

First Annual Report: Final

**Evaluation of the Community-based Care
Transitions Program**

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2246-000

Submitted To:

Centers for Medicare & Medicaid Services

**Attn.: Susannah Cafardi
Contracting Officer's Representative
7500 Security Boulevard
Baltimore, MD 21244-1850**

Submitted By:

**Econometrica, Inc.
7475 Wisconsin Avenue, Suite 1000
Bethesda, MD 20814**

May 30, 2014

ECONOMETRICA, INC.

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Ms. Susannah Cafardi
Contracting Officer's Representative
Centers for Medicare & Medicaid Services
7500 Security Boulevard
Baltimore, MD 21244-1850

Reference: Contract No.: HHSM-500-2011-00015I; Order No.: HHSM-500-T0006;
"Evaluation of the Community-based Care Transitions Program" (Project No.:
2246-000).

Dear Ms. Cafardi:

Econometrica is pleased to submit this Final First Annual Report to the Centers for Medicare & Medicaid Services regarding work conducted under the above-referenced contract.

If you wish to discuss any aspect of the report, please feel free to contact me at (307) 283-1935.

Sincerely,

Econometrica, Inc.



Kathryn Langwell
Project Director

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Executive Summary

Background and Purpose

The Community-based Care Transitions Program (CCTP) was initiated by the Centers for Medicare & Medicaid Services (CMS) in April 2011 with the goal of improving transitions of Medicare beneficiaries from inpatient hospitals to home or other care settings. Care transition services are designed to improve quality of care, reduce readmissions to hospitals by high-risk beneficiaries, and achieve cost savings for the Medicare program. As of June 2013, CCTP agreements had been awarded to 101 community-based organizations (CBOs).

In August 2012, CMS awarded a contract to Econometrica, Inc., and IMPAQ International to design and conduct an evaluation of the CCTP to assess the impact of the program on continuity of care and outcomes including readmissions, emergency department (ED) visits, observation stays, costs, patient experiences, and patient activation. The structure of the evaluation is designed around several research domains that, together, provide a comprehensive assessment of the CCTP. The research concentrates on the following areas:

- Program Implementation/Operational Issues.
- Beneficiary Participation.
- Provider Participation.
- Utilization and Readmissions.
- Costs/Savings.
- Quality Monitoring and Quality Improvement.
- Unintended Consequences.

This First Annual Report provides a summary of progress and early findings for the initial CCTP sites that were awarded through 2012. Our analyses include between 46–48 sites depending on data availability. The report provides preliminary examination of factors that may be associated with the outcomes of interest, drawing on the qualitative and quantitative data collected during the initial project year.

Characteristics of CCTP Participants

Characteristics of CBOs, hospital partners, CCTP design, and market areas are described in this section. The analysis based on site visits and interviews covers the initial 47 sites. We also explore whether timing of entry into CCTP by each of the first three award cohorts was correlated with any particular characteristics.

Community-Based Organizations. The average participating CBO is an Area Agency on Aging (AAA) or a combination of an AAA and an Aging & Disability Resource Center (ADRC) located in the Northeast, responsible for both program coordination and providing direct elder support services for the CCTP. The average CBO also offered six or more types of elder services directly. We observed substantial variation in characteristics that may be associated with the outcomes of interest, including type of organization, Census region, role of the CBO, and number of elder services available within the CBO.

Hospital Partners. Hospital partners were required to be short-term general hospitals that provided acute-care services (Medicare subsection (d) hospitals). As expected, the typical partner was a short-term general hospital with fewer than 501 beds and above-national-average percentages of Medicare discharges.

CCTP Design Characteristics. The Care Transitions Intervention (CTI) Model is the one most frequently employed by the sites, with 25 (53 percent) reporting using only CTI and 13 (28 percent) using CTI in combination with one or more other models. Nine sites did not use the CTI model at all (19 percent).

Care transition workers most frequently had training in nursing and social work (74 percent of sites). The other 26 percent of sites used community health workers and pharmacists or pharmacy techs in addition to nurses or social workers as coaches.

Initially, 40 percent of the sites targeted the Medicare-aged-only population and 40 percent targeted both aged and disabled beneficiaries. During the course of the program, some of the sites expanded their criteria, generally due to difficulties in meeting enrollment goals. The number of hospital partners ranged from one to more than six, with sites evenly distributed among the categories “one to two,” “three to five,” and “six or more.” Only 21 percent of CBOs reported no non-hospital partners. Forty percent of the sites had one to five community partners, and 38 percent had six or more. Two-year enrollment goals ranged from fewer than 3,500 to more than 10,000. Nineteen sites (40 percent) had an enrollment goal in the 3,501–10,000 range.

Examination of Early Success Factors

While we will focus largely on descriptive statistics, we have identified three variables that are early indicators of success:

- Implementation of the CCTP program within 3 months after award. (Potentially achievable by all sites.)
- Meeting the site’s average monthly enrollment target at least once by April 30, 2013. (More realistic for the first two cohorts of sites.)
- Achieving a statistically significant reduction in 30-day hospital readmission rates.

Time from award to implementation: Overall, 25 sites (53 percent) were able to implement and begin providing services within 3 months of award. Proportionately, more sites entering in Round 1 implemented within 3 months (5 of 7) than in Round 2 (11 of 22) or Round 3 (9 of 18).

Meeting average monthly enrollment targets: Only 13 sites (28 percent) met their individual monthly enrollment target at least once by April 30, 2013. Round 1 sites (43 percent; 3 of 7) were the most likely to meet the goal.

“Success” on both process performance measures: Nine sites (19 percent) achieved success on both process performance measures. Twenty sites (43 percent) achieved success on one measure, and 18 sites (38 percent) did not meet either goal.

Of the nine sites that achieved both goals, the characteristics associated with success included:

- Serving both aged and disabled Medicare beneficiaries.
- Providing both direct supportive services and coordination.
- Using CTI with another model.
- Having one to two hospital partners.

Sites achieving significant reduction in readmission rates: Four of the 48 CCTP sites included (quantitative data were available for 1 additional site for which interview data were not available) had a significant reduction in readmission rates compared to the 2010 baseline rate. While this is meaningful for those sites, it is not an indicator of overall program success (or failure). In the body of the report, we present the basic characteristics of the sites in which a statistically significant reduction was observed, but these sites may not be representative of successful sites in general. All four CBOs used the CTI model (alone or combined with elements of other models). They also used social workers and nurses as coaches and offered at least two elder services. No patterns were observed related to hospital partners, enrollment goals, or reimbursement rates. These sites had a few characteristics in common with sites that were successful in achieving the two process performance measures: serving all Medicare beneficiaries and offering a number of supportive elder services internally.

Early Implementation Experience and Lessons Learned

Key findings about early implementation include:

- **Changes During the Initial Implementation Period:** The most frequent change cited was the expansion of targeting criteria for enrollment of beneficiaries in the program (64 percent). This change was unplanned in advance and usually in response to lower enrollment rates than originally projected. Staffing changes were the second most common change (47 percent) mentioned, resulting from both higher-than-expected turnover and revisions to hiring criteria to increase the effectiveness of beneficiary recruitment and services. A minority of sites reported adding hospital partners and/or community partners.
- **Quality Monitoring/Quality Improvement:** Nearly all CBOs (83 percent) reported that they had quality monitoring programs in place. Fewer than half (42 percent), however, reported that they had initiated quality improvement activities in response to information gained from the quality monitoring process.
- **Experience With Hospital Partners:** The majority of CBOs stated they had established good working relationships with hospital partners, with seven indicating that they had longstanding relationships with their hospitals. Effective communication was cited as the most important factor in establishing and maintaining good working relationships. Hospital staff turnover, hospital mergers, and changes in hospital data systems were some of the challenges reported by CBOs.
- **Experience With Beneficiaries:** Most CBOs identified strategies for working with beneficiaries who did not speak English as their primary language or those with low literacy skills. Overall, program staff reported that the most difficult beneficiaries to recruit and provide services for were those with behavioral health issues, younger

beneficiaries (particularly those who were Medicare eligible due to disability), and those with active caretakers who were reluctant to accept assistance. Most CBOs reported that they had developed strategies for meeting these challenges.

- **Challenges and Lessons Learned:** The most frequently cited challenges during implementation included hiring personnel with appropriate skills and experience, identifying at-risk patients, and developing systems to manage information. CBOs reported that they learned more about the qualities needed to be an effective coach through experience and revised their hiring criteria to include personal qualities, such as ability to work at a fast pace, that were effective in reaching and motivating patients. Direct access to the hospitals' electronic health record (EHR) system and case management data were most frequently cited as supporting the identification of at-risk patients.
- **Learning Collaborative:** Nearly all sites reported that they received valuable lessons and insights from attending learning events and that they have made use within their programs of the information and strategies presented through the Learning Collaborative.
- **Planned Changes Going Forward:** Thirty-nine of the 47 CBOs said that they planned to make changes in their programs over the next year. The most frequently cited changes include the addition of new hospital partners (32 percent) and expansion of eligibility criteria for patients (30 percent). Both of these changes were often explained as necessary to meet enrollment goals. CBOs wanted to expand their reach and footprint to have a greater impact on readmission rates. While broadening eligibility criteria may help achieve higher enrollment numbers, an increased client pool could make lower readmission rates more difficult to achieve since it would, by definition, require serving more beneficiaries. While adding new hospitals as partners may still be a worthwhile goal, it may not have the impact of increasing the CBO's footprint. In addition, 25 percent of sites reported that they intended to make changes in the services offered and strategies used to meet the needs of beneficiaries.

Preliminary Hypotheses

Our initial analysis led to the identification of a number of preliminary hypotheses about the relationship between program characteristics and outcomes of interest. These hypotheses focus on the relationships between CBO and CCTP design characteristics and (1) meeting enrollment targets and (2) reducing readmission rates. Meeting enrollment targets is an intermediate outcome and an indicator that the CCTP is reaching sufficient numbers of at-risk beneficiaries to have an impact on readmission rates. The most critical outcome is the impact of the CCTP on readmission rates within partner hospitals. (Other outcomes of interest include usage of observation services, emergency department visits, and patient satisfaction.) Our preliminary hypotheses are organized by enrollment targets and readmission rates.

We hypothesize that sites more likely to meet enrollment targets:

- Target all Medicare beneficiaries—aged, disabled, and dually eligible for Medicaid.

- Provide a number of elder services as part of their general mission. These CBOs may be known to elders in their community and, as a result, be more successful in obtaining participation.
- Have longstanding relationships with partner hospitals and have established effective communication strategies.
- Have found a “champion” within the hospital to facilitate communication and coordination.
- Have access to hospital EHRs or other hospital data that facilitate identification of beneficiaries at risk of readmission.
- Have developed strategies for encouraging participation of beneficiaries and their caretakers.
- Offer services that are culturally, linguistically, and literacy-level appropriate.

We hypothesize that sites more likely to show impacts on readmission rates:

- Have data management systems and capabilities adequate for monitoring and tracking care-transition patient needs and services.
 - Generate and monitor program metrics and use these data to identify and implement quality improvement initiatives on an ongoing basis.
- Engage with SNFs to coordinate post-discharge support.
- Provide a number of elder supportive services directly or contract with a greater number of community services providers and, thus, are more likely to ensure that needed supportive services are available.

These preliminary hypotheses are based on early program information and perceptions of CBO and CCTP staff. They provide guidance for developing more refined and focused telephone and site visit data collection over the next year of the evaluation.

Analysis of Impacts of CCTP on 30-Day Readmission Rates, 30-Day Emergency Department Visits, and 30-Day Observation Services

Analyses were conducted on the overall impact of CCTP on 30-day readmissions, 30-day emergency department visits, and 30-day observation service use following the index hospitalization for the CCTP sites that implemented during 2012. We also compared the CCTP sites with internal market areas and hospitals and external market areas and hospitals. The purpose of these analyses is to test the overarching hypothesis guiding the evaluation—that participation in CCTP will reduce readmission rates in the hospitals that participate in the program.

Unadjusted Impacts of CCTP on 30-Day Readmission Rates: Preliminary impacts of CCTP on 30-day readmission rates were examined using calendar year 2010 as the baseline period. Overall, we did not find statistically significant impacts of CCTP on readmission rates as compared to baseline. We did find some evidence of improvements (decreases) in readmission

rates for four of the sites that implemented during 2012. Three of the four CBOs self-assessed their progress as very good. They attributed this to good relationships with partner hospitals and other community partners and previous experience in care coordination. The fourth CBO reported progress as poorer than they had anticipated, citing challenges in reaching enrollment numbers due to low referral rates, poor hospital buy-in, and staff turnover at the hospitals as the main reasons. Because we observed so little impact, it would be premature to attribute changes in readmission rates to the CCTP.

These analyses represent simple descriptive comparisons of means without controlling for potential confounding factors. Using additional descriptive analyses, we attempt to show the effects of CCTP separately for each CBO. The small number of hospitals associated with each CBO leads to large standard errors and, thus, may also be a reason why statistically significant impacts are not observed. We conducted a second analysis that pooled the participant hospitals and controlled for confounding factors to produce more precise overall estimates of the impacts.

Impacts on 30-Day Readmission, Emergency Department, and Observation Service Use Rates:

Overall, for the first year of the program, we found no statistically significant impacts of CCTP on 30-day readmission rates. We observed 30-day emergency department visits and observation services as supplemental measures to readmissions. We found no statistically significant impact on 30-day emergency department visits. We observed an 18-percent increase (0.2 percentage points) in the 30-day observation service use rate in CCTP hospitals compared against both the internal and external comparison groups (significant at the 5-percent level). This small but statistically significant difference will continue to be monitored as more data become available. Despite the overall increase in 30-day observation service use rates for CCTP hospitals, CBOs with increased exposure to the CCTP had lower (although not statistically significant) 30-day observation service use relative to both the internal and external comparison groups.

Analysis of Trends in 30-Day Readmission Rates of CCTP Participating and Non-Participating Hospitals Within CCTP Hospital Referral Regions (Ad Hoc Analyses):

We conducted a preliminary comparison of readmission rates of hospitals partnering with CBOs in the first two CCTP cohorts to a group composed of all non-participating hospitals within the Hospital Referral Region (HRR) of the CBOs' partnering hospitals. CMS requested this preliminary analysis for an early assessment of trends and findings before the availability of a more sophisticated comparison group composed of matched hospitals.

No evidence of differences in 30-day unadjusted readmission rates was found between treatment and comparison hospitals at the overall CBO level for the first three quarters after the program began. Given the multitude of efforts existing in the current environment aimed at decreasing hospital readmissions, accurately assessing the impact of CCTP requires careful consideration of concurrent care transition initiatives, as well as consideration of the characteristics of hospitals in the comparison group. CCTP partnering hospitals were not randomly selected. CBOs with partnering hospitals with high readmission rates were given preference; thus, it is not surprising that we observed higher readmission rates associated with a few individual CBOs at some time periods—though no consistent patterns were observed, and no significant findings were observed at the summary level. Other hospital characteristics found to be associated with participation were for-profit status and case mix index.

Limitations: The sample for the previous analysis included a limited number of CCTP sites and covered a limited time period. While the CCTP currently consists of 101 sites that were awarded in five rounds (with Round 1 awarded November 18, 2011, and Round 5 awarded March 7, 2013), data included in the secondary analysis included only a subset of the CCTP sites that started the program in 2011 and 2012 (up to 48, depending on data availability). In addition, since most CCTP sites required at least 3 months to begin implementing their programs, only a few months of data were available to assess outcomes for some sites.

Implications of Early Evaluation Findings

This report summarizes the progress and preliminary findings of the initial 10 months of the Evaluation of the Community-based Care Transitions Program. Key findings at this stage of the evaluation are limited but suggest direction for the activities that will be conducted over the remainder of the evaluation.

To measure early success, we looked at: (1) implementation within 3 months of award, (2) success in meeting average monthly target enrollment numbers in at least 1 month before April 30, 2013, and (3) preliminary analysis of readmission, emergency department, and observation service rates. Sites that were most likely to meet the performance goals:

- Served all Medicare beneficiaries, both aged and disabled.
- Provided supportive services internally.

We developed preliminary hypotheses as a result of our exploratory analysis of the qualitative data. Our hypotheses focus on eligibility criteria; hospital relationships; SNF relationships; systems for providing non-Medicare-covered supportive services; strategies for targeting, assessing needs, and providing care transition services; data capabilities; and quality monitoring and quality improvement.

While these results provide interesting preliminary information for the evaluation, they should be viewed as suggestive rather than definitive. The 47 sites that entered during the initial three award rounds may not be representative of the full group of CCTP awardees. In addition, the early entrants may have encountered more startup challenges than later entrants, due to participation as the program was still developing and perhaps making changes in procedures and goals. Finally, the 47 initial sites entered at three different time periods and had participated for differing numbers of months at the time of the analysis, which would affect their success in performance on all measures.

Quantitative analysis of one project outcome measure—30-day hospital readmission rates—produced limited evidence of early effectiveness of the program, with only four CCTP partner hospitals achieving significant reductions in readmission rates when adjusting for internal and external comparison hospitals. Again, these findings are based on the limited number of CCTP partner hospitals that participated in the first full year of CCTP operation. No hospitals had a full year of program operation, and many of the first three cohorts had been operational for only a few months of 2012.

1. Introduction and Purpose

1.1. Background and Objectives of the CCTP

The Community-Based Care Transitions Program (CCTP) was initiated by the Centers for Medicare & Medicaid Services (CMS) in April 2011 with the goal of improving transitions of Medicare beneficiaries from inpatient hospitals to home or other care settings. Care transition services are expected to improve quality of care, reduce readmissions to hospitals by high-risk beneficiaries, and achieve cost savings for the Medicare program. As of June 2013, CCTP agreements had been awarded to 101 community-based organizations (CBOs) and 461 partner acute-care hospitals.

In August 2012, CMS awarded a contract to Econometrica, Inc., and IMPAQ International to design and conduct an evaluation of the CCTP to assess the impact of the program on continuity of care and outcomes including readmissions, emergency department (ED) visits, observation services, costs, patient experiences, and patient activation. A related objective is to assess if CCTP can be replicated more broadly. Achieving both of these goals requires careful attention to program planning, intervention features, implementation processes, program contexts, and technical assistance (TA). Thus, in addition to using secondary data to measure specific outcomes, this evaluation is designed to collect information using qualitative methods on additional issues, including contextual factors, program implementation processes, lessons learned, program implications, and unintended consequences. Our goal is to assess how these elements factor into the success or failure of the initiative. The Affordable Care Act (ACA) requires timely evaluation results; consequently, a rapid-cycle evaluation approach, with regular and expeditious feedback to CMS and to CCTP participants, is an important component of the evaluation.

1.2. Overview of Evaluation

The core questions to be answered through the evaluation are:

- Is the implementation of the CCTP an effective strategy for reducing readmissions to hospitals and Medicare costs?
- Are specific CCTP approaches more or less effective?
- Is CCTP more or less effective for some types of beneficiaries (e.g., specific health conditions, family support systems)?
- Is it cost-effective, overall or for specific beneficiaries or approaches?
- What are the most frequent root causes of readmissions, and what are their relative frequencies?
- What intervention strategies appear to be most effective for each of the root causes?
- What are the lessons learned for replication and expansion?

The structure of the evaluation is designed around several research domains that, together, provide a comprehensive assessment of the CCTP. These research focus areas are:

- Program Implementation/Operational Issues.
- Beneficiary Participation and Subgroup Impacts.
- Provider Participation.
- Utilization of Medicare-Covered and Non-Medicare Community Services.
- Readmission Rates.
- Costs and Savings.
- Quality Monitoring and Quality Improvement.
- Unintended Consequences.

1.3. Purpose and Organization of This Report

The First Annual Report on the Evaluation of the Community-based Care Transitions Program provides a summary of progress and early findings from evaluation activities, based on evaluation activities underway during the initial project year. During the first project year, the research team collected qualitative data via interviews and site visits, developed a site characteristics database, used application materials and interviews to prepare descriptive profiles for each site, and collected and analyzed quantitative data from secondary sources. This report provides preliminary examination and discussion of factors that may be associated with the outcomes of interest, based on the data collected and analyzed.

In the next section, an overview of data sources is provided. Section 3 provides an overview and rationale for the selection of specific characteristics of the CBOs, hospitals, community-based care transition programs, and market areas, while Section 4 presents the distribution and analysis of those characteristics. In Section 5, findings from the first annual interviews with CBOs are summarized. Section 6 presents findings from the quantitative analysis of several key outcome measures. The final section discusses the implications for further refining the hypotheses and methodologies for the evaluation.

2. Year 1 Data Collection and Sources

2.1. Descriptive Profiles of CCTP Sites

At the time of award of the evaluation contract (August 29, 2012), CMS had selected 47 CBOs to participate in the CCTP initiative, after three rounds of applications and awards. Subsequently, during the initial evaluation year, two additional rounds of CCTP applications and awards were conducted, resulting in an additional 54 CBOs selected for participation by March 2013. During the initial year of the evaluation, the project team developed a detailed Descriptive Profile Template (Appendix A) to gather information in a consistent format on:

- Characteristics of CBOs.
- Characteristics of hospital partners.
- Program characteristics.
- Market area characteristics.

Information on characteristics of CBOs and CCTP programs was extracted from several sources, including applications submitted by CBOs and internal documents such as the CBO master list, contact list, and hospital list. Hospital characteristics were drawn from the American Hospital Association (AHA) Annual Survey of Hospitals. Market area characteristics were extracted from Census 2010 data, the Area Resource File (ARF), and the Dartmouth Atlas Hospital Referral Region data sources.

Descriptive Profiles were prepared for the initial 47 CCTP awardees during the initial evaluation year¹ and used to create a database, with key characteristics coded to permit descriptive analyses of the CBOs and CCTP sites.

2.2. Annual Telephone Interviews

Following completion of the Descriptive Profiles for each site, 1-hour telephone interviews were conducted with the CBO program manager² and other staff members to obtain additional information on the implementation and early operational experiences of the CCTP sites. An Interview Guide (Appendix B) was prepared to structure the telephone interviews and to facilitate preparation of interview summaries for qualitative analysis and reporting. The key topical areas discussed in the interviews included:

- Progress and achievements.
- Changes since initial implementation.
- Quality/performance monitoring and improvement.
- Experiences with and lessons learned from hospitals and other partners.
- Experiences and lessons learned from providing CT services to Medicare beneficiaries.

¹ Descriptive Profiles for the remaining 54 CCTP sites awarded in January and March 2013 were prepared during the final months of the initial year, and the database was updated with these additional sites in October 2013. Descriptive analyses of all 101 CCTP sites were conducted and results included in the First Specific Topic Report: Program Implementation submitted in November 2013.

² For those sites that were hospital awardees, the lead organization was asked to invite the CBO partner to participate in the interview.

- Challenges and lessons learned during initial implementation.
- Participation in and use of Learning Collaborative support.
- Plans for next 12 months.

2.3. Secondary Data

During the first year of the project, the team acquired secondary data for use in evaluating outcomes. The data we obtained are summarized in Table 2.1 below. These data sources will be updated on an ongoing basis throughout the evaluation.

Table 2.1. Summary of Data Sources

Data	Purpose	Years	Source
Medicare Data	<ul style="list-style-type: none"> • Conduct impact analyses 	Ongoing from 2010	CMS Mainframe
AHA Annual Survey of Hospitals	<ul style="list-style-type: none"> • Descriptive profile of CCTP market area • Create comparison group • Impact analyses 	Ongoing from 2010	Public
Dartmouth Atlas	<ul style="list-style-type: none"> • Crosswalk HSAs/HRAs to ZIP Codes (2010) • 2009 ZIP Code-ZCTA Crosswalk • Descriptive profile of CCTP market area • Create comparison group • Impact analyses 	Ongoing from 2009 Some data only current as of 2006, 2007	Public
Institute of Medicine	<ul style="list-style-type: none"> • Descriptive profile of CCTP market area • Create comparison group • Impact analyses 	2010	Public
Master List of CMS Care Transition Programs	<ul style="list-style-type: none"> • Map ongoing care transition programs • Create comparison group • Impact analyses 	Ongoing	CMS
List Bills	<ul style="list-style-type: none"> • Enrollment information, payment, services, dates of services • Impact analyses 	Ongoing	I&M Contractor
Patient Experience Survey Data	<ul style="list-style-type: none"> • HCAHPS, CTM-3, PAM for impact analyses 	Ongoing	I&M Contractor
Quarterly Monitoring Reports	<ul style="list-style-type: none"> • Monitoring measures, baseline rates 	Ongoing	I&M Contractor
Medicare Case Mix Index	<ul style="list-style-type: none"> • Create comparison group • Impact analyses 	2010–2012	Public
Census 2010	<ul style="list-style-type: none"> • Descriptive profile of CCTP market area and population • Create comparison group • Impact analyses 	2010–2011	Bureau of Census

Data	Purpose	Years	Source
Area Resource File	<ul style="list-style-type: none">• Descriptive profile of health resources and capacity in CCTP market areas• Create comparison group• Impact analyses	2011–2012 release	HRSA

3. Characteristics of CBOs, Hospital Partners, CCTP Programs, and CCTP Markets: Preliminary Hypotheses

3.1. Overview

An important objective of the qualitative analysis is to identify those characteristics of CBOs and CCTP design that are associated with successful implementation and with the outcomes of interest. In addition, this process will identify characteristics that may be important to examine in the evaluation's quantitative analyses of factors that are associated with outcomes of interest.

This section describes the categorization of the characteristics of CBOs, CCTP design, hospital partners, and market areas and provides preliminary hypotheses about the potential impact of these characteristics on the outcomes of interest.

3.2. Description of Characteristics and Preliminary Hypotheses

The key characteristics included in the descriptive analyses were selected based on their potential to be associated with successful implementation and outcomes. While a number of these characteristics could be coded as either present or not present within the CCTP site, others required development of a more complex coding system to group the CCTP sites into similar categories. Tables 3.1 through 3.4 present the final set of characteristics, coding, and preliminary hypotheses that support inclusion of the characteristics in the analysis. Characteristics of CBOs and CCTP sites that were found to be universal (or nearly universal) to all sites have been excluded from the analysis. Those characteristics that were excluded after review of the data include: (1) number of years that the CBO had operated; (2) type of market area (urban/suburban/rural/mixed); (3) prior CBO experience providing care transition services; and (4) prior hospital experience providing care transition services.

Characteristics of community-based organizations: The CBOs managing and participating in the CCTP are diverse in terms of primary function, services provided, organizational characteristics, and history. Table 3.1 presents these characteristics, categories within each characteristic, and the rationale for exploring the potential relationship between each characteristic and outcomes of interest.

Table 3.1. CBO Characteristics, Preliminary Hypotheses, and Control Variables

Characteristic	Definition/Categories	Preliminary Hypotheses/Control Variables
Type of Organization	<ul style="list-style-type: none"> • Area Agency on Aging (AAA) • Aging & Disability Resource Center (ADRC) • AAA and ADRC • Other (These include hospital system, hospital network, aging/health/social service CBO, community health coalition, AAA/Aging Services Access Points.) 	<p>Hypothesis:</p> <ul style="list-style-type: none"> • AAAs, ADRCs, and AAA/ADRC combinations are more knowledgeable about the availability of community supportive services. They are able to provide direct access or linkages to services that assist beneficiaries to avoid readmissions.
Role of CBO in CCTP	<ul style="list-style-type: none"> • Coordination • Direct support services provider • Both coordination and direct services provider • Other (fiscal management) 	<p>Hypothesis:</p> <ul style="list-style-type: none"> • CBOs that provide both coordination and direct services have more integrated and seamless service delivery. Better service delivery reduces readmission risk.
Services Provided by CBO Generally	<p>Number of listed senior services provided directly by the CBO:</p> <ol style="list-style-type: none"> 1. Insurance and benefits assistance/referral 2. Home-delivered meals 3. Family/caregiver support/respite care 4. Transportation 5. Case management 6. Personal care 7. Homemaker/chore services 8. Wellness/nutrition support 9. Other home- and community-based (HCB) service (describe) 10. Other 	<p>Hypotheses:</p> <ul style="list-style-type: none"> • CBOs that provide more services directly to support patients at risk of readmission implement more rapidly and achieve desired outcomes more quickly than those that need to arrange and refer to other organizations for services. • CBOs that provide more services to their clients are more likely to reduce the risk of readmission. • CBOs that provide more services directly are more likely to be known to Medicare beneficiaries in their area and, therefore, to be more effective in recruiting participation and meeting enrollment targets.
Census Region	<ul style="list-style-type: none"> • Northeast • South • Midwest • West 	<p>Control Variable:</p> <ul style="list-style-type: none"> • Patterns of health care utilization and resources vary by area of the country. • Medicare beneficiary health status and health attitudes and behaviors may vary by area.

Characteristics of hospital partners and reasons for inclusion: CBOs may partner with a few hospitals or with numerous hospitals, each of which may have different levels of readmission rates and organizational characteristics. Outcomes of interest will be analyzed throughout the evaluation at the CBO, hospital, and beneficiary levels. Several characteristics of hospital partners and the rationale for examining each are presented in Table 3.2.

Table 3.2. Hospital Partner Characteristics, Preliminary Hypotheses, and Control Variables

Characteristic	Definition/Categories	Preliminary Hypotheses/Control Variables
Number of Beds	<ul style="list-style-type: none"> • Less Than 200 • 201 to 500 • 501 and More 	<p>Hypotheses:</p> <ul style="list-style-type: none"> • There may be differences in types of patients, patient mix, communication with CCTP workers, and other factors associated with bed size, and these differences may affect implementation success and readmission outcomes. • Smaller hospitals may be easier to work with; they have potential for better communication and engagement.
Percent Medicare Discharges	<ul style="list-style-type: none"> • Above National Average • At National Average (+/- 1%) • Below National Average 	<p>Hypothesis:</p> <ul style="list-style-type: none"> • Hospitals serving a relatively larger number of Medicare beneficiaries may be more experienced in identifying high-readmission-risk patients and coordinating effectively with CT processes.

