

Innovative Home Care Models: Five Profiles in Cost Savings, Care Transitions

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Introduction and Executive Summary

To study the role that home care plays in care transitions, Simone Healthcare Consultants (Simione) has been working with the Home Care Association of New York State (HCA) to review and analyze some of New York's most innovative and successful program models.

The goals of this study are to:

- 1) Perform an objective analysis of current voluntary innovations implemented by a select group of New York home health agencies to improve quality care and reduce costs across the health care continuum;
- 2) Analyze the program outcomes for each participating home care agency;
- 3) Identify any implementation challenges reported by these agencies, as well as any lessons learned which may be instructive to other home care providers and hospital partners as they consider the development of similar programs; and
- 4) Present conclusions related to the program value and potential cost savings to the health care system.

Using one common factor of cost-savings – the 30-day hospital readmission rate – the Simone/HCA analysis found that the total annual cost savings of innovative care-transitions programs implemented for a defined cohort of patients at just five home care agencies in New York State amounted to an estimated **\$1.3 million in averted hospital expenses annually**.

This figure was calculated using the Medicare Payment Advisory Commission's (MedPAC) estimate of the national average cost of hospital readmission per patient (\$7,400). However, given that New York hospital costs exceed national averages, the actual savings resulting from averted hospitalizations in New York State would be substantially higher.

Simione focused on readmission rates for two principal reasons: 1) all agencies participating in this study had collected data on readmission rates; and 2) readmission rates are a priority target of federal reform initiatives affecting hospitals and home care providers alike, as further explained later in the background section of this report.

However, the readmission rate is only one factor of savings examined in this study. Home care providers also reported savings related to personnel costs, emergency room diversion, decreased patient medication costs, and other factors.

In addition, most of the programs examined in this study employed home telehealth, an innovative technology for monitoring patients at home. (More information on telehealth is provided in the next section.)

The five programs examined in this study include:

- **At Home Care, Inc.’s** telehealth program, which has achieved a 16% hospital readmission rate for patients on telehealth compared to a 23% readmission rate for all patients on census.
- **Brookhaven Memorial Hospital Home Health’s** telehealth program for patients with chronic obstructive pulmonary disease (COPD) and pneumonia, which has resulted in a 7% and a 0% readmission rate for COPD and pneumonia patients monitored through telehealth, respectively, compared to a 23% readmission rate for all COPD patients and a 26% readmission rate for all pneumonia patients at Brookhaven.
- **Catholic Health Home Care’s** multidisciplinary transitions-in-care program, which has yielded cost savings for managed care payers and the participating hospital while reducing the affiliated hospital’s 30-day readmission rate. Participants in the care-transitions program experienced a 5.2% readmission rate compared to a 9.6% readmission rate for non-participants.
- **MJHS’s** Heart Failure Program, which is the first program of its kind in the nation to receive accreditation from the Joint Commission and incorporates a multidisciplinary approach designed with standards of care, medication management and clinical guidelines to define best practices. Upon introducing the program, MJHS has reduced its readmission rate from 25.7% to 21.7%.
- **St. Peter’s Hospital Home Care’s** hybrid transitions Heart Failure Program, which utilizes a telehealth component that has achieved a reduced readmission rate of 10% for telehealth patients compared with a readmission rate of 16% for patients who did not have telehealth.

The chart on the next page summarizes these findings.



Hospital Cost Savings Due to Decreased Readmissions						
Agency Name	Patient Criteria	Number of Patients in Program	Readmit Rate of Patients in Program	Readmit Rate of Non-Program Patients	Difference	Total Annual Savings ¹
At Home Care, Inc.	Heart Failure; onset Diabetes; COPD; onset Atrial Fib.	900	16%	23%	7%	\$466,200
Brookhaven Home Health Agency	COPD; pneumonia	181 92	7% 0%	23% 26%	19% 26%	\$254,486 \$177,008
Catholic Health Home Care	TARGET Assessment	1789	5.2%	9.6%	4.4%	\$256,898
Metro Jewish Health System Home care	Heart Failure	300	21.7%	25.7%	4%	\$88,800
St. Peter's Home Care	Heart Failure	213	10%	16.5%	6.5%	\$102,453
Total Annual Savings of All Projects						\$1,234,845

NOTE: Data is self-reported and variables are not controlled between agencies.

¹ Savings were calculated based on MedPAC's estimation of the average Medicare hospital readmission cost of \$7,400; use of NY-actual Medicare readmission cost would show even greater savings.

