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Health-Related Outcomes Management: Moving Forward Standing Still

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In response to increasing economic and political pressures, administrators and other health-care professionals have become increasingly concerned with health-related outcomes management. The categories of outcomes in health care have been identified within administrative, economic, and clinical realms. Great emphasis has been placed in the literature on the importance of measuring and using outcome data for decision making. Despite this emphasis, little progress has been made in either the science or the art of outcomes management. Furthermore, integrating the art and science into systematic processes for outcomes management has been done with limited success. This paper focuses on the state of outcome concepts, measurement, collection, and evaluation. Strategies will be offered to move the conceptualization and operationalization of outcomes management forward.

Introduction

Health care reform, managed care and financial and clinical accountability are topics that have dominated the health care agenda through the 1990s. They will continue to be of great concern into the next millennia as countries struggle with the implications of decreased public income and a growing demand for social and health services. Governments and organizations are searching for solutions to this dilemma that could lead to a decrease in expenditures without a corresponding compromise in the volume and quality of health services. A debate has been growing about how to define appropriate diagnostic and therapeutic services for different patient populations in order to achieve desired optimal outcomes. This debate has triggered a renewed interest in the science and art of health-related outcomes. From the nursing perspective, it is essential that we review the current state of knowledge about the science and art of outcomes management.

State of the art and science of health-related outcomes management

A health-related outcome is the changed state or condition of an individual as a consequence of health care.[1] Analysis of aggregate clinical and cost data provides estimates of relationships between care interventions and outcomes, and between outcomes and costs.[2] There are three types of health-related outcomes:

- Administrative [which concern/measure efficiency, efficacy, equity, and, most often discussed, effectiveness]
- Economic (which regard/measure utilization and optimization of resources]
- Clinical [which measure morbidity, mortality, perceived satisfaction, and quality of life].[2]

Outcomes management is the comprehensive approach of integrating the science and art of health-related outcomes under the same umbrella.

The outcome literature in health care is composed primarily of anecdotal, issue papers[3,4,5,6] and some scientific papers.[7,8,9,10] A careful review of this literature indicates that there is currently

no clear theoretical, research, or measurement frameworks to guide future developments in outcomes management. Scientists use diversified terms and measurements and analysis with regard to outcomes. Such diversified approaches hinder the possibility of building a cumulative knowledge base.

Furthermore, the reported uses of outcomes data is problematic. An increasing number of organizations, both at local and national levels, use outcome measures to make significant decisions about clinical and financial resource allocation. Yet because the science (theoretical base measurement, sample, analysis, and comparability) and the art (use and application) of health-related outcomes are in a state of flux, it is inappropriate to use outcome data for such decision making at any level. In summary, the issues related to the science and art of healthcare outcomes include: 1)conceptual clarity, (2) measurement, (3) data collection, analysis and comparability, and 4) application of findings.

Conceptual clarity

Jennings[11], Mitchell[12], and Peters[13], are amongst the few who deal with the theoretical/conceptual basis of outcomes management. The most frequently referenced framework is Donabedian's structure, process, and outcome model. Theoretically, outcomes could be studied in relation to each stage of the model. Peters[13] proposed an organizing frame for quality care such that professional standards, care guidelines, consumer and care managers expectations and professional/regulatory and legal elements were all included. Outcomes were the pinnacle of the model leading to the concept of a scorecard. Peters' offers an articulated model that clearly recognizes the current context in which outcomes are being used. Although these models are presented in the literature, there is no consistent indication that those who study and use outcome data are guided by one of these proposed frameworks.

Measurement

Discussions about the science of outcome measurement are clearly lacking in the literature. Although one could argue that instrument measurement science could be applied to outcome measurement, this does not appear to be the case. Moreover, specific attention needs to be given to the different types of outcome measures required according to the conceptual framework used and the different types of outcomes being measured (administrative, economic or clinical).

Another important area to note is the overall tendency for outcome measures to be both linear and reductionistic. In nursing, we strive to develop outcome measures that are consistent with a humanistic, person-focused perspective. Although consistency with this viewpoint is desired, we need to simultaneously collaborate with other disciplines. We have spent the last few decades attempting to isolate the influence of nursing instead of acknowledging the cumulative effect of all disciplines on the outcomes for a single patient. In reality, medicine cannot measure survival outcome for a surgical procedure to the exclusion of nursing actions. Similarly, nursing cannot assess patient outcomes to the exclusion of other professionals involved in caring for the patient. A multidisciplinary, holistic approach to outcome measurement research needs to be seriously considered and employed. Identifying nursing's unique and additive contribution to patient outcomes can be achieved through our discipline's unique perspective of human beings.

Current efforts in outcome measurement focus on episodic interventions within single settings, and at single points along the health care continuum. Although such analyses yield information about a particular episode of care, they fail to provide a comprehensive,

longitudinal understanding of health outcomes over time. Health outcomes result from ongoing, multidisciplinary collaboration and reflect the cumulative effects of multiple episodes of care. Ideally, an effective approach to outcome assessment should include traditional illness-related measures (e.g. mortality, morbidity, readmission, and length of stay), as well as wellness-related measures (e.g. patient satisfaction, quality of life, health status, and sense of well-being. An additional challenge for nursing is to define and measure effectiveness of nursing care using longitudinal measures of health status which are patient-focused.

Data collection, analysis and comparability

Methods for collecting data and analyzing and comparing outcomes are usually defined by individual organizations or external agencies. Because a consistent measurement framework, definitions, and principles are lacking, the data collected are often not comparable over time and across settings of care. Despite these major limitations in the science of outcomes, the reality is that data are being used to make inferences about the efficiency, clinical benefits, administration, and finances of patient care.

