

# Outcome evaluation in nursing in Australia, 1960–1980

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## Abstract

*While empirical evaluation of the outcome of patient care has come to the fore in recent years due to political initiatives, there has always been a professional interest by nurses in the end result of their care. A review of the literature shows that outcome evaluation was advocated for nursing as early as the 1860s by Florence Nightingale. This article explores the evolution of outcome evaluation within nursing in Australia, discussing its origins during the 1960s and 1970s. The measurement of patient outcomes is more relevant than ever before, with the recent drive for an evidence-based approach to nursing care.*

## Introduction

The last two decades have brought about a change in society's awareness of health rights. Consumers, better informed about the level of care available, expect to receive quality health care, which most clinicians also hope to provide (Draper & Hill 1995). Within recent years the measurement of quality care has incorporated the examination of the end result of treatment or care for patients, that is, outcome evaluation. This has occurred as part of quality improvement activities and research initiatives, driven by economic rationalism and health care workers' desire to measure the quality of service they provide. This trend to monitor patient outcomes is, in fact, not new, having existed in various forms throughout the century. This article presents a review of the historical evolution of outcome evaluation and its precursors within nursing.

## Outcome evaluation – the precursors

In the early 1860s Florence Nightingale suggested that data be collected on patient age, sex, occupation, accident/disease leading to hospitalisation, date of accident or operation, nature of operation, constitution of patients, complications, date of recovery, and results of operation (Nightingale 1863). In her publication, *Notes on Hospitals*, Nightingale (1863, p 163) stated that the availability of such information would allow the examination and improvement of treatment provided within hospitals:

*The laws which regulate diseased action would become better known, the results of particular methods of treatment, as well as of special operations, would be better ascertained than they are at present.*

Within the discipline of medicine, some early medical practitioners were also interested in outcome evaluation. In 1908 Groves perceived a need for surgeons to register the results of their operations; in 1912 Cabot compared the results of 3000 autopsies with the diagnoses entered in the medical record; while Codman in 1916 urged the medical profession to evaluate the end results of their activities (Dixon 1990). Codman was ostracised by his medical colleagues at Massachusetts General Hospital for his belief in the value of outcome evaluation and he resigned from his position. He established his own hospital where he performed 'end-result' evaluation, reviewing the outcomes of patients 12 months after their surgery (Jacobs, Christoffel & Dixon 1976). Codman returned to Massachusetts General Hospital, dispirited by his colleagues' lack of acceptance of his review methods, stating:

*I am called eccentric for saying in public:*

*That Hospitals, if they wish to be sure of improvement,*

*Must find out what their results are.*

*Must analyze their results, to find their strong and weak points.*

*Must compare their results with those of other hospitals.*

*Must care for what cases they can care for well, and avoid attempting to care for cases which they are not qualified to care for well (...)*

*Must assign the cases to members of the Staff [for treatment] for better reasons than seniority, the calendar, or temporary convenience (...)*

*Must welcome publicity not only for their successes but for their errors, so that the Public may give them their help when it is needed.*

*Must promote members of the Staff on a basis which gives due consideration to what they can and do accomplish for their patients.*

*Such opinions will not be eccentric a few years hence (Codman 1916).*

Very little activity occurred regarding the measurement of patient outcomes between this date and the 1960s. Jacobs, Christoffel and Dixon (1976) attribute this 40-year gap in the implementation and acceptance of outcome evaluation to attitudinal, sociological and political barriers. They state that these barriers existed as a result of medical practitioners' standing in society at the time and an unwillingness to question the individual practice of doctors.

In 1966 outcome evaluation was revived with Donabedian's development of the structure, process, outcome classification for examination of quality in health care (Donabedian 1966). Donabedian developed 13 attributes of outcomes, the first of which stated that outcomes are not direct measures of performance quality but only allow an inference about the quality of the contributing structure and processes of health care (Donabedian 1992). That is, outcomes are only flags from which to examine how the interacting structure and processes of the system have affected the patient. This is the fundamental principle of outcome evaluation and is explored in depth later in this article.

