receive treatment for his or her terminal illness for as long as he or she wanted?

1☐ Yes, definitely

2☐ Yes, somewhat

3☐ No

53. Using any number from 0 to 10, where 0 is the worst quality of life possible and 10 is the best quality of life possible, what number would you use to rate the quality of your family member's life during the time he or she was receiving care from the special program?

0☐ 0 Worst quality of life possible

1☐ 1

2☐ 2

3☐ 3

4☐ 4

5☐ 5

6☐ 6

7☐ 7

8☐ 8

9☐ 9

10☐ 10 Best quality of life possible

54. What are the reasons your family member switched from the special program to full hospice care?

_____

_____

_____

_____

_____

_____

ABOUT YOUR FAMILY MEMBER

55. What is the highest grade or level of school that <u>your family member</u> completed?

1☐ 8th grade or less

2☐ Some high school but did not graduate

3☐ High school graduate or GED

4☐ Some college or 2-year degree

5☐ 4-year college graduate

6☐ More than 4-year college degree

7☐ Don't know

56. Was <u>your family member</u> of Hispanic, Latino, or Spanish origin or descent?

1☐ No, not Spanish/Hispanic/Latino

2☐ Yes, Puerto Rican

3☐ Yes, Mexican, Mexican American, Chicano/a

4☐ Yes, Cuban

5☐ Yes, Other Spanish/Hispanic/ Latino

57. What was <u>your family member's</u> race? Please choose one or more.

1☐ White

2☐ Black or African American

3☐ Asian

4☐ Native Hawaiian or other Pacific Islander

5☐ American Indian or Alaska Native

ABOUT YOU

58. What is your age?

1☐ 18 to 24

2☐ 25 to 34

3☐ 35 to 44

4☐ 45 to 54

5☐ 55 to 64

6☐ 65 to 74

7☐ 75 to 84

8☐ 85 or older

59. Are you male or female?

1☐ Male

2☐ Female

60. What is the highest grade or level of school that you have completed?

1☐ 8th grade or less

2☐ Some high school but did not graduate

3☐ High school graduate or GED

4☐ Some college or 2-year degree

5☐ 4-year college graduate

6☐ More than 4-year college degree

61. What language do you <u>mainly</u> speak at home?

1☐ English

2☐ Spanish

3☐ Chinese

4☐ Russian

5☐ Portuguese

6☐ Vietnamese

7☐ Polish

8☐ Korean

9☐ Some other language (please print):

_____

62. **In thinking about your experiences with <u>the special program and the hospice</u>, was there anything that went well or that you wish had gone differently for you and your family member? Please tell us about those experiences.**

_____

_____

_____

_____

_____

_____

THANK YOU

Please return the completed survey in the postage-paid envelope.

[NAME OF SURVEY VENDOR]
[RETURN ADDRESS OF SURVEY VENDOR]

Appendix J. Supporting Data by Section

In this appendix, we include exhibits that provide additional detail beyond what appears in the main report. In each section of this appendix, we identify the corresponding section in the main report:

- Section J.2 provides supporting data for Section 2
- Section J.3 provides supporting data for Section 3
- Section J.4 provides supporting data for Section 4
- Section J.5 provides supporting data for Section 5
- Section J.6 provides supporting data for Section 6

Specifications for all quantitative measures are provided in **Appendices D** and **E**, the comparison group methodology is described in **Appendix F**, the qualitative data collection is included in **Appendix G**, the organizational survey is in **Appendix H**, and the caregiver survey is in **Appendix I**. As there are no supporting data for **Section 1** in the main report, there is no **Section J.1**.

J.2. SUPPORTING DATA FOR SECTION 2

Information on hospices participating in the Medicare Care Choices Model (MCCM) and enrolled beneficiaries appears in **Section 2** in the main report. This section provides the following supplemental data:

- Demographic, clinical, and social support characteristics for MCCM enrollees and MCCM-eligible decedents not in MCCM appear in **Exhibits J.1**, **J.2**, and **J.3**.
- Market characteristics for cohort 1, cohort 2, matched comparison hospices, and all hospices nationally appear in **Exhibit J.4**.

We describe the specification of relevant measures in **Appendices D** and **E**.

Exhibit J.1 Characteristics of MCCM Enrollees, MCCM Decedents, and MCCM Decedents Not in MCCM Differed Slightly

Beneficiary Characteristic	MCCM Enrollees (n = 2,591)	MCCM Decedents (n = 1,462)	MCCM-Eligible Decedents Not in MCCM (n = 70,345)
Age* **			
0-64	8.2%	7.1%	11.0%
65-74	27.1%	29.7%	26.3%
75-84	37.3%	38.3%	33.7%
85+	27.4%	24.9%	29.1%
Gender			
Male	47.4%	48.4%	50.4%
Female	52.6%	51.6%	49.6%
Race/ethnicity* **			
White	88.0%	87.8%	84.1%
Black	8.8%	8.6%	11.6%
Hispanic	0.7%	0.6%	1.2%
Other	2.5%	3.0%	3.2%
Census region* **			
South	40.1%	41.5%	40.3%
Midwest	29.4%	29.1%	27.3%
Northeast	19.7%	20.8%	20.8%
West	10.7%	8.5%	11.7%
Dual eligible* **			
No	94.2%	90.5%	84.5%
Yes	5.8%	9.5%	15.5%
Location* **			
Rural	11.8%	12.7%	19.1%
Urban	88.2%	87.3%	80.9%
Missing	0.0%	0.0%	0.1%

Source: Medicare Enrollment Data and Master Beneficiary Summary File, January 1, 2016-June 30, 2018.

Note: This exhibit displays column percentages for characteristics of MCCM enrollees, MCCM decedents, and MCCM-eligible decedents not in MCCM. For decedents, the analysis is based on those individuals (MCCM and MCCM-eligible) with dates of death on or prior to June 30, 2018. We used chi-square tests to identify differences across groups with statistical significance at the 10% (*), 5% (**), and 1% (***) levels.

See **Exhibit 2.12** in the main report.

Exhibit J.2 Most MCCM Enrollees and MCCM Decedents Needed Some Assistance with Activities, and Had a Diagnosis of Cancer and Hypertension

Beneficiary Characteristic	MCCM Enrollees (n = 2,591)	MCCM Decedents (n = 1,462)	MCCM-Eligible Decedents Not in MCCM (n = 70,345)
Functional status			
Independent	17.4%	19.2%	
Needs some assistance	52.0%	52.3%	
Dependent	10.2%	9.0%	
Disabled	7.1%	7.5%	
Missing	13.3%	12.0%	
Diagnosis* **			
Cancer	57.6%	66.3%	39.0%
Congestive heart failure	19.6%	15.4%	38.3%
Chronic obstructive pulmonary disease	17.5%	13.0%	21.2%
Human immunodeficiency virus/acquired immunodeficiency syndrome	0.2%	0.2%	1.4%
Missing	5.1%	5.1%	0.0%
Comorbidity			
Hypertension***	78.1%	78.0%	88.0%
Hyperlipidemia***	57.1%	59.8%	71.0%
Anemia***	59.2%	59.1%	68.8%
Ischemic heart disease***	53.2%	52.9%	63.8%
Chronic kidney disease***	49.9%	49.6%	61.9%
Centers for Medicare & Medicaid Services hierarchical condition categories risk score* **	**2.2**	**2.1**	**2.7**

Source: MCCM portal, Medicare Enrollment Data and Master Beneficiary Summary File, January 1, 2016-June 30, 2018.

