WHO Collaborating Centre

for Telemedicine and e-

health

Annual report 2007

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Preface

The Norwegian Centre for Telemedicine (NST) was designated a WHO Collaborating Centre in July 2002. On 25 August 2006, the NST was re-designated for another four years. The basis for collaboration is within the framework of the Terms of Reference:

1. Country work

To provide support to WHO and its Member States, as appropriate, in the establishment, development, monitoring and evaluation of projects on application of telemedicine and eHealth and assessment of its impact on health systems performance.

2. Research and dissemination

To support WHO in:

i.   developing an evidence base on the use of telemedicine and eHealth for improving access to and quality of health service delivery, and enhancing performance of health service providers;

ii.   identifying 'proven practice' in introducing telemedicine and eHealth with a view to providing the most effective models of health service delivery which improve access to, and coverage and utilization of, priority health interventions, and enhance provider performance;

iii.   identifying, developing and applying approaches, methods, tools and indicators for evaluating and measuring the impact of telemedicine and eHealth service provision and outcomes;

iv.   introducing telemedicine and eHealth for the analysis of performance of health service delivery systems.

v.   To contribute to telemedicine and eHealth knowledge generation, and dissemination, through the collection of publicly available information on the applications and impact of telemedicine and eHealth; identification of relevant articles in journals; web links; and other relevant materials.

3. eLearning/human resources development

To facilitate and contribute to WHO's global efforts in the area of health systems resource generation, in particular the development of a global eLearning network for health professionals and communities; and

To support the development and implementation of eLearning applications as a means for capacity building.

4. Advisory role

To provide advice and answers to specific questions on telemedicine and e-health and related issues to WHO and Member States through a "hot line" and other appropriate mechanisms.

5. Resource mobilization

To explore funding possibilities and mechanisms, and mobilize financial and technical resources for relevant pilot projects, case studies and capacity building.

This report is a summary of the work performed in 2007 by the Norwegian Centre for Telemedicine (NST) as a World Health Organization Collaborating Centre for Telemedicine and e-health.

In general, most activities are funded by internal NST means. A project-group of five people is allocated to WHO-Collaborating Centre issues together with a full-time co-ordinator. In addition, other human resources are engaged in the WHO-Collaborating Centre activities based on the required field of expertise.

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Table of contents

1. Activities – an overview

The Norwegian Centre for Telemedicine (NST) is a centre of research and expertise that gathers, produces and disseminates knowledge about telemedicine services, both in Norway and internationally. The goal is to ensure the integration of telemedicine services. NST has taken a global responsibility with extensive engagement in international collaboration and was designated a World Health Organization Collaborating Centre for Telemedicine and e-health in 2002.

The foundation of the Tromsø Telemedicine Laboratory[1] (TTL) strengthens NST's international collaboration and research which will again be valuable for its role as a WHO Collaborating Centre for Telemedicine. TTL is a Centre for Research-based Innovation (CRI) aimed at providing research, on a high international level, to develop products, services, and improved processes in telemedicine and e-health systems for chronic, elderly, and lifestyle-related diseases. CRI is a funding mechanism of the Norwegian Research Council (NRC) aimed at promoting research-based innovations in Norwegian industry and in the public sector. TTL is motivated by the expected impact that changing demography, and increase in chronic and lifestyle-related diseases is expected to have on the costs of healthcare services in most countries. The research and innovation at TTL is aimed at providing solutions that allow more people to handle their health and disease themselves or by supporting treatment at the lowest level of the health and care system.

The research is organized into three main topics, sensor-based systems (biometric sensor applications, PAN, HCI), extended decision support (applied statistics, image processing), and collaboration (CSCW, integrated services, organization of processes) while the innovation activities are organized across these research topics. As the host for TTL, NST is responsible for infrastructure and administration of the centre. TTL research facilities are located within NST's offices. Researchers and technical staff working in TTL projects spend most of their time here, making it a vibrant and attractive place for research-based innovations in telemedicine and eHealth. TTL is an international environment, with researchers from Japan, Germany, Spain, USA, Holland, as well as Master Students from other parts of Europe, Africa, and Asia.

