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Measurement, Monitoring, and Evaluation of State Demonstrations to Integrate Care for Dual Eligible Individuals

Colorado Evaluation Design Plan

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Colorado Evaluation Design Plan

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Executive Summary

Colorado is implementing a managed fee-for-service (MFFS) model demonstration under the Financial Alignment Initiative that will coordinate care for Medicare-Medicaid enrollees statewide. Under the demonstration, the State will enroll Medicare-Medicaid enrollees in its existing Accountable Care Collaborative (ACC) program, which currently serves a large number of Medicaid-only beneficiaries. Enrollment into the ACC program enrolls a Medicare-Medicaid beneficiary in the demonstration under the Financial Alignment Initiative. The ACC has two central goals: to improve health outcomes of Medicaid beneficiaries through a coordinated, person/family-centered system by proactively addressing beneficiaries' health needs; and to control costs through reducing avoidable, duplicative, variable, and inappropriate use of health care resources. The ACC program funds seven Regional Care Collaborative Organizations (RCCOs) to provide care coordination and to provide support to Primary Care Medical Providers (PCMPs) in the PCMPs' role as the enrollee's main health care provider. The MFFS demonstration, which does not make any changes to current Medicare and Medicaid benefits, will begin statewide no sooner than September 1, 2014, and continue until December 31, 2017 (Centers for Medicare & Medicaid Services [CMS] and State of Colorado, 2014; hereafter, Agreement, 2014, p. 4).

CMS contracted with RTI International to monitor the implementation of all State demonstrations under the Financial Alignment Initiative, and to evaluate their impact on beneficiary experience, quality, utilization, and cost. The evaluation includes an aggregate evaluation and State-specific evaluations. This report describes the State-specific Evaluation Plan for the Colorado demonstration as of October 30, 2014. The evaluation activities may be revised if modifications are made either to the Colorado demonstration or to the activities described in the *Aggregate Evaluation Plan* (Walsh et al., 2013). Although this document will not be revised to address all changes that may occur, the annual and final evaluation reports will note areas where the evaluation as executed differs from this evaluation plan.

The goals of the evaluation are to monitor demonstration implementation, evaluate the impact of the demonstration on the beneficiary experience, monitor unintended consequences, and monitor and evaluate the demonstration's impact on a range of outcomes for the eligible population as a whole and for subpopulations (e.g., people with mental illness and/or substance use disorders, users of skilled nursing facilities, and other recipients of long-term services and supports [LTSS]). To achieve these goals, RTI will collect qualitative and quantitative data from Colorado each quarter; analyze Medicare and Medicaid enrollment and claims data; conduct site visits, beneficiary focus groups, and key informant interviews; and incorporate relevant findings from any beneficiary surveys conducted by other entities. Information from monitoring and evaluation activities will be reported in a 6-month initial implementation report to CMS and the State, quarterly monitoring reports provided to CMS and the State, annual reports, and a final evaluation report. The key research questions and data sources for each are summarized in ***Table ES-1***.

The principal focus of the evaluation will be at the demonstration level. CMS has engaged an operations support contractor to monitor fulfillment of the demonstration

requirements outlined in the Memorandum of Understanding (MOU) and the Final Demonstration Agreement. RTI will integrate that information into the evaluation as appropriate.

Table ES-1
Research questions and data sources

Research questions	Stakeholder interviews and site visits	Beneficiary focus groups	Claims and encounter data analysis	Demonstration statistics[1]
1) What are the primary design features of the Colorado demonstration, and how do they differ from the State's previous system?	X	X	—	X
2) To what extent did Colorado implement the demonstration as designed? What factors contributed to successful implementation? What were the barriers to implementation?	X	—	—	X
3) What impact does the Colorado demonstration have on the beneficiary experience overall and for beneficiary subgroups? Do beneficiaries perceive improvements in how they seek care, choice of care options, how care is delivered, personal health outcomes, and quality of life?	X	X	—	X
4) What impact does the Colorado demonstration have on cost and is there evidence of cost savings? How long did it take to observe cost savings? How were these savings achieved?	—	—	X	—
5) What impact does the Colorado demonstration have on utilization patterns in acute, long-term, and behavioral health services, overall and for beneficiary subgroups?	X	X	X	X
6) What impact does the Colorado demonstration have on health care quality overall and for beneficiary subgroups?	—	—	X	X
7) Does the Colorado demonstration change access to care for medical, behavioral health, long-term services and supports (LTSS), overall and for beneficiary subgroups? If so, how?	X	X	X	X
8) What policies, procedures, or practices implemented by Colorado can inform adaptation or replication by other States?	X	X	—	X
9) What strategies used or challenges encountered by Colorado in its demonstration can inform adaptation or replication by other States?	X	X	—	X

— = not applicable.

[1] Demonstration statistics refer to data that the State, CMS, or other entities will provide regarding topics, including enrollments, disenrollments, grievances, appeals, and the number of new Primary Care Medical Providers enrolled in the Accountable Care Collaborative.

Demonstration Implementation. Evaluation of demonstration implementation will be based on case study methods and quantitative data analysis of enrollment patterns. We will monitor progress and revisions to the demonstration, and will identify transferable lessons from the Colorado demonstration through the following: document review, ongoing submissions by the State through an online State Data Reporting System (e.g., enrollment and disenrollment

statistics and qualitative updates on key aspects of implementation), quarterly key informant telephone interviews, and at least two sets of site visits. We will also monitor and evaluate several demonstration design features, including progress in developing an integrated delivery system, integrated delivery system supports, care coordination/case management, benefits and services, enrollment and access to care, beneficiary engagement and protections, financing, and payment elements. ***Table 6*** in ***Section 3*** of this report provides a list of the implementation tracking elements that we will monitor for each design feature. Examples of tracking elements include efforts to build provider core competencies for serving beneficiaries with various disability types; requirements for coordination and integration of clinical, LTSS, and behavioral health services; documentation of coordination activities between RCCOs and community-based organizations; phase-in of new or enhanced benefits, and methods to communicate them to eligible populations; and strategies for expanding beneficiary access to demonstration benefits.

The data the evaluation team gathers about implementation will be used for within-State and aggregate analyses; included in the 6-month implementation report to CMS and the State, and annual reports; and will provide context for all aspects of the evaluation.

Beneficiary Experience. The impact of this demonstration on beneficiary experience is a critical focus of the evaluation. Our framework for evaluating beneficiary experience is influenced by work conducted by the Center for Health Care Strategies (CHCS) on the elements of integration that directly affect beneficiary experience for Medicare-Medicaid enrollees. ***Table 8*** in ***Section 4*** of this report aligns key elements identified in the CHCS framework with the demonstration design features listed in the demonstration implementation section. The goals of these analyses are to examine the beneficiary experience and how it varies by subpopulation, and whether the demonstration has had the desired impact on beneficiary outcomes, including quality of life.

To understand beneficiary experience, we will monitor State-reported data quarterly (e.g., reports of beneficiary engagement activities), and discuss issues related to the beneficiary experience during quarterly telephone follow-up calls and site visits with the State and with stakeholders. We will also obtain data on grievances and appeals from CMS and, as available, other sources. Focus groups will include Medicare-Medicaid enrollees from a variety of subpopulations, such as people with mental health conditions, substance use disorders, LTSS needs, and multiple chronic conditions. Relevant demonstration statistics will be monitored quarterly and quantitative and qualitative analyses of the beneficiary experience will be included in annual State-specific reports and the final evaluation report.

Analysis Overview. Quality, utilization, access to care, and cost will be monitored and evaluated using encounter, claims, and enrollment data for a 2-year predemonstration period and during the course of the demonstration. The evaluation will use an intent-to-treat (ITT) approach for the quantitative analyses, comparing the eligible population for the Colorado demonstration with a similar population that is not affected by the demonstration (i.e., a comparison group). Under the ITT framework, outcome analyses will include all beneficiaries eligible for the demonstration in the demonstration area, including those who opt out of ACC participation and participate but then disenroll, and a group of similar individuals in the comparison group. This approach diminishes the potential for selection bias and highlights the effect of the

demonstration on all beneficiaries in the demonstration-eligible population. In addition, RTI will compare the characteristics of those who enroll in the ACC program with those who are eligible but do not enroll, and will conduct analyses to further explore demonstration effects on ACC program enrollees, acknowledging that selection bias must be taken into account in interpreting the results. Finally, Colorado plans to phase in enrollment as follows: first, for community-based individuals who do not use LTSS and use PCMPs who are participating in the ACC; later, individuals who use nonparticipating PCMPs and use either community-based or institutional LTSS. We will use the State's categorization of enrollment groups to determine whether the various eligibility groups have different experiences in the demonstration.

Identifying Demonstration and Comparison Groups. To identify the population eligible for the demonstration, Colorado will submit demonstration evaluation (finder) files to RTI on a quarterly basis. RTI will use this information to identify the characteristics of demonstration-eligible beneficiaries for the quantitative analysis. ***Section 4.2.2.1*** of this report provides more detail on the contents of the demonstration evaluation (finder) files.

Identifying the comparison group members will entail two steps: (1) selecting the geographic area from which the comparison group will be drawn and (2) identifying the individuals who will be included in the comparison group. Because Colorado intends to implement the demonstration statewide, RTI will most likely identify a comparison group from out-of-State Metropolitan Statistical Areas. The evaluation team will use statistical distance analysis to identify potential comparison areas that are most similar to Colorado in regard to costs, care delivery arrangements, and policy affecting Medicare-Medicaid enrollees.

Once comparison areas are selected, all Medicare-Medicaid enrollees in those States or areas who meet the demonstration's eligibility criteria will be selected for comparison group membership based on the intent-to-treat study design. The comparison group will be refreshed annually to incorporate new entrants into the demonstration population as new individuals become eligible for the demonstration over time. We will use propensity-score weighting to adjust for differences in individual-level characteristics between the demonstration and comparison group members, using beneficiary-level data (demographics, socioeconomic, health, and disability status) and county-level data (health care market and local economic characteristics). We will remove from the comparison group any beneficiaries with a propensity score lower than the lowest score found in the demonstration group.

The comparison areas will be determined within the first year of implementation in order to use the timeliest data available. The comparison group members will be determined retrospectively at the end of each demonstration year, allowing us to include information on individuals newly eligible or ineligible for the demonstration during that year.

Analyses. Analyses of quality, utilization, and cost in the Colorado evaluation will consist of the following:

1. A monitoring analysis to track quarterly changes in selected quality, utilization, and cost measures over the course of the Colorado demonstration.

2. A descriptive analysis of quality, utilization, and cost measures for annual reports with means and comparisons for subgroups of interest, including comparison group results. This analysis will focus on estimates for a broad range of quality, utilization, and cost measures, as well as changes in these measures across years or subgroups of interest within each year.

3. Multivariate difference-in-differences analyses of quality, utilization, and cost measures using a comparison group.

4. A calculation of savings after each demonstration period, using an actuarial methodology for performance payment purposes. This methodology is described in the Colorado MOU and Final Demonstration Agreement. The evaluation will also use a regression-based approach to examine savings at the end of the demonstration.

Subpopulation Analyses. Subpopulations of interest for this evaluation of the Colorado demonstration are (1) individuals enrolled in home and community-based services (HCBS) waivers, (2) people living in the community *without* HCBS waiver services, (3) people who are users of behavioral health services or LTSS, (4) users of institutional skilled nursing facilities, and (5) people who are *not* users of behavioral health services or LTSS. For these subpopulations and others, we will evaluate the impact of the demonstration on quality, utilization, and access to care for medical, LTSS, and behavioral health services, and will also examine qualitative data gathered through interviews, focus groups, and surveys. Descriptive analyses for annual reports will present results on selected measures stratified by subpopulations (e.g., those using and not using behavioral health services, LTSS). Multivariate analyses performed for the final evaluation will account for differential effects for subpopulations to understand whether quality, utilization, and cost are higher or lower for these groups.

Utilization and Access to Care. Medicare and Medicaid data will be used to evaluate changes in the levels and types of services used, ranging along a continuum from institutional care to care provided at home, and including changes in the percentage of enrollees receiving supports in the community or residing in institutional settings (see ***Table 15*** of this report for more detail).

Quality. Across all demonstrations, RTI will evaluate a core quality measure set for monitoring and evaluation purposes that are available through claims and encounter data. RTI will obtain these data from CMS (see ***Table 16*** of this report). We will supplement these core measures with the following:

- Additional quality measures specific to Colorado that RTI may identify for the evaluation. These measures will also be available through claims and encounter data that RTI will obtain from CMS and will not require additional State reporting. These measures will be finalized within the first year of implementation.

- Quality of life, satisfaction, and access to care information derived from the evaluation as discussed in ***Section 4.1*** and ***Section 4.2***.

Cost. To determine annual total costs (overall and by payer), we will aggregate the Medicare and Medicaid payments and the costs for the eligible population that is not enrolled in the demonstration, per the intent-to-treat evaluation design. This approach will help us to detect overall cost impact and eliminate the effects of potential selection bias among beneficiaries who participate in the demonstration and those who opt out or disenroll. We will include Part D per member per month (PMPM) and any PMPM reconciliation data provided by CMS in the final assessment of cost impact to ensure that all data are available.

Colorado will be eligible for performance payments from CMS based on achieving statistically significant Medicare savings based on annual actuarial savings calculations performed by RTI. The savings calculations will reflect Medicare savings net of increased Federal Medicaid spending. The methodology for the savings calculations is described in the MOU and the Final Demonstration Agreement for this demonstration. CMS, or another contractor, will use the results of the RTI savings calculations to determine whether the State is eligible for a performance payment and, if so, the amount of that payment. RTI will also use a multivariate regression-based approach for the final evaluation report to determine the impact of the demonstration on Medicare and Medicaid costs; this calculation will include Medicaid, Medicare Parts A and B, and Medicare Part D costs, and any performance payment made to the State as part of the demonstration.

Summary of Data Sources. ***Table ES-2*** displays the sources of information the RTI evaluation team will use to monitor demonstration progress and evaluate the outcomes of the demonstrations under the Financial Alignment Initiative. The table provides an overview of the data that Colorado will be asked to provide and evaluation activities in which State staff will participate. As shown in this table, the evaluation team will access claims, encounter, and other administrative data from CMS. These data, and how they will be used in the evaluation, are discussed in detail in this evaluation plan and in the *Aggregate Evaluation Plan* (Walsh et al., 2013).