Note: This exhibit displays functional and clinical characteristics of MCCM enrollees, MCCM decedents, and MCCM-eligible decedents not in MCCM cared for by comparison hospices expressed as column percentages. For decedents, the analysis is based on those individuals (MCCM and MCCM-eligible) with dates of death on or prior to June 30, 2018. Comorbidities represent the five most common chronic conditions among MCCM enrollees. Functional status is the first recorded functional status, whether at screening (for beneficiaries who enrolled prior to January 1, 2018) or during an encounter (after January 1, 2018). Information about functional status is available for MCCM enrollees only. We used chi-square tests to identify group differences between categorical characteristics and t-tests for binary characteristics. We conducted a multivariate test of differences means of hierarchical condition category risk scores, which are continuously measured. We report statistical significance at the 10% (*), 5% (**), and 1% (***) levels.

See **Exhibit 2.13** in the main report.

Exhibit J.3 Almost Half of MCCM Enrollees and MCCM Decedents Were Married and Few Lived Alone

Beneficiary Characteristic	MCCM Enrollees (n = 2,591)	MCCM Decedents (n = 1,462)
Marital status		
Married	49.2%	51.8%
Widowed	28.5%	27.0%
Divorced	9.6%	9.6%
Never married	6.4%	6.4%
Declined to report	5.4%	4.5%
Partner	0.8%	0.8%
Caregiver		
Spouse/partner	37.7%	40.0%
Immediate family	30.2%	30.7%
Other relative	3.9%	4.0%
Friend/neighbor	2.3%	2.8%
Other	5.4%	4.9%
None listed	20.6%	17.6%
Living arrangement		
Lives with other person(s)	77.2%	79.5%
Lives alone	22.2%	20.2%
Missing	0.7%	0.2%

Source: MCCM portal, January 1, 2016-June 30, 2018.

Note: This exhibit displays column percentages for MCCM enrollees and MCCM decedents with dates of death on or before June 30, 2018. Information on marital status, caregiver, and living arrangements are available for MCCM enrollees only.

See **Exhibit 2.14** in the main report.

Exhibit J.4 Medicare Reimbursements and Utilization during the Last Two Years of Life Were Similar in Market Areas Served by MCCM Hospices and Comparison Hospices

Market Area Characteristic	MCCM Cohort 1 Hospices (n = 71)	MCCM Cohort 2 Hospices (n = 70)	Matched Comparison Hospices (n = 236)	All Non-MCCM Hospices (n = 4,221)
Medicare reimbursements per decedent	$68,723	$68,254	$67,956	$73,471
Hospital and skilled nursing facility reimbursements per decedent	$11,378	$10,996	$11,312	$13,059
Hospice reimbursements per decedent	$6,628	$6,891	$6,504	$7,119
Physician visit reimbursements per decedent	$5,245	$5,308	$5,178	$5,632
Home health agency reimbursements per decedent	$3,989	$3,782	$3,734	$4,604
Physician visits per decedent	49.1	49.8	48.7	54.8
Intensive care unit days per decedent	3.1	3.3	3.1	3.8
Deaths occurring in hospital (percentage)	20.0%	20.0%	20.0%	21.0%

Source: Dartmouth Atlas of Health Care 2015-2016.

Note: This exhibit displays patterns of average Medicare spending and utilization during the last two years of life in the market areas in which MCCM hospices operate. We assigned each hospice to one hospital referral region, as a proxy for the hospice market, based on the ZIP code of their mailing address. We describe the selection of matched comparison hospices in **Appendix F**. The group of all non-MCCM hospices consisted of 4,158 of 4,221 hospices in the United States that had at least one claim in 2016 and not represented in cohorts 1 and 2, ZIP codes in 2015-2017 Provider of Services files, and ZIP codes that could be matched to hospital referral regions. With the exception of the deaths occurring in a hospital, all other spending and utilization categories are based on 2016 data. The percentage of deaths occurring in hospital is based on 2015 data. We identified differences between MCCM hospices and comparison hospices using a multivariate test of means that allowed for heterogeneous covariance matrices across groups. None of the differences were statistically significant, even at the 10% level.

J.3. SUPPORTING DATA FOR SECTION 3

The organizational structure, processes, and strategies employed by hospices to implement MCCM are discussed in **Section 3** in the main report. This section provides the following supplemental data:

- Training sources and topics utilized by MCCM hospices, as shown in **Exhibit J.5**.
- Descriptions of MCCM learning and diffusion activities provided by the Centers for Medicare & Medicaid Services, by year and cohort, from 2015 through 2018, are shown in **Exhibits J.6-J.12**.
- MCCM hospices' beliefs regarding the impacts of MCCM on beneficiary care are shown in **Exhibit J.12**.
- MCCM hospices' rank ordering of the challenges to implementing and sustaining MCCM are shown in **Exhibit J.13.**
- We used the methods described in **Appendix H** to collect the data reported in this section.

Exhibit J.5 MCCM Hospices Received Training Provided by Their Own Staff and CMS on Diverse Topics

Training Topic	Training Provided by the Hospice		Training Provided by CMS		Training Provided by Another Source	
	Cohort 1	Cohort 2	Cohort 1	Cohort 2	Cohort 1	Cohort 2
MCCM eligibility	67.6%	91.2%	18.9%	29.4%	0.0%	2.7%
MCCM marketing and outreach	51.4%	82.4%	10.8%	26.5%	0.0%	0.0%
MCCM enrollment strategies	48.6%	73.5%	16.2%	29.4%	0.0%	0.0%
MCCM billing processes	35.1%	58.8%	18.9%	38.2%	5.9%	5.4%
Using the MCCM portal	35.1%	55.9%	27.0%	47.1%	0.0%	5.4%
Coordination of palliative care and life-prolonging treatment	56.8%	70.6%	10.8%	17.6%	0.0%	2.7%
Delivery of clinical services in the home	45.9%	76.5%	8.1%	17.6%	0.0%	0.0%
Quality assurance and performance improvement	40.5%	61.8%	13.5%	26.5%	0.0%	0.0%

Source: Organizational survey, wave 2, fielded October–December 2018.

