The Quality of Discharge Care Planning in Acute Stroke Care: Influencing Factors and Association with Postdischarge Outcomes

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Background: Comprehensive discharge planning is important for successful transitions from hospital to home after stroke. The aim of this study was to describe the quality of discharge planning received by patients discharged home from acute care, identify factors associated with a positive discharge experience, and assess the influence of discharge quality on outcomes. *Method:* Patients discharged to the community and registered in the Australian Stroke Clinical Registry in 2014 were invited to participate. Patient-perceived discharge quality was evaluated using the Prescriptions, Ready to re-enter community, Education, Placement, Assurance of safety, Realistic expectations, Empowerment, Directed to appropriate services questionnaire (recall at 3-9 months). Factors associated with higher discharge quality scores were identified and associations between quality scores of more than 80% and outcomes were investigated using multivariable, multilevel regression analyses. *Results:* There were 200 of 434 eligible registrants who responded; responders and nonresponders were similar with respect to age, sex, and type of stroke. The average overall quality score was 73% (standard deviation: 21). However, only 18% received all aspects of discharge care planning. Quality scores of more than 80% were independently associated with receiving hospital specific information (odds ratio: 5.7, 95% confidence interval [CI]: 2.7, 12.4), and referral to a local support group (odds ratio: 2.5, 95% CI: 1.1, 5.9). Discharge quality scores of more than 80% were associated with higher European Quality of Life-5 Dimensions EQ-5D scores (coefficient: .1, 95% CI: .04, .2) and a reduction in the rate of unmet needs reported at 3-9 months postdischarge (incidence rate ratio: .5, 95% CI: .3, .7). *Conclusion:* We provide new information on the quality of discharge planning from acute care after stroke. Aspects of discharge planning that correlate with quality

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of care may reduce unmet needs and improve quality of life outcomes. **Key Words:** Discharge planning—outcomes—stroke care—stroke delivery—unmet needs—quality of care—quality of life.

Introduction

In Australia and elsewhere, up to half of all patients with stroke or transient ischemic attack (TIA) are discharged directly home from an acute care hospital.[1] Hospital readmissions in the 12 months following stroke are common,[2] and many survivors report having unmet needs a year or more following stroke.[3] Although comprehensive, individualized discharge planning has been shown to improve long-term outcomes in mixed populations,[4] only about half of all patients with stroke or TIA who are discharged home from acute care hospitals receive comprehensive discharge care planning.[1,5]

Comprehensive discharge care planning is recommended in clinical practice guidelines and clinical standards for stroke,[6-8] and is defined as being inclusive of a full assessment of patient and family discharge needs; adequate communication with patients and families in which specific concerns are addressed; communication with community-based primary care health professionals including provision and organization of all medications, equipment, and support services; and assessment of risk factors for future stroke with provision of information on lifestyle modification and medications for secondary prevention. Plans should be documented in the medical records and a copy provided to the patient and their general practitioner. Previous research and quality assurance programs to date have focused on the frequency with which discharge care planning is provided.[1,5] However, there is little information available on the quality of discharge planning from acute care hospitals following stroke or on how quality of planning influences transition to home and long-term outcomes after stroke.

The aims of this study, therefore, were to describe patients' perceptions of their discharge planning experience from acute hospital following stroke for those discharged directly home. We also sought to understand factors that contributed to the quality of discharge care planning and how this relates to postdischarge quality of life and unmet needs.

Methods

This was a cross-sectional survey of adult survivors of stroke or TIA admitted to hospitals who contributed data to the Australian Stroke Clinical Registry (AuSCR) between November 2013 and April 2014. The AuSCR is a national clinical quality registry of patients with acute stroke or TIA (excluding those with subarachnoid hemorrhage). Demographic, clinical, quality of care received during their acute hospital stay and 90- to 180-day outcome data, including health-related quality of life (HRQoL), are routinely collected.[1]

Patients were eligible to participate in this project if they were aged 18 years or older; were discharged directly home from acute hospital care; and had elected to be part of further research studies at their 90- to 180-day AuSCR follow-up. Participants were recruited 3-9 months following their stroke as it was not possible to identify eligible participants until after their AuSCR follow-up survey was completed. Eligible registrants were sent a survey containing 3 questionnaires: the Prescriptions, Ready to re-enter community, Education, Placement, Assurance of safety, Realistic expectations, Empowerment, Directed to appropriate services (PREPARED) questionnaire, stroke-specific discharge process questions, and the Longer-term Unmet Needs after Stroke (LUNS) questionnaire.

The PREPARED questionnaire was developed by Grimmer and Moss in 1998 to assess the quality of discharge care planning from a patient perspective.[9] PREPARED was designed as an objective measure of discharge quality and has been validated in an older general medical population that included patients with stroke.[9] Quality scores are calculated across 4 domains: (1) support structures and information exchange; (2) medication and management issues; (3) concerns with community management and preparedness to deal with unexpected issues; and (4) control of discharge circumstances. These domains are consistent with the components of discharge care planning recommended in stroke clinical guidelines.[6] Open-ended questions were provided at the end of each section to allow for further details to be recorded by respondents. In addition to the PREPARED questionnaire, a second questionnaire was used to obtain data about discharge processes specific to stroke care. This contained 2 questions, 1 about the type of stroke-specific information received and 1 about referral to a local stroke support group or online support program. The third questionnaire was the LUNS, a 22-item questionnaire developed and validated as a screening tool to measure longer-term unmet needs in survivors of stroke.[10] Responses were coded to provide an outcome score of the number of unmet needs reported.

In addition to these questionnaires, the 3-level European Quality of Life-5 Dimensions (EQ-5D-3L) data were also included. EQ-5D-3L is routinely collected during the AuSCR follow-up interview and is used to measure quality of life outcomes. The EQ-5D provides a measure of limitations across the dimensions of (1) mobility; (2) self-care;