REDUCING HOSPITAL READMISSIONS WITH MOBILE INTEGRATED HEALTH

C.3#3 Intervention/Driver Performance Progress Report

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Abstract

Hospital readmissions continue to be a challenge and with the implementation of the Hospital Readmissions Reduction Program by Medicare, hospitals are feeling the readmission challenge in their bottom lines with penalties for excessive readmissions. There are a plethora of programs and intervention ideas available for hospital to implement within their own systems, but this is not solely a hospital issue, it involves the community as well.

Mobile integrated health programs seek to fill gaps patients experience when leaving the hospital to return home. In this paper, these services were provided by a community paramedic for four weeks post hospital discharge. These paramedics worked with patients to assist them in understanding their post-discharge instructions regarding care, symptoms and medications in order to help them achieve success at home and stay out of the hospital.

Data aggregated from two mobile integrated health programs working with a single hospital show that this method can be successful at reducing readmissions to hospitals within 30 days of discharge. This reduction improved the health of the individual patients that were directly impacted by the services, but also reduced cost to, and burden on, the healthcare system.

Introduction

Problem Description

Hospital readmissions are a challenge for health care providers across the continuum of care. In October 2012, Medicare established the Hospital Readmissions Reduction Program, part of the Affordable Care Act, which established penalties for hospitals with "excess readmissions."[1] These penalties were enacted in 2013 for a particular set of diagnoses and with a maximum penalty of 1% of all Medicare fee-for-service (FFS) payments. The penalties have continued to evolve over time, with higher maximum percentage penalties and additional diagnoses being added. Kaiser Family Foundation states, "Overall, national readmission rates in traditional Medicare started to decline in 2012 and have continued along that path in subsequent years. This timing suggests that hospitals may have started to implement strategies to lower their readmissions in response to the enactment of the HRRP, with the understanding that the financial penalties (starting in 2013) would be based on performance in prior years."[2]

In Oregon, the most recent Medicare Claims data indicate that the Medicare FFS rate of readmission within 30 days of a hospital stay was 13.9% for October 1, 2015, through September 30, 2016. During this same time period, the national average was 18.6%.[3]

Multiple toolkits, programs, interventions and solutions have been developed to address the readmission challenge. A Google search for "how to reduce Medicare hospital readmissions" returned 418,000 results in 0.52 seconds. Although hospitals have control over what happens within their walls, there is much less they can do after the patients leave the hospital. Certainly, a hospital team can arrange for a follow-up medical appointment, order needed equipment to be delivered to the patient's home or call the patient every few days, but none of these interventions fully addresses the situation of the patient in his or her daily living environment.

Mobile integrated health (MIH) programs were developed as one approach for following up with patients where they live. The MIH program model uses community-based paramedics to go to the patients' homes to observe and assist them there. This also provides an opportunity for patients to ask pertinent questions about their health and self-care while they are in a more comfortable, familiar environment, and supports rapid response for patients who need urgent medical attention

Available Knowledge

According to the Center for Healthcare Quality & Payment Reform, preventable readmissions can be divided into three broad categories:

> Readmissions for complications or infections arising directly from the initial hospital stay, e.g., if a surgery patient develops a surgical site infection or other complication and has to return after discharge.
>
> Readmissions because of poorly managed transitions during discharge, e.g., if a patient or a caregiver does not receive clear instructions from the hospital about the types of medications to take or what to do or not do during recuperation.

Readmissions because of a recurrence of a chronic condition that led to the initial hospitalization, e.g., an exacerbation of asthma, congestive heart failure, or chronic obstructive pulmonary disease.[4]

A MIH or community paramedic (CP) program is designed to tackle the second broad category above—to assist patients in understanding their post-discharge instructions regarding care, symptoms and medications.

Rural Health Information Hub defines community paramedicine as “an emerging healthcare profession [that] allows paramedics…to operate in expanded roles to provide routine healthcare services to underserved populations.”[5]

Specific Aims

The purpose of this project was to use mobile integrated health to improve care coordination and follow-up for patients leaving the hospital, in order to decrease the occurrence of readmissions within 30 days of discharge.

Methods

Interventions

Two metropolitan area MIH programs and a hospital conducted a joint pilot project that used a community paramedic to follow discharging patients for four weeks post-discharge. The patients were selected by the hospital as being at high risk for readmission and having an established primary care provider relationship. The patients were not charged for this service. This pilot resulted in a readmission rate of just 6.3% for patients who chose to participate in the services, compared with a rate of 23.5% for patients who declined services. Based on this pilot, the hospital entered into a formal contract to pay the MIH programs to provide follow-up services to discharging patients.[6]

