Transitional Care Models for the Elderly
Exploring Potential for Pay For Success (PFS) Opportunities for Third Sector Capital Partners

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Executive Summary

The Problem
Transitional care, defined as the health care system in which a patient’s care shifts from one care setting to another, is often poorly managed in the United States, leading to diminished health and high costs. Nearly one in five Medicare patients discharged from the hospital—approximately 2.6 million seniors—is readmitted within 30 days\(^1\), at a Medicare annual cost of $15-26 billion.\(^2\) Officials estimate that up to $17 billion dollars a year comes from avoidable hospital readmissions.\(^3\) While hospital readmissions have declined over the past few years due to federal involvement and incentives (Appendix A), much more can be done to coordinate care, improve outcomes, and understand drivers of impact.

The Potential
Pay for Success (PFS) models are rapidly emerging as innovative approaches to accelerate social change, allowing government to partner with the private sector to drive performance-driven social outcomes. PFS is an innovative contracting and financing model that leverages private capital to fund social services, with the government paying only if proven results are achieved.

Third Sector Capital Partners, Inc. (Third Sector), a leading nonprofit PFS advisory firm, has advised and led PFS projects in recidivism, social justice, asthma, and homelessness, and is interested in continuing to explore social sector areas with high needs and costs but little government involvement, funding, and/or performance-driven goals. Given the high costs and care fragmentation and the potential for savings and impact, Third Sector is interested in exploring if and how transitional care models for the elderly may be developed in the PFS arena. Furthermore, Third Sector is interested in pursuing the larger goal of learning how healthcare, with unique federal government involvement not necessarily seen in other PFS project areas, may be approached with PFS models. With the large influx of government funding already in transitional care, PFS may be particularly well suited to expand performance-driven learning and provide a better understanding of transitional care outcomes to ultimately better align a fragmented health system.

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\(^1\) Jencks, Williams, and Coleman, 2009.
\(^4\) Rau, 2014.
Outline of Report

This report will provide an analysis of the transitional care landscape, examining the multitude of care interfaces, current government involvement, and potential interventions through the PFS lens. Due to the lack of rigorous evaluative results from current transitional care models (public results from the government-sponsored transitional care models will be released at the end of 2015), future government funding and involvement in this field is uncertain, and thus this report will not attempt to construct a specific PFS project model.

Rather, this report aims to 1) examine key cost drivers and populations for potential PFS targeting; 2) examine and compare current intervention models; 3) present options for Third Sector’s involvement; 4) explore two case studies as potential partners for PFS; and 5) provide recommendations for Third Sector. A robust Appendix at the end of this report explores current government involvement in the transitional care field, relevant stakeholders and funders, and additional background resources and methodology.

The transitional care arena is large and complex; and most studies, initiatives, and research focuses on hospital readmissions and preventable admissions as a proxy for measuring transitional care efficacy and gaps. This report will thus focus on transitions that include a hospital or medical facility as one of the transition interfaces, both to ensure the availability of robust quantitative data (rather than still undeveloped qualitative data, such as patient and caregiver satisfaction) and to maximize cost savings and proven impact.

Options and Recommendations for Third Sector Capital Partners, Inc.

Several options are available for Third Sector regarding PFS transitional care interventions for the elderly. These options are not mutually exclusive, and provide an array of opportunities for embracing PFS in this field.

Option 1: Embrace Third Sector Performance Solutions Agenda: Transitional care interventions could fall under Third Sector’s emerging “performance solutions” arm, under which Third Sector could provide technical assistance to hospitals and Medicare to evaluate programs and track appropriate outcomes. By raising capital (similar to SIF or workforce development funds) to provide outcome-based technical assistance, Third Sector could spearhead the concept of performance-driven feedback loops in government transitional care initiatives.
Option 2: Wait until 2016. Before pursuing PFS models in this field, Third Sector may choose to wait until the CCTP Innovation pilot results are released in early 2016. Based on the results of current state-based innovative initiatives and CMS’ plans moving forward, Third Sector will be better positioned to make fully informed, decisive actions.

Option 3: Begin Engagement with The Transitional Care Model (TCM) and/or C-TraC. Third Sector could decide to stay ahead of the curve and begin initial development of a PFS model. Both the Transitional Care Model and C-TraC models meet basic PFS readiness criteria and may present potential for long-term savings.

Option 4: Explore transitional care unrelated to elder population. While outside the scope of this report, reducing hospital readmissions among non-elderly populations will yield Medicaid hospital readmissions savings, and present opportunities for local buy-in.

Option 5: Explore elder-based model outside of transitional care scope. While also outside the scope of this project, interventions important for maintaining elder health but not directly related to care transitions may lead to positive outcomes and savings. Examples of interventions that Third Sector may wish to explore include home meal delivery, smoking cessation counseling, installation of bathroom safety devices, and fitness memberships.

Due to the complexity of this field and the many intertwining stakeholders, funders, and developments, four recommendations are presented:

Recommendation 1: Wait for the results of the CMS transitional care innovation pilots scheduled for release in early 2016.

Recommendation 2: While awaiting pilot results, continue building relationships with Mary Naylor’s team (TCM) and begin communications with Amy Kind (C-TraC).

Recommendation 3: Establish and/or continue relationship with Mathematica Policy Research, the CCTP innovation pilot evaluator.

Recommendation 4: Consider hospitals/MCOs and insurers as end-payors in addition to government players.
Chapter 1: Elderly Transitional Care
Readmissions Costs and Risks

Transitional Care For the Elderly

Transitional care, defined as a broad range of time-limited services to improve healthcare coordination when a patient’s care shifts from one care setting to another, is often poorly managed in the United States, leading to diminished health, high costs, and poor patient care satisfaction. The American healthcare system’s fragmented approach to care provision and payment exacerbates this issue. Physicians and hospitals are paid for their on-site care provision but often lack incentives to ensure proper coordination of care for their patients once they leave the immediate facility, leading to a lack of appropriate follow-up and communication across settings. While the Affordable Care Act and Medicare & Medicaid demonstrations are beginning to address transitional care lapses (Appendix A), much remains to be done to improve care coordination across healthcare settings.

The lack of appropriate communication and coordination across providers and care settings leads to adverse health outcomes, low patient satisfaction with care, and preventable hospital readmissions. 

Elderly individuals, many of whom have chronic health conditions, experience particularly poor handoffs of care when they transfer among multiple care settings, including acute care facilities, community health centers, homes, and skilled nursing facilities. Unlike younger segments of the population who are often literate in healthcare protocols, have family support and can self-advocate, the elderly are a particularly vulnerable population in the healthcare system.

Hospital Readmissions as Primary Indicator for Measurement

Hospital readmissions and preventable admissions are the most widely used measurements of transitional care efficacy, largely due to the accessibility and availability of readmission data and the clear connection between mismanaged care and preventable hospital readmissions. Transitional care intervention models, as explored in Chapter 2, primarily focus on reducing hospital readmissions and thus serve as the basis of outcome measurement in this report.

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4 Transitional Care is complementary, yet not identical to care coordination, disease management, and discharge planning, as transitional care focuses on time-limited services for high-risk vulnerable populations, with an interdisciplinary and education focus (Naylor, et al. (2011)).
5 Naylor, Mary. 2008.
6 Naylor, Mary. 2008.
While total patient health costs can serve as an additional metric for transitional care efficacy, simply measuring total costs may not actually reflect underlying lapses in care and could lead to the inappropriate assumption that costs alone drive medical decisions. High cost care is an important indicator in improving care transitions, but quality is of also of utmost importance for overall health system improvements. Thus avoidable health costs, such as hospital readmissions within 30 days and preventable hospital admissions, may be more appropriate metrics of transitional care efficacy.

Other measures of transitional care effectiveness, such as patient satisfaction and quality of life, care quality, and overall maintenance of health are important indicators of intervention success yet are challenging to measure and largely undeveloped. While these metrics are not yet ideally suited as PFS outcome payment metrics (due to their challenging measurement and definition), they should not be ignored and may be measured alongside hospital readmissions (and perhaps even extend beyond the time horizon of the PFS project) as important indicators of program success.

**Hospital Readmissions: Prevalence and Costs**

Nearly one in five Medicare patients discharged from the hospital—approximately 2.6 million seniors—is readmitted within 30 days, and one in five are readmitted within 90 days at a Medicare annual cost of $15-26 billion. While estimates vary, a 2011 meta-analysis found that 27% of hospital readmissions are preventable, indicating significant lapses in care quality and coordination. As can be seen in Table 1 below, 30-day hospital readmissions are most prevalent and most costly among Medicare recipients, particularly males. Further data indicates that those with chronic conditions are much more likely to be readmitted within 30 days, with 10.1 percent of Medicare recipients with underlying chronic conditions readmitted in 2008, compared with 6.8 of those with non-chronic conditions. 

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7 Mary Naylor and her colleagues at University of Pennsylvania are currently publishing a working paper demonstrating the efficacy of using health related quality of life indicators for elderly recipients of long term care. (Naylor, et al., 2014)
8 Jencks, Williams, and Coleman (2009).
10 Van Walraven C., et al. (2011)
11 Chronic conditions include congestive heart failure, chronic obstructive pulmonary disease, diabetes, and asthma. (HCUPnet. 2014).
### Table 1: 30-Day Hospital Readmissions (2011) 

<table>
<thead>
<tr>
<th>Percent Readmitted in 30 days</th>
<th>Mean Cost per Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare</td>
<td>17.5</td>
</tr>
<tr>
<td>Medicaid</td>
<td>14.1</td>
</tr>
<tr>
<td>Uninsured</td>
<td>10.1</td>
</tr>
<tr>
<td>Age 18-44</td>
<td>9.7</td>
</tr>
<tr>
<td>Age 45-64</td>
<td>15.6</td>
</tr>
<tr>
<td>Age 65+</td>
<td>16.5</td>
</tr>
<tr>
<td>Male</td>
<td>16.2</td>
</tr>
<tr>
<td>Female</td>
<td>12.5</td>
</tr>
<tr>
<td>Metropolitan</td>
<td>14.1</td>
</tr>
<tr>
<td>Non-Metropolitan</td>
<td>13.5</td>
</tr>
</tbody>
</table>

While the bulk of hospital readmission and preventable admission costs accrue to Medicare—the primary payer of medical services for those 65 and older—Medicaid may also incur costs from poor transitional care among elders, particularly for dual eligible who are eligible for both Medicare (due to age) and Medicaid (due to low-income levels)\(^\text{13}\) (Appendix B includes overview of stakeholders and funders). Dual eligibles have higher rates of preventable hospital admission than other Medicare beneficiaries: 200 percent higher for pressure ulcers, asthma, and diabetes, 52 percent higher for urinary tract infections, and 30 percent higher for chronic pulmonary disease and pneumonia.\(^\text{14}\) While Medicaid covers only 20 percent of dual eligible care costs (including premiums, some wrap-around services, and long-term care costs), the expense is still significant and may incentivize local buy-in under PFS models.\(^\text{15}\)

Estimated 10-year state Medicaid savings from increased coordinated care among dual-eligibles are around $34 billion (with $125 billion in estimated savings to Medicare).\(^\text{16}\) While federally funded Medicare is clearly the primary payor (and thus cost-saver) of improved hospital transitions, Medicaid may experience additional savings from preventing unnecessary transfers of low-income elders to nursing facilities—transfers that may be attributed to poor health caused by adverse care transitions.