Characteristics of CCTP design and reasons for inclusion: CCTP design, including model, target enrollment, types of care transition workers, and other factors are expected to be associated with how rapidly the program is implemented and reaches enrollment goals and with impacts on readmission rates and other outcomes of interest. These characteristics and the rationale for examining them are presented in Table 3.3.

Table 3.3. CCTP Characteristics, Preliminary Hypotheses, and Control Variables

Characteristic	Definition/Categories	Preliminary Hypotheses/Control Variables
CCTP Award Date	<ul style="list-style-type: none"> • Cohort 1: 11/18/2011 • Cohort 2: 3/14/2012 • Cohort 3: 8/17/2012 • Cohort 4: 1/15/2013* • Cohort 5: 3/17/2013* 	<p>Control Variable:</p> <ul style="list-style-type: none"> • Earlier cohorts may have more prior experience and other characteristics that are associated with more rapid implementation and more success in achieving outcomes.
CT Model	<ul style="list-style-type: none"> • CTI Only • CTI and Other Model • Other Models Alone or in Combination (Bridge, TCM, etc.) 	<p>Hypotheses:</p> <ul style="list-style-type: none"> • Fidelity to a specific model may be associated with greater success in rapid implementation and success in achieving outcomes. • Hybrid models that include components focused on both lower and higher risk patients may be more effective in reducing readmissions.

Characteristic	Definition/Categories	Preliminary Hypotheses/Control Variables
Types of Care Transition Workers Employed	<ul style="list-style-type: none"> • Primarily Social Workers • Primarily Nurses (RN, LPN) • Combination of Social Workers (SWs) and Nurses (RNs, LPNs) • Community Health Workers, Pharmacists/Pharmacy Techs in Combination With Social Workers and Nurses 	<p>Hypotheses:</p> <ul style="list-style-type: none"> • Programs with both nurses and social workers may see lower readmission rates. <ul style="list-style-type: none"> ○ Nurses may provide medical reassurance for clients. ○ Social workers may be better skilled at patient activation. • Additionally, community workers have been shown to perform well in the CTI model. Programs that allow for staff other than nurses and social workers may do just as well or better.
Types of Medicare Beneficiaries Targeted	<ul style="list-style-type: none"> • All Medicare Beneficiaries • Medicare Aged Only • Other (This category includes Medicare disabled ages 60 and older only and other unspecified) 	<p>Hypothesis:</p> <ul style="list-style-type: none"> • Programs that include all Medicare beneficiaries, including dual eligible and all Medicare disabled, may work with clients with more challenging issues, and this may affect outcomes relative to outcomes of those sites that limit population to Medicare aged only (which may include those Medicare aged who are also dual eligible).
Number of Hospital Partners	<ul style="list-style-type: none"> • Number of hospitals in CCTP 	<p>Hypotheses:</p> <ul style="list-style-type: none"> • CBOs with fewer hospital partners may be able to develop strong working relationships to better screen and target beneficiaries at risk and achieve better outcomes. • Alternatively, CBOs that partner with all or most of the hospitals in their market area (whether 1-2 or many) may have a greater impact on outcomes.
Number of Other Partners	<ul style="list-style-type: none"> • Number of other partner organizations working formally with CCTP (e.g., SNF, HHA, senior organizations) 	<p>Hypotheses:</p> <ul style="list-style-type: none"> • Programs with more partners and well-developed working relationships with partners may have better outcomes due to their extensive networks of services. • Alternatively, programs that do not require a larger number of other partners may have extensive internal resources and services that facilitate linking patients to needed services.
Number of Months From Award to Startup	<ul style="list-style-type: none"> • Less than 3 months • 3 to 5.5 months • More than 5.5 months 	<p>Hypothesis:</p> <ul style="list-style-type: none"> • CBOs that rapidly implement may have stronger prior experience that results in greater impact on readmissions.
Meeting Average Monthly Enrollment Target at Least Once by April 30, 2013	<ul style="list-style-type: none"> • Yes • No 	<p>Hypothesis:</p> <ul style="list-style-type: none"> • CBOs that meet enrollment targets reach more beneficiaries and have a greater potential for reducing readmissions.

*Only Cohorts (Rounds of Entry) 1 through 3 are included in this report.

Characteristics of market areas and reasons for inclusion: Market area characteristics were extracted from the Dartmouth Atlas Hospital Referral Region data and Census data. These market areas reflect the hospital market areas and may not fully represent the CBO market areas, since some CBOs have identified narrower subareas of the hospital region as the areas within which they expected to operate. Table 3.4 summarizes the market area characteristics that may be associated with the outcomes of interest for the evaluation and the rationale for examining these variables.

Table 3.4. Market Area Characteristics

Characteristic	Definition/Categories	Controls
Medicare Inpatient Days/1,000 Medicare Population	<ul style="list-style-type: none"> • Above National Average • At National Average (+/- 1%) • Below National Average 	Markets with higher/lower inpatient days/1,000 Medicare beneficiaries may have a different patient mix, with higher proportions of less/more complex patients. Markets with lower inpatient days/1,000 may have more patients with higher readmission risk, and CT services may have greater impact potential.
Medicare Inpatient Discharges/1,000	<ul style="list-style-type: none"> • Above National Average • At National Average (+/- 1%) • Below National Average 	Markets with more/fewer discharges/1,000 beneficiaries may have a different patient mix, with higher proportions of less/more complex patients. Markets with lower inpatient discharges/1,000 may have more patients with higher readmission risk, and CT services may have greater impact potential.
Hospital Beds/1,000 Residents	<ul style="list-style-type: none"> • Above National Average • At National Average (+/- 1%) • Below National Average 	Markets with more hospital beds per 1,000 residents may be more likely to retain patients and to readmit patients and, therefore, to have greater potential for impact of CT on readmission rates.
Primary Care MDs/100,000 Residents	<ul style="list-style-type: none"> • Above National Average • At National Average (+/- 1%) • Below National Average 	Markets with more PC MDs/100,000 may have greater accessibility for hospital follow-up visits and, therefore, have greater potential for impact of CT on readmission rates.
Percent Population With High School Education or Higher	<ul style="list-style-type: none"> • Above National Average • At National Average (+/- 1%) • Below National Average 	Markets with less educated populations may have higher readmission rates and greater potential for impact of CT on readmission rates.
Percent Population Non-White and/or Hispanic	<ul style="list-style-type: none"> • Above National Average • At National Average (+/- 1%) • Below National Average 	Markets with higher proportions of minority populations may have higher readmission rates and greater potential for impact of CT on readmission rates.
Average Household Income	<ul style="list-style-type: none"> • Above National Average • At National Average (+/- 1%) • Below National Average 	Markets with higher/lower average incomes may be associated with differences in financial ability to pay for needed follow-up care (e.g., prescription drugs, co-payments for rehabilitative services) and thus have lesser/greater potential for impact of CT on readmission rates.

3.3. Discussion

During the initial year, one objective was to develop the hypotheses for the evaluation. The CBO, hospital, CCTP, and market area variables discussed in this section were selected because some control for the different contexts in which care transition programs operate while others are hypothesized to affect outcomes. In the next section, we examine the distribution of these characteristics among the initial 47 CCTP sites to assess whether some characteristics are common across sites and the extent to which they vary across sites. In addition, we array these characteristics against several preliminary “success” indicators to begin to identify factors that may be more important to consider and examine in future evaluation years.

4. Characteristics of CBOs, Hospital Partners, CCTP Design, and Market Areas

4.1. Overview and Objectives

The objective of the exploratory analysis is to identify characteristics that may be associated with the quantitative outcomes of interest and may be included as explanatory variables in subsequent impact analyses. In addition, the results of this examination will provide information to further refine our qualitative analyses in future years of the evaluation of program implementation and operational approaches that are associated with positive qualitative outcomes.

The examination of characteristics of CBOs, hospital partners, CCTP design, and market areas is conducted to identify common factors as well as factors that are associated with successful programs. We reviewed the data by round of entry³ and did not observe any clear patterns. In subsequent reports, we will present the information for all sites combined. The focus of the descriptive examination is to answer several questions:

- What are the characteristics of the CCTP sites?
- What characteristics are most associated with early success factors?

While it is possible that the initial 47 sites will be representative of the full 101 CCTP sites that are currently operating, we will replicate the descriptive analysis during the second year of the evaluation with data for all 101 programs to see if different patterns emerge.

4.2. Characteristics of CBOs

Examination of the distribution of CBO characteristics is conducted to identify the most common configuration and to begin to isolate CBO characteristics that may be associated with greater success in implementation and greater contribution to success in providing care transition services. Table 4.1 presents the distribution of CBO characteristics among all 47 sites.

³ Round is based on date of entry for the tables in this section.

Table 4.1. Distribution of CBO Characteristics, All Sites*

Characteristic	All Sites	Round 1	Round 2	Round 3
Grand Total	47 (100%)	7 (14.9%)	22 (46.8%)	18 (38.3%)
Type of Organization				
AAA	19 (40.4%)	2 (28.6%)	11 (50.0%)	6 (33.3%)
ADRC	2 (4.3%)	1 (14.3%)	1 (4.6%)	0 (0.0%)
AAA/ADRC	15 (31.9%)	3 (42.9%)	5 (22.7%)	7 (38.9%)
Other	11 (23.4%)	1 (14.3%)	5 (22.7%)	5 (27.8%)
Census Region				
Northeast	19 (40.4%)	2 (28.6%)	9 (40.9%)	8 (44.4%)
South	9 (19.2%)	1 (14.3%)	3 (13.6%)	5 (27.8%)
Midwest	11 (23.4%)	3 (42.9%)	6 (27.3%)	2 (11.1%)
West	8 (17.0%)	1 (14.3%)	4 (18.2%)	3 (16.7%)
Role of CBO in CCTP				
Coordination	7 (14.9%)	0 (0.0%)	3 (13.6%)	4 (22.2%)
Direct Service Provider	5 (10.6%)	0 (0.0%)	4 (18.2%)	1 (5.6%)
Both	34 (72.3%)	7 (100.0%)	14 (63.6%)	13 (72.2%)
Other	1 (2.1%)	0 (0.0%)	1 (4.6%)	0 (0.0%)
Services Provided by CBO Generally				
6 or More	23 (48.9%)	6 (85.7%)	11 (50.0%)	6 (33.3%)
2-5 Elder Services	21 (44.7%)	1 (14.3%)	9 (40.9%)	11 (61.1%)
Less Than 2	3 (6.4%)	0 (0.0%)	2 (9.1%)	1 (5.6%)

Characteristics of all CBOs: Examining all 47 CBOs, the most common characteristics are:

- Of all CBOs, 19 (40 percent) are exclusively AAAs, and 15 (32 percent) are AAAs that are also ADRCs. Only two are ADRCs alone, making this category of limited analytical utility.
- Of all CBOs, 19 (40 percent) are located in the Northeast Census Region, with the remaining 28 CBOs fairly evenly spread across the South, Midwest, and West Census Regions.
- Over 70 percent of CBOs are providing both coordination and direct services for care transitions.
- Nearly 50 percent of CBOs offer six or more elder services.

Characteristics of CBOs by round of entry to the program: Generally, the patterns of CBO characteristics observed for all CBOs are consistent with the characteristics of CBOs by round of entry. The differences observed do not appear to reflect any consistent or obvious patterns that would suggest hypotheses about the effect of round of entry on outcomes of interest.

4.3. Hospital Partner Characteristics

We identified 218 hospital partners of the initial 47 CBOs and examined their characteristics for this report. Table 4.2 summarizes these characteristics for the CCTP sites.

Table 4.2. Hospital Partner Characteristics

Characteristic	All Sites	Round 1	Round 2	Round 3
Grand Total	218 (100%)	39 (17.9%)	91 (41.7%)	88 (40.4%)
Type of Hospital				
Short-Term General	200 (91.7%)	37 (94.9%)	85 (93.4%)	78 (88.6%)
Other	18 (8.3%)	2 (5.1%)	6 (6.6%)	10 (11.4%)
Number of Beds*				
Less Than 200	74 (33.9%)	15 (38.5%)	31 (34.1%)	28 (31.8%)
201–500	104 (47.7%)	18 (46.2%)	45 (49.5%)	41 (46.6%)
501 or More	32 (14.7%)	5 (12.8%)	12 (13.2%)	15 (17.1%)
Percent Medicare Discharges**				
Below U.S. Average	55 (25.2%)	9 (22.7%)	22 (24.1%)	24 (27.5%)
At U.S. Average	18 (8.3%)	5 (12.7%)	9 (9.8%)	4 (4.6%)
Above U.S. Average	137 (62.8%)	24 (60.9%)	57 (62.4%)	56 (64.2%)

*Bed number information missing for 8 (3.7%) hospital partners.

**Percent Medicare discharges data missing for 8 (3.7%) hospital partners.

Characteristics of all CCTP hospitals: The characteristics of the hospital partners of the initial 47 CCTP sites included:

- Over 90 percent of the hospitals partnered with the 47 CCTP sites were identified as short-term general hospitals, with only 8 percent identified as a different type of hospital. This is as expected since one criterion for inclusion in the program was that hospital participants be Medicare subsection (d) hospitals.⁴
- Hospitals with 201 to 500 beds accounted for 48 percent of hospital partners, with 34 percent having 200 or fewer and 15 percent having more than 500 beds.
- The percent of hospital discharges that are Medicare were disproportionately high among hospital partners, with 63 percent above the U.S. average Medicare discharges from hospitals.

Discussion: The reason little variation is observed in type of hospital is that hospital participants were required to be short-term general hospitals providing acute-care services. The “Other” category of hospitals are also Medicare subsection (d) hospitals that may be identified as “safety net” community hospitals or teaching hospitals, or that have other characteristics that on initial examination were considered possible distinctions that could be examined separately. While it might be useful to examine whether subgroups of hospital participants (e.g., safety net hospitals) are associated with more positive or negative outcomes of interest, the very small numbers and lack of diversity of these subgroup hospitals may prohibit meaningful analysis. Hospital bed size

⁴ Medicare subsection (d) hospitals are general hospitals providing short-term acute-care services.

and percent Medicare discharges are both variables that might be reasonably associated with achieving the outcomes of interest for the program and would be usefully explored further as the quantitative analyses are developed.

4.4. Characteristics of CCTP Sites

An important component of the evaluation is to identify design characteristics that are associated with the desired outcomes of the program. Table 4.3 presents characteristics of CCTP design for the 47 sites that entered the program during the initial three rounds of entry.

Table 4.3. CCTP Characteristics, All Sites and by Round

Characteristic	All Sites	Round 1	Round 2	Round 3
Grand Total	47 (100%)	7 (14.9%)	22 (46.8%)	18 (38.3%)
CT Model				
CTI (Coleman)	25 (53.2%)	7 (100.0%)	9 (40.9%)	9 (50.0%)
Mixed: CTI With Other Model	13 (27.7%)	0 (0.0%)	8 (36.4%)	5 (27.8%)
Mixed: Non-CTI + Other Model	3 (6.4%)	0 (0.0%)	2 (9.1%)	1 (5.6%)
Other Model (Bridge, TCM)	6 (12.3%)	0 (0.0%)	3 (13.6%)	3 (16.7%)
Types of CT Workers				
SW and RN/LPN	23 (48.9%)	4 (57.1%)	10 (45.5%)	9 (50.0%)
RN/LPN Only	8 (17.0%)	1 (14.3%)	5 (22.7%)	2 (11.1%)
SW Only	4 (8.5%)	1 (14.3%)	1 (4.5%)	2 (11.1%)
Other/Unspecified	12 (25.5%)	1 (14.3%)	6 (27.3%)	5 (27.8%)
Types of Medicare Beneficiaries Targeted				
All Aged/Disabled	19 (40.4%)	2 (28.6%)	9 (40.9%)	8 (44.4%)
Medicare Aged Only	19 (40.4%)	4 (57.1%)	8 (36.4%)	7 (38.9%)
Other	9 (19.2%)	1 (14.3%)	5 (22.7%)	3 (16.7%)
Number of Hospital Partners				
1–2	15 (31.9%)	0 (0.0%)	8 (36.4%)	7 (38.9%)
3–5	16 (34.0%)	5 (71.4%)	7 (31.8%)	4 (22.2%)
6 or More	16 (34.0%)	2 (28.6%)	7 (31.8%)	7 (38.9%)
Number of Other Partners				
0	10 (21.3%)	3 (42.9%)	7 (31.8%)	0 (0.0%)
1–5	19 (40.4%)	3 (42.9%)	10 (45.4%)	6 (33.3%)
6 or More	18 (38.3%)	1 (14.3%)	5 (22.7%)	12 (66.7%)
Two-Year Enrollment Goal				
Less Than 3,500	13 (27.7%)	0 (0.0%)	9 (40.9%)	4 (22.2%)
3,501–10,000	19 (40.4%)	4 (57.1%)	9 (40.9%)	6 (33.3%)
Over 10,000	15 (31.9%)	3 (42.9%)	4 (18.2%)	8 (44.4%)

Characteristic	All Sites	Round 1	Round 2	Round 3
Number of Months From Award to Startup				
Less Than 3	25 (53.2%)	5 (71.4%)	11 (50.0%)	9 (50.0%)
3–5.5	19 (40.4%)	2 (28.6%)	9 (40.9%)	8 (44.4%)
More Than 5.5	3 (6.4%)	0 (0.0%)	2 (9.1%)	1 (5.6%)
Per Person Reimbursement Rate for CT Services				
Less Than \$300	11 (23.4%)	0 (0.0%)	7 (31.8%)	4 (22.2%)
\$301–399	16 (34.0%)	3 (42.9%)	5 (22.7%)	8 (44.4%)
\$400 and Above	20 (42.6%)	4 (57.1%)	10 (45.5%)	6 (33.3%)

Characteristics of all CCTPs: The majority of CCTPs were awarded in Round 2 (46.8 percent) and Round 3 (38.3 percent), with only seven (14.9 percent) awarded in the first round. The CCTP design differs considerably across all of the 47 sites for some design characteristics, including:

- The Care Transitions Intervention (CTI) Model approach is the most frequent design employed by the sites, with 25 (53 percent) reporting using only the CTI model. Thirteen sites (28 percent) use the CTI model in combination with one other model (BOOST, RED, INTERACT, PASS, Bridges, TCNP, TCM). Six sites (12 percent) use a single non-CTI model (Bridge, TCM). Only three sites (6 percent) use a combination of non-CTI models (Bridge, PASS, TCM, Hospital to Home, and PACT).
- Care transition workers most frequently had training in nursing and social work. Eight sites (17 percent) used nurses only, four sites (8.5 percent) used social workers only, and 23 sites (49 percent) used both nurses and social workers as care transition workers. Another 12 sites (26 percent) used community health workers or pharmacists/pharmacy techs in combination with social workers or nurses.
- The types of Medicare beneficiaries targeted varied. Nineteen sites (40 percent) target all beneficiaries, both aged and disabled, and 19 sites (40 percent) target Medicare aged beneficiaries only. The remaining sites target other beneficiary groups such as Medicare disabled beneficiaries aged 60 and older.
- The distribution of CCTP sites by number of hospital partners was dispersed, with 15 (32 percent) working with only one or two hospitals, 16 (34 percent) working with three to five hospitals, and 16 (34 percent) working with six or more hospitals.
- Partnerships with other organizations (e.g., skilled nursing facilities (SNFs), home health agencies (HHAs), Meals on Wheels) that provide services needed during care transitions and follow-up was more diverse, with 10 sites (21 percent) reporting zero other partners, 19 sites (40 percent) reporting one to five other partners, and 18 sites (38 percent) reporting six or more other partners.
- Two-year enrollment goals ranged widely, with 13 sites (28 percent) having an enrollment goal of 3,500 or fewer clients, 19 (40 percent) with a goal of 3,501 to 10,000, and 15 (32 percent) having a 2-year enrollment goal above 10,000 clients.

- Twenty-five sites (more than 50 percent) were able to provide services to clients within 3 months of award, and 19 sites (40 percent) started providing services between 3 and 5.5 months of award. Only 3 sites (6 percent) took longer than 5.5 months to begin providing services.
- CCTP sites were concentrated in the higher per person reimbursement rate categories for care transition services, with more than 75 percent of sites reporting rates of over \$300 per person served and less than 25 percent reporting reimbursement rates of less than \$300.

CCTP design characteristics by round of entry: Round 1 CCTP sites are particularly different in CCTP design characteristics compared to Round 2 and Round 3 sites. All seven of the Round 1 sites are implementing the CTI model only, and Round 1 sites are somewhat more likely to report that social workers were serving as care transition workers than were Round 2 and Round 3 sites. Round 1 sites were more likely to limit their enrollment to Medicare aged only⁵ (57 percent) than Round 2 and Round 3 sites (36 percent and 39 percent, respectively). All seven of the Round 1 sites had three or more hospital partners, while 36 percent of Round 2 sites and 39 percent of Round 3 sites reported having only one or two hospital partners. All of the Round 1 sites had implemented within 5.5 months of award, while 9 percent and 16 percent of Round 2 and Round 3 sites required more than 5.5 months to begin implementing. None of the Round 1 sites have per capita reimbursement rates below \$300; 32 percent of Round 2 sites and 22 percent of Round 3 sites are receiving less than \$300 per client served.

Discussion: There is considerable variation in the CCTP design characteristics of participants in the program. The exception is the choice of care transition model selected, with a substantial majority of all sites implementing the CTI model, either alone or in combination with another model or elements of another model. There is also considerable difference in the design characteristics of Round 1 CCTP sites compared to design characteristics of Round 2 and Round 3 sites, which are more similar. More extensive qualitative and descriptive examination of the design characteristics relative to selected “success” factors will be needed to further refine the selection of design features that will be included in future quantitative impact analyses.

4.5. Characteristics of Market Areas

Market area characteristics are selected based on hospital markets and may not reflect the submarkets within which individual CBOs are operating their programs. However, for the hospital outcomes of interest, market characteristics may be important factors. Table 4.4 summarizes the relevant market area characteristics for all CBOs by round of selection, in thirds (tertiles), relative to national averages.

⁵ Medicare aged only may include Medicare aged beneficiaries who are dually eligible for Medicaid.

Table 4.4. Market Area Characteristics, All Sites and by Round

Characteristic	N	All Sites Range	N	Round 1 Range	N	Round 2 Range	N	Round 3 Range
Inpatient Days/ 1,000 Medicare Population	47		7		22		18	
Tertile 1	15	1122.46, 1720.45	4	1277.65, 1698.78	8	1122.46, 1720.45	3	1140.76, 1699.73
Tertile 2	16	1743.98, 1915.99	2	1864.55, 1890.67	5	1801.45, 1915.99	9	1743.98, 1889.39
Tertile 3	16	1918.56, 2610.14	1	2038.40, 2038.40	9	1931.44, 2610.14	6	1918.56, 2610.14
Medicare Inpatient Discharge/1,000								
Tertile 1	15	245.70, 316.90	3	292.80, 305.40	7	245.70, 309.30	5	248.50, 316.90
Tertile 2	15	317.81, 352.40	2	344.20, 348.89	5	323.65, 347.70	8	317.81, 352.40
Tertile 3	17	354.60, 425.25	2	358.58, 377.35	10	354.60, 414.00	5	354.60, 425.25
Hospital Beds/ 1,000 Residents								
Tertile 1	15	0.58, 1.82	4	1.41, 1.75	4	0.58, 1.68	7	1.26, 1.82
Tertile 2	16	1.82, 2.16	2	1.92, 2.16	8	1.82, 2.12	6	1.82, 2.11
Tertile 3	16	2.26, 2.93	1	2.74, 2.74	10	2.26, 2.82	5	2.44, 2.93
Primary Care MDs/100,000								
Tertile 1	15	46.44, 69.03	3	62.40, 66.39	6	47.25, 68.47	6	46.44, 69.03
Tertile 2	16	70.55, 79.76	1	76.74, 76.74	9	70.55, 79.36	6	71.19, 79.76
Tertile 3	16	81.40, 117.04	3	93.87, 95.54	7	81.40, 117.04	6	84.55, 98.48
Percent Population Age 65 and Up								
Tertile 1	16	9.05%, 12.59%	4	9.48%, 12.05%	5	9.05%, 12.59%	7	10.99%, 12.59%
Tertile 2	15	12.60%, 13.61%	0		11	12.60%, 13.61%	4	13.28%, 13.61%
Tertile 3	16	13.92%, 16.73%	3	13.92%, 15.07%	6	14.11%, 16.73%	7	14.06%, 16.73%
Percent Population With High School Education or Higher								
Tertile 1	16	62.63%, 86.03%	3	81.05%, 85.89%	5	76.34%, 86.03%	8	62.63%, 86.03%
Tertile 2	15	86.28%, 88.72%	2	87.20%, 87.51%	9	86.28%, 88.72%	4	86.40%, 87.03%

Characteristic	N	All Sites Range	N	Round 1 Range	N	Round 2 Range	N	Round 3 Range
Tertile 3	16	88.74%, 92.19 %	2	89.55%, 90.53%	8	88.74%, 90.56%	6	88.88%, 92.19%
Percent Population Non-White								
Tertile 1	15	4.24%, 14.86%	2	4.24%, 10.20%	8	12.35%, 14.86%	5	11.02%, 14.03%
Tertile 2	16	15.35%, 27.34%	3	17.43%, 27.34%	6	15.35%, 26.19%	7	16.32%, 25.63%
Tertile 3	16	28.81%, 44.98%	2	41.11%, 41.68%	8	28.81%, 42.66%	6	29.23%, 44.98%
Percent Population Hispanic								
Tertile 1	15	1.30%, 5.29%	3	1.59%, 3.00%	9	1.30%, 5.29%	3	1.30%, 4.96%
Tertile 2	16	6.16%, 14.44%	2	8.99%, 11.64%	7	6.16%, 14.44%	7	6.16%, 14.39%
Tertile 3	16	16.19%, 88.66%	2	21.31%, 36.71%	6	16.46%, 77.08%	8	16.19%, 88.66%
Average Household Income								
Tertile 1	15	47429.45, 64677.57	2	61702.02, 62979.19	8	51205.54, 64556.08	5	47429.45, 64677.57
Tertile 2	16	64732.16, 76319.72	3	65168.38, 73227.12	8	64732.16, 76319.72	5	67147.89, 73153.17
Tertile 3	16	78917.17, 107279.96	2	83564.77, 96653.37	6	78917.17, 107279.96	8	79091.88, 107279.96

Market characteristics of all CCTP sites: Viewing the U.S. averages by thirds does not demonstrate any clear patterns. Among the rounds, there is a great deal of variability in the distribution across the tertiles but no consistent pattern by round.

Discussion: Market area characteristics provide an indication of availability of medical services that may be associated with hospital procedures and access to post-hospital follow-up services and information concerning beneficiary population characteristics that may be associated with ability to transition to home or other care environment safely. Review of the characteristics of the markets in which the CCTPs are operating suggests that there is little variation in the overall distribution of sites across these measures. Further exploration of the association and potential contribution of these measures to the outcomes of interest will be needed to determine which of these market area characteristics independently contribute to outcomes of interest and the degree of correlation among these measures.

4.6. Examination of CBO and CCTP Characteristics Associated With Early Indicators of “Success”

4.6.1. Overview and Measures

At this stage of the evaluation, it is difficult to assess progress and potential indicators of program success. This is especially the case when the oldest cohort has at most 18 months of experience and later cohorts have had as little as 8 months to implement and operate their programs.

To assess initial progress and indicators of success, we considered three measures:

- Implementation of the CCTP program within 3 months after award.
- Meeting the site’s average monthly enrollment target at least once by April 30, 2013.
- Achieving a statistically significant reduction in 30-day hospital readmission rates.

The first measure, implementation within 3 months of award, is one that all of the initial 47 sites have a similar opportunity to achieve. For the second measure, meeting the average monthly enrollment target, sites entering in Round 3 had only a limited window of time to achieve this goal. Thus, we expect that there may be little difference in performance across cohorts for the first measure. For the second measure, it is likely that a smaller proportion of the third cohort would be able to succeed in meeting the measure.

The results of the 30-day hospital readmission rate analysis (presented in Section 6) indicate that only 4 of the 48 sites with start dates in 2012 (1 of the 47 sites had a start date in 2013, while 2 additional sites that were not available for interviews had start dates in 2012 and were included in the analysis) had achieved statistically significant reductions in 30-day readmissions during the 4 quarters of 2012. While Cohort 1 sites were operating for most or all of 2012, most Cohort 2 and Cohort 3 sites had 6 months or less of operational experience during 2012, and therefore had very limited opportunity to have an impact on readmission rates.

In this section, we examine the two process measures—implementation time and meeting monthly enrollment targets—as preliminary success indicators for the 47 sites with both quantitative and interview data. These two measures are examined, overall and by characteristics of the sites, to identify the characteristics of CCTP sites that have been able to implement quickly and meet their enrollment targets. In addition, we examine the characteristics of the four sites with significant reductions in readmission rates. Our analysis is not divided by round because we observed no clear patterns in the prior exploratory analysis.

4.6.2. Characteristics of Sites, by Preliminary Success Factors

Time from award to implementation: Overall, 25 (53 percent) of the 47 sites in this analysis were able to implement and begin providing services within 3 months after award (Table 4.5). The proportion implementing within 3 months was lower for sites that entered the program in the second and third award rounds, with 71 percent of Round 1 entrants implementing within 3 months, compared with 50 percent of Round 2 entrants and 50 percent of Round 3 entrants.

The characteristics associated with the highest percentage of sites implementing within 3 months of award included:

- Operated by CBOs that offered six or more elder services internally.
- Targeted all Medicare beneficiaries, both aged and disabled.
- Had three to five hospital partners.
- Set enrollment goals over 10,000.

