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”I need a kick start”

**Presentation of an Educational Program using flexible
methods of learning**

**Designed for the Rehabilitation Network in rural areas of
Northern Norway**

–Experiences and reflections

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Project Sustainable Rural Health Care Networks

This report is part of the overall project Sustainable Rural Health Care Networks (Sustainable Health). Rural areas in the Northern Periphery face specific challenges as regards to the provision of high quality, coherent and integrated health services. These challenges manifest in the obvious geographic factors including isolation and small dispersed populations, limited public transport and road infrastructure, and the resultant, long distances to hospitals and primary health care services institutions.

There are also significant difficulties in attracting and recruiting qualified and experienced personnel in rural health care services. This is compounded by the increasing centralisation of specialist secondary care services and the increase in the proportion of the elderly population relative to total population.

The Sustainable Health project aims to enable actors to provide high quality, coherent healthcare services in their communities and thereby contribute to the viability of these communities. The project will examine and pilot a number of approaches to address several different aspects of challenges to providing coherent, high quality health services to the population in the Northern Periphery.

The Sustainable Health project is a Transnational project involving partners from four European countries; Norway, Scotland, Sweden and Finland. The partners come from regions all facing similar problems in regards to developing coherent, sustainable health care services.

Partners

- AKMC, Centre for Emergency and Disaster Medicine – Sweden
- UHI Millennium Institute: Morey College and Lews Castle – Scotland
- NHS Western Isles – Scotland
- NHS Argyle and Clyde – Scotland
- National Centre for Telemedicine – Norway
- Tromsø University College, Department of Health – Norway
- Regional Development Centre of Mid-Troms – Norway
- Kemi-Tornio University of Applied Sciences – Finland

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Abstract

Norwegian Centre for Telemedicine, Tromsø University College in cooperation with the project manager of the Rehabilitation Network have piloted an educational program for multi professionals in the Norwegian pilot “the Rehabilitation Network in Mid Troms” as a part of the project Sustainable Rural Healthcare Networks. The educational program was based on a mapping of required needs for higher competence in the field of geriatric rehabilitation. 38 multi professional health workers from 10 rural municipalities in Northern Norway attended the network and the educational program. The educational program consisted of two day seminars with all participants together to focus on the platform of geriatric rehabilitation and to form the network. Three lectures were given by video conferences to three different localities at local study centres with three workshops in connection with the video conferences, to focus on the content of the lectures and combine the themes to their daily work. For preparatory reading, a literature compendium was composed together with a book of exercises. A specially designed virtual network, called Regine, was established to reflect the need for communication, information and cooperation consisting of a discussion forum, directory, file storage and an inbox for internal messages. A training program was organised to teach the health professionals in how to use the virtual network. 23 health professionals participated in the training programme for the virtual network. A shadowing program at a specialist geriatric ward has been piloted and set in action in order to focus on the clinical skills as well as the theoretical background given by the lectures. The education program has been a success and will continue with new aspects in 2007/2008.

Competence development piloted for the Geriatric Rehabilitation Network in Mid-Troms, Norway

1.0 Background

In 2006, the Rehabilitation Network in the county of Troms was established, as one of the pilots in project Sustainable Rural Health Care Networks (Project Plan, <http://www.sustainable-health.org>). The project was funded by the European Regional Development Found, ERDF. The Norwegian pilot had e special focus on increasing competence for health personnel in rural municipalities, working with rehabilitation of the elderly patient, as one of their tasks in community health care.

38 health professionals from 10 neighbouring rural municipalities in Northern Norway, came together in a Rehabilitation Network with professionals consisting of nurses, physiotherapists, occupational therapists, nurses' assistants and speech therapists. All these rural municipalities have got small populations from just over one thousand inhabitants up to eleven thousand in spread population, with arctic winter conditions and with long distances to bigger health- and educational institutions.

When the Rehabilitation Network was established, a mapping of required competence needs was completed in each of the 10 municipalities.

The mapping from the 10 municipalities showed in the conclusion as a:

- A need for higher competency on both a professional and organisational level
- Cooperation and interaction has a potential for improvement between specialist health care systems and primary health care systems
- Cooperation and interaction has a potential for improvement internally within their own municipality (Kristansen 2006).

Based on the mapping and guidelines within the main project, suggestions of initiatives have been developed where ICT- based tools are a considerable part of sharing experiences and increasing competency as well as improving the possibility for communication, cooperation and interaction within the Network. The overall aim for the project was to gain a coherent improvement of quality for the elderly patient in need of rehabilitation within the 10 municipalities by becoming more sustainable and accessible.

In order to meet these demands Norwegian Centre for Telemedicine, Tromsøe University College, faculty of Health Sciences and the project manager in the municipality of Lenvik formed a project group and designed an educational program that should meet the needs for increased competence for the members of the Rehabilitation Network. The educational program took in consideration the need for the members of the Network to meet and to get to know each other, as well as the distance and the nature of the rural municipality will restrict several physical meetings.

1.1 Delimitation

The report will focus on the pedagogical and organizational challenges according to develop an educational program for health professionals working in rural areas in Northern Norway. From an educational, development and research point of view we find it interesting to look into the pedagogical challenges when using ICT (information and communication technology), and the organizational changes needed in the process. The report will not go into the economical aspects regarding using technology for educational purposes.