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\(^{12}\) HCUPnet., 2014

\(^{13}\) Medicaid is a jointly funded Federal/state partnership administered by states to cover individuals with low-incomes. The federal government pays states for a specified percentage of program expenditures, called the Federal Medical Assistance Percentage (FMAP). FMAP varies by state based on criteria (primarily, per capita income).

\(^{14}\) Feder, et al. (2014)

\(^{15}\) Feder, et al. (2011)

\(^{16}\) Thorpe, Kenneth. (2011)
Reasons and Risks for Poor Care Transitions

**Reasons:** While there are numerous reasons for poor care transitions and potentially preventable hospital admissions and readmissions, research suggests that the primary contributors include a lack of communication and coordination among providers, delays in follow-up appointments, insufficient involvement of families and caregivers, and a lack of appropriate patient education for self-care. Medical mismanagement is also a key contributor to preventable hospital admissions and readmissions with 60 percent of community-based chronically ill elders suffering from medication errors when transferring from hospital settings.\(^{17}\) Finally, due to the fragmented nature of the American healthcare system, accountability for patients across care settings is often missing.\(^{18}\)

**Risks:** The largest risk factor for preventable hospital admissions and readmissions is age, with over 58% of all readmission costs in 2011 covering individuals over the age of 65.\(^{19}\) Preventable hospital admissions are also disproportionately high among those taking 5 or more medications, those with chronic conditions such as heart failure (22.9% of preventable hospitalizations) and pneumonia (19.2%), and those with less than a high school degree (60.5%).\(^{20,21}\) Individuals who live alone (36.8%) and those with limitations in activities of daily living (ADL) (45.1%) are also at increased risk for poor care transitions and hospital readmissions.\(^{22}\)

**Figure 1: Hospital Readmission Risk Factors**

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\(^{17}\) J. Forster, et al. (2005)  
\(^{18}\) Goodman, et al. (2014)  
\(^{19}\) HCUPnet. (2014)  
\(^{20}\) Culler, et. al. (1998)  
\(^{21}\) Stewart, et. al. (1994)  
\(^{22}\) Culler, et. al (1998)
Chapter 2: Existing Transitional Care Interventions

Transitional Care Interventions Overview

Dozens of transitional care interventions have been created and implemented to reduce unnecessary hospital readmissions and to improve quality of care. These interventions range from small-scale transitional care services in research hospitals to fully funded initiatives by health plans. Most care transition interventions include one or more of the following components: coordinating care plans among physicians and care settings, educating the patients and caregivers about proper discharge care and health maintenance, and conducting telephone and/or home visits to ensure patients take their medications as directed and watch for red flag symptoms.

While many interventions exist, the very presence of so many individual models has precluded an understanding of 1) which program components are effective; 2) the ideal timeframe for implementation; and 3) in which settings and target populations the intervention effects may be maximized.\(^23\) Even fewer studies have examined the dual eligible population, with most focusing on the Medicare population and reducing hospital readmissions.\(^24\) Many of the individual models have been tested for impact, with study methods ranging from small-scale longitudinal analyses to randomized control trials. The government interventions, especially those under Medicare’s Community-Based Care Transitions Program (CCTP) program, currently measure outcomes, yet the individualized nature of each program precludes generalizations about effective transition care components. While individual outcomes can be demonstrated for particular settings and populations, it is currently impossible to understand which program elements are driving positive impact. Dr. Mary Naylor, founder of the Transitional Care Model, is currently conducting a study funded by the Robert Wood Johnson Foundation to study which transitional care program elements are effective, with results expected in 2015.\(^25\)

Selection Process

To first understand the scope of existing transitional care interventions, I reviewed over 40 journal articles, dozens of websites, and the federal government state-run initiatives to understand which elder-based care transition interventions currently exist. The review revealed over 50 unique interventions, many of which are implemented by private health plans such as Aetna or United Healthcare, with nearly all Medicare-focused.\(^26\) In order to evaluate only those interventions that may be feasible for PFS, private (such as insurance

\(^{23}\) Peikes, et. al (2012)
\(^{24}\) Center for Healthcare Research & Transformations (2014)
\(^{25}\) Naylor, Mary Telephone interview. 11 Nov. 2014.
\(^{26}\) Bayer, Ellen. (2010)
company) interventions were excluded on the basis of current sufficient funding. This refinement resulted in 14 intervention models (Appendix C), which were then narrowed to 5 promising models selected based on whether they met criteria crucial for PFS success. Selected PFS criteria include:

- Strength/refinement of target population
- Evidence of efficacy
- Cost and estimated savings of program
- Potential value add for PFS

While each intervention is unique in its exact combination of service offerings, the interventions in general are hospital-based with nurses or social workers creating individualized care plans and follow-up protocols for elders’ hospital discharge. The interventions have estimated costs ranging from $43 per person per year to $1490 and cost savings to Medicare ranging from $400 per patient per year to $5300.
Table 2: Examination of 5 Promising PFS Models

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Overview</th>
<th>Target Population</th>
<th>Evidence</th>
<th>Cost</th>
<th>Cost Savings</th>
<th>ROI (^{27})</th>
<th>PFS Value Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitional Care Model (TCM) (^{28,29,30})</td>
<td>Advanced Practice Nurse (APN) provides in-hospital planning and care coordination, nurse training, patient/caregiver education, medication management, in-person follow up</td>
<td>Strong: 65+ years, hospitalized from home with congestive heart failure OR one of eight target conditions plus one of 9 criteria for poor outcomes, English speaking, has phone</td>
<td>Strong: 2 RCTs (1999, 2004), most recent demonstrated 36% reduction in 30-day readmissions after 1 year (^{31})</td>
<td>Medium: $456-$1492 per patient per year</td>
<td>High: $4,000-$5,334 net savings per patient within 5-12 months discharge</td>
<td>High: 390%</td>
<td>Pros: Demonstrated interest in PFS, well-established model, nationwide applications and ease of scale, can be tailored to many care settings with possibility for Medicare and Medicaid as payer. Highest savings. Cons: Government may expand Intervention without need for PFS pending results of current demonstrations, follow-up/home visits may be challenging in rural areas</td>
</tr>
</tbody>
</table>

\(^{27}\) The ROI averages the reported costs and savings of each intervention across studies. Due to the different methods and the varying timeframes and populations by which cost and savings were calculated across studies, these ROI's are broad estimates. Current proprietary data will be required to standardize ROI across studies.

\(^{28}\) Rodriguez, et al. (2014)

\(^{29}\) Naylor, et al. (2004, 1999)


\(^{31}\) Peikes, et al. (2014)
<table>
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<tr>
<th>Intervention</th>
<th>Overview</th>
<th>Target Population</th>
<th>Evidence</th>
<th>Cost</th>
<th>Cost Savings</th>
<th>ROI[^27]</th>
<th>PFS Value Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Transitions Intervention (CTI)^[32,33,34,35]</td>
<td>RN or APN teaches self-management and communication tools to patients and caregivers, home visit and phone follow-ups</td>
<td>Strong: 65+ years, hospitalized from home with more than 1 of 11 diagnosis, English speaking, has phone, no dementia or plans for hospice</td>
<td>Strong: 3 RCTs (2004, 2006, 2009) demonstrating reduction in 90-day rehospitalization (17% v. 23%) and 19% reduction in hospital costs over 180 days</td>
<td>Medium: $180-1000 per patient per year</td>
<td>High: $900-$3700 per patient</td>
<td>High: 290%</td>
<td>Pros: Well-established model, nationwide applications and ease of scale, can be tailored to many care settings with possibility for Medicare and Medicaid as payer. High savings and pilot for group-based intervention underway. Cons: Government may expand Intervention without need for PFS pending results of current demonstrations, follow-up/home visits may be challenging in rural areas</td>
</tr>
<tr>
<td>Project Re-Engineered Discharge (RED)^[36,37,38]</td>
<td>RN provides patient education, multi-disciplinary team conducts coordination of appointments/follow-up. Clinical pharmacist follows up by phone</td>
<td>Medium: 18+ years, hospitalized from home for any diagnosis with plans to be discharged to community, not admitted from skilled nursing facility or other hospital. English speaking</td>
<td>Strong: 1 RCT (2009), demonstrating 28% reduction re-admissions in 30 days</td>
<td>Low: $100-$373 per person per year</td>
<td>Low: $412-$500 per patient/year</td>
<td>Low: 98%</td>
<td>Pros: Low-cost intervention, strong evidence of scale Cons: Lower net savings, Intervention may be expanded by government without need for PFS pending results of current demonstrations, loosely targeted population, Medicare only as government payer</td>
</tr>
</tbody>
</table>