Note: This exhibit displays information from hospices that responded to both waves (2017 and 2018) of the organizational survey. We included responses from 37 cohort 1 hospices and 34 cohort 2 hospices. Based on anticipated source of training for cohort 2 hospices (survey wave 1) and actual source of training support (wave 2). Categories in the columns are not mutually exclusive—hospices could indicate multiple sources of training for a topic. Percentages are cell percentages and report percent of hospices indicating they anticipated (wave 1) or had (wave 2) training in these areas.See **Section 3.5.1** in the main report.

CMS = Centers for Medicare & Medicaid Services.

Exhibit J.6 2015 MCCM Learning and Diffusion Activities – Cohort 1

Date	Event	Description
7/28/2015, 7/30/2015	MCCM webinar I	Welcome to MCCM.
7/1/2015-12/31/2015	Monthly meetings	MCCM hospice meetings with CMS project officers.
8/11/2015, 8/13/2015	MCCM webinar II	Interactive discussion for questions regarding the development of the MCCM implementation plan, required from each participating hospice.
8/25/2015, 8/27/2017	MCCM webinar III	Review of eligibility requirements for MCCM and an introduction to the Service and Activity Log through which hospices report MCCM data.
9/28/2015-9/29/2015	Cohort 1 onsite training	Two-day, in-person training in Baltimore, Maryland, with sessions on a range of key implementation topics, including marketing, data submission, billing, and quality. All hospices received binders of information to help them as they get up and running.
10/20/2015	MCCM webinar IV	Discussion of beneficiary transitions while enrolled in MCCM and strategies to optimize communication.
11/17/2015	MCCM webinar V	Presentation on MCCM claims submission process and requirements.
12/16/2015, 12/17/2015	MCCM webinar VI	Session on using the Excel workbook to log MCCM services and activities.

Source: Information the MCCM implementation contractor provided on January 17, 2019.

See **Section 3.5.2** in the main report.

Exhibit J.7 2016 MCCM Learning and Diffusion Activities – Cohort 1

Date	Event	Description
1/1/2016, 1/30/2016	Office hours	Open forum for cohort 1 hospices to pose questions related to their current and anticipated work on MCCM.
3/8/2016, 3/10/2016	Introduction to MCCM document management	Webinar demonstration of the MCCM document management system, Salesforce.
5/3/2016	Model updates	Webinar on MCCM evaluation plans and introduction of two new changes to the eligibility criteria.
5/16/2016	Portal update	CMS grants MCCM portal the authority to operate.
5/24/2016, 5/26/2016	Portal refresher	Webinar on the transition from Excel worksheets to the MCCM portal, and live demonstration of MCCM portal functions and workflows.
6/7/2016	Billing and model updates	Webinar discussion of the effects of the eligibility changes on marketing, review of MCCM billing issues reported, and clarification about home health services.
7/18/2016	Quarterly progress reports	Webinar on the Hospice Quarterly Progress Report format and strengths-weaknesses-opportunities-threats analysis. Information was also provided about the Salesforce site and the role of the community practitioner in MCCM.
10/14/2016, 10/20/2016, 10/28/2016	Enrollment innovation group	Enrollment innovation group launched to determine best strategies for gaining MCCM referrals and enrollment.
11/3/2018, 11/18/2016	Enrollment innovation group	Enrollment innovation group activities continue.
12/15/2016	Billing and other updates	Review/updates regarding MCCM claims and billing.

Source: Information the MCCM implementation contractor provided on January 17, 2019.

See **Section 3.5.2** in the main report.

Exhibit J.8 2017 MCCM Learning and Diffusion Activities – Cohort 1

Date	Event	Description
1/20/2017	Enrollment innovation group	Enrollment innovation group activities conclude.
2/15/2017	Year 2 kickoff	Webinar to kick off the second year of MCCM implementation for cohort 1 hospices; session included enrollment innovation group takeaways.
2/23/2017	Office hours	Open forum for cohort 1 hospices to pose questions related to their current and anticipated work on MCCM.
3/15/2017	MCCM and palliative care	Webinar on the relationship between MCCM and palliative care. Hospices shared their experiences with the model and palliative care services.
3/1/2017-7/31/2017	Enrollment action groups	Small group sessions focused on improving MCCM marketing and enrollment. Four groups—A, B, C, and D—met biweekly from March until May, and then monthly in June and July.
4/26/2017	Quarterly hospice reports	Webinar on the hospice-level quarterly reports, including the data available in the report and how hospices can access their report.
5/24/2017	Effective care coordination	Webinar on care coordination approaches drawing from recent MCCM survey results. Abt Associates also provided a brief overview of our approach to considering MCCM costs.
6/14/2017	Marketing and outreach	Webinar on findings from the analysis of MCCM hospice implementation plans and market characteristics, to understand how to implement a marketing framework to promote MCCM, and to explore ways to differentiate MCCM from other services. Kathy Brandt presented a marketing and outreach framework to MCCM hospices.
9/6/2017	Enrollment action group summary	Webinar on the 10 best lessons learned from the enrollment action groups.
9/20/2017	Medicare administrative contractor processes	Webinar on the role and duties of the Medicare administrative contractors, as well as the process for submitting a notice of election and MCCM claim.
10/18/2017	Quality	Webinar on the goals of MCCM and MCCM quality monitoring efforts. The webinar also included an MCCM quality exercise, as well as a review of an example hospice-level quality report to show how the report can be used to support MCCM quality efforts.
11/15/2017	MCCM portal training	Webinar training on upcoming changes to the MCCM portal.
12/12/2017	MCCM portal questions and answers	Open forum for hospices to pose questions related to the MCCM portal (both cohort 1 and cohort 2 hospices participated).

Source: Information the MCCM implementation contractor provided on January 17, 2019.

See **Section 3.5.2** in the main report.

Exhibit J.9 2017 MCCM Learning and Diffusion Activities – Cohort 2

Date	Event	Description
6/21/2017	Cohort 2 kickoff	Webinar on key implementation topics, including MCCM design, payment, data submission, and learning and diffusion activities. The webinar also reviewed the content of the MCCM implementation plan, which hospices were required to complete by 8/31/2017.
6/27/2017	Office hours	Open forum for cohort 2 hospices to pose questions related to their current and anticipated work on MCCM.
7/19/2017	Hospice responsibilities	Webinar introduction to the Centers for Medicare & Medicaid Innovation team and review of MCCM objectives, hospice participation agreement, hospice responsibilities for beneficiary management, and expectations about hospice engagement in MCCM.
7/25/2017	Office hours	Open forum for cohort 2 hospices to pose questions related to their current and anticipated work on MCCM.
7/26/2017	MCCM portal specifications	Webinar introduction to the MCCM portal.
8/2/2017	Marketing and outreach	Webinar on a marketing and outreach framework providing potential ideas, strategies, and messaging to help hospices engage new MCCM referral sources and new MCCM beneficiaries.
8/8/2017	Office hours	Open forum for cohort 2 hospices to pose questions related to their current and anticipated work on MCCM.
10/5/2017-10/6/2017	Cohort 2 onsite training	Two-day, in-person training in Baltimore, Maryland, with sessions on a range of key implementation topics, including marketing, data submission, billing, and quality. All hospices received binders of information to help them as they get up and running.
10/25/2017	Claims and billing deep dive	Webinar on the eligible diagnoses and criteria for MCCM, the process for submitting a notice of election, and the MCCM claims process. The webinar also included a description of the role of the Medicare administrative contractors.
11/14/2017	MCCM portal training part 1	Webinar training to hospices on upcoming changes to the MCCM portal.
12/5/2017	MCCM portal training part 2	Webinar training to hospices on upcoming changes to the MCCM portal.
12/12/2017	MCCM portal questions and answers	Open forum for hospices to pose questions related to the MCCM portal (both cohort 1 and cohort 2 hospices participated).