1.2 Structure of the report

The report is divided into two main parts. Part one describes the different elements of the competence program that was developed. Part two focuses on the health professional experiences by being participants of the competence program. The findings are discussed by using theory and our own experiences and reflections. There is also a chapter which describes the chosen methods used to collect data. The report ends by summing up and some cautious conclusions are drawn.

2.0 The educational program

The educational program developed consists of several elements and parts. These are the virtual network, day seminars, literary compendium, book of exercise, the video conferences, workshops and a plan for shadowing. In the following chapter the content and structure of the different elements will be described in details and the arguments for the different choices will be presented.

2.1 The virtual network Regime

To develop a virtual network for health professionals working with rehabilitation of the elderly is an ongoing process. This document describes the process from idea to completed product when a virtual network is developed. The developing process is a challenging and important process which has to be grounded on the needs and desires of the target group. Client participation and co-determination is important to anchor the virtual network within the user group. Based on the report "Project Rehabilitation Network Mid-Troms in North Norway" (Kristiansen 2006) which describes the mapping in ten municipalities in Northern Norway, and the report "Educational challenges for professionals in interdisciplinary teams working in rural areas" (Norbye & Furu 2006), the process from idea to final product when making a new eLearning programme is described.

The health professional needs and requirements for knowledge and competence are the basis and fundament for every new eLearning programme. Both the mapping report and the requirement specifications are crucial in order to develop a suitable and functioning virtual network for members of the Rehabilitation Network.

The Norwegian Centre of Telemedicine in collaboration with the project group developed a requirement specification for the virtual network. The requirement specification consisted of the following information, short summarized:

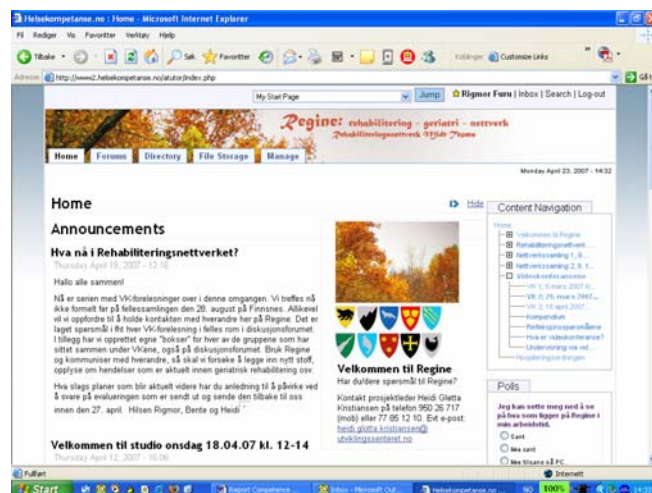
- The main purposes for developing the virtual network
- The main goal for developing the virtual network
- The target groups
- External factors which will have an influence
- The content of the specialized field
- Functionality and collaborating tools needed
- Pedagogical methods
- Plans for evaluation

The virtual network was developed within the learning content management system, LCMS, called ATutor, and is established in the eLearning platform named www.helsekompetanse.no, developed by the Norwegian Centre of Telemedicine.

ATutor is an Open Source Web-based Learning Content Management System, LCMS. designed with accessible and adaptability in mind. It is a tool used to develop and manage online courses, much like other Learning Management Systems (LMS), but with the added ability to create, share, and manage learning content (<http://en.wikipedia.org/wiki/ATutor>).

Synchronously to the development of the new virtual network, a usability test of the learning management system was outlined. The results of the usability test are summarized in the document named “Usability test of the virtual network Regine” (Bønes 2006). The main results from the usability test were that the users were satisfied with the user interface and design, addition to how the virtual network was organized. Minor changes were recommended in design to improve the technical solution.

The virtual network received the name Regine. The name is a shortage of Rehabilitation-Geriatric-Network. Regine is an old female Norwegian name and therefore suitable for this network. The name was suggested of one of the members of the Rehabilitation network. Regine became the virtual network for participants of the Rehabilitation Network in Mid- Troms Northern Norway. The health professionals participating in the network get access to the virtual network by logging in with username and password.



The main site from Regine developed in the eLearning portal www.helsekompetanse.no.

Regine is a tool for information, communication and cooperation.

The different functionalities in the virtual network, Regine, are:

- discussion forums: there are one common forum for the whole group and one forum for each of the three member groups
- directory: there is a list with names of the 36 participants in the network. There is an overview of e-mail addresses, photos and telephone numbers of all participants
- file storage: for storing documents, power point presentations, other relevant documents
- streamed videos: presentations from the videoconferencing are streamed online and stored
- inbox: the participants have the opportunity to send messages to each other within the members of the network
- announcements: information and ideas are shared with the participants of the network (edited by ourselves)

The content and the structure of the virtual network will grow as the time goes by. Today the content includes a description of the whole project, summaries of meetings held in the project, the mapping from the ten municipalities, the description of the educational program within rehabilitation of the elderly and information about videoconferencing and how it is organized. The different elements of the educational program is described in details, and there is outlined a plan for the shadowing.