The MIH is staffed by paramedics who are employed by emergency services agencies; these personnel do the MIH work full-time. Rather than driving a fire truck or ambulance, they use a smaller vehicle to make visits to the patients’ homes. The study model included four in-person visits to the patient’s home. During these visits, the paramedics performed a basic assessment, including vital signs, and reviewed daily logs such as weight, blood glucose and physical activity. In addition, they offered services such as medication assistance, which was defined to include (as needed) verifying that the patient had the correct medications and dosages on hand, understood what their medications were for, and had a plan in place to take them appropriately. The paramedics also reviewed discharge instructions for clarity. Paramedics took time to educate patients on subjects such as nutrition, activity and proper medication use. During the initial visit, the paramedics also reviewed the home environment for fall risks and other issues that could create safety hazards.[6]

Typical program elements may include:

- Home safety check
- Monitor Activities of Daily Living (ADLs)
- Medication inventory/adherence
- Basic health screening and physical assessment
- Vital signs, weight, oxygen saturation
- 12-lead electrocardiogram (as ordered)
- Review discharge instructions
- Review/follow care plan
- Distribute/support educational materials
- Confirm appointments
- Consult and refer as needed
- Collect data[7,8,9]

Measures

Readmission rates for patients participating in the MIH program were compared with those of patients who declined service, both for the pilot study and then for the ongoing contracted work. Patients self-stratified based on desire to participate, but the groups came out fairly even for the pilot, with 63 patients choosing to participate in the MIH program and 60 patients who declined.

The hospital and MIH providers collected and tracked their own data.

<u>Results</u>

Data from the pilot showed a substantial difference between the readmission rate for patients who participated in the MIH program (6.3%) and patients who declined the service (23.3%) (see Table 1). For the contract work, the results also showed positive results, with a readmission rate of 13.5% for patients with MIH services, compared with a rate of 21.3% for patients not receiving the services.

Table 1. Readmission percent comparison, with and without MIH services

	Pilot			**Contract work**		
	Readmissions	Participants	Percent	Readmissions	Participants	Percent
With MIH Services	4	63	6.34	12	92	13.04
Without MIH Services	14	60	23.33	10	47	21.28

In addition to fewer readmissions, patients reported high satisfaction with services provided during the pilot. Participants were asked to rate their responses on a 1 to 5 scale, with 1 indicating poor and 5, excellent. The 24 respondents did not rate any of the questions asked lower than 4.79.[9]

Limitations of these results may include a bias towards those people who chose to accept services being more willing and able to improve their self-care.

Discussion

Summary

The patients who participated in the MIH program had a much higher chance of remaining out of the hospital. They also received additional, personalized service from a community paramedic in their home.

The MIH paramedics were able to take the time to explain care plans and listen to the patients, resulting in the perception of better care. According to the director of one of the MIH programs, the paramedics also report better job satisfaction, as they actually get to follow the care of the patient further than the door of the emergency department.

The cost savings to Medicare that a MIH program provides cannot be overlooked. Although the actual contracted cost to the hospital is proprietary information, the hospital indicated that it is less than 20% of the average readmission cost of $13,800.[10] Although Medicare does not currently pay for this type of service, these results suggest a potentially scalable approach that warrants further consideration.

Conclusions

A mobile integrated health program such as the one described in this report improves the care and health of the community in which it operates. MIH programs assist people who need additional help and instruction in order to be successful in caring for themselves after a hospital admission. These programs help ease the burden on emergency departments by reducing the number of patients who are stuck in the admission-discharge-failure-readmission cycle, and they reduce avoidable hospital stays for vulnerable people. In Oregon, this model has gained traction, and more than 20 MIH-type programs are currently operating in rural and urban areas across the state. (See attachment A)

Despite their potential benefit and cost savings, most MIH programs in Oregon have no specific, sustainable source of funding. Many are currently paid by grants that will run out, and then they will need to establish other funding sources. The burden often falls on the hospital; as the entity being fined for excessive readmissions, they justify the cost of funding a MIH program by the offset to readmissions, and thus a reduction in fines. A method for billing Medicare, Medicaid and other insurers for these services would support the sustainability and spread of these beneficial programs.

In the meantime, Oregon communities will continue to work together to understand the needs of their residents and draw on the available community resources to meet those needs.

Funding

This work was funded via a contract between the hospital and the MIH providers, who had sole control of the design, implementation, interpretation and reporting.