Table ES-2
Sources of information for the evaluation of the demonstrations under the Financial Alignment Initiative

RTI will obtain data from:	Type of data
CMS	• Encounter data (Medicare Advantage, Medicaid) • Medicare and Medicaid fee-for-service claims • Medicare Part D costs • Nursing facility data (MDS) • CMS-HCC and RXHCC risk scores • Demonstration quality measures that Colorado is required to report to CMS (listed in MOU) • Other administrative data as available

(continued)

Table ES-2 (continued)
Sources of information for the evaluation of the demonstrations under the Financial Alignment Initiative

RTI will obtain data from:	Type of data
State	• Detailed description of State's method for identifying eligible beneficiaries • File with monthly information identifying beneficiaries eligible for the demonstration (can be submitted monthly or quarterly)[1] • SDRS (described in detail in Section 4 of the *Aggregate Evaluation Plan*) quarterly submissions of demonstration updates including monthly statistics on enrollments, opt-outs and disenrollments • Participation in key informant interviews and site visits conducted by RTI team • Results from surveys, focus groups, or other evaluation activities (e.g., EQRO or Ombuds reports) conducted or contracted by the State,[2] if applicable • Other data State believes would benefit this evaluation, if applicable
Other sources	• Results of focus groups conducted by RTI subcontractor (Henne Group) • Grievances and appeals • Other sources of data, as available

EQRO = external quality review organization; HCC = hierarchical condition category; MDS = Minimum Data Set; MOU = Memorandum of Understanding; RXHCC = prescription drug hierarchical condition category; SDRS = State Data Reporting System.

[1] These data, which include both those enrolled and those eligible but not enrolled, will be used (in combination with other data) to identify the characteristics of the total eligible and the enrolled populations. More information is provided in ***Section 4*** of this report.

[2] States are not required to conduct or contract for surveys or focus groups for the evaluation of this demonstration. However, if the State chooses to do so, the State can provide any resulting reports from its own independent evaluation activities for incorporation into this evaluation, as appropriate.

References

Centers for Medicare & Medicaid Services (CMS) and State of Colorado: Final Demonstration Agreement Between the Centers for Medicare & Medicaid Services (CMS) and the State of Colorado Regarding a Federal-State Partnership to Test a Managed Fee-for-Service (MFFS) Financial Alignment Model for Medicare-Medicaid Enrollees. July 16, 2014. http://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/FinancialAlignmentInitiative/Downloads/COMFFSFDA.pdf. As obtained on July 24, 2014.

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1. Introduction

1.1 Purpose

The Medicare-Medicaid Coordination Office (MMCO) and Innovation Center at the Centers for Medicare & Medicaid Services (CMS) have created the Financial Alignment Initiative for States to test integrated care models for Medicare-Medicaid enrollees. The goal of these demonstrations is to develop person-centered care delivery models integrating the full range of medical, behavioral health, and long-term services for Medicare-Medicaid enrollees, with the expectation that integrated delivery models would address the current challenges associated with the lack of coordination of Medicare and Medicaid benefits, financing, and incentives.

CMS contracted with RTI International to monitor the implementation of the demonstrations and to evaluate their impact on beneficiary experience, quality, utilization, and cost. The evaluation includes an aggregate evaluation and State-specific evaluations.

This report describes the State-specific Evaluation Plan for the Colorado demonstration as of October 30, 2014. The evaluation activities may be revised if modifications are made to either the Colorado demonstration or to the activities described in the *Aggregate Evaluation Plan* (Walsh et al., 2013). Although this document will not be revised to address all changes that may occur, the annual and final evaluation reports will note areas where the evaluation as executed differs from this evaluation plan. This report provides an overview of the Colorado demonstration and provides detailed information on the framework for quantitative and qualitative data collection; the data sources, including data collected through RTI's State Data Reporting System (described in detail in the *Aggregate Evaluation Plan* [Walsh et al., 2013]); and impact and outcome analysis (i.e., the impact on beneficiary experience and quality, utilization, access to care, and costs) that will be tailored to Colorado.

1.2 Research Questions

The major research questions of the Colorado evaluation are presented in ***Table 1*** with an identification of possible data sources. The evaluation will use multiple approaches and data sources to address these questions. These are described in more detail in ***Sections 3*** and ***4*** of this report.

Unless otherwise referenced, the summary of the Colorado demonstration is based on the Final Demonstration Agreement between the State and CMS (CMS and State of Colorado, 2014; hereafter, Agreement, 2014), the Memorandum of Understanding (MOU) between the State and CMS (CMS and State of Colorado, 2014; hereafter, MOU, 2014), and the Colorado managed fee-for-service demonstration proposal submitted to CMS in May 2012 (Colorado Department of Health Care Policy and Financing, 2012; hereafter, Colorado Proposal). The evaluation design also takes into account any information we have learned through conversations with the Colorado Department of Health Care Policy and Financing and discussions and e-mail communications with MMCO staff at CMS regarding the Colorado demonstration as of this writing. The details of the evaluation design are covered in the three major sections that follow:

- An overview of the Colorado demonstration
- Demonstration implementation, evaluation, and monitoring
- Impact and outcome evaluation and monitoring

Table 1
Research questions and data sources

Research questions	Stakeholder interviews and site visits	Beneficiary focus groups	Claims and encounter data analysis	Demonstration statistics[1]
1) What are the primary design features of the Colorado demonstration, and how do they differ from the State's previous system?	X	X	—	X
2) To what extent did Colorado implement the demonstration as designed? What factors contributed to successful implementation? What were the barriers to implementation?	X	—	—	X
3) What impact does the Colorado demonstration have on the beneficiary experience overall and for beneficiary subgroups? Do beneficiaries perceive improvements in how they seek care, choice of care options, how care is delivered, personal health outcomes, and quality of life?	X	X	—	X
4) What impact does the Colorado demonstration have on cost and is there evidence of cost savings? How long did it take to observe cost savings? How were these savings achieved?	—	—	X	—
5) What impact does the Colorado demonstration have on utilization patterns in acute, long-term, and behavioral health services, overall and for beneficiary subgroups?	X	X	X	X
6) What impact does the Colorado demonstration have on health care quality overall and for beneficiary subgroups?	—	—	X	X
7) Does the Colorado demonstration change access to care for medical, behavioral health, long-term services and supports (LTSS), overall and for beneficiary subgroups? If so, how?	X	X	X	X
8) What policies, procedures, or practices implemented by Colorado in its demonstration can inform adaptation or replication by other States?	X	X	—	X
9) What strategies used or challenges encountered by Colorado can inform adaptation or replication by other States?	X	X	—	X

— = not applicable.

[1] Demonstration statistics refer to data that the State, CMS, or other entities will provide regarding topics, including enrollments, disenrollments, grievances, appeals, and the number of new Primary Care Medical Providers enrolled in the Accountable Care Collaborative.

2. Colorado Managed Fee-for-Service Demonstration

2.1 Demonstration Goals

The goals of the Colorado managed fee-for-service (MFFS) demonstration are to alleviate fragmentation and to improve coordination of services for individuals eligible for both Medicare and Medicaid, eliminate duplication of services, expand access to needed care and services, and improve the lives of beneficiaries while lowering costs. Key objectives of the demonstration are to improve beneficiary experience in accessing care, promote person-centered planning, promote independence in the community, improve quality of care, assist beneficiaries in getting the right care at the right time and place, reduce health disparities, improve transitions among care settings, and achieve cost savings for the Federal and State governments through improvements in health and functional outcomes (Agreement, 2014, p. 3).

2.2 Summary of Demonstration

Colorado is implementing an MFFS demonstration that will enroll Medicare-Medicaid enrollees in its existing Accountable Care Collaborative (ACC) program, which currently serves a large number of Medicaid-only beneficiaries. Enrollment in the ACC program enrolls Medicare-Medicaid beneficiaries into the demonstration under the Financial Alignment Initiative. The ACC has two central goals: to improve health outcomes of Medicaid beneficiaries through a coordinated, client/family-centered system by proactively addressing beneficiaries' health needs; and to control costs through reducing avoidable, duplicative, variable, and inappropriate use of health care resources. ACC objectives include expanding access to primary care; providing medical homes to beneficiaries; promoting provider and beneficiary engagement; and using data analytics to control health care costs and outcomes. The ACC program has three major components: Regional Care Collaborative Organizations (RCCOs), Primary Care Medical Providers (PCMPs), and the Statewide Data and Analytics Contractor (SDAC). The demonstration will begin statewide no sooner than September 1, 2014, and continue until December 31, 2017 (Agreement, 2014, p. 4).

Seven RCCOs provide care coordination; assist enrollees in gaining access to Medicare, Medicaid, and waiver services; develop with the beneficiary an individual Service Coordination Plan; and provide support for enrollee care transitions. RCCOs' care coordination activities for an individual enrollee will vary depending on whether the enrollee receives case management through a service-specific delivery system.

To avoid duplication of effort, RCCOs and service-specific delivery systems have developed protocols for use in the demonstration that outline the roles that each will perform when an enrollee has a relationship with a Single Entry Point (the local entity that authorizes and coordinates home and community-based waiver services), a Community Centered Board (the local single entry point for authorizing and coordinating long-term services and supports [LTSS] for people with developmental disabilities), or a Behavioral Health Organization (BHO), which receives capitated Medicaid payments for the delivery of behavioral health services. Written protocols have also been developed in anticipation of the demonstration between RCCOs and hospitals, home health agencies, disability organizations, skilled nursing facilities, and hospice

organizations to identify mutually agreed on support functions and establish regular contact and communication (Agreement, 2014, pp. 18–19).

The second major element of the demonstration is PCMPs, which function as medical homes, provide enrollees comprehensive primary care, and conduct medical care coordination. PCMPs have contracts with both the State and the RCCO in their area. The nature of the distinct, shared, and delegated responsibilities between an RCCO and a PCMP for care coordination and related functions is incorporated into their individual and specific contract agreements (MOU, 2014, p. 13).

The third key element of the demonstration is the SDAC, which provides secure online access to patient data and analytical reports for the State, RCCOs, and PCMPs. The SDAC provides information on Medicare and Medicaid paid claims, BHO managed care encounter data, and clinical risk group identifiers and clinical risk scores (State of Colorado, n.d.). Under the demonstration, the SDAC will also receive data on historical and current Medicare claims, and will link Medicare and Medicaid data to provide RCCOs and PCMPs with a more complete picture of the conditions, service utilization, costs, and opportunities to provide additional support and care coordination (MOU, 2014, p. 61).

Individuals eligible for the MFFS demonstration include Medicare-Medicaid enrollees who are enrolled in Medicare Parts A and B and eligible for Part D, receive full Medicaid benefits under fee-for-service arrangements, and have no other private or public health insurance. Medicare-Medicaid enrollees who are not eligible for the demonstration include those enrolled in a Medicare Advantage plan, the Program of All-Inclusive Care for the Elderly, the Denver Health Medicaid Choice Plan, or the Rocky Mountain Health Plan (the latter two are Medicaid managed care organizations operating in certain Colorado counties, which beneficiaries can opt to join); and individuals who are residents of an Intermediate Care Facility for People with Intellectual Disabilities (MOU, 2014, pp. 8–9).

Beneficiaries will be passively enrolled in the ACC program and attributed to the RCCO serving the enrollee's place of residence. Beneficiaries may opt out or request disenrollment from the ACC program at any time (MOU, 2014, p. 48). To identify a PCMP for attribution, the SDAC will review each enrollee's Medicare and Medicaid claims history from the previous 12 months to understand which medical provider the enrollee has seen most frequently (MOU, 2014, p. 9).

Currently, the panel of primary care physicians participating in the ACC program only includes those who serve Medicaid patients. Physicians who serve Medicare patients, but not Medicaid patients, are not enrolled in the ACC program. The State and the RCCOs are conducting outreach to persuade this latter group of physicians to participate in the ACC program. If an enrollee's physician chooses not to participate, the RCCO will help the enrollee identify a participating primary care provider, at the enrollee's option; however, the MOU states that the demonstration does not intend to disrupt established patient-provider relationships. Enrollees who do not have a participating primary care provider will receive some care coordination from the RCCO, but their primary care physician will not have access to the SDAC's data portal.

For enrollees attributed to a PCMP, the RCCO will work with the beneficiary to complete a Service Coordination Plan (SCP) for each beneficiary enrolled in the demonstration. Beneficiaries determined to be high-risk must have an SCP completed within 90 days of enrollment in the demonstration. All other beneficiaries must have an SCP completed within 120 days of enrollment. Data on an enrollee's Medicare and Medicaid service utilization patterns and health conditions will be available to RCCOs as a significant source of baseline enrollee information. The SCP articulates the enrollee's health goals and provides information needed to support communication and coordination with the enrollee across delivery systems and among providers. The SCP will be reviewed at least every 6 months by the RCCO, the PCMP, the enrollee, and other relevant service providers. Where enrollees may have care plans through collaborative partners, the SCP is meant to complement the existing care plans. The State will work with the evaluation contractor to determine what care coordination/case management data are available and will share data to support analysis of care coordination utilization patterns (MOU, 2014, pp. 62–64, Agreement, 2014, pp. 18-20).

RCCOs and PCMPs are expected to facilitate enrollees' transitions across care settings by coordinating with service providers to arrange for timely postinstitutional or facility discharge follow-up, including medication reconciliation and substance use treatment and mental health after care. Their specific roles will be determined through the protocols developed with service-specific delivery systems (MOU, 2014, p. 64).

The State will phase in enrollment of approximately 4,400 beneficiaries per month into the ACC program over a 7-month period. Enrollment will start with individuals who have the least complex conditions (beneficiaries who fall into a "community relatively well" category whose primary care providers are already PCMPs in the ACC program), and continue through beneficiaries receiving waiver services, those receiving "high waiver" services, and those in skilled nursing facilities (MOU, 2014, pp. 50–51).

Table 2 provides a summary of the key characteristics of the Colorado demonstration compared with the system that currently exists for demonstration-eligible beneficiaries.