By making separate discussion forums for smaller groups in addition to the discussion forum for everybody, the health professionals also have the opportunity to discuss with persons they already know from the workshops.

After the development of Regine was finished in February 2007, a training program was organized to teach the health professionals in how to use the virtual network. 23 health professionals participated in the training programme which was arranged at Bardufoss in Mid TROMS. The training course was facilitated in a data laboratory. Each participant had access to his/her own computer in order to do the practical training.

The training of data skills is very important to secure that the health professionals manage to handle the computer. For most of the 23 health professionals using a virtual network in their daily work was quite a new experience. The computer skills of the health professionals were varying. In spite of that everyone handled the computer training very easily. The training program included how to use a discussion forum and how to be comfortable with the different functions and tools. We also had discussions about how a virtual network can be a useful tool in work situations in the Health Care sector. It is of vital importance to focus on the flexibility and ability of using ICT as a tool for competence building and cooperation, and to show the possibilities for using the network for exchanging experiences and get new knowledge. Motivation is another key issue. How to motivate the health professionals to use the virtual network in order to feel it useful and meaningful in the daily practice, is also a key factor. The health professionals were told to train other health professionals in their own municipality in how to use the virtual network. The Norwegian centre for telemedicine has the responsibility of the technical support.

2.2 Day Seminars

Two different day seminars were arranged in order for the health workers in the network to get to know each other. We started by arranging a one day seminar for all the participants where a common platform for the Rehabilitation Network was formed. The themes and the platform had an aim to discuss: what is geriatric rehabilitation, what is the ideology and what are the surrounding obstacles.

The second seminar, six months later, continued the process for the participants to get to know each other and to have a mutual understanding of the content of geriatric rehabilitation. The seminar was also used to present the further program in the competence packet with videoconferences and reflection groups.

The competence packet was developed by different methods of learning and development of further competence development. At the seminar the following tools were presented (see chapter 2.3 and 2.3.1):

2.3 Compendium

The compendium was put together by Tromsø University College to give a theoretic framework to the following video conferences. The compendium was informed to be used as preparatory reading to the lecturers and handed out at the day seminar. The compendium was made by carefully choosing the most recent research articles and necessary literature and also given a referent list with literature for further readings. Each member of the network was given a literature compendium as a part of the competence packet.

For professionals in clinical practice with numerous challenges in their everyday work it may be a challenge to find and to have access the most recent articles. Our experience is that ready made compendiums with carefully picked articles are of easier access instead of giving out a reference list. The libraries in a rural municipality can order books of specific interest, but will not have the access of these at hand. Accomplishing reading was presented in the virtual network as links to relevant literature.

2.3.1 Book of exercise

To complement the literary compendium and the video conferences the project group developed a book of exercises. The exercises were meant to meet the need for discussion and to challenge the participants both on the theoretic framework, but also how new knowledge can be implemented in their everyday clinical work. The exercises focused on the reflection within the group and how they can develop new strategies in rehabilitation of the elderly. The exercises were divided into different chapters in connection to each theme of the video conferences. The questions for discussion and reflection were to be continued in the virtual network, Regine.

2.4 Video conferences

The video conference studios were booked locally in three different rurally established study centres.



In preparation to the video conferences we had lecturers with different experience in lecturing by videoconferencing (VC). They were all contacted by Furu, the educational coordinator at the Norwegian Centre for Telemedicine. They received a guide for videoconferencing which contains a description of how a video conference is set up and giving advice to the lecturer how to lecturer via this media (Norwegian Centre for Telemedicine 2001). By giving the lecturer training in how to use videoconferencing, the lecturer will cope better with the technology, overcome the uncertainty and feel more comfortable. Furu contacted the lecturers by telephone and guided them through different aspects of the conference prior to each lecture;

- how to use the power point presentation during the lecture
- how to differ the picture during the lecture
- how to use the microphone
- how to use different presentation techniques

The personal and individual guiding prior to the lecture was an important part of the preparation to the lecturer. One of the lecturers had never participated on a video conference before, one had done this several times, both as a participant and a lecturer and one had been a participant to a video conference earlier.

Three different subjects were chosen with different themes for lectures using videoconferences as a method of transmitting.

1. The Rights for patients receiving geriatric rehabilitation.
2. Individual Plan for the patient in need of rehabilitation
3. Basic knowledge within stroke rehabilitation.

The lecturers for these video conferences were chosen because of their experience and speciality in their professional field. The lecturers had difference kind of competence within rehabilitation of the elderly. One of the lecturers was an author of a well known book of rehabilitation in Norway (Bredland et al 2006). One had a position as a rehabilitation coordinator in the biggest town in northern Norway with clinical

experiences from both specialist health care and primary health care. One lecturer had a specialisation in geriatric rehabilitation and worked in the specialised geriatric rehabilitation ward in Finnsnes, a rural centre in northern Norway. Each lecturer was contacted by the project leader by telephone and mail and the specifications of each lecturer were based on the specified needs.

The three presentations from the videoconferencing were streamed online in order to store the videofilms in the virtual network. To do this we had to get a written authorisation from the lecturer.

