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Executive Summary

As the only Level 1 Trauma Center in New Hampshire, Dartmouth Hitchcock Medical Center (DHMC) supports 150 moderate to severe traumatic brain injury admissions each year. Without a central TBI point-person, the burden falls on caregivers to manage the coordination of care for their loved one.

DHMC should hire a nurse navigator to ensure effective patient and caregiver education, smoother discharges, timely follow-up and robust data collection. Fulfilling these needs with a dedicated staff member will allow existing staff to focus on clinical care. Beyond reducing demands on existing staff, employing a nurse navigator can help DHMC reduce readmissions and retain a greater share of revenue associated with follow-up care and clinic visits. A designated nurse navigator can also help refer patients to relevant therapists for rehabilitation care. The nurse navigator can administer data collection and management to support an enhanced standard of care.

Background

Dartmouth Hitchcock Medical Center (DHMC), established in 1893, is a nonprofit academic health system that serves a population of 1.9 million in rural New England. DHMC trains nearly 400 residents and fellows annually and performs world-class research to benefit the medical field as well as the local community. The hospital also employs approximately 2,500 nurses that includes a structured clinical residency program for newly graduated Registered Nurses and nurses with less than one year of clinical experience.

DHMC offers specialized programs for Med-Surg, Intermediate Care, medical specialties, and critical care. The facility consists of 396 inpatient bed capacity and serves as a major tertiary-care referral site for northern New England. DHMC is headquartered on a 225-acre campus and is a Level 1 Trauma Center and includes an air ambulance service. With its central location and these robust service offerings, DHMC plays a critical role in caring for rural TBI patients.

In the past year, DHMC has treated approximately 150 patients with moderate to severe TBIs, ranging from age 16 to the mid-90s. Patients had a mean hospital stay of two weeks. However, multiple patients stayed at DHMC for over 100 days, with the longest hospitalization lasting eight months.

TBI patients require intensive care early in the hospital stay, and then transition to significant rehabilitation needs in order to reach the milestones required for discharge. With limited options for rehabilitation in the Upper Valley area, hospital stays can become prolonged to several months, at great cost to both the patient and the institution.

Opportunities

There are gaps in TBI care at DHMC, but there is an opportunity to address the current challenges.

From speaking to former patients, their caregivers, and many healthcare providers, we have identified three opportunities for improvement which DHMC can address by implementing a TBI Nurse Navigator role. These challenges are as follows:

1. Caregivers feel pressured to fill gaps in communication within the healthcare system.
2. Existing resources on TBIs are generalized, overwhelming, and difficult to find for patients and caregivers who want personal answers.
3. Bottlenecks in the in-patient recovery process prevent patients from accessing rehab services soon enough.

1. During the treatment process for a traumatic brain injury, patients and caregivers noted gaps and conflicting information from healthcare professionals. Caregivers may find themselves under pressure as they navigate through communication gaps and manage logistics and the progress of their loved one's TBI. Often, caregivers assume the role of coordinating between case managers, healthcare providers, and outpatient services.

The husband of one TBI patient explained that he felt like he *"had to be 'on' 24/7."* He also noted *"big gaps"* in communication in the ICU, especially at shift changes. With *"so many opportunities for things to go south,"* he wanted to be as involved as possible to ensure the best chance for recovery. Healthcare providers at DHMC similarly noted that some caregivers cope with the injury by being highly involved in the recovery process.

Caregivers report hearing different prognoses about their loved ones' outcomes, including whether they will be able to return to activities they did before their injury. A caregiver explained that *"every shift you get a different story– with so many people involved, everyone has a different idea about what's going to happen, and everyone has an opinion."*

Without a clear consensus on their prognosis and the best course of action for recovery and rehabilitation, patients and families report having to make conscious decisions about which medical professionals to trust or ignore.

Because there is no staff point-person to coordinate care across the different specialists involved in TBI care, the burden falls on caregivers to manage the recovery and document information. A neuropsychologist who works at DHMC explained that *"there should be a centralized TBI team that does patient intake and assessment, who then 'passes the ball' to other specialists."* Implementing a Nurse Navigator to serve TBI patients would help fill these gaps.

