CE
1.0
ANCC
CONTACT HOUR

Discharge after stroke: Evaluation of callback data

Stroke patients are at increased risk for cognitive impairments and physical limitations after discharge. Enhancing the discharge process can help drive improved outcomes.

By Cristina Carrillo-Gutierrez, MSN, APRN, FNP-C; Frances Jaime, BSN, RN-BC; Kim Smith, BSN, RN; Marwah Elsehety, MD; Janelle Headley, BSN, RN; Shanequa Sostand, BSN, RN; Nicole Harrison, MBA, BSN, RN, NEA-BC; Polina Strug, MPH; Kim Vu, MBA, LMSW; Sean Savitz, MD; and Anjail Sharrief, MD, MPH

Organizations must ensure that they maintain a spirit of inquisitiveness to refine quality and improve their patient care experience. It's understood that quality and safety are integral components of truly exceptional patient care. Unfortunately, quality and safety are at risk during the care transition period, especially for patients recovering from stroke.

This article presents an examination of Memorial Hermann Health System (MHHS) Comprehensive Stroke Center (CSC) postdischarge feedback during a 6-month period to identify areas of need for the CSC and explore interventions to promote quality care.

Background

Stroke patients are at increased risk for impairments, and stroke rehabilitation is multifaceted, requiring complex treatments and coordinated care. The transition from hospital to home must be strategically planned before hospital discharge to better prepare patients

DISABILITY IMAGES / ALAMY STOCK PHOTO
MONKEY BUSINESS IMAGES / SHUTTERSTOCK

for a smooth transition of care. In fact, discharge planning should be started at admission, with caregiver involvement in the care plan. Discharge planning inadequacies can lead to negative patient outcomes and readmissions within 30 days.

The Centers for Medicare and Medicaid Services (CMS) has established value-based programs to improve the quality of patient care. As a result, hospital systems are charged with the development and implementation of transitional care strategies to assist patients with transitioning smoothly into the community setting and avoid adverse events that are more common in the first 3 weeks following a hospital discharge. System processes should be instituted to facilitate transitions through the care environment that may be complex and difficult for patients and their caregivers to navigate. Additionally, patients who are older and/or have lower literacy levels are the most vulnerable to adverse outcomes stemming from transitional care.

Improved transitional care leads to better outcomes, such as refining patients' rehabilitation continuum, improving quality of life, and reducing associated healthcare costs. An important part of the system view is capitalizing on organizational effectiveness, limiting barriers to patient care, and strengthening resources. To this end, postdischarge follow-up calls have been shown to improve patient satisfaction scores, decrease ED visits, and may reduce hospital readmissions.

At MHHS, our CSC patients receive a follow-up telephone call from an RN 48 to 72 hours after hospital discharge utilizing yes-or-no and open-ended questions related to the hospital stay; reviewing discharge instructions, follow-up care, appointments, and prescriptions; and conducting pain and discomfort assessments. The RNs make the calls between the hours of 10 a.m. and 12 p.m. and again from 4 p.m. to 6 p.m., Monday through Friday, with at least two calls attempted. The second attempt takes place no later than the fifth postdischarge day.

The RNs utilize a standardized 15-item script designed to elicit information regarding the patient's health status after discharge (see *Callback script*). Patients are asked if they understand their diagnosis and care plan. If not, discharge education is reinforced. Patients are asked if they've been readmitted and, if so, did they have another stroke or transient ischemic attack (TIA)? Emergency signs and symptoms of stroke are reviewed. Patients are asked if they've filled their prescriptions. If not, the RNs stress the importance of medication adherence and review stroke medications. Patients are also asked if they've attended or scheduled an appointment with the neurologist. If not, the RNs discuss the need to make an appointment immediately. All patients are asked if they feel that the care plan is appropriately formulated by the physicians and staff. After completing the call, if the RNs identify a concern, they forward the information to the clinical manager.

did you know?

The HCAHPS survey is a national standardized tool to obtain patients' perceptions of the care they received during and after hospitalization. The HCAHPS survey consists of 27 quality measures regarding physician communication, nurse communication, staff responsiveness, pain management, communication about medications, hospital environment, and communication of discharge information. The HCAHPS survey can be used to evaluate the effectiveness of care transitions and identify deficiencies in the discharge process.