2.4.1 Infrastructure and organisational challenges

There were several factors to consider when we organised the video conferences and the following work shops for 38 members from 10 municipalities. The distance from one outer municipality to the other outer limit could be four hours drive one way in winter conditions. One important factor was that the participants should have contact with each other during this period with the lectures, but also with a driving distance for each participant that was feasible. In the one day seminar prior to the conference we laid out different way of organizing the lecturers and asked for opinions from the network. They were also given some time to consider the different options before we made the final plan.

Three different locations were chosen for the videoconferences;

- One location in Salangen, which had the participants from three bordering municipalities. The driving distance was no more than half an hour for any participants.
- One location in Bardufoss, which had the participants from three municipalities. The driving distance was no more than 40 minutes.
- One location in Finnsnes, the rural centre in mid- Troms for four municipalities. The driving distance was one hour for those with the longest drive.

These locations were chosen because the study centers could provide necessary assistant regarding technical adjustments. We also knew that the studios were in frequent use. Most municipalities have video conference studios available more locally, but some are very seldom in use. My previous experiences shows that with numerous studios connected, the greater chance there are for the transmission to brake down or to have technical problems. If a large number of studios are connected in the same transmission, there are difficulties in getting a dialogue between the participants. With four studios connected included the studio for the lecturer, we hoped to avoid any disturbances during the transmission.

As for the lecturers we had different locations for each of the video conferences due to their location. We used one studio in St Olavs Hospital in Trondheim, one in Tromsø, at the University Hospital of North Norway and one at Finnsnes Study Centre. The contact with each location and the booking of the studios were done by Furu at NST and Kristiansen at OGT.

By streaming the presentations at the videoconferences the health professionals had the flexibility to repeat the presentations later on. Those who could not attend the

videoconferencing had the opportunity to follow the presentation online or offline from their own computer.

2.5 Work shops

In connection with the videoconferences there were planned and prepared workshops. The workshops aimed at sharing experience, to get the network to co-operate and to share previous experience and knowledge from the lectures as well as the literature used from the compendium. An important aspect was to integrate new knowledge and to discuss this with other professionals. Challenges were presented in the book of exercises to get the discussions going after each video conference.



2.6 Shadowing

In order to meet the need for increased competence we took in consideration that one can learn different skills in many different ways. The video conferences and the workshops aimed at increasing the theoretical background and also let the participants learn from each other and together in a reflective process. The day seminars aimed to form a good start for the network, to get to know each other and to form a base and a multi-professional platform based on the work with geriatric patients in need of rehabilitation.

Professionals in rural health care and in the community health care are often stable work force and many have several years of clinical practice (Skaalvik 2005). Due to the geographical distances few staff has done any form of visits to other work arenas to learn new and improved clinical skills. There are also done little planned visits to the nearest geriatric ward at a specialist health care level both from the primary health care and the specialist health care. Visits have a cured due to a specific need, but is not planned and not with a systematic approach.

This project took the initiative to establish a planned and ongoing possibility for professionals in community care for participation and observation at the specialist rehabilitation ward at Finnsnes.

Three interviews were done with nurses working in different fields of community health care from two different municipalities prior to the shadowing program, in order to learn more of specific need for clinical practice in geriatric rehabilitation. One of the interviews was done by telephone and two were done at the nurses' own workplace. The nurses got the interview guide prior to the interviews, so they could prepare themselves in thinking what they would expect if they were to participate in a shadowing program. Each interview lasted one hour. The interviews had a qualitative approach where to learn what nurses in clinical work would need in visiting a specialized rehabilitation ward.

A meeting was set up with the head nurse for the rehabilitation ward and the need for a shadowing program and the results of the interviews were presented. The head nurse took this back to her ward and discussed how they could organize a program with her multi-professional staff.

Several meetings were completed and the rehabilitation ward made a plan which allowed for individual request as to what the visitor would like to experience during the stay. The ward would also make a presentation of possible visits and how they could organize it. The agreement was presented on the virtual network Regine. A trial period was planned and after one shadowing program is completed, it will be evaluated by both parties and adjusted if needed.

3.0 Methods

In order to do an evaluation of the educational program we used a qualitative approach which consists of questionnaires, interviews, observations and formal and informal conversations.

The questionnaire outlined was semi structured. The questions were formulated as closed and open questions. The closed questions were formed to secure that we received answers related to the aims of the project. The open questions were constructed in a way that the informant had the opportunity to tell his/her own story and bring in new elements and aspects.

In September 2007 there were 38 participants in the Rehabilitation network. 51, 4% answered the questionnaires. The health professionals in the Rehabilitation network had joined the competence program for about three months when the evaluation started. It is very early to do an evaluation after only three months use. We are not able to firm conclusions; therefore we can only refer to what we see as some tendencies.

Three interviews were done in order to make a plan for a shadowing program. Qualitative researchers use interviews to uncover the meaning structures that participants use to organize their experiences (Hatch 2002). The interviews were done to receive the health professionals own stories about their work situation in the

rehabilitation field and to collect information about their needs for strengthen their competencies within the field of rehabilitation.

The data is also given from observation with participation. In the virtual network, in the physical network and at the videoconferences some of the project members were participating to observe the ongoing processes. Two of the project members were doing observations in the reflection groups. Data is also collected from both formal and informal conversations with the members of the Rehabilitation Network and the head of the Specialist Geriatric ward.

