Our Partner Organisations

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The research is conducted by staff and PhD students from the university

What are the different types of changes that happen after the introduction of electronic documentation?

KIEREN DIMENT

My research comes from the point of view that the introduction of electronic nursing documentation is an organizational change programme. The goal of my project is to assess the nature of the organizational changes caused by the introduction of the technology. Over the past 18 months I have been visiting nursing homes and interviewing care staff. This has provided me with data to assess the organizational change that occurs during and after the implementation period.

Many management writers classify changes in organizations into “first-order changes” and “second-order changes. First order changes are variations to existing processes whose end-goals remain the same as before the change. Second order changes are when existing processes are replaced by something else with a different set of goals.

The introduction of electronic nursing documentation in aged care facilities causes both types of changes.

FIRST ORDER CHANGE - ENTERING DATA

The actual content of the documentation that nurses record is similar with that of the paper based system. The clinical and administrative requirements for the documentation are unchanged after the introduction of the computer system. Additionally to this, design choices made by the software vendor mean that the way that nurses work with the electronic system is very similar to the way that they worked with the previous paper based system. This is a conservative design decision by the vendor, and does not necessarily have to be this way (for example, imagine how an iPod would work if it was designed to be as similar as possible to a Sony Walkman!). Perhaps these issues contribute to the fact that care staff don’t report obvious time savings as far as data entry is concerned.

SECOND ORDER CHANGE - RETRIEVING DATA

The big improvements for retrieving data that computers can bring have been reported. This has radically overhauled the way that managers apply for funding for residents because instead of having to find and go through piles of paperwork, make copies and fill in separate forms on the computer, funding applications are now processed and sent to Medicare at the flick of a button. Putting together a funding application is now much faster and more reliable than it was with the paper system. Because all the data are stored on the computer it is easy to tell which assessments have been done, with no chance of misfiling. Because the funding application from the electronic documentation system is communicated electronically to Medicare - with automatic processing of the application at their end, feedback from funding applications is also much faster and more accurate. While the advantages of the introduction of the electronic documentation system are clear for management, and for the administration of the nursing home, the advantages for floor level staff are not as clear. Some care staff have suggested that the use of computers makes for a more professional working environment, and that other opportunities for career progression may arise from using the electronic system (especially for the staff who were selected to participate in the “train the trainer” training). At this stage of my research, I am unsure whether these opportunities are being realised. If they are, this would be another example of second order change in action. Once I have identified the potential for these kinds of opportunities more clearly, this will lead on to thinking about the advantages and disadvantages of either seizing these kinds of opportunities, or alternatively ignoring them. This topic is a subject for a future issue of this newsletter.

Introduction

DR DAVID HAILEY

The aims of the Aged Care e-Doc project include identifying factors that affect IT implementation in Residential Aged Care, and development of an evaluation model and instruments to measure the success of IT in this sector.

The articles in this newsletter illustrate the progress that has been made in these areas, and the wide range of issues to be considered in implementing electronic documentation systems. A range of organizational and professional issues have been addressed. Electronic documentation systems have brought with them potential benefits but also challenges and some limitations of their own. Of particular interest is the practicality and performance of the new documentation approaches in the routine operation of Residential Aged Care facilities.

The articles give details of several successful and complex studies that are in progress, with the support of the partner organizations. In addition to aspects related specifically to use of electronic documentation systems, the studies have, not surprisingly, identified many more general organizational and operational issues. The results that are emerging contribute to the array of instruments and data from the project that will be of benefit to decision makers concerned with Residential Aged Care.
The critical factors for the successful implementation of electronic nursing documentation systems in Residential Aged Care in Australia

DR PING YU

A questionnaire survey has been conducted in 16 residential aged care facilities in three organizations: RSL Care, UnitingCare Ageing South Eastern Region and Warrigal Care. The survey answered two key research questions: (1) how to measure the success of electronic nursing documentation in residential aged care in Australia; and (2) what are the contributions of the following factors to the success of system introduction: - quality of the electronic documentation system, quality of information from the system, quality of IT services, care staff members’ capacity to use the system, their intention to use, actual use and user satisfaction.

297 care staff members, who had used the system for three months to five years, participated in the survey. The major findings of the survey are:

• 67% of the survey participants were aged above 40 years. Their demographics suggests that they did not receive formal computer training in school.
• 68% of the respondents were personal care workers or assistants in nursing, or aged care service employees. Registered nurses represented 15% of the respondents. Endorsed enrolled nurses (including endorsed nurses) and managers equally account for the rest of the respondents.
• 16% of the respondents (n=48) were from RSL Care, 23% (n=67) were from Warrigal Care. 61% (n=182) were employees of UnitingCare Ageing South Eastern Region.
• The majority of the respondents (59%) worked part time (n = 204). 27% of the respondents (n = 95) were full-time employees; 14% of the respondents (n = 48) were casual employees.
• The majority of the survey participants worked in the morning shift (44%, n = 149); 25% of the respondents (n = 84) worked in arotating pattern; only 9% of the respondents worked only on night shift.
• The scores of system quality, information quality, training, support, intention to use, satisfaction and net benefits were all above average in seven point Likert scales that range from ‘Strongly Disagree’ to ‘Strongly Agree’, suggesting that the electronic documentation system performed very well according to the evaluation of the care staff members who were direct users of the system.
• Training directly affects care staff members’ perceptions of system quality, intention to use, intention to use and satisfaction with the electronic documentation.
• Care staff members’ intention to use electronic documentation system is directly affected by system quality, information quality and training in descending order of impact.
• User satisfaction is directly impacted by system quality, information quality, intention to use, capacity to use and support in descending order of influence. Training and use had no significant, direct effect on user satisfaction.
• Use, as measured by frequency of use and amount of time using the system in a shift, was only directly influenced by care staff member’s capacity to use the system. It was indirectly affected by system quality and training.
• The only factor that had significant positive association with net benefits was end user satisfaction. The influence of the other factors on net benefits was indirectly through their effects on end user satisfaction.
• Care staff members’ capacity to use the electronic documentation system was significantly influenced by system quality and training. Capacity to use also positively affect user satisfaction and use.

