

California Quality Collaborative

# Building Care Solutions: Analysis of Care Coordination Programs for Complex Populations

Report to The SCAN Foundation  
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## Background & Methodology

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The California Quality Collaborative (CQC) launched the Building Care Solutions for Older Adults with Complex Needs (BCS) program in 2016 with funding from The SCAN Foundation. BCS built on the work of CQC's Intensive Outpatient Care Program (IOCP), a successful care model for complex populations with a care coordinator as the primary patient relationship. BCS expanded upon this model to include the latest research on person-centered care and instruction on creating a strong business case for program sustainability. Fifteen organizations worked together through a combination of action-oriented learning sessions, technical assistance and care coordinator training to provide better care for people with the most complicated needs and who consume the highest amount of resources.

Hands-on work with the 15 provider organizations ended in August 2018 and since that time, CQC has focused on three goals: creating program case studies; assessing BCS participants' delivery of person-centered care; and, describing the potential opportunity for a regional collaborative to better integrate medical and social care.

This report addresses the deliverable to prepare case studies describing core elements and key characteristics of complex care programs. The deliverable includes two components: an analysis of BCS care coordination programs, including similarities and differences among programs, and program summaries.

Case studies were based on semi-structured interviews with BCS participants and foundational program data gathered in advance of the interview. Data collection activities included:

- **Interviews:** Using a standard discussion guide, CQC conducted interviews both in-person and via telephone. Interviewees generally included those teams that also

participated in the BCS program offerings. Interviews focused on the structure of care coordination programs, communication across programs serving people with complex conditions, and the delivery of person-centered care. See the interview guide in Appendix A.

- **Program Templates:** A standardized data collection template was sent in advance of the interview to collect a consistent set of data for each program. Information collected included program eligibility criteria/target population, patient identification methods, services, settings for care delivery, care team information, patient and family engagement, technology tools, and program performance. Completed program templates for each BCS participant are included in Appendix B.

Of 15 BCS organizations, 10 participated in the interview process: Community Health Center Network, EPIC Management, Innovation Care Partners, Kaiser Permanente, Los Angeles (L.A.) Jewish Home, Providence Health & Services, San Francisco Health Network, SeaView IPA, Sharp Rees-Stealy Medical Group, and University of Southern California (USC). Four organizations chose not to participate (Alameda Health System, Heritage California ACO, Regal Medical Group, Riverside University Health System) and one organization's program (the Veteran's Administration Palo Alto Health Care System) had closed down by the end of the BCS program period.

## Overview of BCS Participants

As participants in BCS, all interviewees administered programs designed to meet the needs of people with complex needs. To better understand program trends, we categorized and analyzed programs based on the following administrative structures: Safety Net Provider Organizations; Accountable Care Organization (ACO)/Management Services Organization (MSO); Medical Group and Independent Physician Association (IPA). Programs that did not fit easily into these three groupings were categorized as Other (See Figure 1).

The following are brief summaries of each care coordination program by administrative structure. Additional programmatic detail is available in Appendix B.

### Safety Net Provider Organizations

- **Community Health Center Network:** Care Neighborhood, a case management program in Alameda County, uses community health workers (CHWs) as care coordinators. Twenty care coordinators are embedded in Community Health Center Network's primary care clinics and provide services to complex patients with medical, social and behavioral health needs. The program is evolving and growing, both through an increase in the number of care coordinators and to align services and eligibility criteria with Medi-Cal's Health Home and Whole Person Care requirements. The program has served nearly 2,000 patients.
- **San Francisco Health Network:** Complex Care Management uses 15 interdisciplinary care teams embedded in 15 primary care health centers within San Francisco Health Network. The target population includes those with two or more admissions in the past 12 months and at least one chronic condition. The program serves around 120 patients at any given time.

FIGURE 1. BCS PARTICIPANTS BY TYPE



### ACO/MSO

- **Innovation Care Partners:** Serving approximately 1,500 Medicare Shared Savings Program (MSSP) participants, Innovation Care Partners embeds care coordinators in primary care provider (PCP) offices to conduct outreach to high-risk patients. Having nearly tripled in size, the program now has a total of 40 care coordinators to support its members.
- **Providence:** Complex Care Management leverages registered nurses (RNs) as care coordinators to support a medically complex patient population of about 2,000 high-risk senior commercial and Medicare Advantage patients in southern California. Centralized care teams work with providers to deliver care coordination and other services designed to reduce utilization and improve outcomes.
- **University of Southern California:** Designed during their participation in BCS and launched in 2018, Premier Care is available to members enrolled in USC's exclusive provider organization (EPO) and

preferred provider organization (PPO) plans. Premier Care has a centralized care team that delivers care coordination services to resource intensive patients, including both high-risk patients and patients undergoing a care transition (e.g., hospital discharge).

### Medical Group & IPA

- **EPIC Medical Management:** The Ambulatory Care Management program assigns care teams to medical groups within the EPIC system to serve more than 3,000 high-risk and high-need patients. EPIC uses a combination of utilization and clinical criteria to determine eligibility, as well as accepting referrals from providers, utilization management nurses, and health plans.
- **SeaView:** Established in 2008, SeaView's Transitional Care Program uses a centralized team of three nurse practitioners and a care coordinator to provide care coordination and care management services to a patient population of about 100 high-risk high-need patients. SeaView noted that they will transition to using a medical assistant (MA) as a care coordinator, one of their goals as a BCS participant. Transitional Care offers flexible eligibility criteria that allows for patients with a broad range of needs to receive care, primarily in the home. Most recently, this program has focused on establishing more formal processes, workflows and standards.
- **Sharp Rees-Stealy:** Care At Home is designed to meet the needs of home-confined older adults. Almost 700 patients receive care, primarily through home visits by nurse care coordinators. Patients may also opt to have care coordinators attend health care appointments with them. Sharp utilizes a centralized triage team that evaluates patients and determines eligibility for Care At Home and its other programs serving high-needs patients. As the number of patients enrolled in the program increases, Sharp uses care managers as needed from an existing panel of staff.

