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Why Implementing EPR's Does Not Bring about Organizational Changes – A Qualitative Approach

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Abstract

Politicians and hospital management in Sweden and Denmark focus on IT and especially Electronic Patient Record, EPR as a tool for changes that will lead to better economy as well as better quality and service for the patients. These changes are not direct effects of the new medium for patient records but indirect effects due to the possibilities embedded in the new technology. This paper describes how clinicians as well as management in two hospitals interpret and uses the EPR. The findings clearly show that the intended changes i.e. the objectives for the implementation, never occurred. The interpretation of the interviews makes it possible to understand that one of the reasons is the lack of correlation between the conception and use of the EPR on one hand and the fact that the management and the clinicians do not share the same vision and mental picture of the future organization on the other.

Keywords:

Organizational issues, EPR, Electronic Patient Record, Implementation, organizational Learning, Social Construction of Technology

Introduction

The pressure on the Health Care sector is increasing, as the declining economies require cost containment and both politicians and consumers demand improved service and quality. Many attempts have been made using organizational theories and concepts. Since the 1990s the politicians and hospital management have focused on information technology as a possible solution [1-8]. The belief is, that IT could fulfil two purposes; both cut the expenses, and facilitate the implementation of new organizational concepts in Health Care. In the Nordic countries the area in focus is applications for the patient related information, most often labelled Electronic Patient Record, EPR.

Seen from an economic perspective these early installations of EPR's are more or less "trial-and-error" projects. In most cases the installations have not been studied in a way that makes it possible to draw any conclusion about the effects other than as minor changes in the workflow concerning the Patient Record. It seems almost impossible to improve the economy just by shifting the medium for the Patient Record [1;8-9]. It is obvious that shifting the medium makes it possible to simplify the routines concerning the patient record; no more looking around for the record, the physician can countersign her notes almost anywhere, and we can close down or phase out the Medical Records archives. However, at the same time new expenses emanate, expenses that cannot be ignored. The new costs must cover the technical infrastructure and user training/support: hardware, application, application training, 24-hour support, and so on. The possible profit will be reduced immensely.

Health Care management on all levels in both Sweden and Denmark require effects not merely due to the shift of medium for the patient record, i.e. primary effects, but effects made possible by the implementation of the EPR, i.e. indirect effects [3;5-7]. The word implementation instead of installation is important. Implementation indicates that a new application is not only installed (e.g. technical installation, application training) but part of a process where the change of workflow and organizational structure are important factors [10]. To be able to realize the possibilities embedded in the EPR as a new technology the implementation has to induce organizational changes.

With the EPR we attempt, for the first time, to implement IT into the core processes of Health Care i.e. the processes that generate the costs. Hence it is of outmost importance that the clinicians themselves induce the changes. Also the organizations' abilities to make inquiries and analyses of the actual organization and working procedures become important. Active "double-loop" learning becomes vital to generate constructive proposals for changes [11]. The organization needs to be a learning organization to be capable of accomplishing the indirect effects mentioned above.
Furthermore, there is a need for the organization and its members to be ready for changes, i.e. to see changes as a useful tool for development [8;12]. This readiness for change seems self-evident but in Sweden where clinicians have constantly participated in organizational changes there is a risk of "change - exhaustion".

In the situation pictured above it becomes very important for management and others involved that the prerequisites for the implementation of new technology are as ultimate as possible. The study described in this paper is an attempt to understand how the clinicians[1] interpret and utilize the new technology i.e. the EPR and how this process aligns with the intended organizational changes [13].

Materials and Method

The study described in this paper was performed within the medical and surgical departments at two hospitals (635 and 189 beds respectively) in Sweden. The two hospitals have EPR's with similar functionality but from different vendors. One of the hospitals has had EPR in daily use for more than 8 years and at the other the surgical department has been using theirs for 3 years and the medical department had, at the time for the study, not begun the implementing process. Eighteen qualitative interviews were performed. At both hospitals the CEO was interviewed. From each department the chief of department, the nurse administrative, a physician and a nurse participated. The interviews were guided by themes with open-ended questions, recorded on tape and then fully transcribed [14]. The themes were designed to cover two phenomena from the perspective of the interviewees: the new technology i.e. IT and EPR, and organizational changes within the hospital.
The interviews were interpreted, in several repeated steps, using a method based on grounded theory [14-22].