Significance

Readmission for stroke is on the top 10 preventable complications list, according to the CMS. The early period after hospital discharge is a critical time for stroke patients during which transitions of care must be optimized. Stroke patients have experienced new and debilitating deficits that demand an enhanced form of communication between systems, providers, and patients to ensure the comprehension of critical information essential for aftercare. It's recommended that organizations

Callback script

	Question	Answer
1.	My name is _____. I am a nurse calling from Memorial Hermann where you were recently a patient. The nurses who cared for you asked me to give you a call to see how you are doing today. Do you have a few minutes to answer some questions regarding your care?	○ Y ○ N ○ N/A
2.	Do you feel that the staff was able to help you understand your diagnosis and plan of care for stroke?	○ Y ○ N ○ N/A
3.	Are you able to carry out your same activities that you did prior to your stroke?	○ Y ○ N ○ N/A
4.	Have you had any new symptoms since your discharge from the hospital?	○ Y ○ N ○ N/A
5.	If yes, did you go to your doctor or hospital?	○ Y ○ N ○ N/A
6.	Have you had to return to be admitted to the hospital?	○ Y ○ N ○ N/A
7.	Did you have another stroke or TIA?	
8.	Can you name signs and symptoms of a stroke? (Have patient list several, such as numbness, slurred speech, weakness on one side.)	○ Y ○ N ○ N/A
9.	Did you fill your prescriptions? (If no, stress the importance.)	
10.	Can you tell me what medications you are taking? (Review stroke medications with patient.)	○ Y ○ N ○ N/A
11.	Have you made your follow-up appointment with your neurologist? (If no, stress importance.)	○ Y ○ N ○ N/A
12.	Do you feel your plan of care was carried out appropriately by the team of physicians and staff?	○ Y ○ N ○ N/A
13.	We like to recognize our physicians and staff for a job well done. Is there anyone I can thank for doing a very good job?	○ Y ○ N ○ N/A
14.	If you think of anything else you should need related to your care, you can call your doctor; his/her phone number is on your discharge sheet.	○ Y ○ N ○ N/A
15.	In a few days, you may receive a more in-depth questionnaire regarding the care you received. I would encourage you to complete that survey. Your feedback will help us recognize what we are doing well and identify ways that we can enhance our services. Thank you for your time and thank you for choosing Memorial Hermann.	○ Y ○ N ○ N/A

offer patients support as they navigate services within their community and along the healthcare continuum.

Stroke patients are at risk for a long-term recovery and rehabilitation, which is why the care transition is such a fundamental and crucial component of their recovery. The goal of transitional care is to prevent readmissions and diminish adverse events. Gaps in care transitions can lead to poor outcomes such as decreased rates of primary and specialized care follow-up appointments that are a vital component of the stroke patient's care plan. Nonattendance at physician follow-up appointments after hospitalization has been shown to increase 30-day readmissions.

In one study, the authors found that over half of stroke or cerebrovascular disease readmissions (53%) were avoidable. Reasons for readmissions included unattended physician follow-up appointments and inadequate discharge instructions. Moreover, the study revealed that 65% of patients who had a 30-day readmission didn't attend their stroke clinic appointment.

As a result, understanding the difficulties that stroke patients experience during this important phase of their recovery is imperative to expand our quality improvement efforts. The CSC implemented the callback review initiative due to supporting literature affirming that callback feedback not only increases

patient satisfaction, enhances quality of care, reduces adverse events, and decreases readmissions, but also provides an opportunity to address patient concerns.

Intervention

In spring 2018, the MMHS CSC implemented a qualitative review of 3-day postdischarge calls to obtain feedback from stroke patients transitioning to the home environment. We used 6 months of questionnaires gathered through a telephone survey asking patients to answer questions regarding their care in the hospital and aspects of care during the transition period from the hospital to the home environment (see *Research box*). Patients included in the study were English-speaking adults (over age 18) who were admitted for ischemic stroke (65% of patients); TIA; intracranial hemorrhage; ventricular hemorrhage; and other neurologic diagnoses, such as migraines, seizures, and vertebral dissection, from January 1, 2018, to June 30, 2018, and discharged from the CSC to the home environment. Patients who were discharged to skilled nursing facilities, inpatient rehabilitation, jail, hospice, or acute long-term-care facilities were excluded.