### Other

- **Kaiser Permanente:** Care Plus is a pilot project established in 2016 that operates in three northern California sites. Santa Clara KP has 3 Care Plus teams embedded in PCP offices that work with all adults >18 years old with complex and social needs as identified by the designed algorithm. Kaiser is testing the validity of Care Plus and has created a control group that is not enrolled in the program. In addition to reducing avoidable utilization, the Care Plus teams have the additional goal of improving physician satisfaction. Each Care Plus team cares for approximately 200-250 patients.

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**“Primary care is the foundation for our organization. Population health supports Primary Care with comprehensive services such as case management, care coordination, health coaching and behavioral health. As a team we deliver patient centered care.”**

– Sharp Rees-Stealy

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- **L.A. Jewish Home:** Medical Home Model for Residential Care operates in one of two residential facilities overseen by L.A. Jewish Home. All residents are eligible to participate and 50 have enrolled. An on-site care team consisting of a licensed vocational nurse (LVN) care coordinator and a nurse practitioner (NP) care manager offer a broad range of services designed to improve quality of life and symptom control and decrease avoidable utilization. Interviewees emphasized the value of informal services and their open-door policy as key to meeting the wide-ranging health and social needs of their older population. L.A. Jewish Home hopes to expand this program to make it available to more patients.

## Common Care Model Elements

Organizations interested in building or expanding care models for complex populations will need to design a number of components based on understanding of the population's services that will best meet their needs, staffing, including aligning the care model to the population's needs, and care delivery. BCS organizations shared important details about their program's model, which we organized in the following categories:

- Target Population and Patient Identification
- Care Teams and Services

### Target Population and Patient Identification

Care coordination programs must first designate the target population for the program, including understanding critical population needs and then identifying those patients most likely to benefit from the program. Once organizations establish criteria that reflect the goals of their program, they typically design algorithms to identify patients within their system and/or to predict who may be likely to meet these criteria in the future.

- **Target Population.** All programs used at least two factors to determine eligibility,<sup>1</sup> most typically a combination of complex conditions (e.g., multiple chronic care diagnoses) and higher utilization patterns. A subset of programs also looked at functional limitations and social risk factors, a recognition that these circumstances impact a person's ability to manage their own care. Most programs (7 of 10) also had broader criteria, seeking high needs patients with any number of health concerns, including chronic diseases, co-morbid behavioral health diagnoses, frequent utilization, recent care transition, or polypharmacy. SeaView took the most expansive approach, looking at those who met any of nine different

criteria, including inadequate support systems, a history of non-adherence, and anticipated needs post-discharge, in addition to an array of clinical and utilization triggers.

**“One condition may make a patient eligible for a program, but we then look at the whole patient, performing a comprehensive assessment to assess comorbidities and psychosocial needs, including social determinants of health, to improve quality of life and clinical outcomes.”**

– Sharp Rees-Stealy

- **Patient Identification Methods.** Programs tended to use a mix of approaches to identify patients who were likely eligible for their programs (see Figure 2). Most programs (9 of 10) leveraged historical data to anticipate the likelihood of future needs, also known as predictive analytics. Almost as common was the ability of providers to refer patients to the program. The majority of programs also developed algorithms based on eligibility criteria. These algorithms were used to mine existing data sets in order to identify patients who already met eligibility criteria. Once identified, patients typically received outreach in order to engage them in the program.

**FIGURE 2. PATIENT IDENTIFICATION METHODS**

Process to Identify Eligible Patients	# of Participants
Predictive Analytics	9
Clinician Referral	8
Algorithms Based on Eligibility Criteria	6
Health Plan Referrals	2
Other	2

<sup>1</sup> LA Jewish Home accepted all residents in one of its assisted living facilities into its program. As such, it was excluded from analyses of target population and patient identification methods.

## Care Teams and Services

All care teams relied on a care coordinator as the primary point of contact for the patient. Typically, care coordinators were non-licensed staff such as MAs or CHWs. Other programs used licensed staff, such as RNs, LVNs, or social workers. All BCS organizations started the program using care coordinators on their care team, but through the course of the project, many expanded the role of the care coordinator, with some using non-licensed staff for the first time in this role. In addition, care teams included a range of providers and staff, such as care managers, primary care physicians, pharmacists and social workers.

- Care Coordinator Location:** Care coordinators tended to either be embedded in a primary care setting or were centrally located within the program sponsor's office. Of the BCS participants, five had embedded care coordinators (San Francisco Health Network, Community Health Center Network, SeaView, Innovation Care Partners, Kaiser). Kaiser described the advantage of embedding in primary care as a critical element to fostering this relationship. L.A. Jewish Home's care team was embedded in the patient's assisted living facility and the team could join the resident at their PCP's office. EPIC had care coordinators "assigned" to specific medical groups. The remaining three programs—Providence, USC, and Sharp—had centralized care coordinators who were deployed to patients via a referral mechanism.
- Home Visits.** Historically, patients have received both clinical and care coordination services in a primary care setting. However, this approach can limit an understanding of all the factors in a person's life that may impact their care (e.g., functional limitations, challenges in the home environment). By contrast, conducting home visits offers significant insight into factors that may affect a person's ability to manage their own care. Some organizations may be resistant to home visits because they are resource-intensive, however research has shown that for certain patients, the savings far outweigh the cost of delivering such

care.<sup>2</sup> By the end of BCS, all programs except one offered home visits (see Figure 3). This move toward providing services and support in the home reflected a shift toward prioritizing patient's environment and social risk factors. A number of interviewees articulated the value of conducting at least one home visit to assess the home environment and to better establish a relationship between the patient and care coordinator. Kaiser described home visits as "invaluable."

- Services Offered:** While care coordination served as the foundation for each program, most also offered other services designed to support the patient and meet their individualized needs. Additional services that were most typically provided included care plan development, patient education, and referrals to community services and supports. Less commonly offered were advanced care planning and medication reconciliation, despite these being important elements for many patients with complex needs and who are typically on multiple medications.

