EMPOWERING PATIENTS BY INTRODUCING MOBILE DATA TERMINALS IN HOME CARE SERVICES AT NORTH CALOTE

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1 Introduction

This study of the e-home health care project at North Calote \(^1\) is aiming at investigating the impact of introducing mobile data terminals on client-staff communication in home care services. Coordinated trials of introducing ICT communication systems as an integral part of home care services is at present being carried out in N. Finland, N. Norway and N. Sweden. Our preliminary findings presented here is based on in-depth discussions with home care professionals at each trial site.

The trials in the three countries are carried out in close collaboration with municipal health and social authorities and staff, presuming that mobile data terminals may enhance the availability of updated patient information to the professionals working in clients’ homes. We suggest in this paper that the uploading of patient information in close collaboration with the clients and their families may improve data quality in the central health information systems of each municipality, and hence may contribute significantly to client empowerment. Empowerment of the involved parties is an underlaying presumption for the e-home health care project. We outline a model for reasoning about empowerment in home care services based on our initial findings. In particular we discuss how the introduction of mobile data terminals in home care services may empower the clients in face-to-face meetings with the professionals.

The e-home health care project is aiming at increased quality and precision in information exchange of home care services. Allowing uploading as well as downloading of individual client information together with the care receivers and their families. A change in professionals’ client information handling is expected as a consequence of new tool application, along with a modification of staff/staff communication patterns. We describe and analyze below how the health workers exchanged client information prior to the introduction of data terminals, and how the professionals themselves estimate the potential of the ICT equipment for their work. Cooperation routines between different categories of professionals at the trial sites are briefly outlined. We discuss the trial design and the data systems being developed together with the home care professionals (in the case of Finland also in collaboration with the care providers’ organization).

\(^1\)North Calote is a local name denoting the region North Finland, North Sweden and North Norway approximately delimited from the southern part of these countries by the polar circle.
2 Methods and materials

The investigative approach have been qualitative and interview-oriented (Jensen and Johnsen 2002), focusing on changes in the communication patterns between professionals as well as between professionals and their clients' families. Focus groups of home care professionals were organized at each trial site (N. Norway and N. Sweden). All categories of personnel involved in care of elderly persons in their home have been interviewed. The home care professionals have described their current working routines and client information handling. In scenario sessions the professionals have been estimating the impact of introducing ICT in their work and they have tried to estimate the consequences of new tool application for client empowerment. We have described and analyzed the professionals' conceptualizations concerning client empowerment, and we have analyzed the current patient information handling at each trial site (Kvale 1997). Prior to the trials we have as far as possible tried to map the professionals specific demands to the equipment and how the home care professionals think the systems should be designed to meet the care receivers' needs for assistance. On the basis of our preliminary findings, we have constructed a structured questionnaire applicable to all trial sites (the results will be available at the end of 2005).

The Trial set-up and the ICT systems chosen have differed between the three countries: In the Kemi-Tornio (K-T) area in Finland the purpose of the e-Home health care project is to improve the quality of life of elderly home health care clients by testing and developing the information transmission between different actors in the field. The quality and availability of home care is believed to be improved by ICT-based information exchange. In Finland the preliminary investigation have been carried out as a separate project involving students interviewing the professionals in face-to-face meetings (and hence focus groups have not been an integral part of the study in K-T). In Finland the initial project also includes the organizational level of the home care professionals.

The Norwegian trials are carried out in Troms municipality, involving 142 clients/family members and staff at three home care units. Focus groups have been organized in connection with each unit.

The Swedish systems tested have been developed in an interactive way together with the commercial project partners. District nurses, assistant-nurses in home care, physiotherapists and occupational therapists have been communicating through the ICT system developed.

3 Client empowerment

The overall study started by identifying a common definition of empowerment within the research group. The health workers own reasoning and categorizations have constituted our point of departure when constructing a model for reasoning about client empowerment in home care services. Dimensions important to consider in client empowerment are participation, comfort, trust, safety,
confidence, mobility, well-being and life-satisfaction. Empowerment dimensions for the health workers that are considered important are job satisfaction, participation and involvement, confidence and motivation.