Results

The result shows, due to the used methodology, the interviewees understanding of the phenomena i.e. the new technology and the planned organizational changes.
From the perspectives most often used to evaluate implementation of IT applications the answers from the interviewees indicates success [1;12;23];

- Every clinician uses the application in his or her daily clinical work.
- The clinicians are essentially satisfied with the functionality of the application.
- The "paperwork" connected to the various aspects of patient care is facilitated or has to some extent vanished.

During the reflective and repeated interpretation of the interviews, another image emerges. This image denotes the interviewee's perception of the EPR as an new technology and the organizational changes they encounter.

1. There is an important difference in the way managers[2] and clinicians think about the EPR. The management view EPR as a facilitator for structural and organizational changes and states that this is the reason why the hospital decided to invest in EPR. The clinicians, on the other hand, view EPR as a facilitator of the documentation process and a replacement for the paper based patient record. When the clinicians describes the effects of the EPR just about all they express is related to new ways of recording and reading the patient record.
2. There is a large discrepancy between managers and clinicians on how they look upon the future development of the hospital. The clinicians, compared to the management, practically never express any visions for the future of the hospital.
3. The clinicians makes no association with reference to the possibilities of IT/EPR and the implementation of new concepts like clinical pathways, seamless care and so on.
4. Most of the clinicians and a few of the departmental managers felt that they hade little or no participation in the process of deciding on and implementing the EPR.

With this result in hand we may well go back and reflect on the driving forces for the implementation. The objectives were to facilitate organizational changes and new internal structure of the hospital e.g. new ways of cooperation between specialties/departments and professional groups With this in mind it is possible to conclude that in these hospitals the implementation of the EPR has not been a success.

Discussion

Using the concepts and framework from the theory of Social Construction of Technology (SCOT) it is possible to explain some of the findings [24-26]. The management and clinicians belong to different technology frames. The clinicians interpret and understand the EPR as a technology supporting and facilitating the documentation of the processes in Health Care i.e the documentation frame. The management on the other hand interprets and recognizes the EPR as a facilitator for structural changes i.e. the structure frame.

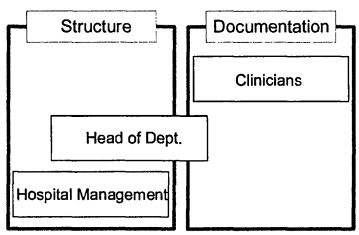

Figure 1 The picture shows how different Social groups within the hospital are included in different Technological frames (the structure frame and Documentation frame respectively).

The SCOT theories make it very clear that the inclusion in a specific technology frame makes any re-definition of the technology or artefact difficult and a lengthy process. All changes and innovations will take place within the existing

[1] For a definition of clinician see NHS Executive, UK, Information for Health Strategy Glossary, 1998.
[2] If not stated otherwise the term management denotes the management on both hospital and departmental level.

technology frame. The frame will thus restrain from any changes [24;27]. This could very well explain that even after 8 years no significant change in the way clinicians view and make use of the EPR has occurred.

The other phenomenon addressed during the interviews was the transfer of the management's vision, strategies and plans for the future to the clinicians. The importance of the organization to share the same visions, the same mental models of the future and the way to go and to understand/comprehend the goal is emphasized in modern organizational theory [7;28-35]. The findings show that the clinicians are unaware of the message from the management about why and how the organization should develop and improve.

Conclusion

We can conclude that management and clinicians belongs to different technological frames and thus interpret the EPR differently. We can also conclude that the management has failed to create a truly shared vision or mental model of how the hospital should develop and function in the future. This combination of different ways to view the technology (EPR) and the lack of a mutual course is disastrous. The introduction of EPR will thus never give the intended result.

The apparently simple solution to this problem would be to make the intended organisational changes first and then implement the EPR within the new context. However we have to realise that organisational change is a forever on-going process. We also have to recognize that we often can't bring the implementation of EPR's to a standstill. Furthermore many implementation projects are in progress or finished.

Thus we have to find new ways of implementation and to look upon the implementation as a recurring process. There is a need for methods of re-implementation of the EPR. This re-implementation has two main objectives. First, to develop a shared vision of the objectives and future of the organisation – i.e. give the members an organizational insight [7]. Secondly to create a deeper understanding of the possibilities (and restrains) imbedded in the new technology i.e. creating a technological insight [ibid].

In this way the implementation of the EPR can support and enhance the transformation of the organization.

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