**FIGURE 3. SETTINGS FOR CARE COORDINATION**

	Home Visits	PCP Office	Other Settings
<b>Safety Net Organizations</b>			
Community Health Center Network	✓	✓	✓
San Francisco Health Network	✓	✓	
<b>ACO/MSO</b>			
Innovation Care Partners		✓	✓
Providence	✓	✓	
USC	✓		✓
<b>Medical Group &amp; IPA</b>			
EPIC Medical Management	✓	✓	
SeaView	✓	✓	
Sharp Rees-Stealy	✓	✓	
<b>Other</b>			
Kaiser Permanente	✓	✓	
L.A. Jewish Home	✓	✓	

<sup>2</sup> DuBard, C.A. (2015, April 14). *A Population-Based Perspective on the Care of Complex Patients: Knowing When to Intervene*. North Carolina: Community Care of North Carolina.

## Program Design and Operational Considerations

In addition to the care model, there is a range of design and operational considerations that impact care coordination programs. Based on interviews with BCS participants, we categorized these considerations as follows: degree of person-centeredness; information systems and data sharing; demonstrating return on investment (ROI); cross-program coordination; and, staffing. Organizations looking to evolve their own programs will benefit from developing capacity in these areas.

### Person-Centered Care

Person-centered care prioritizes the needs and wants of a person as a path towards improved outcomes and patient experience.<sup>3</sup> Health care organizations increasingly recognize that prioritizing the goals and needs of a person can be a path toward both improved outcomes and patient experience. All BCS programs emphasized the importance of person-centered care and frequently relied on care coordinators to elicit the person's needs and preferences.

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**“Through BCS, I got a glimpse of person-centered care... We now ask patients to self-rate their health. Patients are often good predictors of their health outcomes.”**

– SeaView

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While most BCS participants indicated they did action planning, only a subset indicated that their action plans reflected the patient's goals and needs. Many acknowledged that this was an area where further work was needed and they articulated an interest in additional training to accomplish this goal.

Home visits were also used as a tool to deepen the understanding of patients' unique needs. Some participants prioritized such visits in order to strengthen the relationship between the care coordinator, better understand family dynamics, and more effectively elicit patient priorities for their own care.

While articulating support for person-centeredness, many BCS programs were early in the process of strengthening this aspect of their programs and noted they would benefit from additional support to strengthen this focus. To further their work in person-centered care, interviewees articulated an interest in using a consistent definition of person-centered care across their organization and to provide more training to staff and providers.

### Information Systems & Data Sharing

Central to providing person-centered care is the ability to understand a patient's clinical and utilization history as well as their goals, care plan, social risk factors, and preferences. All BCS participants collected data on each of these elements, but the degree to which it was both integrated into a comprehensive picture of the patient and available to all members of the care team varied.

Not surprisingly, organizations that had the greatest level of sophistication in their information systems had some degree of organizational integration (e.g., ACOs/MSOs, Kaiser). Most were able to leverage common platforms for outpatient care and share some data with inpatient systems. Two programs also had internal health information exchanges to facilitate data sharing. Common platforms and interfaces enabled greater access to patient information across the care team. Other organizations had more siloed information systems, where care coordination data were stored in electronic health records (EHRs) or separate care management platforms but were not accessible to all members of the care team. Patients in these programs were more likely to have data in systems that lacked interoperability (e.g., PCPs using an EHR that may not have been accessible to the care coordinator, or care coordinators using a platform that was not accessible

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<sup>3</sup> Person-Centered Care: A Definition and Essential Elements from: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/jgs.13866>

by the PCP) and organizations were less likely to receive admissions, discharge, and transfer (ADT) alerts that would facilitate managing a care transition. To combat this challenge, one participant noted that they often did dual data entry, putting patient care coordination data into both a care coordination platform and into a separate EHR.

**Return on Investment**

Interviewees consistently stated that their ability to highlight data demonstrating effectiveness and cost savings was central to gaining senior leader support for their program. Most interviewees cited BCS as an important resource to help them calculate ROI, with all organizations receiving training on the Person-Centered Care ROI Calculator Tool during the program (<https://www.thescanfoundation.org/business-case-person-centered-care>). While all BCS participants furthered their efforts in creating a program business case, the degree to which they exclusively used the tool varied (see also Figure 4). Limitations around calculating ROI often centered around lack of access to complete data (e.g., claims

**“We are blown away by our program’s significant growth. We’ve been able to double the size of our program because we could demonstrate ROI.”**

– Community Health Center Network

[thescanfoundation.org/business-case-person-centered-care](https://www.thescanfoundation.org/business-case-person-centered-care)). While all BCS participants furthered their efforts in creating a program business case, the degree to which they exclusively used the tool varied (see also Figure 4).

Limitations around calculating ROI often centered around lack of access to complete data (e.g., claims

**FIGURE 4. EFFORTS TO CALCULATE RETURN ON INVESTMENT**

		Return on Investment			Return on Investment
<b>Safety Net Organizations</b>	Community Health Center Network	BCS served as a catalyst to begin the ROI conversation and they built their own ROI tool. Based on BCS foundational support to demonstrate ROI, the program has doubled in size.	<b>Medical Group &amp; IPA</b>	EPIC	Have demonstrated utilization reductions, focusing on inpatient admissions and readmissions (readmissions have been reduced by 36% – 44%). These data will help them make the case for additional resources.
	SF Health Network	Improved the ability to pull utilization data and conduct analyses. They have shared ROI data with leadership.		SeaView	Data demonstrate a 25% - 35% decrease in utilization. Data are shared monthly with their utilization management committee.
<b>ACO/MSO</b>	Innovation Care Partners	Data on utilization reduction, patient engagement, and other outcomes is shared at an annual all-member meeting.		Sharp	Started BCS with challenges demonstrating program savings. As part of BCS, they developed an ROI tool and the program has been able to add one FTE provider.
	Providence	Currently working on demonstrating ROI but encountering challenges with documenting and accounting for all the work involved in administering the program and delivering services (e.g., research, phone calls).	<b>Other</b>	Kaiser	KP’s Department of Research is evaluating the program using a control group and will include ED utilization, physician stress, and physician satisfaction.
	USC	As a new program, they intend to build in metrics and eventually will have the capability to assess performance, including cost of care.		L.A. Jewish Home	Successfully engaged leadership to value care coordination as an integral part of any managed care product. They conduct ROI analyses but because of technology limitations, this work is mostly done manually.

data) and availability of data in a format which would facilitate ROI calculations. This was most common among participants that were not part of integrated systems and smaller programs with less sophisticated information systems. Some programs also struggled with quantifying certain aspects of their program, such as time spent conducting research for patients. Despite these limitations, most had some success in demonstrating their program's effectiveness in reducing utilization.