[^27]: Return on Investment

[^32]: Coleman (2001)
[^33]: Chollet, et al.(2011)
[^34]: Gardner, et al. (2014)
[^35]: Rodriguez, et al. (2014)
[^36]: Gardner, et al. (2014)
[^37]: Chollet, et al.(2011)
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<th>Intervention</th>
<th>Overview</th>
<th>Target Population</th>
<th>Evidence</th>
<th>Cost</th>
<th>Cost Savings</th>
<th>ROI 27</th>
<th>PFS Value Add</th>
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<tr>
<td>BRIDGE (Bridging the Discharge Gap Effectively)</td>
<td>Social workers conduct pre-discharge individualized assessment, follow up 2 and 30 days post discharge. SWs collaborate with patients, hospitals, community-based providers, and the Aging Network to ensure seamless continuum of care</td>
<td>Medium: Elderly cardiac patients discharged without follow-up appointments</td>
<td>Medium (longitudinal and retrospective studies) demonstrating 17.4% readmission rate among cardiac participants versus 19.6% nationwide average</td>
<td>Low: $43.85 marginal cost per patient (data on startup costs unavailable)</td>
<td>Medium: $562 per patient savings to Medicare</td>
<td>More Cost Data Required</td>
<td>Pros: Low-cost intervention, requires additional resources for scale/impact Cons: Lower net savings, less targeted population, less evidence of scale</td>
</tr>
<tr>
<td>C-TraC (Coordinated Transitional Care)</td>
<td>Nurse care managers coordinate care across settings and engage in education, medication reconciliation and phone follow-up based on protocol triaging risk. Phone-based model that fills traditional TCM gaps of inability to reach remote areas and patient refusal</td>
<td>Medium: Elderly Veterans with high-risk conditions discharged from hospital to community</td>
<td>Medium (2012 pre/post design, RCT underway) Intervention participants received 1/3 fewer rehospitalizations than baseline (23% versus 34% 30-day rehospitalization) 41</td>
<td>Low:$200/patient</td>
<td>Medium: $1,225/patient net</td>
<td>High: 512%</td>
<td>Pros: Fills existing transitional care gap by targeting rural areas, low cost with high net savings, potential savings to Medicare and Medicaid, expressed interest in sustainable funding streams, policies in place for scale. Cons: Currently small-scale (Wisconsin VA and hospitals), results from RCT not yet released</td>
</tr>
</tbody>
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39 Bridge Model of Transitional Care. (2014)
40 Bumpus, et al. (2011)
41 Kind, et al. (2012)
Close Examination/Case Analysis

After a rigorous evaluative process, including literature reviews, interviews with experts, and an analysis of promising interventions against PFS criteria, I targeted two distinct and promising intervention models for PFS examination: The University of Pennsylvania Transitional Care Model and the University of Wisconsin C-TraC/COMPASS program. Each of these interventions meets the PFS eligibility criteria, has high cost savings and provides a unique opportunity to fill government gaps in funding and advance PFS innovation.
Chapter 3: Options for Third Sector
Capital Partners

In examining potential pathways for Third Sector to approach transitional care, several options are outlined below. These options are not mutually exclusive, and Third Sector may decide to pursue one or more depending on available resources, priorities, and risk proclivities for the short and long-term horizon.

Option 1: Embrace Third Sector performance solutions agenda

While there appears to be significant funding for care interventions, there is a startling lack of evidence demonstrating which aspects of care transitions are most effective. Given the plethora of current initiatives related to transitional care (yet the dearth of rigorous comparative effectiveness studies and RCTs), Third Sector may choose to seek nontraditional PFS involvement. Transitional care interventions could fall under Third Sector’s emerging “performance solutions” arm, under which Third Sector could provide technical assistance to hospitals and Medicare to evaluate programs and track appropriate outcomes. By raising funds (similar to SIF or workforce development funds) to provide outcome-based technical assistance, Third Sector could spearhead the concept of performance-driven feedback loops in government transitional care initiatives.

Advantages
- Promotes Third Sector mission of performance-driven solutions, connecting evidence-based feedback loops to government funding to maximize impact of government dollars
- Unique opportunity fills gap of comprehensive outcome tracking in current transitional care interventions
- May create positive relationships with local and federal stakeholders in the healthcare field

Disadvantages
- Requires grant funding, as technical assistance will not immediately pay direct investor dividends, and may thus be less appealing to funders than traditional PFS models
- Requires significant Third Sector effort and time without promise of long-term stakeholder relationship or profit
Option 2: Wait until 2016
Before pursuing PFS models in this field, Third Sector may choose to wait until the CCTP Innovation pilot results (currently evaluated by Mathematica Policy Research) are released in early 2016. Based on evaluative results of current state-based innovative initiatives and CMS’ plans moving forward, Third Sector could take more fully informed, decisive actions.

a. Should CMS decide NOT to sustainably fund current pilot programs, Third Sector could leverage PFS funds to scale promising intervention models when the federal pilot funding is exhausted. Third Sector could contract directly with hospitals or with states desiring better health outcomes (hospitals and providers would likely be financial saver in the latter case)
b. Should CMS decide TO sustainably fund and/or scale promising CCTP models, Third Sector would not have lost valuable time and resources and could even partner with state initiatives to drive performance-based outcomes (Option 1 above)

Advantages
- Waiting for CCTP results will allow Third Sector to access comprehensive data on over 100 current transitional care models (data is currently proprietary). The data will reveal which models are working and in which locales, providing Third Sector with valuable (and currently unavailable) information on whether this is an area worth pursuing under PFS and if so, which partners may be most suited for PFS
- Furthermore, data may also highlight local government champions, which are especially key in this realm, as the primary savings accrue to federal (Medicare) payers and not states. Some states or locales may desire to engage in a PFS construct regardless of cost savings
- Piecemeal approach buys Third Sector time, particularly if the federal government/Medicare decides to reimburse effective transitional care interventions

Disadvantages
- Opportunity cost of time, including potential loss of competitive advantage

Option 3: Begin engagement with selected interventions
Based on the criteria outlined in Chapter 2, Third Sector may choose to begin preliminary engagements with Mary Naylor (Transitional Care Model) and/or Amy Kind (C-TraC
Model) for development of a traditional PFS model. (Chapter 4 provides in-depth analysis)

Advantages
- Both models fulfill the criteria for PFS models (defined target population, strong evidence, significant cost savings, PFS value add)
- Third Sector may have competitive advantage by engaging in transitional care early, especially as transitional care savings accrue to the Federal Government, a powerful stakeholder that has not yet directly participated in PFS models. Federal participation, which has so far been challenging, may be possible under the Social Impact Bond Act (HR 4885) and Pay for Performance Act (S.2691) that were recently introduced to Congress (Appendix A)
- Both Mary Naylor and Amy Kind have expressed interest in performance-driven funding streams, saving Third Sector the time and effort of seeking out stakeholder champions

Disadvantages
- The Social Impact Bond Act and Pay for Performance Act may not be passed (or may get stalled in Congress), thus reducing the chances that the Federal government will be a viable partner in these PFS models
- States may be reluctant to participate in PFS models in an area that already has funding and focus. States may instead desire to participate in PFS models in currently unfunded realms

Option 4: Explore transitional care unrelated to the elderly population.
While outside the scope of this report, reducing hospital readmissions among non-elderly populations will yield Medicaid hospital readmissions savings and thus present opportunities for local buy-in.

Advantages
- Focusing on non-elderly population would present opportunities for local (i.e. Medicaid) hospital savings, thus presenting local buy-in, a key ingredient for PFS models

Disadvantages
- Hospital readmissions and poor transitional care outcomes among the Medicaid population are not nearly as prevalent as among the high-risk elderly population
Option 5: Explore interventions outside of transitional care scope

While outside the scope of this project, interventions not directly related to care transitions but important for maintaining elderly health may lead to positive outcomes and savings. Examples of such interventions include home meal delivery, smoking cessation counseling, installation of bathroom safety devices, and fitness memberships.

Advantages
- Focusing on interventions that are not directly linked with care transitions (and thus not currently covered by government spending) might present innovative opportunities for additional outcomes and savings, particularly those not currently covered by government spending.

Disadvantages
- A rigorous understanding of how non-health interventions contribute to health outcomes is nascent and thus challenging, presenting challenges for gaining critical stakeholder buy-in under PFS models.
<table>
<thead>
<tr>
<th></th>
<th>Competitive Advantage</th>
<th>Revenue Generating</th>
<th>Network Building</th>
<th>Low Risk</th>
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<tbody>
<tr>
<td><strong>Option 1: Performance Focus</strong></td>
<td>☐</td>
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<tr>
<td><strong>Option 2: Wait</strong></td>
<td>☐</td>
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<tr>
<td><strong>Option 3: Engage</strong></td>
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<tr>
<td><strong>Option 4: Non-elderly</strong></td>
<td>☐</td>
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<tr>
<td><strong>Option 5: Non-transitional elderly</strong></td>
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</tr>
</tbody>
</table>
Chapter 4: Case Studies of Potential PFS Models

The Transitional Care Model

The Transitional Care Model (TCM), developed by Mary Naylor at the University of Pennsylvania, is a leading transitional care improvement intervention with multiple nationwide applications. Under the model, an Advanced Practice Nurse (APN) approaches high-risk elderly hospital patients and conducts a comprehensive and holistic assessment of the individual’s needs, goals, and preferences. The APN then collaborates with the patient, the patient’s family and/or caregivers, and the patient’s primary care physician, pharmacist, and care team to create an evidence-based care plan to promote positive health and cost outcomes. While the patient is still in the hospital, the APN provides self-health education to the patient, alerting them of red flags, medication management, and lifestyle practices for optimal health and safety. After the patient is discharged, the APN conducts regular home visits and ongoing telephone support through an average of 2 months to ensure the patient is on track for positive recovery and long-term health. While the transitional care model is implemented in hospital settings, the intervention can be tailored to a variety of discharge settings, including home and community settings and skilled nursing facilities.

Evidence
The TCM is the one of the most evidence-based transitional care programs, with over 40 published articles in reputable scientific journals, including three randomized control trials and one comparative effectiveness study indicating efficacy and Medicare cost savings. A 2004 randomized control trial in elderly patients admitted with heart failure demonstrated fewer readmissions after 1 year (164 readmission in control group versus 104 in treatment group), lower mean total costs ($7,636 versus $12,481), and short-term improvements (12 weeks) in the self-reported quality of life and satisfaction.42

Target Population
The Transitional Care Model targets the highest risk elderly population awaiting discharge. By focusing on evidence indicating that hospital readmissions are more likely among the elderly and those with chronic conditions, the TCM incorporates significant

42 Naylor, et al. (2004)
screening and targeting of eligible participants before implementation. While eligibility criteria may differ slightly depending on the implementation setting, in general, eligible TCM participants generally have the following traits:

1. 65 years of age or higher
2. Hospitalized from home or community setting (i.e. not transferred from other hospital setting)
3. Have one or more high risk target conditions: myocardial infarction, respiratory tract infection, coronary artery bypass graft, cardiac valve replacement, major small and large bowel procedure, orthopedic procedures of lower extremities (among top reasons for Medicare hospitalization)\(^\text{43}\)
4. Have one or more evidence-based criteria for poor health outcomes: 80 years or older, inadequate support system, multiple active chronic health problems, history of depression, moderate to severe functional impairment, multiple hospitalizations during prior 6 months, hospitalization in past 30 days, fair/poor self-rating of health or history of non-adherence to therapeutic regimen\(^\text{44}\)
5. English speaking
6. Has access to telephone
7. Resides in geographic service area

**Impact/Measurement**

In seeking to measure care outcomes for elderly adults who transition from acute care settings, the TCM focuses on quality and health resource utilization indicators tailored to the implementing organization's individual settings and needs. Multiple clinical trials have revealed that the TCM reduces hospital readmissions and the length of hospital admissions, elongates the time between discharge and readmission, and reduces healthcare costs. As such, the following metrics may, alone or in combination, measure the efficacy of the TCM and set payment outcomes in a PFS construct.

