

Happenings

Continuity Through Best Practice: Design and Implementation of a Nurse-Led Community Leg-Ulcer Service

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The community care of chronic wounds places a high demand on limited home-care resources. Leg-ulcer care in particular requires a disproportionate amount of both nursing time and dressing materials because of the tendency towards a slow healing process and high recurrence rates (Friedberg, Harrison, & Graham, 2002). Reports from England estimate that 30% to 50% of home-care resources are used for leg-ulcer care (Lees & Lambert, 1992). Inappropriate and ineffective leg-ulcer management adds to the cost of care (Flanagan, 1996). In one particular region of the Canadian province of Ontario, the majority of leg-ulcer care is delivered in the community.

Faced with increased demand for community care generally, escalating costs, and nursing shortages, the Community Care Access Centre, a regional home-care authority in Ontario, began to focus on ways to provide more effective and efficient care. There was a sense at both the provider and decision-maker levels that care was fragmented and gaps in continuity needed to be assessed and addressed. Planning studies were conducted to better understand the population with leg ulcers, current practices, and the current organization of care, prior to embarking on a restructuring of the service delivery system. The needs-assessment process included a regional prevalence survey and population profile, an environmental scan, a survey of providers (physicians and registered nurses), and an appraisal of current practices (Graham & Harrison, 2002; Graham, Harrison, Moffat, & Franks, 2001; Harrison, Graham, Freidberg, Lorimer, & Vandervelde-Coke, 2001; Lorimer, Harrison, Graham, Friedberg, & Davies, 2003a, 2003b).

The planning studies were underpinned with a conceptual framework for intersectoral continuity (Harrison, Brown, Roberts, Graham, & Gafni, 1999) and involved an iterative approach of producing and using

evidence to restructure community health-care services purposefully in order to improve the continuity of care.

The Population and the Problem: Leg Ulcers

Based on the number of cases identified in March 1999 from all sources (home care, long-term care, physicians, and self-report) in the region, we estimated the number of individuals with lower-limb ulceration to be 836, for a prevalence rate of 1.8 per 1,000 population over the age of 25 (Harrison et al., 2001).

During the 1-month study period, 192 of 217 individuals receiving home care were clinically assessed for living circumstances and socio-demographic factors. From this information we were able to provide the local home-care authority with a profile of the population with lower-limb ulceration. This population was a mainly elderly, complex group with multiple health problems. The majority were over the age of 65. Sixty percent had four or more comorbid conditions in addition to the ulcer. Most (60%) had had the ulcer for more than 6 months, with one third having it for more than 1 year and 45% dealing with a recurrent ulcer (64% in the venous group). The long duration of the ulcers and the frequent episodes of recurrence confirmed this population as having high resource requirements for community care. The studies resulted in the first group of data that described the population in a way that was meaningful in terms of designing a new approach. Community clinic care, for instance, was shown to be a viable option, as the majority (94%) were able to travel outside their home. However, the reliance on others for transportation and differences among the older, less mobile female population suggested that transportation issues needed to be resolved and that home care needed to be continued as an option.

The State of Practice Prior to the Restructuring of Services

Prior to the restructuring of services, the local home-care authority brokered leg-ulcer care in the community with three different nursing agencies. Seventy-eight percent of leg-ulcer care, however, was delivered by one nursing agency. A practice variation study (Lorimer et al., 2003) revealed large gaps in care in terms of key recommendations from clinical practice guidelines (Clinical Resource Efficiency Support Team, 1998; Royal College of Nurses, 1998; Scottish Intercollegiate Guidelines Network, 1998). Half of the clients did not have an identified etiology of their ulcer, despite the fact that treatment for venous leg ulcers differs greatly from that for ulcers with a non-venous etiology. A key assessment, the ankle brachial pressure index (ABPI), was not always carried out to screen for the presence of arterial disease. Compression bandaging, the

“gold standard” treatment for venous ulcers, is contraindicated in the presence of severe arterial disease. Despite the strong evidence supporting compression bandaging for venous disease (Cullum, Nelson, Fletcher, & Sheldon, 2000), less than half (42%) of those with venous disease were receiving compression treatment. The average referral time of 6 months was higher than the guideline recommendation of 3 months. The majority of records contained no documentation on the assessment or management of pain, nor on education aimed at preventing ulcer recurrence.