To evaluate the callback data, feedback was categorized using the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey domains of care from doctors, care from nurses, hospital environment, experience in the hospital, and transitions of care (see *Patient-reported challenges during 3-day callback categorized by* HCAHPS *domain*). This appraisal elicited significant findings that directed our endeavors to increase patient satisfaction and quality of care and implement patient-centered initiatives to make the transition between the hospital and home environment smoother.

Results

Among 700 patients discharged in the study period, 378 (54%) were discharged home; 207 (55%) were contacted for feedback. One-hundred and twenty-nine patients/caregivers expressed at least one concern, with the largest proportion in the transitions of care domain (67.4%). Patients reported difficulties with prescriptions (15.5%), obtaining outpatient therapy services (13.2%) and follow-up appointments (10.9%), new or persistent clinical symptoms (8.5%), and insufficient hospital discharge education (5.4%). Approximately 5% of the 207 patients surveyed reported hospital readmission during the call.

A recurring theme noted was managing aftercare in the following areas: follow-up visits with the primary care physician and neurologist, medication questions, obtaining durable medical equipment, inability to obtain therapy services (speech, occupational, and physical therapy or home health), activity restrictions, difficulty understanding discharge education, and orders and testing questions. We found that patients' and caregivers'

Research box

Background and purpose: The early period after hospital discharge is a critical time for stroke patients during which transitions of care can be optimized. In our CSC, patients are called within 3 days of discharge utilizing yes-or-no and open-ended questions related to the hospital stay, discharge instructions, follow-up care, and prescriptions. We sought to examine postdischarge feedback to identify areas of need.

Methods: A multidisciplinary team collaborated to classify callback responses for patients discharged between January 1, 2018, and June 30, 2018, within the HCAHPS survey domains of care from doctors, care from nurses, hospital environment, experience in the hospital, and transitions of care.

Results: Among 700 patients discharged in the study period, 378 (54%) were discharged home; 207 (55%) were contacted for feedback. One-hundred and twenty-nine patients/caregivers expressed at least one concern, with the largest proportion in the transitions of care domain (67.4%). Patients reported difficulties with prescriptions (15.5%), obtaining outpatient therapy services (13.2%) and follow-up appointments (10.9%), new or persistent clinical symptoms (8.5%), and insufficient hospital discharge education (5.4%). Approximately 5% of the 207 patients reported hospital readmission during the call.

Conclusions: This study reveals that stroke patients and caregivers identify transitional care as an area for improvement following discharge from a CSC. Interventions aimed at facilitating care from hospital to home after stroke are warranted.

Patient-reported challenges during 3-day callback categorized by HCAHPS domain

HCAHPS domain	Subcategories	N = 129	Total/proportion of concerns
Care from nurses	Nurses treat with courtesy and respect	4	6 (4.7%)
	Nurse listening	1	
	Nurse communication	1	
Care from doctors	Physicians treat with courtesy and respect	1	3 (2.3%)
	Physician listening	0	
	Physician communication	2	
Hospital environment	Hospital environment—quiet nights	1	1 (0.8%)
Experience in hospital	Help with managing pain	1	2 (1.5%)
	Experience in hospital—new medications, adverse reactions discussed	1	
Transitions of care	Received help needed	0	87 (67.4%)
	Clinical symptoms after hospitalization	11	
	Family and personal preferences considered	5	
	Managing health: appointments	14	
	Managing health: medical equipment	5	
	Managing health: discharge education	7	
	Managing health: orders and testing questions	5	
	Managing health: outpatient therapy	17	
	Managing health: restrictions	3	
	Managing health: problems with prescriptions	20	
Other concerns	Readmission	11	11 (8.5%)
	Other nonclinical concerns	19	19 (14.7%)

understanding of expectations to facilitate transition of care and recovery after stroke were often deficient.

Discussion

Study findings revealed that patients had difficulties with managing their health through the transition of care spectrum, including problems with prescriptions, follow-up appointments, and discharge education.

Medication management was a major concern after discharge. It's especially important for stroke patients to adhere to pharmacologic therapy. Evidence has shown that stroke patients with certain cardiovascular risks who are only adherent to the medication regimen 75% of the time are at increased risk for adverse events and four times more likely to have another stroke than those who always adhere to the medication regimen. This represents a large care transition difficulty that should be managed appropriately. One study found that 22.4% of readmissions were caused by medication issues, such as medication(s) not being filled, nonadherence because of poor understanding, medication intolerance, and insurance problems. System issues include the prescription not being given to the patient or being sent to the wrong

did you know?