\(^{43}\) Naylor, et. al. (1999)
\(^{44}\) Naylor, Mary. (2000)
Figure 2: Potential Outcome Metrics for TCM

### Quantitative (may trigger success payments)
- Reduction in 30-day Hospital Readmissions
- Increase in time between initial discharge and readmission
- Reduction in hospital days
- Increased ability to engage in activities of daily living
- Reduction in total Medicare costs
- Reduction in total Medicaid costs

### Qualitative (may help understanding of ongoing program success)
- Improved self-reported quality of life
- Improved self-reported patient and caregiver satisfaction
- Improved self-reported completion of advance directives

While the readmission and Medicare cost metrics are evidence-based and can be easily estimated, the broader program impacts are less robust and lack significant research. Until research and evaluation methods are more developed, hospital readmissions may be the most appropriate primary outcome focus, with other outcomes serving as important ongoing measures of program success.

### Cost, Savings, and Payors

Based on the results of a 2014 study, the TCM is estimated to cost $1,492 per patient per year, including ongoing nurse salaries, recruiting, training, and other general administrative services such as benefits and utility costs. A report by Avalere Health reveals that the TCM results in Medicare cost savings of $5,334 per high-risk Medicare beneficiary per year (including hospitalizations, 30-day readmissions, and ER visit costs), providing over a threefold return on investment per year. Due to limitations in available data regarding the exact costs, timeline, savings, and assumptions used to determine these net savings, I developed my own estimates based on available data, resulting in net savings of $1,360 (Table 4). The range in Medicare savings and lack of publicly available data suggests the need for an in-depth cost analysis to be performed upon receipt of the PFS contract (which will allow release of proprietary data). This data is necessary for construction of a detailed financial model.

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Table 4: TCM Cost Model

<table>
<thead>
<tr>
<th></th>
<th>TCM(^{48})</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6-month Hospital Readmission Rate</strong></td>
<td>20.3%</td>
<td>37.1%</td>
</tr>
<tr>
<td><strong>Length of Hospital Stay</strong></td>
<td>1.53</td>
<td>4.09</td>
</tr>
<tr>
<td><strong>Cost/Day(^{49})</strong></td>
<td>$2,364</td>
<td>$2,364</td>
</tr>
<tr>
<td><strong>Total Medicare Cost per Cohort(^{50})</strong></td>
<td>$73,424</td>
<td>$358,711</td>
</tr>
<tr>
<td><strong>Total Intervention Savings per patient</strong></td>
<td>$2,852</td>
<td></td>
</tr>
<tr>
<td><strong>Net Savings of TCM (less program costs)</strong></td>
<td>$1,360</td>
<td></td>
</tr>
</tbody>
</table>

**Assumptions:**

- 100 enrollees in each cohort
- Cost/day is same among treatment and control and estimated from Medicare claims files analysis by Avalere Consulting group

While Medicare is the primary cost saver from positive TCM outcomes, savings may also accrue to hospitals (as hospitals may not be reimbursed 100% for Medicare costs), private insurance companies (should an enrollee have supplemental private insurance) and to Medicaid in the form of fewer premature transfers to long-term (100+ days) nursing facility stays\(^{51}\). These non-Medicare cost savings, especially those accruing to Medicaid, are not easily measured, as the counterfactual is extremely challenging to define and evaluate. For instance, studies have not yet demonstrated the long-term effects of the TCM, particularly whether it averts or delays long-term nursing facility care (paid for by Medicaid) in elderly patients.

Furthermore, services covered by both Medicare and Medicaid are always paid first by Medicare, with Medicaid acting as a supplement to fill the difference up to the state’s payment limit. With the possibility of the passage of the Social Impact Bond and Pay for Success Acts (currently under review in Congress), Medicare might cover the cost of this program.

An ongoing study (to be completed in 2015) by Mary Naylor’s team at the University of Pennsylvania is currently examining where the TCM has been enacted nationwide, as comprehensive knowledge of where the model has been implemented and what the model

\(^{48}\) Naylor, et al. (2000)

\(^{49}\) Rodriguez (2014)

\(^{50}\) Calculated by (Cost/day x avg length of stay) * hospital readmission rate. For example, for TCM intervention group, ($2,364 x 1.53) * 20.3 = $73,424

actually costs and saves on a case-by-case basis is currently lacking. With the results of this study, and the evaluations of the Medicare state CCTP pilots to be released at the end of 2015, more information will be available to assess the actual costs and savings of the TCM.

**Funding**

The TCM has thus far been privately funded, with hospitals and insurance agencies carrying the brunt of the service costs in the hopes of generating positive outcomes and savings. While Medicare covers direct medical services and costs, regulations generally prevent Medicare from reimbursing nonmedical costs such as the care coordination and home visits offered through the TCM.

Beginning on January 1, 2013, the ACA has allowed Medicare to cover transitional care costs of physician or non-physician care management services for patients discharged from a hospital, skilled nursing facility, or community mental health clinic stays. These new Medicare codes reimburse communication and face-to-face visit costs within 2 weeks of discharge, and all other transitional care service costs within 30-days of patient discharge. Unfortunately, these new Medicare codes for TCM services increase reimbursement by only $60-$120 per patient (only a fraction of the $1,492 estimated total cost of the program), and thus additional funding is required for sustainable scale and longevity of the TCM. A PFS pilot could perhaps provide justification for increasing Medicare reimbursement by demonstrating significant savings and impact.
# Transitional Care Model PFS Logic Model

## Overarching Goal:
Improve Care Transitions from the hospital to community settings for the elderly to improve care and reduce Medicare costs

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>INPUTS</th>
<th>ACTIVITIES</th>
<th>RESULTS</th>
<th>OUTPUTS</th>
<th>OUTCOMES</th>
<th>ADDITIONAL SOCIAL BENEFIT</th>
</tr>
</thead>
</table>
| **Problem:**
One in five Medicare patients is readmitted to hospital within 30 days at a Medicare annual cost of $15-26 billion; at least 27% of readmissions are preventable
| **Avoidable hospital readmissions caused by:**
- Inappropriate or absent follow-up after discharge
- Lack of family/caregiver involvement in care
- Miscommunication among physicians
- Medication mismanagement (60% of discharged elders)
- Lack of patient education, empowerment
| **Referral**
Elderly individuals meeting target criteria
Advanced Practice Nurses (APN)
Hospitals
Primary care physician (PCP)
| **In-hospital Services**
Patient assessment
Individualized evidence-based care plan
Share patient records across care settings
Patient education on self-management
| Fewer instances of medication mismanagement
| Reduced 90-day readmissions
| Increased quality of care
| **In-Hospital Services**
PCP
APN
Elderly Patient
| **Community-Based Services**
Regular home visits by APN
Daily phone support
APN-facilitated continuity of care between home and PCP (APN attends 1st patient PCP visit)
Active Engagement with families/caregivers
| Fewer missed follow-up appointments
Care plans transmitted across settings (electronic health record)
Early risk symptoms identified
| Reduction in overall health care costs
Increased patient quality of life
Increased patient and family/caregiver engagement, health literacy
| Reduced adverse health outcomes
Increased patient self-sufficiency

## Logic Model Assumptions
- TCM will be flexible and dynamic enough to meet the needs of diverse high-risk elderly population
- TCM will maintain strong and vibrant partnerships with health care providers and community resources
- TCM care team will design and deliver effective specialized services that address key risk factors
Next Steps
Should Third Sector pursue the TCM as a potential PFS partner, the following immediate next steps should be taken:

Choose Implementation Site.
In collaboration with Mary Naylor and team, Third Sector can explore promising areas of implementation. Several potential partners (based on Dr. Naylor’s contacts and advice) include:

a. **Ohio**: Greg Moody, Director of the Office of Health Transformation under the Office of Ohio Governor Kasich
b. **Johns Hopkins Medicine**: John Colmers, Chair of the Health Services Cost Review Commission and Vice President of Transformation and Strategic Planning
c. **Michigan Department of Community Health**: Jim Havemann, Director

In choosing an implementation site, both geography and end-payor must be considered. Third Sector should, as in any procurement, look to areas with a high-risk target population and a hospital/health care network willing to pay and train currently staffed nurses to conduct additional procedures under TCM.

Gather site-specific cost and savings data.
Depending on the service provider, government payor, and specifics of program implementation, specific cost and savings data can be estimated. The cost and savings are highly dependent on the outcomes payor (Medicare, Medicaid, or other), pending Congressional legislation, and implementation site. Given the vast variation in projected cost savings, varying from $456 per patient\(^{52}\) to $1,492 per patient\(^{53}\), care should be taken to determine site specifics before creating financial models.

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\(^{52}\) Naylor, et. al. (2004)
\(^{53}\) Rodriguez, et. al (2014)
The Coordinated Transitional Care (C-TraC) Program

The Coordinated Transitional Care (C-TraC) program, designed and developed by Dr. Amy Kind at the University of Wisconsin-Madison, is a low resource telephone-based initiative that has been implemented in the VA Hospital system. C-TraC, launched in 2010, aims to address the challenges of adequately caring for high-risk patients transitioning from hospital settings. Unlike most other transitional care initiatives that exclude patients with dementia and focus on geographically close patients (in order to conduct home visits), C-TraC addresses both of these high risk groups who would otherwise generally lack traditional transitional care interventions."54

Under the C-TraC model, a registered nurse case manager (NCM) receives a list of hospitalized patients meeting eligibility, and meets with the patient before discharge. The NCM creates an individualized red flag checklist based on the patient’s individual medical history and educates the patient in medication management and follow-up care using teach back methods. In order to prevent information overload, the NCM provides the patient with a half-page colorful handout with the nurse’s contact information, follow-up appointment information, and care plan. After the patient is discharged, the NCM conducts 30-40 minute weekly phone consultations with the patient for a duration of 4 weeks, reporting back to the patient’s primary care provider each time.55 Should the patient have a more complicated recovery plan and/or require more intensive follow-up or guidance, the NCM will arrange a home visit with a regional home health agency. The home health agency’s assigned nurse will perform a physical exam, review medications, and answer any questions the patient may have, making sure to communicate with the NCM and the patient’s PCP to ensure ongoing care coordination. Depending on the patient’s individual needs, additional telephone calls and/or community resources may be arranged.