2. According to scientific literature, lived experiences, and our conversations with healthcare professionals, the outcomes of brain injuries vary widely from person to person. It is challenging for doctors to give each patient accurate, specific prognoses because unpredictable variables factor into recovery. DHMC does not always direct TBI patients and caregivers to educational resources on the injury, but when they do, they recommend one-size-fits-all resources that describe TBIs.

After sustaining a TBI, patients and their families are desperate to know *“How serious is this injury?”*, *“When will I get better?”*, and *“When will I be able to do X again?”* Medical professionals may not immediately have answers to these questions. Some patients expressed frustration at the lack of clarity and wished their doctors and nurses had been upfront about how recovery is unpredictable. One caregiver noted that *“no one had the exact answer to the question you were asking.”*

A point-person with specialized clinical knowledge on TBI could help orient patients and caregivers in the non-linear recovery pathway. Individuals progress through the hospital and recover at different rates, depending on their location of the injury, age, and general health before the injury. A Nurse Navigator could be a valuable resource for patients and caregivers who seek personalized answers.

3. In our interviews, numerous healthcare providers at DHMC highlighted a gap in providing referrals for TBI patients. Moreover, providers mentioned that patients fare better the sooner they receive treatment. A neuropsychologist explained that *“patients will use more resources in the healthcare system if they aren’t given the best care right away.”* A physical therapist highlighted the sentiment, explaining that *“the sooner [patients] have interventions, the better the outcomes.”*

For more complicated TBIs, the referral process is a significant challenge, and patients do not always get referred to the right specialists promptly. A physical therapist explained that *“the biggest struggle is when people don’t get a referral to PT. I don’t understand why it takes so long.”* While physical therapists cannot directly refer patients to specialists, they often spend their personal time contacting physicians who could make referrals.

DHMC is not ideal for providing long-term rehabilitation, as it has limited employees who can provide in-patient physical and occupational therapy. When there aren’t enough beds in LTAC facilities or on the floor level of DHMC, patients will stay in a unit that provides a higher level of care than they need. As a result, the hospital uses more resources by frequently checking in on patients who need lower levels of supervision. The high frequency of check-ins is a waste of hospital resources, resulting in unnecessarily expensive hospital bills for patients and their families. A Nurse Navigator to coordinate care and advocate for prompt patient referrals would alleviate the bottlenecks in the care process at DHMC and help advance care for patients.

Benefits (adapted from the Stroke Nurse Navigator Funding Proposal)

Implementing a nurse navigator program can impact transitions of care challenges including, but are not limited to, communication amongst physician teams, risk-factor modifications, medication compliance, physician follow-up, readmissions, and overall improvement of patient outcomes. The TBI nurse navigator acts as a liaison between healthcare providers and the patient and family to help facilitate the patient's adjustment to life after sustaining a TBI.

Efficient Transitions:

Nurse navigation programs support patient care in the inpatient setting and through the patient's transition back into their homes or other post-acute settings. After a patient is admitted, transitional care services like education, monitoring, early discharge planning, and early supported discharge are shown to reduce the total number of hospitalized days and get patients home faster, without adversely impacting long-term recovery after TBI. To connect people with the resources they need to fully recover at home, providers need to be able to identify rehabilitation needs and coordinate services. As a constant in the patient's care team, the nurse navigator can effectively identify post-discharge care needs and establish the connections needed to complete the patient's recovery at home or in a post-acute setting.

Reduced Readmissions:

To reduce readmission, patient care needs to track across multiple settings, including follow-up during and after admission to post-acute settings, to ensure lifestyle modification and medication adherence. One study of a nurse-led transitional stroke care program showed that implementing a standardized and comprehensive program for patients discharged home helped increase compliance with follow-up appointments and reduced 30-day readmissions by 48%. As TBIs fall within a similar realm of brain injuries, TBI patients' readmissions would likely see a similar reduction.