Comprehensive Stroke Center certification is the highest certification awarded to centers that meet rigorous requirements from the American Heart Association/American Stroke Association and The Joint Commission to treat complex stroke patients.

pharmacy. We sought to address these issues by creating a postdischarge transitional care nurse position to address and rectify patients' medication questions and/or difficulties.

Increasing patient adherence with timely follow-up appointments is also an important undertaking. When a patient misses appointments with the primary care physician or specialist, he or she is at increased risk for readmission. One recommendation is utilizing a community healthcare worker to provide navigational support. Consequently, we focused on ensuring that transitional care appointments for follow up with a neurologist within 1 to 2 weeks are scheduled before hospital discharge to facilitate continuation of care.

In our study, discharge education was another care transition with which patients experienced difficulties. Ineffective discharge education places patients at increased risk for nonadherence with the treatment regimen and affects not only readmission rates, but also ED visits and medication adverse reactions. It's been proposed that readmissions can be reduced through systematic discharge instructions. As a result, our quality improvement plan focused on simplifying patients' transitional care tasks at discharge with the use of an easy to see and read navigation tool that can be placed on the refrigerator as a reminder of important responsibilities to optimize their health. Transitional care appointments with a neurologist made before patient discharge have also been found to reduce readmission rates. This is another intervention that MHHS CSC has instituted to ensure patient safety and quality of care.

Patient-centered care

The MHHS CSC study focused on a 3-day follow-up telephone call to elicit stroke patients' concerns after hospital discharge that were then categorizing into the HCAHPS survey domains to reveal areas of opportunity to integrate quality, safety, and recovery into the care plan for patients transitioning into the community setting. Study findings revealed that stroke patients and caregivers identify transitional care as an area for improvement following discharge from a CSC. Interventions aimed at facilitating care from hospital to home after stroke are warranted. We continue to implement patient-centered initiatives to enhance the discharge process for stroke patients and provide additional support early after discharge. ■

REFERENCES

American Heart Association. Discover the most comprehensive stroke certification. 2018. www.heart.org/HEARTORG/Professional/HospitalAccreditationCertification/ComprehensiveStrokeCenterCertification/Comprehensive-Stroke-Center-Certification_UCM_455446_SubHomePage.jsp.

Braun E, Baidusi A, Alroy G, Azzam ZS. Telephone follow-up improves patients satisfaction following hospital discharge. *Eur J Intern Med.* 2009;20(2):221-225.

Bushnell C, Arnan M, Han S. A new model for secondary prevention of stroke: transition coaching for stroke. *Front Neurol.* 2014;5:219.

Cameron JI, Tsoi C, Marsella A. Optimizing stroke systems of care by enhancing transitions across care environments. *Stroke.* 2008;39(9):2637-2643.

Centers for Medicare and Medicaid Services. HCAHPS: patients' perspectives of care survey. 2017. www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html.

Centers for Medicare and Medicaid Services. What are the value-based programs? 2018. www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/Value-Based-Programs.html.

Coleman EA, Mahoney E, Parry C. Assessing the quality of preparation for posthospital care from the patient's perspective: the care transitions measure. *Med Care.* 2005;43(3):246-255.

Duncan PW, Bushnell CD, Rosamond WD, et al. The Comprehensive Post-Acute Stroke Services (COMPASS) study: design and methods for a cluster-randomized pragmatic trial. *BMC Neurol.* 2017;17(1):133.

Fuji KT, Abbott AA, Norris JF. Exploring care transitions from patient, caregiver, and health-care provider perspectives. *Clin Nurs Res.* 2013;22(3):258-274.

Gouge CC. Improving patient discharge communication. *J Tech Writing Commun.* 2017;47(4):419-439.

Kennedy B, Craig JB, Wetsel M, Reimels E, Wright J. Three nursing interventions' impact on HCAHPS scores. *J Nurs Care Qual.* 2013;28(4):327-334.

Kitzman P, Hudson K, Sylvia V, Feltner F, Lovins J. Care coordination for community transitions for individuals post-stroke returning to low-resource rural communities. *J Community Health.* 2017;42(3):565-572.