The analyses of the data from the questionnaires were categorized and interpreted in according to the field of geriatric rehabilitation. Categorize means that the data is structured into different categories (Kvale 2001) and longer sentences are reduced into short categories. The data was categorized as participation, group dynamics, interaction, flexibility, structure, knowledge, learning satisfaction and outcome.

The aim of the interpretation is to try to obtain a deeper meaning or understanding of the text (Kvale 2001). By looking into the data we have tried to seek meaningful information for this educational program.

4.0 Experiences and reflections

In the previous chapters the competence program has been described into details and we have argued for the different choices taken. The methods used to collect data have a qualitative approach. In this chapter we want to look upon the different data collected, and will discuss the results on basis of the research question:

How can the health professionals` participation in a competence program and the use of ICT contribute to development of competence and interdisciplinary cooperation?

The discussion will focus on how competence development can be arranged in rural areas. How can participation in the virtual network Regine contribute to develop competence among health professionals? When implementing new technology there are both pedagogical and organisational challenges to be considered.

Following aspects will be discussed:

- Participation, group dynamics and interaction
- Flexibility and structure
- Knowledge, learning satisfaction and outcomes

Looking at different aspects of the evaluation, we want to learn more about the process of learning when we look into *participation, group dynamics and interaction*. When we analyse *flexibility and structure*, we are interested in findings concerning the infrastructure and organisational aspects in the way we have organised the competence plan. *Knowledge, learning satisfaction and outcomes* we want to look upon how the participants experienced the product, the themes that they worked with during the course. We will look upon these factors in light of the use of ICT and organisational challenges.

From the evaluation we wanted to learn more about how the competence plan had met the expectations of the members of the Rehabilitation Network that facilitated collaborative learning methods. The written evaluation was semi structured with space for comments. The comments will be referred to in the following.

4.1 Participation

The participants of the Rehabilitation Network are health professionals from different discipline levels in the health care system. Most of them are educated from University colleges and higher education. Participation in a community of practise like the Rehabilitation Network may be characterised as participating in an activity system and learning community, where the participants have a common understanding of what they are doing and what the participation means to them (Wenger 1998). One of the health professionals says: *“In my daily work I often feel myself alone. The participation in the Rehabilitation Network has been enriching to my situation”*. The health professionals live in small municipalities, and the long distances and tough weather conditions may be an obstacle for cooperation and communication. One said: *To experience that we all are struggling with the same challenges and what to do to solve them, is kind of unique”*.

Participation in a virtual network with health professionals is like a Community of Practise with common commitments and common membership. The solidarity and social relationship produces the learning content, learning elements are shared and discussions take place through negotiations (Lave & Wenger 1991). One of the health professionals says: *“It is of great value to discuss specific topics after the videoconferences because you get new ideas and advices, and the discussions clears up the message. You have the opportunity to seek information in the network when it suits you and when you need it”*. The rehabilitation network consists of both novices and experts of health professionals. The mix of different levels of competencies is fruitful for a good learning environment. The possibility to learn from another person with higher competence is important in the process of developing knowledge according to the proximal zone of development (Vygotsky 1976). Collaboration with a more capable peer is the learning potential that lies in developing a mutual commitment and understanding in the interaction between the health professionals.

Sharing knowledge and experiences in the Community of Practice is vital for developing competence and build identities (Wenger 1998). Regine is a Community of Practice within health professionals working with rehabilitation of the elderly. One of the aims of the rehabilitation network is to strengthen the cooperation between the professionals in interdisciplinary teams and to improve the competence in the field of expertise. Cooperation has a potential for improvement between specialist health care systems and primary health care systems.

ICT may be used as a tool for better cooperation within and between the different levels in the Health care system and for competence building. It may contribute better services for both the patient and their next of kin. According to the health professionals the virtual network, Regine, is still considered as a new tool to be used in the daily work. In the health sector the working days are busy, and the health

professionals find it difficult to get time to use Regine in daily practise. One of them said: “*A new tool has to be implemented as a part of the daily routines to be used. To obtain this it has to be arranged regular meetings in the Rehabilitation Network in the municipalities.*” Another issue is that the management has to support and agree upon implementing the new technology and use it as a part of the daily routines to be used (Lau & Hayward 2000). Implementing new technology will always effect upon organizational settings and forms. It takes time to change working routines, and it takes time to find out how to use Regine as a useful and meaningful tool in daily work.

Another issue is that the health professionals need time and guidance to learn the technology and how to use it effectively. In spite of the fact that a training course was arranged to teach the health professionals how to use Regine, it takes time to learn how to use the computer. Several of the health professionals said: “*My computer skills are not so good yet*”. Another said: “*I need a kick to start!*”. The health professionals have to use Regine frequently to improve their data skills. Some of the health professionals even have to practise even more to learn the technology. In the institutions and home care services there has been and still is a big focus on computer training, because of the ongoing implementation of electronic record for patients. As a result of this implementation, the computer skills of health professionals are rapidly improving. Participation in the virtual network Regine, has been a new experience for most of the health professionals. The health professionals have to find the participation in Regine useful and meaningful in their daily work, otherwise they will not use it. In due to obtain this, the content in Regine has to be close related to the health professionals working field. The virtual network still has to be developed and build up with relevant input and content that suits the health professional needs for information and knowledge in rehabilitation. This will probably have an influence upon their motivation and interest of participating in the virtual network. The further development has to be continued in close cooperation with the health professionals.