The COMPASS model, a variation of C-TraC, targets patients released to nursing homes. The only noticeable differences between the two programs are 1) the location of hospital discharge (home/community under C-TraC and nursing home under COMPASS) and 2) the addition of communication and coordination with the nursing home staff under COMPASS.

Evidence

While relatively new, C-TraC is gaining notoriety and demonstrating strong initial outcomes. The C-TraC model was highlighted in the Agency for Healthcare Research and Quality (AHRQ) and rated as “moderate” evidence quality.56 A 2012 pre/post study

54 Kind, et. al (2012)
55 Madison VA Coordinated Transitional Care Program (C-TraC)." (2014)
56 Kelso, et. al (2014)
examining the effect of C-TraC on veterans at Madison VA hospital examined 24 months of data, and demonstrated statistically significant lower rates of 30-day rehospitalizations in the treatment group (23 percent) compared to the control group (34 percent) and suggested the reduced 30-day rehospitalization rates were sustained throughout the intervention period. Furthermore, C-TraC refusal rates were low (with only 5 out of 713 eligible veterans refusing enrollment), in comparison to the high rates of refusals (up to 86%) that some studies have indicated among home-visit transitional care programs.57,58 After accounting for conservative programmatic costs, the net cost avoidance published in *Health Affairs* was $1,225 per enrolled veteran over 18 months.59 Due to limitations in available data regarding the exact costs, timeline, savings, and assumptions used to determine these net savings, I developed my own estimates based on available data, resulting in net savings of $3,456 per patient per year60 (Table 5). These notably high savings (compared with *Health Affairs* estimates) may be attributed to a timespan of 1 year (versus 18 months studied in the *Health Affairs* article), to a lack of full incorporation of start-up costs, and to estimates of Medicare costs. The large range of estimated savings, in addition to the lack of publically available data, suggests the need for an in-depth cost analysis to be performed upon receipt of the PFS contract (which will allow release of proprietary data), allowing the construction of a detailed financial model.

### Table 5: C-TraC Cost Model

<table>
<thead>
<tr>
<th></th>
<th>C-TraC61</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>30-day Hospital Readmission Rate</strong></td>
<td>23%</td>
<td>34%</td>
</tr>
<tr>
<td><strong>Length of Hospital Stay</strong></td>
<td>6.1 Days</td>
<td>8.7562</td>
</tr>
<tr>
<td><strong>Cost/Day63</strong></td>
<td>$2,364</td>
<td>$2,364</td>
</tr>
<tr>
<td><strong>Total Cost per Cohort 64</strong></td>
<td>$331,67065</td>
<td>$703,290</td>
</tr>
<tr>
<td><strong>Total Intervention Savings per patient</strong></td>
<td>$3,716</td>
<td></td>
</tr>
<tr>
<td><strong>Net Savings of TCM (less program costs)</strong></td>
<td>$3,456</td>
<td></td>
</tr>
</tbody>
</table>

57 Stauffer, et. al. (2011)
58 Voss, et. al. (2011)
59 Kind, et al. (2012)
60 Dr. Amy Kind provided internal information that C-TraC costs between $133-$260 per patient, depending on program volume and nurse salary.
61 Kind, et al. (2012)
63 Rodriguez, et. al. (2014)
64 Calculated by (Cost/day x avg length of stay) * hospital readmission rate. For example, for C-TraC intervention group, ($2,364 x 6.1) * 23 = $331,670
65 Calculated by (Cost/day x avg length of stay) * hospital readmission rate. For example, for C-TraC intervention group, ($2,364 x 6.1) * 23 = $331,670
Assumptions for Cost Model:

- 100 enrollees in each cohort
- Cost/day is same among treatment and control and estimated from Medicare claims files analysis by Avalere Consulting group
- Length of hospital stay for high-risk Medicare beneficiary is 8.75 days

A recently approved randomized control trial, funded by the National Institutes of Health, will soon begin evaluating the effect of C-TraC on 30-day hospital readmission outcomes for patients. Furthermore, the model is undergoing expansion to nursing homes and additional hospitals in the Madison WI region, providing opportunities for additional evaluations.

Target

While C-TraC eligibility may differ based on individual settings and care populations, the criteria include the following elements:

- Patient is 65 or older AND
  - either lives alone, was hospitalized in past 12 months OR has dementia/cognitive impairment
- Patient will be discharged to non-institutional setting (home, home with home health/hospice), group home, or assisted living center
  - OR, in case of COMPASS protocol, the patient will be discharged to nursing home
- The patient is identified as at-risk for post-hospital institutionalization by either his/her inpatient or outpatient care provider
- The patient has daily access to a working telephone

Evidence/Measurement

The C-TraC program measures 30-day rehospitalization rates and the number of medication discrepancies discovered and rectified during phone follow-ups immediately (within 72 hours) after hospital discharge. These metrics are not only easily measured and tracked through Medicare data and NCM notation, but they also provide important insights into the efficacy of the program.

The C-TraC program is designed for implementation in a variety of care settings, and thus additional metrics for outcome evaluation may also be measured, tailored to the specific implementation site. Success payments under a PFS construct could include the following metrics:

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Kind, Amy. Telephone interview. 19 Nov. 2014
Cost, Savings, and Payors

The C-TraC model is relatively new and thus estimates of cost savings have only been measured for the VA hospital population. These estimates are significant, with 18-month VA hospital savings of $1,225 per veteran enrolled. The C-TraC model, by nature of its phone-based intervention, has remarkably low ongoing program costs of approximately $250 per patient during the 18-month intervention, with start-up costs of approximately $120 per patient. The large savings and low programmatic costs indicate great potential for savings and may be ideally suited for a PFS construct.

While the VA hospital system has thus far generated savings from the C-TraC model, the C-TraC protocols can be applied to a variety of settings, including hospitals and acute care settings. Thus, C-TraC could potentially generate Medicare and hospital savings from avoided hospital stays and readmissions and Medicaid and nursing facility savings from averted or delayed long-term care (100 days +) in nursing homes.

Funding

The C-TraC intervention is currently funded by grants from the Department of Veteran Affairs, Madison VA Geriatrics Research, Education, and Clinical Center, the National Institute on Aging, the University of Wisconsin School of Medicine, the University of Wisconsin Institute for Clinical and Translational Research, and the National Institutes of Health (NIH). The C-TraC model has recently spread to two regional (non-VA)

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67 Kelso, et. al. (2014)
68 Kelso, et. al. (2014)
69 Kelso, et. al. (2014)
hospitals, and the nursing home COMPASS component is set to expand to over 100 nursing homes by the end of 2015.\textsuperscript{70} Despite these recent advancements funded through grants and private hospital payers, C-TraC would greatly benefit from additional funding sources to ensure its sustainability and replicability. Thus PFS may be well suited for C-TraC.

\textsuperscript{70} Kind, Amy. Telephone interview. 19 Nov. 2014.
**C-TraC/COMPASS PFS Logic Model**

**Overarching Goal:** Improve Care Transitions from the hospital to community and nursing home settings for the elderly to improve care and reduce Medicare costs

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>INPUTS</th>
<th>ACTIVITIES</th>
<th>RESULTS</th>
<th>OUTPUTS</th>
<th>OUTCOMES</th>
<th>ADDITIONAL SOCIAL BENEFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Problem:</strong> One in five Medicare patients is readmitted to hospital within 30 days at a Medicare annual cost of $15-26 billion; at least 27% of readmissions are preventable.</td>
<td><strong>Referral</strong> Elderly individuals meeting target criteria</td>
<td><strong>Referral</strong> NCM receives list of hospitalized patients and determines eligibility</td>
<td><strong>Medication discrepancies identified early</strong></td>
<td>Reduced 30-day re-hospitalizations</td>
<td>Increased quality of care</td>
<td></td>
</tr>
<tr>
<td>-Up to 83% discharged patients refuse home visits</td>
<td>Nurse Case Manager (NCM)</td>
<td></td>
<td></td>
<td></td>
<td>Reduced adverse health outcomes</td>
<td></td>
</tr>
<tr>
<td>-60% discharged elders experience medication mismanagement</td>
<td>Hospital</td>
<td></td>
<td></td>
<td>Fewer instances of medication mismanagement</td>
<td>Increased patient self-sufficiency</td>
<td></td>
</tr>
<tr>
<td>-Current interventions do not target patients living in remote/rural areas</td>
<td></td>
<td></td>
<td></td>
<td>Increased patient satisfaction with care</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Avoidable hospital readmissions and medication errors caused by:</strong></td>
<td><strong>In-Hospital Services</strong> NCM educates patient in medication management and follow-up care</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>-Inappropriate or absent follow-up after discharge</td>
<td>NCM creates individualized “red flag” checklist</td>
<td>Fewer missed follow-up appointments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Medication mismanagement</td>
<td>NCM provides half-page handout with contact information, follow-up appointment, and care plan</td>
<td>Early risk symptoms identified</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rural, difficult-to-reach patients are cared for</td>
<td>Increased patient quality of life</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower participant refusal rate of follow-up care</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Post-Discharge Services**

<table>
<thead>
<tr>
<th>NCM</th>
<th>Patient</th>
<th>Family/Caregiver</th>
<th>Nursing Home</th>
<th>PCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCM conducts 4 weekly 30-40 min. phone consultation within 48-72 hours of discharge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NCM communicates with nursing home to arrange points of contact and calls within 24 hours of discharge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If necessary, NCM arranges home visit by regional home health agency</td>
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</table>

**Logic Model Assumptions**

- C-TraC/COMPASS will be flexible and dynamic enough to meet the needs of particular intervention community
- TCM will maintain strong and vibrant partnerships with health care providers and community resources
**Next Steps**

Should Third Sector choose to go forward with the development of the C-TraC/COMPASS as a potential PFS partner, the following immediate next steps should be taken:

1. **Choose Implementation Site.** In collaboration with Amy Kind and team, Third Sector can explore promising areas of implementation. While the program has thus far only been implemented in Wisconsin (at the VA hospital, and more recently at the University of Wisconsin hospital), the intervention could theoretically be implemented in any hospital setting, so long as local champions (government and/or hospital/MCO) are dedicated and willing. Third Sector should, as in any procurement, look to areas with a high-risk target population and a hospital/health care network willing to pay and train currently staffed nurses to conduct the telephonic protocol outlined under C-TraC.