Source: Information the MCCM implementation contractor provided on January 17, 2019.

See **Section 3.5.2** in the main report.

Exhibit J.10 2018 MCCM Learning and Diffusion Activities – Cohort 1

Date	Event	Description
1/10/2018, 1/16/2018	January TouchPoints	Open forum for participants to report on implementation updates and activities, share promising practices, celebrate successes, and identify possible solutions to challenges. The January discussion also included ideas to enhance implementation of MCCM.
1/10/2018	MCCM 2018 kickoff	Webinar on model implementation efforts to date, evaluation goals, and the MCCM billing and claims process.
1/23/2018	MCCM portal 2.0 training	Overview of how to upload comma-separated value data into the MCCM portal 2.0.
1/30/2018	MCCM portal 2.0 questions and answers	Session for MCCM hospices to pose questions related to their current and anticipated challenges with the 1/1/2018 MCCM portal 2.0 launch.
2/14/2018, 2/20/2018	February TouchPoints	Problem-solving discussion about barriers to enrollment.
2/21/2018	The care choices-hospice continuum: A comparison of approaches to care	Webinar discussion of the similarities and differences in philosophical approach, regulations, and services offered between MCCM and the Medicare hospice benefit.
3/14/2018, 3/20/2018	March TouchPoints	Guidance on how to review, interpret, and apply information from the MCCM quarterly reports to inform future implementation efforts.
4/11/2018, 4/17/2018	April TouchPoints	Discussion among hospices about their experiences coordinating care with interdisciplinary group meetings, highlighting the differences between MCCM and Medicare hospice benefit activities.
5/9/2018, 5/15/2018	May TouchPoints	Additional guidance on how to use the newly released MCCM quarterly reports (aligned to MCCM portal 2.0), which may further support quality improvement efforts.
5/16/2018	Engaging the caregiver in MCCM	Webinar on the important role caregivers play in support of MCCM participants. This presentation highlighted the importance of person and family engagement to build relationships based on trust and inclusion.
6/13/2018, 6/19/2018	June TouchPoints	Conversation with hospices about their MCCM Hospice Quarterly Progress Report findings, as well as an overview of the newly released (quarterly) MCCM quality dashboard.
7/11/2018	Physicians and non-physician provider forum	Open forum for community providers to learn more about MCCM and hear how professional colleagues are supporting the model in their communities.
8/8/2018, 8/14/2018	August TouchPoints	Discussion among hospices regarding the importance of data integrity for implementation and evaluation efforts, focusing on data entry and error reports disseminated by the implementation team.
9/12/2018, 9/18/2018	September TouchPoints	Presentation on MCCM portal navigation and model resource reminders, plus additional guidance to expedite MCCM claims processing including use of MCCM-approved International Classification of Disease-10 codes.
10/10/2018, 10/16/2018	October TouchPoints	Discussion focused on care coordination and collaboration with Medicare-certified home health agencies. In addition, hospices discussed issues and solutions related to the coordination of durable medical equipment needs for their beneficiaries.

Date	Event	Description
10/24/2018	Overview of the first annual evaluation report	Webinar by the MCCM evaluation contractor, Abt Associates, on findings from the first annual report of the MCCM evaluation.
11/14/2018, 11/20/2018	November TouchPoints	Discussion of a new tool to assist hospices in interpreting their individualized quality data in comparison to aggregate data that are presented on the quarterly MCCM quality dashboard, to further inform quality improvement efforts.
12/12/2018, 12/20/2018	December TouchPoints	Further discussion of care coordination efforts, including an introduction to the Home Health Agency fact sheet developed by the MCCM team.

Source: Information the MCCM implementation contractor provided on January 17, 2019.

See **Section 3.5.2** in the main report.

Exhibit J.11 2018 MCCM Learning and Diffusion Activities – Cohort 2

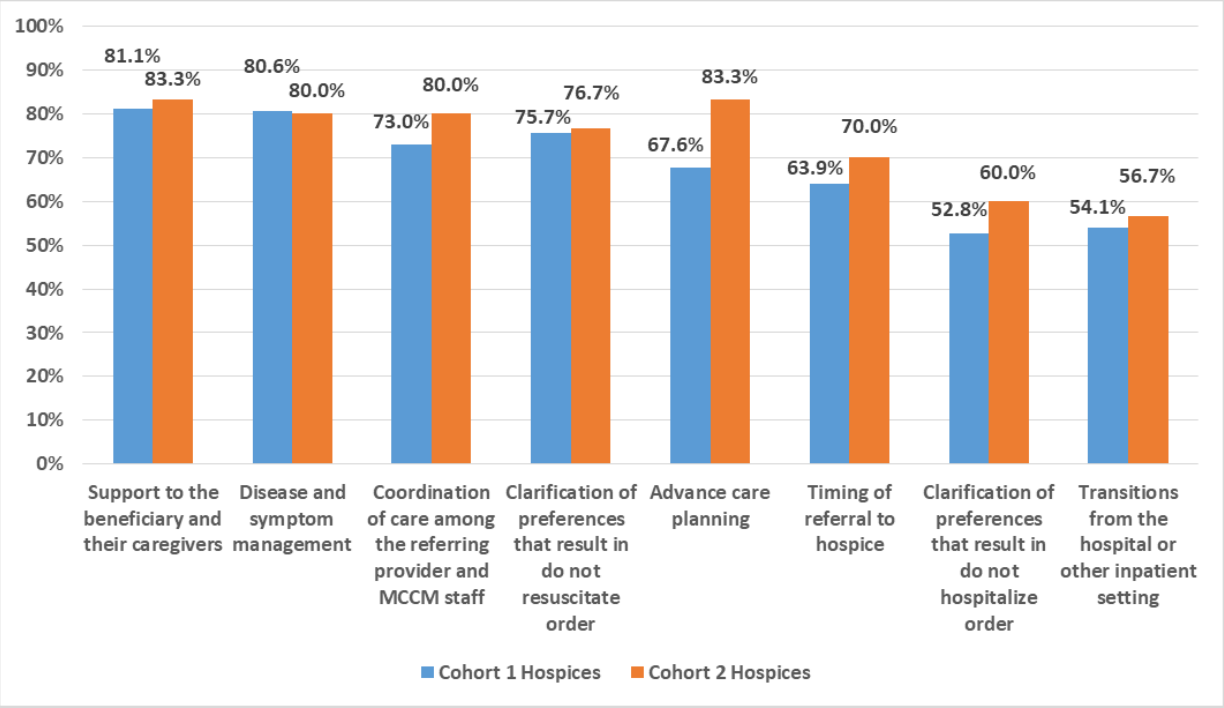
Date	Event	Description
1/10/2018	MCCM 2018 kickoff	Webinar on model implementation efforts to date, evaluation goals, and the MCCM billing and claims process.
1/23/2018	MCCM portal 2.0 training	Overview of how to upload comma-separated value data into the MCCM portal 2.0.
1/30/2018	MCCM portal 2.0 questions and answers	Session for MCCM hospices to pose questions related to their current and anticipated challenges with the 1/1/2018 MCCM portal 2.0 launch.
1/3/2018, 1/8/2018, 1/17/2018, 1/22/2018, 1/31/2018, 2/5/2018	MCCM cohort 2 office hours	Open forum for cohort 2 hospices to pose questions related to their model implementation efforts.
2/21/2018	The care choices-hospice continuum: A comparison of approaches to care	Webinar discussion of the similarities and differences in philosophical approach, regulations, and services offered between MCCM and the Medicare hospice benefit.
3/14/2018, 3/20/2018	March TouchPoints	Guidance on how to review, interpret, and apply information from the MCCM quarterly reports to inform future implementation efforts.
4/11/2018, 4/17/2018	April TouchPoints	Discussion among hospices about their experiences coordinating care with interdisciplinary group meetings, highlighting the differences between MCCM and Medicare hospice benefit activities.
5/9/2018, 5/15/2018	May TouchPoints	Additional guidance on how to use the newly released MCCM quarterly reports (aligned to MCCM portal 2.0), which may further support quality improvement efforts.
5/16/2018	Engaging the caregiver in MCCM	Webinar on the important role caregivers play in support of MCCM participants. This presentation highlighted the importance of person and family engagement to build relationships based on trust and inclusion.
6/13/2018, 6/19/2018	June TouchPoints	Conversation with hospices about their MCCM Hospice Quarterly Progress Report findings, as well as an overview of the newly released (quarterly) MCCM quality dashboard.