In examining the chart above, it should be noted that one of home care's core functions generally is to provide interventions and support services that reduce the chances of a patient needing to enter the hospital or nursing home. As such, home care agencies are already drivers of cost savings for preventable hospital admissions; the findings of this study seek only to identify areas of *additional* cost savings attributable to specific program innovations delivered to discrete patient populations.

Background and Context

The key findings of this report are best understood in the context of health care policies to date, health care system trends in the future, and the effort of federal reform initiatives to improve transitions in care – specifically, with the aim of reducing hospital readmissions.

Estimates vary, but it is generally believed that the long term care needs of 70 to 75 million Baby Boomers will be progressively flooding the health care system during the next 30 years. Some analysts predict that this

convergence on an already struggling system will be felt for the next 50 years, as the U.S. Department of Health and Human Services estimates that 20% of Americans will be over 65 by the year 2030 (up from 12% in 2006). By 2050, 27 million people will need some type of long term care.

Aside from the cost of providing care in institutions – let alone the strong desire of most citizens to receive care at home – there simply are not enough nursing home and other institutional beds to care for a burgeoning population of aging adults. Policymakers agree that concerted efforts must be made to meet this need in a cost-effective way while maintaining the quality of care.

Facing the need to shore up resources, state and federal governments have largely been compelled to cut health care funding and payments to providers while eliminating social service programs – even as the need for care is rising. As a result, providers in all health care sectors are scrambling to decrease their costs and improve efficiency. To maintain access to care in this environment, providers are expected to work more collaboratively.

A major tool for incentivizing collaboration and cost-containment includes plans by the U.S. Centers for Medicare and Medicaid Services (CMS) to cut reimbursement to those hospitals with the highest re-admission rates, effective October 2012. This policy for hospitals has a ripple effect on all other provider sectors – including, and especially, home care – as the entire health system finds itself oriented to support

the goal of reduced hospital readmissions through changes in care-transitions programs across the health care continuum.

A 2004 study published in the New England Journal of Medicine found that one in five Medicare patients was re-admitted to the hospital within 30 days of discharge, costing Medicare approximately \$17.4 billion. The fact that the vast majority of these readmissions may be preventable – up to 76% of all readmissions, according to MedPAC estimates – has prompted federal policymakers to view hospital readmissions as a significant area for cost savings, especially by aiming care coordination efforts at select diagnoses that are the most likely contributors to a hospital readmission. As a result, several provisions within Affordable Care Act (ACA) are designed to decrease preventable hospitalizations and save Medicare \$26 billion.

Starting in October 2012, ACA proposes to decrease reimbursement to hospitals with high re-admission rates for three diagnoses: acute myocardial infarction, congestive heart failure, and pneumonia. The law expands penalties to four additional diagnoses in 2014. Although the additional diagnoses have not yet been specified, chronic obstructive pulmonary disease (COPD) and coronary artery bypass grafts (CABG) are likely to be included, among others.

Initially, home health will be indirectly but substantially affected by these new payment policies for hospitals. In fact, many hospitals have already begun to measure and compare the relative success of home care agencies in holding down readmission rates as hospitals plan strategically for partnerships in the future.

Ultimately, the impact of these changes on home health reimbursement will be more direct, as value-based purchasing initiatives establish reimbursement based on the success of agencies in improving outcomes, including hospital readmission rates.

As this study shows, innovative solutions are already underway in the home care sector – using care-transitions strategies and technologies – to improve quality and outcomes, increase patient and staff satisfaction, and ultimately decrease costs in line with the goals of ACA.

The five home care programs detailed in this analysis will demonstrate the unique ways that voluntary provider innovations are already achieving successful outcomes, especially through innovative uses of home telehealth technology.

Background on Home Telehealth

One of the most widely used care-coordination tools in home care is home telehealth. This important technological advance allows for more convenient, consistent and cost-effective monitoring of patients' health status as well as early intervention to prevent a health crisis requiring high cost services. Using this technology, clinicians can assess subtle changes and trends in order to detect potential exacerbations before they reach crisis level. This allows immediate intervention to prevent further decline and possible hospitalization or re-hospitalization.

Telehealth can be performed from many settings; however, it has been predominantly implemented by home care agencies in the patient home setting. The American Telemedicine Association's Home Telehealth and Remote Monitoring Special Interest Group defines home telehealth as "a service that gives the clinician the ability to monitor and measure patient health data and information over geographic, social, and cultural distances."