### **Coordination Across Multiple Programs**

Most organizations had multiple programs for complex patient populations. Because some programs had overlapping eligibility criteria, it was possible for a patient to receive outreach from multiple care coordinators representing different programs. This could include external programs offered by health plans and other organizations.

Two programs offered solutions to this problem. San Francisco Health Network recently established a universal referral process. The process is used for all case management programs. A nurse reviews both the referral and the patient's chart and determines which case management program is most appropriate.

Sharp also sought to address this challenge through its central triage team. The team determines which program is most appropriate for the patient across all of Sharp's population management programs. Clinicians refer patients to the team, rather than to a specific program. This streamlined approach appeared to eliminate the likelihood that patients would be confused as to who their care coordinator was or what program they were enrolled in.

### **Staffing**

All programs cited the hard work and dedication of their care teams as a strong success factor of their programs. Participants also noted how valuable the BCS care coordinator training was, particularly given that the move toward delivering more person-centered care can be a shift for some people. As part of BCS, some teams were also able to begin leveraging non-licensed staff, such as MAs, to serve as care coordinators. This shift has multiple benefits, including improved efficiency and improved job satisfaction for MAs because of the deeper patient relationships they establish.

Some participants also noted challenges in hiring nurses and other non-licensed staff, such as CHWs. Issues cited by interviewees included the general availability of nurses and care coordinators as well as finding staff whose philosophy was a good fit with the program. Interviewees also noted concerns about burnout among their staff and, as a result of rapid expansion, the challenges in providing training to many new staff members.

## Next Steps: Priorities for BCS Participants

Organizations described their program priorities for the next 18 months, indicating where CQC or The SCAN Foundation could provide support. Interviewees indicated they would benefit from assistance in scaling their programs, further integration of person-centered care and addressing social risk factors.

- Scaling Programs:** While some organizations effectively improved their ability to demonstrate ROI as a result of BCS participation and were able to scale their programs, others did not. We also observed that most programs appeared to operate with limited visibility among senior leadership. One program explicitly noted the challenges associated with gaining executive buy-in, despite efforts to demonstrate the program's effectiveness. Additional hands-on assistance would be helpful for programs that need leadership support to continue with current programs and for those interested in spreading their program to more patients and/or more sites. USC, for example, indicated their intent to scale their program to populations outside of their EPO and PPO plans. Programs might also look to alternative options to quantify ROI, such as aggregate improvement in Patient Activation Measure (PAM). A recent study by Ann Lindsay, published in the *Journal of General Internal Medicine*, found that for every level increase in PAM scores, there was an associated eight percent decrease in cost. When the PAM score declined, costs rose by nine percent. PAM is easily measured and changes can be observed after three to six months.<sup>4</sup> Finally, some consideration should be given to the organizational structure in which programs operate and how that impacts the ability to expand programs. For example, programs serving Medicare Advantage populations can leverage this structure as a vehicle to reinvest in savings. In contrast, programs serving

Medi-Cal and commercial patients are less likely to benefit from savings because payment rates are built on experience. In addition, if an organization has shared risk for a population, they would only benefit from the savings related to professional fees rather than all savings realized from reduced utilization.

- Training to Provide Person-Centered Care:** All participants cited the value of BCS' focus on person-centered care. They acknowledged that this represented an important shift toward a better understanding of their patient's needs and priorities and that as a result of this work, they were better equipped to meet those needs. However, most also saw BCS as a starting point in this transition and requested additional training and support on integrating person-centered care. Training could address general concepts in person-centered care (e.g., incorporating patient goals), working with more challenging populations (e.g., patients with behavioral health issues), aligning person-centered care work across organizations to encourage more uniformity, and establishing stronger relationships with community programs that address social risk factors (e.g., housing, food instability, assisted transportation).
- Addressing Social and Behavioral Health Needs:** Complex populations often have needs that extend well beyond physical health diagnoses. This includes behavioral health needs (e.g., mental health and substance use disorder) and the need for social services and supports. BCS groups are expanding care teams to include social workers, increasingly utilizing home visits to reach isolated patients and treating depression and anxiety in conjunction with treating complex physical health conditions. Organizations could benefit from a number of activities to improve the identification and management of social risk factors and behavioral health needs. As with person-centered care, support could involve staff training, identification of patient needs, management of needs within the organization and developing referral pathways to external programs,

<sup>4</sup> Lindsay, A. et al. "Patient Activation Changes as a Potential Signal for Changes in Health Care costs: Cohort Study of US High-Cost Patients." *J Gen Intern Med* (2018). Accessed November 5, 2018 from: <https://doi.org/10.1007/s11806-018-4657-6>

and improved tools to facilitate sharing health information. Some programs also noted challenges in coordinating with mental health staff and/or integrating mental health staff into their teams (e.g., social workers). Given the value that BCS participants placed on the shared learning environment, this same model could be used to build on the BCS foundation and provide additional education and training.

# Appendix A

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## INTERVIEW GUIDE

### Introduction

Thank you for agreeing to join our interview as part of the Building Care Solutions project. The goal of these interviews is to build on what we learned about your organization's efforts around delivering care to high-needs patients. At the organizational level, we're interested in learning more about how you design, deliver and finance care management services to high-needs patients. At the patient level, we want to better understand your approach to delivering person-centered care, including how your program may be evolving over time.

We will use the information you have provided to us to develop a report for The SCAN Foundation, providing case studies of care management programs and further detail on approaches to designing and delivering person-centered care.

If you have any questions, please get in touch with Margie Powers at [mpowers@calquality.org](mailto:mpowers@calquality.org).