In addition, a number of organizational and clinical factors were identified as affecting continuity. The *average* number of nurses visiting each client during the 9-month appraisal period was 19 (Lorimer et al., 2003). It appeared that no one individual nurse had responsibility for the planning of care. Information flow indicated that there was little documentation on ulcer assessments (20% of records) and no documentation on evaluations or revisions to the client’s plan of care. The family physician was the main medical provider for clients with venous leg ulcers. However, in our survey of family physicians to determine their knowledge, attitudes, and practices, the minority (16%) reported being confident in their ability to manage leg ulcers, with 50% being aware that the standard four- and two-layer compression bandages are an effective treatment for venous leg ulcers (Graham & Harrison, 2002). The 226 individuals with leg ulcers were receiving care from one of 107 physicians who reported clients with leg ulcers; thus few family physicians in the region were caring for a large number of leg-ulcer patients at any one time.

The results from the planning studies provided population information, identified inefficiencies and ineffectiveness in care that contributed to discontinuity, and revealed potential barriers to the implementation of an evidence-based leg-ulcer service. The next step was to design a new model for the delivery of health services to the population with leg ulcers, drawing on the findings from the various planning studies.

Design of the Nurse-Led Community Leg-Ulcer Service

The new service was to include home-based care as well as a nurse-led clinic, but the core elements of the new service were the same regardless of the location of care: an evidence-based clinical leg-ulcer protocol, primary nursing, a dedicated nursing team educated in leg-ulcer care, and continuous quality improvement measures (CQI). Each of these elements is integral to our aim of enhancing continuity by coordinating evidence-based care among and across health-care sectors, fostering therapeutic nurse-client relationships, and ensuring the flow of information between the client and the interdisciplinary health-care team. The old and new models of care are compared in Table 1.

Table 1 Comparison of Care Pre- and Post-implementation of New Service

Pre-implementation	Post-implementation
<ul style="list-style-type: none"> • No standard assessment or follow-up • Wide variation in physician orders • Care provided by RNs and RPNs • Geographical assignment of cases • Nurses reporting to a manager responsible for a geographical region • Lengthy delays for specialist referral 	<ul style="list-style-type: none"> • Standard assessment and follow-up • Evidenced-based protocol for venous leg-ulcer care • All-RN service • Designated nurse team • Primary nurse service model • Specially trained RNs • Led by clinical leader who is an APN • Streamlined links to specialist physicians for consultation and referral

The Evidence-Based Plan of Care

Information continuity was enhanced through the use of a standardized approach to care guided by a rigorously developed evidence-based leg-ulcer protocol (Graham, Lorimer, Harrison, & Pierscianowski, 2000). The protocol provided health professionals with up-to-date information on the most effective methods for assessing and managing venous leg ulcers so as to improve the healing of the ulcers and the quality of community care in the region. A comprehensive assessment tool mirroring the evidence-based recommendations was developed, along with a timeline for regular reassessments. The tool guided the collection of client information to identify risk factors and signs and symptoms associated with venous and non-venous disease. A standard reassessment criterion at 3 months was streamlining the referral system, so that any client with an ulcer that has worsened or failed to improve is referred to a specialist.

Primary Nursing

To support relational continuity, the restructuring process had to be considered from the perspective of the current district-based, centrally organized system. In the new service, a primary nursing delivery model based on Manthey's (1980) concept was selected. Manthey presents three tenets of primary nursing: allocation and acceptance of individual responsibility for decision-making; direct person-to-person communication; and one person operationally responsible for the quality of care to patients 24 hours a day, 7 days a week. To foster therapeutic relationships in the new service, the elements of primary nursing deemed essential

were accountability, advocacy, assertiveness, authority, autonomy, collaboration, communication, commitment, continuity, and coordination (Pontin, 1999).

Dedicated Nurse Leg-Ulcer Team

Management continuity was facilitated through implementation of a service model comprising an all-RN dedicated leg-ulcer team. Nurses, empowered with decision-making authority, assumed responsibility for implementing the protocol. Therefore, nurse education was key to the success of the new service. Prior to implementing the new service, eight agency nurses completed a baccalaureate distance-education course in leg-ulcer care taught by two key researchers and clinicians in the field of leg-ulcer care.

To enhance continuity of nursing care, the region was divided into geographical quadrants, with a primary nurse specially trained in leg-ulcer care serving as leader of each quadrant and two or three secondary nurses assisting with day-to-day client assessment and care.