Telehealth encompasses a broad spectrum of technologies and services. More complex types of home telehealth devices have video capabilities that allow for visual contact with the patient and/or remote biometric

measurements, such as weight, blood pressure, pulse, temperature, pulse oximetry, electrocardiogram and blood glucose. Other devices can also include medication reminders and motion and position detectors. Devices are linked to clinical case managers via telephone lines (wired and wireless), satellite, and the internet.

Substantial evidence shows the benefits of telehealth for patients, providers and payers alike. The success of home telehealth is rooted in its use as a comprehensive clinical tool with patient-specific parameters, intervention triggers, established medical standing orders, readily available intervention medications and, most importantly, the expertise of clinicians in skilled assessment, monitoring use and protocols.

Home telehealth also has a direct impact on the need for skilled nursing staff to make patient visits, offering valuable flexibility in the assignment of personnel. Rather than establishing a set number of visits per week to assess the patient's condition, clinicians can routinely monitor the patient remotely and visit the patient's home when the patient's condition warrants. These more focused visits provide the right care at the right time and are more cost efficient.

As indicated in this report, telehealth is emerging as a regular component of many innovative care models being developed by home care agencies in New York State. Like any tool, the power of home telehealth is derived from the skilled nursing services, clinical protocols, best-practices and data analytics governing its use. This study will demonstrate with specificity the customized telehealth programs being used by home care agencies in concert with novel care-coordination structures to reduce hospital readmissions and improve care for patients.

The Research Process

In conducting its analysis of home care innovations, Simione collaborated with HCA to identify and select provider participants. A letter was sent to HCA members describing the project and requesting information about each agency's transitions program. The following information was requested:

- Identification of specific, innovative programs currently in operation that target a specific goal (such as reduced hospitalizations, improved operating efficiencies, or cost-savings to payers, such as managed care, Medicare or Medicaid)

- A brief summary of the program
- Length of time the program has been in operation
- Type of interventions included in the program design
- Any partnerships and/or collaborations
- Patient population selection methods
- The annual census on the program
- The average length of stay of patients in the program
- Improvement in outcomes, operating efficiencies or cost savings
- Data collected to measure success

Seven agencies responded that they were willing to participate in the project and another ten agencies were willing to consider doing so. Results were summarized and presented blind to Simione to avoid any inadvertent influence of clients known to our organization. Together, Simione and HCA analyzed the responses in accordance with our criteria.

Ultimately, six agencies agreed to participate in the project and five home care agencies were able to fully complete the project requirements. These remaining five agencies developed, implemented, measured and operated innovative and successful care models that have produced many positive clinical, satisfaction and financial outcomes.

While each program is unique, several common features reflected in all or many of the programs allow for a basis of comparison. For instance:

- Of the five agencies completing the project, four utilized home telehealth as a component of their programs. The same four agencies selected patients for enrollment into the program based on diagnosis. These diagnoses predominately included heart failure, COPD and pneumonia.
- One participating agency did not use telehealth as a regular component of the program. Rather than enroll patients based only on diagnosis, this program evaluated patients based on factors proven to determine whether a patient was at risk for being readmitted to the hospital.

- All of the participating agencies developed and used specific assessment tools, care pathways or protocols for their programs, and included patient education as a key component. All agencies also used a multi-disciplinary approach in developing the program and providing patient care. In addition, collaboration and partnering were integral to the success of each program.

What follows is a detailed summary of each program, the impetus behind it, its principal features and outcomes, and any challenges encountered by the providers in developing or implementing these programs.

At Home Care, Inc.: Telehealth as a Cornerstone of Care

Founded in 1987, At Home Care is a not-for profit Medicare-certified home health agency in partnership with Bassett Healthcare Network, located in Oneonta, NY. The service area for At Home Care encompasses Herkimer, Delaware, Otsego and Chenango Counties. At Home Care provides the following services:

- Nursing
- Telehealth
- Lifeline
- Physical therapy
- Occupational therapy
- Speech therapy
- Respiratory therapy
- Medical social work
- Clinical dietitian
- Home health aides

Specific specialty services include:

- COPD Care
- Lifeline PERS
- Telehealth Care
- Specialty Clinical Care
- Cardiac Care
- Wound Care
- Rehabilitative Care
- Professional Nursing Care
- Post Joint Replacement Care
- Palliative Care
- Personal Care
- Clinical Pharmacist Care

Description of Program

At Home Care (AHC) initially launched its comprehensive telehealth program in 2004, making the agency an early adopter of telehealth in the home care setting. Initially, the program was intended as a response to a nursing shortage, especially in the rural areas that AHC serves. Remote monitoring provided for consistent and more frequent assessment of patients without the nurse having to make time-intensive visits. Visits were then scheduled around patient need as indicated by the patient's remotely monitored condition.