We have distinguished between two levels in the reasoning about client empowerment in ICT-based health services (Holthe 2004). Firstly empowerment concerns the clients' well-being and quality of life, and their position as consumers of health care services. Empowerment at this face-to-face level is about cooperation between the clients/families and professional health workers as well as staff/staff cooperation and communication. The aim of empowerment initiatives are to provide health services which comply with the clients' needs and priorities. Empowerment also is about self help and the incorporation of peer competence in ICT aided health care systems. Empowerment of the clients in this sense implies a focus on illness prevention and the clients' responsibilities for personal health. Empowerment initiatives in the context of e-health mean a strengthening of client-client relations as well as client-staff relations through the application of ICT - and involve electronic distribution of relevant health information.

Secondly, empowerment is about client influence on the shaping and running of e-health services at an organizational level. Representatives of the health care receivers should be present at the level of decision making of the health care work organization. Constructive reasoning about empowerment in home care services probably will have to take into consideration both of these levels for empowerment initiatives.

4 Findings

The empowerment concept is an abstract one, and fairly unfamiliar to the practitioners in the trial areas. However, in focus group meetings, the health workers readily associate the concept with "increased quality of life" for their clients, or "better care services". When asked about how "better care services" are achieved by concrete actioning generally speaking, or when it comes to the application of ICT, the answers come out somewhat reluctantly. First of all, it seems clear to the practitioners that "increased quality of life" for their clients involve the clients active participation in their care programs and that the patients’ well being rely on precise and well organized services. Enforced communication lines between the professionals - as well as the patients own contribution to and knowledge of the information exchange - might well contribute to increased precision and quality of service production. This is due to the increased data quality achieved as a result of direct client participation in the communication process. Hence, the professional health workers usually tend to perceive the concept of empowerment at the level of face-to-face meetings between service producers and receivers. Only rarely the practitioners were able to associate the concept of empowerment with self-help and sharing of peer competence at an organizational level.

Prior to the introduction of mobile ICT-equipment, updated patient infor-
information is not usually available to the health worker while in the clients home at any of the trial sites. Medication instructions are kept on paper, and the updating of information (say for instance blood pressure measurements) is carried out after the staff have returned to their stations. At present, all information about home care receivers is logged on a central municipal data server, but the server is not available from the clients home without mobile ICT equipment.

The staff seems to be convinced about the potential of increased data quality by uploading information to the central server directly from the clients home, due to a lower risk of missing data or feeding wrong information into the data system. Also such a procedure may be time saving if other involved parties update the central system without delay.

Before the introduction of mobile terminals the staff report about time loss if patient information has to be collected via telephone or from paper archives which may not be fully up to date. The opportunity of updating the central server while working in the clients home implies according to the health workers a higher degree of client influence on the information fed into the system, and this is potentially empowering the clients.

In Sweden, prior to the introduction of mobile ICT equipment, a group of 23 assisting nurses are sharing two mobile phones as the only communication tool during home care visits. It means that if for instance a district nurse or a physiotherapist wants to contact an assisting nurse to give instructions or information concerning care and rehabilitation of the client it might be impossible to reach a certain person. All information is kept in written archives at fixed stations. Hence, the personnel have to pass this meeting place several times a day. If a physiotherapist has agreed on a meeting with an assistant nurse in a clients home to show a special technical aid and the assisting nurse is delayed, she can not easily get in touch to tell about this. In Sweden an integrated mobile system, that will optimize planning and information transmission between different professions within home care, has been developed. With this integrated system all clients' addresses, data concerning care and rehabilitation, telephone numbers to relatives, other professionals etc are accessible through handheld devices that they carry with them. Information about e.g. medication is accessible through an electronic software in the device, which will make it possible to answer clients questions about their medicines. District nurses and rehabilitation personnel will use the handheld computers to send messages, instructions or questions concerning a certain client. At present, one of the greatest problems for the personnel that are answering up on alarm calls from clients, is that they do not have updated information on the clients. Sometimes when they go to the clients home, assisting nurses from the home care are coming there as well, since the two parties do not have information on each others work readily at hand. The alarm-personnel might also have problems finding the clients' addresses and with the map-service they can get a detailed description on how to travel to the clients home.