The NST facilitates net-based education for various target-groups within the health system. The unit 'Net-based education' prepares tailor-made courses and assists clients with developing the concept, implementation, evaluation and general support. Our platform is the e-learning portal 'Helsekompetanse.no' along with videoconferencing-system. The field is increasing from 29,000 visitors to the portal in 2006 to 81,500 in 2007.

The activities described in this chapter are based on the Terms of Reference (TOR) and particular requests from the WHO and its member states. The TOR indicates the broad areas of activities undertaken by the NST: country work, research and dissemination, e-learning and human resources development, advising and resource mobilization. The TOR was slightly revised in connection with the re-designation, as described in the letter of 25 August 2006[2]. The parties agree on a work-plan covering a two year period of time. Activities are reviewed as required and action taken in line with new situations and requests

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[1] http://www.telemed.no/index.php?cat=77933
[2] http://telemed.custompublish.com/index.php?id=63601

from member states. Any changes in activities will have to be approved by both parties. The work-plan for 2007-2008 is included in Annex 1.

1.1   Research support to the feasibility and assessment studies: Case Albania

In collaboration with WHO Euro, the NST has undergone a number of preparations for performing feasibility and assessment studies for e-health readiness in European Member States. The first study was carried out to Albania on 10-14 July 2007. The visit was initially developed at the request of the Emergency Medical Services (EMS) program to consider hospital eReadiness for electronic information tools for EMS for the uptake of proposed decisions support guidelines. To make the best use of the visit, an eReadiness assessment for Albania addressing both the product areas and the service areas indicated below was carried out. Finally, the visit aimed to complete missing information for Health System Repository on Albania. The Albanian respondents indicated that assistance from the WHO in establishing products in the following areas would be extremely useful: EHR- Electronic Health Record, PIS- Patient Information System, DSS- Decision Support Systems. The Albanian respondents indicated that assistance from WHO in the form of dialogue in the following areas would be very or extremely useful: Advice on e-health standards and norms, National needs assessment for e-health, e-health policy and strategy, Information trends and developments in e-health. This visit was an investigation mission, hence WHO was not in a role of advising, rather a role of discovery.

The team met with the following institutions and people:
• WHO Country Office
• Ministry of Health (MoH)
• Institute of Public Health
• Health Insurance Institute
• University Hospital Mother Teresa (bildet under)
• Durres Hospital
• Genius (Private health facility for chronic pain)
• National Statsitics Institute
• USAID
• Emergency Medicine Team (EMS-project team): MoH, Military Hospital and University Hospital Mother Teresa)

'University Hospital Mother Teresa' in Tirana which is the only public tertiary hospital in the country.

Proposed actions for e-health support

Based on the visits, interviews and discussion, the following actions were proposed:

- To co-ordinate and strengthen ICT-based support to the health system in the country by organizing a workshop for all stakeholders in e-health with the aim to review of all existing and planned ICT-activities within health care.
- To raise telemedicine and e-health awareness in Albania by organizing a national conference or seminar for health care professionals and policy makers.
- Provide advice and information within e-health in general and particular on legal aspects, e-learning, electronic health records, through direct requests, training seminars and internship.
- Establish a Public-Private Partnership which could include a call-centre in Tirana with air-ambulance and a telemedicine-link to international health centres.

As a summary of the visit, we could conclude:

(i) e-health readiness: Albania is in an early phase of e-health readiness. However, there is a clear interest in telemedicine and e-health. The main focus was on 'Health Information Systems', in addition to electronic health records (EHR). Electronic request and report was also mentioned in some of the meetings.

(ii) PDA in EMS: The trial could be useful for information processing. However, we would recommend ICT-support which is integrated with other health technologies. From other trials, it seems that PDAs are functioning more as a stand-alone system.

