Rural Promising Practice Issue Brief: VA Coordinated Transitional Care (C-TraC) Program

Executive Summary

Hospital readmissions are associated with poor health care transitions occurring when a patient moves from one health care setting to another (e.g., from a hospital to a home). This often results in fragmented care, patient dissatisfaction, rehospitalizations, and/or serious medication errors. In 2011, roughly 3.3 million United States (U.S.) adults experienced 30-day all-cause readmissions,[i] which were associated with $41.3 billion in hospital costs.[1] For the Department of Veterans Affairs (VA) health care system, between 2009 and 2010, the 30-day all-cause readmission rate was approximately 15 percent.[2]

Many of these hospital readmissions are avoidable and are often related to hospital-acquired infections and other complications, lack of medication reconciliation, inadequate communication among critical stakeholders, and poor planning for care transition.[3]

Research demonstrates that certain patient populations have a higher risk for negative health outcomes associated with transitioning from one health care setting to another. Roughly 20 percent of Medicare beneficiaries are rehospitalized within 30 days of discharge.[3] Patients over the age of 75 have a higher risk of experiencing negative health outcomes associated with poor transitional care due to the increased prevalence of chronic conditions, physical disability, cognitive impairments, and polypharmacy.[4] Rural Veterans are more likely to be rehospitalized within 30 days, compared to their urban counterparts, and are more likely to be readmitted to a non-VA hospital within 30 days, resulting in fragmented care.[5]

To address this issue, the Madison VA Geriatrics Research and Education Clinical Center (GRECC), in partnership with the Madison VA Medical Center in Wisconsin, established the VA Coordinated Transitional Care (C-TraC) program, which aims to improve transitional care quality and health outcomes. This program is a phone-based intensive transitional care intervention that bridges the hospital and Veteran's home, providing education, medication management, and improved communication.

The C-TraC model is run by a nurse care manager, and is a cost-effective program that uses minimal resources to limit rehospitalizations while simultaneously empowering Veterans and their caregivers to better manage their health care after a hospitalization. Evaluations of the C-TraC program demonstrate improvements in key post-discharge outcomes (e.g., 30-day all-cause readmissions) resulting in significant cost avoidances, improved patient satisfaction, and increased patient safety.[6] Findings also suggest that interventions targeted to improve transitional care for individuals with multiple medical condition can reduce readmissions rates between 25 and 50 percent.[3]

Who Can Use This Rural Promising Practice?

The C-TraC program is designed to support vulnerable, elderly Veterans who have a high risk for complications and rehospitalization when transitioning from a hospital to a community setting. The program can be tailored to local VA and non-VA facilities to meet the needs of individuals living in rural communities. An experienced registered nurse case manager, ideally with VA geriatric case management expertise, can adopt the C-TraC program.

To successfully implement the C-TraC program, an interdisciplinary team, consisting of representatives from hospital leadership, geriatrics, social work, and pharmacy, works collaboratively with C-TraC implementation mentors to adapt program protocols to local needs and garner local support.

[i]The 30-day all cause readmission rate is a risk-standardized readmission rate for beneficiaries age 65 or older who were hospitalized at a short-stay acute hospital and experienced an unplanned readmission for any cause to an acute hospital within 30 days of discharge.

Need Addressed

According to a 2009 study of Medicare beneficiaries, roughly 20 percent of beneficiaries were rehospitalized within 30 days, and 34 percent were rehospitalized within 90 days.[7] Rural Veterans are more likely to be rehospitalized within 30 days compared to their urban counterparts and are more likely to be readmitted to a non-VA hospital within 30 days, resulting in fragmented care. [5] For older adults with multiple chronic conditions and complex medication protocols, high quality transitional care is especially important.[7]

Numerous factors increase a patient's likelihood of being rehospitalized following a hospital discharge, including complex comorbid conditions, cognitive and functional impairments, and limited emotional support.[6] In addition, almost 13 percent of Medicare beneficiaries experience three or more provider transfers within a 30-day period.[7] Poor communication between providers limits access to services and results in inadequate patient and caregiver education.[6]

Implementation

In 2010, the Madison VA Medical Center's Geriatric Research Education and Clinical Center established the C-TraC program to assist high-risk, aging, and rural Veterans as they transition from hospital to community settings. The C-TraC program is a phone-based, protocol-driven program that is administered by a registered nurse case manager.