### Questions

1. For each area below, describe how your program coordinates services and communication:
  - a. Within the patient's care team, including team members both within and outside of your system.
  - b. Across care settings outside of primary care (e.g., inpatient, outpatient, emergency department, skilled nursing).
  - c. With community programs that provide support to patients in your program (e.g., assisted transportation, legal aid, housing, etc.).
2. Do you offer multiple programs that target services to complex populations?
  - a. If so, how do the programs work together (e.g., coordinate person's care)?
3. On a scale of 1 – 10, how well do you think your program matches services and supports to members' unique needs and circumstances? Please provide examples to help us better understand why you selected this rating.
  - b. How do you support people navigating care when they are eligible for services from multiple programs (e.g., internal and external)?
4. How does your program incorporate the following person-centered care elements:
  - a. Action plans that reflect patient goals and preferences
  - b. Education and training on person-centered care for providers and staff
  - c. Program elements that support the delivery of person-centered care (e.g., first appointment includes long interview, eliciting person's goals)
  - d. The role of patients and families in program development (e.g., patient advisory council)
5. What percentage of patients who have been identified as being eligible for your program have you successfully engaged? What factors would enable you to effectively engage more members?
6. Describe your program's approach to the following data sharing and data integration issues:
  - a. Collecting and integrating clinical, behavioral and social data to support care for whole person.
  - b. Demonstrating that your program is a success (e.g., sharing dashboard with team and leadership)?
  - c. Whether and how care management and person-centered care data are shared with external organizations (e.g., data sharing between provider organization and hospital).
  - d. The elements of a patient's EHR and/or care plan that patients/families can access.

7. In the following categories, what changes have you made (or are in the process of making) as a result of participation in BCS?
  - a. Team composition & training (e.g., addressing challenges associated with hiring staff with the right set of capabilities, the degree to which you use non-licensed staff on the care team, etc.)
  - b. Addressing program sustainability, including how you demonstrate ROI
  - c. Improving linkages (e.g., referral pathways, data sharing) with behavioral health and community service organizations
  - d. Patient identification and patient engagement
8. In looking at your program over the last 24 months, quantify how your program has evolved in the following areas:
  - a. Improving your ability to identify patients eligible for your program
  - b. Increase in the number of patients enrolled in your program
  - c. Expanding eligibility for your program, by changing eligibility criteria, the number of staff, and/or the number of sites where patients can access services
  - d. Expanding the services available to your patients
9. What are the most significant challenges in expanding your program?
10. What are your program priorities for the next 18 months and how can CQC and The SCAN Foundation best support you in this work?

# Appendix B

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## PROGRAM TEMPLATES

# Building Care Solutions Case Study

## Community Health Center Network

<b>Program Background</b>	Sponsor	Community Health Center Network
	Initiative	Care Neighborhood
	Established	2013
	Enrollment	1,853 members served (as of Nov 1, 2018)
	Summary	Care Neighborhood is an innovative case management program for high-cost members. Care is delivered by embedded clinic-based community health workers who are integrated into the medical home team. CHCN provides technical training and support, inpatient support, and best practice training and tools. High-risk members are connected to community resources to support needs around the social determinants.
<b>Patient Identification Tools Used</b>	Risk Score	Yes (acuity score)
	Predictive Analytics	Yes (highest likelihood of hospitalization in the upcoming year)
	Health Risk Assessment	Not for patient identification purposes
	Clinician Referral	Yes
	Other Tools	Will use criteria for Whole Person Care and Health Homes in 2019
<b>Eligibility Criteria</b>	<p>Johns Hopkins ACG (Adjusted Clinical Groups) and multiple chronic conditions:</p> <ul style="list-style-type: none"> <li>– Evidence of high utilization (ideally, at least one inpatient admission in last 12 months) or highly likely to be admitted in the next 30-60 days</li> <li>– Evidence of complex, multiple chronic conditions (ideally, chronic conditions &gt;4)</li> <li>– Evidence of needs around social determinants <i>in conjunction</i> with the above</li> </ul> <p>Patients may also be eligible if they have Substance Use Disorder (SUD), severe dementia, and serious mental illness (added secondary to Whole Person Care and Health Homes)</p>	
<b>Program Services</b>	Care plan development, care coordination, care navigation, patient education, referrals to community programs	
<b>Location for Service Delivery</b>	Physician office, other locations as patient needs	
<b>Use of PAM*</b>	No	
<b>Care Team</b>	Number of Care Teams	20
	Who is on the Care Team	Care coordinator, RN, LCSW
	Title/License of Care Coordinator	Community health worker
	Number of Care Coordinators	20
	Care Coordinator Caseloads	1:20
<b>Technology Tools</b>	Care Management Platform	Welkin Case Management
	Risk Adjustment Tool	No
	Data Analytics + Visualization	Tableau

# Building Care Solutions Case Study

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**Performance  
Measures**

Total cost of care, hospital admissions, hospital readmissions, ED utilization, number of days in program, HgbA1C, patient satisfaction, staff retention

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*\*Patient Activation Measure (PAM)*

# Building Care Solutions Case Study

## EPIC

<b>Program Background</b>	Sponsor	EPIC
	Initiative	Ambulatory Care Management
	Established	2014
	Enrollment	3,152
	Summary	Outpatient case management program that manages complex, Special Needs Plan, and high-utilizing patients.
<b>Patient Identification Tools Used</b>	Risk Score	No
	Predictive Analytics	Yes
	Health Risk Assessment	No
	Clinician Referral	Yes
	Other Tools	Health plan data or referrals
<b>Eligibility Criteria</b>		<ul style="list-style-type: none"> <li>Two or more admissions in the last 6 months, diagnosis of Congestive Heart Failure, Chronic Obstructive Pulmonary Disease and End Stage Renal Disease</li> <li>Referral from Utilization Management Nurse, Primary Care Physician or health plan</li> <li>Older adults with complex conditions, behavioral health needs, or functional limitations</li> </ul>
<b>Program Services</b>		Action plan development, care plan development, medication reconciliation, care coordination, self-monitoring education, social services, health education
<b>Location for Service Delivery</b>		Home, PCP, any outpatient setting
<b>Use of PAM*</b>		No
<b>Care Team</b>	Number of Care Teams	5, assigned to specific medical groups
	Who is on the Care Team	Case manager, care coordinator
	Title/License of Care Coordinator	Registered Nurse, Licensed Vocational Nurse, Licensed Clinical Social Worker or Medical Assistant
	Number of Care Coordinators	15
	Care Coordinator Caseloads	1:100
<b>Technology Tools</b>	Care Management Platform	None
	Risk Adjustment Tool	LACE
	Data Analytics + Visualization	None
<b>Performance Measures</b>		Member satisfaction, readmission rates