Date	Event	Description
7/11/2018	Physicians and nonphysician provider forum	Open forum for community providers to learn more about MCCM and hear how professional colleagues are supporting the model in their communities.
8/8/2018, 8/14/2018	August TouchPoints	Discussion among hospices regarding the importance of data integrity for implementation and evaluation efforts, focusing on data entry and error reports disseminated by the implementation team.
9/12/2018, 9/18/2018	September TouchPoints	Presentation on MCCM portal navigation and model resource reminders, plus additional guidance to expedite MCCM claims processing including use of MCCM-approved International Classification of Disease-10 codes.
10/10/2018, 10/16/2018	October TouchPoints	Discussion focused on care coordination and collaboration with Medicare-certified home health agencies. In addition, hospices discussed issues and solutions related to the coordination of durable medical equipment needs for their beneficiaries.
10/24/2018	Overview of the first annual evaluation report	Webinar by the MCCM evaluation contractor, Abt Associates, on findings from the first annual report of the MCCM evaluation.
11/14/2018, 11/20/2018	November TouchPoints	Discussion of a new tool to assist hospices in interpreting their individualized quality data in comparison to aggregate data that are presented on the quarterly MCCM quality dashboard, to further inform quality improvement efforts.
12/12/2018, 12/20/2018	December TouchPoints	Further discussion of care coordination efforts, including an introduction to the Home Health Agency fact sheet developed by the MCCM team.

Source: Information the MCCM implementation contractor provided on January 17, 2019.

See **Section 3.5.2** in the main report.

Exhibit J.12 Organizational Survey Respondents Perceived that MCCM Impacts the Care of Beneficiaries and Caregivers



Source: Cohorts 1 and 2 organizational survey, wave 2, fielded October-December 2018.

Note: This exhibit displays information from hospices that responded to both waves (2017 and 2018) of the organizational survey. We include responses from 37 cohort 1 hospices and 34 cohort 2 hospices. For each aspect of care, respondents could select if MCCM impacted the care at one of the following levels: major or moderate impact, minor impact, or no impact. This exhibit is based on responses that MCCM impacts each aspect in a major or moderate way.

See **Section 3.8** in the main report.

Exhibit J.13 Rank Ordering of Challenges To Implement and Sustain MCCM

Challenge	Cohort 1	Cohort 2
The eligibility requirements restrict access to MCCM for certain beneficiaries who might benefit from the model	1	1
The monthly per beneficiary payment is not commensurate with the costs of providing MCCM services	2	2
Consumers and/or health care providers lack an understanding of the difference between MCCM and the traditional hospice	3	4[a]
Getting the primary physician to sign the certificate of terminal illness can be difficult	5	3
Coordinating care across health care settings consumes significant staff time	4	4[a]
Staff training needs are very different for MCCM than for traditional hospice care	6	5

Sources: Cohorts 1 and 2 organizational survey, wave 2, fielded October-December 2018.

Note: This exhibit displays information from hospices that responded to both waves (2017 and 2018) of the organizational survey. The exhibit includes responses from 36 of 37 matched cohort 1 hospices, and 30 of 34 unmatched cohort 2 hospices. Item-level response varied. Rank scores were computed by calculating the average for each MCCM challenge item. The average rank scores were then ordered from 1 to 6. Both MCCM challenges had the same rank score.

[a] The average rank scores for these two items were equal.

See **Section 3.8** in the main report.

J.4. SUPPORTING DATA FOR SECTION 4

Information on the care received under MCCM appears in **Section 4** in the main report. This section provides the following supporting data:

- Characteristics of enrollees missing comprehensive assessments are shown in **Exhibit J.14**
- Estimates for interdisciplinary group meetings before and after the MCCM portal guidance was issued are shown in **Exhibit J.15**
- Estimates of encounters and services before and after MCCM portal revisions were implemented are shown in **Exhibit J.16**
- MCCM enrollees' encounters, number of services per encounter, and mode of encounters; and recipients of these encounters are shown in **Exhibits J.17**-**J.20**

We describe the specification of relevant measures in **Appendices D** and **E**.