This program targets community-dwelling Veterans who have a higher risk of poor post-hospital outcomes. These Veterans are hospitalized on medical or surgical wards and are being discharged to a community setting (e.g., home or assisted living facilities). Veterans with a diagnosis of a cognitive impairment, including dementia or delirium, are eligible for the C-TraC program. Veterans who are 65 years old or older and either live alone or have been hospitalized in the previous 12 months are also eligible. Veterans must also have access to a telephone to participate in the C-TraC program.

Development of the C-TraC Program

Prior to implementing the C-TraC program, an interdisciplinary team developed and piloted the program protocols. The interdisciplinary team conducted an extensive literature review of transitional care programs to develop an evidence-based program. After the literature review was completed, the program team began to establish a phone-based program that was adapted from the four pillars[8] of transitional care, including: 1) medication reconciliation, 2) medical follow-up, 3) education regarding "red flags," and 4) contact information for health care questions. The primary transitional care goals of the C-TraC program are described below:

Medication reconciliation: Reviewing a patient's medication, especially after the patient is back at home, provides clinicians the opportunity to ensure that the patient medication is correct at all points of contact.[1] This process identifies potential omissions, duplications, contraindications, and unclear information, which increases the risk of medication errors and adverse events.[1] In the C-TraC program, the patient is recruited to lead this process.

Medical follow-up: Often times, after discharge from a hospital setting, patients do not consistently receive critical medical follow-up.[9] For example, among Medicare beneficiaries readmitted within 30 days of discharge, roughly 50 percent did not have any contact with a physician between their first hospitalization and their readmission.[9] In the C-TraC program, plans for follow-up are confirmed and Veterans are fully engaged in these plans.

Education regarding "red flags." During discharge planning, patients and their caregivers should be alerted to potential "red flags," which are symptoms that indicate the patient's conditions is worsening. In addition, patients are provided with information regarding how to should respond if they identify "red flags." In the C-TraC program, and consistent with adult educational theory, critical information like "red flags" are repeatedly reinforced over time in each contact.

Contact information for health care questions: Research demonstrates that poor communication and the absence of a single a point of contact negatively impacts continuity of care.[7] By providing a single point of contact, patients are able to contact a provider regarding potential concerns, increasing the likelihood that they seek necessary medical services. In the C-TraC program, Veterans and their caregivers are given a direct phone line to their C-TraC nurse for immediate response to any questions or concerns that arise after hospital discharge.

For the C-TraC program, a nurse case manager, ideally with VA geriatric case management expertise, coordinates the Veteran's care during the transitional period. In addition, the nurse case manager integrates with the Veteran's hospital and outpatient care teams, meets with Veterans and their caregivers in the hospital setting prior to discharge, and provides a series of in-

depth, goal-directed post-hospital phone contacts to ensure that Veterans understand and receive the care they need. The C-TraC program consists of a five-step protocol.

C-TraC Program Protocol

This is a brief overview of the C-TraC Program protocol. For further details, see Kind et al., (2012).[10]

1. *Prepare for Transition Within a Multidisciplinary Team*

To identify potential eligible Veterans, the nurse case manager reviews the daily list of all hospitalized Veterans and determines whether Veterans are eligible for the C-TraC program. The nurse case manager also participates in multidisciplinary discharge rounds on each inpatient ward to offer transitional care and outpatient advice to the inpatient care teams.

2. *Meet with Veteran Prior to Discharge*

Prior to an eligible Veteran's discharge, the nurse case manager meets with the Veteran and his/her caregiver to discuss the C-TraC program. If the Veteran elects to participate in the C-TraC program, the nurse case manager schedules a follow-up phone call within 48 to 72 hours following discharge. The nurse case manager confirms the post-discharge follow-up plan and provides a brightly colored flyer, including information regarding potential "red flags," dates and times for follow-up calls and post-discharge follow-up appointments, and contact information for the nurse case manager and VA's triage services.