\*Patient Activation Measure (PAM)

# Building Care Solutions Case Study

## Innovation Care Partners

<b>Program Background</b>	Sponsor	Innovation Care Partners
	Initiative	Medicare Shared Savings Program
	Established	2013
	Enrollment	1,500
	Summary	Intensive outpatient care program using well-trained care managers embedded in high-performing primary care teams. The program leverages mostly MA-level staff to economically reach more people with the same budget. Care managers develop patient-specific, goal-oriented treatment plans. The goals are to assess patient activation, depression and quality of life to determine interventions.
<b>Patient Identification Tools Used</b>	Risk Score	Yes
	Predictive Analytics	Yes
	Health Risk Assessment	No
	Clinician Referral	Yes
	Other Tools	No
<b>Eligibility Criteria</b>		<ul style="list-style-type: none"> <li>• Three chronic illnesses</li> <li>• Polypharmacy</li> <li>• Social determinants interfering with health management</li> </ul>
<b>Program Services</b>		<ul style="list-style-type: none"> <li>• n/a</li> </ul>
<b>Location for Service Delivery</b>		PCP office, telephone
<b>Use of PAM*</b>		Yes
<b>Care Team</b>	Number of Care Teams	Three teams, each team has 14 care coordinators
	Who is on the Care Team	Lead Care Coordinator, Care Coordinator, PCP, RN leadership
	Title/License of Care Coordinator	Medical assistants, former military medics, persons with health care administration degrees
	Number of Care Coordinators	40
	Care Coordinator Caseloads	1:80
<b>Technology Tools</b>	Care Management Platform	Coordinate - software to document IOCP model
	Risk Adjustment Tool	McKesson Risk Manager SASS
	Data Analytics + Visualization	Analytics Explorer
<b>Performance Measures</b>		Number of patients enrolled, percentage with completed assessment, positive response from patients and providers, shared savings

\*Patient Activation Measure (PAM)

# Building Care Solutions Case Study

## Kaiser Permanente

<b>Program Background</b>	Sponsor	Kaiser Permanente, Santa Clara
	Initiative	Care Plus
	Established	2016
	Enrollment	250
	Summary	Pilot project using interdisciplinary care teams embedded in primary care provider offices to work with patients who have complex health and social needs.
<b>Patient Identification Tools Used</b>	Risk Score	LOH (likelihood of hospitalization)
	Predictive Analytics	Yes
	Health Risk Assessment	Comprehensive Assessment of Patients (COPS)
	Clinician Referral	No
	Other Tools	Algorithm and data mining
<b>Eligibility Criteria</b>	Older adults with complex needs, including multiple chronic conditions, substance use disorder, functional limitations, and who are homeless	
<b>Program Services</b>	Care plan development, patient education, patient activation, assistance with community supports	
<b>Location for Service Delivery</b>	PCP office, home	
<b>Use of PAM*</b>	Yes, though not consistently	
<b>Care Team</b>	Number of Care Teams	3
	Who is on the Care Team	Doctor, nurse, social worker, pharmacist, care navigator, program assistant
	Title/License of Care Coordinator	Care Plus Coordinator; bachelors degree.
	Number of Care Coordinators	3
	Care Coordinator Caseloads	1:200
<b>Technology Tools</b>	Care Management Platform	None
	Risk Adjustment Tool	None
	Data Analytics + Visualization	KP Division of Research
<b>Performance Measures</b>	ED utilization, admissions, cost, provider satisfaction, outpatient utilization	

\*Patient Activation Measure (PAM)

# Building Care Solutions Case Study

## L.A. Jewish Home

<b>Program Background</b>	Sponsor	L.A. Jewish Home
	Initiative	Medical Home Model for Residential Care
	Established	2016
	Enrollment	50
	Summary	Medical Home Model for Residential Care is a pilot following 50 members in a residential setting until the end of 2018. The goal is to improve quality of life and symptom control, reduce medications, and decrease avoidable ED and inpatient use. A comprehensive intake includes an evaluation of mental status, fall risk, depression, pain, and ability for self-care. Patients are seen on a monthly basis.
<b>Patient Identification Tools Used</b>	Risk Score	n/a
	Predictive Analytics	n/a
	Health Risk Assessment	n/a
	Clinician Referral	n/a
	Other Tools	n/a
<b>Eligibility Criteria</b>	All residents are eligible to participate	
<b>Program Services</b>	Care plan development, care navigation, completion of advanced directive, environmental safety assessments, hot/cold packs and gentle massage for chronic pain, nutritional supplements for weight stabilization, and cognitive stimulation	
<b>Location for Service Delivery</b>	Residential facility, PCP office	
<b>Use of PAM*</b>	No	
<b>Care Team</b>	Number of Care Teams	1
	Who is on the Care Team	LVN, Nurse Practitioner Care Manager
	Title/License of Care Coordinator	LVN
	Number of Care Coordinators	1
	Care Coordinator Caseloads	1:50
<b>Technology Tools</b>	Care Management Platform	STRATUS
	Risk Adjustment Tool	none
	Data Analytics + Visualization	Harmony module, Connect Interoperability platform
<b>Performance Measures</b>	ED utilization, admissions, readmissions, fall reduction, patient satisfaction, patient maintaining current level of care	

\*Patient Activation Measure (PAM)