Appendix A

Statewide Community Paramedicine Projects (April 2017)

EMS Community Healthcare Coalition	The Coalition was initiated following a large Community Paramedicine Summit in April 2014 (sponsored by Health Share of Oregon) that brought EMS and healthcare providers, public health and payers together to explore the topic of MIH.	Tualatin Valley Fire & Rescue, Multnomah/ Clackamas/ Washington/ Cowlitz/ Clark County 911 agencies, American Medical Response and Metro West Ambulance, Kaiser, Providence, Yamhill CCO, FamilyCare, Health Share of Oregon. PCC, Providence, Legacy, OIT, OHA and more than 35 other organizations		The coalition continues to be operational. The Community Paramedicine subcommittee is very active including three task forces – data, education and operational protocols.
Pilots/Projects with CCO engagement	**Description**	**CCO Partners**	**Geographic service area**	**Notes**
West Valley Fire District	A community paramedic responds at the request of the CCO or health partners for post discharge follow-up/transition, blood draws, etc.	Yamhill Co. CCO	Yamhill County	
Metro West Ambulance	Community Paramedic visits to post-hospital discharge of high acuity patients at risk of hospital readmission.	Health Share of Oregon Legacy Health	Legacy Emanuel, Good Samaritan and Meridian Park catchment areas	
American Medical Response and Clackamas Fire District #1	Community Paramedic visits to post-hospital discharge patients at risk of hospital readmission.	Health Share of Oregon Providence Health	Providence Milwaukie and Willamette Falls catchment areas	
Tualatin Valley Fire and Rescue	Community Paramedic visits to post-hospital discharge cardiac patients at risk of hospital readmission.	Health Share of Oregon Providence Health	Providence St. Vincent catchment area	
Mercy Flights	Partnership with Providence and other health care organizations	Jackson Care Connect	Jackson County	
Jefferson County EMS	Community Paramedic visits to post-hospital discharge of high acuity patients at risk of hospital readmission.	PacificSource	Jefferson County	Developing project
Albany Fire Department	Targeting their high utilizer population	InterCommunity Health Network CCO	City of Albany	
Oregon Mobile Healthcare	Community Paramedic visits to post-hospital discharge of high acuity patients at risk of hospital readmission.	Cascade Health Alliance	Klamath Falls	
Columbia River Fire and Rescue	Community Paramedic visits to post-hospital discharge of high acuity patients at risk of hospital readmission.	Columbia Pacific CCO	Columbia county	Developing project
Pilots/Projects with CCO engagement	**Description**	**CCO Partners**	**Geographic service area**	**Notes**

Tri-County 911 Project (TC911) –	Refers frequent 911 callers to LCSW staff within Multnomah County EMS. The LCSW identifies needs/coordinates resources to meet patient needs.	Health Share of Oregon and FamilyCare CCOs Multnomah/Clackamas/Washington County 911 agencies and first responders	Clackamas, Multnomah & Washington counties	
Other CP and related projects	**Description**	**Community Partners**	**Geographic service area**	**Notes**
Metro West Ambulance Community Paramedic Project - Kaiser	Community Paramedic visits to post-hospital discharge of high acuity patients at risk of hospital readmission (CHF, COPD, Diabetes, etc.)	Kaiser NW	Clackamas, Multnomah and Washington counties	
Tualatin Valley Fire & Rescue (TVF&R) & Metro West Ambulance	Goal is to reduce 30-readmission. Patients have established PCP/Clinic relationship.	Legacy Meridian Park Hospital	Washington and Clackamas counties	
Clackamas County Fire District #1 (CCFD1), American Medical Response (AMR), Tualatin Valley Fire & Rescue (TVF&R) –	The project visits frequent 9-1-1 caller behavioral health patients. Participating agencies rotate one day every three weeks for Community Paramedic/Mental Health (CP/MH) professional visits with pre-determined patients found in agency/county data.	Clackamas Co. Public/Mental Health	Clackamas County	
Gresham Fire Department	Gresham Cares - Frequent callers & patients with identified needs. OHSU nursing students do home visit to determine needs and "case manage" to facilitate changes.	Rockwood Clinic, OHSU Nursing School & School of Pharmacy	Gresham Fire Department service area only	
Portland Fire Bureau	Community Healthcare Assessment Team (CHAT) is a pilot project aimed at connecting the High Utilized Group (HUG) of 9-1-1 medical callers to the right care, at the right place and time. The goal of the project is to assess the needs of HUG clients and connect them to the appropriate, non-emergency resource(s). ADAT 2.0 routes low acuity patients to ED alternatives like Urgent Care, PCP and Clinics within a limited geographic proximity to a local fire station.	TC911 and others Outside In and Rosewood Clinic	City of Portland only	
Forest Grove Fire & Rescue	Research project led by the Oregon Institute of Technology (OIT) targeting high utilizers in their service area	OIT-EMS Department	Forest Grove Fire & Rescue service area	

Other CP and related projects	Description	Community Partners	Geographic service area	Notes
Canby Fire Department	Targeting high utilizers in their service area		Canby Fire Department service area	
Redmond Fire & Rescue	Community paramedics serving large geographic area.	St. Charles Hospital Pacific Source CCO	Deschutes and Crook Counties	
Lane Fire Authority –Veneta	Staff a medical clinic one day/week. Meeting needs of local Medicaid population.	Lane Community College, local medical corps and other community members	Lane County	Currently operations are suspended
Tillamook Adventist	High utilizer program	Adventist	Tillamook County	Limited information available

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