## **Outcome evaluation in nursing**

The examination of patient outcomes as a formal method of evaluating nursing care emerged from North America in the 1960s. The use of patient welfare as an outcome measurement was suggested by Aydelotte (1962), who conducted five experiments to test the hypothesis that increasing the number of nurses on a ward or improving the quality of nursing care provided would result in an improvement in patient welfare. The number of nursing staff on a ward was increased without lowering the average skill level and an inservice education program initiated to increase the amount and quality of nursing care a patient received. Patient welfare was measured by the patient's mental attitude, physical independence, mobility, skin condition, and opinion of nursing care received and the physician's evaluation of the patient's condition. The premise adopted by the researchers was that increased levels of patient welfare would be reflected by decreases in length of stay, 'fever days', and doses of analgaesia and sedative required. The researchers found that neither inservice education nor increasing the number of nurses improved patient welfare to a detectable degree. The authors stated that the tools used were 'valid and reliable' and argued for the sensitivity of the measures of patient welfare, but presented no other possible explanation for their unexpected findings.

Brodt and Anderson (1967) also used patient welfare as an outcome criterion and defined 11 components relating to nursing care including skin integrity, mobility, nutrition, hydration, bladder and bowel function, pulmonary function, independence, mental attitude, personal appearance and interaction. A score for

each of these 11 components was calculated for patients and then summed to provide a total patient welfare score. The purpose of this study was to validate the patient welfare tool. However, as no patient data were given, validity was difficult to assess. Despite this fact, the study is significant in that it is one of the earliest attempts to develop criteria with which to measure the effectiveness of nursing intervention on patient welfare, something that still remains difficult to quantify nearly 30 years later. The process of tool development mentioned in the article shows a paradigm shift by the researchers in their attempts to qualify and quantify patient welfare as an outcome measurement, when in the past, the emphasis had been on process of care evaluation. Brodt and Anderson (1967) stated that individual statements (developed for each criterion) were framed 'to reflect the patient condition and/or behaviour of the patient instead of the complex activity of the nurse'. Thus criteria were developed from an outcome perspective rather than from a process perspective. This was innovative work for the 1960s. In addition, the authors asserted that the whole of the nursing task is greater than the sum of its parts, a view of nursing not always acknowledged in the 1990s and still just as difficult to measure.

In 1972 the Joint Commission on Accreditation of Hospitals (JCAH) (now known as the Joint Commission on Accreditation of Healthcare Organisations) in the United States developed the Performance Evaluation Procedure for Auditing and Improving Patient Care, based on patient outcome assessment. The JCAH advocated the use of clinical indicators defined under the headings of Indicator Element, Indicator Standard, Exception Criteria, and Instructions and Definitions. The Performance Evaluation Procedure incorporated a peer review mechanism to review the care received by patients who did not meet the indicator criteria (Jacobs, Christoffel & Dixon 1976). The Performance Evaluation Procedure appears to have influenced recommendations made by Doughty and Mash in their book of 1977, where detailed examples of nursing audit, criteria and instructions were given for many medical and surgical conditions using a format similar to the Performance Evaluation Procedure (Doughty & Mash 1977). Comparisons can be seen between this work and clinical pathways used today to provide a list of similar tasks and patient goals by hospital day of stay.

Escalating health costs in America during the early 1970s resulted in the development of utilisation review techniques by the United States Government, including the Professional Standards Review Organisations (PSROs) established by legislation in 1972. PSROs were developed specifically to examine whether services provided and paid for under the Medicare program were medically necessary, met professionally recognised standards, and could have been

effectively provided on an outpatient basis or more economically on an inpatient basis in an alternative health care facility (Jacobs, Christoffel & Dixon 1976).

PSROs also examined the quality of nursing care delivered, based on screening criteria and guidelines (Bloch 1975). In 1982 the PRSO program was replaced by the Professional Review Organisations (PROs). PROs aimed to remedy some of the problems experienced by the earlier PRSOs, with the similar goal of quality-protected cost containment (Dixon 1990).