Table 2
Key features of the Colorado model predemonstration and during the demonstration

Key features	Predemonstration	Demonstration[1]
Summary of covered benefits		
Medicare	Medicare Parts A, B, and D	Medicare Parts A, B, and D
Medicaid	Medicaid State Plan services and HCBS waivers	Medicaid State Plan services and HCBS waivers
Payment method (capitated/FFS/MFFS)		
Medicare	FFS	FFS
Medicaid (capitated or FFS)		
Primary/medical	FFS	FFS
Behavioral health	Capitated	Capitated
LTSS (excluding HCBS waiver services)	FFS	FFS
HCBS waiver services	FFS	FFS

(continued)

Table 2 (continued)
Key features of the Colorado model predemonstration and during the demonstration

Key features	Predemonstration	Demonstration[1]
Payment method (capitated/FFS/MFFS) (continued) Other		
Care coordination and other supports provided by RCCOs and PCMPs	N/A for Medicare-Medicaid enrollees	PMPM
Care coordination/case management		
Care coordination for medical, behavioral health, or LTSS and by whom	N/A	RCCOs provide overall care coordination in conjunction with PCMPs.
Care coordination/case management for HCBS waivers and by whom	Case management is provided by SEPs or Community Centered Boards (for I/DD).	Case management is provided by SEPs and Community Centered Boards (I/DD), which will coordinate with RCCOs.
Behavioral health services	BHOs provide case management for BH services, Some case management is incorporated into BH services such as ACT.	BHOs continue to provide case management for BH services, and coordinate with RCCOs. Some case management is incorporated into BH services such as ACT.
Clinical, integrated, or intensive care management	N/A	RCCOs provide medical management.
Enrollment/assignment		
Enrollment method	—	State will passively enroll beneficiaries in the ACC Program, who will have the option to opt out.
Attribution/assignment method	N/A	State will attribute enrollees to a RCCO based on place of residence and to a PCMP based on existing provider relationships.
Implementation		
Geographic area	—	Statewide
Phase-in plan	—	Enrollment will be phased in over 7 months, starting with enrollees with the least complex conditions.
Implementation date	—	No sooner than September 1, 2014

— = no data for this cell; ACC = Accountable Care Collaborative; ACT = Assertive Community Treatment; BHO = Behavioral Health Organization; CCB = Community Centered Boards; FFS = fee for service; HCBS = home and community-based services; I/DD = intellectual and developmental disabilities; LTSS = long-term services and supports; MFFS = managed fee for service; PMPM = per member per month; PCMP = Primary Care Medical Provider; N/A = not applicable; RCCO = Regional Care Collaborative Organization; SEP = Single-Entry Point agency.

[1] Information related to the Demonstration in this table is from the Colorado Proposal, 2012; MOU, 2014; and Agreement, 2014.

LTSS usage by Colorado's Medicare-Medicaid enrollees is shown in ***Table 3***. In State fiscal year (SFY) 2011, 60 percent of full-benefit Medicare-Medicaid enrollees were aged 65 and older, half of these enrollees received LTSS. Of the 40 percent of Colorado's full-benefit Medicare-Medicaid enrollees who are under age 65, less than half received LTSS (Colorado Proposal, pp. 4–5).

Table 3
LTSS usage by Colorado's Medicare-Medicaid Enrollees, SFY 2011

Type of LTSS Usage	No. of Medicare-Medicaid enrollees	Percentage of Medicare-Medicaid enrollees
Individuals aged 65 and older receiving LTSS in institutional settings	9,161	13%
Individuals aged 65 and older receiving LTSS in HCBS settings	11,941	17%
Individuals aged 65 and older with no LTSS utilization	20,931	30%
Subtotal, individuals aged 65 and older	42,033	60%
Individuals under age 65 receiving LTSS in institutional settings	1,375	2%
Individuals under age 65 receiving LTSS in HCBS settings	11,138	16%
Individuals under age 65 with no LTSS utilization	15,242	22%
Subtotal, individuals under age 65	27,754	40%
Total Medicare-Medicaid enrollees of all ages	69,787	100%

HCBS = home and community-based services; LTSS = long-term services and supports; SFY = State fiscal year, July 1 through June 30.

NOTE: This table presents data for the entire State, including beneficiaries who may not be eligible to enroll in the MFFS demonstration (e.g., because of enrollment in a managed care program).

SOURCE: Colorado Department of Health Care Policy and Financing: Proposal to the Center for Medicare and Medicaid Innovation: State Demonstration to Integrate Care for Dual Eligible Individuals, p. 5. May 2012.

As shown in ***Table 4***, the total fee-for-service Medicare and Medicaid spending for full-benefit Medicare-Medicaid enrollees for calendar year 2007 totaled $1.6 billion. Medicare spending was primarily for Part D drugs (26 percent), inpatient hospital (24 percent), outpatient hospital services (12 percent), and physician and skilled nursing facility services (9 percent each). Medicaid spending was primarily for LTSS in institutions (48 percent) and home and community settings (44 percent) (CMS, n.d., p. 8).

Table 4
Total fee-for-service expenditures for full-benefit Medicare-Medicaid enrollees, CY 2007

Population	Medicaid expenditures	Medicare expenditures	Total expenditures
Medicare-Medicaid enrollees	$933.1 million	$631.4 million	$1.6 billion

CY = calendar year.

NOTE: This table presents data for the entire State, including beneficiaries who may not be eligible to enroll in the MFFS demonstration (e.g., because of enrollment in a managed care program).

SOURCE: CMS: Medicare-Medicaid Enrollee State Profile: Colorado, n.d., p. 8.

2.3 Relevant Historical and Current Context

History/Experience with Coordinated Care. Colorado reports that many managed care organizations withdrew from Medicaid in the early 2000s, leaving a majority of Medicaid beneficiaries in unmanaged fee for service. As Medicaid enrollment and expenditures grew, the Department of Health Care Policy and Financing worked with stakeholders to develop a new strategy, which became the ACC (Colorado Department of Health Care Policy and Financing, 2013, p. 18). Colorado released a Request for Proposals to select seven RCCOs in 2010, and the ACC program was implemented beginning in spring 2011. Colorado began enrolling Medicaid-only beneficiaries in 2011, and enrollment reached more than 350,000 individuals—47 percent of all Medicaid beneficiaries—by June 2013. The State estimates $44 million in gross savings or cost avoidance from the ACC program in SFY 2012–2013 (Colorado Department of Health Care Policy and Financing, 2013, pp. 1–2).

The State also has more than a decade of experience with medical homes for children, beginning in 2001 with the Colorado Medical Home Initiative, which focused on primary care for children (National Academy for State Health Policy, 2012). The PCMP aspect of the ACC program is built on the State's medical home model.

Other Initiatives. Colorado received a $2 million Model Pre-Testing award through CMS's State Innovation Model Initiative to refine a plan to increase Coloradans' access to coordinated systems of care that provide integrated behavioral health care in primary care settings. The proposal builds on lessons from the ACC program and has four strategic focus areas: promoting prevention and wellness; expanding coverage, access, and capacity; improving health system integration and quality; and enhancing value and strengthening sustainability (State of Colorado, 2013).

3. Demonstration Implementation Evaluation

3.1 Purpose

The evaluation of the implementation process is designed to answer the following overarching questions about the Colorado demonstration:

- What are the primary design features of the Colorado demonstration, and how do they differ from the State's previous system available to the demonstration eligible population?
- To what extent did Colorado implement the demonstration as designed? What factors contributed to successful implementation? What were the barriers to implementation?
- What State policies, procedures, or practices implemented by Colorado can inform adaptation or replication by other States?
- Was the demonstration more easily implemented for certain subgroups?
- How have beneficiaries participated in the ongoing implementation and monitoring of the demonstration?
- What strategies used or challenges encountered by Colorado can inform adaptation or replication by other States?

3.2 Approach

The evaluation team will examine whether the demonstration was implemented as designed and will look at modifications to the design features that were made during implementation; any changes in the time frame or phase-in of the demonstration; and other factors that facilitated or impeded implementation. This section will discuss the following:

- Monitoring implementation of the demonstration by key demonstration design features
- Implementation tracking elements
- Progress indicators
- Data sources
- Interview questions and implementation reports

3.3 Monitoring Implementation of the Demonstration by Key Demonstration Design Features

The major design features of the Colorado demonstration are described using a common framework that RTI will apply to all of the demonstrations under the Financial Alignment Initiative as follows:

- Integrated delivery system
- Integrated delivery system supports
- Care coordination/case management
- Benefits and services
- Enrollment and access to care
- Beneficiary engagement and protections
- Financing and payment
- Payment elements

Our analysis of the implementation of the Colorado demonstration will be organized by these key demonstration design features. This framework will be used to define our areas of inquiry, structure the demonstration variables we track, organize information from our data collection sources, and outline our annual report. ***Table 5*** illustrates the key components of each design feature that we will monitor as part of the implementation evaluation. Our goal is to frame analysis at the level of policy or practice with examples of how the intended design features and their key components translate at the point of service delivery.

Table 5
Demonstration design features and key components

Design feature	Key components
Core components of integrated delivery systems (how the delivery system is organized/integrated; interrelationships among the core delivery system components)	• PCMPs • LTSS • Behavioral health services • Developmental disability services • RCCOs: Integration functions that bridge delivery systems and roles of community-based organizations
Integrated delivery systems supports	• Health IT applied throughout the demonstration (at State level, by RCCOs, PCMPs, and the SDAC) • Data (Medicare claims or encounter data) and other feedback • Primary care practice support (e.g., coaching, learning collaboratives, training)

(continued)

Table 5 (continued)
Demonstration design features and key components

Design feature	Key components
Care coordination/case management (by subpopulation and/or for special services) • Medical/primary • LTSS • Behavioral health services • Integration of care coordination	• Assessment process • Service planning process • Care management targeting process • Support for care transitions across settings • Communication and hand-offs between care coordinators/case managers and providers
Benefits and services	• Scope of services/benefits • Service authorization process
Enrollment and access to care	• Enrollment and access to care • Provider accessibility standards • Marketing/education protocols • Enrollment brokers • Beneficiary information and options counseling • Opt-out, disenrollment, and passive enrollment policy • Attribution to RCCOs and PCMPs • Phased enrollment of eligible populations • Workforce development for worker supply and new functions
Beneficiary engagement and protections	• Medicaid grievances and appeals policies • Quality management systems • Ongoing methods for engaging beneficiary organizations in policy decisions and implementation • Approaches to capture beneficiary experience, such as surveys and focus groups • Beneficiary participation on governing board/committees
Demonstration financing model and methods of payment to plans and providers	• Financing model: PMPM payments to RCCOs, SDAC, and PCMPs • Entities to which the State is directly making payments • Innovative payment methods to RCCOs and PCMPs
Elements of payments to RCCOs and PCMPs	• Incentives

IT = information technology; LTSS = long-term services and supports; PCMP = Primary Care Medical Provider; PMPM = per member per month; RCCO = Regional Care Collaborative Organizations; SDAC = State Data and Analytics Contractor.

3.4 Implementation Tracking Elements

Through document review and interviews with State agency staff, we will identify and describe the delivery system for Medicare-Medicaid enrollees in the eligible population. This will enable us to identify key elements that Colorado intends to modify through the

demonstration and measure the effects of those changes. Using a combination of case study methods, including document review, and telephone interviews, we will conduct a descriptive analysis of the key Colorado demonstration features.

The evaluation will analyze how Colorado is carrying out its implementation plan and track any changes it makes to its initial design as implementation proceeds. We will identify both planned changes that are part of the demonstration design (e.g., phasing in new populations) and operational and policy modifications Colorado makes based on changing circumstances. Finally, we anticipate that, in some instances, changes in the policy environment in the State will trigger alterations to the original demonstration design.

During site visit interviews and our ongoing communication with the State, we will collect detailed information on how Colorado has structured care coordination for beneficiaries enrolled in the demonstration.

We will also collect data from the State to track implementation through the State Data Reporting System (SDRS). The State will submit quarterly demonstration statistics and qualitative updates through the SDRS (described in detail in the *Aggregate Evaluation Plan* [Walsh et al., 2013]). RTI will generate reports based on these data and conduct telephone calls with the State demonstration director as needed to understand Colorado's entries. We will make additional calls to State agency staff and key informants as needed to keep abreast of demonstration developments. We will use site visit interviews to learn more about what factors are facilitating or impeding progress or leading to revisions in the Colorado demonstration implementation.

Table 6 shows the types of demonstration implementation elements we will track using State submissions to the SDRS, quarterly calls with State demonstration staff, other interviews, and site visits.

Table 6
Implementation tracking elements by demonstration design feature

Design feature	Tracking elements
Integrated delivery system	• Contracts with PCMPs • Documentation of coordination activities between RCCOs and community-based organizations • New waiver authorities submitted for the demonstration and approved by CMS • Emergence of new medical homes and health homes • Strategies for integrating primary care, behavioral health, and LTSS (as documented in State policies, contracts, or guidelines) • Recognition and payment for care/services by nontraditional workers • Innovative care delivery approaches adopted by the demonstration

(continued)

Table 6 (continued)
Implementation tracking elements by demonstration design feature

Design feature	Tracking elements
Integrated delivery system supports	• Ongoing learning collaboratives of primary care providers • Support with dissemination and implementation of evidence-based practice guidelines (e.g., webinars for providers; topics addressed in learning collaboratives) • Role of the SDAC in providing the demonstration with access to patient data and in producing analytical reports. • Decision-support tools provided or supported by State (e.g., practice-level reporting on QIs) • State efforts to build RCCOs' and PCMPs' core competencies for serving beneficiaries with various types of disabilities • Provision of regular feedback to RCCOs and PCMPs on the results of their performance measures
Care coordination	• Adoption of person-centered care coordination practices • State systems for collecting data on care coordination use • As available, care coordination activities directed to individual enrollees • Requirements for assessment and service planning • Requirements for coordination and integration of clinical, LTSS, and behavioral health services • Approaches to stratify care coordination intensity based on individual needs • Requirements for care transition support, medication reconciliation, notification of hospitalizations • State actions to facilitate adoption of EMR and EHR • Use of informatics to identify high-risk beneficiaries
Benefits and services	• Adoption of evidence-based practices and services (e.g., use of chronic disease self-management programs by practices, fall prevention programs, other)
Enrollment and access to care	• State efforts to provide consumer information on enrollment, benefits, and choice of RCCOs/providers • Options counseling • Initiatives to increase enrollment in the demonstration • Strategies for expanding beneficiary access to demonstration benefits • Emergence of new worker categories/functions (e.g., health coaches, community care workers)

(continued)

Table 6 (continued)
Implementation tracking elements by demonstration design feature

Design feature	Tracking elements
Beneficiary engagement and protections	• Strategies implemented to engage beneficiaries in oversight of the demonstration • Quality management strategy, roles, and responsibilities • Implementation of quality metrics • Adoption of new State policies for beneficiary grievances and appeals based on demonstration experience • Role of the Ombuds program
Financing and payment	• Revisions to the demonstration's initial payment methodology, including risk-adjustment methodology • Performance incentive approaches • Value-based purchasing strategies

EHR = electronic health records; EMR = electronic medical records; LTSS = long-term services and supports; PCMP=Primary Care Medical Provider; QIs = quality improvement initiatives; RCCO = Regional Care Collaborative Organization; SDAC = State Data and Analytics Contractor.