Langhorne P, Bernhardt J, Kwakkel G. Stroke rehabilitation. *Lancet.* 2011;377(9778):1693-1702.

Mitchell JP. Association of provider communication and discharge instructions on lower readmissions. *J Healthc Qual.* 2015;37(1):33-40.

Nahab F, Takesaka J, Mailyan E, et al. Avoidable 30-day readmissions among patients with stroke and other cerebrovascular disease. *Neurohospitalist.* 2012;2(1):7-11.

Newnham H, Barker A, Ritchie E, Hitchcock K, Gibbs H, Holton S. Discharge communication practices and healthcare provider and patient preferences, satisfaction and comprehension: a systematic review. *Int J Qual Health Care.* 2017;29(6):752-768.

Okoniewska B, Santana MJ, Groshaus H, et al. Barriers to discharge in an acute care medical teaching unit: a qualitative analysis of health providers' perceptions. *J Multidiscip Healthc.* 2015;8:83-89.

Poston KM, Dumas BP, Edlund BJ. Outcomes of a quality improvement project implementing stroke discharge advocacy to reduce 30-day readmission rates. *J Nurs Care Qual.* 2014;29(3):237-244.

Record JD, Niranjan-Azadi A, Christmas C, et al. Telephone calls to patients after discharge from the hospital: an important part of transitions of care. *Med Educ Online.* 2015;20(1):26701-26704.

Rennke S, Nguyen OK, Shoeb MH, Magan Y, Wachter RM, Ranji SR. Hospital-initiated transitional care interventions as a patient safety strategy: a systematic review. *Ann Intern Med.* 2013;158(5 Pt 2):433-440.

Rennke S, Ranji SR. Transitional care strategies from hospital to home: a review for the neurohospitalist. *Neurohospitalist.* 2015;5(1):35-42.

Ross SY, Roberts S, Taggart H, Patronas C. Stroke transitions of care. *Medsurg Nurs.* 2017;26(2):119-123.

Sanchez GM, Douglass MA, Mancuso MA. Revisiting project re-engineered discharge (RED): the impact of a pharmacist telephone intervention on hospital readmission rates. *Pharmacotherapy.* 2015;35(9):805-812.

Wake Forest University Baptist Medical Center. Focus on transitional care reduces hospital readmission in stroke patients. 2016. https://medicalxpress.com/news/2016-04-focus-transitional-hospital-readmissions-patients.html.

Wong EL, Yam CH, Cheung AW, et al. Barriers to effective discharge planning: a qualitative study investigating the perspectives of frontline healthcare professionals. *BMC Health Serv Res.* 2011;11(1):242.

In Houston, Tex., Cristina Carrillo-Gutierrez is a Family NP and DNP student at The University of Texas Health Science Center at Houston Cizik School of Nursing; Frances Jaime is an RN at Memorial Hermann Health System Texas Medical Center; Kim Smith is an RN at Memorial Hermann Health System Texas Medical Center; Marwah Elsehety is a second-year Neurology Resident at the McGovern Medical School at The University of Texas Health Science Center at Houston; Janelle Headley is an RN at Memorial Hermann Health System Texas Medical Center; Shanequa Sostand is an RN at Memorial Hermann Health System Texas Medical Center; Polina Strug is the Director of Patient Experience and Patient Relations at Memorial Hermann Health System Texas Medical Center; Kim Vu is a Licensed Medical Social Worker at Memorial Hermann Health System Texas Medical Center; Nicole Harrison is the Associate Vice President of Neuroscience and Operations at Memorial Hermann Health System Texas Medical Center; Sean Savitz is a Professor of Neurology at the McGovern Medical School at The University of Texas Health Science Center at Houston, the Director of the Memorial Hermann Hospital Comprehensive Stroke Center, and the Director of the UTHealth Institute for Stroke and Cerebrovascular Disease; and Anjail Sharrief is an Assistant Professor of Neurology at the McGovern Medical School at The University of Texas Health Science Center at Houston and the Director of the Discharge Committee at Memorial Hermann Hospital Texas Medical Center.

The authors and planners have disclosed no potential conflicts of interest, financial or otherwise.

DOI-10.1097/01.NME.0000559585.28007.d0