Patient Satisfaction:

In addition to generating operational and clinical improvements, utilizing a navigator is a way to increase patient satisfaction. The National Stroke Association recently studied their pilot Stroke Recovery Navigator program, a telephonic program, and found that 95% of participants viewed the program as valuable and 85% reported that they felt better equipped to make decisions about their health. Moreover, our qualitative research suggests that patients and caregivers generally desired more guidance and resource facilitation, with one caregiver stating "I really just wanted someone to reach out to me, instead of having to do it myself."

Improved Community Integration:

Caregiver assessments will help make sure patients are ready for discharge and caregivers can support the patient in the home setting. Evaluating caregiver support helps ensure that patients have the tools they need to avoid unnecessary readmissions. Beyond conducting these assessments, a nurse navigator will also be responsible for following up with patients discharged to various community settings. Patients discharged to rehabilitation centers and

other settings often require dedicated follow-up support. To ensure these patients receive their follow-up care from the D-HH system, a nurse navigator can track and communicate with patients throughout their care journey, connecting them with care resources at D-HH as necessary.

Market Considerations

Based on the state of New Hampshire's American College of Surgeons, traumatic brain injury patients are frequently transferred to the closest appropriate hospital for stabilization prior to being transferred to a higher level of care.

Program Overview (adapted from the Stroke Nurse Navigator Funding Proposal)

Scope of Work:

The navigator will be responsible for a variety of activities that directly support patient care and resource facilitation. During an inpatient stay, the navigator will serve as a point of contact to educate and build rapport between patients, families, and clinicians. The navigator will collaborate with medical providers, patient care staff, and clinic management in planning and implementing patient and staff education. Patients and families will receive information on traumatic brain injury etiology specific to the patient, their treatments, rehabilitation, and management after hospitalization. Further education relating to care after discharge will include signs and symptoms of a recurrent TBI, application eligibility for disability and Medicaid, and discharge follow-up appointments.

To facilitate smoother and more efficient transfers out of the inpatient setting, the navigator will aid in assessment and referrals by linking the patient with TBI-related services and rehabilitation programs. They will advocate for the patient within the community for individuals with limited support for self-management, and liaise with external support groups and agencies. The navigator will follow up with patients post-discharge and on a longitudinal basis. In support of improvements for the program and patient satisfaction, the navigator will collect and report data from patients on barriers, health status, medications, and prior treatments. The navigator will also log patient progress.

Beyond providing these services exclusively to the neuro team, the nurse navigator will also provide these services to TBI patients that need a neurosurgical intervention. Covering this population increases the potential for more efficient discharges and enhanced follow-up care for a larger population.

Request:

The TBI program seeks financial support for the nurse navigator's salary and fringe benefits.

Alternatives Considered:

Nurse navigator programs and other transitional care management efforts are well established in cancer care, and healthcare centers and organizations have established a precedent for

similar programs for TBIs. DHMC does not currently employ nurse navigators or resource facilitators. However, in the past, a nurse at DHMC had run a TBI Clinic consisting of neuropsychologists, neurologists, and rehabilitation services—including physical therapy and occupational therapy. Moreover, the Brain Injury Association of New Hampshire provides free resource facilitators to various hospitals in New Hampshire and Maine to assist patients with finding resources, filling out applications, and navigating their brain injuries. Resource facilitators reach out to patients post-discharge from rehabilitation.

Risks:

The need for a nurse navigator is based on the assumption that TBI volumes in the DHMC region will stay the same or increase. Should TBI volumes fall, the nurse navigator may not have enough patients to warrant a full-time effort. Given the maintenance of the number of TBI patients treated at DHMC, it is unlikely that volumes will fall and workloads will lessen. Since existing staff is already stretched thin, it is unlikely that adding a staff member would create a surplus of staff. Another possible risk associated with hiring a dedicated nurse navigator is the possibility that existing nursing staff will see the addition as disruptive to their patient relationships. Having a new team member to take on patient management and education may result in feelings of loss and vulnerability among floor staff, but the decreased management burden is likely to offset these issues as nurses have more time to manage other elements of patient care. Finally, adding a new role may require the team to update workflows to ensure that the nurse navigator is given access to patients at the right place and time. If this is not done, the nurse navigator may not be able to access patients, limiting the positive impact of the role on patients.