The majority of articles on outcome evaluation during the 1970s and early 1980s were concerned with how to perform outcome evaluation, that is, methodological discussions rather than presentation of studies that had implemented a specific method. These articles were relatively small in number, including works by Aydelotte (1962), Brodt and Anderson (1967), Hilger (1974), Taylor (1974), Zimmer (1974a; 1974b) and Bloch (1975; 1977). Outcome nursing literature from this period bears many similarities in content to articles published today, over 30 years later. Recommendations made by these authors are, in the main, still valid for outcome evaluation in the 1990s. Zimmer (1974b) advocated that 'nurses must start by defining desired health outcomes and determining the degree to which they are attained'. She developed numerous guidelines for patient outcome criteria, all of which are relevant to outcome evaluation today. Examples of these guidelines include the necessity for commonalities between patient population, that criteria should be observable, and should include positive measures of health status such as an increase in patient's health knowledge. Two of the more innovative recommendations were that consumer input be included to compare actual outcomes with criteria developed and that outcomes should be patient-focused rather than nursing- or medicine-oriented. Despite their relevance then and now, these two guidelines are still not fully incorporated into outcome evaluation as it is performed today.

From the above examples it is evident that the concept of outcome evaluation is not a recent one. So why is it that there was relative silence on the topic within the literature from the mid-1970s to the late 1980s, a span of around 15 years? This is particularly interesting given that the same recommendations made by Aydelotte (1962), Zimmer (1974a; 1974b), Bloch (1975; 1977) and colleagues are appearing in the literature today. It is also not clear why the work of the JCAH was not developed further during the 1980s, considering that the United States in the 1990s is interested in outcome research. Recently established United States initiatives include Patient Outcomes Research Teams, the Medical Outcomes Trust and the Health Outcomes Institute, which focus specifically on patient outcome measurement. The most likely explanation from the American viewpoint is that outcome evaluation was superseded by the need to examine

measures of cost containment, which has dominated United States health policy since the 1980s. From a nursing perspective, during the late 1980s and early 1990s, United States nurses were concerned with the development and implementation of a taxonomy of nursing through the use of nursing diagnoses, also eclipsing outcome research.

### **The Australian perspective**

Nursing practice in Australia was heavily influenced (and still is to some extent) by changes and innovations occurring in North America. The majority of outcome literature from the 1970s and early 1980s is of North American extraction. The reason for the relative silence on outcome evaluation from nurses worldwide is unclear. From an Australian perspective, the 'cultural cringe period' was occurring during the 1970s and early 1980s, and there may have been a reluctance to publish nursing opinions from an Antipodean perspective. The lack of Australian nursing journals and the limited number of nurses who had graduated from higher education nursing programs by this time may also have contributed to the relative silence. Another possible explanation for the lack of literature on outcome evaluation from the mid-1970s to the late 1980s is that outcome evaluation was being practised but not published. The end result of patient care has always been important to nurses and nursing anecdotal evidence has been handed down through the generations regarding practices that seem to elicit better patient outcomes. The examination of patient outcomes has thus previously occurred in an ad hoc and invisible manner, compared with the more comprehensive approach adopted at present which has been fuelled by political rather than professional initiatives.

With the drive to make health care more evidence-based, the use of outcome evaluation will be an invaluable tool for nurses to examine the effectiveness of the care they deliver. The National Health and Medical Research Council's Levels of Evidence taxonomy, based on intervention effectiveness, may also assist nurses to provide outcome-oriented health care based on evidence of best practice (National Health and Medical Research Council 1995). A recent discussion paper on clinical indicators in nursing published by the Royal College of Nursing, Australia, acknowledges the dearth of 'hard data on outcomes' within nursing (Royal College of Nursing, Australia 1997, p. 11). One way forward is for nurses to undertake more empirical studies which link changes in clinical practice to health outcomes. Using an approach that examines how the structure and processes of nursing care impact upon patient outcomes will provide a comprehensive picture of the quality of care (Middleton & Lumby 1998). Australian nurses should be encouraged to pursue this challenge and so contribute to the literature and debate surrounding patient outcomes.

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