The new program was successful in reaching AHC's initial goal, and it soon became evident to AHC that there were other far-reaching benefits to telehealth, including improved clinical outcomes of monitored patients, decreased re-hospitalization rates, and cost savings for the agency itself.

The program is designed utilizing medical-grade telehealth units, along with the essential component of disease pathways and standing orders for patients identified as high risk. Utilizing a centralized approach with established protocols, dedicated telehealth nurses monitor patients 7 days a week, identify trends, and follow up with the patient, case manager and/or physician as needed.

Whenever a patient's trended data starts to indicate a problem or impending exacerbation, the telehealth nurse calls the patient

and utilizes a standardized script to determine what additional action, if any, is needed. In addition, trended data reports are sent to the patient's physicians when needed or as requested. On average, the telehealth nurse spends a total of approximately 20 minutes per week monitoring each patient, along with an average of one follow-up contact per week.

The patients targeted for the program include those with heart failure, new-onset diabetes, COPD, and new-onset atrial fibrillation. In addition, any patient with instability or recurrent hospitalizations is provided a telehealth device. At Home Care reported that between 800 and 1,000 patients are on the program per year, with an average daily census of 130 monitored patients, and an average length of stay of 30 to 60 days.

Patients are identified for telehealth appropriateness at the time of referral and the physician is contacted for orders for telehealth as close to the start of care as possible. The agency also uses a predictive Telehealth Screening and Risk Assessment that determines appropriateness for telehealth services based on the following factors:

- The patient experienced more than two hospitalizations/emergent care visits in three months
- A history of noncompliance adhering to disease management regimen

- Ongoing need for symptom management related to dyspnea, fatigue, pain, edema or medication management
- Diagnosis of: heart failure, COPD, oncology, treatment of three or more health conditions
- Patient is at risk for falls
- Urinary incontinence, frequency of UTI or Foley catheter
- More than 10 medications
- Use of oxygen support

AHC receives referrals for the telehealth program from affiliated hospitals and physicians across the community. At the introduction of

the program, the agency offered various presentations to educate the medical and health care communities. Collaboration with physicians and hospitals has been critical to the success of the telehealth program.

The telehealth monitoring equipment interfaces with the agency's electronic medical records, allowing individual case managers to view the patient data and incorporate findings into the home health plan of care. This critical function provides the communication link necessary to connect the team of health providers caring for the monitored patient, thus ensuring care coordination and positive outcomes.

Outcomes and Benefits

At Home Care has documented several benefits and positive outcomes related to its telehealth program. Notably, patients in the program have demonstrated a decrease in the hospital readmission rate 30 days after discharge when compared with patients not enrolled in the program, as shown in the chart below.



At Home Care's use of telehealth also has consistently demonstrated improved efficiencies to deliver care and decrease costs. The program has resulted in a decrease in the number and length of home visits. For example, an average AHC skilled nurse visit is approximately 1.5 hours at a direct cost of \$60.74, while the average remote monitoring visit is 2.85 minutes at a direct cost of \$1.92. Furthermore, a nurse can visit and assess an average of 4.5 patients per day, while the telehealth nurse can monitor and assess 75 patients per day (including follow-up calls and patient education).

Finally, the use of telehealth has enhanced access to home care for patients in AHC's service area without added resources. At Home Care is able to service more patients by maximizing visits and travel time in the rural service area without compromising quality of care.

Program Challenges

One of the greatest challenges for AHC's telehealth program is the fact that the patient census can be limited by the number of telehealth units available. Determining the appropriate time to purchase/lease additional units is a difficult process and frequently a moving target due to swings in overall agency patient census and referrals to the program. To guide its procurement and supply plan for additional monitoring units, the agency has implemented a comprehensive accounting system to capture direct and indirect costs of the telehealth program and to measure return on investment (Tsiamas, M. and Neander, L. *TelehealthCare: Cost to Deliver is the Bottom Line*. Caring, July 2007, pp. 34-38).