3. *Conduct Follow-up Phone Call with Veteran Within 48 Hours from Discharge*

During the follow-up phone call with the Veteran and his/her caregiver, the nurse case manager employs standard protocols and scripts to support the Veteran's transition. This includes a patient-led medication reconciliation. For this medication review, the Veteran verifies all current medication bottles to reconcile any discrepancies in the medication list. In addition, the nurse case manager reviews "red flags," medical follow-up plans, and contact information. These calls, on average, last 36 minutes.

4. *Weekly Follow-up with the Veterans for up to a Month*

After the initial follow-up call, the nurse case manager continues to provide at least weekly follow-up to the Veteran until: 1) the post-discharge medical appointment, 2) the nurse case manager and Veteran agree that no additional calls are necessary, or 3) four weeks have passed since the Veteran's original discharge. During these follow-up calls, if the nurse case manager identifies potential "red flags" or medication discrepancies, the nurse case manager contacts the Veteran's primary care provider. The nurse case manager may also arrange an urgent care appointment for the Veteran or recommend that the Veteran be seen in an emergency department, if the issues are deemed critical.

5. *Coordinate with Caregivers, Community Support, and Primary Care Provider*

For Veterans who need additional services, the nurse case manager arranges services with local community agencies. For each encounter, the nurse case manager includes notes in the Veteran's medical record, which are also sent to the Veteran's primary care provider and the outpatient nurse case manager. Veterans and/or their caregivers are able to reach the C-TraC nurse case manager Monday through Friday, from 8:00 a.m. to 5:00 p.m., via a direct phone line. However, if the Veteran and/or caregiver calls outside these hours, the calls are fielded by VA's triage service.

The C-TraC program was pilot tested for approximately six months on one ward of the Madison VA Medical Center. After the initial pilot, the program was launched on additional wards following the Plan-Do-Check-Act model, which is a four-step management method used for continuous improvement. By implementing the Plan-Do-Check-Act model, the C-TraC team was able to make continuous refinements to program's core protocol. The C-TraC team also conducted several face-to-face meetings with frontline staff to gain critical support for the program.

Since then, the C-TraC program has disseminated to multiple VA and non-VA hospitals. An online toolkit is available for groups who are interested in the program. Additionally, a protocol for local adaptation and implementation was published by Kind et al in the Journal of the American Geriatrics Society in 2016.

Promising Results

The C-TraC program demonstrates a positive impact in reducing rehospitalizations within 30 days by one-third for vulnerable, elderly Veterans. This program is highly valued among Veterans and their caregivers. Since 2010, the C-TraC program has enrolled more than 4,000 Veterans, increasing access to post-hospital care. The C-TraC program demonstrates all the criteria for a Rural Promising Practice.

Increased Access: The C-TraC program provides Veterans with increased access to care coordination following hospital discharge. In addition, the nurse case manager works with local community organizations to provide Veterans with needed in-home assessments and caregiving services. And, by reducing rehospitalizations, hospital beds are available when needed for other Veterans.

Evidence of Clinical Impact: According to one study published in 2012 regarding the C-TraC program, the nurse case manager identified and corrected medication discrepancies in 47 percent of Veterans during the initial follow-up call.[10] For these Veterans, on average, two medication discrepancies were identified.[10] In addition, Veterans enrolled in the C-TraC program experienced significantly lower rates of 30-day readmissions compared to the baseline group.[10]

Customer Satisfaction: Transitional care support is timed and tailored to each Veteran's post-hospital needs. The program has had only five in-hospital refusals and 90 percent of enrollees were successfully reached during the initial follow-up calls following discharge.[10]

Return on Investment: During initial evaluations of the C-TraC program, the program was able to reduce rehospitalization rates by one-third. Therefore, the program staff estimates that the reduction in rehospitalization leads to an average savings of roughly $1,225 per Veteran served.[9] In subsequent analyses performed by VA Central Office's Geriatrics and Extended Care data team, C-TraC's impact on reducing rehospitalizations was confirmed with a measured cost savings of approximately $1500 per Veteran enrolled.

Office of Rural Health Rural Promising Practice Criteria

Increased Access: Measurable improvements in access to care and/or services. Examples include reduction in distance traveled to care, reduction in wait times, improved care coordination, and reduction in missed appointments.