4.2 Group dynamics and interaction

In the Rehabilitation Network we aimed at people to get to know each other thinking that it would be easier to have good and fruitful discussions if the social climate was functioning. Each group was put together for practical reasons due to the physical distance to each municipality. We hoped that meeting each other at physical meeting would make it easier to enter the discussion forum and to continue the discussions online, as we new that writing online was new for most of the members and that only a few had access to Internet at work.

The physical meetings showed to be important and that the group functioned better after they had met several times. There was a combination of physical meetings with workshops and computer mediated communication. Where a group was stable, meaning that most members met each time at the workshops, the satisfaction was high both with their own participation and how the group was mixed and put together. They had a lot to discuss and one said: “*The theme was interesting and we had a lot to discuss. When we managed to focus on one theme there was a very good reflection*”.

In one of the groups there were new members at every meeting and the experience was that they did not get into the depths of the subjects. It is important to keep a stable group to get the discussions going to make a good and including climate. One said: *“the questions were good, but the group was too unstructured to get any fruitful discussions. We ended up with telling each other how we did different things without any further discussions”*.

The satisfaction with their own group seemed to be better after they had met for the third time. The theme could also be easier to discuss at the last meetings, so this is a tendency we can only assume. But several pointed out that it was easier to discuss and go into depth at the last meeting. One said: *“The last meeting was very good, and we had a good discussion on the theme”*.

To meet others seemed to be of value, and one group decided to meet prior to the videoconference and the workshops and have lunch together. They wanted to meet in advance to also have time for small talk. They said it was good to meet the members from their own municipality, to form the network, to have this common focus, to get new ideas and to get support on their own thoughts. One said: *“It is good to meet the others in the Network and to get to know the others in the neighboring municipalities. The mapping had shown that even in their own community health care, they needed a closer working pattern to improve the internal communication (Kristiansen 2006). Most users thought it was easier to discuss themes in the actual meetings than on-line. These health personnel are adult women with limited experience with discussions online; one said: “It is time saving, but you don’t get the closeness with the client and your cooperative partner, your colleague, and I loose the informal in an online cooperation”*.

Interaction is described as one that sends a message, a receiver replies and the sender provides feedback to the receivers’ message, also called the Initiation – Response-Feedback (IRF) exchange (Frietze 2003). We have looked at interaction both in the online discussion forum and in the reflection groups in the physical work shops. We experience that it is important to have a moderator in the discussion forum online because most of the participants online, responded to a given task given by the moderator. In the workshops the written exercises gave them tasks enough to continue. The workshops had a defined time set off.

Working online is a new experience for the participants and hadn’t been used much at the time of the evaluation. The evaluation started three months after the first learning program had been completed. They wanted to participate even more, but seem to have some restrictions and borders to try. They wanted to participate more on the online discussions, but one said; *“I would have to have something really important to say to participate here, maybe a too big a border for me.” The theme needs to be interesting and be of importance and of relevance to my everyday work”*. *“I need better computer skills”*. The complex nature of online learning calls for use of multiple sources of data.

Working together in workshops is familiar to all the members and the groups functioned well when the groups were stable. The workshops had a good progress and they enjoyed their meetings. They chose to meet prior to the actual timetable. It is also interesting to notice that this group had participants from three small rural

municipalities that very seldom had any local courses and competence input from outside. Their motivation for the meetings can maybe be a high motivating factor for participating, but we have not asked for comments to validate this.

4.3 Structure and flexibility

The structure of the course; the timetable for the videoconferences and the workshops and the day seminars was set by the project manger in advance. We wanted to know if this timetable was of a restriction to participate for the participants since they could not change the timings. The participants saw the videoconferences as a timesaving method of getting new knowledge since it was transmitted to a local studio. One said: *“It was new for me – challenging and timesaving”*.

The structure of the course seemed to be welcomed, they could set off time in advance and had the predictive knowledge of when to attend the lectures and the workshops. They could take time off work to attend, without any extra expenses involved, expressed by one as: *“It is a practical and timesaving way of working with the themes, I don’t have to travel and stay overnight at a high cost”*. *“The videoconference is a great way to present and give a lecture”*.

The structure of how we organized the competence program is similar to “blended learning”. Blended Learning is the combination of multiple approaches to learning. Blended learning can be accomplished through the use of “blended” virtual and physical resources. A typical example of this would be a combination of technology-based materials and face-to-face sessions used together to deliver instruction (http://en.wikipedia.org/wiki/Blended_learning). The possibility of using different approaches to learning makes it even more flexible.

The timetable of the educational program was structured with a timetable. To combine this with flexibility in time and space we developed the virtual network.