THE IMPLICATIONS FOR PRACTICE

The results of this study will help managers in aged care organizations to optimize care and minimize return on investment on electronic documentation systems. Training is the most important determinant of success. The quality of the system is critical for its acceptance and success. Care staff members’ capacity to use the system is the prerequisite for them to accept and use the system. Therefore, optimization can be achieved by improving IS service, particularly training. Regular training has to be provided on an ongoing, continuous basis for care staff members. Given the limited resources, priority should be given (from the high to low order) to improving training, IS system quality, support and information quality.

Electronic systems and the quality of nursing documentation

NING WANG

In my research I am obtaining evidence to determine the effect of electronic nursing documentation systems on the quality of nursing documentation. My project includes describing Australian aged care nursing documentation practice and measuring the quality of electronic versus paper-based nursing documentation. A nursing documentation audit instrument has been developed based on review of three information sources: current literature, relevant legal, professional and governmental requirements, and organizational nursing documentation practice. Following a series of procedures, the instrument has been established as valid, reliable and usable for the audit of paper-based and electronic nursing documentation.

THE AUDIT INSTRUMENT ASSESSES THREE COMPONENTS:

1) completeness of nursing history and assessment,
2) sufficient description of the care process and
3) meeting requirements for data entry.

The first component focuses on the completeness of information entered into the forms used for collecting resident background information, resident admission and ongoing assessment. The second component assesses nurses’ documentation of care process in care plans and progress notes. Both quantity and quality of description of each step of the nursing process are evaluated. The third component measures the quality of nursing documentation, considering items such as legibility, readability, use of abbreviations, correction of errors, signature and date. The documentation issues identified using the instrument in a pilot study included:

• Residents admission assessment and ongoing assessment were not fully completed.
• No timeframe was set up for the evaluation of achievement in nursing goals.
• Lack of documentation about the implementation of all individual nursing interventions.

IMPLICATIONS

These findings indicate that nursing documentation needs to be improved. Firstly, the documentation of admission and ongoing assessment may need to be improved to support the identification of residents’ problems and to facilitate the communication of resident conditions between different caregivers. Secondly, evaluation of planned care needs to be documented with statements indicating the effectiveness of the interventions and with evidence-based resident outcomes that inform nurses’ judgment regarding the effectiveness of care. Thirdly, nurses may need education and training in understanding and documenting the concepts regarding the steps of nursing process so that nursing care plans can be formulated accurately.

The Changes in Care Staff Members’ Time on Different Activities after the Introduction of Electronic Nursing Documentation

ESTHER MUNYISA

The focus of my PhD project is to measure the changes in caregivers’ work associated with the introduction of electronic nursing documentation systems in residential aged care (RAC). The study was conducted at a 140 bed RAC facility belonging to Warrigal Care. Data collection was carried out at four measurement points, two months before the introduction of the electronic system and then after six, 12 and 18 months after the implementation of the system. I observed and recorded a whole care team’s activities in a day shift for five days at each data collection point.

THE MAJOR FINDINGS

Overall, there was a much difference between the paper-based and electronic documentation system in the amount of time spent on most activities by the Registered Nurses (RNs), Enrolled Nurses (ENs), Personal Carers (PCs) and Recreational Activity Officers (RAOs).

• Communication with staff, residents and their relatives was the most time consuming activity for the RNs before and after introduction of the electronic system.
• The ENs spent longer time in transit between tasks six months after the introduction of the electronic system than they did three months after implementation of the system.
• Personal Carers in the high care section spent significantly more time in transit between tasks after the introduction of the electronic system. However, the time they spent on communication with staff, residents and their relatives reduced significantly after using the electronic system.
• The PCs in the low care section spent less time on direct care and communication activities after the introduction of computers.
• There was no change in the RNs’ time on activities in the high care and the low care sections after the introduction of the electronic system.
• The caregivers’ time on documentation activities either increased or remained the same level as time in the paper system after the introduction of the electronic system. This may be as a result of using both electronic and paper-based documentation systems in charting care actions.
• Typing progress notes, charts and forms remained one of the most time consuming activity for the caregivers after the introduction of the electronic system.
• Caregivers spent much more time on reviewing residents’ records one year after the introduction of the electronic system than they did when using the paper system (21.7% in the electronic system versus 16.5% in the paper system, p<0.05).

THE IMPPLICATIONS

• Although there was not much difference in time spent on most activities after the introduction of an electronic system at the aged care facility, the system helped the caregivers to spend more time on reviewing residents’ records. This might have increased caregivers’ understanding of individual resident’s care needs, leading to improved quality care for the residents.
• A reduced documentation time is likely to be achieved with concurrent use of electronic and paper-based documentation systems in nursing practice. To realize the full potential of an electronic system in nursing care, it is highly desirable to automate all nursing documentation processes.
• Caregivers spent more time on typing information into the computer system than they did in completing paper records. This suggests the need to identify ways of supporting caregivers to improve their typing skills.

The system quality, information quality, training, support and information quality.