Evidence of Clinical Impact: Positive results on outcomes of importance to rural Veterans based on evaluations conducted during the implementation of the program and at the end of the pilot period.

Customer Satisfaction: Increased patient, provider, partner, and/or caregiver satisfaction.

Return on Investment: Improvement in health system performance by 1) reducing the per capita costs of health care, and 2) improving or at least maintaining health outcomes, and/ or 3) positively impact the health care delivery system.

Operational Feasibility: Implementation is feasible and known barriers and facilitators of success could easily be shared across implementation sites.

Strong Partnerships and/or Working Relationships: Inclusion of VA and/or non-VA partners to maximize the efficacy of the intervention.

Operational Feasibility: For facilities implementing the C-TraC program, the upfront costs associated with the program is the nurse case manager's time. Depending on the salary of the nurse case manager, the program team estimates the average cost is roughly between $200 and $300 per Veteran. The C-TraC team estimates that one full time nurse case manager can manage 35-55 new Veterans per month, approximately 420-660 Veterans per year.

Strong Partnerships and/or Working Relationships: The C-TraC program team established strong partnerships with each inpatient multidisciplinary teams and the outpatient nurse case managers. For the C-TraC program, the nurse case manager must develop trusting relationships with Veterans and their caregivers as well as inpatient and outpatient staff.

Adoption Considerations

The C-TraC program is designed to be a low-cost transitional care program that is run by a nurse case manager. This program can be tailored to meet the needs of a wide range of medical facilities. The nurse case manager needs a workspace and access to a patient's medical records. The following items also need to be considered when implementing a C-TraC program: 1) leadership support, 2) communication with stakeholders 3) integration of existing discharge processes, and 4) training of program staff.

Leadership Support: To effectively implement the C-TraC program, the program team will need support from facility leadership as well as support from inpatient wards and outpatient services. Establishing relationships during the beginning stages will assist the program team in gaining support and developing trusting relationships across all critical stakeholders.

Communication with Stakeholders: As the C-TraC program is being implemented, the program team needs to communicate the goals and roles of the program to stakeholders, including hospital leadership, inpatient and outpatient leadership, and frontline staff. Communicating with stakeholders will improve the acceptance of the program and help the team to build trusting relationship with frontline staff.

Integration into Existing Discharge Processes: The C-TraC program should integrate into existing discharge processes. This allows the program team to strengthened current processes while reducing duplicative efforts. In addition, the integration also supports the overall mission of the C-TraC program to provide vulnerable individuals with critical support as they transition from hospital care to a community setting.

Training: The C-TraC program can provide the nurse case manager with training in transitional care and the program's protocol. This training can be adapted based on the facility's needs and is targeted toward nursing staff. For a VA medical facility, the full program launch, on average, takes one to two months. The clinical nurse training ranges from a few-day webinar to a week-long apprentice program. For non-VA medical facilities, the full program launch takes, on average, two months.

Conclusion and Next Steps

The C-TraC program is a feasible transitional care program that has been effective in reducing hospital readmissions of vulnerable Veterans and individuals. This program provides a low-cost intervention that targets high-risk Veterans, including those living in rural communities. The Madison VA Medical Center continues to use the C-TraC program to provide vulnerable Veterans with needed transitional care.

The program has transitioned into dissemination and mentored coaching, providing support to medical facilities who would like to implement the C-TraC program. In addition, the Madison VA Medical Center's C-TraC program continues to look for innovative ways to provide transitional care to disadvantage populations.

The program is working with a grant from the Centers for Medicare and Medicaid Services to conduct a two-year pilot program. For facilities interested in implementing this program, C-TraC offers a free online toolkit and, with support of the Office of Rural Health, can provide coaching to support the implementation of this promising practice.

Available Resources

- A free online toolkit is available through the University of Wisconsin at: www.hipxchange.org/C-TraC
- C-TraC implementation mentoring is available and has been supported by the VA Office of Rural Health.

Success Stories

New Prescriptions Obtained and Potential Readmission Prevented

71-year-old male hospitalized with Calcium Pyrophosphate Dehydrate (CPPD)

At discharge, he returned to his Adult Family Home in the community with new medications, cephalexin, and prednisone. At the initial transitional care call, it was discovered that the caregiver was not aware of the new medications; thus, the patient had not been taking them. The C-TraC registered nurse was able to obtain new prescriptions for him and avert a potential readmission.