Exhibit J.14 Characteristics of MCCM Enrollees Receiving and Missing Comprehensive Assessments Were Similar

Characteristic	MCCM Enrollees Receiving One or More Comprehensive Assessments	MCCM Enrollees Missing One or More Comprehensive Assessments
MCCM-qualifying diagnosis		
Cancer	61.7%	60.5%
Chronic obstructive pulmonary disease	21.0%	19.5%
Congestive heart failure	23.3%	22.1%
Human immunodeficiency virus/acquired immunodeficiency syndrome	0.3%	0.8%
Age	78.5%	77.0%
Sex (% female)	52.3%	53.5%
Race/ethnicity		
White non-Hispanic	85.1%	86.6%
Black non-Hispanic	8.0%	7.5%
Hispanic	2.4%	2.4%
Other	0.6%	3.5%
Lives alone	23.3%	18.1%
Marital status		
Married/partner	49.9%	50.7%
Widowed/divorced	38.8%	35.1%
Other	11.3%	14.2%
Functional status		
Independent	20.5%	17.3%
Needs some assistance	60.4%	57.5%
Dependent	10.5%	21.1%
Disabled	8.7%	4.1%
Caregiver		
Spouse/partner	44.6%	50.7%
Immediate family	36.1%	37.7%
Friend/neighbor	3.0%	0.9%
Other relative	5.0%	1.7%
None (original portal only)	5.1%	0.0%
Other	6.2%	9.1%

Sources: MCCM portal data, January 1, 2018-June 30, 2018.

Note: This exhibit includes data on 1,052 MCCM enrollees. MCCM hospices are required to perform an initial assessment within 48 hours of enrollment, a comprehensive assessment within 5 days of enrollment, and subsequent assessments, as needed, no more than 15 days apart, in accordance with Medicare hospice benefit conditions of participation. During comprehensive assessments, MCCM staff assess (and record) the enrollee's functional status for clinical indicators such as pain, shortness of breath, and emotional distress. Functional status is the first recorded functional status, whether at screening (for beneficiaries who enrolled prior to January 1, 2018) or during an encounter (after January 1, 2018).

See **Exhibit 4.2** in the main report.

Exhibit J.15 Distribution of MCCM Enrollees with Interdisciplinary Group Meetings Recorded in the MCCM Portal during Three Phases of MCCM Portal Development

Encounter Type	All Encounters Recorded in the Portal		Encounters Recorded in Original Portal Prior to Instructions to Record IDG Meetings		Encounters Recorded in Original Portal Prior to Instructions to Record IDG Meetings		Encounters Recorded in Revised[a] Portal	
IDG meeting	22,096	32.2%	1,540	8.3%	14,213	57.1%	6,367	25.1%
All other	46,441	67.8%	16,914	91.7%	10,659	42.9%	18,966	74.9%
Total	**68,537**	**100.0%**	**18,454**	**100.0%**	**24,872**	**100.0%**	**25,333**	**100.0%**

Sources: MCCM portal data, January 1, 2016-June 30, 2018.

Note: This exhibit displays an analysis of IDG meeting as a percentage of all encounters with 2,591 MCCM enrollees during different phases of portal development. An "encounter" is a meeting, either in person or by telephone, between an MCCM beneficiary or caregiver and a health care provider. CMS requires MCCM hospices to hold IDGs, to discuss a new enrollee's assessment results and service needs, and then to review the enrollee's plan of care.

[a] CMS revised the portal to facilitate documentation of IDG meetings in 2017. Hospices began to record IDG meetings in the revised portal starting January 1, 2018.

IDG = interdisciplinary group.

See **Section 4.1.3** in the main report.

Exhibit J.16 Distribution of MCCM Encounters and Services per Encounter, by Provider Type

Provider Type	Percentage of Encounters	Total Encounters	Average Number of Services per Encounter		
			All MCCM	Original Portal	Revised Portal
Care coordinator	31.4%	14,605	3.8	3.8	3.7
Nurse (registered nurse/ licensed practical nurse)	22.0%	10,241	3.3	3.5	2.9
Social worker	20.3%	9,437	3.3	3.6	2.9
Aide	17.0%	7,880	1.4	1.9	0.9
Chaplain	6.1%	2,823	2.3	2.4	1.9
Volunteer	1.9%	862	1.7	2.0	1.1
Nurse practitioner	0.5%	211	3.7	3.9	2.8
Massage therapist	0.2%	111	1.8	2.3	1.0
Hospice physician	0.1%	61	3.5	3.8	3.0
Pharmacist	0.1%	52	2.3	3.5	2.3
Other therapist	0.1%	46	2.7	2.9	1.8
Music therapist	0.1%	34	3.2	3.5	1.9
Bereavement counselor	0.1%	32	2.7	3.9	1.8
Other spiritual counselor	0.0%	15	4.0	4.5	2.8
Nutritional counselor	0.0%	14	2.4	3.3	1.8
Pet therapist	0.0%	3	7.0	7.0	0.0
Art therapist	0.0%	0	0.0	0.0	0.0
Total	**99.9%**	**46,427**	**3.0**	**3.3**	**2.7**

Sources: MCCM portal data, January 1, 2016-June 30, 2018.

Note: This exhibit includes data on 2,591 MCCM enrollees. Of 46,441 total encounters, 46,427 had a staff person identified (14 did not). Includes recorded encounters and services occurring January 1, 2016 to June 30, 2018. An "encounter" is a meeting, either in person or by telephone, between an MCCM beneficiary or caregiver and a health care provider. "Service" refers to the type of care or care coordination occurring during the encounter. Typically, multiple services are provided during a single encounter. The revisions in the portal resulted in each service being clearly attributed to one provider. Total percentage does not equal 100 due to rounding. Prior to January 1, 2018, service data were reported in one encounter record when multiple providers met with the beneficiary simultaneously. As a result, the "average number of services per encounter" column may be inflated, because of the inability to disaggregate the service data by provider type. Starting January 1, 2018, all data are now collected in separate encounter records for each provider.

See **Exhibit 4.3** in the main report.

Exhibit J.17 Percentage of MCCM Enrollees with Encounters, by Provider Type and Cohort

Provider Type	All Enrollees (n = 2,591)	Cohort 1 Enrollees (n = 2,081)	Cohort 2 Enrollees (n = 501)
Care coordinator	78.4%	76.9%	84.5%
Nurse (registered/licensed practical)	66.8%	67.2%	65.5%
Social worker	70.1%	69.5%	72.4%
Aide	21.0%	20.2%	24.3%
Chaplain	30.8%	32.9%	22.0%
Volunteer	7.1%	7.8%	4.5%
Nurse practitioner	3.6%	4.1%	1.8%
Medical doctor	1.8%	1.8%	1.6%
Massage therapist	1.2%	1.4%	0.2%
Bereavement counselor	1.0%	1.0%	1.0%
Pharmacist	0.9%	0.2%	3.7%
Other therapist	0.8%	0.7%	1.0%
Music therapist	0.5%	0.7%	0.0%
Nutritional counselor	0.5%	0.6%	0.0%
Other spiritual counselor	0.3%	0.3%	0.4%
Pet therapist	0.1%	0.1%	0.0%
Art therapist	0.0%	0.0%	0.0%

Sources: MCCM portal data, January 1, 2016 to June 30, 2018.

Note: This exhibit includes data on 2,591 MCCM enrollees. An "encounter" is a meeting, either in person or by telephone, between an MCCM beneficiary or caregiver and a health care provider.