3.5 Progress Indicators

In addition to tracking implementation of demonstration design features, we will also track progress indicators, including growth in enrollment and disenrollment patterns, based on Colorado demonstration data. These progress indicators will be reported quarterly by Colorado through the SDRS, which will be the RTI evaluation team's tool for collecting and storing information and for generating standardized tables and graphs for quarterly monitoring reports for CMS and the State. The primary goals of the system are to serve as a repository for up-to-date information about the Colorado demonstration design and progress, to capture data elements on a quarterly basis, and to monitor and report on demonstration progress by individual States and the Financial Alignment Initiative as a whole. More detail on the SDRS can be found in the *Aggregate Evaluation Plan* (Walsh et al., 2013).

Table 7 presents a summary of progress indicators developed to date. The list of progress indicators may be refined in consultation with CMS as needed. RTI will provide trainings and an instruction manual to assist States in using the SDRS.

Table 7
Examples of progress indicators

Indicator
Eligibility
No. of beneficiaries eligible to participate in the demonstration
Enrollment
Total no. of beneficiaries currently enrolled in the demonstration care model[1]
No. of beneficiaries newly enrolled in the demonstration care model as of the end of the given month
No. of beneficiaries automatically (passively) enrolled in the demonstration care model
Disenrollment
No. of beneficiaries who opted out of the demonstration care model prior to enrollment
No. of beneficiaries who voluntarily disenrolled from the demonstration care model
No. of beneficiaries whose enrollment in the demonstration care model ended involuntarily (e.g., died, moved out of area, lost Medicaid eligibility, were incarcerated)
Demonstration service area
Whether demonstration is currently statewide vs. in specific counties or geographic areas (and provide list if in specific geographic areas)

[1] For MFFS model demonstrations, the care model refers to the entities responsible for care coordination. For the Colorado MFFS Demonstration, the care model refers to the ACC program.

3.6 Data Sources

The evaluation team will use a variety of data sources to assess whether the Colorado demonstration was implemented as planned; identify modifications made to the design features during implementation; document changes in the time frame or phase-in of key elements; and determine factors that facilitated implementation or presented challenges. These data sources include the following:

- **State policies and State requirements for provider agreements:** The evaluation team will review a wide range of State-developed documents that specify Colorado's approach to implementing the demonstration in order to develop a baseline profile of its current delivery system. Review of Colorado's agreements with CMS articulated through the demonstration Memorandum of Understanding, waivers, contracts, and State Plan Amendments will further enhance our understanding of Colorado's approach.

- **Demonstration data (collected via the State Data Reporting System):** On a quarterly basis, we will collect data from Colorado to inform ongoing analysis and feedback to the State and CMS throughout the demonstration. Specifically, we will collect data to track policy and operational changes and progress indicators that are mostly numeric counts of key demonstration elements presented in ***Table 7***. These demonstration data also may include specific information provided by CMS or other entities engaged in this demonstration, and incorporated into the SDRS.

- **State agency staff, stakeholders, and selected Regional Care Collaborative Organizations:** There will be at least two sets of site visits; the first one will occur within 6 months of demonstration implementation. Using two-person teams, supplemented with telephone interviews, we will obtain perspectives from key informants on progress to date, internal and external environmental changes, reasons Colorado took a particular course, and current successes and challenges. In addition to the site visits, and interim calls for clarification about State data submitted to the reporting system, in consultation with CMS we will develop a schedule of quarterly telephone interviews with various individuals involved in the demonstration.

  In addition to consumer advocates, as discussed in ***Section 4.1, Beneficiary Experience***, candidates for key informant interviews on demonstration implementation include the following:

  - State officials, such as:
    - Executive Director, Department of Health Care Policy and Financing State Medicaid Director
    - Chief Medical Officer
    - Medicaid Reform Unit Manager
    - Dual Eligibles Project Manager
    - Manager, Long-Term Benefits Operations Division Manager, Rates and Analysis Division
    - Director, Division of Behavioral Health Services, Department of Human Services
    - Director, Division of Developmental Disabilities, Department of Human Services
  - Leaders of Regional Care Collaborative Organizations
  - Representatives from entities providing options counseling for the demonstration
  - Members of the Colorado demonstration stakeholder committees
  - Colorado Academy of Family Physicians
  - CMS staff

The site visit interview protocols used in the evaluation will contain a core set of questions that allow us to conduct an aggregate evaluation, questions specific to the financial alignment model (managed fee for service), as well as a few questions that are specific to the Colorado demonstration. Questions tailored to the key informants in Colorado will be developed once the demonstration is implemented, and the topics for discussion will be provided to the State in advance of each site visit. The site visit interview protocols with core questions are provided in the *Aggregate Evaluation Plan* (Walsh et al., 2013), and will also be tailored for Colorado after the demonstration begins. In advance of the site visits, the RTI team will contact the State to help identify the appropriate individuals to interview. We will work with the State to

schedule the site visit and the on-site interviews. We will develop an interview schedule that best suits the needs of the State and key informants we plan to interview.

3.7 Analytic Methods

Evaluation of the Colorado demonstration implementation will be presented in an initial report to CMS and the State covering the first 6 months of implementation, in annual State-specific evaluation reports, and integrated into annual aggregate reports comparing implementation issues and progress across similar demonstrations and across all demonstrations, as appropriate. We will collect and report quantitative data quarterly as noted in ***Table 7***, ***Examples of Progress Indicators***, through the SDRS. We will integrate these quantitative data with qualitative data we will collect through site visits and telephone interviews with State agency staff and other key informants and include these data in the annual reports and the final evaluation report. These data will provide context for interpreting the impact and outcomes related to beneficiary experience, quality, utilization, and costs, and enable us to analyze (1) the changes Colorado has made to the preexisting delivery systems serving Medicare-Medicaid enrollees, (2) challenges Colorado has met, and (3) approaches that can inform adaptation or replication by other States.

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4. Impact and Outcomes

4.1 Beneficiary Experience

4.1.1 Overview and Purpose

The evaluation will assess the impact of the Colorado demonstration on beneficiary experience. Using mixed methods (i.e., qualitative and quantitative approaches), we will monitor and evaluate the experience of beneficiaries, their families, and caregivers. Our methods will include the following:

- the beneficiary voice through focus groups and stakeholder interviews conducted by RTI;
- results of surveys that may be conducted by Colorado, CMS, or other entities;
- Colorado demonstration data and data from other sources submitted via the State Data Reporting System (SDRS; e.g., data on enrollments, disenrollments, stakeholder engagement activities);
- claims and encounter data obtained from CMS to analyze utilization as well as access to services and outcomes for key quality measures; and
- interviews with Colorado demonstration staff during site visits or telephone interviews with RTI.

Table 8 (described in more detail below) shows the range of topics and data sources we will use to monitor and evaluate beneficiary experience. We are interested in the perspective of the beneficiaries themselves, determining specifically the impact of the demonstration on their access to needed services, the integration and coordination of services across settings and delivery systems, provider choice, enrollee rights and protections, and the provision of person-centered care. In the process, we will identify what has changed for beneficiaries since their enrollment in the demonstration and its perceived impact on their health and well-being.

This section of the evaluation plan focuses specifically on the methods we will use to monitor and evaluate beneficiary experience such as focus groups with beneficiaries and interviews with consumer and advocacy groups. We also discuss information about data we will obtain from Colorado through interviews and the SDRS, and results of beneficiary surveys that may be administered and analyzed independent of this evaluation by the State, CMS, or other entities.

Through beneficiary focus groups and key stakeholder interviews (i.e., consumer and advocacy group members), we also will explore whether we can identify specific demonstration features in Colorado that may influence replication in other States. We will also collect information from State demonstration staff and CMS or other entities that reflects the beneficiaries' experiences (e.g., disenrollment patterns) using RTI's SDRS. ***Section 3, Demonstration Implementation Evaluation***, describes topics we will monitor and document

through interviews with Colorado demonstration staff and document reviews, including consumer protections and other demonstration design features intended to enhance the beneficiary experience. Refer to ***Section 4.2*** for a discussion of the use of claims and encounter data to establish baseline information about the beneficiaries eligible for the demonstration, and how we will use these data to inform our understanding of the impact of the demonstration on access to care and health outcomes.

Specifically, we will address the following research questions in this section:

- What impact does the Colorado demonstration have on the beneficiary experience overall and for beneficiary subgroups?
- What factors influence the beneficiary enrollment decision?
- Do beneficiaries perceive improvements in their ability to find needed health services?
- Do beneficiaries perceive improvements in their choice of care options, including self-direction?
- Do beneficiaries perceive improvements in how care is delivered?
- Do beneficiaries perceive improvements in their personal health outcomes?
- Do beneficiaries perceive improvements in their quality of life?

4.1.2 Approach

This mixed-methods evaluation will combine qualitative information from focus groups and key stakeholder interviews with quantitative data related to beneficiary experience derived from the RTI SDRS and findings from surveys that may be conducted independently by Colorado, CMS, or other entities. Qualitative data will be obtained directly from a beneficiary or beneficiary representative through focus groups and interviews. To avoid potential bias or conflict of interest, we will apply a narrow definition of "representative" to include only family members, advocates, or members of organizations or committees whose purpose is to represent the interest of beneficiaries and who are not service providers or do not serve in an oversight capacity for the initiative. Although no baseline qualitative data are available, beneficiaries will be asked about their experience before the demonstration and how it may have changed during the course of the demonstration.

Our framework for evaluating beneficiary experience is influenced by work conducted by the Center for Health Care Strategies (CHCS), which identified the essential elements of integration affecting beneficiary experience, including the care process and quality of life (Lind and Gore, 2010). Its work is intended to guide the design of integrated care systems for Medicare-Medicaid enrollees and to do so in ways that strengthen the beneficiary experience in the areas defined in ***Table 8***.

Table 8 aligns key elements identified in the CHCS framework with the demonstration design features described in ***Section 3, Demonstration Implementation Evaluation***. We

modified some elements of the CHCS framework to reflect that not all Medicare-Medicaid enrollees require intensive services as suggested by the original CHCS language used when describing comprehensive assessments and multidisciplinary care teams. For each key element, we identify the impact on beneficiary experience and detail the data sources that RTI will use to obtain the information.

As shown in ***Table 8***, we will solicit direct feedback from beneficiaries served through the demonstration to determine how closely their experience compares to the desired outcomes (improvements in personal health outcomes, quality of life, how beneficiaries seek care, choice of care options, and how care is delivered). We will include topics specific to the demonstration and supplement our understanding of direct beneficiary experience with key stakeholder interviews (e.g., consumer and advocacy groups), a review of enrollment and disenrollment, grievances and appeals, claims and encounter data analysis, and interviews with Colorado staff on demonstration implementation.

Table 8
Methods for assessing beneficiary experience by beneficiary impact

Direct measure	Key stakeholder interviews	Beneficiary focus groups	Recommended survey question[1]	Colorado demonstration data[2]	Interviews with Colorado agency staff on demonstration implementation
Integrated delivery system					
Choice					
Beneficiaries have choice of medical, behavioral, and LTSS *services*.	X	X	X	X	X
Beneficiaries have choice of medical, behavioral, and LTSS *providers* within the network.	X	X	X	X	X
Beneficiaries have choice to self-direct their care.	X	X	—	X	X
Beneficiaries are empowered and supported to make informed decisions.	X	X	—	—	—
Provider network					
Beneficiaries report that providers are available to meet routine and specialized needs.	X	X	X	X	—
Beneficiaries report that LTSS and behavioral health are integrated into primary and specialty care delivery.	X	X	—	X	—
Beneficiary engagement					
Beneficiaries consistently and meaningfully have the option to participate in decisions relevant to their care.	X	X	X	X	—
There are ongoing opportunities for beneficiaries to be engaged in decisions about the design and implementation of the demonstration.	X	X	—	—	X

(continued)

Table 8 (continued)
Methods for assessing beneficiary experience by beneficiary impact

Direct measure	Key stakeholder interviews	Beneficiary focus groups	Recommended survey question[1]	Colorado demonstration data[2]	Interviews with Colorado agency staff on demonstration implementation
Streamlined processes					
Beneficiaries can easily navigate the delivery system.	X	X	—	X	—
Reduced duplication of services					
Beneficiary burden is reduced through elimination of duplicative tests and procedures.	—	X	—	X	—
Enrollment and access to care					
Enrollment					
Beneficiaries have choices and assistance in understanding their enrollment options.	X	X	—	X	X
Beneficiaries report ease of disenrollment.	X	X	—	X	—
Rate of beneficiaries who opt out of enrolling into demonstration.	—	—	—	X	—
Rate of disenrollment from the demonstration, by reason.	—	—	—	X	—
Access to care					
Beneficiaries can access the full range of scheduled and urgent medical care, behavioral health services, and LTSS.	X	X	—	X	—
Beneficiaries report improved quality of life due to access to the full range of services.	X	X	X	—	—
Beneficiaries report that waiting times for routine and urgent primary and specialty care are reasonable.	X	X	—	X	—

(continued)

Table 8 (continued)
Methods for assessing beneficiary experience by beneficiary impact

Direct measure	Key stakeholder interviews	Beneficiary focus groups	Recommended survey question[1]	Colorado demonstration data[2]	Interviews with Colorado agency staff on demonstration implementation
Health outcomes					
Beneficiary health rating	—	—	X	—	—
Quality of life					
Days free from pain	—	—	X	—	—
Beneficiaries get the social and emotional supports they need	—	X	X	—	—
Beneficiaries report that they are satisfied with their life	—	X	X	—	—
Cultural appropriateness					
Beneficiaries have access to multilingual and culturally sensitive providers.	X	X	—	X	X
Beneficiaries report that written and oral communications are easy to understand.	X	X	—	X	—
Delivery systems supports					
Data sharing and communication					
Information is available and used by beneficiaries to inform decisions.	X	X	—	—	X
Beneficiaries report that providers are knowledgeable about them and their care history.	X	X	—	X	—
Beneficiaries have adequate discharge and referral instructions.	X	X	—	X	X
Beneficiaries report that providers follow up after visits or discharge.	X	X	—	X	—
Beneficiaries understand their options to specify that personal health data not be shared.	X	X	—	X	—

(continued)

Table 8 (continued)
Methods for assessing beneficiary experience by beneficiary impact