Another challenge faced by AHC, and one that is common to many telehealth programs, is the difficulty in compiling and monitoring data in order to evaluate the impact of the program. Even with sophisticated electronic medical records and telehealth software, much of the data has to be tallied and analyzed by hand and/or in spreadsheets. Frequently, the data is not available in segregation for monitored versus non-monitored patients, or by diagnosis, nor is it risk adjusted. To overcome this challenge, AHC utilizes a vendor for benchmarking and monitoring reports, in addition to capturing individual pieces of data to measure the specific outcomes of monitored patients, including re-hospitalization rates, emergent care rates, nurse productivity, nurse caseload and return on investment to the agency.

The agency reports that the quality of the electronically obtained data is improving, and the expectation is that hand-tallying of information will eventually no longer be necessary.

Brookhaven Home Health: Telehealth Interventions for Respiratory Conditions

Brookhaven Home Health Agency (BHHA) is a Department of Brookhaven Memorial Hospital Medical Center located in Patchogue, New York providing home care and hospice services to residents of Suffolk County. Brookhaven Home Health Agency provides both certified home health agency care and services through the long term home health care program. Specific Medicare-certified services include:

- Skilled nursing
- Medical social services
- Physical therapy
- Speech therapy
- Home health aides
- Medical surgical supplies and equipment
- Laboratory tests
- X-rays
- Ambulance/transportation to the hospital
- Prescription medications
- 24-hour availability of professional staff

Description of Program

BHHA received a grant to implement a telehealth program in 2005. Research of BHHA's patient census revealed that patients with COPD or pneumonia were the most likely to benefit from telehealth, especially since readmission rates for these patients were higher than national benchmarks, thus making it especially critical to implement models of care that would decrease readmissions and improve outcomes. Unlike many other agencies who implement telehealth and remote monitoring, BHHA has chosen to concentrate resources on monitoring respiratory patients at risk. This makes the agency somewhat unique in the world of home care telehealth. As a result of its program, BHHA has compiled data and a level of expertise in a diagnosis category that few other home care agencies possess.

The program is designed utilizing two approaches: 1) a combination of video and biometric monitoring, or 2) biometric monitoring alone. Respiratory patients assessed to be appropriate for the program initially receive a video and biometric monitor, though these patients may be transitioned at a later time to a biometric monitor only. In addition to other benefits, the use of video monitoring allows the clinician to actually hear

and analyze lung sounds and to visually observe the patient. Along with the telehealth monitoring and follow-up by dedicated telehealth nurses, the home care primary nurse continues to perform home visits, although these visits are usually less frequent than visits for those patients without telehealth. Disease-specific patient education booklets are also reviewed and provided.

The patients specifically targeted for this program are all patients with pneumonia and/or COPD. Brookhaven Home Health Agency reported that between 300 and 400 patients are on the program per year, with an average daily census of 90 monitored patients receiving a mix of video and biometric monitoring at any given time.

Patients are identified for appropriateness of telehealth services upon referral by the Brookhaven Home Health Agency intake department. All patients with a diagnosis of COPD and pneumonia are enrolled in the program unless the patient or physician refuses, or if the home is not conducive to the monitoring equipment requirements (i.e. telephone, internet access, etc.). In addition, the admitting nurse assesses each patient for any telehealth needs at the initial visit.

BHHA has provided comprehensive education about the program to the hospital and physician groups. In addition, the nurses who perform telehealth monitoring also have home care experience, and patient care staff receive additional education on managing patients with COPD and pneumonia. The collaboration and coordination of care by all members of the health care team have proven critical in producing positive outcomes. Interface between the telehealth monitoring equipment and the agency's electronic record provide the home care nurses with access to data and trending prior to making a home visit.

Outcomes and Benefits

Brookhaven Home Health Agency has experienced several positive outcomes as a result of its innovative COPD and pneumonia program – chiefly a reduction in 30-day readmission rates for patients with COPD and pneumonia enrolled in the telehealth program when compared to all patients with these diagnoses served by the agency.

Diagnosis	All Patients Readmit Rate	Patients in Program Readmit
COPD	23%	7%
Pneumonia	26%	0%

Brookhaven Home Health Agency utilizes an outside vendor for its patient satisfaction survey. The survey asks specific questions related to BHHA's telehealth program, assessing the following core issues for patients:

- Whether the telehealth program helped the patient feel he or she had control over his or her own health.
- Whether telehealth reassured the patient and/or increased understanding of his or her illness.
- The patient's overall rating of telehealth technology.