Potential Toxicity and Readmission Prevented

Initial Transitional care call to an elderly man receiving primary care at another VA facility

A C-TraC registered nurse found the patient was taking three different doses of lithium from three different sources. The nurse was able to prevent potential harm to patient due to lithium toxicity and readmission.

Significant Patient Injury and Potential Mortality Avoided

80-year-old male discharged after having a total colectomy and end ileostomy

During the transitions call, the patient mentioned new pain in his left rib area. A C-TraC registered nurse assessment did not reveal a cause for his pain so recommended evaluation in the emergency room. He declined but was agreeable to having an agency nurse see him. The agency nurse's assessment resulted in the same conclusions and the two nurses together were able to convince him to come in for evaluation. He was readmitted with a splenic infarct, pulmonary artery embolus, and multiple suspected thrombi. This helped avoid significant patient injury and potential mortality.

To Learn More

The Rural Promising Practices initiative is overseen by the U.S. Department of Veterans Affairs (VA) Office of Rural Health (ORH) as part of its targeted, solution-driven approach to improving care for the 3 million Veterans living in rural communities who rely on VA for health care. As VA's lead advocate for rural Veterans, ORH works to see that America's Veterans thrive in rural communities. To accomplish this, ORH leverages its resources to increase rural Veterans' access to care and services. To discuss implementing a Rural Promising Practice at your facility or to learn more, visit **www.ruralhealth.va.gov** or email **rural.health.inquiry@va.gov**

References

1. Mansukhani, R.P., Bridgeman, M.B., Candelario, D., & Eckert, L. J. (2015). Exploring transitional care: evidence-based strategies for improving provider communication and reducing readmissions. *Pharmacy and Therapeutics*, *40*(10), 690-694.
2. Kripalani, S., Theobald, C.N., Anctil, B., & Vasilevskis, E.E. (2014). Reducing hospital readmission: current strategies and future directions. *Annual Review of Medicine*, *65*, 471-485. http://doi.org/10.1146/annurev-med-022613-090415
3. Berenson, R.A., Paulus, R.A., & Kalman, N.S. (2012). Medicare's readmissions-reduction program — a positive alternative. *New England Journal of Medicine, 366,* 1364-1366. doi:10.1056/NEJMp1201268
4. Storm, M., Siemsen, I.M.D., Laugaland, K., Dyrstad, D.N., & Aase, K. (2014). Quality in transitional care of the elderly: Key challenges and relevant improvement measures. *International Journal of Integrated Care*, *14,* e013.
5. Weeks W.B., Lee R.E., Wallace A.E., West A.N., & Bagian J.P. (2009). Do older rural and urban Veterans experience different rates of unplanned readmission to VA and non-VA hospitals? *Journal of Rural Health*, Winter,*25*(1), 62-69. doi10.1111/j.1748-0361.2009.00200.x
6. Gilmore-Bykovski A., Jensen L., & Kind, A.J. (2014). Development and implementation of the Coordinated-Transitional (C-TraC) program. *Federal Practice, 31*(2), 30-34.
7. Naylor, M.D., Aiken, L.H., Kurtzman, E.T., Olds, D.M., & Hirschman, K.B. (2011). The importance of transitional care in achieving health reform. *Health Affairs, 30*(4), 746-754. doi:10.1377/hlthaff.2011.0041
8. Coleman, E.A., Min, S.J., Chomiak, A., & Kramer, A.M. (2004). Posthospital care transitions: Patterns, complications, and risk identification. *Health Services Research, 39,* 1449-1465.
9. Burton, R. (2012). Health policy brief: Improving care transitions. *Health Affairs*. Retrieved from http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=76
10. Kind, A.J., Jensen, L., Barczi, S., Bridges, A., Kordahl, R., Smith, M.A., & Asthana, S. (2012). Low-cost transitional care with nurse managers making mostly phone contact with patients cut rehospitalization at a VA hospital. *Health Affairs*, *31*(12), 2659-2668. doi:10.1377/hlthaff.2012.0366

VA | U.S. Department of Veterans Affairs