Direct measure	Key stakeholder interviews	Beneficiary focus groups	Recommended survey question[1]	Colorado demonstration data[2]	Interviews with Colorado agency staff on demonstration implementation
Care coordination					
Assessment of need					
Assessment process integrates/addresses health, behavioral health, and LTSS.	X	X	—	X	X
Medical providers actively participate in individual care planning.	—	X	X	—	—
Beneficiaries report active participation in the assessment process.	X	X	—	X	—
Person-centered care					
Care is planned and delivered in a manner reflecting a beneficiary's unique strengths, challenges, goals, and preferences.	X	X	—	X	—
Beneficiaries report that care managers have the skills and qualifications to meet their needs	—	X	X	—	—
Beneficiaries report that providers listen attentively and are responsive to their concerns.	X	X	X	X	—
Coordination of care					
The system facilitates timely and appropriate referrals and transitions within and across services and settings.	X	X	X	X	—
Beneficiaries have supports and resources to assist them in accessing care and self-management.	X	X	—	X	—
Beneficiaries report ease of transitions across providers and settings.	X	X	X	X	—

(continued)

Table 8 (continued)
Methods for assessing beneficiary experience by beneficiary impact

Direct measure	Key stakeholder interviews	Beneficiary focus groups	Recommended survey question[1]	Colorado demonstration data[2]	Interviews with Colorado agency staff on demonstration implementation
Family and caregiver involvement					
Beneficiaries have the option to include family and/or caregivers in care planning.	X	X	—	X	—
The family or caregiver's skills, abilities, and comfort with involvement are taken into account in care planning and delivery.	X	X	—	X	—
Benefits and services					
Awareness of covered benefits					
Beneficiaries are aware of covered benefits.	X	X	—	X	—
Availability of enhanced benefits					
The demonstration covers important services to improve care outcomes that are not otherwise available through Medicaid or Medicare program.	—	—	—	X	X
Flexible benefits are available to meet the needs of beneficiaries.	—	—	—	X	X
Awareness of enhanced benefits					
Beneficiaries are aware of enhanced benefits and use them.	X	X	—	X	—
Beneficiary safeguards					
Beneficiary protections					
Beneficiaries understand their rights.	X	X	—	X	—
Beneficiaries are treated fairly, are informed of their choices, and have a strong and respected voice in decisions about their care and support services.	X	X	—	X	—

(continued)

Table 8 (continued)
Methods for assessing beneficiary experience by beneficiary impact

Direct measure	Key stakeholder interviews	Beneficiary focus groups	Recommended survey question[1]	Colorado demonstration data[2]	Interviews with Colorado agency staff on demonstration implementation
Complaints, grievances, and appeals					
Beneficiaries have easy access to fair, timely, and responsive processes when problems occur.	X	X	—	X	—
Number and type of beneficiary complaints, grievance, and appeals.	—	—	—	X	—
Advocacy/member services					
Beneficiaries get assistance in exercising their rights and protections.	X	X	—	X	—
Finance and payment					
Provider incentives					
Beneficiary experience is taken into account when awarding provider and plan incentives.	X	—	—	—	X
Rate of auto-assignment (if available).	—	—	—	X	—
Rate of change of PCP requests (if available).	—	—	—	X	—

— = no data for cell; HCBS = home and community-based services; LTSS = long-term services and supports; PCP = primary care provider.

[1] The evaluation team will recommend questions to add to surveys conducted by Colorado or CMS.

[2] Drawn from State Data Reporting System, RTI analysis of administrative data, Consumer Assessment of Healthcare Providers and Systems (CAHPS) results, or from other beneficiary surveys that may be conducted by the State or other entities.

Table 9 highlights some of the quantitative measures of beneficiary experience we will monitor and evaluate using demonstration statistics and claims or encounter data analysis. See ***Section 4.2*** for a discussion of the quality, utilization, and access to care measures we plan to examine as part of the overall evaluation of impact of the Colorado demonstration on beneficiary outcomes, including for subpopulations. The draft focus group protocol and the draft stakeholder interview protocol are both discussed in this section and are available in the *Aggregate Evaluation Plan* (Walsh et al., 2013).

We will analyze our findings by subpopulation. We will identify subpopulations of particular interest for Colorado, and, where possible, will recruit sufficient numbers of individuals in those subpopulations to participate in the focus groups. Subpopulations of interest include people with mental health conditions, substance use disorders, long-term services and supports (LTSS) needs, and multiple chronic conditions. We will also analyze our focus group findings about beneficiary experience to determine whether differences exist by subpopulation.

Table 9
Demonstration statistics on quality, utilization, and access to care measures of beneficiary experience

Rate of disenrollment from the demonstration by reason[1]
Rate of beneficiaries who opt out of enrolling into the care model (ACC program)
Number and type of beneficiary complaints, grievance, and appeals
Use of preventive services[1]
Nursing facility admissions and readmissions[1]
Emergency room use[1]
Hospital admission and readmission rates[1]
Follow-up care after hospital discharge[1]

ACC = Accountable Care Collaborative.

[1] See ***Section 4.2***, for discussion of specific measures.

4.1.3 Data Sources

We will rely on five major data sources to assess beneficiary experience as shown in ***Table 8***. In this section, we describe our plan for using focus group and stakeholder interviews; results of beneficiary surveys planned by the State, CMS, or other entities; State demonstration data entered into the SDRS; and interviews with State demonstration staff.

4.1.3.1 Focus Groups

We will conduct four focus groups in Colorado to gain insight into how the initiative affects beneficiaries. To ensure that we capture the direct experience and observations of those served by the Colorado demonstration, focus groups will be limited to demonstration enrollees, their family members, and informal caregivers. ***Table 10*** shows our current plan for the composition and number of focus groups.

Preliminary topics of the focus groups include beneficiaries' understanding of the demonstration, rights, options, and choices (e.g., Regional Care Collaborative Organization, primary care provider); reasons beneficiaries choose to enroll and disenroll; their benefits; concerns or problems encountered; experience with care coordination; and access to primary and specialty care, and LTSS. Timing for conducting the focus groups will be influenced by our assessment of whether there is more to be learned about the experience of beneficiaries shortly after initial enrollment into the Colorado demonstration versus their perceptions of its effectiveness later in the Colorado demonstration. If the latter, we will conduct focus groups at least 1 year after implementation so that beneficiaries have had a substantial amount of experience with the demonstration. We will make the decision regarding timing of the focus groups in conjunction with CMS.

Table 10
Purpose and scope of State focus groups

Primary purpose	To understand beneficiary experience with the demonstration and, where possible, to identify factors and design features contributing to their experience.
Composition	Each focus group includes 8–10 individuals who may be beneficiaries or family members or caregivers representing beneficiaries. These may include but are not limited to ● beneficiaries with disabilities, aged 21 to 64 ● beneficiaries aged 65 and older ● beneficiaries with serious mental illness ● beneficiaries with multiple chronic conditions
Number	Four focus groups

We will recruit focus group participants from eligibility and enrollment files independent of input from the State. In doing so, we will identify beneficiaries reflecting a range of eligibility, clinical, and demographic characteristics enrolled in the Colorado demonstration. Our subcontractor, the Henne Group, will use a structured approach for screening potential participants and obtaining their agreement to participate. If there appear to be high rates of opting out or disenrollment from the Accountable Care Collaborative (ACC) program in Colorado, we will consider convening focus groups with beneficiaries who have chosen to opt out or disenroll to understand their decisions. We will work closely with Colorado demonstration staff to make the process for recruiting focus group members as smooth as possible for beneficiaries, such as selecting an accessible site and ensuring transportation and any needed special accommodations and supports to allow for full participation. Focus group recruitment and all focus group arrangements will be conducted with an awareness of the subpopulations of concern in Colorado. We will investigate the prevalence of non-English–speaking beneficiaries in the eligible population, and determine whether to hold any of the focus groups in languages other than English. A preliminary focus group protocol is presented in the *Aggregate Evaluation Plan* (Walsh et al., 2013). The protocol may be modified based on final decisions about focus group composition, content, and our understanding of issues raised during implementation of the Colorado demonstration.

4.1.3.2 Key Stakeholder Interviews

Our evaluation team will conduct key stakeholder interviews (consumer and advocacy groups) in Colorado, either in person as part of a scheduled site visit or by telephone, with major beneficiary groups whose stakeholders are served by the Colorado demonstration. The purpose of these interviews will be to assess the level of beneficiary engagement and experience with the demonstration and its perceived impact on beneficiary outcomes. Although we will interview service providers as part of our implementation analyses, service provider perspectives will not be the source of information for assessing beneficiary experience.

Table 11 identifies potential groups in Colorado whose representatives we may wish to interview and the overall purpose of the interview. We will finalize the list of key stakeholders following discussions with demonstration staff in Colorado, a review of events and issues raised during the development and early implementation of the demonstration, and the composition of enrollment by subpopulations.

Table 11
Preliminary interviewees and scope of key stakeholder interviews

Primary purpose	**Baseline:** Assess understanding of and satisfaction with demonstration design; expectations for the demonstration; perceived concerns and opportunities. **Throughout demonstration:** Spot improvements and issues as they emerge and assess factors facilitating and impeding positive beneficiary experience. **Final year:** Assess extent to which expectations were met; major successes and challenges; lessons learned from beneficiary's perspective.
Subpopulations	Interviews will be held with major consumer and advocacy groups whose members are served by the Colorado demonstration. These may include the following: ● Advocacy and consumer organizations representing the demonstration's eligible populations ● Advocacy and consumer organizations participating on Colorado demonstration stakeholder committees ● Beneficiaries serving on Colorado demonstration stakeholder committees
Number and frequency	**Baseline**: Up to four telephone interviews within the first year of implementation. **Throughout demonstration**: Up to four telephone or in-person interviews in Colorado each year to be conducted with the same individuals each time, unless other stakeholders or topics of interest are identified. **Final year**: Up to eight telephone or in-person interviews.

A draft outline of the key stakeholder interview at baseline is presented in the *Aggregate Evaluation Plan* (Walsh et al., 2013). We will revise this draft as we obtain more information about the Colorado demonstration and the issues that arise during its planning/design phase and early implementation.

4.1.3.3 Beneficiary Surveys

The RTI evaluation team will not directly administer any beneficiary surveys as part of the evaluation, and we are not requiring that States administer beneficiary surveys for purposes

of the evaluation. We will include relevant findings from beneficiary surveys that may be conducted for this demonstration by Colorado, CMS, or other entities.

We will recommend standard questions for inclusion in Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys across all demonstrations under the Financial Alignment Initiative, such as quality of life measures. We will participate in discussions with the State and CMS (and other CMS contractors, as appropriate) regarding content and sampling issues. Topics on which we will recommend common questions across State demonstrations are shown in ***Table 8***.

4.1.3.4 Demonstration Data

We will use data about the demonstration that we collect from Colorado during site visits, from reports and other materials developed by the State, through the SDRS, and data obtained from CMS or other entities to assess the beneficiary experience. Data of particular interest include the following:

- Complaint, appeal, and grievance data from CMS or other entities, as available.
- Disenrollment and opt-out rates.
- Information about waiting lists or lags in accessing services, which will provide useful indications of where the system lacks capacity as a topic for discussion during site visits or focus groups.
- Rate of change in primary care provider assignment (if available).

The above quantitative indirect measures will be collected for all Medicare-Medicaid enrollees served under the demonstration and will be analyzed by subpopulations.

4.1.3.5 Interviews with Colorado Demonstration Staff

In addition to key stakeholder interviews conducted with consumer and advocacy groups, we will address issues of beneficiary engagement and feedback during our interviews with Colorado demonstration staff. These interviews, described in ***Section 3***, will provide another perspective on how Colorado communicates and works with beneficiaries during the design and implementation of its demonstration.

4.1.4 Analytic Methods

Our analysis will assess beneficiary experience and determine, where possible, how it is affected by financial model and demonstration design features. We also want to examine whether and how beneficiary experience varies by subpopulations. The Henne Group will audio-record all focus groups, subject to approval of the group members, and the audio-recordings will be transcribed. Key stakeholder interview and focus group transcripts will be imported and analyzed using QSR NVivo 9, qualitative data analysis software, to identify emergent themes and patterns regarding beneficiary experiences during the demonstration and issues related to the evaluation research questions. A structured approach to qualitative analysis in NVivo 9 will allow us to identify themes in Colorado and compare and contrast those themes by subpopulation within and

across States. Because Colorado is implementing a managed fee-for-service model demonstration, we are particularly interested in comparing Colorado's findings with those of managed fee-for-service model demonstrations in other States, and in determining whether particular design features in this demonstration are likely to affect beneficiary experience.

Most demonstration data will be collected and tracked through the SDRS. We will also request summary statistics and reports from Colorado on its beneficiary experience surveys. Information from site visits and site-reported data beyond those described specifically in this section also are expected to inform analysis of beneficiary experience research questions. The findings will be grouped into the beneficiary experience domains defined in ***Section 4.1.2***.

The evaluation will consider indications of predemonstration beneficiary experience that may be available from other sources. The evaluation will not, however, have baseline data or comparison group results in this area. Results of beneficiary surveys, focus groups, and other approaches employed during the demonstration period will be presented in the annual and final evaluation reports along with available context to inform interpretation.

4.2 Analyses of Quality, Utilization, Access to Care, and Cost

4.2.1 Purpose

This section of the report outlines the research design, data sources, analytic methods, and key outcome variables (quality, utilization, and cost measures) on which we will focus in evaluating the Colorado demonstration. These analyses will be conducted using secondary data, including Medicare and Medicaid claims and Behavioral Health Organization (BHO) managed care encounter data. This section addresses the following research questions:

- What impact does the Colorado demonstration have on utilization patterns in acute, long-term, and behavioral health services, overall and for beneficiary subgroups?
- What impact does the Colorado demonstration have on health care quality overall and for beneficiary subgroups?
- Does the Colorado demonstration change access to care for medical, behavioral health, LTSS overall and for beneficiary subgroups? If so, how?
- What impact does the Colorado demonstration have on cost and is there evidence of cost savings? How long did it take to observe cost savings? How were these savings achieved?

In this section, we discuss our approach to identifying the eligible population for Colorado and for identifying comparison group beneficiaries. This section also describes the data sources, key analyses to be performed over the course of the demonstration, and the quality measures that will inform the evaluation. RTI will use both descriptive and multivariate analyses to evaluate the Colorado demonstration. Results of descriptive analyses focusing on differences across years and important subgroups on key outcome variables will be included in the Colorado quarterly reports to CMS and the State and in the annual reports. Multivariate analyses of each

year of demonstration data and over the course of the demonstration, controlling for beneficiary characteristics, will be included in the final evaluation.