The discussion forum in the virtual network is an asynchronous way of communicating. By using the discussion forum the health professionals have the opportunity to reflect upon topics and issues they are engaged with. By participating in a discussion forum the health professionals have room for reflections upon problems addressed to their work situations (Lund 2005). The discussions in the forum are offline; that means that they don’t take place simultaneously. The health professionals have the flexibility of using the discussion forum whenever they feel for it. When a specific situation occurs at work and you want someone to discuss the situation with, you have the opportunity to use the discussion forum. For some of the health professional it is still not very common to use discussion forums and virtual networks. One said: *“I think you may save time by using it, but you loose the nearness to the patient and other health professionals. You also loose the informal climate by cooperating physically.”* The health professional did hardly ever use the discussion forum during the three first months. They said it was quite unusual for them to use it, and they did not feel comfortable with the writing process. Some of them say that they aren’t comfortable with sharing their experiences and reflections in the discussion forum. In addition they did still not feel familiar with the use of the technology.

When using technology you have the flexibility to study whenever it suits you independent of time and space. Using the Internet to study enables lifelong learning and the flexibility for integration of working and learning (Friesen & Anderson 2004). The health professionals have the flexibility to enter Regine both at work and at home because most of them have access to a computer and the Internet both places. The lectures presented via the videoconferences were also streamed simultaneously. By doing it this way the health professionals had the flexibility to either attend the videoconferencing from the studio, or they could follow the lectures from their own computer, at their workstation or at home. Those who didn't have the opportunity to attend the lectures at the same day, had the opportunity to attend the streaming version whenever it suited them. The health professionals were keen on having several choices because it gave them the flexibility to plan their work and spare time in a better way. One of them stated: *"It is too busy at work. I have to use Regine in my spare time."* Another person said: *"So far I find Regine useful. Later on I guess I will use Regine even more"*.

In lifelong learning the word "anyhow" should be added to "anytime" and "anywhere", states Friesen & Anderson (2004), because one should be able to use multiplicity of learning methods and manifold media including text, video and multimedia. The competence program made for the Rehabilitation Network consisted of different learning methods, and the health professionals have the flexibility of choosing participation between these. They have the flexibility to choose if they will attend the videoconferencing or not, the same with the reflection groups, the discussion forums or the virtual network. Most of the health professionals have long experience from work and they have a family to take care of. The integration of working and learning is increasing according to recent discussions of lifelong learning (ibid). According to this there is of vital importance that the health professionals have the opportunity to choose between several methods in how to develop cooperation and competence. In the learning process ICT will be an important and supportive tool. Cooperative learning focuses on the possibilities of supporting both individual flexibility and the participation in a social learning environment (Paulsen 2006).

4.4 Knowledge and learning satisfaction

It is still too early to say if this program has contributed to increased competence both for the individual and the level in the network, but we have looked at the expressions concerning the choice of subjects, themes and relevance for work. The evaluation is done before the shadowing program was put in action by the members of the Rehabilitation Network, so this will not be commented here. The themes for the lectures were chosen by numerous themes that were found during the first mapping of the required competence needs. The project group picked four themes that we thought as a baseline to work within rehabilitation of the elderly. The first lecture was given at the first day seminar and had a focus on mutual understanding of the rehabilitation philosophy and the multi – professional cooperation. The participants were very active in participation and sharing their experiences with each other.

The three next themes were presented by videoconference. The themes were very well evaluated, they were all relevant and of importance to the work in rehabilitating the elderly patient. One said that this was not new knowledge, but she thought it was

relevant as a repetition and a focus on rehabilitation. Expressions according to the themes were: *“Very good and relevant themes, I wish more of my colleagues could have been here and get this lecture”, “Well presented and good content even if I new the theme quit well from before, it was good that the lecturer had opened for questions and comments during the lecture”*.

The themes were very well accepted and evaluated probably because they were picked out from what they had expressed as their needs. One theme was also completely new for most of the participants and was very relevant because it was concrete expectations in the field of rehabilitation to be set in action. So this theme presented something new and relevant for the elderly patient.

The Rehabilitation Network consists of three up to five participants from each municipality and therefore had the possibility to attend the videoconference. One commented that it would have been needed for all health personnel working with patients in need of rehabilitation. The lectures were this time only for the members of the rehabilitation network, but could easily been accessible to others. It should be considered whether it is important to have this exclusively for the network members or if the lectures should be “open” for other health personnel in these rural areas, where there is little access to new knowledge.

The lecturers had opened for questions and dialog in certain parts of the conference, before the brake and when the main lecture was finished. Even if it is said that it can be difficult to get a dialog in lecturing via videoconference (Frietze 2003), the participants of the rehabilitation Network had both questions and comments to the lecture. This can reflect a high motivation and interest for the themes and the specific training that the lecturers had prior to the conference that advised them how to get a dialog with the participants.

To get an overview of what purposes the health professionals did use the virtual network Regine for, the following summary will show some tendencies:

- Seek information (13 persons)
- Seek knowledge (9 persons)
- Follow up the discussions in the discussion forums (8 persons)
- Written contributions in the discussion forum (2 persons)
- Respond to written contributions in discussion forums (3 persons)

According to this overview most of the health professionals use Regine to seek information and knowledge about rehabilitation of the elderly. Only a few persons have written contributions in the discussion forums and started their own reflections. Some of the health professionals said: *“The debate and the dialog have been good. When we had focus on one theme, we had a good reflection” We have shared experiences and learned from the other municipalities”*. *“We needed to discuss this after the lecture; we got new ideas and advice from others.”*

Some of the health professionals followed the ongoing discussions and one found Regine useful in preparing a lecture: *“Great, today I have used the content for my own preparations for a lecture I am going to present for a postgraduate study in nursing. I have used the content from Regine, on the net”*.