Table 4.5. Success Factor—Sites Implementing Within 3 Months of Award, by Characteristics and by Round of Entry

Characteristic	Total Number in Category	Number of Sites Implementing Within 3 Months	Percentage of Sites Implementing Within 3 Months
Total Number of Sites	47	25	53.2%
Round 1	7	5	71.4%
Round 2	22	11	50.0%
Round 3	18	9	50.0%
Type of Organization			
AAA	19	9	47.4%
ADRC	2	2	100.0%
AAA/ADRC	15	8	53.3%
Other*	11	6	54.5%
Census Region			
Northeast	19	8	42.1%
South	9	6	66.7%
Midwest	11	7	63.6%
West	8	4	50.0%
Role of CBO in CCTP			
Coordination	7	2	28.6%
Direct Service Provider	5	2	40.0%
Both	34	20	58.8%
Other	1	1	100.0%
Services Provided by CBO Generally			
6 or More	23	15	65.2%
2–5 Elder Services	21	8	38.1%
Less Than 2	21	2	9.5%
CT Model			
CTI (Coleman)	25	16	64.0%
Mixed CTI With Other Model	13	6	46.2%
Mixed: Non-CTI + Other Model	3	1	33.3%
Other Model (TCM, Bridge, Boost, RED)	6	2	33.3%

Characteristic	Total Number in Category	Number of Sites Implementing Within 3 Months	Percentage of Sites Implementing Within 3 Months
Types of CT Workers			
SW and RN/LPN	23	10	43.5%
RN/LPN Only	8	2	25.0%
SW Only	4	4	100.0%
Other/Unspecified	12	9	75.0%
Types of Medicare Beneficiaries Targeted			
All Aged/Disabled	19	12	63.2%
Medicare Aged Only	19	8	42.1%
Other	9	5	55.6%
Number of Hospital Partners			
1–2	15	5	33.3%
3–5	16	11	68.8%
6 or More	16	9	56.3%
Number of Other Partners			
0	10	5	50.0%
1–5	19	11	57.9%
6 or More	18	9	50.0%
Two-Year Enrollment Goal			
Less Than 3,500	13	4	30.8%
3,501–10,000	19	11	57.9%
More Than 10,000	15	10	66.7%

*Includes community health coalitions or networks, other types of social services agencies, FQHCs, home health providers, and clinical provider networks.

Meeting average monthly enrollment targets: Examining the percent of sites meeting their individual monthly enrollment target at least once by April 30, 2012 (Table 4.6), only 13 (28 percent) of the 47 sites performed on this measure. Only three (43 percent) of the Round 1 sites had reached their average monthly enrollment goal by April 30, 2013, while seven (32 percent) of the Round 2 sites had reached that performance goal. Only three (17 percent) of the Round 3 sites reached the enrollment target goal.

Characteristics associated with higher likelihood of meeting the enrollment target goal included:

- Sites using CTI with one other model
- Sites without other partners.

Because Round 2 sites account for more than 50 percent of the sites meeting the enrollment target performance goal, the characteristics of Round 2 sites dominate those of the six other sites that were successful in meeting enrollment targets.

Table 4.6. Success Factor—Sites Meeting Monthly Enrollment Target at Least Once by April 30, 2013, by Characteristics and by Round of Entry

Characteristic	Total Number of Sites in Category	Number of Sites Meeting Monthly Enrollment Target	Percentage of Sites Meeting Monthly Enrollment Target
Total Number of Sites	47	13	27.7%
Round 1	7	3	42.9%
Round 2	22	7	31.8%
Round 3	18	3	16.7%
Type of Organization			
AAA	19	3	15.8%
ADRC	2	1	50.0%
AAA/ADRC	15	4	26.7%
Other	11	5	45.5%
Census Region			
Northeast	19	3	15.8%
South	9	5	55.6%
Midwest	11	3	27.3%
West	8	2	25.0%
Role of CBO in CCTP			
Coordination	7	1	14.3%
Direct Service Provider	5	1	20.0%
Both	34	11	32.4%
Other	1	0	0.0%
Services Provided by CBO Generally			
6 or More	23	4	17.4%
2–5 Elder Services	21	8	38.1%
Less Than 2	21	1	4.8%
CT Model			
CTI (Coleman)	25	5	20.0%
Mixed CTI With Other Model	13	7	53.8%
Mixed: Non-CTI + Other Model	3	0	0.0%
Other Model (TCM, Bridge, Boost, RED)	6	1	16.7%
Types of CT Workers			
SW and RN/LPN	23	6	26.1%
RN/LPN Only	8	3	37.5%
SW Only	4	0	0.0%
Other/Unspecified	12	4	33.3%

Characteristic	Total Number of Sites in Category	Number of Sites Meeting Monthly Enrollment Target	Percentage of Sites Meeting Monthly Enrollment Target
Types of Medicare Beneficiaries Targeted			
All Aged/Disabled	19	6	31.6%
Medicare Aged Only	19	6	31.6%
Other	9	1	11.1%
Number of Hospital Partners			
1–2	15	4	26.7%
3–5	16	4	25.0%
6 or More	16	5	31.3%
Number of Other Partners			
0	10	4	40.0%
1–5	19	6	31.6%
6 or More	18	3	16.7%
Two-Year Enrollment Goal			
Less Than 3,500	13	3	23.1%
3,501–10,000	19	6	31.6%
More Than 10,000	15	4	26.7%

“Success” on both process performance measures: Only 9 sites (19 percent) achieved success on both process performance measures, 43 percent achieved success on only one measure, and 38 percent were not able to meet either performance measure (Table 4.7). CCTP sites that entered the program during Round 2 accounted for 44 percent of sites that were successful on both measures, with Round 1 sites accounting for 22 percent and Round 3 sites accounting for 33 percent.

Of the nine most successful sites, the characteristics that were disproportionately associated with success in meeting both performance measures included:

- Serving all Medicare beneficiaries, both aged and disabled.
- Providing both direct supportive services and coordination.
- Using CTI with another model.
- Having one to two hospital partners.

Table 4.7. Number and Characteristics of CCTP Sites Meeting Success Factors

Characteristic	Number of Sites	Round 1	Round 2	Round 3
Grand Total	47 (100.0%)	7 (14.9%)	22 (46.8%)	18 (38.3%)
2 Success Factors	9 (19.1%)	2 (22.2%)	4 (44.4%)	3 (33.3%)
1 Success Factor	20 (42.6%)	4 (20.0%)	10 (50.0%)	6 (30.0%)
No Success Factors	18 (38.3%)	1 (5.5%)	8 (44.4%)	9 (50.0%)

Table 4.8. Characteristics of CCTP Sites Meeting Both Success Factors

Characteristic	Total Number of Sites in Category	Number of Sites Meeting Both Success Factors	Percentage of Sites Meeting Both Success Factors
Total Number of Sites	47	9	19.1%
Round 1	7	2	28.6%
Round 2	22	4	18.2%
Round 3	18	3	16.7%
Type of Organization			
AAA	19	1	5.3%
ADRC	2	1	50.0%
AAA/ADRC	15	4	26.7%
Other	11	3	27.3%
Census Region			
Northeast	19	2	10.5%
South	9	5	55.6%
Midwest	11	1	9.1%
West	8	1	12.5%
Role of CBO in CCTP			
Coordination	7	1	14.3%
Direct Service Provider	5	0	0.0%
Both	34	8	23.5%
Other	1	0	0.0%
Services Provided by CBO Generally			
6 or More	23	4	17.4%
2-5 Elder Services	21	4	19.0%
Less Than 2	21	1	4.8%
CT Model			
CTI (Coleman)	25	4	16.0%
Mixed CTI With Other Model	13	4	30.8%
Mixed: Non-CTI + Other Model	3	0	0.0%
Other Model (TCM, Bridge, Boost, RED)	6	1	16.7%
Types of CT Workers			
SW and RN/LPN	23	4	17.4%
RN/LPN Only	8	1	12.5%
SW Only	4	0	0.0%
Other/Unspecified	12	4	33.3%
Types of Medicare Beneficiaries Targeted			
All Aged/Disabled	19	5	26.3%
Medicare Aged Only	19	3	15.8%
Other	9	1	11.1%

Characteristic	Total Number of Sites in Category	Number of Sites Meeting Both Success Factors	Percentage of Sites Meeting Both Success Factors
Number of Hospital Partners			
1–2	15	4	26.7%
3–5	16	2	12.5%
6 or More	16	3	18.8%
Number of Other Partners			
0	10	2	20.0%
1–5	19	4	21.1%
6 or More	18	3	16.7%
Two-Year Enrollment Goal			
Less Than 3,500	13	2	15.4%
3,501–10,000	19	4	21.1%
More Than 10,000	15	2	13.3%

Sites achieving statistically significant reduction in readmission rates: Four (9 percent) of the 47 CCTP sites achieved a statistically significant reduction in readmission rates compared to the 2010 baseline rate (see Section 6 for a more detailed analysis).⁶ In Tables 4.9 and 4.10, the distribution of characteristics of these 4 sites is presented relative to the distribution of characteristics of all 47 sites. Those CBOs that reduced readmission rates by the end of 2012 were more likely to be AAA/ADRCs, to provide services directly, and to offer six or more elder services internally.

With only 4 sites in this group, we hesitate to speculate that these characteristics will be associated with success in reducing readmissions for all 101 CCTP sites. We will continue to examine the characteristics of CCTP sites that are successful in reducing readmissions over the next program year to build additional evidence of the association between specific characteristics and readmission rates.

⁶ Only one site had a significant reduction in readmissions relative to both the internal and external comparison hospital groups. One site had a significant reduction relative to its internal comparison hospitals but not relative to its external comparison group. Two sites (CBO029 and CBO041) had significant reductions relative to the external comparison group but not relative to their internal comparison hospitals.

Table 4.9. CBO Characteristics, All Sites and Four Sites With Statistically Significant Reductions in Readmissions

Characteristic	All Sites	Number of Sites With Reduced Readmission Rates	Percentage of Sites in Category With Reduced Readmission Rates
All Sites (Rounds 1–3)	47 (100%)	4	8.5%
Type of Organization			
AAA	19 (40.4%)	1	5.3%
ADRC	2 (4.3%)	0	0.0%
AAA/ADRC	15 (31.9%)	2	13.3%
Other	11 (23.4%)	1	9.1%
Census Region			
Northeast	19 (40.4%)	1	5.3%
South	9 (19.2%)	1	11.1%
Midwest	11 (23.4%)	2	18.2%
West	8 (17.0%)	0	0.0%
Role of CBO in CCTP			
Coordination	7 (14.9%)	0	0.0%
Direct Service Provider	5 (10.6%)	1	20.0%
Both	34 (72.3%)	3	8.8%
Other	1 (2.1%)	0	0.0%
Services Provided by CBO Generally			
6 or More	23 (48.9%)	3	13.0%
2–5 Elder Services	21 (44.7%)	1	4.8%
Less Than 2	3 (6.4%)	0	0.0%

Table 4.10. CCTP Characteristics, All Sites and Four Sites With Statistically Significant Reductions in Readmission Rates

Characteristic	Number of Sites	Percentage of All Sites	Number of Sites With Reduced Readmission Rates	Percentage of Sites With Each Characteristic
Grand Total	47	100.0%	4	8.5%
CCTP Award Date				
Round 1	7	14.9%	0	0.0%
Round 2	22	46.8%	2	9.1%
Round 3	18	38.3%	2	11.1%
CT Model				
CTI (Coleman)	25	53.2%	2	8.0%
Mixed: CTI With Other Model	13	27.7%	2	15.4%
Mixed: Non-CTI + Other Model	3	6.4%	0	0.0%

Characteristic	Number of Sites	Percentage of All Sites	Number of Sites With Reduced Readmission Rates	Percentage of Sites With Each Characteristic
Other Model (TCM, Bridge, Boost, RED)	6	12.3%	0	0.0%
Types of CT Workers				
SW and RN/LPN	23	48.9%	2	8.7%
RN/LPN Only	8	17.0%	2	25.0%
SW Only	4	8.5%	0	0.0%
Other/Unspecified	12	25.5%	0	0.0%
Types of Medicare Beneficiaries Targeted				
All Aged/Disabled	19	40.4%	3	15.8%
Medicare Aged Only	19	40.4%	0	0.0%
Other	9	19.2%	1	11.1%
Number of Hospital Partners				
1-2	15	31.9%	2	13.3%
3-5	16	34.0%	1	6.3%
6 or More	16	34.0%	1	6.3%
Number of Other Partners				
0	10	21.3%	1	10.0%
1-5	19	40.4%	1	5.3%
6 or More	18	38.3%	2	11.1%
Two-Year Enrollment Goal				
Less Than 3,500	13	27.7%	1	7.7%
3,501-10,000	19	40.4%	2	10.5%
Over 10,000	15	31.9%	1	6.7%
Number of Months From Award to Startup				
Less Than 3	25	53.2%	2	8.0%
3-5.5	19	40.4%	2	10.5%
More Than 5.5	3	6.4%	0	0.0%
Per Person Reimbursement Rate for CT Services				
Less Than \$300	11	23.4%	1	9.1%
\$301-399	16	34.0%	2	12.5%
\$400 and Above	20	42.6%	1	5.0%

*In combination with any of the SW, RN/LPN, or SW & RN/LPN categories.

4.6.3. Discussion

The objective of this section is to examine factors that might be associated with program implementation success and with 30-day readmission rates for 2012. For the two process measures of success, we identified a substantial proportion of the CCTP sites that met those performance goals. Although only four CCTP sites had achieved a statistically significant

reduction in readmissions at this early stage of the program, we also examined the characteristics of those sites to identify initial patterns of characteristics associated with success in reducing readmissions.

The key findings of the examination of the two process measures—implementation within 3 months of award and success in meeting the average monthly target enrollment numbers in at least 1 month before April 30, 2013—include:

- Sites with 2-year target enrollment goals over 10,000 were more likely to be successful in implementing within 3 months, while those with 2-year target enrollment goals under 10,000 were slightly more likely to be successful in meeting the average monthly target enrollment goal.
- Characteristics of sites that were most likely to meet either or both process performance goals include:
 - Serving all Medicare beneficiaries, both aged and disabled.
 - Having one to five hospital partners.
 - Able to offer supportive services internally, with no external community organization partners.
 - Providing both direct supportive services and coordination.
 - Using CTI alone or with another model.

The four CCTP sites that were successful in reducing readmission shared a few common characteristics with those that were successful in achieving the two process performance measures, specifically, serving all Medicare beneficiaries and offering a number of supportive elder services internally.

While these results provide some interesting preliminary information for the evaluation, there are a number of reasons why they should be viewed as suggestive rather than definitive. The 47 sites that entered during the initial three award rounds may not be representative of the full group of 101 CCTP awardees. The earlier entrants may have encountered more startup challenges than later entrants, due to participation as the program was still developing and perhaps making changes in procedures and goals. The 47 initial sites entered at three different time periods and participated for differing numbers of months at the time this analysis was conducted, which would affect the likelihood of success in meeting the average monthly target enrollment measures and their success in performance on both measures.

Re-examination of the process performance measures and examination of the outcome measures of interest, with the full set of 101 CCTP sites, will be conducted during the second evaluation year. This will permit a longer time period of observation for all sites and a fuller examination of measures of success and characteristics of CBOs and CCTP designs that may contribute to successful program implementation and outcomes.

5. Program Implementation

5.1. Introduction/Overview

Understanding and documenting program startup, structure, and operations, as well as challenges encountered by the CBOs and lessons learned, will contribute to identifying program factors that are associated with outcomes of interest. This section of the First Annual Report synthesizes the information learned from the telephone interviews and is organized into eight subsections:

- Progress and achievements to date.
- Changes made to the program approach since the original application was submitted.
- Quality monitoring and quality improvement initiatives.
- Experience with hospital partners and other community partners.
- Experience in providing care transition services to Medicare beneficiaries.
- Challenges encountered and lessons learned.
- Participation in and utilization of the Learning Collaborative.
- Plans for the next 12 months.

The interview guide may be found in Appendix B. Detailed tables describing the characteristics of the CBOs and their CCTP approaches, by progress and operational characteristics described in this section, are provided in Appendix C.

5.2. Progress and Achievements

CBOs were asked to rate their progress in implementing and improving their program and to discuss their experiences with program implementation. They were also asked to identify any contextual and environmental factors that they believed influenced their progress and success in program implementation. Sites provided a wide range of responses when asked to rate their progress. Responses that indicated outstanding, very good, or better-than-expected progress were categorized as “very good.” Responses that indicated progress was good, on track, or going as planned were categorized as “good.” Negative responses such as “not as good as we hoped” or poor were categorized as “less than expected.” One CBO did not provide a self-rating of its progress.

5.2.1. Key Findings

Key findings of the CBOs’ self-assessments of progress in implementation and operations of the CCTP fall into two categories: (1) self-assessment of overall progress and (2) factors identified by the CBOs as having a positive impact on progress.

Overall Self-Assessment of Progress: Thirty sites (64 percent) rated their progress as “very good,” and only five sites (11 percent) indicated they had made less progress than expected. The characteristics of those sites that were more likely to self-assess their progress as “very good” provide some indication of factors that may be associated with positive implementation experience. CBOs that directly provide elder services and/or that contract with six or more community partners to obtain community-based services were somewhat more likely to report very good implementation progress, perhaps because they had experience providing elder

services directly or had partners that offer these services and were experienced in working with elderly people in the community.

The types of CT workers employed by the CBO also appear to be associated with positive self-assessment of progress in implementation. Specifically, sites that use social workers only or in combination with other nurse CT workers were more likely to assess their progress as very good. While further examination of this issue will continue, it is possible that social workers are more experienced in providing support and serving the non-medical needs of clients, while nurses may be more attuned to medical needs. Nurses may also be more likely to provide care than to engage fully in patient activation. If using the CTI model, support would lend itself more to patient activation, which may contribute to success.

Finally, the type of organization that serves as the CBO appears to be an indicator for self-assessed “very good” progress. CBOs that fall into the “Other” category (i.e., are not AAAs, ADRCs, or AAA/ADRCs) were more likely to report very good progress. The “Other” category includes CCTP sites that are led by hospitals or health systems. It is a category that may warrant more in-depth examination to identify differences in approach and outcomes as we continue to monitor and examine program implementation.

Factors Identified as Positively Affecting Progress: CBOs were asked to describe any contextual, environmental, or other factors that contributed to their progress. Factors cited most frequently by CBO interviewees as having a positive impact on implementation included:

- Relationships with hospital and community partners (15 CBOs; 32 percent), including both long-term prior relationships and well-functioning relationships established in the early phases of the CCTP.
- Community coalition support and community buy-in for the program (8 CBOs; 17 percent), including general acceptance and awareness of the care transition program in the community, as well as the existence of formal community coalitions supporting a CBO.
- IT infrastructure including software and database systems used for communication, case management, and data tracking (7 CBOs; 15 percent).
- Electronic health record (EHR) access provided by partner hospitals for coaches and other CCTP staff to facilitate identifying eligible beneficiaries (5 CBOs; 11 percent).

CBOs with good partner relationships and communication reported that these factors contributed to their success, while CBOs with poor partner buy-in or significant challenges in communication said that they slowed their progress. In addition to relationships with formal partners, relationships with community coalitions and good community buy-in also were reported as having a positive impact. These community coalitions offered advice, brought other potential partners together, and helped disseminate program information to the community. CBOs stated that good buy-in and acceptance from the community at large helped with the acceptance rate of individual beneficiaries, who were more likely to have heard about the program before it was presented by a care transitions coach.

A robust method for data collection, case management, and electronic communication were all mentioned by some CBOs as factors that helped with program implementation. Sites with little or no software capability upfront struggled with both the cost and process of developing these systems, in addition to the time required for manual data entry, billing, and case finding when these software systems were not in place. When systems were upgraded or new systems were implemented, CBOs reported an increase in productivity and an improvement in data integrity. Data capabilities and data management systems are issues that warrant continued attention throughout the evaluation, and further examination of the impact of this operational component on outcomes will be conducted on an ongoing basis.

Some CBOs cited access to hospital partner EHR systems for coaches to use in case finding as having a positive impact on program implementation. Case finding was more efficient with access to electronic records, and sites stated they were able to identify a higher percentage of all eligible beneficiaries than they could when they found cases manually. CBOs that experienced a change in EHR systems or a loss of EHR access at their partner hospitals reported that these issues slowed their progress and reduced their efficiency.

The impact of other care transition programs or similar initiatives (e.g., care transition interventions funded by private insurance companies, hospital-based interventions for reducing readmissions, and Accountable Care Organizations (ACOs)) was mentioned by several CBOs as a factor that contributed to or impeded progress. While some CBOs stated that the presence of other care transition programs in their service area helped raise community awareness and acceptance of the CCTP, five CBOs (11 percent) reported that they found themselves competing with these programs for patients. Only six CBOs (13 percent) mentioned the presence of an ACO specifically when discussing their progress. Of these, one CBO stated that the ACO had a positive impact on program implementation, and one did not mention any impact of the ACO. The other four CBOs reported that tensions and competing priorities arose from having an ACO involved in their project or present in their area. We will continue monitoring this issue as the CCTP program moves into the next year to examine the impact of multiple care transition programs on the outcomes of interest.

5.3. Changes Since Application/Award

CBOs were asked to describe any program changes they had made between the time of award and the telephone interview, including why they were made, and any outcomes that resulted. Understanding the types of changes that sites made and their consequences will help identify characteristics of programs that are more or less successful in implementation and in producing the desired program outcomes.

5.3.1. Overview of Key Findings

Most of the 47 CBOs interviewed had made changes to their program since award. While some of these changes were anticipated during the startup phase of the project, others were implemented in response to experience as the program became operational. Five main programmatic changes were identified by CBOs:

- Thirty sites (63.8 percent) made changes to their targeting criteria, primarily to increase their reach and enrollment. It should be noted that no sites narrowed their targeting

criteria. CBOs reported that they expanded their targeting criteria by adding additional diagnoses, expanding age limits, adding discharge dispositions (e.g., discharge to SNFs), and/or expanding their geographic coverage. Reasons for expanding targeting criteria included lower-than-expected enrollment numbers and new areas of concern identified through root cause analysis. CBOs that expanded their targeting criteria said that these changes led to increases in enrollment.

- Twenty-two CBOs (46.8 percent) added or changed staff positions to accommodate increased enrollment or improve the efficiency and coordination of program staff. For example, several sites added lead or hospital-based coaches to coordinate coaches' caseloads and maximize the time that field coaches can dedicate to patient outreach and coaching. These sites are using the lead coach to identify patients from hospital records/censuses, conduct initial screens, and make assignments to coaches. In addition, several sites changed their requirements for coaches to better meet the needs of the program and target population. Examples of added requirements included a clinical background to better serve more challenging medical cases and language skills to accommodate patients who speak English as a second language. In addition, three CBOs (6.4 percent) made changes to staff scheduling to include weekend coverage for coaches so that patients admitted or discharged during the weekend are not missed and to improve the timeliness of the first home visit for those patients. Sites that made these kinds of changes reported that they reduced patient refusals and the time it took to get to the first home visit. They also lowered the burden on coaches, reduced coach burnout, and increased coaches' efficiency in their specific roles.
- Six CBOs (12.8 percent) either acquired a new community partner or were working on a new partnership. The addition of community partners was motivated by a need to increase access to services for CCTP clients or to improve communication and coordination with other service providers. For example, some sites responded to increases in the numbers of patients who require SNF services after discharge by reaching out to SNFs about participation.
- In addition, five CBOs (10.6 percent) added hospitals to expand their program's footprint and 11 sites (23 percent) were planning or considering the addition of a new hospital in the near future. Two of these hospitals will be in nearby counties, permitting the CBO to expand to a larger geographic area, although most of them are still within the same geographic area. One CBO stated it would like to add a hospital but could not do so within its current budget, and two more said they approached CMS with plans to expand partners but were advised to wait until they had improved the results with their existing partners.

5.4. Quality/Performance Monitoring and Improvement

CBO interviewees were asked to describe the extent to which they engage in quality monitoring (QM) of their program. In addition, they were asked to discuss the use of quality monitoring findings and quality improvement (QI) initiatives. The information obtained provides an initial profile of the extent of QM and QI being implemented by the CBOs. We also discuss some of the QI approaches that sites are using to monitor their activities, processes, and outcomes and QI responses to review of monitoring data. These will be augmented by additional information

being collected through subsequent site visits and reported in the Specific Topic Report: Program Implementation.

5.4.1. Overview of Key Findings

Thirty-nine of the 47 sites (83 percent) reported having a QM system in place, and only 8 sites did not mention having a QM strategy. The sites most likely to report that they had established QM processes were those that used the CTI model in combination with another care transition model and those that had more hospital partners. Those most likely to report using QI methods to improve their programs included AAAs, those that offered more elder services internally, those with three to five hospital partners, and those that had six or more community partners.

QM Processes and Measures: QM processes and measures varied, and most sites reported that they have created customized QM programs. These programs frequently include routine data review, performance meetings with coaches and other staff, data sharing with partners, and ongoing in-service training. CBOs reported using several process and outcome measures to monitor staff and program performance, including:

- Number of:
 - Eligible admissions and enrollment offers.
 - Patients enrolled and declining enrollment.
 - Assessments and home visits conducted.
 - Patients who completed and did not complete the program.
 - Patients who completed a follow-up visit with their primary care provider (PCP).
 - Days to readmission.
 - Patients who are transferred to an SNF.
 - Patients who are on their first hospitalization (timeframes were not a part of the CBOs' responses during the interviews).
- Time to hospital visit, home visit, and follow-up calls.
- Patient satisfaction.
- Timeliness and quality of program records and data entry.
- Adherence to program protocols.

Some sites use regular evaluation meetings to review the performance of coaches and other staff. These meetings typically include the staff member and a manager or lead coach. The purpose of the meeting is to review individual cases, caseloads, case documentation, recent activities, challenges, and successes. Staff members also discuss feedback on the program, performance data, and other information that helps identify problems with caseloads, adherence to protocols, program processes, and other factors that can influence coaches' ability to reach and assist clients. A few sites use report cards to document and provide feedback on coaches' performance.

Sharing QM Data With Partners: Sites also routinely share data with partners to keep them informed about the progress and performance measures of their sites and the program as a whole. Data sharing is also useful to engage partners in identifying problem areas, developing potential solutions, and reviewing and setting program goals. Ongoing in-service training during meetings with coaches and other staff is used by some sites to improve quality by enhancing knowledge and skills and to introduce or reinforce expectations about program performance and quality.

Quality Improvement Initiatives: While 39 of the 47 sites (83 percent) reported having QM processes in place, only 20 (43 percent) reported using the results to make improvements in their programs. Sites that used QI initiatives to improve performance cited the following areas of QI focus:

- Enrollment rates (e.g., expanding targeting criteria, improving program scripts and materials).
- Coach efficiency (e.g., trying different work schedules, providing training).
- Marketing materials and approaches (e.g., revising marketing materials, educating hospital and partner staff on the key messages about the CCTP program).
- Data collection, processing, and analysis (e.g., implementing shared data systems, eliminating redundant forms and/or fields in forms).

CBOs' plans to enhance their QM and QI activities include adding monitoring variables, engaging partners in adopting a common data transfer system, switching to a more effective data collection system, adding staff to specifically address quality and performance issues, implementing a management information system to view and oversee coach performance, and generally improving performance metrics across the board.

5.5. Experience With Hospital Partners and Community Organizations

During the annual interviews, sites were asked to describe their experiences in developing and maintaining partnerships, as well as any changes in partnerships that had occurred or were planned for the future. The nature, strength, and effectiveness of hospital and community-organization partnerships are expected to be key factors in the success of these programs. In addition, successful strategies for working with partners may provide critical information for plans to replicate the program. Section 5.5.1 presents findings related to hospital partners, while Section 5.5.2 presents findings related to community partners.

5.5.1. Overview of Key Findings for Hospital Partners

Twenty-eight of the 47 CBOs (60 percent) said they had good working relationships with their hospitals, while 7 (15 percent) reported longstanding relationships prior to the CCTP. CBOs identified factors that represented challenges and others that were positive opportunities. Challenges included poor communication, high staff turnover within hospitals, and internal hospital issues due to mergers. Factors identified by sites most often as important to the quality and effectiveness of hospital partnerships included prior relationships with the hospitals and communication and educational efforts that helped build and maintain relationships.

Working with hospitals represented a culture change for many of the CBOs. Nine (19 percent) reported that they had to learn to speak the language of the hospitals and understand their priorities in order to engage them in the program. Sites also said that they had not anticipated the challenge of building relationships with hospitals and that constant communication and education about the program is critical to keeping the relationship vital and effective.

Careful attention to the development and maintenance of relationships with hospital administration and staff was identified as an important component of the program by nearly all of the interviewees. Twelve CBOs (26 percent) reported that turnover in hospital staff and leadership made establishing and maintaining hospital partnerships a challenge. Finding hospital staff and leaders to champion the program is viewed as critical to getting hospital buy-in, and losing champions can be a major setback. Turnover of case managers, discharge planners, and nursing staff is also a challenge for maintaining enrollment levels, as these types of positions can provide critical supports for CBOs in identifying, engaging, and coordinating care for patients.

Twenty sites (43 percent) reported internal hospital factors that affected their ability to build and maintain relationships, including hospital mergers, ACOs in the community or a hospital becoming an ACO, a hospital installing or changing its EHRs, and patient population shifts to Medicare Advantage plans and State dual-eligible managed care plans. Mergers can mean that a whole new cadre of people need to be educated about care transitions or that a new population of patients in an additional facility must be served. EHR changes can interrupt the patient screening and referral process in place, resulting in workaround efforts and system fixes as well as missed patients during the transition. Other hospital-level factors included hospital motivation to address readmissions, having a hospital “champion” of the program, the CBO’s ability to demonstrate value and progress through data sharing, and an appreciation by hospitalists and other physicians of the value of the program to their patients.

5.5.2. Overview of Key Findings for Community Partners

Most of the CBOs developed partnerships with community organizations that facilitated access to post-discharge services needed by Medicare beneficiaries. Key findings in this domain include:

- Twenty CBOs (43 percent) partnered with SNFs serving post-discharge short-term rehabilitation hospital clients.
- Nine sites (19 percent) reported partnering with or developing relationships with home health agencies in order to better support patients discharged to home with these services.