Utilizing the results from the patient satisfaction survey, BHHA has been able to document improvement in satisfaction scores since the inception of the telehealth program, showing that telehealth not only improves clinical outcomes but supports the patient's overall satisfaction with the care received.

Program Challenges

The most persistent challenge that BHHA has encountered is patients' reluctance to accept the telehealth devices due to unease with the use of the technology and adherence to the program requirements. The agency has implemented a new initiative to help smoothen the transition for patients by utilizing a regimen of telephone contact and follow-up first while aiming to move the patient to the video and/or biometric monitor as they become more comfortable with the program.

A second challenge has been limited capacity due to staffing and availability of telehealth nurses. The agency has plans to cross train additional home care field staff and hire an additional dedicated telehealth nurse.

Catholic Health Home Care: Transitions in Care Model

Catholic Health Home Care Services is a division of Catholic Health in Buffalo, a not-for-profit health care system that serves patients in western New York. The home care services provided by the organization include Medicare-certified home care services, long term home health care, personal care, and a spiritual care at home program. Specific Medicare-certified services offered include:

- Skilled nursing
- Home health aides
- Physical therapy
- Occupational therapy
- Speech therapy
- Medical social services

Specialty services include:

- Infusion therapy
- Pain Management
- Management of Cardiac and Pulmonary Diseases
- Home telehealth

Description of Program

Catholic Health Home Care Services started its Home Care Transition Program in December of 2009. It grew from an initiative started in 2008 by Catholic Medical Partners, a 900-physician Independent Practice Association which includes both primary care physicians as well as specialists. The program focuses on transitional care from hospital to home/community settings and includes linkage back to the primary care physician. Over 100 of the physician offices now have Disease Management Nurses who participate in the program, which is a collaboration among Catholic Health Home Care Services, Catholic Health hospitals, Catholic Medical Partners and three managed care payers.

The program was developed to not only decrease rapid readmission, but also as a strategy to study the impacts of improved care coordination on cost, as well as satisfaction of both the physician and the patient. It is part of a critical initiative to align with the Accountable Care Organization model and a planned bundled payment methodology for chronic care.

Patients appropriate for the program are identified while in the hospital through the use of The TARGET assessment 7P scale developed by Project BOOST (Society of Hospital Medicine). If the patient meets two of the seven criteria, they are admitted to the Transitions Program. The items on the assessment include:

1. Problem medications
2. Depression
3. Principal diagnosis of cancer, stroke, diabetes, COPD or heart failure
4. Polypharmacy
5. Poor health literacy – inability to do teach back
6. Patient support – absence of caregiver
7. Prior hospitalization

Patients who are identified as meeting the assessment criteria and agree to enrollment in the program are contacted within 24 hours of hospital discharge. The patient receives a home visit from a registered nurse within 48 hours of hospital discharge. The home visit includes an assessment of: social support, linkage to community services, home safety, depression, pain and falls risk. The clinician also compiles a review of advance directives,

Readiness to Change Scale, and a complete inventory of all medications. The RN contacts the Disease Management Nurse at the physician’s office to coordinate care and set up a physician appointment within five to seven days.

The medication inventory developed on the initial home visit is electronically transmitted to a team of pharmacists that performs a comprehensive medication assessment. The pharmacist also has electronic access to the prescription claims data through the payer partners which provides information on the reorder history, dosage, frequency and prescribing physician. This information is included in the reconciliation report that contains identification of high-risk medications, interactions, side effects and other discrepancies. A summary is sent to the primary care physician for each patient enrolled in the program.

This program is unique for its inclusion of the payer partner and pharmacy intervention, along with electronic information exchange and linkages among *all* of the health care providers involved in the patient’s care.

Outcomes and Benefits

Patients in the program have demonstrated a decrease in readmission rate for 30 days after discharge when compared with patients who declined enrollment in the program, as shown in the chart below.

Reported Readmission Rate within 30 Days of Hospital Discharge

	Full Year 2010	Year to Date 2011
Patients Enrolled in Program	6.8%	5.2%
Patients Who Decline Enrollment	9%	9.6%

The program has also accrued savings to the three managed care payers and the hospital serving this patient population. The results were so strong that the hospital is considering implementing the program for uninsured or underinsured patients, yielding direct savings to the hospital.



The transitions program has also played an important role in the emergency room diversion process, assisting emergency room staff to offer an alternative to patients who do not require admission but require coordination of care to safely return to their home environment.

Patients are also reporting savings in their medications, as the pharmacist works with the patients and the primary care physician to obtain appropriate medications for the patient at the lowest cost.

