

## Designer's Corner

# Enhancing Continuity of Care Through Outcomes Measurement

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Outcomes research seeks to link the care that people receive to the outcomes they experience. It is considered the key to developing better ways to monitor and improve the quality of health care (Agency for Healthcare Research and Quality, 2000). Outcomes assessment is conducted largely through the use of administrative and clinical databases (Jefford, Stockler, & Tattersall, 2003). Because of the fragmentation of health-care services, there are significant challenges associated with the evaluation of outcomes across the continuum of care. Our ability to accurately and consistently track patients' outcomes as they transition through care is important for both outcomes research and care management.

The timely and accurate transfer of data on the patient's condition and on the management of the patient's health problems across the continuum of care is an important component of continuity of care (Canadian Council on Health Services Accreditation, 1997; Harrison, Browne, Roberts, Graham, & Gafni, 1999; Hennan, 1975; Lou, 2000; Reid, Haggerty, & McKendry, 2002; Rogers & Curtis, 1980). The patient's response to a health intervention is critical and should be communicated so that appropriateness of care can be evaluated and so that health professionals have information on which interventions have and have not been effective for the patient. To that purpose, the Ontario Ministry of Health and Long-Term Care initiated the Nursing and Health Outcomes Feasibility Project (NHOP) with the object of building a database that contains better information about nurses' contribution to health care than currently exists. A team of researchers received funding to evaluate the feasibility of instituting outcomes data collection by nurses at the point of care in four health-care sectors: acute care, home care, complex continuing care, and long-term care (Doran et al., 2004). This project represented an excellent opportunity for researchers to explore issues in assessing patient outcomes across the continuum of care. These issues and what we have learned about outcomes measurement across the continuum of care are described below.

The project began with the premise that having uniform outcomes data has the following advantages:

- It facilitates communication among nurses within and across sectors, resulting in continuity of care because of uniformity of outcomes tools.
- It makes the planning and evaluation of care more efficient.
- It allows for the aggregation of outcomes data to the group level, the result being information on nursing care at the unit, organization, network, province, and country levels (Keenan & Aquilino, 1998).
- It fosters the smooth transition of individual patients as they move across sectors, through the use of a common set of outcome tools across hospital care, home care, complex continuing care, and long-term care.

Several questions concerning the assessment of patient outcomes across the continuum of care have emerged as a result of our experience with outcomes measurement in this study. These are: (a) What instruments do we select to measure health outcomes across the continuum of care when such instruments must be sensitive to changes in health status in a range of patient populations? (b) What constitutes good outcomes for different clinical populations and practice settings? (c) When and how frequently should outcomes be assessed? (d) How does one control for case-mix differences across health-care sectors? Each of these questions is addressed below.

- (a) What instruments do we select to measure changes in health outcomes across the continuum of care? “Outcome,” in a health-care context, refers to the patient’s response to treatment. Different types of instruments have been developed to measure changes in health outcomes. These include broad-spectrum, generic measures and measures specific to a disease or to a particular group — for example, women or children (McDowell & Newell, 1996). Specific instruments are generally designed for clinical application and therefore must be sensitive to change following treatment (McDowell & Newell). Generic instruments permit comparison across disease categories and are used in evaluating types of care or patient management (McDowell & Newell). In the NHOP study the researchers selected generic instruments to assess outcomes in the four health-care sectors, because the long-term aim is to build a database of nursing-sensitive outcomes that are applicable to a range of medical and surgical patients and health-care settings. There is a risk of loss of sensitivity to change with the generic instruments; their broad indicators may not sufficiently measure subtle or condition-specific changes in a patient’s condition. Lack of sensitivity was not observed

for the outcome instruments in the NHOP study, although the pattern of change varied for different patient populations. Changes in health status were observed over a period of 4 days or less for acute-care patients but over a much longer period, up to 6 months, for some individuals in home-care and long-term-care settings (Doran et al., 2004).

- (b) What constitutes good outcomes for different clinical populations and practice settings? Improvements in health status constitute a good outcome for many patient populations, but not for the frail elderly or the terminally ill. In the case of inevitable decline, it may be reasonable to focus on slowing its rate. Moreover, while it may not be possible to affect all aspects of functioning, optimizing specific areas (e.g., cognition) and avoiding pain can have a profound effect on well-being (Hirdes & Carpenter, 1997). In the NHOP study, different patterns of health-status change were observed for patients in acute care, home care, and long-term care. On average, outcomes improved for patients in acute-care and home-care settings, whereas residents in long-term-care settings showed a decline in health over a period of 4 to 6 months (Doran et al., 2004). Therefore, what constituted a good outcome varied across the continuum of care.
- (c) When and how frequently should outcomes be assessed? This issue follows directly from the previous one. If the pattern of change varies for different types of outcomes or clinical populations, then the frequency of health-outcome assessments needs to be tailored to the setting, population, and type of outcome. In the NHOP study, daily variation was observed in symptom outcomes, such as pain and fatigue. In contrast, variation in outcomes such as pressure ulcers and functional status occurred over longer periods, although, as noted above, this variation also differed for clinical populations and care settings (Doran et al., 2004). These findings suggest that outcomes such as symptom control need to be assessed more frequently in acute-care than in long-term-care settings and more frequently than other types of outcomes, such as functional health status.
- (d) How does one control for case-mix differences across health-care sectors? Outcomes data can be aggregated to the group level to provide information on nursing care at the unit, organization, network, province, and country levels. However, when aggregating outcomes data for the purpose of inter-institutional and inter-sectoral comparison, one must control for case-mix differences in the patient populations. Otherwise, comparisons are not valid, because it is not known whether between-setting differences in outcomes achievement are related to care practices or to variation in the types of patients served. Case-mix adjustments are made on the basis of patient characteristics

that are known to influence the outcome of interest. These characteristics typically include age, gender, and medical diagnoses, but may also include socio-demographic traits, cognitive status, and health status. In the NHOP study we accounted for case-mix characteristics through both chart abstraction and primary data collection. Primary data collection was necessary for patient variables that were not uniformly available in the medical record, such as cognitive status. Our health system databases are limited in the extent to which good data are available for case-mix adjustments across the continuum of care. This is an important area for future database development. The issue is already being rectified in some sectors in Ontario, such as home care and complex continuing care, through the use of the minimum data set (MDS).

In summary, the use and transfer of outcomes data across the continuum of care are an important component of continuity of care and are essential for studying questions about health care that transcend sector boundaries. Outcomes data collection across multiple health-care sectors requires careful thought about the selection of appropriate instruments, the timing of their use, the criteria for judging performance, and the description of the patient populations.

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