Discussions with sites revealed several types of experiences with community partners. Twenty CBOs (43 percent) reported partnerships with SNFs serving post-discharge short-term rehabilitation hospital clients. Some of these have formal relationships and some are re-engineering their original proposed process, while others are developing partnerships, providing training, or conducting pilots. Sites have realized the high readmission rates of patients discharged to SNFs and recognize that they need to develop partnerships with these facilities in order to follow patients when they are discharged. By improving processes in the facilities and incorporating CT, they can ensure that patients are taking the correct medications and that facility staff, patients, and family members recognize red flags.

Nine sites (19 percent) reported partnering with or developing relationships with home health agencies as a strategy for assisting patients discharged to home to obtain the home health services needed. Formal agreements with community organizations or non-hospital facilities were reported generally as tied to payment for services in support of discharged patients, such as

home-delivered meals, transportation, homemaker/chore services, and, in some instances, medication reconciliation.

Nine CBOs (19 percent) reported having no community partners, but all reported having a community-based coalition or network in support of care transitions through which health and social services organizations, government agencies, facilities, foundations, QIOs, and other stakeholder entities meet on a regular basis. These coalitions/networks were still in the framing stages at some sites, while others were well developed and addressing specific needs such as strategies to make home-based care available in a timely manner after discharge.

5.6. Experience in Providing CT Services to Medicare Beneficiaries With Differing Characteristics and Needs

CBOs were asked to describe their targeting strategies including changes over the past year; strategies used to overcome language, cultural, or literacy barriers; types of beneficiaries who are most difficult to enroll or serve; and the most common reasons for readmission among participants in their program. The key for cost-effective CCTPs is to effectively target and engage those beneficiaries who are most likely to benefit from the program and whose risk of readmission has the potential to be positively impacted by the intervention. Without effective targeting, CCTP services would likely be provided to a much larger population of Medicare beneficiaries that includes a high proportion with low risk of being readmitted to the hospital within 30 days, as well as those who would be readmitted regardless of the intervention. If payment is provided for each beneficiary receiving CCTP services, then narrowing the number of participants to those at greatest risk will produce the greatest potential cost savings. The characteristics of beneficiaries who present particular challenges and strategies for meeting the needs of specific groups will provide valuable information on services and supports for beneficiaries that are most effective.

5.6.1. Overview of Key Findings

Key findings related to serving Medicare beneficiaries needing care transition services include:

- Fifteen CBOs (32 percent) reported that they had expanded their targeting criteria, primarily to reach more at-risk beneficiaries and to meet their enrollment goals.
- Thirty-one CBOs (66 percent) identified strategies they are using to address language barriers, including interpreters, bilingual staff, use of caregivers as translators, and printed materials in multiple languages.
- Twenty-five CBOs (53 percent) reported having strategies for working with beneficiaries with low literacy and/or low health literacy, including using special teaching methods, audio or visual messaging, and printed materials designed for lower levels of reading proficiency.
- Categories of beneficiaries that were identified by CBOs as more difficult to enroll in the program or with needs that were difficult to address during their participation included those with behavioral health issues (including mental illnesses and active substance abuse), younger-than-average age, and active caregivers.

CBOs use a variety of different methods to identify and enroll eligible beneficiaries. In the most automated systems, lists of eligible patients are automatically sorted and referrals are sent to coaches through services such as AllScripts. In other programs, lists of eligible patients are provided by hospitals or are available in real time through hospitals' EHR systems. Program staff members use these lists to select which patients are the best fit for the program and make assignments to coaches. Finally, in some cases, individual coaches spend a great deal of their time manually sorting lists and checking charts to identify eligible patients.

Different beneficiary subpopulations may have unique needs and present unique challenges to CBOs. Two common challenges faced by care transition workers/coaches are language and literacy barriers. Thirty-one CBOs (66 percent) discussed strategies they have in place to serve non-English-speaking patients. These include the use of bilingual coaches, availability of translators (both in person and via phone), use of caregivers as translators, and availability of printed materials in other languages. Twenty-five CBOs (53 percent) identified strategies for working with patients with low literacy (in general or low health literacy). These strategies include using specific teaching methods, such as teach-back, reading documents with the patient, using recordings and pictures, and designing printed materials aimed at people with low reading proficiency.

There were a wide variety of responses regarding beneficiary populations that are either difficult to enroll or more challenging to serve once enrolled. The most commonly mentioned characteristic was the presence of behavioral health problems including depression, other mental illness, or active substance abuse. Overall, 15 CBOs (32 percent) identified challenges working with this group due to a lack of mental health resources, lack of adequate coach training to address complex mental health issues, and higher rates of noncompliance and low activation. Sites that have identified this issue are working on securing additional mental health resources, including looking for other partners or support services in their community. Some are also hoping to do additional coach training on these issues or implement new tools that will assist coaches in screening for issues like unidentified depression.

Another group commonly identified as difficult to enroll or serve is younger patients. This is typically in reference to Medicare disabled patients who are not elderly and, to a lesser extent, recent Medicare aged enrollees in their mid-60s. Seven CBOs (15 percent) identified challenges serving younger patients for a variety of reasons. Younger patients may not be eligible for many of the services that are provided by the local AAA or other groups serving elders. They are more likely to be active and away from home frequently for both social and medical reasons, so it is harder to schedule home visits and complete the intervention. On the other hand, some of these beneficiaries are cognitively impaired, and the typical coaching interventions are inappropriate.

Six CBOs (13 percent) reported that patients with active caregivers are more likely to decline enrollment. Some caregivers misinterpret the intent of the program and feel it is being offered because the health care team does not think the caregivers are doing a good job, and this upsets them. In other cases, either the patient or the caregiver feels they are already doing everything the program plans to do, or they already have arranged services to take care of their needs. In order to address these issues, sites have worked on the scripts used by their coaches to focus on describing the program as the natural next step in care and framing the program as something

beneficiaries need to opt out of rather than opt in to. By assuring caregivers that they are doing a good job and that the offer of CCTP services is no reflection on the quality of their caregiving, they build rapport and reduce defensiveness.

At the time of the annual interview, 16 CCTP sites (34 percent) stated that they either had not conducted failure analyses or had only a limited number of cases and, therefore, did not have sufficient information to identify the factors associated with readmission of patients who had been provided with care transition services. Interviewees' perceptions of the most common reasons for readmission included medication problems, home and family environment, the natural progression of disease, and end-of-life issues. However, these perceptions were not based on case-review findings.

5.7. Challenges Encountered and Lessons Learned

Documentation of the lessons learned during early implementation and operation of the CCTP and of the strategies CBOs developed to address issues that arose provides valuable information to CMS and contractors supporting the CCTP program. We are documenting the most effective ways that CBOs can be supported through technical assistance and training, as well as guidance for new CCTP sites if the program is expanded in the future.

5.7.1. Overview of Key Findings

Major challenges reported by CBOs included staffing issues, targeting, data requirements, and working with partner organizations. Each of these issues and CBOs' responses and strategies are described in this section.

Staffing Issues: CBOs discovered that some of the staff members they had hired were not a particularly good fit for their programs. The coaching approach is very different from the standard approaches to social service programs; where other programs tend to do the work for the patient, CCTPs coach patients to provide them with the knowledge and skills that will enable them to provide their own care. Some coaches that were hired initially were not able to adapt to this difference. Also, these are very fast-moving programs with defined timeframes for activities, and coaches must quickly engage patients, track activities, connect with new patients on a regular basis, and accept that they will not have long-term commitments to their clients. Staff members who did not fit well with the program had the following characteristics: inability to quickly connect with patients to gain program acceptance; difficulty handling the pressure of tight timeframes and an ever-changing caseload; and difficulty dealing with the stress of home visits.

With experience, sites began to better understand the needs of the program and the characteristics of successful coaches. Sites described a bright, friendly, open, and positive demeanor as desirable, and said that coaches who had some sales training were better equipped to quickly engage with patients and build relationships with hospital staff. Urban programs pointed out that coaches need to be "street smart" in seeing patients in inner-city areas, while rural sites felt that extensive traveling needs to be well-managed to maximize coaching time. Many sites changed their job requirements and interview questions in recognition that coaches need to be upbeat and dynamic and have an aptitude for sales.

Sites also described as challenging finding the right balance of staff schedules and caseloads to accommodate the volume of patients given the time requirements and scheduled activities, coach travel to patient homes, cultural and linguistic characteristics of the population, and other aspects of the work. This was particularly true of sites with a lot of part-time staff and sites that cover larger areas. Some CBOs also came to realize that weekend and holiday coverage is essential to ensure that the home visit can take place during the required timelines for patients admitted or discharged over the weekend or holidays. Sites described this as a balancing act that required extensive attention until they found a system that worked. One site operating over a large area assigns coaches to hospitals and then patients to coaches based on areas served by the hospital and the cultural/language needs of the patient. The site also has a buddy system that allows coaches to make hospital or home visits for each other on a day off or if the coach has a full caseload.

Targeting: Identifying eligible patients and getting patient referrals was noted by 19 CBOs (40 percent) as an ongoing challenge. Many sites said they did not anticipate how much was involved in obtaining access to the information needed to identify patients and screening patients appropriately to focus on those who are most likely to benefit from the program. Access to information on hospital patients is critical to identifying eligible patients, and some sites have struggled with setting up systems for coordination of information. CBOs indicated that the essential element is access to a hospital's data systems either directly, through hospital-provided daily census reports, or through the hospital case management system. Some CBOs had little difficulty getting their partner hospitals to agree to give CBO staff access to their systems, and some even have remote access, while others are struggling to build the trust necessary to gain access. If a CBO is dependent on hospital staff to screen and refer patients, they receive many fewer referrals and are therefore at risk of not meeting their enrollment goals. Lack of access to the hospitals' data systems often means using a paper system at the hospital, which requires many hours of work in the effort to review and identify appropriate patients. CBOs without EHR access report engaging the hospitals with the Learning Collaborative, where possible, so that they can hear what other hospital systems are doing. One barrier to hospital data access is the concerns of hospital legal departments and their reluctance to open patient records and data systems to any outside entity.

Identifying strategies to screen patients has also been a challenge. A patient's diagnosis may not be entered until after patient discharge, making it very difficult to identify clients who may meet targeting criteria and exhibit risk factors for readmission. While CCTP sites do not want to miss providing services to an at-risk patient, they also want to be certain that clients meet the eligibility criteria and actually will benefit from the services.

Data Systems: Eighteen CBOs (38 percent) mentioned data as a challenge. Most sites felt they had underestimated the need for data systems to support the program and found that existing databases were inadequate and had to be either upgraded or replaced. CBOs reported a wide variety of tracking systems, ranging from Excel spreadsheets to State-owned and managed systems. Most CBOs have developed and enhanced their own data systems, some of which are also used for list bill tracking and submission. Some CBOs use hospital databases or EHR for case documentation and tracking, while others have established a Web-based system that is used by all program partners. Staff also commented that they had not fully anticipated the need to

improve their data systems or the extent to which it might be necessary. For some, the costs of bringing their systems to the appropriate capacity involved unplanned costs, and they needed to turn to outside funding sources to cover these costs. Sites emphasized the importance of focusing on the design and development of data systems early in the program because complete and accurate data are critical to program operations.

Partnerships: Twenty CBOs (42.5 percent) said that they had learned lessons about working with partners. Many noted that they had not appreciated the differences in their partners' corporate culture prior to working on this project. These CBOs stressed the importance of developing the relationships and learning each other's language, priorities, and operational directives necessary to make the CCTP viable in those contexts. It often took extensive effort and time to develop a level of trust and understanding to support the program. Open communication and ongoing education is necessary at all levels—whether hospital, SNF, or HHA—to ensure program continuity and success. A number of sites also said that finding a champion in each partner organization to promote the program was very important for effective communication and coordination.

5.8. Participation in and Utilization of Learning Collaborative

CBOs were asked to describe their impressions of the Learning Collaborative and teleconferences, the specific types of assistance that was most helpful, and suggestions for improving or changing the learning experience.

5.8.1. Overview of Key Findings

The Learning Collaborative, conference calls, training sessions, and Web site provided by the technical assistance contractor support the CCTP awardees in building and maintaining their care transition programs. The model for the TA events is a team-sharing approach in which sites present on their successful endeavors. Sites may also post materials on the CCTP Web site to share with others. All sites are encouraged to attend events and to bring their partners with them, particularly to the Learning Collaborative sessions.

Virtually every site said that it received valuable lessons and insights from attending the Learning Collaborative events and that there is usually something they adopt or adapt from what was presented. Many of the sites in the earlier cohorts have contributed to the events through sharing their experiences and effective strategies they developed. Several sites said that they appreciated seeing the big picture from CMS of how the CCTP fits in with the many initiatives funded under the Center for Medicare and Medicaid Innovation. Others stated that it impressed their partner hospitals to see that CCTP is a national strategy and for them to hear the kinds of support other hospitals are providing in their partnerships.

Interviewees from 21 CBOs (45 percent) stated that in-person meetings were particularly useful. As these sites were in the earliest cohorts, they had attended the first Learning Collaborative in person. They found in-person meetings more useful than the webinars because of the opportunity to develop personal connections with staff members from other sites. These interviewees also stated it was more productive to have their entire team in an environment without distractions. Two sites suggested that regional webinars would be valuable in supporting sites that share

geographic closeness in working together on issues of mutual concern and noted that some sites have already started meeting with others in their State or region on their own.

Eleven CBOs (23 percent) mentioned that the TA provided through learning events was helpful and responsive to their needs. Several also noted that the webinars and phone calls had much improved over time. A number of the sites that have presented at the Learning Collaborative and on weekly calls enjoyed the experience and were happy to share their best practices.

Eleven CBOs (23 percent) found the breakout sessions and team time very helpful and would like to see the time expanded for their internal work. Many sites feel that one of the greatest values of the Learning Collaborative is the opportunity to get their whole team together in one room. Many of the sessions are very thought-provoking and bring up topics that are important for their partners to hear. Others felt it would be beneficial to receive the agenda ahead of time so that people could choose to attend sections they find particularly relevant.

Seven sites (15 percent) said they adapted strategies for engaging SNFs as partners that they had heard about during a learning event. These sites said they had overlooked the importance of patients discharged to SNFs for short-term rehabilitation, but soon discovered that this population was significant and that sites needed to address their needs in order to meet enrollment targets and affect readmissions in their communities. Many sites had not previously engaged with SNFs and needed to build those relationships, and they valued the opportunity to learn from other sites how SNF management and staff might view the coaches and best practices in working with them.

Eight CBOs (17 percent) indicated that the concept of increasing their reach by expanding partners, geographic area, or targeted diagnostic criteria was an important takeaway from the learning events. Five sites (11 percent) said that they had learned from discussions of worker productivity. Worker productivity is an important issue for many CBOs that are trying to balance demands with staff time. Some of the strategies mentioned specifically were the Lead Coach concept, using schedulers, setting weekly and monthly goals for the program and staff, and using health navigators.

Another six sites (13 percent) said they benefitted from discussions of strategies for scripting patient approach to increase acceptance, and some indicated they had re-scripted based on information received through TA events. Presenting care transitions as a part of the discharge process, as a hospital benefit, or as a free Medicare service has increased patient acceptance. Other patient approach tips mentioned included eliminating patient consent from the process, moving consent to the home visit, and presenting the program in a manner that does not leave the patient the option to decline services.

5.9. Plans for Next 12 Months

CBOs have had a wide range of experiences during the initial implementation and operation of their programs and have established plans for strengthening and expanding their activities over the next year based on their individual progress, success with program implementation, and lessons learned. Documentation of plans for future changes will permit examination of the

effects of these changes in future years and may assist in identifying patterns or trends associated with outcomes of interest. It will also help to identify common reasons that changes are being made, which may help future care transition programs improve their own initial program strategy.

5.9.1. Overview of Key Findings

Nearly all of the CBOs interviewed (83 percent) indicated that they planned to make changes in their programs during the next 12 months. The most common reason for proposed changes was a need to increase the number of beneficiaries served in order to achieve enrollment goals. This came with a corresponding need to increase staffing and services in order to adequately serve a larger beneficiary population. In some cases, changes were also planned based on the results of ongoing root cause analyses. Aside from a few sites that have already had planned changes approved by CMS, most sites did not have specific timing set beyond the fact that they hoped to implement in the next 12 months. The most frequently mentioned planned changes include:

- **Adding Hospital Partners:** Fifteen CBOs (32 percent) plan to add at least one new hospital partner in order to increase the number of eligible patients available for services. In a few cases, increases in hospital partners are the result of recent acquisitions of new hospitals by hospital networks with which CBOs are already partnered.
- **Expanding Eligibility/Targeting Criteria:** Fourteen CBOs (30 percent) reported plans to alter their eligibility criteria in one or more ways. Planned changes in eligibility criteria include adding additional diagnoses or risk factors, adding patients discharged to SNFs, and expanding the geographic area eligible to be served. In some cases, these changes are planned solely on the basis of root cause analysis to help better meet specific needs identified by partner hospitals. In most cases, however, CBOs planned to expand targeting criteria to increase the number of patients eligible for enrollment in order to meet program goals.
- **Changing Services and/or Delivery:** Twelve CBOs (26 percent) planned to make changes to their strategies for delivering care transition services. Changes in this area include adding additional home- or community-based services or increasing the quantity of specific services available (e.g., providing transportation services to more beneficiaries). Other changes in this area include improving communication and referral methods between partners and adding screening tools.

5.10. Summary of Findings and Next Steps

The information gathered through 1-hour interviews with the 47 CBOs that entered the CCTP during the initial 3 application rounds provides an overview of these sites during the early implementation of the program. Key findings from the interviews include:

- **Changes During the Initial Implementation Period:** Most sites reported that they had made changes during the initial implementation period, with the most frequently cited change being expansion of targeting criteria for enrollment of beneficiaries in the program (64 percent). Staffing changes were the second most common change (47 percent), including adding staff and changing hiring criteria to increase the effectiveness

of beneficiary recruitment and services. A minority of sites reported adding hospital partners and/or community partners.

- **Quality Monitoring/Quality Improvement:** Nearly all CBOs (83 percent) reported that they had quality monitoring programs in place. Fewer than half (42 percent), however, reported that they had initiated quality improvement activities in response to information gained from the quality monitoring process.
- **Experience With Hospital Partners:** The majority of CBOs stated they had established good working relationships with hospital partners, with seven indicating that they had longstanding relationships with their hospitals. Effective communication was cited as most important factor in establishing and maintaining good working relationships. Hospital staff turnover, hospital mergers, and changes in hospital data systems were some of the challenges reported by CBOs; however, the general consensus was that positive and productive working relationships were developed or being developed.
- **Experience With Beneficiaries:** Most CBOs had identified strategies for working with beneficiaries who did not speak English as their primary language and for working with beneficiaries with low literacy. Overall, program staff reported that the most difficult beneficiaries to recruit and provide services for were those with behavioral health issues, younger beneficiaries (particularly those who were Medicare eligible due to disability), and those with active caretakers who were reluctant to accept assistance. Most CBOs reported that they had developed strategies for meeting the challenges that these more-difficult-to-serve beneficiaries presented.
- **Challenges and Lessons Learned:** The most frequently cited challenges during implementation included staffing (particularly hiring the right type of coaching personnel), identifying at-risk patients, billing, and data systems. CBOs reported that they learned more about the qualities needed to be an effective coach through experience and revised their hiring criteria to include personal qualities that were demonstrated to be effective in reaching and motivating patients. Strategies for identifying at-risk patients in a timely and effective manner were deemed critical by most of the CBOs and, for most, the relationship, coordination, and data sharing with hospital partners were essential to this process. Direct access to the hospitals' EHR system and/or case management data were most frequently cited as supporting the identification of at-risk patients. Other challenges mentioned by a minority of CBOs included the billing process, the need for more extensive and detailed data systems than expected, and inadequate funding to support startup of services. These latter challenges were related to initial startup of the program, and nearly all sites resolved these issues as they gained operational experience.
- **Learning Collaborative:** Nearly all sites reported that they received valuable lessons and insights from attending the learning events and that they have made use within their programs of the information and strategies presented through the Learning Collaborative.
- **Planned Changes Going Forward:** Thirty-nine of the 47 CBOs said that they planned to make changes in their programs over the next year. The most frequently cited changes (noted by 32 percent of sites) were addition of new hospital partners and expansion of eligibility criteria for patients. Both of these changes were often explained as necessary to meet the CBOs' enrollment goals and to expand their reach and footprint to have a

greater impact on readmission rates. Also, 25 percent of the sites reported that they intended to make changes in the services offered and strategies used to meet the needs of beneficiaries.

In addition, the annual interview component of the project, combined with the descriptive analysis of CBO and CCTP site characteristics, identifies a number of additional preliminary hypotheses to examine in future evaluation years. These include:

- CCTP sites that target all Medicare beneficiaries—aged, disabled, and dual eligible for Medicaid—are more likely to meet enrollment goals, identify and target beneficiaries who are at greater risk of readmission, and reduce readmission rates.
- CBOs that have positive relationships with hospital partners are more likely to identify beneficiaries at risk of readmission, obtain participation of beneficiaries, and reduce readmission rates.
 - CBOs that have longstanding relationships with partner hospitals, effective communication strategies, and/or a “champion” within the hospital to facilitate communication and coordination are more likely to achieve positive outcomes.
 - CBOs that have obtained access to hospital EHRs or other hospital data that facilitate identification of beneficiaries at risk of readmission are more likely to achieve positive outcomes.
- CBOs that engage with SNFs to provide post-discharge support to at-risk patients are more likely to achieve reductions in readmissions.
- CBOs that provide supportive services (e.g., meals, transportation) to elders as part of their general mission and that have established formal partnerships with other community organizations that provide elder services needed post-discharge are more likely to achieve positive outcomes.
 - CBOs that provide a number of elder services as part of their general mission may be known to elders in their community and, as a result, be more successful in obtaining participation.
 - CBOs that provide a number of elder services as part of their general mission or that establish formal partnerships with community organizations that provide such services may be more effective in organizing, monitoring, and ensuring that post-discharge services are provided to CT patients than those CBOs that refer or provide linkages to services.
- CBOs that have developed systems for identifying and gaining participation of at-risk beneficiaries and providing care transition services that are responsive to the unique needs of individual beneficiaries are more likely to be effective in recruiting participation and providing support that results in reductions in readmissions.
 - CBOs that have developed strategies for encouraging participation of beneficiaries and their caretakers are likely to be more effective in gaining participation.

- CBOs that offer services that are culturally, linguistically, and literacy-level appropriate are more likely to be effective in gaining and retaining participation.
- CBOs that have developed strategies and systems for comprehensive assessment of risk and post-discharge needs are more likely to achieve positive outcomes.
- CBOs that have data management systems and capabilities adequate for monitoring and tracking care-transition patient needs and services are more likely to reduce readmission rates.
 - CBOs that generate and monitor program metrics and use these data to identify and implement quality improvement initiatives on an ongoing basis are more likely to reduce readmission rates.

While these preliminary hypotheses are based on limited information and perceptions of CBO and CCTP staff that were interviewed, they provide guidance for developing more refined and focused telephone and site visit data collection over the next year of the evaluation as information is compiled for the additional CCTP sites that have entered the program during the final two rounds of entry.

6. Analyses of Readmissions, Emergency Department Visits, and Observation Services

Sites were awarded between late 2011 and early 2013. Due to the timeframe of data collection needs, the rolling awards, and the fact that sites often needed at least 3 months to begin submitting list bills, our analysis is limited. The four types of analysis were based on the secondary data:

1. Thirty-day unadjusted readmission rates were analyzed for all CCTP sites that began implementation during 2012 (Cohorts 1 through 3 include 48 sites and 212 hospitals).
2. Internal and external CCTP market areas and comparison hospitals were identified and selected.
3. Analyses were conducted of the overall impact of CCTP on 30-day readmissions, 30-day emergency department visits, and 30-day observation service use.
4. Analysis was conducted of trends in readmission rates for participating and non-participating hospitals within CBO HRRs.

Below, we present the findings for the analysis of 30-day unadjusted readmission rates; analysis of the overall impact of CCTP on 30-day readmission rates, emergency department visits, and observation days; and analysis of trends in readmission rates for participating and non-participating hospitals.

6.1. Year 1 Impacts of CCTP on 30-Day Unadjusted Readmission Rates for the First 48 CBOs

In this section, we report the results of a descriptive analysis of the impact of CCTP on 30-day unadjusted readmission rates. The analysis covers all Medicare fee-for-service (FFS) patients discharged from the partner hospitals of the first 48⁷ CBOs to submit list bills. The analysis serves a descriptive purpose only, since we examine changes in readmission rates without accounting for any other factors or explanatory variables. Section 6.3 contains the impact analysis of CCTP, which does control for other factors.

We conducted the analysis using both the internal and external comparison groups. The internal and external comparison groups for this analysis consist of 212 non-participating hospitals each. Below, we describe our methodology for measuring preliminary CCTP impacts on 30-day readmission rates and present the results.

⁷ Sections 1 through 5 of this report cover CBOs 1–46 and 48 (47 total CBOs). Most of the analyses in Section 6 include CBOs that are in Cohorts 1, 2, and 3 as defined by the I&M contractor's quarterly reports. Cohorts are based on the first month of implementation of services (rather than date of award). Thus, this section includes 48 CBOs: CBOs 1–44, 46–48, and 50. The exception is Section 6.2, which uses CBO characteristics collected from the interviews and site visits and excludes CBOs 47 and 50. CBO 45 is also excluded due to having a service start date in 2013.

6.1.1. Summary of Findings

Overall, for the 212 partnering hospitals (partner hospitals were only included if AHA data were available, so 19 hospitals were not included in this analysis) of the 48 CBOs examined, we did not find CCTP to have a statistically significant impact on 30-day hospital readmissions. Our baseline for comparison was 2010 and the data in the analysis is from 2012. We also examined the impact by cohort and for each CBO. Cohorts were defined according to the Implementation and Monitoring (I&M) contractor's Quarterly Reports:

- Cohort 1: Start of CCTP services between 2/2012 and 4/2012.
 - 30-day readmission rates from 2/1/2012 to 12/31/2012.
- Cohort 2: Start of CCTP services between 5/2012 and 7/2012.
 - 30-day readmission rates from 5/1/2012 to 12/31/2012.
- Cohort 3: Start of CCTP services between 8/2012 and 10/2012
 - 30-day readmission rates from 8/1/2012 to 12/31/2012.

We did not find statistically significant effects for any of the three cohorts. However, we did find statistically significant impacts for four CBOs, described below:

- Hospitals partnering with **Care Connection ADRC/Harris County AAA (CBO016)** had statistically significantly lower 30-day readmission rates than comparison hospitals. These rates ranged from 3.47 percentage points to 5.93 percentage points lower for partner hospitals than for comparison hospitals, depending on the use of internal or external comparison hospitals. Care Connection is part of Cohort 2.
- Hospitals partnering with **Catholic Charities of the Archdiocese of Chicago (CBO034)** had a 2.90-percentage-point lower 30-day readmission rate than the internal comparison hospitals. We found no statistically significant impacts when comparing the partner hospitals with external comparison hospitals. Catholic Charities is part of Cohort 2.
- Hospitals partnering with **The Senior Alliance AAA 1-C (CBO029)** had a 2.21-percentage-point lower 30-day readmission rate than the external comparison hospitals. We found no statistically significant impacts when comparing the partner hospitals with internal hospitals. The Senior Alliance is part of Cohort 2.
- Hospitals partnering with **Somerville-Cambridge Elder Services (CBO041)** had a 3.74-percentage-point lower 30-day readmission rate compared with the internal comparison hospitals. There were no statistically significant impacts when comparing the partner hospitals with internal hospitals. Somerville-Cambridge is part of Cohort 3.

For these four CBOs, we further examined whether any patterns or similarities existed to explain these early findings. As discussed below, we do not observe an early emerging pattern between CBO characteristics and impact on readmissions. However, several limitations to this analysis exist, and further, more rigorous analyses are provided in later sections.

6.1.2. Methodology

We measure 30-day readmission rates by identifying index hospital admissions for Medicare FFS beneficiaries at participating hospitals and identifying whether the beneficiaries had a hospital readmission in the 30 days following the index discharge. To calculate these rates we used (1) the technical specifications submitted on April 11, 2013, to CMS, (2) code available from a previous CMS project to aggregate inpatient claims into stays, and (3) SAS programming code provided by the I&M contractor.⁸

We used a difference-in-differences (DID) methodology to compare 30-day unadjusted readmission rates during the program to those in a baseline period. The baseline for both treatment (participating) and comparison group hospitals was January 1, 2010, to December 31, 2010. The program period used differed for each cohort (see above). We expect CBOs that have implemented CCTP for longer amounts of time to have the greatest impacts. For CBOs with later start dates, the findings here represent conservative lower bounds.

We computed DID estimates for each CBO by comparing the difference between the treatment and comparison groups in the implementation periods (start of services to December 31, 2012) to the difference between the two groups in the baseline period (January 1, 2010, to December 31, 2010). This allows for the examination of CCTP impacts, controlling for any existing differences in the baseline period. Note, however, that the DID methodology does not control for confounding factors such as the presence of other care transition initiatives (this is provided in Section 6.3). We applied the DID methodology for each CBO individually, by cohort, and for all participating hospitals. We used regression to generate standard errors and significance tests of differences in means. It should also be noted that for CBOs partnered with only one hospital, we were able to provide the DID estimate, but we could not conduct significance tests of means.

6.1.3. Results

Table 6.1 presents the findings from the analysis by CBO site, cohort, and the overall program. The analysis covers all 212 partnering hospitals of the first 48 CBOs. The first set of columns reports results using the internal comparison group hospitals, and the second set reports the results using the external comparison group hospitals.

We did not find statistically significant impacts on readmission rates for the overall program or for any of the three cohorts. However, four of the CBOs were found to be associated with statistically significant reductions in readmission rates. Specifically:

- For CBO016, we estimated a 3.47-percentage-point decrease for CCTP hospitals (significant at the 5-percent level) in readmission rates for Medicare FFS patients at its partner hospitals compared with the internal comparison group hospitals. The decrease in readmission rates was 5.93 percentage points compared with the external comparison group hospitals (significant at the 1-percent level).
- For CBO034, we estimated a 2.90-percentage-point lower 30-day readmission rate than that of the internal comparison hospitals, which was significant at the 1-percent level. However, we did not detect similar impacts using the external comparison group.

