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Specialized Medical Home for Patients with Spinal Cord Injury

Introduction

In 2015, Magee Rehabilitation Hospital (Magee) began offering a specialized medical home for patients with spinal cord injury (SCI). This new clinical paradigm adapts a medical home model of patient-centered care to provide proactive clinical care and coordinate social support services for patients with SCI recently discharged from inpatient rehabilitation. The goals of the program are to maximize patient health outcomes, prevent medical complications and reduce emergency department (ED) visits and readmissions. This program is supported by Magee and by a three-year grant from the Craig H. Neilsen Foundation, which allocates its funding to support SCI populations.

Background

Since 1978, Magee has partnered with Thomas Jefferson University Hospital to form the Regional Spinal Cord Injury Center of the Delaware Valley. This federally designated model system of care is one of only 14 in the country to provide coordinated, lifetime care to patients with spinal cord injury. Over the past 5 years, Magee has worked to understand how the concepts utilized to improve outcomes for patients in primary care medical homes could be applied to a population with chronic disability due to neurologic insult. The exploration of new payment models to support outcome-driven health care led us to contemplate the role of insurance providers early in the project's conceptualization. To that end, this project aims to reduce costly medical episodes for patients with SCI and thereby demonstrate to health insurance payers that proactive care management for this population yields better health outcomes and cost savings. To achieve this, Magee is working with payers to share information and develop a business case and new payment model to support the program's services.

Methods

As patients progress through their rehabilitation and discharge plans are clarified, potential candidates for Magee's Medical Home are identified. The target population is those patients who are at high risk for developing medical complications due to severity of injury, comorbidities, and socio-economic factors. Patients enrolling in the medical home are also those who will return to the community and who will access Magee's outpatient clinic. Informed consent is obtained from participants during inpatient rehabilitation to enable the exchange of health outcome data with payers. Patients can decline to participate in the medical home. Upon enrolling, patients are introduced to the medical home care team which consists of a physiatrist, a certified rehabilitation nurse, a clinical pharmacist, and a social worker. Prior to discharge, the inpatient team performs a face-to-face hand-off with the medical home care providers. The physiatrist and pharmacist perform a thorough medication reconciliation and the pharmacist provides to the patient detailed medication instructions and an easy-to-follow medication schedule. When possible, the pharmacist obtains needed prior authorizations for medications, and patients are discharged with a 30-day supply of medications.

Medical home team members call the patient frequently, as needed, after discharge to help identify potential, emerging medical complications and to ensure that all questions related to care and services are answered. During these calls, the team confirms that equipment, supplies, and services have been received and are functioning well. Clinical guidance is provided and support services are coordinated for each patient. The medical home team is in contact with home nursing and therapy services, primary care clinicians, and medical and surgical specialists to coordinate and discuss patient-specific care needs. Patients are given the phone number to a 24/7 hotline they can call for questions or concerns. The hotline is answered by a senior member of the nursing staff, and a physiatrist is on-call for additional consultation.

Patients typically attend their first appointment at Magee's outpatient clinic four weeks after discharge. Additional visits are scheduled every 3 to 6 months and for specific concerns. Specialized providers, such as wound ostomy continence nurses, clinical nutritionists, respiratory services, and urologists are available as needed. Whenever possible, issues are handled by phone, since transportation is often particularly challenging for these patients.

Results

In the first 15 months of medical home services, 63 patients with SCI were enrolled in the medical home and discharged to the community. Two participants require mechanical ventilation. Thirty-one participants have paraplegia and 32 have tetraplegia. Patient ages range from 14-90 years old (Table 1).

Fourteen patients had 16 all-cause readmissions since the start of the project. Five of these readmissions were for reasons unrelated to SCI, and 2 of these patients died. Of the 11 SCI-related readmissions, 6 were for urologic issues, (primarily urinary tract infections), one related to a potential bowel obstruction, 3 related to worsening or infected pressure ulcers, and 1 was caused by thermal burns (Table 2).

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Twenty-two patients had 28 ED visits, and 14 of those visits resulted in readmissions noted above. Of the remaining 14 ED visits, 4 were not related to the patient's SCI. Of the 10 ED visits that were related to SCI, 6 were urologic in nature and the others were varied. The medical home team proactively resolved many issues that may have otherwise resulted in readmissions and ED visits, including: bowel impaction, noncompliance with medication, unsafe housing/homelessness, domestic abuse, challenges accessing medical specialists, challenges managing comorbidities (such as monitoring blood glucose levels), challenges obtaining medication refills due to financial or other barriers, inadequate nutrition, and respiratory complications.

Discussion

Although early in the project, 22% of the individuals have been readmitted to date, which is well below available comparative figures for similar patient populations (approximately 36-45%).[1,2] Literature is scant related to ED visits. By interceding early and providing timely and appropriate care, the medical home team has helped patients avoid hospital readmissions and ED visits. These proactive clinical and support services are not reimbursable via a traditional fee-for-service payment model. For this reason, the concomitant work with payers to develop a new payment model that meets the needs of the patient, the payer and the provider will be necessary to continue the medical home's services beyond the grant term.

Conclusion

The SCI Medical Home at Magee Rehabilitation Hospital is a proactive and multi-professional project that is yielding promising, early results. Though the current project is limited to the SCI population, Magee is exploring broadening medical home services to include patients with other disabilities. In a collaborative demonstration project with Inglis and other partners, Magee is in the process of admitting to the Medical Home persons with a variety of disabilities who are transitioning from long-term care at Inglis House to independent living at Inglis Gardens at Belmont.

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Table 1 – Demographic Information

	Participant Characteristics	Overall (N = 63)
Level of Injury	Tetraplegia total (includes 2 on ventilators)	32 (51%)
	Paraplegia	31 (49%)
Age at injury	14-29	28 (44%)
	30-49	9 (14%)
	50-69	18 (29%)
	70+	8 (13%)
Payer	Medicare (includes 5 dual eligible Medicare/MA)	16 (25%)
	Medicaid	12 (19%)
	Commercial	32 (51%)
	Worker's comp	2 (3%)
	Self-pay	1 (2%)

Table 2 – Primary Outcomes

Participant Outcomes	Overall (N = 63)
Total Patients with readmissions	14 (22%)
Total readmissions (includes 2 planned readmissions)	16
Hospitalizations related to SCI	11
Patients with ED visits	22 (35%)
Total ED visits	28
ED visits that resulted readmissions	14
ED visits related to SCI	19