Program Challenges

The principal challenge that Catholic Health Home Care faced in implementing the program was changing the care processes at the hospital bedside. Clinicians were unfamiliar with performing the TARGET risk assessment prior to discharge, requiring comprehensive and ongoing education of all care providers to maintain an appropriate level of understanding of, and commitment to, the transitions program.

MJHS Home Care: Joint Commission Accredited Disease Management Program

Metropolitan Jewish Health System Home Care is comprised of two agencies providing Medicare-certified home care services to patients in the five boroughs of New York and Nassau County. The agencies provide the following services:

- Nursing
- Physical therapy
- Occupational therapy
- Speech therapy
- Heart and blood pressure monitoring
- Nutritional and spiritual counseling
- Care for stroke, dementia and Parkinson's disease
- Specialized high-tech services
- Tube and IV feedings
- IV drug administration
- Wound Care
- Pain management

In addition, MJHS Home Care provides disease management programs aimed at improving quality of life, maintaining independence at home, and reducing unnecessary hospitalizations for patients with the following conditions:

- Heart Failure
- Renal Transplant
- Diabetes

Description of Program

MJHS Home Care developed the Heart Failure Program in order to standardize the approach to heart failure disease management. This multi-disciplinary approach is designed with standards of care, medication management, and clinical guidelines to define best practice. Emphasis is placed on clinician education related to heart failure care and management, and ongoing monitoring of quality outcomes. The program is distinguished as the first-in-the-nation Heart Failure Disease Management program accredited by the Joint Commission.

Upon admission to the program, each patient receives a welcome letter, a comprehensive Heart Failure Teaching Aid and access to self telehealth monitoring. Patients are encouraged to submit telehealth readings and/or to discuss them with their home care nurse. Distinct from many other programs which rely heavily on health clinician control, the MJHS program is focused on self-management and compliance with diet and activity. Patients are given tools and are encouraged to measure and monitor their own weight and symptoms, an approach rooted in studies proving that overall outcomes improve and are more sustainable when patients take control of their own health care rather than rely principally on health care providers.

The program is targeted to individuals with a primary diagnosis of heart failure and enrolls approximately 300 patients annually. Eligible patients can be identified for enrollment at multiple access points within the health care continuum, including in the hospital prior to discharge, upon referral to home care, or at the physician office. MJHS Home Care Intake Coordinators receive and identify appropriate Heart Failure Program patients upon referral, contact the physician and introduce the patient to the program. The program is then managed by one team with participants from all areas of the agencies, including management, education, rehabilitation, and quality management. Hospital Home Care Coordinators were among the earliest to receive training, as they may be the ones to identify patients and provide the first information for the hospitalized patient. In addition to the heart failure management team, all home health nurses receive program training since they see patients throughout the five-borough and Nassau County service area.

Telehealth data, collected in the home by the patient, also interfaces with the home care electronic record, allowing the heart failure team and the home care nurse to have access to the data prior to visiting, and while in, the patient's home.



Outcomes and Benefits

In addition to outstanding clinical quality outcomes, MJHS Home Care has demonstrated a reduction in re-admissions and emergent care for patients with CHF between February 2010 and January 2011.

	Prior to Program February 2010	Most Recent January 2011
Readmissions	25.7%	21.7%
Emergency Department Care Without Hospitalization	5.7%	2.2%

Other collateral benefits include improved medication management and staff satisfaction. The clinical staff education has been very well received and is reported to increase competency in heart failure management.

Program Challenges

MJHS Home Care has close partnering relationships with major medical centers and myriad referral sources. This creates several unique challenges for the health system. First, the array of referral systems – with multiple variations in electronic medical record systems – make collaboration with physicians and access to real-time information difficult. Only one of the two home health agencies has electronic interchange with one affiliated hospital, allowing access to information in real time for this participating location only.

In addition, working with a diversity of referral sources has made it more difficult to coordinate care. A joint venture with Maimonides Hospital in Brooklyn has created an opportunity for developing the program with a more focused group of physicians and one hospital. MJHS Home Care intends to use this location as a test site for refining coordination of care, which can then be rolled out to the entire system and other referral sources.

The diversity of, and limited access to electronic medical records, has also been a serious challenge in measuring outcomes for the heart failure program across the health system. While quality outcomes are consistently measured and monitored within the home care agencies, MJHS Home Care continues to work in developing measures to assess the impact of its program on the entire system.