The Leg-Ulcer Service CQI Measures

CQI measures were implemented to ensure adherence to each category of continuity of care. The risks associated with enhanced nurse decision-making were minimized through stringent education and training criteria for those nurses serving in the role of primary nurse. In addition, all nurses working in the leg-ulcer service received extensive hands-on training in compression bandaging. Initial and ongoing education in a number of topics related to leg-ulcer care was provided during orientation and at weekly team meetings, in the form of formal and informal presentations, case studies, and discussions on complex issues. Adherence to the evidence-based protocol was monitored by an advance practice nurse (APN) serving as the clinical leader. Care was appraised using a chart audit tool that reflected the protocol recommendations. Client satisfaction was monitored every 3 months until the client was discharged.

Summary and Conclusion

The design of the new service was intended to facilitate continuity. The results after the first year of the new service revealed that care was both more effective and more efficient for all types of leg ulcers (Harrison, Graham, Friedberg, & Lorimer, 2003). Healing rates had dramatically improved, the frequency of nursing visits decreased, and supply costs declined.

With the new service, comprehensive standardized assessments are made at baseline on all new admissions for home leg-ulcer care, and

reassessments are regularly scheduled if the condition does not improve. With the evidence-based protocol, all providers and sectors of care are “working from the same script.” Specific information is obtained on the client’s health history, leg-ulcer history, preferences, and social context. Continuity is further facilitated through implementation of the primary nurse model, whereby one provider is responsible for developing the care plan and for subsequent evaluation and revision. Management continuity is advanced through health-care reorganization, with the development of an expert, dedicated nursing team, a consistent approach to training and skill development, improved coordination, an interdisciplinary approach for referral and consultation, and continuous quality improvement measures for education and practice audit.

A number of strategies tailored to the new service have been highly effective. Strategic alliances among the researchers, home-care authority, nursing agency, nurses, and physicians are essential to the success of both design and implementation. Ongoing interdisciplinary and intersectoral communication expedites the referral process and helps to resolve issues as they develop. The majority of physicians have been very supportive of the use of the protocol and the evidence-based service. Surveys of care recipients have been mostly positive. Nurses who have been surveyed concerning the supports to implementation of the evidence-based service have indicated the following supports: ongoing education, nursing knowledge, a supportive clinical leader, support from two specialist physicians (a dermatologist and a vascular surgeon), a dedicated nursing team, positive outcomes (improved healing rates), and regional home care and agency support.

The greatest challenge has been establishing and maintaining the dedicated nursing team. Continuity is served when nurses are assigned exclusively to the leg-ulcer team, where they can continue to build expertise and skills. The nursing agency was initially reluctant to embrace the concept of a dedicated team, as it viewed wound care as a general function of all nurses. Many of the nurses trained in leg-ulcer care fulfilled a number of other specialized nursing functions. This had resource implications for the nursing agency, as other nurses needed training in various other specialized skills. There should be a balance between the size of the population being served and the size of the team, in order to maintain efficiency and sufficient exposure to skilful assessment and management of leg-ulcer care. During the first year of the leg-ulcer service a number of nurses were lost from the team for various reasons, including: outside opportunities for career advancement, the physical demands of this type of care, retirement, moving from the area, and lack of job security. In addition, the volume of nursing visits was decreased because of Ontario government cutbacks in the area of home-care services. New

staff members on the team were laid off in the context of a unionized environment. The lack of long-term security and the reality of lower wages in the community sector have played havoc with recruitment and retention.

A recently formed committee at the nursing agency on continuity of care, with representation from nursing, management, and administration, has identified a number of further barriers to continuity. These include fluctuating caseloads, difficulty attracting nurses to the community sector, and a unionized environment in which senior nurses displace junior nurses on low-caseload days. Strategies aimed at overcoming the barriers to continuity have been identified and are being implemented.

Our experience confirms the need for evidence-based planning in order to understand the needs of the population with leg ulcers, current practices, and the organization of care prior to the restructuring of service delivery. The extensive needs assessment indicated the need for broad system changes in addition to adjustments in clinical care in order to meet best-practice guidelines. Despite ongoing barriers, the service model has improved continuity and dramatically increased the effectiveness and efficiency of leg-ulcer care in one community.

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