⁸ We were able to closely replicate the 30-day readmission rates calculated by the I&M contractor for participating hospitals as reported in the CBO Quarterly Monitoring Reports.

- For CBO028, we estimated a 2.21-percentage-point decrease in 30-day readmission rates compared with the external comparison hospitals (significant at the 10-percent level). However, we did not detect similar impacts using the internal comparison group.
- For CBO041, we found a 3.74-percentage-point decrease in the 30-day readmission rate compared with the external comparison hospitals (significant at the 5-percent level). We did not detect similar impacts using the internal comparison group.

CBO016, CBO034, and CBO028 are part of Cohort 2, while CBO041 is part of Cohort 3. While we hypothesized that the impact of the CBOs would be greater for those that had been implementing their program longer (Cohort 1), we found that the few CBOs with statistically significant effects were mostly in Cohort 2 (three sites in Cohort 2 and one in Cohort 3).

Table 6.1. 30-Day Unadjusted Readmission Rates, DID Results^a

CBO ID	Cohort No.	Number of Treatment Hospitals ^b	Internal		External	
			DID (Percentage Point)	P-value	DID (Percentage Point)	P-value
<i>Overall</i>	–	212	-0.33%	0.4966	-0.47%	0.3544
001	–	39	0.01%	0.9920	0.56%	0.6379
002	–	129	-0.47%	0.4125	-0.59%	0.3215
003	–	44	-0.20%	0.8730	-0.38%	0.7481
001	1	5	1.75%	0.1781	0.18%	0.9718
002	1	5	0.56%	0.8040	0.90%	0.6345
003	1	6	-0.90%	0.6173	0.34%	0.8755
004	1	9	0.44%	0.6502	1.20%	0.4454
005	1	5	0.57%	0.7413	-0.11%	0.9646
006	1	3	-0.89%	0.7773	0.68%	0.8380
007	1	4	1.40%	0.7622	0.41%	0.7805
008	2	4	-1.00%	0.4656	-1.53%	0.2407
009	2	2	-0.14%	0.9455	-0.69%	0.5945
010	2	6	-0.70%	0.7769	-0.15%	0.9481
011	2	4	1.75%	0.3187	0.69%	0.6028
012	2	2	-2.24%	0.2898	-2.72%	0.1034
013	2	6	-0.57%	0.7041	0.84%	0.6443
014	2	5	-2.37%	0.1275	-0.78%	0.7072
015	2	2	-2.16%	0.8657	-0.51%	0.8933
016	2	2	-3.47%	0.0125	-5.93%	0.0000
017	2	4	-0.77%	0.8052	0.67%	0.7288
018	1	2	-1.83%	0.3548	-0.40%	0.8473
019	2	1	-2.37%	–	-1.79%	–
020	2	5	-0.49%	0.6288	-0.35%	0.8771
021	2	4	1.18%	0.6126	0.35%	0.9250
022	2	6	-1.43%	0.3749	-0.66%	0.8081

CBO ID	Cohort No.	Number of Treatment Hospitals ^b	Internal		External	
			DID (Percentage Point)	P-value	DID (Percentage Point)	P-value
023	2	10	0.08%	0.9659	0.45%	0.8074
024	2	1	1.63%	–	3.62%	–
025	2	3	-0.46%	0.7055	-0.11%	0.9311
026	2	3	0.84%	0.5341	-0.45%	0.7379
027	2	2	-0.41%	0.7562	2.47%	0.1223
028	2	3	-1.07%	0.5346	0.07%	0.9608
029	2	6	-1.61%	0.1540	-2.21%*	0.0665*
030	2	7	0.39%	0.8083	-1.69%	0.3952
031	2	9	-0.29%	0.8352	0.49%	0.8041
032	2	8	0.57%	0.6930	-1.20%	0.2949
033	3	7	-0.03%	0.9938	1.01%	0.7433
034	2	4	-2.90%*	0.0014*	-2.59%	0.1710
035	2	2	1.68%	0.7708	0.63%	0.8240
036	2	8	-0.51%	0.6959	-1.51%	0.3239
037	3	1	-3.83%	–	2.26%	–
038	2	5	-1.15%	0.5185	-1.65%	0.3747
039	3	2	0.18%	0.9638	-1.72%	0.6471
040	3	3	0.15%	0.9719	-0.10%	0.9771
041	3	2	1.78%	0.1946	-3.74%*	0.0244*
042	2	4	0.03%	0.9909	0.64%	0.8011
043	2	1	1.04%	–	-1.30%	–
044	3	2	0.01%	0.9946	-1.36%	0.4159
046	3	7	-0.65%	0.8354	-0.54%	0.8605
047	3	3	-0.29%	0.9044	0.10%	0.9832
048	3	6	0.43%	0.6948	-0.02%	0.9890
050	3	11	-0.01%	0.9944	0.37%	0.8620

^a The DID compares the 30-day unadjusted readmission rate for the post-period (start of services to 12/31/2012) to the pre-period (1/1/2010 to 12/31/2010).

^b We are unable to calculate standard errors for CBOs with only 1 partnering hospital. We also caution against drawing conclusions from CBOs with only 2 partnering hospitals. Statistical significance at the 10-percent level or greater (*) is highlighted in pink.

6.1.4. Discussion

Overall, we did not find statistically significant impacts of CCTP on readmission rates; however, we did find some evidence of improvements (decreases) in readmission rates for CBO016, CBO034, CBO029, and CBO041.

Three of the four CBOs showing statistically significant improvements are part of Cohort 2, and the fourth is part of Cohort 3. The success of the three Cohort 2 sites may be due to the learning that occurred for those sites in Cohort 2 from the experiences and challenges of those in Cohort 1. If the theory of learning from prior cohorts is true, then we would also expect more

statistically significant improvements from Cohort 3 than those exhibited by just one site. However, Cohort 3 also has not had much time in the program. Thus, the lack of statistically significant findings for Cohort 3 sites may be due to the shorter observed period of participation (August to December 2012) outweighing the learned lessons. Three of the four CBOs (CBO034, CBO029, and CBO041) self-rated their own progress as very good. They attributed this positive progress to good relationships with partner hospitals, community partners, and previous experience in care coordination.⁹ CBO016 did not report progress as good as they had hoped and cited challenges in reaching enrollment numbers as a result of low referral rates, poor hospital buy-in, and staff turnover at the hospitals as the main reasons. This suggests that their reduced readmission rates may be due to factors outside of the CCTP.

Table 6.2 below shows key CBO characteristics for the four sites that exhibited reductions in readmission rates. We do not observe an early emerging pattern between CBO characteristics and impact on readmissions. For example, the four CBOs were located all across the country, served both rural and urban patients, used different care transition models, and had varying numbers of hospital partners. CBO016 was a previous Administration for Community Living (ACL) care transitions grantee that converted into a CCTP CBO (“legacy organization”). We would expect legacy organizations to have an advantage in implementing the program. In Section 6.3, we conduct a more rigorous statistical test of whether CBOs that were legacy organizations performed better.

Table 6.2. CBO Characteristics of CBO16, CBO29, CBO34, and CBO41

CBO ID	Type of Organization	Census Region	Urban/Rural	Role of CBO in CCTP	Services Provided by CBO	CT Model*	Number of Hospital Partners	Number of Other Partners	ACL Grantee
CBO016	AAA/ADRC	South	Mixed	Both Direct Service and Coordination	6 or more	Mixed	1–2	6 or more	Yes
CBO029	AAA	Midwest	Urban	Direct Service Provider	6 or more	CTI	6 or more	0	No
CBO034	Other	Midwest	Mixed	Both Direct Service and Coordination	6 or more	Mixed	3–5	6 or more	No
CBO041	AAA/ADRC	North-east	Mixed	Both Direct Service and Coordination	6 or more	CTI	1–2	6 or more	No

*The care transition (CT) model types are the Care Transitions Intervention (CTI or the Coleman Model) and models that are a mix of the CTI and other approaches (mixed).

The analyses presented in this section represent only simple DID comparisons of means. The analyses presented in Section 6.2 control for other potential confounding factors (such as the existence of other care transition initiatives in the area), allowing for more precise estimates of CCTP impacts. If other care transition initiatives affecting readmission rates are occurring in the same geographic location of the comparison group hospitals but not in the treatment hospitals, the simple DID methodology used here may understate the impact of CCTP. Future analyses will also control for hospital characteristics. Although baseline hospital characteristics were accounted for as part of the algorithm used to match treatment to comparison hospitals, differences may still exist, and accounting for these differences will also yield more precise

⁹ Source: Telephone interviews.

estimates of CCTP impacts. Further, the descriptive analyses here attempt to show the effects of CCTP separately for each CBO. The small number of hospitals associated with each CBO leads to large standard errors and, thus, may also help to explain why we do not see statistically significant impacts. The analyses presented in Section 6.3 show a more precise overall impact of CCTP by pooling together all participating hospitals and controlling for other confounding factors.

Including these hospital characteristics—as well as CBO and CCTP design characteristics—in the regression models will allow us to test hypotheses about whether the impacts are influenced by such characteristics. For example, earlier we hypothesized that the impact of the program will vary with time since implementation. Thus, we will include a variable that indicates the time between the period for which an outcome measure is calculated and a CBO's implementation date. Interacting this variable with our treatment status dichotomous variable will provide an estimate of how CBO characteristics and CCTP design elements affect changes over the life of the program.

6.2. Year 1 Overall Impact of CCTP on 30-Day Readmissions, 30-Day ED Visits, and 30-Day Observation Service Use

6.2.1. Introduction

In this section we describe the methodology for assessing the CCTP's effectiveness in reducing 30-day hospital readmission rates, as well as examine the impact the CCTP has on 30-day emergency department visit rates and 30-day observation service use rates during the first year of implementation, and report the results. For each of these outcomes, we compared CCTP partner hospitals with a group of similar hospitals, controlling for a broad range of factors that may influence these outcomes outside of the CCTP. We statistically account for the clustering of hospitals at the CBO level by adjusting the standard errors of the estimates.

The CCTP sites identified and implemented approaches based on their site's unique needs and strategy for reducing 30-day hospital readmission rates, emergency department visit rates, and observation service use rates. Although the Coleman model is the most widely implemented approach, it is unknown if the differences among approaches make any one approach more effective than another. Therefore, variations in 30-day hospital readmission rates, 30-day emergency department visit rates, and 30-day observation service use rates by approach were examined in the secondary data analysis as well. We tested for differences in the model used, acknowledging that each site may tailor their approach depending on the unique circumstances of the site.

In addition to examining the differences among CCTP sites by approach, we analyzed the impacts of implementation date and whether or not the CCTP site had previous care transitions experience. The evaluation team expected variations in all three outcomes of interest among sites by date of implementation. Sites that implemented the CCTP in later waves may experience more significant declines in their 30-day hospital readmission rates or larger changes in 30-day emergency department visit rates and 30-day observation service use rates due to efficiencies gained from implementing lessons learned from earlier waves. On the other hand, sites in the

first cohort generally have more experience coming into the CCTP and also benefit from a longer implementation time.

Similarly, it is likely that those sites with previous care transitions experience funded by the Administration for Community Living (ACL) may experience significant declines in their readmission rates, due to an easier time with initial implementation and greater success in transitioning their staff away from a reactive model of service delivery to a more proactive model. Many of the transitions coaches are CBO site staff members who may be more accustomed to providing Long Term Services and Support (LTSS) in a reactive model in which the LTSS user reaches out for information. This type of service delivery is in contrast to the proactive model used in the CCTP, in which coaches are required to work with hospital staff to identify, reach out to, and follow up with acute-care patients at risk for a future hospital readmission.

6.2.2. Summary of Findings

Overall, for the first year of CCTP, we did not find any impacts on 30-day readmission rates or 30-day emergency department visits. We found an 18-percent increase (0.2 percentage points) in the 30-day observation service use rate of CCTP hospitals when compared with hospitals in the internal comparison as well as the external comparison group, separately. The effects for both the internal and external comparison groups were statistically significant at the 5-percent level. Furthermore, we found that CBOs participating for a longer period of time (since first starting services) had lower 30-day observation service use rates compared with the internal and external comparison groups, despite the overall increase in 30-day observation service use rates for CCTP hospitals.

6.2.3. Methodology

We ran hospital-level, two-period (pre- and post-implementation) DID regressions to evaluate the effect of CCTP on the 30-day readmission rate, 30-day ED visit rate, and 30-day observation service use rate of the hospitals partnering with the first 46 CBOs¹⁰ in the program (Table 6.3 presents the list of CBOs and their service start dates). To estimate these impacts, we used observationally similar internal and external comparison groups. Unlike the DID methodology followed in Section 6.1, these regressions control for confounding factors. We include the same hospital and HRR characteristics used for matching as regressors. In addition, we account for the existence of the following overlapping programs in an HRR that might otherwise confound our results, as they target the same categories of outcomes:

- Accountable Care Organizations (ACOs)
- Pioneer ACOs
- BEACON Communities
- Health Care Innovation Awards
- Independence at Home Demonstration
- Medical Home – Federally Qualified Health Center (FQHC)
- Medical Home – Multipayer

¹⁰ We use only 46 CBOs and their corresponding 198 hospitals in the analysis in this section because we included only those CBOs with interview data and whose start date was in 2012. CBO045 was excluded due to having a service start date in 2013.

- Comprehensive Primary Care Initiative
- Bundled Payments for Care Improvement Initiative
- Hospital Engagement Networks
- Program of All-Inclusive Care for the Elderly (PACE)
- Patient Safety Organizations

We implemented two DID models. Model 1 is:

$$R_{h,t,CCTP} = \alpha + \beta D_t + \gamma D^{CCTP} + \delta D_t D^{CCTP} + \theta X_{h,t} + \mu H_{HRR} + \varepsilon_{h,t}$$

The dependent variable $R_{h,t,CCTP}$ is the outcome of interest for hospital h at time t . This is a two-time-period model, and an observation may have been drawn from a CCTP hospital or a comparison hospital during the period before implementation ($t=0$) or during the period of implementation of CCTP ($t=1$).

The indicator variable D_t shows whether an observation is from the pre-implementation period of CCTP ($t=0$; baseline data from 2010) or from the post-implementation period of CCTP ($t=1$; Implementation Q3: August 1, 2012, to October 31, 2012). Thus, the estimate for β captures changes in the outcome that occur over time, regardless of the implementation of CCTP.

The indicator variable D^{CCTP} equals 1 if the outcome is for a participating hospital ($CCTP=1$) and 0 if it is for a comparison hospital ($CCTP=0$). The estimate for γ captures the group effect; that is, D^{CCTP} controls for any differences in the outcome associated with comparison versus participating status regardless of the CCTP program's implementation.

$X_{h,t}$ and H_{HRR} are hospital and HRR characteristics, respectively, the inclusion of which will reduce the unexplained variation in the dependent variable, increasing the accuracy of the estimates and of the ensuing statistical inference. The coefficient estimates for these variables will allow us to learn which hospital and HRR characteristics are associated with better performance.

The interaction term between D_t and D^{CCTP} is the policy indicator variable. Note that $D_t \cdot D^{CCTP} = 1$ only if the measure is for a participating hospital after implementation of the CCTP; $D_t \cdot D^{CCTP} = 0$ if the observed measure is from a comparison hospital or a participating hospital before implementation of the CCTP. The estimate for δ captures the effect of CCTP on the dependent variable and is the estimate of interest. It provides the average of effect of implementing CCTP on the outcome of interest for a participant hospital.

In order to assess whether the effect of CCTP varies by CBO characteristics, we implement Model 2:

$$R_{h,t,CCTP} = \alpha + \beta D_t + \gamma D^{CCTP} + \delta D_t D^{CCTP} + \theta X_{h,t} + \mu H_{HRR} + \pi C_{CBO} + \varphi D_t D^{CCTP} C_{CBO} + \varepsilon_{h,t}$$

C_{CBO} indicates key CBO characteristics that might result in differential impacts of CCTP. The CBO characteristics we include in the regression are the type of care transition program used by

the site (indicator variable for the Coleman model), whether or not the CBO was considered a “legacy” organization (previously receiving ACL grants for care transition activities), and the number of quarters since the startup of CCTP services for the CBO. φ captures the additional effect of that particular CBO characteristic on the outcome of interest, for example, the effect of implementing CCTP using the Coleman model on 30-day readmission rates as compared to mixed/other care transition models.

In both above models, $\varepsilon_{h,t}$ is the error term and the standard errors are clustered at the CBO level to account for potential correlation in errors of hospitals falling under the same CBO. The observations are weighted by the number of index discharges in each hospital.

Table 6.3. CBOs Included in the Regression Analysis

CBO ID	CBO Applicant Name	Service Start Date	Cohort
001	Southern Maine Agency on Aging	2/2012	1
002	Council on Aging of Southwestern Ohio	2/2012	1
003	Atlanta Regional Commission	2/2012	1
004	Akron/Canton Area Agency on Aging	2/2012	1
005	Elder Services of the Merrimack Valley, Inc.	2/2012	1
006	Council for Jewish Elderly (CJE Senior Life)	2/2012	1
007	Maricopa County Area Agency on Aging, Region One	2/2012	1
008	Area Agency on Aging 1-B	5/2012	2
009	Agency on Aging South Central Connecticut	5/2012	2
010	Southwestern Pennsylvania Area Agency on Aging, Inc.	5/2012	2
011	Aging and Disability Resource Center of El Paso and Far West Texas	5/2012	2
012	Philadelphia Corporation for Aging	5/2012	2
013	UniNet Healthcare Network	5/2012	2
014	The Ohio Agency on Aging – Region 8	5/2012	2
015	CareLink (Central Arkansas Area Agency on Aging)	5/2012	2
016	Care Connection Aging and Disability Resource Center/Harris County Agency of Aging	5/2012	2
017	Lifespan of Greater Rochester Inc.	5/2012	2
018	Cobble Hill Health Center, Inc.	2/2012	1
019	Tompkins County Office for the Aging	5/2012	2
020	Pierce County Department of Community Connections Aging and Disability Resources	5/2012	2
021	Southeast Washington Aging and Long Term Care	5/2012	2
022	AgeOptions	5/2012	2
023	P ² Collaborative of Western New York	5/2012	2
024	Elder Services of Berkshire County, Inc.	5/2012	2
025	St. John Providence Health System	5/2012	2
026	Carondelet Health Network	5/2012	2
027	County of Marin, Department of Health and Human Services, Division of Aging and Adult Services	5/2012	2

CBO ID	CBO Applicant Name	Service Start Date	Cohort
028	Delaware County Office of Services for the Aging (COSA)	5/2012	2
029	The Senior Alliance AAA 1-C	5/2012	2
030	Elder Services of Worcester Area, Inc.	5/2012	2
031	Connecticut Community Care Inc. (CCCI)	5/2012	2
032	Lower Rio Grande Valley Development Council	5/2012	2
033	Northwest Community Care Network, Inc.	8/2012	3
034	Catholic Charities of the Archdiocese of Chicago	5/2012	2
035	Mid-Florida Area Agency on Aging, Inc. (Elder Options)	5/2012	2
036	Visiting Nurse Services of Schenectady and Saratoga Counties, Inc.	5/2012	2
037	Whatcom Alliance for Healthcare Access (WAHA)	8/2012	3
038	Home Aide Service of Eastern New York Inc. (Eddy Visiting Nurse Association)	5/2012	2
039	Metropolitan Area Agency on Aging, Inc.	8/2012	3
040	Jewish Family Services of Los Angeles	8/2012	3
041	Somerville-Cambridge Elder Services, Inc.	8/2012	3
042	Allegheny County Department of Human Services Area Agency on Aging	5/2012	2
043	Mount Sinai Hospital	5/2012	2
044	Senior Resource Alliance	8/2012	3
046	Alliance for Aging, Inc.	8/2012	3
048	San Francisco Department of Aging and Adult Services	8/2012	3

6.2.4. Results

We first present the descriptive statistics of three outcome variables by treatment and comparison groups and by time period (baseline period and post period) in Table 6.4. Table 6.4 shows the mean and standard deviation of the 30-day readmission rate, 30-day emergency department visit rate, and 30-day observation service use rate for each of the groups by period.

Prior to the implementation of CCTP, readmission rates averaged 20.3 percent in the participating hospitals. However, the average dropped to 19.3 percent after CCTP implementation. This decrease is not likely due to CCTP, as the readmission rates for the comparison groups also went down by about 1 percentage point. That is, the pre-post change in the participating hospitals is similar to that of the comparison hospitals.

While the decrease is not as large, we observe a similar pattern in the changes for treatment and comparison hospitals for the 30-day emergency department visit rate and 30-day observation service use rate. In all three hospital groups, the 30-day emergency department visit rate declined by 0.2 percentage points. The observation service use rate increased by 1.0 percentage point in the participating hospitals (from 1.1 percent to 2.1 percent), while it increased by 0.9 and 0.8 percentage points in the internal and external groups, respectively.

Table 6.4. Outcome Measures in the Baseline and Demonstration Period

Outcomes		Baseline Period			Post Period		
		Treatment Hospitals	Internal Comparison Hospitals*	External Comparison Hospitals*	Treatment Hospitals	Internal Comparison Hospitals*	External Comparison Hospitals*
Sample Size	N	198	198	198	198	198	198
30-day readmission rate	Mean	20.3%	19.6% (0.7)	19.3% (1.0)	19.3%	18.7% (0.6)	18.3% (1.0)
	SD	3.5%	3.9%	3.6%	3.2%	4.2%	3.6%
30-day emergency department visit rate	Mean	12.1%	12.3% (-0.2)	12.3% (-0.2)	11.9%	12.1% (-0.2)	12.1% (-0.2)
	SD	3.3%	4.0%	3.7%	3.7%	3.7%	3.5%
30-day observation service use rate	Mean	1.1%	1.2% (-0.1)	1.2% (-0.1)	2.1%	2.1% (0.0)	2.0% (0.1)
	SD	0.7%	0.8%	0.7%	1.0%	1.2%	1.2%

*Difference in baseline- and post-period means are in parentheses.

Note: SD = Standard Deviation.

Table 6.5 presents the percentages of CBOs and hospitals having certain CBO characteristics. The majority of the CBOs analyzed (69.6 percent) are AAAs or ADRCs. About half of the CBOs used the Coleman model for their care transition program. Approximately 21.7 percent of the CBOs previously received ACL grants for care transitions improvement. The average number of quarters since the initiation of CCTP services by the CBOs, through December 31, 2012, is 2.3 quarters. We see similar statistics if our observation level is the participating hospitals partnering with CBOs with these characteristics (last column of Table 6.5).

Table 6.5. CBO Characteristics

CBO Characteristics	CBOs	Treatment Hospitals
AAA or ADRC (%)	69.6%	68.2%
CTI Model (%)	52.2%	54.0%
ACL Care Transition Grantee (%)	21.7%	21.2%
Average Number of Quarters Since Start of Services (#)	2.30	2.35

As described above, we ran DID regressions for each of the three outcomes using two types of models. We ran Model 1 to obtain the overall impact of CCTP, and Model 2 to estimate differential impacts of certain CBO characteristics. The results are presented in Tables 6.6, 6.7, and 6.8. The tables show the estimated DID coefficients and their p-values for Models 1 and 2 by comparison group used.

Table 6.6 shows that the CCTP resulted in an overall 0.3-percentage-point reduction in the 30-day readmission rate (Model 1) compared to either the internal or external comparison group; however, the impact is not statistically significant. In Model 2, we looked at how certain CBO

characteristics influence the impact of the CCTP. Our base CBOs are those that are not ACL care transition grantees, did not use the CTI model, and are early in their implementation of the CCTP. These base CBOs experienced a significant decrease in their readmission rates compared to their 2010 baseline readmission rates. The estimates from Model 2 also reveal that being an ACL grantee, duration of CCTP service provision, or use of the CTI model did not influence the impact of the CCTP on readmission rates.

Table 6.6. Difference-in-Differences Regression Results for Readmission Rates

Readmission		Internal		External	
		DID	P-value	DID	P-value
Model 1	CCTP Indicator	-0.003	0.138	-0.003	0.125
Model 2	Baseline CCTP Indicator	-0.014	0.027	-0.008	0.196
	ACL Care Transitions Grantee Indicator	0.002	0.676	-0.002	0.553
	# Quarters Since Start of Services	0.004	0.106	0.001	0.606
	CTI Model Indicator	0.000	0.974	0.004	0.179

In Model 1, we did not find a statistically significant effect of CCTP on 30-day ED visit rates overall (see Table 6.7). Model 2 estimates indicate that CBOs that were previous ACL care transition grantees actually showed slightly more positive impacts on changes in the 30-day ED visits (0.8 percentage points compared with the internal group and 0.6 percentage points compared with the external group). However, neither this nor the other findings related to CBO characteristics were statistically significant at the 5-percent level.

Table 6.7. Difference-in-Differences Regression Results for Emergency Department Visit Rates

Emergency		Internal		External	
		DID	P-value	DID	P-value
Model 1	CCTP Indicator	-0.002	0.326	-0.003	0.133
Model 2	Baseline CCTP Indicator	-0.002	0.780	-0.002	0.813
	ACL Care Transitions Grantee Indicator	0.008	0.092	0.006	0.075
	# Quarters Since Start of Services	-0.000	0.915	-0.001	0.635
	CTI Model Indicator	0.000	0.997	0.001	0.741

Overall, in Model 1 we found that participating hospitals experienced an 18-percent increase in their 30-day observation service use (baseline rate for CBO partner hospitals is 1.1 percent). This significant finding is true in models that were estimated using either the internal or external comparison groups. Model 2 showed that for our base CBOs, there was an increase in the observation service use rate (72 percent—0.8 percentage points). Interestingly, we also observe that since the startup of CCTP services, the positive impact of the CCTP on rates of 30-day observation service use decreased (0.3-percentage-point decrease per 1-quarter increment since

service startup, compared with either the internal or external group). This suggests that CBOs with more time in CCTP may decrease their reliance on observation services.

Table 6.8. Difference-in-Differences Regression Results for Observation Service Use Rates

Observation Stay		Internal		External	
		DID	P-value	DID	P-value
Model 1	CCTP Indicator	0.002	0.048	0.002	0.023
Model 2	Baseline CCTP Indicator	0.008	0.027	0.007	0.014
	ACL Care Transitions Grantee Indicator	-0.001	0.646	-0.001	0.746
	# Quarters Since Start of Services	-0.003	0.038	-0.003	0.028
	CTI Model Indicator	0.002	0.290	0.003	0.102

6.2.5. Discussion

We examined whether hospitals participating in CCTP showed differences in readmission rates, emergency department use, and observation service use in the 30 days following a qualifying hospital discharge compared with a similar set of non-participating hospitals. We controlled for various hospital-level and market-level characteristics. We examined the overall impact of CCTP and the impact of certain key CBO characteristics on the three outcomes. These CBO characteristics included the type of care transition program used by the site, whether or not the CBO was considered a legacy organization (previously receiving ACL grants for care transition activities) and the number of quarters since the startup of CCTP services for the CBO.

We did not find that hospitals participating in CCTP showed differences in readmission or emergency department visit rates compared with a group of similar hospitals for the first 46 CBOs. We did find that hospitals participating in CCTP showed an 18-percent increase in the 30-day rate of observation service use (0.2-percentage-point increase).

Nationwide, observation service use has been on the rise as readmission rates have decreased.¹¹ One potential reason for this increase may involve hospitals' desire to decrease readmission rates. Observation care, which counts as an outpatient visit, does not count toward the 30-day readmission rate.¹²

Observation care is meant to be used for further assessment to determine whether the patient needs additional treatment and should be admitted.¹³ Medicare guidance states that a decision should be made about observation patients within 24 to 48 hours. We examined the rate of observation care use lasting at least 8 hours since this is the minimum threshold required for Medicare payment. Future analyses will also examine the rate of observation care use lasting 24 hours or more and 48 hours or more.

¹¹ Feng, Zhanlian, Wright, Brad, Mor, Vincent, "Sharp Rise in Medicare Enrollees Being Held in Hospitals for Observation Raises Concerns About Causes and Consequences, *Health Affairs*, 31(6), 2012, pp. 1251–1259.

¹² Ibid.

¹³ Ibid.

We examined whether the increase in observation care was driven by certain key CBO characteristics: CBOs using the Coleman model, legacy CBOs who previously received ACL grants for care transition improvement, and number of quarters since the start of services for the CBO. We are interested in seeing whether using the Coleman model makes a difference in outcomes, since it so widely used. Similarly, sites with previous experience and a longer exposure to CCTP might be expected to perform better than sites that did not share those characteristics.

CBOs that were previous ACL care transition grantees showed slightly more positive impacts on changes in the 30-day ED visits. While CBOs had higher rates of 30-day observation service use after the implementation of the CCTP, this positive relationship decreased with the length of time since program implementation by the CBO. We plan to explore other CBO characteristics that may play a role, including the type of Medicare beneficiaries targeted and the number of hospital partners. In addition, we expect to have more quarters of data available shortly, allowing us to follow these measures for a longer period of time. Future analyses will also consider quarterly rates, allowing for more precise estimates of changes over time.

While the secondary data analysis is useful in understanding the overall effectiveness in reducing hospital readmissions among Medicare beneficiaries and which approaches are more or less effective in reducing readmissions, it should be noted that several limitations exist. These limitations include the limited number of CCTP sites included in the sample and the limited time period included in the analysis. While the CCTP currently consists of 101 sites, data for the secondary analysis included only 46 CCTP sites implemented in the first three waves. In addition, since most CCTP sites required 3 to 5 months to begin implementing their programs after award, there were limited numbers of months of implementation experience and data to assess outcomes for some sites.

6.3. Results: Analyses of Trends in Readmission Rates for CCTP Participating Hospitals and Non-Participating Hospitals in the HRRs With CCTP Sites for Cohort 1 and Cohort 2 CBOs (Ad Hoc Analyses)

We conducted a preliminary comparison of readmission rates of hospitals partnering with CBOs in the first two CCTP cohorts to a group composed of all non-participating hospitals within the HRR of the CBOs' partnering hospitals.¹⁴ This preliminary analysis was requested by CMS in order to conduct an early assessment of trends and findings before a more sophisticated comparison group composed of matched hospitals became available (see Section 6.2 for the methodology used to create a matched comparison group). In this section, we report the results of the preliminary analysis.