Savings will be calculated annually for the Colorado demonstration using an actuarial approach. The impact of the demonstration on costs will also be calculated using a multivariate regression-based approach for the final evaluation report; this calculation will include Medicaid, and Medicare Parts A and B, and any performance payments made to the State as part of the demonstration.

4.2.2 Approach

An appropriate research design for the evaluation must consider whether selection is a risk for bias. Several potential sources of selection bias exist in the Colorado demonstration. The State determines eligibility for passive enrollment into the ACC program, but beneficiaries may choose to opt out or disenroll. The reasons for opting out or disenrolling (i.e., after being enrolled) will vary but may be related to demonstration benefits. Beneficiaries not eligible for passive enrollment, such as those already enrolled in a Medicare Advantage plan, Program of All-Inclusive Care for the Elderly, the Denver Health Medicaid Choice Plan, or the Rocky Mountain Health Plan, can choose to enroll in the ACC program if they disenroll from their current plans or programs.

To limit selection bias in the evaluation of this demonstration, we will use an intent-to-treat design. This design will address potential selection issues by including the entire population of beneficiaries eligible for the Colorado managed fee-for-service (MFFS) demonstration. Under the intent-to-treat framework, outcome analyses will include all beneficiaries eligible for the demonstration, including those who opt out of passive enrollment into the ACC program and those who enroll but then later disenroll. The outcomes for this group will be compared with outcomes for a comparison group of individuals with similar characteristics. This approach diminishes the potential for selection bias and highlights the effect of the demonstration on all beneficiaries in the demonstration-eligible population. In addition, RTI will compare the characteristics of several subsets of beneficiaries eligible for the demonstration. These beneficiaries include those attributed to Primary Care Medical Providers (PCMPs) participating in the ACC program, those attributed to nonparticipating providers, and those who are eligible for the ACC program but choose not to be enrolled, acknowledging that interpreting such results will be difficult given likely selection bias.

4.2.2.1 Identifying Demonstration Group Members

The demonstration group for Colorado will include full-benefit Medicare-Medicaid enrollees with no other public or private health insurance. To analyze quality, utilization, and costs in the predemonstration period, and throughout the demonstration period, Colorado will submit a demonstration evaluation (finder) file that includes data elements needed for RTI to correctly identify Medicare-Medicaid enrollees for linking to Medicare and Medicaid data, and information about the enrollees eligible for or enrolled in the demonstration (***Table 12***). The file, constructed after the end of each quarter, will list all of the Medicare-Medicaid beneficiaries eligible for the ACC program in the quarter, with additional variables in the file indicating monthly enrollment in the demonstration. Eligible individuals who were not enrolled in the ACC

program in a given month will still be part of the evaluation under the intent-to-treat research design. In addition to indicating who was eligible and enrolled, this file will contain personally identifiable information for linking to Medicare and Medicaid data.

Table 12
State demonstration evaluation (finder) file data fields

Data field	Length	Format	Valid value	Description
Medicare Beneficiary Claim Account Number (Health Insurance Claim Number [HICN])	12	CHAR	Alphanumeric	The HICN. Any Railroad Retirement Board (RRB) numbers should be converted to the HICN number prior to submission to the MDM.
MSIS number	20	CHAR	Alphanumeric	MSIS identification number.
Social security number (SSN)	9	CHAR	Numeric	Individual's SSN.
Sex	1	CHAR	Alphanumeric	Sex of beneficiary (1=male or 2=female).
Person first name	30	CHAR	Alphanumeric	The first name or given name of the beneficiary.
Person last name	40	CHAR	Alphanumeric	The last name or surname of the beneficiary.
Person birth date	8	CHAR	CCYYMMDD	The date of birth (DOB) of the beneficiary.
Person ZIP code	9	CHAR	Numeric	9-digit ZIP code.
Monthly Eligibility identification flag	1	CHAR	Numeric	Coded 0 if identified as not eligible for the demonstration, 1 if identified as eligible from administrative data, 2 if identified as eligible from nonadministrative data.
Monthly enrollment indicator	1	CHAR	Numeric	Each monthly enrollment flag variable would be coded 2 if attributed to a Primary Care Medical Provider (PCMP) participating in the ACC, 1 if attributed to a PCMP not participating in the ACC, and 0 if not enrolled. Quarterly demonstration evaluation (finder) files would have three such data fields.

HCBS = home and community-based services; MDM = Master Data Management; MSIS = Medicaid Statistical Information System.

4.2.2.2 Identifying a Comparison Group

The methodology described in this section reflects the plan for identifying comparison groups based on discussions between RTI and CMS and detailed in the *Aggregate Evaluation Plan* (Walsh et al., 2013). Identifying the comparison group members will entail two steps: (1) selecting the geographic area from which the comparison group will be drawn and (2) identifying the individuals who will be included in the comparison group.

Because Colorado intends to implement its demonstration statewide, we will consider a comparison group from out-of-State Metropolitan Statistical Areas. In general, we expect to draw such groups from multiple comparison States and areas. However, if for some reason the Colorado demonstration is not implemented statewide, we will determine whether there are areas within Colorado that could also be part of the comparison group. The approach for identifying an

in-State potential comparison area would be the same as that for an out-of-State comparison group, described below.

We will use statistical distance analysis to identify potential comparison areas that are most similar to Colorado in regard to costs, care delivery arrangements, policy affecting Medicare-Medicaid enrollees, population density, and the supply of medical resources. The specific measures for the statistical distance analysis we will use are Medicare spending per Medicare-Medicaid enrollee, Medicaid spending per Medicare-Medicaid enrollee, nursing facility users per 65-and-over Medicaid beneficiary, home and community-based services users per 65-and-over Medicaid beneficiary, Personal Care users per 65-and-over Medicaid beneficiary, Medicare Advantage, Medicaid managed care (MMC) penetration for full-benefit Medicare-Medicaid enrollees, Medicaid-to-Medicare physician fee ratios, population per square mile, and patient-care physicians per thousand population. The three LTSS variables capture how areas differ in the settings in which they provide these services. Variation in LTSS policy is most easily visible in the population using the most LTSS (i.e., those aged 65 and over). The relative importance of institutional care observed in that population is expected to affect such use in the population under age 65 as well.

Once comparison areas are selected, all Medicare-Medicaid enrollees in those areas who meet the demonstration's eligibility criteria will be selected for comparison group membership based on the intent-to-treat study design. The comparison areas will be determined within the first year of demonstration implementation, in order to use the timeliest data available. The comparison group members will be determined retrospectively at the end of each demonstration year, allowing us to include information on individuals newly eligible or ineligible for the demonstration during that year. The comparison group will be refreshed annually to incorporate new entrants into the eligible population as new individuals become eligible for the demonstration over time. To ensure that the comparison group is similar to the demonstration group, we will compute propensity scores and weight comparison group beneficiaries using the framework described in ***Section 4.2.2.4*** of this report.

4.2.2.3 Issues/Challenges in Identifying Comparison Groups

The RTI team will make every effort to account for the following four issues/challenges when identifying and creating comparison groups.

1. **Similarities between demonstration and comparison groups:** Comparison group members should be as much like demonstration group members as possible, and sufficient data are needed to identify and control for differences between the comparison group member and the demonstration group members.

2. **Sample size:** Given that the team plans to use all comparable beneficiaries in an out-of-State comparison group that would be eligible for the demonstration, we expect to have sufficient sample size for the statewide analyses and for analyses of smaller subpopulations.

3. **Accounting for enrollment in other demonstrations:** Some Medicare-Medicaid enrollees may not be suitable for comparison group selection because of participation

in other demonstrations or enrollment in Accountable Care Organizations. We will work with CMS to specify these parameters and apply them to both Colorado and the comparison group.

4. **Medicaid data:** Significant delays currently exist in obtaining Medicaid data. If unaddressed, this problem could result in delays in formulating appropriate comparison groups. Timeliness of Medicaid Statistical Information System (MSIS) data submissions will need to be considered if out-of-State comparison areas are required for the evaluation.

4.2.2.4 Propensity Score Framework for Identifying Comparison Group Members

Because comparison group members may differ from the demonstration group on individual characteristics, we will compute propensity scores for the demonstration and comparison group members. The propensity score represents how well a combination of characteristics, or covariates, predicts that a beneficiary is in the demonstration group. To compute these scores for beneficiaries in the demonstration and comparison groups, we will first identify beneficiary-level and market-level characteristics to serve as covariates in the propensity-score model. Beneficiary-level characteristics may include demographics, socioeconomic, health, and disability status; and county-level characteristics may include health care market and local economic characteristics. Once the scores are computed, we will remove from the comparison group any beneficiaries with a propensity score lower than the lowest score found in the demonstration group to ensure that the comparison group is similar to the demonstration group.

The propensity scores for the comparison group will then be weighted so that the distribution of characteristics of the comparison group is similar to that of the demonstration group. By weighting comparison group members' propensity scores, the demonstration and comparison group samples will be more balanced. More detail on this process is provided in the *Aggregate Evaluation Plan* (Walsh et al., 2013).

4.2.3 Data Sources

Table 13 provides an overview of the data sources to be used in the Colorado evaluation of quality, utilization, and cost. Data sources include Medicare and Medicaid fee-for-service data, and Medicare Advantage encounter data. These data will be used to examine quality, utilization, and cost in the predemonstration period and during the demonstration. Data will be needed for all beneficiaries enrolled in the demonstration as well as other beneficiaries in the eligible population who do not enroll. Note that data requirements for individual beneficiaries will depend on whether they were in Medicare fee for service or Medicare Advantage in the pre- and post-demonstration periods.

The terms of the Colorado Memorandum of Understanding (MOU) require the State to provide timely Medicaid data through MSIS for the predemonstration and demonstration periods. Any delays in obtaining data may also delay portions of the evaluation.

Table 13
Data sources to be used in the Colorado demonstration evaluation analyses of quality, utilization, and cost

Aspect	Medicare fee-for-service data	Medicaid fee-for-service data	Encounter data[1]
Obtained from	CMS	CMS	CMS
Description and uses of data	Will be pulled from • Part A (hospitalizations) • Part B (medical services) Will be used to evaluate quality of care, utilization, and cost during the demonstration. These data will also be used for beneficiaries who opt out of the ACC program, have disenrolled, or do not enroll for other reasons; for predemonstration analyses of demonstration-eligible beneficiaries for the 2 years prior to the demonstration; and for comparison groups that may be in-State and/or out-of-State.	Medicaid claims and enrollment data will include data on patient characteristics, beneficiary utilization, and cost of services. Eligibility files will be used to examine changes in number and composition of Medicare-Medicaid enrollees. Will also need these data for beneficiaries who opt out of the ACC program, have disenrolled, or do not enroll for other reasons; for predemonstration analyses of demonstration-eligible beneficiaries for the 2 years prior to the demonstration; and for comparison groups.	Pre- and post-period beneficiary encounter data (including Medicare Advantage and Part D data) will contain information on: • beneficiary characteristics and diagnoses, • provider identification/type of visit, and • beneficiary IDs (to link to Medicare and Medicaid data files). Will be used to evaluate quality (e.g., readmissions), utilization, and cost; health; access to care; and beneficiary satisfaction. Part D data will be used to evaluate cost only. These data will also be used for beneficiaries who opt out of the ACC program, have disenrolled, or do not enroll for other reasons; for predemonstration analyses of demonstration-eligible beneficiaries for the 2 years prior to the demonstration; and for comparison groups that may be in-State and/or out-of-State.
Sources of data	Will be pulled from the following: • NCH Standard Analytic File • NCH TAP Files • Medicare enrollment data	Will be pulled from the following: • MSIS (file on inpatient care, institutional, and the "other" file) • Medicaid eligibility files	Data will be collected from the following: • CMS • Medicare enrollment data

(continued)

Table 13 (continued)
Data sources to be used in the Colorado demonstration evaluation analyses of quality, utilization, and cost

Aspect	Medicare fee-for-service data	Medicaid fee-for-service data	Encounter data[1]
Time frame of data	Baseline file = 2 years prior to the demonstration period (NCH Standard Analytic File). Evaluation file = all demonstration years (NCH TAP Files).	Baseline file = 2 years prior to the demonstration period. Evaluation file = all demonstration years.	Baseline file = Medicare Advantage plans submit encounter data to CMS as of January 1, 2012. RTI will determine to what extent these data can be used in the baseline file. Evaluation file = Medicare Advantage plans are required to submit encounter data to CMS for all demonstration years.
Potential concerns	—	Expect significant time delay for all Medicaid data.	CMS will provide the project team with data under new Medicare Advantage requirements. Any lags in data availability are unknown at this time.

— = no data; MSIS = Medicaid Statistical Information System; NCH = National Claims History; TAP = monthly Medicare claims files.

[1] Encounter data from Medicare Advantage (MA), Medicaid BHO managed care (MMC), and Program of All-Inclusive Care of the Elderly (PACE) plans in the preperiod are needed to evaluate demonstration effects for beneficiaries who previously were enrolled in MA, MMC, or PACE plans but who enroll in the demonstration. There may also be movement between Medicare Advantage or PACE plans and the demonstration throughout implementation, which we will need to take into account using Medicare Advantage or PACE encounter data during the implementation period.

Notes on Data Access: CMS data contain individually identifiable data that are protected under the Health Insurance Portability and Accountability Act (HIPAA) of 1996. CMS, however, makes data available for certain research purposes provided that specified criteria are met. RTI has obtained the necessary Data Use Agreement (DUA) with CMS to use CMS data. A listing of required documentation for requesting CMS identifiable data files such as Medicare and MSIS is provided at http://www.resdac.umn.edu/medicare/requesting_data.asp.

The activities to identify demonstration and comparison groups and to collect and utilize claims and encounter data may be revised if modifications are made to the demonstrations or if data sources are not available as anticipated. If modifications to this evaluation plan are required, they will be documented in the annual and final evaluation reports as appropriate.

4.3 Analyses

The analyses of quantitative data on quality, utilization, and cost measures in the Colorado evaluation will consist of the following:

1. a monitoring analysis to track quarterly changes in selected quality, utilization, and cost measures over the course of the Colorado demonstration (as data are available);

2. a descriptive analysis of quality, utilization, and cost measures for annual reports with means and comparisons for subgroups of interest, including comparison group results; and

3. multivariate difference-in-differences analyses of quality, utilization, and cost measures using an out-of State comparison group.