2. **Gather site-specific cost and savings data.** Depending on the service provider, government payor, and specifics of program implementation, specific cost and savings data can be estimated. The cost and savings are highly dependent on the outcomes payors (Medicare, Medicaid, or other) and implementation site specifics. Given the preliminary knowledge of projected cost savings for C-TraC and COMPASS, a more detailed financial analysis of the current pilots and programs are essential to prepare for PFS.
Chapter 5: Recommendations and Conclusion

Pay for Success presents the tremendous potential to creatively leverage private funds for sustainable performance-driven social impact. While the field has successfully focused on recidivism, education, homelessness, workforce development, and more recently, childhood asthma, there has not yet been a focus on the elder population. Adverse care transitions among the elderly, many of which are highly preventable, lead to diminishing health and high costs, with nearly one in five Medicare patients readmitted within 30 days of hospital discharge\(^1\), at a Medicare annual cost of $15-26 billion.\(^2\)

Although there are high potential savings from providing care interventions to reduce unnecessary hospital readmissions, save costs, and improve elder care, further consideration needs to be undertaken before committing to engaging PFS models in this field. As described in the preceding chapters, the primary challenges to engaging in PFS models in this field include:

1. **Generating Local Buy-In.** With elder transitional care costs accruing primarily to Medicare, states and localities may not have sufficient incentive to participate in a PFS model. While some state or local government champions may wish to participate in a transitional care PFS model as a means of generating otherwise absent capital for social good, strong local incentives are lacking. The Congressional PFS legislation may provide an opportunity for federal and state cost sharing, but given Congressional delays, it is uncertain how and if such legislation will actually pass. While non-government stakeholders (such as hospitals and MCO’s) could participate as outcome payors in a PFS model, sufficient savings (currently unclear, with most of the savings likely accruing to Medicare) would first need to be demonstrated to incentivize their participation.

2. **Duplicating Government Efforts.** With a plethora of government initiatives, pilots, and funding in the transitional care space, it is uncertain whether traditional PFS models, which secure funding for otherwise underfunded and underutilized services, would add value. Rather, PFS in this realm may be better leveraged as a means to iteratively evaluate the effects of transitional care interventions. If the latter pathway is chosen, care must be taken to ensure such evaluations do not simply duplicate the many government evaluations of transitional care pilots, but that PFS evaluations serve as constant innovation tools for learning what works.

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\(^1\) Jencks, Williams, and Coleman, 2009.

Recommendations for Third Sector

1. **Wait for the results of the CMS transitional care innovation pilots scheduled for release in early 2016** before engaging in deal construction (whether traditional PFS or evaluation-based). Based on results of these 100+ pilots, Third Sector can better locate state and local champions, understand potential pitfalls and challenges, and decipher the government’s plans for funding going forward.

2. **(In the interim) Continue building relationships** with Mary Naylor’s team (TCM) and begin communications with Amy Kind (C-TraC). Such networking is not cost or time-intensive and will position Third Sector for potential PFS deal construction in 2016.
   a. Third Sector can explore which (if either) model would be best suited to Third Sector’s professional agenda. The TCM may be an appropriate choice for immediate scale, presenting a less risky proposition due to its proven efficacy; while C-TraC may require a bit more time for start-up, but provides an innovative service gap in serving rural populations (Table 6).

<table>
<thead>
<tr>
<th>Criteria</th>
<th>TCM</th>
<th>C-TraC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Population</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Return on Investment</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Attractiveness to Funders</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>(requires more evidence)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attractiveness to End-Payor(s)</td>
<td>□/-</td>
<td>□ +</td>
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<tr>
<td>(Depends on legislation)</td>
<td></td>
<td></td>
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<tr>
<td>Ready for Immediate Scale</td>
<td>□</td>
<td>□ -</td>
</tr>
<tr>
<td>Ease of Integration with</td>
<td>□</td>
<td>□ +</td>
</tr>
<tr>
<td>Hospitals/Providers</td>
<td>(phone call + home visit)</td>
<td>(phone call only)</td>
</tr>
</tbody>
</table>

3. **Establish and/or continue relationship with Mathematica Policy Research**, the CCTP innovation pilot evaluator. Establishing this relationship will allow Third Sector to liaise with Mathematica when the pilot results are released, providing a deeper understanding of the intervention results and positioning Third Sector well for wise decision-making.

4. **Consider hospitals/MCOs and insurers as end-payors** in addition to government players. The TCM, for example, is currently implemented by Aetna in New Jersey and Kaiser Permanente in California. Exploring additional PFS stakeholders and outcome payors, especially hospitals and Managed Care Organizations, which have incentives and resources for care alignment, may provide promising venues to generate buy-in.
Care transitions between the hospital and a variety of discharge settings are often poorly managed for elder populations, leading to high costs and poor health outcomes. These significant preventable costs present tremendous opportunity for improved care and cost savings. Pay for Success may be well suited to expand performance-driven learning, to align a fragmented health system, and to improve the lives of many individuals. Ultimately, Third Sector must decide how transitional care interventions fit within the organization’s project pipeline and the PFS landscape nationwide in order to leverage momentum and create positive social impacts.
Appendix A: Government Interventions

Reducing hospital readmissions and improving quality of care among the elderly has elicited growing attention within state and federal governments, especially since the implementation of the Affordable Care Act (ACA) in 2010. Despite the influx of initiatives and aligned incentives in this transitional care sphere, there is little comprehensive understanding of which program elements are effective and which can be scaled. Hospital readmissions have declined to 17.5 percent in 2013, down from 19 percent in 2012, but there is little understanding of the exact connection between readmission reduction efforts and the actual outcomes. Federal and state demonstrations offer the opportunity for innovative interventions, but randomized control trials and nationwide evaluations are lacking.

The Affordable Care Act (ACA)

The Affordable Care Act includes several provisions to improve care transitions, primarily focusing on hospitals and Medicare:

- **Incentive Increases in Hospital Payments:** Since October 2012, hospitals have had the opportunity to receive increased Medicare payments if they achieve or exceed certain performance targets for quality measures.74
- **Hospital Penalties:** Since October 2012, CMS has reduced payments to hospitals (3% reductions in FY 2015, up from 2% in FY 2014) whose 30-day readmission rates for patients with heart failure, pneumonia, or myocardial infarction exceed a particular target rate according to an algorithm.75 In 2015, three-quarters of all subjected hospitals were penalized, with $428 million dollars in fines levied.76
- **Advanced Practice Nurse Training:** The ACA has provided a $200 million, four-year workforce development demonstration to increase the number of Medicare advanced practice nurses trained in care transition services.77
- **Medicare Shared Savings Program for Accountable Care Organizations (ACOs):** This program incentivizes providers to coordinate care, as providers can access shared savings should they meet specified spending and quality benchmarks.
- **Bundled Payment pilots:** The ACA authorizes 5-year bundled payment pilots in Medicare and Medicaid to test whether making a single payment to one entity

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74 Burton, Rachel. (2012)
75 CMS “Readmissions Reduction Program” (2014)
76 Smith, Lisa. (2014)
77 Burton, Rachel. (2012)
for episodes of care will encourage collaboration across providers and cost savings. The Medicare pilot covers services 30 days post-discharge and requires coverage of transitional care services.

- **Transitional Care Medicare Payment Codes:** In January 2013, CMS implemented Medicare payment codes that allow reimbursement for non-medical care transition expenditures up to 30 days after patient discharge.\(^7^8\) These codes require communication with patients within 2 days of discharge and home visits within 2 weeks of discharge, and cover physician and non-physician care management expenses for Medicare patients discharged from a hospital, skilled nursing facility, or Community Mental Health Care stay. While these codes increase the reimbursement by $60 for moderately complex cases and by $120 for highly complex cases, they only cover services within 30 days of discharge and do not come close to covering the full cost of transitional care services incurred.\(^7^9\)

### Federally-Funded Medicare Demonstrations

Federal demonstration initiatives have been launched to test state-specific interventions and innovative payment models for care transitions. Such demonstrations include: \(^8^0\)

- **Multi-payer Advanced Care Practice Demonstration:** In operation since 2010, the demonstration has authorized 8 state initiatives to receive bundled Medicare payments to cover services for the chronically ill, including services related to transitional care planning.\(^8^1\)
- **Comprehensive Primary Care Initiative:** A 4-year demonstration with over 400 participants, this initiative offers shared payments to primary care practices. A portion of these payments compensates transitional care planning services.\(^8^2\)
- **Federally Qualified Health Center Advanced Primary Care Practice Demonstration:** This demonstration provides per capita incentive payments to health centers that adopt the medical home model, emphasizing sharing information across care settings and individualized patient follow-up.
- **Community-Based Care Transitions Program:** Launched in 2011, this 5-year demonstration pays $500 million to 102 selected state interventions aimed at reducing hospital readmissions rates and providing care transition services to high-risk Medicare beneficiaries. Evaluations will become available at the end of 2015.\(^8^3\)

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\(^7^8\) Galluzzo, Donna (2013)
\(^7^9\) American Academy of Family Physicians (2013)
\(^8^0\) Burton, Rachel. (2012)
\(^8^1\) “Multi-Payer Advanced Primary Care Practice.” Centers for Medicare and Medicaid Services (CMS)
\(^8^2\) “Comprehensive Primary Care Initiative.” Centers for Medicare and Medicaid Services (CMS)
\(^8^3\) “Community-Based Care Transitions Program.” Centers for Medicare and Medicaid Services (CMS)
**Federally-Funded Medicaid Demonstrations**

While government involvement has primarily focused on Medicare beneficiaries, several care transition initiatives relate to Medicaid, though most are only peripherally related to care transitions:

- **Dual demonstrations:** CMS has awarded contracts to 24 states to design integrative models to coordinate care across primary, acute, behavioral, and long-term care for Medicare-Medicaid dually enrolled beneficiaries.

- **Medicaid Long Term Services and Supports (LTSS):** Provides states with the opportunity to cover long-term care services for those deemed eligible. These services may include transitional care management as patients transition from medical to home/community.

- **Payments for Medical Homes:** The ACA authorizes payments to providers who operate as “medical homes” (community practices that manage and coordinate care for chronic patients), for transitional care services.