This picture shows that using a virtual network is still very unusual for many health professionals, but some has found it useful to seek information, share experiences and start discussions. Some of the health professionals are still afraid of the writing process because it may reveal lack of knowledge and skills. It might be frightening to document your own reflections and thoughts and share them with others. One of the health professionals said: *“I think it is great to have the possibility to ask and write questions if I have something on my mind”*. Some of the health professionals work alone within their own discipline, and participating in the virtual Community of Practise may reduce the feeling of isolation and working alone. Socially defined competence is always in interplay with our experience (Wenger 2000). The Community of Practise is always available on the web and invites the health professionals to interact and communicate.

The health professionals were asked what other functions, issues or content they would like to have available in the virtual network Regine. These are some of the answers:

- An updated overview on every contact person (resources) in the network
- An information and knowledge base for use in the daily work
- Other relevant themes and topics that are useful in the daily work
- Access to research within the rehabilitation field
- Links to relevant research and Centres of expertise and trade unions
- Access to relevant procedures
- Overview over different application forms, institutions, contact persons in the different municipalities
- Information of the routines and rehabilitation plans in the different municipalities
- Seek information and knowledge in databases
- A moderator in charge of the virtual network

Access to relevant information and knowledge that are useful in the daily work are of vital importance to experience the virtual network as meaningful. One said: *“There have to be active debates going on between the members”*. *“Several members of the network have to be more active and engaged”*. Activities going on in the virtual network will influence upon the motivation of the health professions. In addition to that the health professionals must be more active and interested, is someone demanding a coordinator or a moderator into the virtual network. The role of a moderator or coordinator in the virtual network is an important issue to discuss.

The role of a moderator is to be a motivator and both start and continue the discussions. So far in the project the project leader has been the moderator and coordinator of Regine. Further plans are to establish two moderators from the primary health care and one moderator from the specialist health care service. It is of vital importance to recruit moderators from the users of Regine. A moderator is able to keep the discussions alive and the activity ongoing by starting new topics/themes in the discussion forum. A moderator will have an overall role in the virtual network and keep the discussion forum tidy and see to that the discussions are kept serious and ethical.

5.0 Conclusion

The competence program with its different aspects was very well received by the 38 members of the rehabilitation network in Mid Troms. We know and have taken in consideration that there are geographical limitations in how far busy health personnel can and will travel, due to time spend and the cost due to expenditure both for the employer and for the employee. But if we stagnate at that, little development will happen. We have introduced an educational program of different learning tools with a combination of local day seminars and the use of local infrastructure as the video conferences and workshops. To complement this, the virtual network, Regine, was developed as a tool for information, communication and cooperation. The flexibility in working methods gives the members of the network the possibility to access Regine when it suits them, and is not dependent on others in time and space. Participation in the network gives the health professionals the opportunity to discuss and share experiences from the similar working fields. The use of blended learning gives them both the flexibility and the structure to attend an educational program locally in their rural communities. Using ICT as a tool can contribute to cooperation between rural municipalities and diminish the feeling of professional isolation. By the response from the participants we believe that providing an educational program locally, this model can strengthen their competence within geriatric rehabilitation.

Even if the course evaluation is done just three months after the course program, we will carefully point out some outcomes of the course.

Three video conferences were successfully completed with professionals lecturing the members of the network at three local study centres. The network members were divided into three different groups to strengthen the cooperation within this multi professional group.

The reflective process has been good. Particularly the workshops have been used in a reflective process, face to face. We believe these discussions will clear up misunderstandings and will deepen insight into the situations, and help the participants to integrate new knowledge and to understand different aspects of clinical practice better. Sharing experiences within and between the ten rural municipalities have shown to be of importance.

Many health workers in clinical practice are becoming more familiar with the use of ICT in electronic patient records. We experience that it takes time to implement a new tool for cooperation, but there are positive comments towards how they want to use the new tool. *"I need a kick start"*, said one of the participants, and we experience that the motivation is high to use the virtual network. The virtual network may be considered as the framework for the rehabilitation network and will accomplish the continuous and sustainable work within the field of rehabilitation.

The shadowing program will meet the need for improving clinical skills with a more practical approach. This program has been piloted and is now put in action at the local specialist geriatric ward.

The competence program was based on the required needs expressed in the mapping when the network was established. The cooperation within the project group, between the educational institutions; Norwegian Centre of Telemedicine, Tromsø University College, and the project manager of the Rehabilitation Network have been of great importance when it comes to designing a specific competence program. The program was based on specific requirements from the health worker, we used already established infrastructure, took into consideration the geographical challenges and developed a new web based network. So far this has seemed to be very well received. The next step is to do further development of the virtual network and invite health professionals from specialist health care into the Rehabilitation network. The members of the network want to continue the participation in the educational program and have asked for new themes for new lectures in the same model as we have piloted in the project period.

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