RTI will calculate savings annually for the Colorado demonstration using an actuarial approach. More information on the actuarial approach is provided in the Colorado MOU and the Final Demonstration Agreement. The results of these annual savings calculations will be used by CMS (or another contractor) in calculating performance payments from CMS to the State under the MFFS financial alignment model. RTI will also calculate the demonstration's impact on costs using a multivariate regression-based approach for the final evaluation report.

The approach to each of these analyses is outlined below in ***Table 14,*** and more detail is provided in the *Aggregate Evaluation Plan* (Walsh et al., 2013). The period for the analyses included in the first Colorado annual report will be based on the State's implementation date and, therefore, may represent a "performance period," not necessarily a calendar year. For example, if the first demonstration year for the Colorado demonstration is September 1, 2014, through December 31, 2015, the first annual report will cover that period. The activities for the analyses may be revised if modifications are made to the demonstrations or if data sources are not available as anticipated. If modifications to this evaluation plan are required, they will be documented in the annual and final evaluation reports as appropriate.

4.3.1 Monitoring Analysis

Data from Medicare fee for service, encounter data, MSIS files, or other data provided by Colorado via the SDRS will be analyzed quarterly to calculate means, counts, and proportions on selected quality, utilization, and cost measures common across States, depending on availability. Examples of measures that may be included in these quarterly reports to CMS include rates of inpatient admissions, emergency room visits, long-term nursing facility admission, cost per member per month (PMPM), and all-cause hospital readmission and mortality. We will present the current value for each quarter and the predemonstration period value for each outcome to look at trends over time.

The goal of these analyses is to monitor and track changes in quality, utilization, and costs. Though quarterly analyses will not be multivariate or include comparison group data, these monitoring data will provide valuable, ongoing information on trends occurring during the demonstration period. Various inpatient and emergency room measures that can be reported are described in more detail in the section on quality measures. Some utilization measures created will be specific to the Colorado demonstration—for example, the share of physician services delivered by PCMPs participating in the ACC and the rate of physician follow-up after hospital discharge.

Table 14
Quantitative analyses to be performed for the Colorado demonstration

Aspect	Monitoring analysis	Descriptive analysis	Multivariate analyses
Purpose	Track quarterly changes in selected quality, utilization, and cost measures over the course of the demonstration.	Provide estimates of quality, utilization, and cost measures on an annual basis.	Measure changes in quality, utilization, and cost measures as a result of the demonstration.
Description of analysis	Comparison of current value and values over time to the predemonstration period for each outcome.	Comparison of the predemonstration period with each demonstration year for demonstration and comparison groups.	Difference-in-differences analyses using demonstration and comparison groups.
Reporting frequency	Quarterly to CMS and the State	Annually	Once, in the final evaluation.

NOTE: The annual and final reports submitted to CMS will also include the qualitative data described earlier in this report in addition to the quantitative data outlined here.

4.3.2 Descriptive Analysis on Quality, Utilization, and Cost Measures

We will conduct a descriptive analysis of quality, utilization, and cost measures for the Colorado demonstration annually for each performance period that includes means, counts, and proportions for the demonstration and comparison groups. This analysis will focus on estimates for a broad range of quality, utilization, and cost measures, as well as changes in these measures across years or subgroups of interest within each year. The results of these analyses will be presented in the annual evaluation reports. The sections below outline the measures that will be included.

To perform this analysis, we will develop separate (unlinked) encounter, Medicare, and Medicaid beneficiary-level analytic files annually to measure quality, utilization, and cost. Though the Medicare, Medicaid, and encounter data will not be linked, the unlinked beneficiary-level files will still allow for an understanding of trends in quality, utilization, and cost measures. The analytic files will include data from the predemonstration period and for each demonstration year. Because of the longer expected time lags in the availability of Medicaid data, Medicare fee-for-service data may be available sooner than Medicaid fee-for-service and MMC BHO encounter data. Therefore, we expect that the first annual report will include (1) predemonstration Medicare and Medicaid fee-for-service data, and MMC BHO encounter data;

and (2) Medicare fee-for-service and Medicare Advantage encounter data for the demonstration period. Medicaid fee-for-service and MMC BHO encounter data will be incorporated into later reports as the data become available.

Consistent with the intent-to-treat approach, all individuals eligible to participate in the demonstration will be included in the analysis, regardless of whether they opt out of the demonstration or disenroll, or actively engage in the ACC model. Data will be developed for predemonstration and comparison group beneficiaries for a 2-year demonstration period and for each of the years of the demonstration. Note that the predemonstration period data will include beneficiaries who would have been eligible for the demonstration in the predemonstration period. Colorado plans to phase in enrollment as follows: first, for community-based individuals who do not use LTSS and use PCMPs who are participating in the ACC; later, for individuals who use nonparticipating PCMPs and use either community-based or institutional LTSS. We will use the State's categorization of enrollment groups to determine whether the various eligibility groups have different experiences in the demonstration. For those beneficiaries with shorter enrollment periods, because of beneficiary death or change of residence, for example, the analysis will weight their experience by months of enrollment within a performance period.

We will measure predemonstration and annual utilization rates and costs of Medicare- and Medicaid-covered services together, where appropriate, to look at trends in the type and level of service use during the State demonstrations. We will calculate average use rates and costs at predemonstration and for each demonstration period. Use rates will be stratified by hierarchical condition category (HCC) scores, which are derived from models predicting annual Medicare spending based on claim-based diagnoses in a prior year of claims where higher scores are predictive of higher spending, health status measures, or similar measures. We will adjust for hospitalizations in the prior year using categorical HCC scores or similar measures. Chi-square and *t*-tests will be used to test for significant differences in use across years and between subpopulations, such as Medicare-Medicaid enrollees using participating PCMPs and those using nonparticipating PCMPs; those receiving LTSS in the community and in institutional settings; those receiving behavioral health services; elderly beneficiaries with and without disabilities; and nonelderly beneficiaries with disabilities.

4.3.3 Multivariate Analyses of Quality, Utilization, and Cost Measures

In the final year of the evaluation, we will use data collected for the eligible population in Colorado and data for the selected comparison group that will have been adjusted using propensity-score weighting methods to analyze the effect of the demonstration using a difference-in-differences method. This method uses both pre- and post-period data for both the demonstration and comparison groups to estimate effects. This method will be applied to these data for each quality, utilization, and cost outcome described in the next section for the final evaluation. The analytic approaches are described in greater detail in the *Aggregate Evaluation Plan* (Walsh et al., 2013).

4.3.4 Subpopulation Analyses

As the ACC is expanded to serve Medicare-Medicaid enrollees, the full impact of the demonstration is likely to be felt only by beneficiaries using primary care physicians who

participate in the ACC program. Colorado defines three types of PCMPs: those who participate in the ACC and receive PMPM payments, those who do not participate in the ACC but see Medicare-Medicaid patients generally, and those who do not generally see Medicaid patients. However, because beneficiaries are free to choose their physicians, and physicians can change their participation choices, the evaluation team cannot reliably estimate the impact for full participants separately from others. For descriptive purposes, though, the team can compare the characteristics of beneficiaries and the patterns of their utilization by the type of physician to whom they are attributed.

The RTI evaluation team will also compare the characteristics of beneficiaries who enroll in the ACC program with those of beneficiaries who are eligible but do not enroll and will conduct analyses to further explore demonstration effects on ACC program enrollees, acknowledging that selection bias must be taken into account in interpreting the results. Descriptive analyses for annual reports will present results on selected measures stratified by subpopulations (e.g., individuals enrolled in home and community-based services waivers, others living in the community; those using and not using behavioral health services, skilled nursing facilities, and other LTSS). Multivariate analyses performed for the final evaluation will account for differential effects for subpopulations in specification testing by using dummy variables for each of the specific subpopulations of interest one at a time so that the analyses can suggest whether quality, utilization, and cost are higher or lower for each of these groups.

4.4 Utilization and Access to Care

Medicare and Medicaid claims and encounter data will be used to evaluate changes in the levels and types of services used, ranging along a continuum from institutional care to care provided at home (***Table 15***). Note that ***Table 15*** indicates the sources of data for these analyses during the demonstration, given that the analyses will include beneficiaries enrolled in the demonstration as well as those who are part of the population eligible for the demonstration, but do not enroll.

The State does not currently have the ability to report behavioral health encounter data or care coordination services on an individual beneficiary basis. The evaluation will not be able to estimate the impact of the demonstration on these services.

Table 15
Service categories and associated data sources for reporting utilization measures

Service type	Encounter data (Medicare Advantage and Medicaid MCOs)	Medicaid only (FFS)	Medicare and Medicaid (FFS)
Inpatient	X	—	X
Emergency room	X	—	X
Nursing facility (short rehabilitation stay)	X	—	X
Nursing facility (long-term stay)	X	X	—
Other facility-based[1]	X	—	X
Outpatient[2]	X	—	X
Outpatient behavioral health (mental health and substance use disorder treatment)[3]	—	—	X
Home health	X	—	X
HCBS (PAS, waiver services)	X	X	—
Dental	X	X	—

— = not available; FFS = fee for service; HCBS = home and community-based services; MCO = managed care organization; PAS = personal assistance services.

[1] Includes long-term care hospital, rehabilitation hospital, State mental health facility stays.

[2] Includes visits to physician offices, hospital outpatient departments, rehabilitation agencies.

[3] The State does not currently have the ability to report behavioral health data on an individual basis. RTI will analyze Medicare-reimbursed behavioral health service utilization.

4.5 Quality of Care

Across all demonstrations RTI will evaluate a core quality measure set for monitoring and evaluation purposes. Quality measures have multiple data sources: claims and encounter data, which the evaluation team will obtain from CMS and analyze for evaluation measures listed in ***Table 16***; and information collected by Colorado, CMS, or others and provided in aggregate to the RTI team for inclusion in reports. CMS and Colorado have also identified a set of quality measures that will determine the amount of any retrospective performance payments. The performance measures for the Colorado MFFS demonstration, listed in the Colorado Final Demonstration Agreement, include some measures noted in this report, as well as additional measures. RTI expects to have access to the aggregated results of these additional measures and will include them in the evaluation as feasible and appropriate, with the understanding that these data may not be available for the predemonstration period or for the comparison group.

RTI and CMS have developed the core set of evaluation measures for use across State demonstrations; the evaluation may also include a few measures specific to Colorado. ***Table 16*** provides a working list of the core quality measures to be included in the evaluation of the Colorado demonstration. The table specifies the measure, the source of data for the measure, whether the measure is intended to produce impact estimates, as well as a more detailed definition and specification of the numerator and denominator for the measure. These measures will be supplemented by additional evaluation measures appropriate to the Colorado demonstration. We will finalize any State-specific quality measures that RTI may identify for the

evaluation within the first year of implementation and will obtain the needed data from CMS or other sources; these measures will not require any additional State reporting.

The unique features of the Colorado demonstration suggest areas of special focus in quality of care analyses. The evaluation team's analyses will pay particular attention to the types of care with the most change. Because the Colorado demonstration focuses on coordination across providers in a wide variety of settings, the State-specific performance measures that Colorado and CMS identified for this demonstration (listed in the MOU) include several measures that focus on care transitions. Two such measures are the receipt of follow-up care after hospital discharge and transmission of a care-transition record to other providers. To complement these measures, the RTI team will attempt to develop claims-based measures for other important aspects of care transitions, such as the role of the PCMPs in monitoring care received in acute care and long-term care facilities to track progress in improving coordination. For example, the RTI team may be able to use claims data to measure physician visits that occur during a patient's stay in short-term hospitals and long-term care facilities. As noted, these measures will not require any additional State reporting.

Finally, the evaluation will analyze subgroups of interest, as appropriate, and look at measures that might be particularly relevant to them (e.g., measures that might be specific to people with developmental disabilities or behavioral health conditions). We will continue to work with CMS and the State to identify measures relevant to Colorado and will work to develop specifications for these measures.

4.6 Cost

To determine annual total costs (overall and by payer), we will aggregate the Medicare and Medicaid payments and the costs for the eligible population that is not enrolled in the ACC program, per the intent-to-treat evaluation design. This approach will help us to detect overall cost impact and remove potential selection bias among beneficiaries who participate in the ACC program and those who opt out or disenroll. RTI will include Part D PMPM and any PMPM reconciliation data provided by CMS in the final assessment of cost impact to ensure that all data are available. Any retrospective performance payments to the State will also be included in the final impact analysis.

The evaluation will analyze cost data for the service types shown in ***Table 14*** in the previous section on utilization with the addition of prescription drug costs. As with quality and utilization analyses, the descriptive and impact analyses presented in the annual report will include a comparison group. We will present results for important subgroups, and in more detail to better understand their demonstration experience. We will also create a high-cost-user category and track costs of this group over time. To do this, we will measure the percentage of beneficiaries defined as high cost in Year 1 (e.g., those beneficiaries in the top 10 percent of costs). In subsequent years, we will look at the percentage of beneficiaries above the Year 1 threshold to learn more about potential success in managing the costs of high-cost beneficiaries as a result of the demonstration.

Table 16
Evaluation quality measures: Detailed definitions, use, and specifications

Measure concept (specific measure)	Data sources and responsibility for data collection	Domain (prevention, care coordination, beneficiary experience)	Will evaluation produce impact estimates?[1]	Definition (link to documentation if available)	Numerator/denominator description
All-cause readmission 30-day all-cause risk-standardized readmission rate	Claims/encounter RTI will acquire and analyze	Care coordination	Yes	Risk-adjusted percentage of demonstration-eligible Medicare-Medicaid enrollees who were readmitted to a hospital within 30 days following discharge from the hospital for the index admission (https://www.cms.gov/sharedsavingsprogram/Downloads/ACO_QualityMeasures.pdf).	Numerator: Risk-adjusted readmissions among demonstration-eligible Medicare-Medicaid enrollees at a non-Federal, short-stay, acute-care or critical access hospital, within 30 days of discharge from the index admission included in the denominator, and excluding planned readmissions. Denominator: All hospitalizations among demonstration-eligible Medicare-Medicaid enrollees not related to medical treatment of cancer, primary psychiatric disease, or rehabilitation care, fitting of prostheses, and adjustment devices for beneficiaries at non-Federal, short-stay acute-care or critical access hospitals, where the beneficiary was continuously enrolled in Medicare and Medicaid for at least 1 month after discharge, was not discharged to another acute-care hospital, was not discharged against medical advice, and was alive upon discharge and for 30 days post-discharge.
Immunizations Influenza immunization	Claims/encounter RTI will acquire and analyze	Prevention	Yes	Percentage of demonstration-eligible Medicare-Medicaid enrollees seen for a visit between October 1 and March 31 of the 1-year measurement period who received an influenza immunization OR who reported previous receipt of an influenza immunization (https://www.cms.gov/sharedsavingsprogram/Downloads/ACO_QualityMeasures.pdf).	Numerator: Demonstration-eligible Medicare-Medicaid enrollees who have received an influenza immunization OR who reported previous receipt of influenza immunization. Denominator: Demonstration-eligible Medicare-Medicaid enrollees seen for a visit between October 1 and March 31 (flu season), with some exclusions allowed.