The results of these studies will contribute to the WHO European Repository on Health Systems and the on-going work of the e-health unit in European Member States.

1.2 Support to the SAFE-project

The Norwegian centre for Telemedicine (NST) was requested by WHO to participate in the Satellites for Epidemiology (SAFE) Exercise program[3]. NST's contribution was to participate as an observer at the SAFE exercise "Satellites for epidemiology" in Heraklion, Crete, on 5-6 November 2007. As described by the project manager of the SAFE-demonstration, Ms Catherine Chronaki, the demonstration should reflect public health needs and illustrate the added value of satellite communications for health early warning and epidemiological surveillance. Since the SAFE-project is supported by a European program, the disease(s) monitored should be a potential threat for the European population. Added value of satellite communication could be demonstrated by surveillance in areas where no easy accesses to terrestrial telecommunications are available, in remote areas, for mobile applications or after disasters. A full demonstration in a post-disaster environment is already planned in the project, in partnership with the Greek authorities. Additional demonstrations are planned within the project duration, until the end of 2007. The European Space Agency (ESA) and the project management will collaborate with WHO to evaluate the solutions developed

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[3] http://www.esa.int/esaTE/SEM7DK73R8F_index_0.html

within the project for demonstrations planned by WHO or by national public health organisations, with the support of WHO for methodologies, implementation and evaluation. The SAFE demonstration was a readiness exercise for health early warning after an earthquake disaster. The demonstration was extended to cover other emergency and disaster situations as well, namely a fire on a power plant and a fire in a hotel. In addition, there was an oil-spill situation where the videoconferencing communication was in use. The evaluation of the Safe demonstration concluded that the satellite based system could work as planned to improve early health warning after an earthquake disaster. The system could support improved communication between the centres involved in an emergency situation and give regular updates of the situation and lead to faster treatment on the site.

1.3   E-health trends: WHO/European survey on e-health Consumer Trends

The project 'WHO/European survey on e-health consumer trends' (e-health Trends) is in its last year and will be ending by 1 June 2008. The NST is the co-ordinator of this co-funded EC project which is an international survey on European health consumers' use of, their attitudes to and their desires with regards to information and communication technology for health purposes, e-health. Seven countries participate in the project: Denmark, Germany, Greece, Latvia, Norway, Poland and Portugal. A total of 11 scientific papers have been published from the first survey, and more papers have been submitted from the second survey which was conducted in April-May 2007. In addition, the project has achieved good visibility through conference presentations and media reports. During the last year, two partner workshops were organized: the first in Wroclaw, Poland, and the latter in Aveiro, Portugal. As part of the workshops, there were public events in order to disseminate the findings from the project.

This project is a joint NST-WHO initiative. In May 2004, WHO Regional office for Europe, WHO European Office for Integrated Health Care Services, hosted a workshop on the same topic in Barcelona. WHO is present in the Advisory Board of the project by Mr. Somnath Chatterji, WHO Geneva. WHO has a crucial role in the project regarding dissemination of the results as a basis for health policy development.

1.4   Support to the Global Observatory for e-health - European perspectives

As a part of the work on WHO´s project 'Building Foundations for e-health' NST has carried out web-based searches to document examples of 'good practice in e-health'. The aim is to find examples of proven telemedicine and e-health practice from Central and Eastern Europe, e.g. five examples from WHO-Euro countries under transition.

We have carried out web-based searches on papers, reports, proceedings, abstracts and Internet sites, and limited the searches from the year 2000 and today.

We conducted searches in eight relevant databases looking for documentation on projects to serve as examples. So far the study did not identify studies based on adequate design that

directly demonstrated neither usability nor sustainability for the selected geographic area we are focusing at. Nonetheless - most of our searches leads to findings already listed in ongoing projects with a similar mandate to ours. The project is in the process of being finalised when receiving input from the WHO.

