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The changes in caregivers' perceptions about the quality of information and benefits of nursing documentation associated with the introduction of an electronic documentation system in a nursing home

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ABSTRACT

Purpose: To date few studies have compared nursing home caregivers' perceptions about the quality of information and benefits of nursing documentation in paper and electronic formats. With the increased interest in the use of information technology in nursing homes, it is important to obtain information on the benefits of newer approaches to nursing documentation so as to inform investment, organisational and care service decisions in the aged care sector. This study aims to investigate caregivers' perceptions about the quality of information and benefits of nursing documentation before and after the introduction of an electronic documentation system in a nursing home.

Methods: A self-administered questionnaire survey was conducted three months before, and then six, 18 and 31 months after the introduction of an electronic documentation system. Further evidence was obtained through informal discussions with caregivers.

Results: Scores for questionnaire responses showed that the benefits of the electronic documentation system were perceived by the caregivers as provision of more accurate, legible and complete information, and reduction of repetition in data entry, with consequential managerial benefits. However, caregivers' perceptions of relevance and reliability of information, and of their communication and decision-making abilities were perceived to be similar either using an electronic or a paper-based documentation system. Improvement in some perceptions about the quality of information and benefits of nursing documentation was evident in the measurement conducted six months after the introduction of the electronic system, but were not maintained 18 or 31 months later.

Conclusions: The electronic documentation system was perceived to perform better than the paper-based system in some aspects, with subsequent benefits to management of aged care services. In other areas, perceptions of additional benefits from the electronic documentation system were not maintained. In a number of attributes, there were similar perceptions on the two types of systems.

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1. Introduction

Nursing documentation is an integral component of nursing and a pre-requisite for quality nursing care. It is an important communication tool amongst caregivers in nursing homes and between aged care providers and other healthcare professionals [1–3]. Documented evidence enables nursing managers to assess whether care provided by individual caregivers was professional, safe and competent [2,4]. It also increases the visibility of nursing care activities [5,6]. Reimbursement for the provision of care services also benefits substantially from having thorough and accurate nursing records [3]. Moreover, nursing records can serve as legal evidence in the event of a lawsuit [3]. They also facilitate research activities and standards setting in nursing education and clinical practice [3]. For these reasons, nursing documentation has to be systematically implemented and continuously maintained.

Paper-based nursing documentation practice is time-consuming. Records are often illegible, missing or incorrect, which may lead to medical errors [5,7]. Also, the manual documentation process is often repetitive and data may not be easy to retrieve or update [1,5,7]. The paper record is thus incomplete and inadequate for supporting caregivers in the provision of quality nursing care [5,6].

Since the introduction of information technology (IT) into nursing practice, various applications have been developed and used by nurses with the hope of reducing paperwork [8,9], improving the quality of nursing data [10,11] and saving caregivers' time [12,13]. However, most studies evaluating nursing information systems have concentrated on the process of introducing technology into nursing care [9,14–17]. A few studies that have explored the changes that might occur after the introduction of an electronic documentation system were mainly focused on efficiency gains [10,18–20].

Most evaluation efforts have been confined to hospital settings and results have varied due to the differences in study designs, context and applications under study. To our knowledge, few studies have investigated caregivers' perceptions about the quality of information and the benefits of electronic documentation in a nursing home setting. A gap therefore exists in knowledge about whether IT investment in a nursing home will bring in the benefits of improved information management. This knowledge is essential in informing decisions by aged-care managers on investment of scarce resources in health IT solutions. Therefore, the aim of this study was to investigate whether there were any changes in caregivers' perceptions about the quality of information and benefits of nursing documentation before and after the introduction of an electronic nursing documentation system.

2. Methods

2.1. Setting

The study was conducted at Warrigal Care Warilla, a 101-bed nursing home in Shellharbour, New South Wales, Australia. There are two houses in the facility, a 56-bed dementia care special house and a 45-bed normal nursing home house. Warrigal Care is a not-for-profit aged care organisation that runs five nursing homes, besides community aged care services.

An electronic documentation system was implemented in Warrigal Care Warilla in June 2007. The functions of this system included progress notes, care plans, handover sheets, scheduled tasks and calculation of funding level.

Nine desktop computers were available for use by caregivers in the nursing home, four in the normal nursing home house and five in the dementia care house. The electronic documentation system was installed in each computer. The computers were connected through the Internet, so that nursing records could be accessed from each of them. In the dementia care house there were two computers at the nurse station, two in a spare room, and one in the residents' common room. In the normal nursing home section, two computers were located at the nurse station, one in a spare room and one in the conference room. Each caregiver was assigned a user name and password, and they could enter text using the keyboard.

2.2. The process of introducing the electronic documentation system

A staged, train the trainer strategy was used to introduce the electronic documentation system into Warrigal Care Warrilla. Ten staff members showed better basic computer skills as indicated by the higher scores they acquired in the vendor conducted computer basic skill test. They were chosen as super users to receive a one-week electronic nursing documentation training provided by a trainer from the software vendor. They trained the rest of the care staff members in the nursing home how to use the electronic documentation system. Their training strategy was hands-on, one-by-one training on needs basis, until the trainee was fully comfortable in using the electronic documentation system.

Progress notes were the first component of nursing documentation to be introduced. All categories of caregivers, including registered nurses (RNs), endorsed enrolled nurses (EENs) and personal care workers (PCWs) were required to enter progress notes in computer. After six weeks, electronic assessment forms and charts were introduced. Only RNs and EENs were requested to lodge assessment forms and charts. In four to six months, care plan was introduced. Only RNs were involved in developing care plans. Therefore, by the first post-implementation survey conducted six months after implementation, the facility was in the process of introducing electronic care plans. At this period of time, although progress notes were all electronic, some care plans and assessment forms were still on paper.

2.3. The introduction of the aged care funding instrument

In March 2008, a new funding instrument, the 'Aged Care Funding Instrument' (ACFI) was introduced into aged care facilities in Australia to replace the old funding tool, the 'Resident Classification Scale'. According to the requirements of ACFI, standardised forms have to be followed to enter assessment information about wandering, verbal behaviour,