- **Medicaid Home and Community Based Services (HCBS):** Provides opportunities for states to provide Medicaid beneficiaries with home or community-based services, such as case management, home health aid, and respite care, many of which relate to transitional care for elderly.84

While significant ongoing government initiatives and funding have been directed towards improving transitional care, the dearth of rigorous evaluations and results has prevented a widespread adoption or scale of promising programs. As the results of the demonstrations become available over the next few years, more knowledge on intervention efficacy will surface. However, due to the somewhat disjointed implementation (with dozens of states implanting their own specific programs) and lack of randomized control trials, it will be challenging to pinpoint which factors or initiatives have led to transitional care improvements.

**Pay for Success (PFS) Legislation**

Several bipartisan PFS bills reintroduced in March 2015 have been making their way through Congress, demonstrating the widespread appeal of PFS to members of both parties and providing the potential for collaborative federal/state health spending in transitional care. In 2014, two bipartisan acts were been proposed, one by Senators Bennet (D-CO) and Hatch (R-UT), the Pay for Performance Act (S2691) to test SIF approaches85; and another, Bill 4885 by Representatives Young (R-IN) and Delaney (D-MD), that aims to create a federal fund to promote and test PFS approaches.86 The bills allow the federal government to contribute to 1) success payments of a state/local government up to the projected savings of the SIB to the federal government; 2) up to 50

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84“Home & Community Based Services | Medicaid.gov.” CMS
percent of the cost of a feasibility study and 3) evaluation costs. If passed, these bills may allow the federal government to fund and collaborate with local governments to achieve positive joint savings and outcomes in the transitional care field.\textsuperscript{87}

\textsuperscript{87} Schmit, Cason. (2014)
Appendix B: Stakeholders and Funders

Transitional care interventions for the elderly, which typically consist of non-medical interventions, are not usually funded by governments but are instead funded by private grants and research institutes or by hospitals and insurance companies aiming to capitalize savings from fewer hospital readmissions and better care outcomes.

This appendix outlines the key players and potential cost savers from transitional care interventions, and provides insights into potential end payers of PFS constructs in this realm. For a more comprehensive overview of Medicare and Medicaid coverage and services, please see Appendix D.

Hospitals and Managed Care Organizations (MCOs)

Hospitals, the main settings for elderly patient discharge, are the initial locale in which most transitional care interventions are implemented. As such, hospital involvement and buy-in are key for any transitional care intervention. While elderly hospital stays are reimbursed by Medicare (usually a fixed amount based on the treatment, location, and hospital type), the reimbursement does not always cover the full hospital fee, and thus hospitals may face cost savings from improved transitional care outcomes. Similarly, hospitals and physicians may operate under Managed Care Organizations (MCOs), where payments are capitated or bundled (rather than fee-for-service) to incentivize collaboration, improved quality, and reduced cost. These organizations can also benefit from cost savings through reduced bundled payments to providers.

If Third Sector wishes to pursue a PFS model under which government payors are not involved, hospitals and/or MCOs could be viable partners. A careful cost-benefit analysis of hospital savings and costs would first need to be conducted to ensure that hospitals and MCOs have an incentive to participate. Most hospitals/MCOs would require that the savings from reduced Medicare readmissions (likely reimbursed at a sub-par rate) would outweigh the losses from reduced admissions.

Medicare

Medicare, by nature of its coverage of elderly individuals, is the most significant cost saver of improved transitional care outcomes. The federal Medicare program typically pays hospitals a flat fee for each hospital case, with an additional per-case price for

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88 The exact savings hospitals may face is challenging to determine, as hospitals often shift uncompensated costs to insured patients. (Fair Health Consumer.org "The Role of Medicare in Out-of-Network Reimbursement." 2015)
specific diagnosis. Thus transitional care interventions for the elderly, which aim to reduce hospital stays (both in total and by length of stay), provide significant cost savings for the federal government.

In addition to hospitalization costs, Medicare pays for short-term nursing home stays (up to a maximum of 100 days in a nursing home, though the average Medicare covered stay is much lower, typically around 22 days). Thus Medicare could also face nursing home cost savings should transitional care interventions delay or divert stays in nursing homes. Unfortunately, due to the challenge of measuring the counterfactual for avoided nursing home stays, which may take place many years after the transitional care intervention, evaluations on care transition interventions have not measured such outcomes or cost savings.

**Medicaid**

Medicaid, typically a program for the poor and disabled, covers elderly individuals who have low income levels and who meet specific state high need requirements, enabling them to receive both Medicaid and Medicare benefits. Medicaid covers such “dually eligible” individuals for long-term nursing home stays, and thus Medicaid (funded by states and the federal government) may share in longer-term transitional care savings to the extent that averted nursing home days from better care outcomes may be measured. Annual nursing home spending per dual enrollee averages $3,247 for those aged 65 to 74, $7,500 for those aged 75 to 84, and $18,856 per year for those over 85 years. Thus, averting nursing home stays through improved care transitions, particularly for elderly individuals could generate significant Medicaid savings.

Other than long-term nursing care, elderly care costs are always paid first by Medicare, with Medicaid acting as a supplementary second payer covering Medicare premiums and minimal cost sharing. Such premiums present relatively few savings, averaging approximately $100-$300 per year for each beneficiary.

Pending the PFS legislation currently in Congress, state and local governments may have an increased incentive to participate in transitional care PFS models, which would normally only provide significant savings to federal Medicare. The legislation, if passed, would allow states the opportunity to share in the success payments from the federal government, and even gain up to 50 percent of the cost of feasibility studies and evaluation.

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89 Reinhardt, Uwe. (2009)
91 Young, et. al. (2013)
92 Young, et. al. (2013)
93 Schmit, et. al (2014)
Department of Veterans Affairs (VA)

The Department of Veterans Affairs, a federally funded program, covers the cost of care for individuals who have served in the U.S. active military, naval, or air service. Transitional care interventions may also lead to VA cost savings in the form of reduced federal VA costs. Average total VA health expenditures per patient in 2013 were approximately $7,000, though given the relatively small number of recipients (approximately 5.6 million), savings may be best directed more generally to the elderly at-risk population.

Summary

In looking towards potential transitional care PFS models, the significant Medicare savings and resulting dearth of Medicaid savings may present a challenge to generating local buy-in, unless PFS legislation in passed. While cost savings are not necessarily a make-or-break issue (the Santa Clara homelessness PFS model, for instance, is not based solely around generating extractable savings within timeframe of project), the dearth of local savings should be carefully weighed in examining PFS potential.

Figure 4: Stakeholder Involvement with Elderly Care Costs

<table>
<thead>
<tr>
<th>Hospitals</th>
<th>• Difference between cost of treatment and Medicare reimbursement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare</td>
<td>• Hospital visits</td>
</tr>
<tr>
<td></td>
<td>• Short-term nursing home stays (up to 100 days)</td>
</tr>
<tr>
<td>Medicaid</td>
<td>• Long-term nursing home</td>
</tr>
<tr>
<td></td>
<td>• Eyeglasses, hearing aids</td>
</tr>
<tr>
<td></td>
<td>• Part D Drug premiums</td>
</tr>
<tr>
<td>Dept VA</td>
<td>• Health care costs for veterans</td>
</tr>
</tbody>
</table>

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94 Social Finance and Bank of America recently (2014) released a study examining transitional care for the veteran population, suggesting TCM as a viable intervention.
95 United States. Department of Veteran Affairs. (2013)
## Appendix C: Transitional Care Intervention Models

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Target Population (level of refinement in targeting high risk)</th>
<th>Evidence</th>
<th>Cost (Funders generally prefer lower cost)</th>
<th>Cost Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transitional Care Model (TCM)</strong>\textsuperscript{96,97,98}</td>
<td>Strong: 65+ years, hospitalized from home with congestive heart failure OR one of eight target conditions plus one of 9 criteria for poor outcomes, English speaking, has phone</td>
<td>Strong: 2 RCTs (1999, 2004), most recent demonstrated 36% reduction in readmissions and 19% patients readmitted in 365 days</td>
<td>Medium: $456-$1492 per patient per year</td>
<td>High: $4,000-$5,334 net savings per patient within 5-12 months discharge</td>
</tr>
<tr>
<td><strong>Care Transitions Intervention (CTI)</strong>\textsuperscript{2,99,100,101}</td>
<td>Strong: 65+ years, hospitalized from home with more than 1 of 11 diagnosis, English speaking, has phone, no dementia or plans for hospice</td>
<td>Strong: 3 RCTs (2004, 2006, 2009) demonstrating reduction in 90-day rehospitalization (17% v. 23%) and 19% reduction in hospital costs over 180 days</td>
<td>Medium: $180-1000 per patient per year</td>
<td>High: $900-$3700 per patient</td>
</tr>
<tr>
<td><strong>Enhanced Discharge Planning Program (EDPP)</strong>\textsuperscript{102}</td>
<td>Strong: 65+ years, discharged to home with any diagnosis and with 2+ medications and at least one social risk factor</td>
<td>Weak: 1 RCT (2012) demonstrated increased patient communication, but no impact on hospital readmissions</td>
<td>Not Available</td>
<td>Medium: $1,200 per patient</td>
</tr>
</tbody>
</table>

\textsuperscript{96} Naylor, et al. (2004)  
\textsuperscript{97} Rodriguez, et al. (2014)  
\textsuperscript{98} “Social Programs That Work.” (2010)  
\textsuperscript{99} Chollet, et al.(2011)  
\textsuperscript{100} National Transitions of Care Coalition (2011)  
\textsuperscript{101} Gardner, et al. (2014)  
\textsuperscript{102} Gardner, et al. (2014)
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Target Population (level of refinement in targeting high risk)</th>
<th>Evidence</th>
<th>Cost (Funders generally prefer lower cost)</th>
<th>Cost Savings</th>
</tr>
</thead>
</table>
| Project Re-Engineered Discharge (RED)
[103,104,105] | Medium: 18+ years, hospitalized from home for any diagnosis with plans to be discharged to community, not admitted from skilled nursing facility or other hospital. English speaking | Strong: 1 RCT (2009), demonstrating 28% reduction re-admissions in 30 days | Low: $100-$373 per person per year       | Low: $412-$500 per patient/year   |
| GRACE (Geriatric Resources for Assessment and Care of Elders)
[106,107] | Medium: Low-income (less than 200% FPL), 65+, attended community-based health system | Low: 1 RCT (2013) demonstrating no significant difference between costs of intervention and control | High: $1,432-$2,201 per patient per year | N/A: Cost neutral                 |
| Transition Home for Patients with Heart Failure (THPHF)
[108] | Medium: Adults (age 21+) hospitalized with congestive heart failure | Medium: Pre-post study design demonstrating 42% reduction in 30 day reshospitalization | Low: ~$78 per patient                  | Low: ~$50 per patient (small sample size) |
| Kaiser Chronic Care Coordination
[109] | Strong: Elderly with at least one of following: 4 chronic illnesses, recently discharged from SNF, recent hospitalization or prior high utilization of ER | Medium (pilot in Colorado) demonstrating 2.4% intervention group rehospitalized compared to 14% control, fewer ED visits (7% v. 16%) and lower rate of readmission to SNF within 60 days (0 v. 13%) | Not Available                           | Medium: $1900 per patient per year |