# Building Care Solutions Case Study

## Providence

<b>Program Background</b>	Sponsor	Providence
	Initiative	Complex Care Management
	Established	2013
	Enrollment	2,455
	Summary	This complex case management program uses assigned RNs to assist and manage patient care and navigate through the system. Providence uses complex care coordinators and social workers.
<b>Patient Identification Tools Used</b>	Risk Score	Yes (candidate query that includes, age, diagnosis, ED, inpatient and claims >25K)
	Predictive Analytics	Yes
	Health Risk Assessment	Yes (a health risk assessment is provided by the health plan; Providence also has a 9-page initial assessment that includes both medical and social elements)
	Clinician Referral	Yes
	Other Tools	Health plan data or referrals
<b>Eligibility Criteria</b>		<ul style="list-style-type: none"> <li>High-risk senior commercial and Medicare Advantage in Southern California (South Bay, Santa Monica, San Fernando Valley, Santa Clarita)</li> <li>Chronic conditions, multiple comorbidities, behavioral health, ED or inpatient utilization, other criteria</li> </ul>
<b>Program Services</b>		Initial assessment (personalized and prioritized), care plan development, advanced care planning, care coordination, care navigation, interdisciplinary care team meeting
<b>Location for Service Delivery</b>		Home, provider office, telephone
<b>Use of PAM*</b>		No
<b>Care Team</b>	Number of Care Teams	n/a
	Who is on the Care Team	RN, social worker, non-licensed staff
	Title/License of Care Coordinator	RN, MSW, LCSW
	Number of Care Coordinators	10 CCM coordinators, 5 social workers 10 CCM RNs, 2 supervisors, 1 director
	Care Coordinator Caseloads	1:60 high level; low level could be up to 1:400
<b>Technology Tools</b>	Care Management Platform	EPIC EHR (Providence developed care management tools and platform within EPIC)
	Risk Adjustment Tool	Yes
	Data Analytics + Visualization	EPIC, Business Enterprise
<b>Performance Measures</b>		Patient satisfaction, ED utilization and 30 readmissions

\*Patient Activation Measure (PAM)

# Building Care Solutions Case Study

## San Francisco Health Network

<b>Program Background</b>	Sponsor	San Francisco Health Network
	Initiative	Complex Care Management
	Established	2012
	Enrollment	120
	Summary	An integrated care management program for a largely Medi-Cal population with complex needs in San Francisco. Interdisciplinary care teams work with San Francisco Health Network's 15 primary care medical homes to provide wrap-around services, including an in-home comprehensive assessment, patient-centered care plan and coaching toward care plan goals.
<b>Patient Identification Tools Used</b>	Risk Score	No
	Predictive Analytics	No
	Health Risk Assessment	No (risk assessment completed once patient is enrolled in program)
	Clinician Referral	Yes
	Other Tools	Monthly data pull on patients who meet criteria
<b>Eligibility Criteria</b>	Two or more admissions in the past 12 months and at least 1 chronic condition; also specified conditions and utilization characteristics (e.g., high-utilizing CHF patients).	
<b>Program Services</b>	Assessment, care plan development, coaching, patient education, home safety assessment	
<b>Location for Service Delivery</b>	In-home, PCP office	
<b>Use of PAM*</b>	No; Activation is assessed using "Self-Efficacy for Managing Chronic Disease" 6-item scale	
<b>Care Team</b>	Number of Care Teams	15
	Who is on the Care team	RN Care Manager, Care Coordinator, Community Health Worker
	Title/license of care coordinator	Primarily community health workers
	Number of care coordinators	15
	Care coordinator caseloads	1:25
<b>Technology Tools</b>	Care Management Platform	Patients are tracked via the EHR and an Access database
	Risk Adjustment Tool	Home safety assessment, PHQ2/9
	Data Analytics + Visualization	n/a
<b>Performance Measures</b>	Inpatient bed days, ED utilization (pre and post), IP utilization (pre and post), patient experience, provider satisfaction, engagement rate	

\*Patient Activation Measure (PAM)

# Building Care Solutions Case Study

## SeaView

<b>Program Background</b>	Sponsor	SeaView
	Initiative	Transitional Care Program
	Established	2008
	Enrollment	100 at any given time
	Summary	The Transitional Care Program is designed to improve the management of patients in community-based settings. The program is staffed with nurse practitioners (NPs) who conduct visits in the home or in assisted living facilities. Primary Care Providers (PCP) and NPs create a treatment plan and work together to supervise patient's care.
<b>Patient Identification Tools Used</b>	Risk Score	LACE, health plan reports that contain prospective risk score
	Predictive Analytics	Yes
	Health Risk Assessment	No
	Clinician Referral	Yes
	Other Tools	Health plan reports such as emergency department (ED) utilization
<b>Eligibility Criteria</b>		<ul style="list-style-type: none"> <li>• &gt;65 years old or &lt;65 years old with multiple complex co-morbidities</li> <li>• Post-discharge from inpatient, skilled nursing, inpatient rehab</li> <li>• ED Utilization: 3 or more ED visits within past 6 months</li> <li>• Inpatient Utilization: Hospitalization within the past 30 days; 3 admissions within the last 12 months; or, &gt;2 in previous 6 months</li> <li>• Moderate to severe functional deficits</li> <li>• Inadequate support system</li> <li>• Documented history of non-adherence to therapeutic regimen</li> <li>• Complex Case Management anticipated post discharge</li> <li>• Four or more active co-existing health conditions</li> <li>• Documented history of a primary cardiovascular, respiratory, endocrine or orthopedic health problem</li> <li>• History of mental or emotional illness i.e. depression, anxiety</li> <li>• Six or more prescribed medications</li> <li>• No major Psychiatric Disease (schizophrenia, etc.)</li> </ul>
<b>Program Services</b>		Care plan development, medication reconciliation, care coordination, assessment of ADLs and IADLs with referral to community resources, chronic condition management education, advanced care planning including POLST
<b>Location for Service Delivery</b>		Home, Assisted Living facility
<b>Use of PAM*</b>		No
<b>Care Team</b>	Number of Care Teams	3 care teams, each led by NP
	Who is on the Care Team	Care coordinator, NP, PCP, family, patient, home or community health provider, nurse case manager (team can change depending on patient need)
	Title/License of Care Coordinator	MA and NP
	Number of Care Coordinators	1 MA 3 NPs