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Table 16 (continued)
Evaluation quality measures: Detailed definitions, use, and specifications

Measure concept (specific measure)	Data sources and responsibility for data collection	Domain (prevention, care coordination, beneficiary experience)	Will evaluation produce impact estimates?[1]	Definition (link to documentation if available)	Numerator/denominator description
Immunizations (cont'd) Pneumococcal vaccination for patients 65 years and older	Claims/encounter RTI will acquire and analyze	Prevention	Yes	Percentage of demonstration-eligible patients aged 65 years and older who have ever received a pneumococcal vaccine.	Numerator: Demonstration-eligible Medicare-Medicaid enrollees age 65 and over who have ever received a pneumococcal vaccination. Denominator: All demonstration-eligible Medicare-Medicaid enrollees ages 65 years and older, excluding those with documented reason for not having one.
Ambulatory care-sensitive condition admission Ambulatory care sensitive condition admissions—overall composite (AHRQ PQI # 90)	Claims/encounter RTI will acquire and analyze	Prevention, care coordination	Yes	Combination using 12 individual ACSC diagnoses for chronic and acute conditions. For technical specifications of each diagnosis, see http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx.	Numerator: Total number of acute-care hospitalizations for 12 ambulatory care-sensitive conditions among demonstration-eligible Medicare-Medicaid enrollees, aged 18 or older. Conditions include diabetes—short-term complications; diabetes—long-term complications; COPD; hypertension; CHF; dehydration; bacterial pneumonia; UTI; angina without procedure; uncontrolled diabetes; adult asthma; lower extremity amputations among diabetics. Denominator: Demonstration-eligible Medicare-Medicaid enrollees, aged 18 or older.
Ambulatory care-sensitive condition admissions—chronic composite (AHRQ PQI # 92)	Claims/encounter RTI will acquire and analyze	Prevention, care coordination	Yes	Combination using 9 individual ACSC diagnoses for chronic diseases. For technical specifications of each diagnosis, see http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx.	Numerator: Total number of acute-care hospitalizations for 9 ambulatory care sensitive chronic conditions among demonstration-eligible Medicare-Medicaid enrollees, aged 18 or older. Conditions include diabetes—short-term complications; diabetes—long-term complications; COPD; hypertension; CHF; angina w/o procedure; uncontrolled diabetes; adult asthma; lower-extremity amputations among diabetics). Denominator: demonstration-eligible Medicare-Medicaid enrollees, aged 18 or older.

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Table 16 (continued)
Evaluation quality measures: Detailed definitions, use, and specifications

Measure concept (specific measure)	Data sources and responsibility for data collection	Domain (prevention, care coordination, beneficiary experience)	Will evaluation produce impact estimates?[1]	Definition (link to documentation if available)	Numerator/denominator description
Admissions with primary diagnosis of a severe and persistent mental illness or substance use disorder	Claims/encounter RTI will acquire and analyze	Prevention, care coordination	Yes	Percentage of demonstration-eligible Medicare-Medicaid enrollees with a primary diagnosis of a severe and persistent mental illness or substance use disorder who are hospitalized	Numerator: Total number of acute-care hospitalizations among demonstration-eligible Medicare-Medicaid enrollees, aged 18 or older with a primary diagnosis of a severe and persistent mental illness or substance use who are hospitalized. Denominator: Demonstration-eligible Medicare-Medicaid enrollees, aged 18 or older.
Avoidable emergency department visits Preventable/ avoidable and primary care treatable ED visits	Claims/encounter RTI will acquire and analyze	Prevention, care coordination	Yes	Based on lists of diagnoses developed by researchers at the New York University (NYU) Center for Health and Public Service Research, this measure calculates the rate of ED use for conditions that are either preventable/avoidable, or treatable in a primary care setting (http://wagner.nyu.edu/faculty/billings/nyued-background).	Numerator: Total number of ED visits with principal diagnoses defined in the NYU algorithm among demonstration-eligible Medicare-Medicaid enrollees. Denominator: Demonstration-eligible Medicare-Medicaid enrollees.
Emergency department visits ED visits excluding those that result in death or hospital admission	Claims/encounter RTI will acquire and analyze	Prevention, care coordination	Yes	Percentage of demonstration-eligible Medicare-Medicaid enrollees with an emergency department visit.	Numerator: Total number of ED visits among demonstration-eligible Medicare-Medicaid enrollees excluding those that result in death or hospital admission. Denominator: Demonstration-eligible Medicare-Medicaid enrollees.

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Table 16 (continued)
Evaluation quality measures: Detailed definitions, use, and specifications

Measure concept (specific measure)	Data sources and responsibility for data collection	Domain (prevention, care coordination, beneficiary experience)	Will evaluation produce impact estimates?[1]	Definition (link to documentation if available)	Numerator/denominator description
Follow-up after mental health hospitalization Follow-up after hospitalization for mental illness	Claims/encounter RTI will acquire and analyze	Care coordination	Yes	Percentage of discharges for demonstration-eligible Medicare-Medicaid enrollees who were hospitalized for selected mental health disorders and who had an outpatient visit, an intensive outpatient encounter, or partial hospitalization with a mental health practitioner. Two rates are reported: (1) The percentage of members who received follow-up within 30 days of discharge; (2) The percentage of members who received follow-up within 7 days of discharge (http://www.qualityforum.org/QPS/).	Numerator: Rate 1: (Among demonstration-eligible Medicare-Medicaid enrollees) an outpatient visit, intensive outpatient encounter, or partial hospitalization with a mental health practitioner within 30 days after discharge. Include outpatient visits, intensive outpatient encounters, or partial hospitalizations that occur on the date of discharge; Rate 2: (Among demonstration-eligible Medicare-Medicaid enrollees) an outpatient visit, intensive outpatient encounter, or partial hospitalization with a mental health practitioner within 7 days after discharge. Include outpatient visits, intensive outpatient encounters, or partial hospitalizations that occur on the date of discharge. Denominator: Demonstration-eligible Medicare-Medicaid enrollees who were discharged alive from an acute inpatient setting (including acute-care psychiatric facilities) in the measurement year. The denominator for this measure is based on discharges, not members. Include all discharges for members who have more than one discharge in the measurement year.
Fall prevention Screening for fall risk	Claims/ encounter RTI will acquire and analyze	Prevention, care coordination	Yes	Percentage of demonstration-eligible Medicare-Medicaid enrollees aged 65 years and older who were screened for future fall risk at least once within 12 months	Numerator: Demonstration-eligible Medicare-Medicaid enrollees who were screened for future fall risk at least once within 12 months. Denominator: All demonstration-eligible Medicare-Medicaid enrollees 65 years or older.

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Table 16 (continued)
Evaluation quality measures: Detailed definitions, use, and specifications

Measure concept (specific measure)	Data sources and responsibility for data collection	Domain (prevention, care coordination, beneficiary experience)	Will evaluation produce impact estimates?[1]	Definition (link to documentation if available)	Numerator/denominator description
Cardiac rehabilitation Cardiac rehabilitation following hospitalization for AMI, angina CABG, PCI, CVA	Claims/encounter RTI will acquire and analyze	Care coordination	Yes	Percentage of demonstration-eligible beneficiaries evaluated in an outpatient setting who within the past 12 months have experienced AMI, CABG surgery, PCI, CVA, or cardiac transplantation, or who have CVA and have not already participated in an early outpatient CR program for the qualifying event/ diagnosis who were referred to a CR program.	Numerator: Number of demonstration-eligible Medicare-Medicaid enrollees in an outpatient practice who have had a qualifying event/diagnosis in the previous 12 months who have been referred to an outpatient cardiac rehabilitation/secondary prevention program. Denominator: Number of demonstration-eligible Medicare-Medicaid enrollees in an outpatient clinical practice who have had a qualifying cardiovascular event in the previous 12 months, who do not meet any of the exclusion criteria, and who have not participated in an outpatient cardiac rehabilitation program since the cardiovascular event.
Pressure ulcers Percent of high-risk residents with pressure ulcers (long stay)	MDS RTI will acquire and analyze	Prevention, care coordination	Yes	Percentage of all demonstration-eligible long-stay residents in a nursing facility with an annual, quarterly, significant change, or significant correction MDS assessment during the selected quarter (3-month period) who were identified as high risk and who have one or more Stage 2–4 pressure ulcer(s).	Numerators: Number of demonstration-eligible Medicare-Medicaid enrollees who are long-stay nursing facility residents who have been assessed with annual, quarterly, significant change, or significant correction MDS 3.0 assessments during the selected time window and who are defined as high risk with one or more Stage 2–4 pressure ulcer(s). Denominators: Number of demonstration-eligible Medicare-Medicaid enrollees who are long-stay residents who received an annual, quarterly, or significant change or significant correction assessment during the target quarter and who did not meet exclusion criteria.

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Table 16 (continued)
Evaluation quality measures: Detailed definitions, use, and specifications

Measure concept (specific measure)	Data sources and responsibility for data collection	Domain (prevention, care coordination, beneficiary experience)	Will evaluation produce impact estimates?[1]	Definition (link to documentation if available)	Numerator/denominator description
Treatment of alcohol and substance use disorders Initiation and engagement of alcohol and other drug dependence treatment	Claims/encounter RTI will acquire and analyze	Care coordination	Yes	The percentage of demonstration-eligible Medicare-Medicaid enrollees with a new episode of alcohol or other drug (AOD) dependence who received the following: a. Initiation of AOD treatment. The percentage who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of the diagnosis. b. Engagement of AOD treatment. The percentage who initiated treatment and who had two or more additional services with a diagnosis of AOD within 30 days of the initiation visit. (http://www.qualityforum.org/QPS/)	Numerator: Among demonstration-eligible Medicare-Medicaid enrollees (a) Initiation: AOD treatment through an inpatient admission, outpatient visit, intensive outpatient encounter or partial hospitalization within 14 days of diagnosis; (b) Engagement: AOD treatment and two or more inpatient admissions, outpatient visits, intensive outpatient encounters or partial hospitalizations with any AOD diagnosis within 30 days after the date of the Initiation encounter (inclusive). Multiple engagement visits may occur on the same day, but they must be with different providers in order to be counted. Do not count engagement encounters that include detoxification codes (including inpatient detoxification). Denominator: Demonstration-eligible Medicare-Medicaid enrollees age 13 years and older who were diagnosed with a new episode of alcohol and drug dependency during the intake period of January 1–November 15 of the measurement year. EXCLUSIONS: Exclude those who had a claim/encounter with a diagnosis of AOD during the 60 days before the IESD. For an inpatient IESD, use the admission date to determine the Negative Diagnosis History. For an ED visit that results in an inpatient stay, use the ED date of service.

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Table 16 (continued)
Evaluation quality measures: Detailed definitions, use, and specifications

Measure concept (specific measure)	Data sources and responsibility for data collection	Domain (prevention, care coordination, beneficiary experience)	Will evaluation produce impact estimates?[1]	Definition (link to documentation if available)	Numerator/denominator description
Depression screening and follow-up Screening for clinical depression and follow-up	Claims/encounter RTI will acquire and analyze	Prevention, care coordination	Yes	Percentage of patients aged 18 and older screened for clinical depression using an age-appropriate standardized tool AND follow-up plan documented (http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/2014_eCQM_EP_June2013.zip).	Numerator: Demonstration-eligible Medicare-Medicaid enrollees whose screening for clinical depression using an age-appropriate standardized tool AND follow-up plan is documented. Denominator: All demonstration-eligible Medicare-Medicaid enrollees 18 years and older with certain exceptions (see source for the list).

ACSC = ambulatory care-sensitive conditions; AMI = acute myocardial infarction; BMI = body mass index; BP = blood pressure; CABG = coronary artery bypass graft; CHF = congestive heart failure; COPD = chronic obstructive pulmonary disease; CVA= cerebrovascular accident; ED = emergency department; HbA1c = Hemoglobin A1c; HEDIS = Healthcare Effectiveness Data and Information Set; HTN = hypertension; IESD = Index Episode Start Date; LDL-C = low-density-lipoprotein cholesterol (bad cholesterol); MDS = minimum data set; PCI = percutaneous coronary intervention; UTI = urinary tract infection].

[1] Impact estimates will be produced only for measures where data can also be obtained for the comparison group. Measures for which data are not expected to be available in the comparison group will be tracked only within the demonstration to measures changes over time.

NOTE: Definitions, use, and specifications are as of October 30, 2014.

4.7 Savings Calculations

Colorado will be eligible for performance payments from CMS based on achieving statistically significant Medicare savings, as determined by annual actuarial calculations performed by RTI. The savings calculations will reflect Medicare savings net of increased Federal Medicaid spending. The results of the RTI savings calculations will be used by CMS or another contractor to determine whether the State is eligible for a performance payment and, if so, the amount of that payment. RTI will determine only the amount of any savings achieved, not whether Colorado is eligible for a performance payment or the amount of any such payment.

RTI will also calculate the impact of the demonstration on costs, using a multivariate regression-based approach for the final evaluation report. This calculation will include Medicaid, Medicare Parts A and B, and Medicare Part D costs, as well as any performance payment made to the State as part of the demonstration.

4.8 Analytic Challenges

Obtaining Medicaid fee-for-service data for the predemonstration and demonstration periods and MMC BHO encounter data for the demonstration period will be critical for the evaluation. The Medicaid encounter data are necessary to measure quality, utilization, and costs. It will be important for Colorado to submit Medicaid fee-for-service data in a timely manner. It will also be important for CMS to continue to work with other States that may serve as comparison groups to update and maintain their MSIS/t-MSIS submissions. Because the timing and availability of MMC BHO encounter data are being finalized, RTI will continue to work closely with CMS to understand how these data can best be used by the evaluation. Other analytic challenges will include addressing financing issues, including upper payment limit issues, provider taxes, and disproportionate share hospital payments as well as possible State policy changes over the course of the demonstration. RTI will work closely with CMS and the State to understand these issues and to monitor changes over the course of the demonstration and will develop approaches to incorporate these issues into analyses as necessary.

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