¹⁴ Non-participating hospitals are restricted to subsection (d) hospitals (as defined in Section 1886(d)(1)(B) of the Social Security Act) or those hospitals paid under the hospital inpatient prospective payment system (IPPS). We also removed Federal Government hospitals.

6.3.1. Methodology

We identified the HRRs where each of the hospitals partnering with CBOs in Cohort 1 and Cohort 2 (participating hospitals) are located using the hospital's ZIP Code. We then identified the non-participating hospitals located within the same HRRs. We calculated unadjusted 30-day readmission rates for each of the hospitals separately for a baseline period of January 1, 2010, to December 31, 2010, and for the first several quarters of implementation in 2012 as determined by the CBO's cohort.

For Cohort 1, we examined three implementation quarters:

- Q1: February 1, 2012, to April 30, 2012
- Q2: May 1, 2012, to July 31, 2012
- Q3: August 1, 2012, to October 31, 2012

For Cohort 2, we examined two implementation quarters:

- Q2: May 1, 2012, to July 31, 2012
- Q3: August 1, 2012, to October 31, 2012

To calculate the readmission rates we relied upon (1) the technical specifications submitted on April 11, 2013, to CMS, (2) code available from a previous CMS project to aggregate inpatient claims into stays, and (3) SAS programming code provided by the I&M contractor.¹⁵ For each CBO, the comparison group was composed of hospitals located within the same HRRs as that CBO's partnering hospitals. Readmission rates were aggregated to the CBO level and the cohort level.¹⁶ We tested for statistically significant differences between the readmission rates of the treatment and comparison group at the CBO and cohort levels.¹⁷

Difference-in-differences (DID): In addition to comparing the difference for each time period, we computed DID comparisons for each CBO by comparing the difference between the treatment and comparison groups in Quarter 3 to the difference between the two groups in the baseline period. This allows for the examination of CCTP impacts controlling for any existing differences in the baseline period.

¹⁵ We were able to closely replicate the 30-day readmission rates calculated by the I&M contractor for participating hospitals, as reported in the CBO Quarterly Monitoring Reports.

¹⁶ The aggregation weighted by number of index discharges at the hospitals (the same specifications provided by the I&M contractor in its SAS programs).

¹⁷ Statistical tests were computed by running separate weighted regressions for each CBO. The weights were the number of discharges for each hospital. The left-hand side consisted of the 30-day unadjusted readmission rate for each hospital, and the right-hand side consisted of an indicator for being in the treatment or comparison group for that CBO and a constant. The coefficient on the treatment indicator represented the difference in readmission rates between the treatment and comparison group for that CBO. We used a t-test to determine whether the coefficient was statistically significantly different from zero.

6.3.2. Results

Tables 6.9 and 6.10 present the findings from this analysis.

Table 6.9. Cohort 1 30-Day Unadjusted Readmission Rates for Treatment and Comparison Groups

CBO ID	Group	Number of Hospitals	Baseline CY 2010	Q1 2/2012–4/2012	Q2 5/2012–7/2012	Q3 8/2012– 10/2012	DID (Q3 vs. Baseline)
All Cohort 1	Treatment	37	20.2%	20.4%	20.1%	19.6%	–
	Comparison	158	20.6%	20.1%	20.0%	19.7%	–
	<i>Difference</i>	–	-0.5%	0.3%	0.1%	0.0%	0.4%
001	Treatment	5	16.7%	15.8%	15.8%	16.6%	–
	Comparison	11	17.1%	17.1%	15.5%	15.9%	–
	<i>Difference</i>	–	-0.4%	-1.3%	0.4%	0.7%	1.1%
002	Treatment	5	21.4%	22.9%	21.6%	21.1%	–
	Comparison	11	19.4%	19.7%	18.8%	19.4%	–
	<i>Difference</i>	–	2.0%	3.2%*	2.8%	1.6%	-0.4%
003	Treatment	6	19.6%	20.1%	19.3%	18.3%	–
	Comparison	45	18.8%	18.1%	18.4%	17.8%	–
	<i>Difference</i>	–	0.8%	2.0%***	0.9%	0.5%	-0.2%
004	Treatment	9	19.9%	19.8%	20.2%	19.8%	–
	Comparison	4	20.0%	19.9%	19.3%	17.2%	–
	<i>Difference</i>	–	0.0%	-0.1%	0.8%	2.7%***	2.7%*
005	Treatment	5	19.6%	20.0%	19.2%	20.8%	–
	Comparison	33	20.8%	20.2%	19.6%	19.7%	–
	<i>Difference</i>	–	-1.1%**	-0.2%	-0.4%	1.0%	2.2%*
006	Treatment	3	24.7%	25.1%	24.9%	22.7%	–
	Comparison	28	24.9%	24.9%	25.2%	23.9%	–
	<i>Difference</i>	-	-0.2%	0.3%	-0.3%	-1.2%	-1.0%
007	Treatment	4	18.5%	17.3%	18.2%	17.9%	–
	Comparison	26	18.1%	16.8%	17.7%	17.3%	–
	<i>Difference</i>	-	0.4%	0.4%	0.5%	0.6%	0.2%

Statistical significance is based on t-tests of the differences in the weighted treatment and comparison group means. It is shown at the 1% (***), 5% (**), and 10% (*) levels.

Table 6.10. Cohort 2 30-Day Unadjusted Readmission Rates for Treatment and Comparison Groups

CBO ID	Group	Number of Hospitals	Baseline CY 2010	Q2 5/2012–7/2012	Q3 8/2012–10/2012	DID (Q3 Baseline)
All Cohort 2	Treatment	40	20.3%	20.1%	19.0%	–
	Comparison	178	21.7%	21.3%	21.3%	–
	<i>Difference</i>	–	-1.4%***	-1.2%*	-2.2%***	-0.8%
010	Treatment	6	20.4%	19.8%	18.7%	–
	Comparison	33	20.7%	19.9%	20.0%	–
	<i>Difference</i>	–	-0.3%	-0.1%	-1.3%	-1.0%
011	Treatment	4	18.5%	19.6%	18.8%	–
	Comparison	6	18.4%	18.2%	17.4%	–
	<i>Difference</i>	–	0.1%	1.5%	1.4%	1.4%
013	Treatment	6	17.5%	16.8%	16.1%	–
	Comparison	8	17.8%	16.8%	18.0%	–
	<i>Difference</i>	–	-0.3%	0.0%	-1.9%	-1.6%
014	Treatment	5	21.8%	20.7%	20.2%	–
	Comparison	22	20.1%	20.5%	19.9%	–
	<i>Difference</i>	–	1.6%	0.2%	0.4%	-1.3%
015	Treatment	2	22.1%	21.9%	19.5%	–
	Comparison	21	19.4%	19.2%	19.1%	–
	<i>Difference</i>	–	2.8%	2.7%	0.5%	-2.3%
018	Treatment	2	27.5%	28.2%	28.0%	–
	Comparison	25	22.6%	22.8%	22.9%	–
	<i>Difference</i>	–	4.9%**	5.4%***	5.1%***	0.2%
022	Treatment	6	21.5%	20.5%	19.3%	–
	Comparison	47	23.8%	23.0%	22.9%	–
	<i>Difference</i>	–	-2.4%***	-2.5%	-3.6%**	-1.2%
031	Treatment	9	19.1%	19.6%	18.6%	–
	Comparison	16	20.3%	19.5%	19.4%	–
	<i>Difference</i>	–	-1.2%	0.1%	-0.9%	0.3%

Statistical significance is based on t-tests of the differences in the weighted treatment and comparison group means. It is shown at the 1% (***), 5% (**), and 10% (*) levels.

For Cohort 1, we did not see statistically significant differences in readmission rates overall. For CBO004 and CBO005, we observed statistically significant increases in the readmission rate for CCTP participant hospitals over the comparison group when comparing Quarter 3 to the baseline period using the DID methodology.

For Cohort 2, we observed a decrease in the overall readmission rates in Q2 and Q3 that was statistically significant between treatment and comparison groups for each quarter; however, when we account for existing differences in the baseline readmission rate between the treatment and comparison groups, the decreases were no longer statistically significant. For CBO022, we observed a 3.6-percentage-point decrease in readmission rates in Q3 for CCTP hospitals that was

statistically different from zero. This decrease was not statistically different from zero once the baseline period was accounted for using the DID methodology.

6.3.3. Discussion

We did not find evidence of differences in 30-day unadjusted readmission rates between treatment and comparison hospitals at the CBO level for CCTP Cohorts 1 and 2 for the first three quarters after the program began (see Tables 6.9 and 6.10 above). However, we caution that the results presented in this section represent unadjusted comparisons of readmission rates between treatment hospitals and all other hospitals located in the HRR. Given the multitude of efforts existing in the current environment aimed at improving health care and/or decreasing hospital readmissions, accurately assessing the impact of CCTP requires the careful consideration of concurrent care transition initiatives as well as the characteristics of hospitals in the comparison group. CCTP partnering hospitals were not randomly selected. For instance, we found that higher readmission rates were positively associated with a few of the CCTP sites (though not consistently and not across all time periods); this is not surprising since applicant CBOs with partnering hospitals with high readmission rates were given preference. Other hospital characteristics we found to be associated with participation were for-profit status and case mix index. We will consider these characteristics in the impact analyses as well, since it is possible that they influence or are associated with CBOs' experiences in readmission rates and other outcomes through the program.

7. Summary and Implications for Evaluation Issues and Design

This report summarizes the progress and preliminary findings of the Evaluation of the Community-based Care Transitions Program, after the initial 10 months of design, data collection and compilation, and analysis. Key findings of this early evaluation are limited but suggest direction for the more comprehensive evaluation activities that will be conducted over the next 4 years.

Key program implementation findings are based on examination of two process measures of implementation success: implementation within 3 months of award and success in meeting the average monthly target enrollment numbers in at least 1 month before April 30, 2013. These findings include:

- Sites that entered the program during Round 1 were most likely to have implemented the program within 3 months of award.
- Sites that entered the program during Round 1 were most likely to have met their average monthly enrollment target at least once by April 30, 2013.
- Sites that entered the program during Round 1 were most likely to have succeeded in meeting both performance goals.
- Sites with 2-year target enrollment goals over 10,000 were more likely to be successful in implementing within 3 months, while those with 2-year target enrollment goals under 10,000 were slightly more likely to be successful in meeting the average monthly target enrollment goal.
- Characteristics of sites that were most likely to meet either or both performance goals include:
 - Serving all Medicare beneficiaries, both aged and disabled.
 - Having one to five hospital partners.
 - Able to offer supportive services internally, with no external community organization partners.
 - Providing both direct supportive services and coordination.
 - Using CTI alone or with another model.

Information gathered through annual telephone interviews with the initial 47 CCTP sites also provided a number of preliminary hypotheses that will be explored as additional data are collected. These preliminary hypotheses focus on eligibility criteria; hospital relationships; SNF relationships; systems for providing non-Medicare-covered supportive services; strategies for targeting, assessing needs, and providing care transition services; data capabilities; and quality monitoring and quality improvement.

While these results provide interesting preliminary information for the evaluation, there are a number of reasons why they should be viewed as suggestive rather than definitive. The 47 sites that entered during the initial three award rounds may not be representative of the full group of 101 CCTP awardees. In addition, the early entrants may have encountered more startup challenges than later entrants, due to participation as the program was still developing and perhaps making changes in procedures and goals. Finally, the 47 initial sites entered at three different time periods and had participated for differing numbers of months at the time this analysis was conducted, which would affect the likelihood of success in meeting the average monthly target enrollment measures and their success in performance on both measures.

Quantitative analysis of one project outcome measure—30-day hospital readmission rates—produced limited evidence of early effectiveness of the program, with a handful of hospitals achieving significant reductions in readmission rates when adjusting for internal and/or external comparison hospitals. Again, however, these findings are based on a limited number of hospitals that were operational in the first full year of CCTP operation. No hospitals had a full year of program operation, and many of the first three cohorts had been operational for only a few months. In addition, the results reported are based on the early experience of only 47 CCTP sites and their hospital partners; an additional 54 CCTP sites entered the program in early 2013. Future analyses will be able to incorporate data on the all the CCTP sites.

Appendix A: Descriptive Profile Template

Community-Based Care Transitions Program Descriptive Profile

CBO Name: Project Name: Date of Last Update:

CBO Characteristics

Characteristic	Description
Type of organization	
Contact information	
Year established	Click here to enter text.
Census region	
Service area of CBO	
Type of service area	
Services provided by CBO generally (not specific to CCTP)	
Prior experience providing care transition services	
Other related grants or programs held/operated by CBO	

CBO's CCTP Characteristics

Characteristic	Description
Award date	Click here to enter a date.
Month of implementation of CCTP services	Click here to enter text.
Role of CBO in the CCTP	
Care transition model	
Enhancements to CT model (service delivery)	
Other enhancements (tools and technology)	
CCTP services provided	
Type(s) of care transition workers delivering the intervention	
Care transition model used by partners, if different	
Types of Medicare beneficiaries targeted by the program	
Demographic/socioeconomic characteristics of target population	
Clinical characteristics of target population	
Hospitals are targeting different populations	
Specific types of beneficiaries excluded from participation	
Enrollment goal	Click here to enter text.
Number of beneficiaries served through date of annual update	Click here to enter text.
Root cause (DX, clinical)	
Root cause (beneficiary level)	
Root cause (process level)	
Per person reimbursement for CT services	\$Click here to enter text.

CBO's CCTP Partners and Characteristics

Hospitals

Number of Hospitals:

Hospital Detail:

Name	Location	Type of hospital	Prior experience providing CT services	# of beds	Baseline % Medicare discharges	Baseline Medicare 30-day readmission rate

Other Partners

Number of Other Partners:

Partner Detail:

Name	Location	Type of organization	Role on project	Prior experience providing CT services	CCTP services	Paid for services	Formal agreement	Other programs

Other Care Transition or Related CMS/Other Funder Programs Underway in Market Area

Characteristic	Description
Other CT or related programs underway in market area (in which CBO/partners are not participating)	

CBO Market Area Characteristics (Health)

Characteristic	Description
Medicare population	Click here to enter text.
Medicare FFS population	Click here to enter text.
Number of MA plans/enrollments	Click here to enter text.
Number dual eligible	Click here to enter text.
MA A+B payment rate	Click here to enter text.
Medicare inpatient days/ 1,000 beneficiaries	Click here to enter text.
Medicare inpatient discharges/ 1,000 Medicare enrollees	Click here to enter text.
Number of ST/G hospitals	Click here to enter text.
Number of ST/G hospital beds/ 1,000 residents	Click here to enter text.
Primary care MDs/100,000 residents	Click here to enter text.
Surgical spec MDs/100,000 residents	Click here to enter text.
Nursing home beds/100,000 residents	Click here to enter text.
Number of HHAs	Click here to enter text.

CBO Market Area Characteristics (Demographic, Economic, Other)

Characteristic	Description
Total population	Click here to enter text.
% age 65+	Click here to enter text.%
Racial/ethnic characteristics	Click here to enter text.% White Click here to enter text.% Black Click here to enter text.% AI/AN Click here to enter text.% Asian Click here to enter text.% Other Click here to enter text.% Hispanic
Average household income	\$Click here to enter text.
Average education level	Click here to enter text.% with less than high school diploma Click here to enter text.% with high school diploma Click here to enter text.% with some college Click here to enter text.% with bachelor's degree Click here to enter text.% with advanced/graduate degree

Appendix B: Year 1 Telephone Interview Guide

Interview Guide

1. **Introductions.**
2. **Overview of Purpose of Call.**
3. **Descriptive Profile – Review of Changes/Corrections**
4. **Discussion Areas/Questions:**
 - a. First, we'd like to hear your views on your progress in implementing the CCTP activities since initiation and factors that have affected progress.
 - How would you rate your progress over the past year in managing and improving your program? (Outstanding, very good, good, not as much progress as you hoped?)
 - What features of your program or context do you feel have most contributed to your achievements to date?
 - b. Next, we'd like to know about any changes you've made in your program over the past year and also the reasons for those changes.
 - c. Can you describe for us any quality or performance monitoring of care transition services and processes and quality improvement initiatives that you have underway or planned?
 - d. Now we'd like you to tell us about your experiences with your hospital partners and community partner organizations and the reasons for any changes in your partnerships since you originally applied to be a CCTP site.
 - e. What have been your experiences in providing care transition services to Medicare beneficiaries? Are there any strategies or accommodations you've developed to better meet the needs of those who may have characteristics that especially affect their ability to manage their care after discharge?
 - Are there any subgroups of the target population for which you have had difficulty in meeting their needs or gaining their agreement to participate in the program? If so, what are the reasons for these challenges? Have you identified strategies for working with these more challenging patients?
 - What would you say are the most common reasons why a beneficiary in your program might be likely to be readmitted to the hospital?
 - f. What are the greatest challenges you've encountered in implementing your program and in achieving program objectives?
 - Are there any "lessons learned" that you think would be helpful to a new CBO that is initiating a CCTP?

- g. What have been your experiences with participation in the CCTP Learning Collaborative, including webinars, coaching, and other aspects, and/or technical assistance processes?
- Have you found these resources helpful? Can you give an example of how you have used them in your program planning, implementation, or improvement?
 - Do you have any suggestions for the Learning Collaborative and TA processes?
- h. Do you have any plans to make substantive changes to your program in the next 12 months? If so, what are the reasons and when do you expect to implement these changes?

5. Wrap-Up

Appendix C: Distribution of CCTP Program Implementation Experiences, by CBO and CCTP Design Characteristics

Table C.1. Percent of Sites Self-Rating of Progress, by CBO Characteristics* **

Characteristic	All Sites	Very Good	Good	Less Than Expected
All Sites	47 (100%)	30 (63.8%)	11 (23.4%)	5 (10.6%)
Type of Organization				
AAA	19 (40.4%)	10 (52.6%)	7 (36.8%)	1 (5.3%)
ADRC	2 (4.3%)	1 (50.0%)	1 (50.0%)	0 (0.0%)
AAA/ADRC	15 (31.9%)	10 (66.7%)	2 (13.3%)	3 (20.0%)
Other	11 (23.4%)	9 (81.8%)	1 (9.1%)	1 (9.1%)
Census Region				
Northeast	19 (40.4%)	12 (63.2%)	4 (21.1%)	2 (10.5%)
South	9 (19.2%)	6 (66.7%)	2 (22.2%)	1 (11.1%)
Midwest	11 (23.4%)	8 (72.7%)	3 (27.3%)	0 (0.0%)
West	8 (17.0%)	4 (50.0%)	2 (25.0%)	2 (25.0%)
Role of CBO in CCTP				
Coordination	7 (14.9%)	4 (57.1%)	2 (28.6%)	1 (14.3%)
Direct Service Provider	5 (10.6%)	4 (80.0%)	0 (0.0%)	1 (20.0%)
Both	34 (72.3%)	21 (61.8%)	9 (26.5%)	3 (8.8%)
Other	1 (2.1%)	1 (100.0%)	0 (0.0%)	0 (0.0%)
Services Provided by CBO Generally				
6 or More	24 (51.1%)	15 (62.5%)	6 (25.0%)	3 (12.5%)
2-5	20 (42.6%)	14 (70.0%)	5 (25.0%)	1 (5.0%)
Less Than 2	3 (6.4%)	1 (33.3%)	0 (0.0%)	1 (33.3%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

**One site, Mount Sinai Hospital (CBO43), did not provide a self-rating measure. As a result, the numbers and percentages in a row will not add to 47, or 100 percent.

Table C.2. Percent of Sites Self-Rating of Progress, by CCTP Characteristics*

Characteristic	All Sites	Very Good	Good	Less Than Expected
Grand Total	47 (100%)	30 (63.8%)	11 (23.4%)	5 (10.6%)
CCTP Award Date				
Round 1	7 (14.9%)	4 (57.1%)	3 (42.9%)	0 (0.0%)
Round 2	22 (46.8%)	12 (54.6%)	6 (27.3%)	4 (18.2%)
Round 3	18 (38.3%)	14 (77.8%)	2 (11.1%)	1 (5.6%)

Characteristic	All Sites	Very Good	Good	Less Than Expected
CT Model				
CTI (Coleman)	26 (55.3%)	15 (57.7%)	8 (30.8%)	3 (11.5%)
Mixed CTI With Other Model	13 (27.7%)	10 (76.9%)	1 (7.7%)	2 (15.4%)
Mixed: Non-CTI + Other Model	6 (12.8%)	3 (50.0%)	2 (33.0%)	0 (0.0%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	2 (100.0%)	0 (0.0%)	0 (0.0%)
Types of CT Workers				
SW and RN/LPN	23 (48.9%)	17 (73.9%)	5 (21.7%)	0 (0.0%)
RN/LPN Only	8 (17.0%)	3 (37.5%)	2 (25.0%)	3 (37.5%)
SW Only	4 (8.5%)	3 (75.0%)	1 (25.0%)	0 (0.0%)
Other/Unspecified	12 (25.5%)	7 (58.3%)	3 (25.0%)	2 (16.7%)
Types of Medicare Beneficiaries Targeted				
Medicare Aged/Disabled	26 (55.3%)	16 (61.5%)	6 (23.1%)	4 (15.4%)
Medicare Aged Only	19 (40.4%)	12 (63.2%)	5 (26.3%)	1 (5.3%)
Other	2 (4.3%)	2 (100.0%)	0 (0.0%)	0 (0.0%)
Number of Hospital Partners				
1–2	15 (31.9%)	9 (60.0%)	4 (26.7%)	1 (2.1%)
3–5	17 (36.2%)	11 (64.7%)	4 (23.5%)	2 (11.8%)
6 or More	15 (31.9%)	10 (66.7%)	3 (20.0%)	2 (13.3%)
Number of Other Partners				
0	9 (19.2%)	6 (66.7%)	2 (22.2%)	1 (11.11%)
1–5	24 (51.1%)	14 (58.3%)	8 (33.3%)	2 (8.3%)
6 or More	14 (29.8%)	10 (71.4%)	1 (7.1%)	2 (14.3%)
Two-Year Enrollment Goal				
Less Than 3,500	10 (21.3%)	5 (50.0%)	2 (20.0%)	3 (30.0%)
3,501–10,000	22 (46.8%)	16 (72.7%)	4 (18.2%)	1 (4.6%)
10,001 and Above	15 (31.9%)	9 (60.0%)	5 (33.3%)	1 (6.7%)
Number of Months From Award to Startup				
Less Than 3	14 (29.8%)	11 (78.6%)	2 (14.3%)	0 (0.0%)
3 to 5.5	27 (57.5%)	16 (59.3%)	8 (29.6%)	3 (11.1%)
More Than 5.5	6 (12.8%)	3 (50.0%)	1 (16.7%)	2 (33.3%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.3. Distribution of Factors With a Positive Impact on Progress, by CBO Characteristics*

Characteristic	All Sites	Relationships With Partners	Community Coalition/ Buy-In	IT Infrastructure	EHR Access
All Sites	47 (100%)	15 (31.9%)	8 (17.0%)	7 (14.9%)	5 (10.6%)
Type of Organization					
AAA	19 (40.4%)	7 (36.8%)	5 (26.3%)	3 (15.8%)	2 (10.5%)
ADRC	2 (4.3%)	1 (50.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)
AAA/ADRC	15 (31.9%)	4 (26.7%)	1 (6.7%)	0 (0.0%)	2 (13.3%)
Other	11 (23.4%)	3 (27.3%)	2 (18.2%)	3 (27.3%)	1 (9.1%)
Census Region					
Northeast	19 (40.4%)	5 (26.3%)	3 (15.8%)	1 (5.3%)	1 (5.3%)
South	9 (19.2%)	3 (33.3%)	1 (11.1%)	1 (11.1%)	0 (0.0%)
Midwest	11 (23.4%)	3 (27.3%)	2 (18.2%)	3 (27.3%)	3 (27.3%)
West	8 (17.0%)	4 (50.0%)	2 (25.0%)	2 (25.0%)	1 (12.5%)
Role of CBO in CCTP					
Coordination	7 (14.9%)	4 (57.1%)	1 (14.3%)	2 (28.6%)	1 (14.3%)
Direct Service Provider	5 (10.6%)	1 (20.0%)	2 (40.0%)	0 (0.0%)	0 (0.0%)
Both	34 (72.3%)	10 (29.4%)	5 (14.7%)	5 (14.7%)	4 (11.8%)
Other	1 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Services Provided by CBO Generally					
6 or More	24 (51.1%)	7 (29.2%)	3 (12.5%)	3 (12.5%)	2 (8.3%)
2-5	20 (42.6%)	8 (40.0%)	5 (25.0%)	4 (20.0%)	3 (15.0%)
Less Than 2	3 (6.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.4. Distribution of Factors With a Positive Impact on Progress, by CCTP Characteristics

Characteristic	All Sites	Relationships With Partners	Community Coalition/ Buy-In	IT Infrastructure	EHR Access
Grand Total	47 (100%)	15 (31.9%)	8 (17.0%)	7 (14.9%)	5 (10.6%)
CCTP Award Date					
Round 1	7 (14.9%)	2 (28.6%)	0 (0.0%)	2 (28.6%)	2 (28.6%)
Round 2	22 (46.8%)	7 (31.8%)	7 (31.8%)	3 (13.6%)	1 (4.5%)
Round 3	18 (38.3%)	6 (33.3%)	1 (5.6%)	2 (11.1%)	2 (11.1%)

Characteristic	All Sites	Relationships With Partners	Community Coalition/ Buy-In	IT Infrastructure	EHR Access
CT Model					
CTI (Coleman)	26 (55.3%)	5 (19.2%)	5 (19.2%)	5 (19.2%)	4 (15.4%)
Mixed CTI With Other Model	13 (27.7%)	7 (53.8%)	3 (23.1%)	1 (7.7%)	1 (7.7%)
Mixed: Non-CTI + Other Model	6 (12.8%)	3 (50.0%)	0 (0.0%)	1 (16.7%)	0 (0.0%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
CT Worker					
SW and RN/LPN	23 (48.9%)	8 (34.8%)	5 (21.7%)	3 (13.0%)	5 (21.7%)
RN/LPN Only	8 (17.0%)	2 (25.0%)	2 (25.0%)	1 (12.5%)	0 (0.0%)
SW Only	4 (8.5%)	2 (50.0%)	0 (0.0%)	2 (50.0%)	0 (0.0%)
Other/Unspecified	12 (25.5%)	3 (25.0%)	1 (8.3%)	1 (8.3%)	0 (0.0%)
Types of Beneficiaries Targeted					
Medicare Aged/Disabled	26 (55.3%)	10 (38.5%)	5 (19.2%)	6 (23.1%)	4 (15.4%)
Medicare Aged Only	19 (40.4%)	5 (26.3%)	3 (15.8%)	1 (5.3%)	1 (5.3%)
Other	2 (4.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Number of Hospital Partners					
1–2	15 (31.9%)	3 (20.0%)	4 (26.7%)	1 (6.7%)	2 (13.3%)
3–5	17 (36.2%)	4 (23.5%)	2 (11.8%)	3 (17.6%)	3 (17.6%)
6 or More	15 (31.9%)	8 (53.3%)	2 (13.3%)	3 (20.0%)	0 (0.0%)
Number of Other Partners					
0	9 (19.2%)	4 (44.4%)	2 (22.2%)	2 (22.2%)	1 (11.1%)
1–5	24 (51.1%)	8 (33.3%)	5 (20.8%)	3 (12.5%)	3 (12.5%)
6 or More	14 (29.8%)	3 (21.4%)	1 (7.1%)	2 (14.3%)	1 (7.1%)
Two-Year Enrollment Goal					
Less Than 3,500	10 (21.3%)	7 (31.8%)	4 (18.2%)	1 (4.5%)	2 (9.1%)
3,501 to 10,000	22 (46.8%)	2 (20.0%)	3 (30.0%)	3 (30.0%)	1 (10.0%)
10,001 and Above	15 (31.9%)	6 (40.0%)	1 (6.7%)	3 (20.0%)	2 (13.3%)
Number of Months From Award to Startup					
Less Than 3	14 (29.8%)	4 (28.6%)	2 (14.3%)	1 (7.1%)	2 (14.3%)
3 to 5.5	27 (57.5%)	11 (40.7%)	5 (18.5%)	6 (22.2%)	2 (7.4%)
More Than 5.5	6 (12.8%)	0 (0.0%)	1 (16.7%)	0 (0.0%)	1 (16.7%)

Table C.5. Distribution of Selected Changes Made by CBOs, by CBO Characteristics*

Characteristic	All Sites	Added Target Criteria	Changed/ Added Personnel	Changed/ Added Community Partner	Changed/ Added Hospital Partner	Changed/ Added Weekend Coverage
Grand Total	47 (100%)	30 (63.8%)	22 (46.8%)	6 (12.8%)	5 (10.6%)	3 (6.4%)
Type of CBO						
AAA	19 (40.4%)	11 (57.9%)	8 (42.1%)	3 (15.8%)	0 (0.0%)	2 (10.5%)
AAA/ADRC	2 (4.3%)	10 (66.7%)	7 (46.7%)	1 (6.7%)	4 (26.7%)	1 (6.7%)
ADRC	15 (31.9%)	2 (100.0%)	2 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other	11 (23.4%)	7 (63.6%)	5 (45.5%)	2 (18.2%)	1 (9.1%)	0 (0.0%)
Census Region						
Northeast	19 (40.4%)	10 (52.6%)	8 (42.1%)	3 (15.8%)	2 (10.5%)	1 (5.3%)
South	9 (19.2%)	7 (77.8%)	4 (44.4%)	2 (22.2%)	2 (22.2%)	1 (11.1%)
Midwest	11 (23.4%)	8 (72.7%)	6 (54.5%)	0 (0.0%)	0 (0.0%)	1 (9.1%)
West	8 (17.0%)	5 (62.5%)	4 (50.0%)	1 (12.5%)	1 (12.5%)	0 (0.0%)
CBO Role						
Coordination	7 (14.9%)	4 (57.1%)	1 (14.3%)	1 (14.3%)	1 (14.3%)	1 (14.3%)
Direct Service Provider	5 (10.6%)	4 (80.0%)	2 (40.0%)	0 (0.0%)	1 (20.0%)	0 (0.0%)
Both	34 (72.3%)	22 (64.7%)	19 (55.9%)	5 (14.7%)	3 (8.8%)	2 (5.9%)
Other	1 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Number of Elder Services						
6 or More	24 (51.1%)	17 (70.8%)	12 (50.0%)	3 (12.5%)	4 (16.7%)	2 (8.3%)
2–5	20 (42.6%)	12 (60.0%)	10 (50.0%)	2 (10.0%)	1 (5.0%)	1 (5.0%)
Less Than 2	3 (6.4%)	1 (33.3%)	0 (0.0%)	1 (33.3%)	0 (0.0%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.6. Distribution of Selected Changes Made by CBOs, by CCTP Characteristics*