103 Gardner, et al. (2014)
104 Rodriguez, et al. (2014)
105 National Transitions of Care Coalition (2011)
106 Rodriguez, et al. (2014)
108 Willey, Rita. (2011)
109 Leff, et. al. (2009)
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Target Population (level of refinement in targeting high risk)</th>
<th>Evidence</th>
<th>Cost (Funders generally prefer lower cost)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BRIDGE (Bridging the Discharge Gap Effectively)(^{110, 111})</td>
<td>Medium: Elderly cardiac patients discharged without follow-up appointments</td>
<td>Medium (longitudinal and retrospective studies) demonstrating 17.4% readmission rate among cardiac participants versus 19.6% nationwide average</td>
<td>Low: $43.85 marginal cost per patient</td>
<td>Medium: $562 per patient savings to Medicare</td>
</tr>
<tr>
<td>C-TraC (Coordinated Transitional Care)</td>
<td>Medium: Elderly Veterans with high-risk conditions discharged from hospital to community</td>
<td>Medium (2012 pre/post design, RCT underway). Intervention participants received 1/3 fewer rehospitalizations than baseline (23% versus 34% 30-day rehospitalization)</td>
<td>Low: $200/patient</td>
<td>Medium: $1,225/patient net</td>
</tr>
<tr>
<td>SASH (Support and Services at Home)(^{112})</td>
<td>Low: Senior citizens (73% over 65) residing in one of 112 affordable housing settings in VT, and residential care settings</td>
<td>Weak: I pilot in VT (ASPE currently conducting evaluation). Preliminary results suggest reduced falls (39% reported 3+ falls within a year before SASH, versus 29% after)</td>
<td>Medium: Medicare pays $700/participant/year, but this does not include overhead or startup costs. SASH estimates ~$1100/participant</td>
<td>Low: ~$400/participant for 5 quarters, ~$300 for 4 quarters (Medicare)</td>
</tr>
<tr>
<td>INTERACT II (Interventions to Reduce Acute Care Transfers)(^{113})</td>
<td>Medium: 65+, high risk of hospitalization or other cost-intensive care</td>
<td>Weak: Observational study of 30 nursing homes, demonstrating 17% reduction in self-reported hospital admissions during 6 months</td>
<td>High: $7,700 per nursing home</td>
<td>High: $125,000 projected Medicare savings per year for a 100-bed NH</td>
</tr>
</tbody>
</table>

\(^{110}\) Bridge Model of Transitional Care. (2014)  
\(^{111}\) Bumpus, et al. (2011)  
\(^{112}\) Vermont Healthcare Reform, (2014).  
\(^{113}\) Ouslander, et al. (2011).
<table>
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<tr>
<th>Intervention</th>
<th>Target Population (level of refinement in targeting high risk)</th>
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<th>Cost (Funders generally prefer lower cost)</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Guided Care</strong>&lt;sup&gt;114,115&lt;/sup&gt;</td>
<td>Medium: 65+, high risk of hospitalization or other cost-intensive care</td>
<td>Medium: [RCT underway] 24% fewer hospital days, 37% fewer SNF days, 15% fewer ED visits, 29% fewer home health care episodes, 9% increase specialty visits</td>
<td>Not Available</td>
<td>Medium: $1,300 per patient and $75,000 per nurse in first year</td>
</tr>
<tr>
<td><strong>Better Outcomes for Older Adults Through Safe Transitions (BOOST)</strong></td>
<td>Medium: “Older” adults hospitalized for any diagnosis and with five + medications, poor health literacy, unplanned hospitalization in prior 6 months</td>
<td>Weak: No peer-reviewed or experimental design, but preliminary results suggest 15% reduction (age &lt;70) and 67% reduction (age&gt;70) in 30-day readmissions</td>
<td>Data unavailable (varies by hospital)</td>
<td>Data unavailable</td>
</tr>
<tr>
<td><strong>Evercare (already covered by CMS through United Health)</strong></td>
<td>Medium: Dual eligible in Long-term care facility or high risk in community. Triage and tailor interventions by risk</td>
<td>Strong, Reduced ED visits by 50%, reduced hospitalizations by 45% in 15 months</td>
<td>Not Available</td>
<td>High: $103,000 per nurse practitioner (chrt.org article)</td>
</tr>
</tbody>
</table>

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<sup>114</sup> Leff, et al. (2009)  
<sup>115</sup> Griffin, et al. (2009)
Appendix D: Primer on Medicaid and Medicare

**Medicare**
Medicare covers elderly individuals (including all U.S. citizens/permanent residents with 10+ years of employment), and those under 65 with permanent disability or end stage renal disease. Medicare funds do not directly flow through states, but are instead provided in the form of fee-for-service FFS payments to hospitals.

**Medicare breakdown:**
- **Part A: Hospital Insurance Program**
  - **Covers:** inpatient hospital care, home health care preceded by hospital stay, hospice, nursing facility care
  - **Payment:** Primarily funded by payroll tax contributions, patients are free from charge
- **Part B: Supplemental Medical Insurance Program**
  - **Covers:** physician services, outpatient hospital services, home health care not preceded by hospital stay
  - **Payment:** Patients pay coinsurance with deductibles and monthly premiums
- **Part C: Medicare Advantage**
  - **Covers:** Part A and B services, and most often prescription drugs for beneficiaries enrolled in private health plans
  - **Payment:** Can enroll in FFS or Medicare Advantage plan (HMOs, PPOs and other private health plans). Patients pay cost sharing, plus Part B and plan premiums
- **Part D: Rx Drug Coverage**
  - **Covers:** Outpatient prescription drugs
  - **Payment:** Administered exclusively through private plans, not fee-for-service. Funded by general revenues, enrollee premiums, and payments from states. Patients pay premiums, deductibles, cost sharing

**Medicaid**
Medicaid is a jointly funded Federal/state partnership administered by states to cover individuals with low-incomes. The federal government pays states for a specified percentage of program expenditures, called the **Federal Medical Assistance Percentage (FMAP)**. FMAP varies by state based on criteria (primarily, per capita income). The average state FMAP is 57% but ranges from 50% in wealthier states (minimum guaranteed amount), up to 73% in states with lower per capita income (Mississippi currently has the highest). FMAP’s are adjusted for each state on a 3-year cycle.

Due to this federal matching, a PFS contract may accrue significant savings to the state. For example, if a state with a 50% match rate spends $200 on a service, it will receive a
$100 match from the federal government (the state would thus pay $100 total out of its own state funds). A state with a higher FMAP rate of 70% would only pay $60 of its own funds, and thus any cost savings from the program would largely go to the federal government and not to the state. Furthermore, FMAP exceptions (see below), such as family and home health services matched at 90% may lead to further disincentives to PFS projects. Finally, under the ACA, the federal government has agreed to institute a 100% match rate until 2020 for all populations newly eligible through Medicaid expansions.

Eligibility:

- States determine Medicaid eligibility and service type/duration/scope within federal guidelines. Under the ACA, everyone with income up to 133% federal poverty line is eligible, with potentially higher eligibility determined by state mandates.
- List of mandatory and optional services: [http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Medicaid-Benefits.html](http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Medicaid-Benefits.html)

Payment Options

Medicaid

States can choose (within federal guidelines) whether to pursue fee-for-service (FFS), Managed care arrangements, or a combination. To change the way they pay Medicaid providers, a state must submit a State Plan Amendment (SPA) for CMS to review and approval.

Fee-for-Service (FFS)

As the name implies, FFS methods charge individual fees for each service provided and are the traditional way of providing benefits for Medicaid populations (although this is changing). Benefits of FFS include maximizing delivery of patient visits, flexibility (can be used regardless of type of care or place of service), and relative ease of administrative burden, but concerns include the overprovision of healthcare (quantity>quality), and lack of accountability.

States may develop their payment rates based on:

1. The costs of providing the service
2. A review of what commercial payers pay in the private market
3. A percentage of what Medicare pays for equivalent services

Payment rates are often updated based on specific trending factors, such as the Medicare Economic Index or a Medicaid-specific trend factor.

Managed Care/Capitation

While states have traditionally provided Medicaid benefits using FFS, many states have begun implementing managed care delivery systems for Medicaid benefits, under which
states pay a pre-determined rate to providers (based on risk scores, local costs and utilization, and many other factors determined by state) to deliver care.\textsuperscript{116}

States enjoy the budget predictability of managed care models, in addition to the ability to cost-effectively cover populations (especially high-cost populations) by encouraging provider accountability. However, managed care payment options have the drawbacks of being challenging to formulate and administer (with potentially large variability) and over-reliance on pre-determined payment metrics, which may be at odds with patient interest.

When states implement a managed care program, they can use any one of the following types of entities:

- **Managed Care Organizations (MCOs)** – like HMOs, these companies agree to provide most Medicaid benefits to people in exchange for a monthly payment from the state.
- **Limited benefit plans** – these companies may look like HMOs but only provide one or two Medicaid benefits (like mental health or dental services).
- **Primary Care Case Managers** – these individual providers (or groups of providers) agree to act as an individual's primary care provider, and receive a small monthly payment for helping to coordinate referrals and other medical services.

All three types of authorities give states the flexibility to not comply with the following requirements of Medicaid law outlined in Section 1902:

- **Statewideness**: Lets states implement a managed care delivery system in specific areas of the state (generally counties/parishes) rather than the whole state.
- **Comparability of Services**: Lets states provide different benefits to people enrolled in a managed care delivery system.
- **Freedom of Choice**: Lets States require people to their Medicaid services from a managed care plan or primary care provider.

\textsuperscript{116} In many plans, a risk pool is established as a percentage of the capitation payment. Money in this risk pool is withheld from the physician until the end of the fiscal year. If the health plan does well financially, the money is paid to the physician; if the health plan does poorly, the money is kept to pay the deficit expenses.
Citations


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