See **Exhibit 4.4** in the main report.

Exhibit J.18 Average Number of MCCM Services per Encounter, by Provider Type and Cohort

Provider Type	Cohort 1 Enrollees (n = 2,081)	Cohort 2 Enrollees (n = 501)
Care coordinator	3.8	3.7
Nurse (registered/licensed practical)	3.3	3.1
Social worker	3.4	2.6
Aide	1.5	0.6
Chaplain	2.3	1.9
Volunteer	1.7	1.1
Nurse practitioner	3.7	3.2
Massage therapist	1.9	1.0
Hospice physician	3.5	3.4
Pharmacist	1.7	2.4
Other therapist	1.8	3.2
Music therapist	3.2	0.0
Bereavement counselor	2.8	2.5
Other spiritual counselor	4.4	1.5
Nutritional counselor	2.4	0.0
Pet therapist	7.0	0.0
Art therapist	0.0	0.0

Sources: MCCM portal data, January 1, 2016 to June 30, 2018.

Note: This exhibit includes data on 2,591 MCCM enrollees. An "encounter" is a meeting, either in person or by telephone, between an MCCM beneficiary or caregiver and a health care provider. "Service" refers to the type of care or care coordination occurring during the encounter. Typically, multiple services are provided during a single encounter. In general, the number of services per encounter in cohort 2 is lower than in cohort 1. This could be driven, in part, by the fact that most cohort 1 data were collected using the original portal. In the future, when there are more data to support more-stable results, we will compare cohorts using only the revised portal data.

See **Exhibit 4.6** in the main report.

Exhibit J.19 Distribution of MCCM Encounters by Delivery Mode and Cohort

Delivery Mode	Encounters Total (n = 46,441)	Encounters Cohort 1 (n = 40,589)	Encounters Cohort 2 (n = 5,849)
Home/residence	74.0%	73.8%	75.1%
Phone	25.0%	25.1%	24.6%
Facility bedside	0.8%	0.9%	0.0%
Mail/email/video conference	0.2%	0.2%	0.3%

Sources: Medicare claims, the Master beneficiary summary file, and MCCM portal data January 1, 2016 to June 30, 2018.

Note: The exhibit includes data on 2,591 MCCM enrollees. An "encounter" refers to a meeting, either in person or by telephone, between an MCCM beneficiary or caregiver and a health care provider.

See **Section 4.1.9** in the main report.

Exhibit J.20 Distribution of MCCM Encounters by Recipient Type

Recipient	Encounters Total (n = 46,441)	Encounters Cohort 1 (n = 40,619)	Encounters Cohort 2 (n = 5,852)
Enrollee	92.2%	92.6%	88.8%
Family member	36.3%	34.8%	45.9%
Caregiver (not family)	8.1%	8.8%	3.6%

Sources: MCCM portal data, January 1, 2016 to June 30, 2018.

Note: This exhibit includes data on 2,591 MCCM enrollees. An "encounter" refers to a meeting, either in person or by telephone, between an MCCM beneficiary or caregiver and a health care provider. Note that single encounters may benefit multiple individuals. Totals are greater than 100%, as a single encounter can benefit multiple recipients.

See **Section 4.1.9** in the main report.

J.5. SUPPORTING DATA FOR SECTION 5

Information on transitions from MCCM to the Medicare hospice benefit (MHB) appears in **Section 5** in the main report. This section provides the following supporting data:

- Characteristics of the population that transitioned from MCCM to hospice, as shown in **Exhibit J.21**.
- Responses from caregivers of those that transitioned to hospice on shared decision making metrics, as shown in **Exhibit J.22**.

We describe the specification of relevant measures in **Appendices E** and **I**.

Exhibit J.21 Timing of Transitions from MCCM Enrollment to MHB and from MHB to Death, by MCCM-Qualifying Diagnosis, Functional Status, and Dual Eligibility

Characteristic	Number of Decedents	Row Percent of Decedents Transitioning to MHB	Days from MCCM Enrollment to MHB (n = 1,217)	Days from MHB Enrollment to Death (n = 1,217)
All MCCM decedents	1,462	83.2%	77.5	36.7
MCCM-qualifying diagnosis				
Cancer	970	88.2%	66.5	34.1
Chronic obstructive pulmonary disease	190	72.6%	101.0	52.2
Congestive heart failure	225	68.9%	118.1	39.8
Human immunodeficiency virus/acquired immunodeficiency syndrome	3	66.7%	33.0	52.0
Missing	74	89.2%	77.0	31.4
Functional status				
Independent	280	80.7%	60.8	31.1
Needs some assistance	765	83.7%	90.7	41.8
Dependent, frequent care	132	89.4%	90.8	36.7
Disabled	110	81.8%	96.0	42.7
Missing	175	81.7%	22.8	19.4
Dual eligibility				
No	1,323	84.2%	74.3	36.3
Yes	139	74.1%	112.7	41.7

Sources: Medicare claims, Master beneficiary summary file, and MCCM portal, January 1, 2016 to June 30, 2018. Dates of death documented on or prior to June 30, 2018.

Note: This exhibit displays analysis of 1,462 MCCM decedents who died prior to June 30, 2018 and a subgroup of 1,217 MCCM decedents who transitioned to MHB prior to June 30, 2018 (excluding 1 apparent error in recorded date of death). The number of days between MCCM enrollment and transition to MHB was calculated as the MHB start date minus the MCCM enrollment date plus one. The number of days between MHB transition and death was calculated as the date of death minus the MHB start date plus one. Functional status is the first recorded functional status, whether at screening (for beneficiaries who enrolled in 2016 and 2017) or during an encounter (on or after January 1, 2018).

MHB = Medicare hospice benefit.

See **Exhibit 5.6** in the main report.

Exhibit J.22 Shared Decision Making among MCCM Enrollees Who Transitioned to the MHB, and MHB Comparisons

Caregiver Survey Item	MCCM Enrollees Who Transitioned to MHB (n = 210)	MHB Comparisons in MCCM Hospices (n = 128)	MHB Comparisons in Matched Hospices (n = 104)
A member of the MCCM team/hospice team talked with the enrollee or family about the reasons for enrolling or not enrolling in hospice:			
Too little	9.0% (ref)	4.3%	9.2%
Right amount	89.6% (ref)	95.4%*	90.1%
Too much	1.5% (ref)	0.3%	0.7%
A member of the MCCM team/hospice team allowed the enrollee or family to ask as many questions as they wanted about enrolling in full hospice care			
Yes, definitely	87.9% (ref)	89.7%	89.8%
Yes, somewhat	8.1% (ref)	7.2%	7.9%
No	3.9% (ref)	3.2%	2.3%
The enrollee or family were involved as much as they would have wanted to be in the decision to enroll in hospice			
Yes, definitely	91.2% (ref)	92.3%	89.4%
Yes, somewhat	6.3% (ref)	6.1%	8.5%
No	2.5% (ref)	1.6%	2.1%
The decision to enroll in hospice was made free of pressure from the MCCM team/hospice team			
Yes, definitely	90.7% (ref)	96.3%*	88.3%
Yes, somewhat	2.3% (ref)	2.6%	7.4%*
No	7.0% (ref)	1.1%**	4.3%
The decision to enroll in hospice was made:			
Too early	0.4% (ref)	2.4%	2.2%
At the right time	91.9% (ref)	86.6%	92.4%
Too late	7.7% (ref)	11.0%	5.4%

Sources: Caregiver Experience of Care Survey responses for MCCM enrollees and comparison MHB beneficiaries who died between October 1, 2017 and June 30, 2018.