In Norway, small transportable machines are chosen as hardware, and a terminal connection is selected in order to prevent data storage on the mobile machines. For security reasons this is viewed as a optimal solution. However,
the Norwegian trials are carried out in rural areas of the municipality, and stable data connection is of vital importance for a functional system. The professional staff also expressed their concern about their ability to actually operate the terminals, and which needs for training might occur.

5 Discussion

We have primarily used the term "client" to denote the care receivers in this paper in an attempt to cover the overall variability of the users’ level of functioning across the trial areas. It should be noticed however that for instance the clients in Norway probably are best characterized as "patients" with extensive needs of care and assistance. Family members and relatives may not be present during health workers’ visits, and obviously the care receivers with the most extensive needs for help represent a serious challenge to any debate about client empowerment. The e-Home health care project concerns elderly people and according to the professionals involved in our study the ideas of empowering clients and their families through the introduction of ICT may easily underestimate the clients needs for help and assistance.

Client empowerment by means of ICT at a face-to-face level aims at strengthening of the care receivers position in the client/helper relation. Our findings indicate an overall optimism among the professionals regarding the ICT equipments ability to facilitate such a modification for many categories of care receivers. We agree that a potential of improved data quality is present as a consequence of introducing mobile data terminals and that "a helper’s nearness" to their clients may be gained along the dimensions client participation, trust and safety as a result of access to timely and precise information. However there is also a risk that a "distance" will emerge in the relationship due to the new equipment. If it turns out that the health workers concentrate more on the machinery than on the clients themselves, the staff’s tassid knowledge about patients’ needs and preferences may potentially be weakened as a result of a greater emphasis on precise, but form-oriented client information.

From an administrative point of view the precision and simplicity of the information system may easily be overestimated if questions concerning nearness and distance in the helper/receiver relation is not considered. The potential of time saving procedures inherent in ICT systems seems clear - which also goes for the potential of tighter staff administration.

Professionals from all trial sites currently describe restrictions to information exchange because of limited access to mobile ICT equipment. This makes in-service decision-making troublesome, and steal time from the health workers "...because they sometimes travel to a client that have been just sent to hospital or the client do not want any visit because he/she has relatives visiting them", we were informed during a focus group meeting.

Empowerment at a individual level means for both professionals and clients participation, trust, safety, personal contribution and own decision-making (Ghay, Gillespie and Lillyman, 2000). All these dimensions of empowerment
have been discussed and taken into concern in all workshops, focus groups and interviews. But it is also important to remember that empowerment always must be ultimately unique to each individual and empowerment for the professional does not automatically mean empowerment to the client (Stuart-Hamilton 2000).

J. Siitonen and coworkers (Siitonen 2004, Siitonen and Robinson 2001) have described the meaning of empowerment in organizations: according to them, it means freedom, responsibility, respect, trust and optimism etc. Versatile communication and co-operation promotes experiences of well-being according to these lines of reasoning. However, Organization leaders should be aware that people are the real resources of the community.

Stainer and Stainer (2000) describes the impact of empowerment on the organization and the employees in terms of improved work processes, improved productivity and overall "business success". Moreover, team cohesion is according to their outline important outcomes of empowering initiatives. In the e-home health care project the potential of involving professionals and care receivers at an organizational level has not yet been considered.

Our conclusion from the first part of this study of the e-home health care project is that empowerment is about client influence in the shaping and running of e-health services at an face-to face level as well as at an organizational level. Representatives of the health care receivers should be present at the level of decision making of the health care work organization. Constructive reasoning about empowerment in home care services probably will have to take into consideration two levels for empowerment initiatives: The individual and organizational levels. Both constitute important aspects of empowering innovations. In general this means that the care providers must have extensive contact with voluntary sector and thorough insight into the clients’ needs and preferences in the context of e-health. Structured knowledge about patients’ use of ICT and health information is the starting point of empowering initiatives in the field of e-health.

Knowledge sharing among project partners in Finland, Norway and Sweden is the work style used in this study of the e-home project. The results from this work will end up in Guidelines for Empowerment initiatives in home care services and will describe a Methodology for Empowerment working with design and implementation of e-health services for elderly people.

6 References