Another challenge in such a diverse system is maintaining a focus on specific disease management programs. Multiple competing initiatives can dilute the attention given to any one effort. Use of the heart failure team, consistent measurement, and ongoing clinician education have tempered the challenge; however, consideration is also being given to having individual champions in each location.

St. Peter's Hospital Home Care Hybrid Transitions Heart Failure Intervention Program

St. Peter's Hospital Home Care is a Medicare-certified agency providing home health services to patients in Albany and Rensselaer Counties. The agency is one of the largest hospital-based programs of its kind in upstate New York. St. Peter's Hospital Home Care provides the following services:

- Telehealth care
- Skilled nursing
- Physical therapy
- Speech therapy
- Occupational therapy
- Home health aides
- Medical social worker
- Nutritional services
- Home Infusion therapy
- Wound care/enterostomal therapy
- Anodyne – infrared light therapy

Description of Program

The St. Peter's Heart Failure Program was implemented over three years ago by a development and implementation team, which included representation from the hospital Quality Improvement Team, home care, several cardiologists, the medical director, and representation from major physician practices. It is unique in that it is designed as a hybrid transitions-in-care model revolving around a Heart Failure Patient Coach who is an employee of the home care agency but is physically located in St. Peter's Hospital. The program is initiated in the hospital and continues along the continuum of care. The Coach not only works with patients being referred to home care but also coordinates and reaches out to nursing homes for patients transferred there after hospital discharge.



Patients enrolled in the program receive the following:

- Periodic calls from the Heart Failure Patient Coach
- A skilled nursing visit within 48 hours of discharge
- Joint visits with the skilled nurse and the Patient Coach
- Physical therapy
- Nutrition services
- Installation of telehealth which is interfaced with the agency's EMR
- Standardized education protocols which were developed collaboratively by a QI workgroup

The target population is patients diagnosed with CHF. On average, the program has a census of 35 patients at any given time. The Coach identifies appropriate patients for admission to the program based on specific criteria established by the development team, makes the initial contact, and performs a patient assessment. The physician is sent a letter regarding the program and information specific to the patient. In addition, the enrolled patients are given ID cards identifying that they are enrolled in the program, and they are encouraged to show the card during their interaction with any part of the health system, to promote coordination of care across the continuum.

Outcomes and Benefits

St. Peter's Hospital Home care monitors multiple aspects of the Heart Failure Program. The following table summarizes the one-year percentage of improvement in all measures.

	Percentage of Improvement
Patients receiving nursing within 48 hours	29%
Patients receiving telehealth within 7 days	28%
Patients receiving RD within 7 days	500%
Patients receiving PT within 7 days	51%
Patients not receiving a heart failure referral	36%

St. Peter's also reports a reduction in readmissions for patients on telehealth compared to the rest of the agency's patients.

	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr
Telehealth Patient	19%	4%	6%	11%
Non Telehealth Patients	21%	14%	17%	14%

Program Challenges

St. Peter's Heart Failure Program is primarily aimed at decreasing the rate of re-hospitalization. The agency is able to compare readmission rates for CHF patients utilizing telehealth versus non-telehealth patients, but a lack of capability to electronically produce more detailed measures specific to CHF remains an issue. Until that is possible, measures are collected and calculated manually.

One unexpected challenge has been the transition of CHF patients directly from home health to hospice. Even though St. Peter's has its own hospice, patients frequently are readmitted to the hospital prior to transitioning to hospice. The Heart Failure Patient Coach is now assisting with a process focusing on a direct transition from home health without admission of the patient to the hospital.

Conclusion

As demonstrated in this report, home care agencies are implementing innovative care models with promising outcomes of enormous interest to hospital partners and policymakers. The results – specifically in reduced hospital readmission rates – underscore home care's value as a cost-effective contributor to the future of health care, the full continuum of care, and new and evolving models of care. It especially affirms home care as a value-added service for hospitals, health systems, and physician practices in emerging value-based purchasing, transitions-in-care, and care-coordination initiatives.

More specifically, home care is also clearly able to position itself as the expert in creating, implementing, and operating comprehensive telehealth programs, which, by their nature, are home based care models. These agencies understand and have developed protocols to reflect the concept that telehealth alone is not effective unless a clinical model exists with interventions and a plan of care that incorporates the patient's individual needs.

It is hoped that this study adds concreteness and focus for policymakers, health plans and health care continuum partners seeking to understand the ways in which strategically designed home care programs can benefit the health care system as a whole.



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