Characteristic	All Sites	Changed/ Added Target Criteria	Changed/ Added Personnel	Changed/ Added Community Partner	Changed/ Added Hospital Partner	Changed/ Added Weekend Coverage
Grand Total	47 (100%)	30 (63.8%)	22 (46.8%)	6 (12.8%)	5 (10.6%)	3 (6.4%)
CCTP Award Date						
Round 1	7 (14.9%)	6 (85.7%)	5 (71.4%)	1 (14.3%)	1 (14.3%)	2 (28.6%)
Round 2	22 (46.8%)	13 (59.1%)	8 (36.4%)	4 (18.2%)	4 (18.2%)	0 (0.0%)
Round 3	18 (38.3%)	11 (61.1%)	9 (50.0%)	4 (22.2%)	0 (0.0%)	1 (5.6%)

Characteristic	All Sites	Changed/ Added Target Criteria	Changed/ Added Personnel	Changed/ Added Community Partner	Changed/ Added Hospital Partner	Changed/ Added Weekend Coverage
CT Model						
CTI (Coleman)	26 (55.3%)	18 (69.2%)	12 (46.2%)	4 (15.4%)	3 (11.5%)	1 (3.8%)
Mixed CTI With Other Model	13 (27.7%)	7 (53.9%)	8 (61.5%)	0 (0.0%)	1 (7.7%)	2 (15.4%)
Mixed: Non-CTI + Other Model	6 (12.8%)	3 (50.0%)	1 (16.7%)	1 (16.7%)	1 (16.7%)	0 (0.0%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	2 (100.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)
Types of CT Workers						
SW and RN/LPN	23 (48.9%)	14 (60.9%)	11 (47.8%)	2 (8.7%)	2 (8.7%)	3 (13.0%)
RN/LPN Only	8 (17.0%)	6 (75.0%)	5 (62.5%)	0 (0.0%)	2 (25.0%)	0 (0.0%)
SW Only	4 (8.5%)	2 (50.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)	0 (0.0%)
Other/Unspecified	12 (25.5%)	8 (66.7%)	6 (50.0%)	3 (25.0%)	1 (8.3%)	0 (0.0%)
Type of Medicare Beneficiaries Targeted						
All Aged/Disabled	26 (55.3%)	17 (100.0%)	13 (76.5%)	2 (11.8%)	3 (17.6%)	2 (11.8%)
Medicare Aged Only	19 (40.4%)	13 (68.4%)	9 (47.4%)	4 (21.1%)	2 (10.5%)	1 (5.3%)
Other	2 (4.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Number of Hospitals						
1–2	15 (31.9%)	8 (53.3%)	7 (46.7%)	4 (26.7%)	1 (6.7%)	0 (0.0%)
3–5	17 (36.2%)	11 (64.7%)	9 (52.9%)	2 (11.8%)	2 (11.8%)	1 (5.9%)
6 or More	15 (31.9%)	11 (73.3%)	6 (40.0%)	3 (20.0%)	2 (13.3%)	2 (13.3%)
Number of Other Partners						
0	9 (19.2%)	8 (88.9%)	4 (44.4%)	2 (22.2%)	1 (11.1%)	0 (0.0%)
1–5	24 (51.1%)	14 (58.3%)	13 (54.2%)	4 (16.7%)	1 (4.2%)	1 (4.2%)
6 or More	14 (29.8%)	8 (57.1%)	5 (35.7%)	3 (21.4%)	3 (21.4%)	2 (14.3%)
Two-Year Enrollment						
Less Than 3,500	10 (21.3%)	7 (70.0%)	4 (40.0%)	4 (40.0%)	2 (20.0%)	0 (0.0%)
3,501–10,000	22 (46.8%)	16 (72.7%)	10 (45.5%)	4 (18.2%)	3 (13.6%)	0 (0.0%)
10,001 and Above	15 (31.9%)	7 (46.7%)	8 (53.3%)	1 (6.7%)	0 (0.0%)	3 (20.0%)
Number of Months From Award to Startup						
Less Than 3	14 (29.8%)	6 (42.9%)	6 (42.9%)	4 (28.6%)	1 (7.1%)	1 (7.1%)
3 to 5.5	27 (57.5%)	16 (59.3%)	13 (48.1%)	3 (11.1%)	2 (7.4%)	2 (7.4%)
More Than 5.5	6 (12.8%)	5 (83.3%)	3 (50.0%)	2 (33.3%)	2 (33.3%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.7. Percent With Established QM Processes and Using QI, by CBO Characteristics*

Characteristic	All Sites	Had QM Program	Used QI To Improve
Grand Total	47 (100%)	39 (83.0%)	20 (42.6%)
Type of CBO			
AAA	19 (40.4%)	17 (89.5%)	11 (57.9%)
AAA/ADRC	2 (4.3%)	14 (93.3%)	6 (40.0%)
ADRC	15 (31.9%)	2 (100.0%)	2 (100.0%)
Other	11 (23.4%)	6 (54.5%)	1 (9.1%)
Census Region			
Northeast	19 (40.4%)	15 (78.9%)	9 (47.4%)
South	9 (19.2%)	9 (100.0%)	4 (44.4%)
Midwest	11 (23.4%)	8 (72.7%)	3 (27.3%)
West	8 (17.0%)	7 (87.5%)	4 (50.0%)
CBO Role			
Coordination	7 (14.9%)	6 (85.7%)	2 (28.6%)
Direct Service Provider	5 (10.6%)	4 (80.0%)	2 (40.0%)
Both	34 (72.3%)	28 (82.4%)	16 (47.1%)
Other	1 (2.1%)	1 (100.0%)	0 (0.0%)
Number of Elder Services Provided			
6 or More	24 (51.1%)	20 (83.3%)	12 (50.0%)
2-5	20 (42.6%)	16 (80.0%)	7 (35.0%)
Less Than 2	3 (6.4%)	3 (100.0%)	1 (33.3%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.8. Percent With Established QM Processes and Using QI, by CCTP Characteristics*

Characteristic	All Sites	Had QM Program	Used QI To Improve
Grand Total	47 (100%)	39 (83.0%)	19 (40.4%)
Award Round			
1	7 (14.9%)	7 (100.0%)	6 (85.7%)
2	22 (46.8%)	18 (81.8%)	7 (31.8%)
3	18 (38.3%)	14 (77.8%)	6 (33.3%)
Type of CT Model			
CTI (Coleman)	26 (55.3%)	22 (84.6%)	10 (38.5%)
Mixed CTI With Other Model	13 (27.7%)	12 (92.3%)	7 (53.8%)
Mixed: Non-CTI + Other Model	6 (12.8%)	4 (66.7%)	1 (16.7%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	1 (50.0%)	1 (50.0%)

Characteristic	All Sites	Had QM Program	Used QI To Improve
Type of CT Workers			
SW and RN/LPN	23 (48.9%)	18 (78.3%)	11 (47.8%)
RN/LPN Only	8 (17.0%)	7 (87.5%)	2 (25.0%)
SW Only	4 (8.5%)	4 (100.0%)	2 (50.0%)
Other/Unspecified	12 (25.5%)	10 (83.3%)	4 (33.3%)
Types of Medicare Beneficiaries Targeted			
All Medicare Beneficiaries	26 (55.3%)	21 (80.8%)	11 (42.3%)
Medicare Aged Only	19 (40.4%)	16 (84.2%)	7 (36.8%)
Other	2 (4.3%)	2 (100.0%)	1 (50.0%)
Number of Hospital Partners			
1–2	15 (31.9%)	10 (66.7%)	4 (26.7%)
3–5	17 (36.2%)	15 (88.2%)	9 (52.9%)
6 or More	15 (31.9%)	14 (93.3%)	6 (40.0%)
Number of Non-Hospital Partners			
0	9 (19.2%)	8 (88.9%)	4 (44.4%)
1–5	24 (51.1%)	20 (83.3%)	8 (33.3%)
6 or More	14 (29.8%)	11 (78.6%)	7 (50.0%)
Two-Year Enrollment Goal			
Less Than 3,500	10 (21.3%)	8 (80.0%)	4 (40.0%)
3,501 to 10,000	22 (46.8%)	19 (86.4%)	10 (45.5%)
10,001 and Above	15 (31.9%)	12 (80.0%)	5 (33.3%)
Number of Months From Award to Startup			
Less Than 3	14 (29.8%)	13 (92.9%)	8 (57.1%)
3 to 5.5	27 (57.5%)	22 (81.5%)	8 (29.6%)
More Than 5.5	6 (12.8%)	4 (66.7%)	3 (50.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.9. Percent Reporting Types of Experiences With Hospital Partners, by CBO Characteristics*

Characteristic	All Sites	Relationships Long Established	Staff Turnover	Hospital Internal Challenges	Communication Relationship Building
Grand Total	47 (100%)	7 (14.9%)	12 (25.5%)	20 (42.6%)	9 (19.1%)
Type of Organization					
AAA	19 (40.4%)	2 (10.5%)	5 (26.3%)	7 (36.8%)	5 (26.3%)
ADRC	2 (4.3%)	1 (50.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)
AAA/ADRC	15 (31.9%)	4 (26.7%)	5 (33.3%)	9 (60.0%)	1 (6.7%)
Other	11 (23.4%)	0 (0.0%)	1 (9.1%)	3 (27.3%)	3 (27.3%)

Characteristic	All Sites	Relationships Long Established	Staff Turnover	Hospital Internal Challenges	Communication Relationship Building
Census Region					
Northeast	19 (40.4%)	4 (21.1%)	3 (15.8%)	9 (47.4%)	5 (26.3%)
South	9 (19.2%)	1 (11.1%)	5 (55.6%)	2 (22.2%)	0 (0.0%)
Midwest	11 (23.4%)	2 (18.2%)	3 (27.3%)	7 (63.6%)	3 (27.3%)
West	8 (17.0%)	0 (0.0%)	1 (12.5%)	2 (25.0%)	1 (12.5%)
Role of CBO in CCTP					
Coordination	7 (14.9%)	1 (14.3%)	2 (28.6%)	1 (14.3%)	0 (0.0%)
Direct Service Provider	5 (10.6%)	0 (0.0%)	1 (20.0%)	2 (40.0%)	1 (20.0%)
Both	34 (72.3%)	5 (14.7%)	9 (26.5%)	16 (47.1%)	8 (23.5%)
Other	1 (2.1%)	1 (100.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
Services Provided by CBO Generally					
6 or More	24 (51.1%)	5 (20.8%)	6 (25.0%)	12 (50.0%)	3 (12.5%)
2–5 Services	20 (42.6%)	1 (5.0%)	5 (25.0%)	6 (30.0%)	6 (30.0%)
Less Than 2	3 (6.4%)	1 (33.3%)	1 (33.3%)	2 (66.7%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.10. Percent Reporting Types of Experiences With Hospital Partners, by CCTP Characteristics*

Characteristic	All Sites	Relationships Long Established	Staff Turnover	Hospital Internal Challenges	Communication Relationship Building
Grand Total	47 (100%)	7 (14.9%)	12 (25.5%)	20 (42.6%)	9 (19.1%)
CCTP Award Date					
Round 1	7 (14.9%)	4 (57.1%)	1 (14.3%)	4 (57.1%)	0 (0.0%)
Round 2	22 (46.8%)	3 (13.6%)	8 (36.4%)	9 (40.9%)	7 (31.8%)
Round 3	18 (38.3%)	0 (0.0%)	3 (16.7%)	7 (38.9%)	2 (11.1%)
CT Model					
CTI (Coleman)	26 (55.3%)	4 (15.4%)	8 (30.8%)	12 (46.2%)	5 (19.2%)
Mixed CTI With Other Model	13 (27.7%)	1 (7.7%)	4 (30.8%)	6 (46.2%)	2 (15.4%)
Mixed: Non-CTI + Other Model	6 (12.8%)	2 (33.3%)	0 (0.0%)	2 (33.3%)	2 (33.3%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Characteristic	All Sites	Relationships Long Established	Staff Turnover	Hospital Internal Challenges	Communication Relationship Building
Types of CT Workers					
SW and RN/LPN	23 (48.9%)	3 (13.0%)	2 (8.7%)	11 (47.8%)	5 (21.7%)
RN/LPN Only	8 (17.0%)	1 (12.5%)	3 (37.5%)	5 (62.5%)	1 (12.5%)
SW Only	4 (8.5%)	1 (25.0%)	0 (0.0%)	2 (50.0%)	0 (0.0%)
Other/Unspecified	12 (25.5%)	2 (16.7%)	7 (58.3%)	2 (16.7%)	3 (25.0%)
Types of Medicare Beneficiaries Targeted					
Medicare Aged/Disabled	26 (55.3%)	1 (3.8%)	7 (26.9%)	11 (42.3%)	5 (19.2%)
Medicare Aged Only	19 (40.4%)	5 (26.3%)	5 (26.3%)	8 (42.1%)	4 (21.1%)
Other	2 (4.3%)	1 (50.0%)	0 (0.0%)	1 (50.0%)	0 (0.0%)
Number of Hospital Partners					
1–2	15 (31.9%)	0 (0.0%)	5 (33.3%)	6 (40.0%)	3 (20.0%)
3–5	17 (36.2%)	2 (11.8%)	3 (17.6%)	10 (58.8%)	4 (23.5%)
6 or More	15 (31.9%)	5 (33.3%)	4 (26.7%)	4 (26.7%)	2 (13.3%)
Number of Other Partners					
0	9 (19.2%)	0 (0.0%)	2 (22.2%)	4 (44.4%)	3 (33.3%)
1–5	24 (51.1%)	6 (25.0%)	6 (25.0%)	10 (41.7%)	4 (16.7%)
6 or More	14 (29.8%)	1 (7.1%)	4 (28.6%)	6 (42.9%)	2 (14.3%)
Two-Year Enrollment Goal					
Less Than 3,500	10 (21.3%)	0 (0.0%)	4 (40.0%)	4 (40.0%)	2 (20.0%)
3,501 to 10,000	22 (46.8%)	4 (18.2%)	5 (22.7%)	8 (36.4%)	3 (13.6%)
10,001 and Above	15 (31.9%)	3 (20.0%)	3 (20.0%)	8 (53.3%)	4 (26.7%)
Number of Months From Award to Startup					
Less Than 3	14 (29.8%)	3 (21.4%)	3 (21.4%)	8 (57.1%)	0 (0.0%)
3 to 5.5	27 (57.5%)	4 (14.8%)	7 (25.9%)	10 (37.0%)	9 (33.3%)
More Than 5.5	6 (12.8%)	0 (0.0%)	2 (33.3%)	2 (33.3%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.11. Experiences With Community Partners, by CBO Characteristics*

Characteristic	All Sites	SNF Initiatives	HHA Initiatives	Ancillary Service Providers	Dissolved Partners
Grand Total	47 (100%)	20 (42.6%)	9 (19.1%)	6 (12.8%)	4 (8.5%)
Type of Organization					
AAA	19 (40.4%)	9 (47.4%)	6 (31.6%)	2 (10.5%)	0 (0.0%)
ADRC	2 (4.3%)	2 (100.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)
AAA/ADRC	15 (31.9%)	3 (20.0%)	0 (0.0%)	1 (6.7%)	2 (13.3%)
Other	11 (23.4%)	6 (54.5%)	2 (18.2%)	3 (27.3%)	2 (18.2%)
Census Region					
Northeast	19 (40.4%)	7 (36.8%)	5 (26.3%)	3 (15.8%)	0 (0.0%)
South	9 (19.2%)	3 (33.3%)	1 (11.1%)	0 (0.0%)	2 (22.2%)
Midwest	11 (23.4%)	6 (54.5%)	1 (9.1%)	2 (18.2%)	1 (9.1%)
West	8 (17.0%)	4 (50.0%)	2 (25.0%)	1 (12.5%)	1 (12.5%)
Role of CBO in CCTP					
Coordination	7 (14.9%)	2 (28.6%)	2 (28.6%)	1 (14.3%)	1 (14.3%)
Direct Service Provider	5 (10.6%)	3 (60.0%)	2 (40.0%)	0 (0.0%)	0 (0.0%)
Both	34 (72.3%)	15 (44.1%)	5 (14.7%)	5 (14.7%)	3 (8.8%)
Other	1 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Services Provided by CBO Generally					
6 or More	24 (51.1%)	11 (45.8%)	5 (20.8%)	2 (8.3%)	2 (8.3%)
2-5	20 (42.6%)	8 (40.0%)	4 (20.0%)	3 (15.0%)	2 (10.0%)
Less Than 2	3 (6.4%)	1 (33.3%)	0 (0.0%)	1 (33.3%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.12. Experiences With Community Partners, by CCTP Characteristics*

Characteristic	All Sites	SNF Initiatives	HHA Initiatives	Ancillary Service Providers	Dissolved Partners
Grand Total	47 (100%)	20 (42.6%)	9 (19.1%)	6 (12.8%)	4 (8.5%)
CCTP Award Date					
Round 1	7 (14.9%)	3 (42.9%)	1 (14.3%)	2 (28.6%)	1 (14.3%)
Round 2	22 (46.8%)	10 (45.5%)	6 (27.3%)	1 (4.5%)	1 (4.5%)
Round 3	18 (38.3%)	7 (38.9%)	2 (11.1%)	3 (16.7%)	2 (11.1%)
CT Model					
CTI (Coleman)	26 (55.3%)	12 (46.2%)	5 (19.2%)	2 (7.7%)	1 (3.9%)
Mixed CTI With Other Model	13 (27.7%)	6 (46.2%)	1 (7.7%)	2 (15.4%)	2 (15.4%)

Characteristic	All Sites	SNF Initiatives	HHA Initiatives	Ancillary Service Providers	Dissolved Partners
Mixed: Non-CTI + Other Model	6 (12.8%)	0 (0.0%)	2 (33.3%)	2 (33.3%)	1 (16.7%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	2 (100.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)
Types of CT Workers					
SW and RN/LPN	23 (48.9%)	11 (47.8%)	7 (30.4%)	4 (17.4%)	3 (13.0%)
RN/LPN Only	8 (17.0%)	4 (50.0%)	2 (25.0%)	0 (0.0%)	1 (12.5%)
SW Only	4 (8.5%)	2 (50.0%)	0 (0.0%)	2 (50.0%)	0 (0.0%)
Other/Unspecified	12 (25.5%)	3 (25.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Types of Medicare Beneficiaries Targeted					
Medicare Aged/ Disabled	26 (55.3%)	12 (46.2%)	5 (19.2%)	4 (15.4%)	4 (15.4%)
Medicare Aged Only	19 (40.4%)	8 (42.1%)	4 (21.1%)	2 (10.5%)	0 (0.0%)
Other	2 (4.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Number of Hospital Partners					
1–2	15 (31.9%)	7 (46.7%)	2 (13.3%)	2 (13.3%)	1 (6.7%)
3–5	17 (36.2%)	9 (52.9%)	4 (23.5%)	3 (17.6%)	2 (11.8%)
6 or More	15 (31.9%)	4 (26.7%)	3 (20.0%)	1 (6.7%)	1 (6.7%)
Number of Other Partners					
0	9 (19.2%)	3 (33.3%)	3 (33.3%)	1 (11.1%)	1 (11.1%)
1–5	24 (51.1%)	11 (45.8%)	6 (25.0%)	2 (8.3%)	2 (8.3%)
6 or More	14 (29.8%)	6 (42.9%)	0 (0.0%)	3 (21.4%)	1 (7.1%)
Two-Year Enrollment Goal					
Less Than 3,500	10 (21.3%)	6 (60.0%)	3 (30.0%)	1 (10.0%)	1 (10.0%)
3,501 to 10,000	22 (46.8%)	11 (50.0%)	4 (18.2%)	2 (9.1%)	2 (9.1%)
10,001 and Above	15 (31.9%)	3 (20.0%)	2 (13.3%)	3 (20.0%)	1 (6.7%)
Number of Months From Award to Startup					
Less Than 3	14 (29.8%)	6 (42.9%)	3 (21.4%)	4 (28.6%)	2 (14.3%)
3 to 5.5	27 (57.5%)	11 (40.7%)	5 (18.5%)	2 (7.4%)	2 (7.4%)
More Than 5.5	6 (12.8%)	3 (50.0%)	1 (16.7%)	0 (0.0%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.13. Strategies to Meet Beneficiary Needs, by CBO Characteristics*

Characteristic	All Sites	Expanded Targeting Criteria	Strategies for Addressing Language Issues	Strategies for Addressing Literacy Issues
Grand Total	47 (100%)	15 (31.9%)	31 (66.0%)	25 (53.2%)
Type of Organization				
AAA	19 (40.4%)	5 (26.3%)	12 (63.2%)	9 (47.4%)
ADRC	2 (4.3%)	1 (50.0%)	1 (50.0%)	1 (50.0%)
AAA/ADRC	15 (31.9%)	4 (26.7%)	11 (73.3%)	9 (60.0%)
Other	11 (23.4%)	5 (45.5%)	7 (63.6%)	6 (54.6%)
Census Region				
Northeast	19 (40.4%)	4 (21.1%)	12 (63.2%)	11 (57.9%)
South	9 (19.2%)	5 (55.6%)	7 (77.8%)	6 (66.7%)
Midwest	11 (23.4%)	6 (54.6%)	7 (63.6%)	7 (63.6%)
West	8 (17.0%)	0 (0.0%)	5 (62.5%)	1 (12.5%)
Role of CBO in CCTP				
Coordination	7 (14.9%)	5 (71.4%)	6 (85.7%)	4 (57.1%)
Direct Service Provider	5 (10.6%)	2 (40.0%)	2 (40.0%)	3 (60.0%)
Both	34 (72.3%)	8 (23.5%)	22 (64.7%)	17 (50.0%)
Other	1 (2.1%)	0 (0.0%)	1 (100.0%)	1 (100.0%)
Services Provided by CBO Generally				
6 or More	24 (51.1%)	8 (33.3%)	24 (100.0%)	24 (100.0%)
2–5	20 (42.6%)	7 (35.0%)	12 (60.0%)	10 (50.0%)
Less Than 2	3 (6.4%)	1 (33.3%)	2 (66.7%)	2 (50.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.14. Strategies to Meet Beneficiary Needs, by CCTP Characteristics*

Characteristic	All Sites	Expanded Targeting Criteria	Strategies for Addressing Language Issues	Strategies for Addressing Literacy Issues
Grand Total	47 (100%)	15 (31.9%)	31 (66.0%)	25 (53.2%)
CCTP Award Date				
Round 1	7 (14.9%)	2 (28.6%)	5 (71.4%)	3 (42.9%)
Round 2	22 (46.8%)	8 (36.4%)	15 (68.2%)	10 (45.5%)
Round 3	18 (38.3%)	5 (27.8%)	11 (61.1%)	12 (66.7%)
CT Model				
CTI (Coleman)	26 (55.3%)	7 (26.9%)	14 (53.8%)	12 (46.2%)
Mixed CTI With Other Model	13 (27.7%)	6 (46.2%)	9 (69.2%)	7 (53.8%)

Characteristic	All Sites	Expanded Targeting Criteria	Strategies for Addressing Language Issues	Strategies for Addressing Literacy Issues
Mixed: Non-CTI + Other Model	6 (12.8%)	2 (33.3%)	6 (100.0%)	5 (83.3%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	0 (0.0%)	2 (100.0%)	1 (50.0%)
Types of CT Workers				
SW and RN/LPN	23 (48.9%)	9 (39.1%)	15 (65.2%)	13 (56.5%)
RN/LPN Only	8 (17.0%)	3 (37.5%)	5 (62.5%)	3 (37.5%)
SW Only	4 (8.5%)	1 (25.0%)	3 (75.0%)	1 (25.0%)
Other/Unspecified	12 (25.5%)	2 (16.7%)	8 (66.7%)	8 (66.7%)
Types of Medicare Beneficiaries Targeted				
Medicare Aged/Disabled	26 (55.3%)	10 (38.5%)	21 (80.8%)	13 (50.0%)
Medicare Aged Only	19 (40.4%)	5 (26.3%)	9 (47.4%)	11 (57.9%)
Other	2 (4.3%)	0 (0.0%)	1 (50.0%)	1 (50.0%)
Number of Hospital Partners				
1–2	15 (31.9%)	5 (33.3%)	10 (66.7%)	7 (46.7%)
3–5	17 (36.2%)	5 (29.4%)	8 (52.9%)	8 (52.9%)
6 or More	15 (31.9%)	5 (33.3%)	13 (86.7%)	10 (66.7%)
Number of Other Partners				
0	9 (19.2%)	3 (33.3%)	7 (77.8%)	5 (55.6%)
1–5	24 (51.1%)	6 (25.0%)	11 (45.8%)	10 (41.7%)
6 or More	14 (29.8%)	6 (42.9%)	13 (92.9%)	10 (71.4%)
Two-Year Enrollment Goal				
Less Than 3,500	10 (21.3%)	3 (30.0%)	7 (70.0%)	2 (20.0%)
3,501–10,000	22 (46.8%)	9 (40.9%)	14 (63.6%)	13 (59.1%)
10,001 and Above	15 (31.9%)	3 (20.0%)	10 (66.7%)	10 (66.7%)
Number of Months From Award to Startup				
Less Than 3	14 (29.8%)	3 (21.4%)	11 (78.6%)	10 (71.4%)
3–5.5	27 (57.5%)	8 (29.6%)	14 (51.9%)	9 (33.3%)
More Than 5.5	6 (12.8%)	4 (66.7%)	6 (100.0%)	6 (100.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.15. Characteristics of Beneficiaries Most Difficult to Serve, by CBO Characteristics*

Characteristic	All Sites	Behavioral Health	Younger Beneficiaries	Active Caregiver
Grand Total	47 (100%)	15 (31.9%)	7(14.9%)	6 (12.8%)
Type of Organization				
AAA	19 (40.4%)	9 (47.4%)	2 (10.5%)	0 (0.0%)
ADRC	2 (4.3%)	0 (0.0%)	0 (0.0%)	2 (100.0%)
AAA/ADRC	15 (31.9%)	4 (26.7%)	3 (20.0%)	4 (26.7%)
Other	11 (23.4%)	2 (18.2%)	2 (18.2%)	0 (0.0%)
Census Region				
Northeast	19 (40.4%)	6 (31.6%)	2 (10.5%)	2 10 .53%
South	9 (19.2%)	1 (11.1%)	1 (11.1%)	1 (11.1%)
Midwest	11 (23.4%)	4 (36.4%)	4 (36.4%)	2 (18.2%)
West	8 (17.0%)	4 (50.0%)	0 (0.0%)	1 (12.5%)
Role of CBO in CCTP				
Coordination	7 (14.9%)	2 (28.6%)	1 (14.3%)	0 (0.0%)
Direct Service Provider	5 (10.6%)	1 (20.0%)	0 (0.0%)	0 (0.0%)
Both	34 (72.3%)	11 (32.4%)	6 (17.7%)	6 (17.7%)
Other	1 (2.1%)	1 (100.0%)	0 (0.0%)	0 (0.0%)
Services Provided by CBO Generally				
6 or More	24 (51.1%)	8 (33.3%)	4 (16.7%)	5 (20.8%)
2–5	20 (42.6%)	5 (25.0%)	3 (15.0%)	1 (5.0%)
Less Than 2	3 (6.4%)	2 (66.7%)	0 (0.0%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.16. Characteristics of Beneficiaries Most Difficult to Serve, by CCTP Characteristics*

Characteristic	All Sites	Behavioral Health	Younger Beneficiaries	Active Caregiver
Grand Total	47 (100%)	15 (31.9%)	7 (14.9%)	6 (12.8%)
CCTP Award Date				
Round 1	7 (14.9%)	2 (28.6%)	4 (57.1%)	2 (28.6%)
Round 2	22 (46.8%)	8 (36.4%)	0 (0.0%)	1 (4.6%)
Round 3	18 (38.3%)	5 (27.8%)	3 (16.7%)	3 (16.7%)
CT Model				
CTI (Coleman)	26 (55.3%)	8 (30.8%)	5 (19.2%)	4 (15.4%)
Mixed CTI With Other Model	13 (27.7%)	4 (30.8%)	1 (7.7%)	1 (7.7%)