Note: Significance is reported from a linear regression model, including case-mix adjustors, with MCCM + MHB as the reference group, with statistical significance at the 10% (*), 5% (**), and 1% (***) levels. Please refer to **Appendix I** for the power analysis and additional details on the caregiver survey.

MHB = Medicare hospice benefit, Ref = reference group for significance testing.

See **Exhibit 5.7** in the main report.

J.6. SUPPORTING DATA FOR SECTION 6

Information on quality of care experienced by MCCM enrollees and their caregivers appears in **Section 6** in the main report. This section provides the following supplemental data:

- Caregiver reports regarding quality of life, care coordination, consistency of care with beneficiary preferences, and overall experiences of MCCM care among MCCM enrollees who transitioned to hospice, and MHB comparisons are shown in **Exhibit J.23**.
- Caregiver reports regarding hospice care experiences among MCCM enrollees who transitioned to hospice, and MHB comparisons are shown in **Exhibit J.24**.

Exhibit J.23 Quality of Life and Experiences of Care among MCCM Enrollees Who Transitioned to the MHB and MHB Comparisons

Caregiver Survey Item	MCCM Enrollees Who Transitioned to MHB (n = 210)	MHB Comparisons in MCCM Hospices (n = 128)	MHB Comparisons in Matched Hospices (n = 104)
Quality of life rating			
0 to 10 rating of the quality of family member's life during the time he or she was receiving care from the [MCCM program/hospice] (mean)	8.8 (ref)	8.4	8.4
Care coordination			
Special program team seemed informed and up-to-date about your family member's treatment from providers that are not part of this program			
Never	2.6%	N/A	N/A
Sometimes	9.6%	N/A	N/A
Usually	26.7%	N/A	N/A
Always	61.2%	N/A	N/A
Consistency of care with beneficiary preferences			
Team from MCCM program/hospice team spoke to enrollee or family about what types of care or services enrollee wanted:			
Yes, definitely	79.9% (ref)	80.6%	78.4%
Yes, somewhat	16.0% (ref)	14.3%	15.2%
No	4.1% (ref)	5.0%	6.5%
Team from this MCCM program/hospice team provided care that respected the patient's wishes			
Yes, definitely	85.2% (ref)	92.5%*	91.3%
Yes, somewhat	12.4% (ref)	5.3%**	6.3%
No	2.5% (ref)	2.2%	2.4%
Team from MCCM program/hospice team did anything that went against the patient's wishes			
Yes, definitely	1.3% (ref)	1.3%	1.8%
Yes, somewhat	3.0% (ref)	1.5%	2.2%
No	95.7% (ref)	97.1%	96.1%
Enrollee continued to receive treatment for his or her MCCM-qualifying illness for as long as he or she wanted			
Yes, definitely	91.3% (ref)	91.2%	93.1%
Yes, somewhat	6.1% (ref)	6.7%	4.6%
No	2.6% (ref)	2.1%	2.2%
Overall rating			
0 to 10 rating of family member's experience with MCCM program (mean)	9.1	N/A	N/A

Caregiver Survey Item	MCCM Enrollees Who Transitioned to MHB (n = 210)	MHB Comparisons in MCCM Hospices (n = 128)	MHB Comparisons in Matched Hospices (n = 104)
Willingness to recommend MCCM program to friends and family			
Definitely no	1.0%	N/A	N/A
Probably no	4.2%	N/A	N/A
Probably yes	17.7%	N/A	N/A
Definitely yes	77.1%	N/A	N/A

Sources: Caregiver Survey responses for MCCM enrollees and comparison MHB beneficiaries who died between October 1, 2017 and June 30, 2018.

Note: Significance is reported from a linear regression model, including case-mix adjustors, with MCCM + MHB as the reference group, with statistical significance at the 10% (*), 5% (**), and 1% (***) levels. If a version of the measure/item was not asked on a respective decedent/caregiver group's survey, that group was excluded from the model. Results for the item regarding whether the model team was informed and up-to-date about a family member's treatment from providers that are not part of this model are not shown for comparison groups, as the parallel survey item on the comparison survey asks about the care coordination within the hospice team, not between the MCCM team and outside providers. Gray highlighting indicates how the item wording varied across survey versions. Items regarding the overall rating and willingness to recommend the model are not included in the comparison survey version.

MHB = Medicare hospice benefit, Ref = reference group for significance testing.

See **Exhibit 6.5** in the main report.

Exhibit J.24 Hospice Care Experiences among MCCM Enrollees Who Transitioned to the MHB and MHB Comparisons

Caregiver Survey Item	MCCM Enrollees Who Transitioned to MHB (n = 210) Top-Box Score	MHB Comparisons in MCCM Hospices (n = 128) Top-Box Score	MHB Comparisons in Matched Hospices (n = 104) Top-Box Score
Communication with family	84.3% (ref)	84.1%	80.4%
Getting timely help	77.1% (ref)	74.0%	76.7%
Treating enrollee with respect	90.5% (ref)	90.7%	90.7%
Help for pain and symptoms	75.1% (ref)	80.3%	74.7%
Emotional and spiritual support	89.8% (ref)	91.2%	89.2%
Training family to care for enrollee	76.6% (ref)	78.1%	78.1%
Willingness to recommend the hospice	83.7% (ref)	89.6%	83.1%

Sources: Caregiver Experience of Care Survey responses for MCCM enrollees and comparison MHB beneficiaries who died between October 1, 2017 and June 30, 2018.

Note: Significance is reported from a linear regression model, including case-mix adjustors, with MCCM + MHB as the reference group, with statistical significance at the 10% (*), 5% (**), and 1% (***) levels. No significant results were found. If a version of the measure/item was not asked on a respective decedent/caregiver group's survey, that group was excluded from the model. Top-box scores reflect the proportion of respondents that selected the most-favorable response options. For example, for frequency ("How often?") questions with response options of "Never," "Sometimes," "Usually," and "Always," the top-box score is the proportion of respondents who respond "Always." In keeping with Consumer Assessment of Healthcare Providers and Systems Hospice Survey scoring, the denominator for the Getting Hospice Care Training measure is restricted to respondents who reported that their family member received care at home or in an assisted living facility.

MHB = Medicare hospice benefit, Ref = reference group for significance testing.

See **Section 6.1.3** in the main report.