Application of outcome data

In general, interest in outcome-driven decisions has been increasing among health care providers. The use of outcome data for multiple purposes (administrative, economic, and clinical) and across settings (local, state, national) is common. For example, rate of infection is being used to determine differences in clinical efficacy between services and institutions without a recognition that the data is only relevant for the purpose of internal comparisons. If this one element of data is to be used to compare institutions, numerous other indicators such as disease, age, co-morbidity, risk adjustment, and others need to be built into the framework.

Moving forward

The science and art of outcomes management and their integration has not been markedly advanced over the past decade. In our view, moving beyond the standing still mode, necessitates that a number of recommendations be addressed:

- Identify and operationalize a theoretical foundation that would underpin outcome management.
- Address and develop the issues surrounding the science of outcome management.
- Develop an integration model for the science and art of outcome management, which would include existing initiatives.
- Maximize the availability of large outcome data base and decision support technology.

Theoretical foundation

Work regarding a theoretical framework for health-related outcomes has focused primarily on Donabedian's framework and the more recent one proposed by Peters[13] .But in order to make a leap forward, we need to ground our research and practice in a framework that acknowledges all major elements of outcomes management. In addition to the recognition that different types of outcomes can be achieved at different phases of input, process, and outcome, it is also important to build in the administrative, economic and clinical dimensions of outcome measurement.

In operationalizing a theoretical framework, attention has to be paid to nursing's unique perspectives including: (a) the elements of a humanistic - holistic perspective versus the reductionist approach, and (b) continuity of care and its cumulative impact on outcomes. A

theoretical framework should also offer clear definitions that could enhance comparability of data over time and across settings.

The science of outcome management

To date, various outcome related data elements have been collected. Existing outcome measures need to be catalogued and sorted according to a proposed framework and by their scientific psychometric properties. This exercise will assist in defining the areas where further measurement development has to take place.

While the science of outcome measurement is being enhanced, we need to continue to pay attention to, and conduct large scale outcome studies. We also need to define data collection, analysis, and comparability elements for various outcome studies. With the current state of technology, multi-site research has become easier to conduct.

Economic and the political pressures will not allow delays in providing outcome data for decision making. The scientific community needs to attend to the control of limitations and enhancing the science of outcome management.

Integrated model

Clinical decisions that achieve an optimal balance between cost and quality will be dependent on the integration of fiscal, clinical, and administrative data with input, process and outcome data. An integrated system should:

- Incorporate consistent data collection,
- Link cost and clinical data,
- Capture clinical, economic, and administrative outcomes, and
- Capture input, process and outcome data.

A suitable and pertinent data base must be developed to allow the kind of analysis and inference that makes outcome information useful. The utility of a data base will be contingent on sufficient and comprehensive data which is accessible to researchers and decision-makers alike. Data should be retrieved and aggregated for the purpose of generating local and international knowledge. Various clinical, administrative and economic data bases exist at the local and national levels. The data bases need to be reviewed for relevance and suitability and merged into a large outcome management data base. Such a data base will assist in determining optimal outcomes and assist in decision making. Nursing needs to participate in the building of a comprehensive outcomes data base. The usefulness of such a data base will be dependent upon three essential elements that will ensure optimum use of outcomes for clinical care: [14]

Standardized vocabularies that describe patient problems and characteristics, health care interventions, patient outcomes, and intensity of care/resources. Vocabularies must include outcomes such as functional status, patient satisfaction, and quality of life in addition to the traditional outcome measures of length of stay, mortality, and complications.

Computer-based methods are needed to examine the relationships between patient problems and characteristics, health-care interventions, patient outcomes, and intensity of care/resources, as well as to analyze variation in practice. These include risk-adjustment models to control for the effect of patient characteristics and co-morbidities on patient outcomes, and process standardization measures, such as clinical practice guidelines, care plans, and critical paths, to examine the relationship between the processes and outcomes of care.

An integrated clinical information management environment in which the data required for quality assessment and improvement are both collected and returned to the provider during the routine process of patient care.

Some initiatives for outcome comparability between institutions have been discussed in the literature.[15] Benchmarking and Balanced Scorecard Measures are two such initiatives used for comparability and performance assessment purposes. Benchmarking is the process whereby internal practices are measured against external measures in order to improve existing processes.[16] The balanced scorecard provides executives with a comprehensive framework that translates an organization's strategic objectives into a coherent set of performance measures.[17] Nurses and other health professionals should engage in the development and use of benchmarks and scorecards. These measurement tools have the potential to be powerful performance indicators in an establishment used by governments, taxpayers, patients, and board members.

Data base and decision support technology

Outcome measures should provide the foundation for a data base that will drive outcome management. This data base should support queries from multiple perspectives and settings over time. Retrospective data could be utilized for prospective, anticipatory planning. Decision support systems and data will help us to link nursing and other clinical, financial, and administrative data to determine the best or desired outcomes. The current state of technology has advanced to levels where these complex relational data bases can be built.

Conclusion

It is essential that we recognize the current state of the science and art of health-related outcomes management. Most urgently, the nursing community in partnership with other groups, must try to close the gaps that were addressed in this paper. The development of an outcomes management system requires a strong collaboration between the academic community, nurse executives and clinicians. Furthermore, it is important to understand that although nursing must attend to various issues regarding outcome, this should happen in collaboration with clinical, financial, administrative, and technological communities. As we turn into the next century, an increasing number of health-related decisions will be based upon outcome data. Let us hope that the nursing community will choose to move forward and not continue to stand still.

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