Characteristic	All Sites	Behavioral Health	Younger Beneficiaries	Active Caregiver
Mixed: Non-CTI + Other Model	6 (12.8%)	3 (50.0%)	1 (16.7%)	0 (0.0%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	0 (0.0%)	0 (0.0%)	1 (50.0%)
Types of CT Workers				
SW and RN/LPN	23 (48.9%)	9 (39.1%)	5 (21.7%)	3 (13.0%)
RN/LPN Only	8 (17.0%)	3 (37.5%)	1 (12.5%)	1 (12.5%)
SW Only	4 (8.5%)	2 (50.0%)	1 (25.0%)	1 (25.0%)
Other/Unspecified	12 (25.5%)	1 (8.3%)	0 (0.0%)	1 (8.3%)
Types of Medicare Beneficiaries Targeted				
Medicare Aged/Disabled	26 (55.3%)	8	5	3 (17.7%)
Medicare Aged Only	19 (40.4%)	5 (26.3%)	2	2 (10.5%)
Other	2 (4.3%)	5	1 (9.1%)	1 (9.1%)
Number of Hospital Partners				
1–2	15 (31.9%)	5 (33.3%)	2 (13.3%)	3 (20.0%)
3–5	17 (36.2%)	4 (23.5%)	3 (17.7%)	3 (17.7%)
6 or More	15 (31.9%)	6 (40.0%)	2 (13.3%)	0 (0.0%)
Number of Other Partners				
0	9 (19.2%)	4 (44.4%)	1 (11.1%)	2 (22.2%)
1–5	24 (51.1%)	7 (29.2%)	3 (12.5%)	1 (4.2%)
6 or More	14 (29.8%)	4 (2.6%)	3 (21.4%)	3 (21.4%)
Two-Year Enrollment Goal				
Less Than 3,500	10 (21.3%)	3 (30.0%)	0 (0.0%)	2 (20.0%)
3,501–10,000	22 (46.8%)	9 (40.9%)	5 (22.7%)	3 (13.6%)
10,001 and Above	15 (31.9%)	3 (20.0%)	2 (13.3%)	1 (6.7%)
Number of Months From Award to Startup				
Less Than 3	14 (29.8%)	8 (57.1%)	1 (7.1%)	1 (7.1%)
3–5.5	27 (57.5%)	7 (25.9%)	6 (22.2%)	4 (14.8%)
More Than 5.5	6 (12.8%)	0 (0.0%)	0 (0.0%)	1 (16.7%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.17. Challenges to Implementation and Meeting Program Objectives, by CBO Characteristics*

Characteristic	All Sites	Staffing	Identifying Patients	Billing	Data Systems	Funding
Grand Total	47 (100%)	21 (44.7%)	19 (40.4%)	15 (31.9%)	18 (38.3%)	17 (36.2%)
Type of Organization						
AAA	19 (40.4%)	7 (36.8%)	8 (42.1%)	4 (21.1%)	7 (36.8%)	8 (42.1%)
ADRC	2 (4.3%)	2 (100.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)
AAA/ADRC	15 (31.9%)	6 (40.0%)	6 (40.0%)	4 (26.7%)	5 (33.3%)	5 (33.3%)
Other	11 (23.4%)	6 (54.5%)	5 (45.5%)	6 (54.5%)	5 (45.5%)	4 (36.4%)
Census Region						
Northeast	19 (40.4%)	10 (52.6%)	7 (36.8%)	7 (36.8%)	10 (52.6%)	7 (36.8%)
South	9 (19.2%)	3 (33.3%)	4 (44.4%)	3 (33.3%)	2 (22.2%)	3 (33.3%)
Midwest	11 (23.4%)	5 (45.5%)	4 (36.4%)	6 (45.5%)	3 (27.3%)	3 (27.3%)
West	8 (17.0%)	3 (37.5%)	4 (50.0%)	0 (0.0%)	3 (37.5%)	4 (50.0%)
Role of CBO in CCTP						
Coordination	7 (14.9%)	4 (57.1%)	5 (71.4%)	1 (14.3%)	0 (0.0%)	1 (14.3%)
Direct Service Provider	5 (10.6%)	3 (60.0%)	3 (60.0%)	2 (40.0%)	2 (40.0%)	3 (60.0%)
Both	34 (72.3%)	14 (41.2%)	11 (32.4%)	12 (35.3%)	15 (44.1%)	13 (38.2%)
Other	1 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
Services Provided by CBO Generally						
6 or More	24 (51.1%)	10 (41.7%)	10 (41.7%)	7 (29.2%)	10 (41.7%)	8 (33.3%)
2-5	20 (42.6%)	10 (50.0%)	7 (35.0%)	7 (35.0%)	6 (30.0%)	8 (40.0%)
Less Than 2	3 (6.4%)	1 (33.3%)	2 (66.7%)	1 (33.3%)	2 (66.7%)	1 (33.3%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.18. Challenges to Implementation and Meeting Program Objectives, by CCTP Characteristics*

Characteristic	All Sites	Staffing	Identifying Patients	Billing	Data Systems	Funding
Grand Total	47 (100%)	21 (44.7%)	19 (40.4%)	15 (31.9%)	18 (38.3%)	17 (36.2%)
CCTP Award Date						
Round 1	7 (14.9%)	4 (57.1%)	4 (57.1%)	2 (28.6%)	1 (14.3%)	2 (28.6%)
Round 2	22 (46.8%)	9 (40.9%)	6 (27.3%)	8 (36.4%)	9 (40.9%)	8 (36.4%)
Round 3	18 (38.3%)	8 (44.4%)	9 (50.0%)	5 (27.8%)	8 (44.4%)	7 (38.9%)

Characteristic	All Sites	Staffing	Identifying Patients	Billing	Data Systems	Funding
CT Model						
CTI (Coleman)	26 (55.3%)	12 (46.2%)	13 (50.0%)	8 (30.8%)	7 (26.9%)	10 (38.5%)
Mixed CTI With Other Model	13 (27.7%)	5 (38.5%)	3 (23.1%)	5 (38.5%)	7 (53.9%)	4 (30.8%)
Mixed: Non-CTI + Other Model	6 (12.8%)	3 (50.0%)	2 (33.3%)	2 (33.3%)	3 (50.0%)	2 (33.3%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	1 (50.0%)	1 (50.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)
Types of CT Workers						
SW and RN/LPN	23 (48.9%)	13 (56.5%)	(39.1%)	7 (30.4%)	10 (43.5%)	11 (47.8%)
RN/LPN Only	8 (17.0%)	2 (25.0%)	(62.5%)	2 (25.0%)	1 (12.5%)	2 (25.0%)
SW Only	4 (8.5%)	2 (50.0%)	(25.0%)	1 (25.0%)	2 (50.0%)	1 (25.0%)
Other/ Unspecified	12 (25.5%)	4 (33.3%)	(33.3%)	5 (41.7%)	5 (41.7%)	3 (25.0%)
Types of Medicare Beneficiaries Targeted						
Medicare Aged/ Disabled	26 (55.3%)	14 (53.8%)	11 (42.3%)	9 (34.6%)	7 (26.9%)	7 (26.9%)
Medicare Aged Only	19 (40.4%)	6 (31.6%)	8 (42.1%)	6 (31.6%)	9 (47.4%)	9 (47.4%)
Other	2 (4.3%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)	1 (50.0%)
Number of Hospital Partners						
1–2	15 (31.9%)	6 (40.0%)	7 (46.7%)	5 (33.3%)	7 (46.7%)	9 (60.0%)
3–5	17 (36.2%)	10 (58.8%)	5 (29.4%)	7 (41.2%)	7 (41.2%)	7 (41.2%)
6 or More	15 (31.9%)	5 (33.3%)	7 (46.7%)	3 (20.0%)	4 (26.7%)	1 (6.7%)
Number of Other Partners						
0	9 (19.2%)	4 (44.4%)	3 (33.3%)	4 (44.4%)	2 (22.2%)	4 (44.4%)
1–5	24 (51.1%)	12 (50.0%)	8 (33.3%)	8 (33.3%)	10 (41.7%)	8 (33.3%)
6 or More	14 (29.8%)	5 (35.7%)	8 (57.1%)	3 (21.4%)	6 (42.9%)	5 (35.7%)
Two-Year Enrollment Goal						
Less Than 3,5000	10 (21.3%)	3 (30.0%)	5 (50.0%)	2 (20.0%)	4 (40.0%)	4 (40.0%)
3,501–10,000	22 (46.8%)	14 (63.6%)	10 (45.5%)	7 (31.8%)	8 (36.4%)	10 (45.5%)
10,001 and Above	15 (31.9%)	4 (26.7%)	4 (26.7%)	6 (40.0%)	6 (40.0%)	3 (20.0%)

Characteristic	All Sites	Staffing	Identifying Patients	Billing	Data Systems	Funding
Number of Months From Award to Startup						
Less Than 3	14 (29.8%)	7 (50.0%)	6 (42.9%)	4 (28.6%)	6 (42.9%)	3 (21.4%)
3–5.5	27 (57.5%)	11 (40.7%)	8 (29.6%)	9 (33.3%)	11 (40.7%)	12 (44.4%)
More Than 5.5	6 (12.8%)	4 (66.7%)	5 (83.3%)	2 (33.3%)	1 (16.7%)	2 (33.3%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.19. Lessons Learned, by CBO Characteristics*

Characteristic	All Sites	Learning Culture/ Communication With Partners	Database	Billing Process
Grand Total	47 (100%)	20 (42.6%)	10 (21.3%)	7 (14.9%)
Type of Organization				
AAA	19 (40.4%)	7 (36.8%)	1 (5.3%)	1 (5.3%)
ADRC	2 (4.3%)	1 (50.0%)	1 (50.0%)	1 (50.0%)
AAA/ADRC	15 (31.9%)	7 (46.7%)	5 (33.3%)	3 (20.0%)
Other	11 (23.4%)	5 (45.5%)	3 (27.3%)	2 (18.2%)
Census Region				
Northeast	19 (40.4%)	10 (52.6%)	4 (21.1%)	1 (5.3%)
South	9 (19.2%)	4 (44.4%)	2 (22.2%)	4 (44.4%)
Midwest	11 (23.4%)	5 (45.5%)	4 (36.4%)	2 (18.2%)
West	8 (17.0%)	1 (12.5%)	0 (0.0%)	0 (0.0%)
Role of CBO in CCTP				
Coordination	7 (14.9%)	4 (57.1%)	1 (14.3%)	2 (28.6%)
Direct Service Provider	5 (10.6%)	1 (20.0%)	0 (0.0%)	0 (0.0%)
Both	34 (72.3%)	14 (41.2%)	8 (23.5%)	5 (14.7%)
Other	1 (2.1%)	1 (100.0%)	1 (100.0%)	0 (0.0%)
Services Provided by CBO Generally				
6 or More	24 (51.1%)	10 (41.7%)	6 (25.0%)	1 (4.2%)
2–5	20 (42.6%)	8 (40.0%)	3 (15.0%)	6 (30.0%)
Less Than 2	3 (6.4%)	2 (66.7%)	1 (33.3%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.20. Lessons Learned, by CCTP Characteristics*

Characteristic	All Sites	Learning Culture/ Communication With Partners	Database	Billing Process
Grand Total	47 (100%)	20 (42.6%)	10 (21.3%)	7 (14.9%)
CCTP Award Date				
Round 1	7 (14.9%)	1 (14.3%)	1 (14.3%)	0 (0.0%)
Round 2	22 (46.8%)	10 (45.5%)	7 (31.8%)	1 (4.5%)
Round 3	18 (38.3%)	9 (50.0%)	2 (11.1%)	6 (33.3%)
CT Model				
CTI (Coleman)	26 (55.3%)	12 (46.2%)	6 (23.1%)	2 (7.7%)
Mixed CTI With Other Model	13 (27.7%)	2 (15.4%)	2 (15.4%)	4 (30.8%)
Mixed: Non-CTI + Other Model	6 (12.8%)	5 (83.3%)	2 (33.3%)	1 (16.7%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	1 (50.0%)	0 (0.0%)	0 (0.0%)
Types of CT Workers				
SW and RN/LPN	23 (48.9%)	10 (43.5%)	4 (17.4%)	4 (17.4%)
RN/LPN Only	8 (17.0%)	3 (37.5%)	0 (0.0%)	0 (0.0%)
SW Only	4 (8.5%)	2 (50.0%)	2 (50.0%)	0 (0.0%)
Other/Unspecified	12 (25.5%)	5 (41.7%)	4 (33.3%)	3 (25.0%)
Types of Beneficiaries Targeted				
All Medicare Beneficiaries	26 (55.3%)	10 (38.5%)	5 (29.4%)	5 (19.2%)
Medicare Aged Only	19 (40.4%)	8 (42.1%)	4 (21.1%)	2 (10.5%)
Other	2 (4.3%)	2 (100.0%)	1 (9.1%)	0 (0.0%)
Number of Hospital Partners				
1–2	15 (31.9%)	9 (60.0%)	3 (20.0%)	1 (6.7%)
3–5	17 (36.2%)	4 (23.5%)	4 (23.5%)	3 (17.6%)
6 or More	15 (31.9%)	7 (46.7%)	3 (20.0%)	3 (20.0%)
Number of Other Partners				
0	9 (19.2%)	2 (22.2%)	2 (22.2%)	0 (0.0%)
1–5	24 (51.1%)	11 (45.8%)	7 (29.2%)	5 (20.8%)
6 or More	14 (29.8%)	7 (50.0%)	1 (7.1%)	14 (100.0%)
Two-Year Enrollment Goal				
Less Than 3,500	10 (21.3%)	4 (40.0%)	1 (10.0%)	0 (0.0%)
3,501–10,000	22 (46.8%)	11 (50.0%)	5 (22.7%)	3 (13.6%)
10,001 and Above	15 (31.9%)	5 (33.3%)	4 (26.7%)	4 (26.7%)

Characteristic	All Sites	Learning Culture/ Communication With Partners	Database	Billing Process
Number of Months From Award to Startup				
Less Than 3	14 (29.8%)	5 (35.7%)	3 (21.4%)	2 (14.3%)
3–5.5	27 (57.5%)	11 (40.7%)	7 (25.9%)	5 (18.5%)
More Than 5.5	6 (12.8%)	5 (83.3%)	0 (0.0%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.21. Participation in CCTP Learning Collaborative, by CBO Characteristics*

Characteristic	All Sites	In-Person Meetings	TA Helpful and Responsive	Learning Events Less Helpful	More Breakout Sessions/ Team Time
Grand Total	47 (100%)	21 (44.7%)	11 (23.4%)	16 (34.0%)	11 (23.4%)
Type of Organization					
AAA	19 (40.4%)	7 (36.8%)	6 (31.6%)	5 (26.3%)	3 (15.8%)
ADRC	2 (4.3%)	2 (100.0%)	0 (0.0%)	1 (50.0%)	2 (100.0%)
AAA/ADRC	15 (31.9%)	7 (46.7%)	2 (13.3%)	5 (33.3%)	1 (6.7%)
Other	11 (23.4%)	5 (45.5%)	3 (27.3%)	5 (45.5%)	5 (45.5%)
Census Region					
Northeast	19 (40.4%)	8 (42.1%)	3 (15.8%)	8 (42.1%)	5 (26.3%)
South	9 (19.2%)	5 (55.6%)	0 (0.0%)	3 (33.3%)	2 (22.2%)
Midwest	11 (23.4%)	5 (45.5%)	2 (18.2%)	5 (45.5%)	1 (9.1%)
West	8 (17.0%)	3 (37.5%)	6 (75.0%)	0 (0.0%)	3 (37.5%)
Role of CBO in CCTP					
Coordination	7 (14.9%)	2 (28.6%)	2 (28.6%)	0 (0.0%)	1 (14.3%)
Direct Service Provider	5 (10.6%)	2 (40.0%)	2 (40.0%)	0 (0.0%)	1 (20.0%)
Both	34 (72.3%)	6 (17.6%)	7 (20.6%)	6 (17.6%)	9 (26.5%)
Other	1 (2.1%)	0 (0.0%)	0 (0.0%)	9 (900.0%)	0 (0.0%)
Services Provided by CBO Generally					
6 or More	24 (51.1%)	14 (58.3%)	2 (8.3%)	9 (37.5%)	5 (20.8%)
2–5	20 (42.6%)	7 (35.0%)	8 (40.0%)	6 (30.0%)	6 (30.0%)
Less Than 2	3 (6.4%)	0 (0.0%)	1 (33.3%)	1 (33.3%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.22. Participation in CCTP Learning Collaborative, by CCTP Characteristics*

Characteristic	All Sites	In-Person Meetings	TA Helpful and Responsive	Learning Events Less Helpful	More Breakout Sessions/ Team Time
Grand Total	47 (100%)	21 (44.7%)	11 (23.4%)	16 (34.0%)	11 (23.4%)
CCTP Award Date					
Round 1	7 (14.9%)	6 (85.7%)	0 (0.0%)	3 (42.9%)	2 (28.6%)
Round 2	22 (46.8%)	10 (45.5%)	4 (18.2%)	8 (36.4%)	5 (22.7%)
Round 3	18 (38.3%)	5 (27.8%)	7 (38.9%)	5 (27.8%)	4 (22.2%)
CT Model					
CTI (Coleman)	26 (55.3%)	14 (53.8%)	6 (23.1%)	8 (30.8%)	6 (23.1%)
Mixed CTI With Other Model	13 (27.7%)	6 (46.2%)	3 (23.1%)	4 (30.8%)	4 (30.8%)
Mixed: Non-CTI + Other Model	6 (12.8%)	1 (16.7%)	1 (16.7%)	3 (50.0%)	1 (16.7%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)
Types of CT Workers					
SW and RN/LPN	23 (48.9%)	9 (39.1%)	5 (21.7%)	8 (34.8%)	6 (26.1%)
RN/LPN Only	8 (17.0%)	4 (50.0%)	4 (50.0%)	2 (25.0%)	1 (12.5%)
SW Only	4 (8.5%)	1 (25.0%)	2 (50.0%)	2 (50.0%)	3 (75.0%)
Other/Unspecified	12 (25.5%)	7 (58.3%)	0 (0.0%)	4 (33.3%)	1 (8.3%)
Types of Medicare Beneficiaries Targeted					
Medicare Aged/Disabled	26 (55.3%)	12 (63.2%)	8 (42.1%)	5 (19.2%)	7 (26.9%)
Medicare Aged Only	19 (40.4%)	9 (47.4%)	3 (15.8%)	9 (47.4%)	4 (21.1%)
Other	2 (4.3%)	0 (0.0%)	0 (0.0%)	2 (100.0%)	0 (0.0%)
Number of Hospital Partners					
1–2	15 (31.9%)	6 (40.0%)	5 (33.3%)	7 (46.7%)	4 (26.7%)
3–5	17 (36.2%)	9 (52.9%)	4 (23.5%)	6 (35.3%)	6 (35.3%)
6 or More	15 (31.9%)	6 (40.0%)	2 (13.3%)	3 (20.0%)	1 (6.7%)
Number of Other Partners					
0	9 (19.2%)	6 (66.7%)	2 (22.2%)	3 (33.3%)	1 (11.1%)
1–5	24 (51.1%)	14 (58.3%)	2 (8.3%)	9 (37.5%)	7 (29.2%)
6 or More	14 (29.8%)	1 (7.1%)	7 (50.0%)	4 (28.6%)	3 (21.4%)
Two-Year Enrollment Goal					
Less Than 3,5000	10 (21.3%)	5 (50.0%)	4 (40.0%)	3 (30.0%)	3 (30.0%)
3,501–10,000	22 (46.8%)	11 (50.0%)	5 (22.7%)	7 (31.8%)	5 (22.7%)
10,001 and Above	15 (31.9%)	5 (33.3%)	2 (13.3%)	6 (40.0%)	3 (20.0%)

Characteristic	All Sites	In-Person Meetings	TA Helpful and Responsive	Learning Events Less Helpful	More Breakout Sessions/ Team Time
Number of Months From Award to Startup					
Less Than 3	14 (29.8%)	8 (57.1%)	2 (14.3%)	6 (42.9%)	3 (21.4%)
3–5.5	27 (57.5%)	10 (37.0%)	6 (22.2%)	9 (33.3%)	8 (29.6%)
More Than 5.5	6 (12.8%)	3 (50.0%)	3 (50.0%)	1 (16.7%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.23. Takeaway From Learning Collaborative, by CBO Characteristics*

Characteristic	All Sites	SNF Strategies	Footprint	Productivity	Scripting
Grand Total	47 (100%)	7 (14.9%)	8 (17.0%)	5 (10.6%)	6 (12.8%)
Type of Organization					
AAA	19 (40.4%)	3 (15.8%)	5 (26.3%)	2 (10.5%)	3 (15.8%)
ADRC	2 (4.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
AAA/ADRC	15 (31.9%)	1 (6.7%)	1 (6.7%)	2 (13.3%)	1 (6.7%)
Other	11 (23.4%)	3 (27.3%)	2 (18.2%)	1 (9.1%)	2 (18.2%)
Census Region					
Northeast	19 (40.4%)	1 (5.3%)	3 (15.8%)	1 (5.3%)	3 (15.8%)
South	9 (19.2%)	1 (11.1%)	1 (11.1%)	1 (11.1%)	1 (11.1%)
Midwest	11 (23.4%)	3 (27.3%)	3 (27.3%)	3 (27.3%)	1 (9.1%)
West	8 (17.0%)	2 (25.0%)	1 (12.5%)	0 (0.0%)	1 (12.5%)
Role of CBO in CCTP					
Coordination	7 (14.9%)	1 (14.3%)	1 (14.3%)	0 (0.0%)	2 (28.6%)
Direct Service Provider	5 (10.6%)	1 (20.0%)	2 (40.0%)	1 (20.0%)	1 (20.0%)
Both	34 (72.3%)	5 (14.7%)	5 (14.7%)	4 (11.8%)	3 (8.8%)
Other	1 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Services Provided by CBO Generally					
6 or More	24 (51.1%)	5 (20.8%)	0 (0.0%)	1 (4.2%)	1 (4.2%)
2–5	20 (42.6%)	3 (15.0%)	4 (20.0%)	4 (20.0%)	5 (25.0%)
Less Than 2	3 (6.4%)	1 (33.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.24. Takeaway From Learning Collaborative, by CCTP Characteristics*

Characteristic	All Sites	SNF Strategies	Footprint	Productivity	Scripting
Grand Total	47 (100%)	7 (14.9%)	8 (17.0%)	5 (10.6%)	6 (12.8%)
CCTP Award Date					
Round 1	7 (14.9%)	1 (14.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Round 2	22 (46.8%)	4 (18.2%)	6 (27.3%)	3 (13.6%)	2 (9.1%)
Round 3	18 (38.3%)	2 (11.1%)	2 (11.1%)	2 (11.1%)	4 (22.2%)
CT Model					
CTI (Coleman)	26 (55.3%)	5 (19.2%)	4 (15.4%)	4 (15.4%)	4 (15.4%)
Mixed CTI With Other Model	13 (27.7%)	2 (15.4%)	2 (15.4%)	1 (7.7%)	1 (7.7%)
Mixed: Non-CTI + Other Model	6 (12.8%)	0 (0.0%)	1 (16.7%)	0 (0.0%)	1 (16.7%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	0 (0.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)
Types of CT Workers					
SW and RN/LPN	23 (48.9%)	3 (13.0%)	6 (26.1%)	3 (13.0%)	3 (13.0%)
RN/LPN Only	8 (17.0%)	1 (12.5%)	0 (0.0%)	1 (12.5%)	0 (0.0%)
SW Only	4 (8.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)
Other/Unspecified	12 (25.5%)	3 (25.0%)	2 (16.7%)	1 (8.3%)	2 (16.7%)
Types of Medicare Beneficiaries Targeted					
Medicare Aged/Disabled	26 (55.3%)	4 (15.4%)	5 (19.2%)	2 (11.8%)	3 (17.7%)
Medicare Aged Only	19 (40.4%)	3 (15.8%)	3 (15.8%)	3 (15.8%)	3 (15.8%)
Other	2 (4.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Number of Hospital Partners					
1–2	15 (31.9%)	4 (26.7%)	4 (26.7%)	1 (6.7%)	0 (0.0%)
3–5	17 (36.2%)	1 (5.9%)	3 (17.7%)	2 (11.8%)	3 (17.7%)
6 or More	15 (31.9%)	2 (13.3%)	1 (6.7%)	2 (13.3%)	3 (20.0%)
Number of Other Partners					
0	9 (19.2%)	1 (11.1%)	2 (22.2%)	1 (11.1%)	1 (11.1%)
1–5	24 (51.1%)	4 (16.7%)	4 (16.7%)	1 (4.2%)	3 (12.5%)
6 or More	14 (29.8%)	2 (14.3%)	2 (14.3%)	3 (21.4%)	2 (14.3%)
Two-Year Enrollment Goal					
Less Than 3,5000	10 (21.3%)	2 (20.0%)	3 (30.0%)	0 (0.0%)	0 (0.0%)
3,501–10,000	22 (46.8%)	3 (13.6%)	4 (18.2%)	3 (13.6%)	2 (9.1%)
10,001 and Above	15 (31.9%)	2 (13.3%)	1 (6.7%)	2 (13.3%)	4 (26.7%)

Characteristic	All Sites	SNF Strategies	Footprint	Productivity	Scripting
Number of Months From Award to Startup					
Less Than 3	14 (29.8%)	0 (0.0%)	2 (14.3%)	1 (7.1%)	1 (7.1%)
3 to 5.5	27 (57.5%)	6 (22.2%)	4 (14.8%)	4 (14.8%)	5 (18.5%)
More Than 5.5	6 (12.8%)	1 (16.7%)	2 (33.3%)	0 (0.0%)	0 (0.0%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.25. Plans for the Next 12 Months, by CBO Characteristics*

Characteristic	All Sites	Add Hospital Partner	Expand Eligibility Criteria	Change Services/Strategies
All Sites	47 (100%)	15 (31.9%)	14 (29.8%)	12 (25.5%)
Type of Organization				
AAA	19 (40.4%)	7 (36.8%)	7 (36.8%)	4 (21.1%)
ADRC	2 (4.3%)	1 (50.0%)	0 (0.0%)	1 (50.0%)
AAA/ADRC	15 (31.9%)	3 (20.0%)	2 (13.3%)	3 (20.0%)
Other	11 (23.4%)	4 (36.4%)	5 (45.5%)	4 (36.4%)
Census Region				
Northeast	19 (40.4%)	3 (27.3%)	3 (27.3%)	3 (27.3%)
South	9 (19.2%)	7 (36.8%)	5 (26.3%)	6 (31.6%)
Midwest	11 (23.4%)	3 (33.3%)	3 (33.3%)	2 (22.2%)
West	8 (17.0%)	2 (25.0%)	3 (37.5%)	1 (12.5%)
Role of CBO in CCTP				
Coordination	7 (14.9%)	10 (29.4%)	3 (42.9%)	2 (28.6%)
Direct Service Provider	5 (10.6%)	3 (42.9%)	2 (40.0%)	1 (20.0%)
Both	34 (72.3%)	2 (40.0%)	9 (26.5%)	9 (26.5%)
Other	1 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Services Provided by CBO Generally				
6 or More	24 (51.1%)	5 (20.8%)	6 (25.0%)	8 (33.3%)
2–5 Services	20 (42.6%)	9 (45.0%)	7 (35.0%)	3 (15.0%)
Less Than 2	3 (6.4%)	1 (33.3%)	1 (33.3%)	1 (33.3%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.

Table C.26. Plans for the Next 12 Months, by CCTP Characteristics*

Characteristic	All Sites	Add Hospital Partner	Expand Eligibility Criteria	Change Services/Strategies
Grand Total	47 (100%)	15 (31.9%)	14 (29.8%)	12 (25.5%)
CCTP Award Date				
Round 1	7 (14.9%)	1 (14.3%)	2 (28.6%)	2 (28.6%)
Round 2	22 (46.8%)	8 (36.4%)	7 (31.8%)	7 (31.8%)
Round 3	18 (38.3%)	6 (33.3%)	5 (27.8%)	3 (16.7%)
CT Model				
CTI (Coleman)	26 (55.3%)	7 (26.9%)	4 (15.4%)	3 (11.5%)
Mixed CTI With Other Model	13 (27.7%)	6 (46.2%)	5 (38.5%)	4 (30.8%)
Mixed: Non-CTI + Other Model	6 (12.8%)	2 (33.3%)	4 (66.7%)	4 (66.7%)
Other Model (TCM, Bridge, Boost, RED)	2 (4.3%)	0 (0.0%)	1 (50.0%)	1 (50.0%)
Types of CT Workers				
SW and RN/LPN	23 (48.9%)	5 (21.7%)	7 (30.4%)	3 (13.0%)
RN/LPN Only	8 (17.0%)	5 (62.5%)	3 (37.5%)	3 (37.5%)
SW Only	4 (8.5%)	1 (25.0%)	1 (25.0%)	1 (25.0%)
Other/Unspecified	12 (25.5%)	4 (33.3%)	3 (25.0%)	5 (41.7%)
Types of Medicare Beneficiaries Targeted				
Medicare Aged/Disabled	26 (55.3%)	5 (19.2%)	8 (30.8%)	7 (26.9%)
Medicare Aged Only	19 (40.4%)	10 (50.0%)	5 (26.3%)	5 (26.3%)
Other	2 (4.3%)	0 (0.0%)	1 (50.0%)	0 (0.0%)
Number of Hospital Partners				
1–2	15 (31.9%)	6 (40.0%)	4 (26.7%)	3 (20.0%)
3–5	17 (36.2%)	6 (35.3%)	3 (17.7%)	6 (35.3%)
6 or More	15 (31.9%)	3 (20.0%)	7 (46.7%)	3 (20.0%)
Number of Other Partners				
0	9 (19.2%)	1 (11.1%)	4 (44.4%)	2 (22.2%)
1–5	24 (51.1%)	8 (33.3%)	6 (25.0%)	6 (25.0%)
6 or More	14 (29.8%)	6 (42.9%)	4 (28.6%)	4 (28.6%)
Two-Year Enrollment Goal				
Less Than 3,500	10 (21.3%)	4 (40.0%)	3 (30.0%)	3 (30.0%)
3,501–10,000	22 (46.8%)	7 (31.8%)	7 (31.8%)	7 (31.8%)
10,001 and Above	15 (31.9%)	4 (26.7%)	4 (26.7%)	2 (13.3%)
Number of Months From Award to Startup				
Less Than 3	14 (29.8%)	2 (14.3%)	3 (21.4%)	5 (35.7%)
3–5.5	27 (57.5%)	11 (40.7%)	9 (33.3%)	5 (18.5%)
More Than 5.5	6 (12.8%)	2 (33.3%)	2 (33.3%)	2 (33.3%)

*Note: The numerator used to calculate each percentage reported is the number of sites with the specific characteristics that reported the issue; the denominator is the total number of sites with that characteristic.