# Building Care Solutions Case Study

	Care Coordinator Caseloads	NP: 35 – 40 MA: in development developing
Technology Tools	Care Management Platform	Practice Fusion (ambulatory EHR used for care coordination notes)
	Risk Adjustment Tool	None
	Data Analytics + Visualization	None
Performance Measures	Inpatient admissions, ED utilization, 30 day readmissions, patient satisfaction	

\*Patient Activation Measure (PAM)

# Building Care Solutions Case Study

## Sharp Rees-Stealy

<b>Program Background</b>	Sponsor	Sharp Rees-Stealy
	Initiative	Care At Home
	Established	2013
	Enrollment	677 (as of October 2018)
	Summary	Care At Home provides ongoing care for vulnerable seniors who are home-confined. The transition of care from a skilled nursing facility to home has improved with a resulting reduction in 30-day hospital readmissions to 8% compared to a 12.5% risk-adjusted national rate.
<b>Patient Identification Tools Used</b>	Risk Score	No
	Predictive Analytics	Yes
	Health Risk Assessment	No
	Clinician Referral	Yes (most patients are referred by physicians)
	Other Tools	No
<b>Eligibility Criteria</b>	Home confined adults with complex needs. Sharp Rees-Stealy follows the Medicare definition of confined to the home but do not define the specific medical needs of the patients.	
<b>Program Services</b>	Intake, action plan development, care coordination, medication reconciliation, in-home lab draws and x-rays	
<b>Location for Service Delivery</b>	Home, skilled nursing facility	
<b>Use of PAM*</b>	Yes	
<b>Care Team</b>	Number of Care Teams	Variable; can pull from Sharp panel of care managers as needed
	Who is on the Care Team	MD, NPs, Nurses, social work team support, MAs
	Title/License of Care Coordinator	RN Case Manager
	Number of Care Coordinators	Variable; can pull from Sharp panel of care managers as needed
	Care Coordinator Caseloads	100
<b>Technology Tools</b>	Care Management Platform	Essette (Case management documentation); Allscripts (ambulatory EHR); MCG Assessments for patients specific goals and educational materials
	Risk Adjustment Tool	No
	Data Analytics + Visualization	Sharp Rees-Stealy has an internal team of data analysts that use various tools to extract data from our data warehouse and provide analysis as needed
<b>Performance Measures</b>	Hospital admissions, hospital readmissions, patients referred to hospice, advanced directive completion, units of service	

\*Patient Activation Measure (PAM)

# Building Care Solutions Case Study

## USC Premier Care

<b>Program Background</b>	Sponsor	USC
	Initiative	Premier Care
	Established	2018
	Enrollment	577
	Summary	<p>USC Premier Care is designed for patients with more complex medical needs or chronic medical conditions. This program is available to employee health plan USC Trojan Care EPO patients and PPO employees and families free of charge. The Program targets the top 3 – 4%, including 2% high risk and 2% transition of care from Keck and Norris Hospitals.</p> <p>Program support for the patient makes navigating next steps easier, more convenient and more personal while supporting the physician and clinic staff.</p>
<b>Patient Identification Tools Used</b>	Risk Score	Risk score is based upon medical and pharmacy claims data. In the future, this will also include clinical data from electronic health records.
	Predictive Analytics	Optum provides multiple predictive models, including a prospective risk score based upon episode treatment groups (ETG). Optum performs risk modelling or risk stratification to identify patients for an intervention (e.g., high-risk care management, chronic care management, transitional care management). USC completed population stratification to identify 577 patients (8% of 7,000 patients.)
	Health Risk Assessment	In development
	Clinician Referral	<ul style="list-style-type: none"> <li>• 577 (initial data pull)</li> <li>• 20,000 Patients for USC EPO and PPO – Employees 7,000 with Keck Physicians</li> </ul>
	Other Data	PCP attribution model, physician rosters, PCP panel reports and patient clinical synopsis reports
<b>Eligibility Criteria</b>	Patients are identified as high risk by the prospective risk model. Patients have a risk score of 3 or higher and include prevalent chronic conditions (e.g., hypertension, diabetes, obesity, cancer). USC also screens patients with 2 or > admissions in the last year and/or 3 or > ER visits in the last 6 months.	
<b>Program Services</b>	<ul style="list-style-type: none"> <li>• Appointment scheduling</li> <li>• 24 – 7 Nurse hotline</li> <li>• Post-acute transitions of care</li> <li>• Coordination of care</li> <li>• Care plan development</li> <li>• Patient education</li> <li>• Medication reconciliation</li> <li>• Interdisciplinary team review</li> <li>• Primary care patient review and planning</li> <li>• Care navigation</li> </ul>	
<b>Location for Service Delivery</b>	Services are delivered in the physician office with a “warm” handoff, in the hospital for transitions and by telephone	
<b>Use of PAM*</b>	PAM is available as an assessment tool and used in the Optum care management system	
<b>Care Team</b>	Number of Care Teams	1

# Building Care Solutions Case Study

	Who is on the Care team	<ul style="list-style-type: none"> <li>• Chief Medical Officer</li> <li>• Lead Care Manager RN, CCM</li> <li>• Care Manager RN</li> <li>• Care Coordinator</li> </ul>
	Title/license of care coordinator	Registered nurse
	Number of care coordinators	2
	Care coordinator caseloads	2:144
<b>Technology Tools</b>	Care Management Platform	The Optum Care Coordination Platform (OCCP). OCCP contains a library of assessments and care plan content that supports a full range of care coordination services.
	Risk Adjustment Tool	Optum analytics tools provide risk adjustment for both population cohorts and physicians.
	Data Analytics + Visualization	The data enrichment process takes a 360-degree view of data and applies rules and algorithms to add an additional layer of value. This intelligence factors in both clinical and risk-based analytics, including cost-based risk scoring, predictive modeling, disease cohort identification, quality rule analysis, evidence-based medicine gap-in-care analysis, severity and risk adjustment factoring.
<b>Performance Measures</b>	Patients engaged, PMPM, ED Visits PTMPY, Admissions PTMPY, Readmissions PTMPY, Patient satisfaction	

\*Patient Activation Measure (PAM)