The NST has commenced a task on developing e-health pamphlets for WHO member states based on an internal report made in 2005 on e-health in the WHO-Euro region. The work has been placed on hold following further consultation with WHO executive management.

1.5   General support to WHO and member states

The NST receives regular requests from member states on various topics within telemedicine and e-health. These are mainly health or research institutions which are in the process of establishing a telemedicine and e-health service and therefore are investigating type of equipment needed based on independent experience with the systems. Several requests are for funding possibilities where we unfortunately are not able to assist. Last but not least are requests for coming to the NST to get hands-on experience on telemedicine and e-health. As far as we can accommodate it we receive people from all over the world for shorter or longer visits.

2. Recommendations

The WHO Collaborating Centre for Telemedicine and e-health would welcome more specific actions within the collaboration with WHO as a priority area for 2008-2009.

In general, the Norwegian Centre for Telemedicine is willing to undertake more activities as a WHO Collaborating Centre, in particular supporting practical telemedicine and e-health services in the member states. The NST would like to focus on specific areas of work in the future. Developing joint projects and activities in member states would make funding easier as most funding agencies are interested in supporting activities with clearly stated aims and expected outcomes.

The NST would like to invite WHO to participate in the development of a *European network on e-health consumer trends research* which will be a follow-up action from the 'e-health Trends' project that is ending by 1 June 2008. We will organize workshops and seminars that are addressing the issues of the 'new patients' and the e-health response from the health care system, services and policies. The aim is to develop a *European network on e-health consumer trends research* which will disseminate the research results and identify future research in this field.

In the coming years, the NST will strengthen the collaboration with the northernmost regions. This could be an area for future collaboration work.

3. Related activities

Being a WHO Collaborating Centre, the NST receives several requests from developing countries and economically under-served regions, which we strive to meet. Among these requests are workshops and feasibility studies as well as requests for internships and visiting scholarship to NST. These activities are mostly funded by internal NST means. Below is a summary of these activities.

Telemedicine Training Course for medical doctors in developing countries

Since 2003, the Institute for Tropical Medicine (ITM), Antwerp, Belgium, has organized an annual Telemedicine workshop on the practical use of the Telemedicine website (second opinion tool) and library document delivery. The main objective is to develop skills and share knowledge necessary for the implementation of Telemedicine/e-health services in resource-limited countries. The workshop has taken place in Antwerp every September for one week following a three week course on HIV/AIDS treatment. Since 2003, a total of 25 people from Cambodia, Peru, Rwanda, Uganda, Mozambique, Tanzania, Cameroon, Sudan, Ghana and Georgia have been trained. The DGCI provides all the scholarships. In 2007 the workshop was organized in collaboration with the NST taking on a more interactive approach, with hands-on sessions on how to develop a Telemedicine/e-health system in low resource settings and with specific discussion on projects proposals.

In September 2007 eight participants joined the Telemedicine training workshop, all medical doctors. A motivation letter was required to support the motivation and willingness for attending the workshop. The following topics were covered, most of these by lecturers from the NST:

- 'Country feasibility study for Telemedicine' and needs assessment: the needs for pre-studies and context awareness
- e-health in low resource settings: templates and examples of proven practices
- Design and architecture of a telemedicine system – adaptations and contextualization
- District Health Information System; Medical data acquisition and Data collection: examples, software, implementation requirements
- Electronic patient records: examples, software, implementation requirements
- Legal/ethical issues in telemedicine: which are the requirements applicable?
- Fixed and wireless Telecommunication networks
- Tele-education, distance learning: tools, courses
- Still-images vs on-line tools; low cost videoconferencing systems for medical application
- Developing a framework of evaluation
- Funding and partnership (e.g., telemedicine associations)

The training was based on a problem or case approach which the students decided themselves. Exercises were incorporated in the various topics taught, with a final assignment generated by the participants and worked out as a project proposal from three different working-groups.

During the workshop economical feasible ICT solutions and applications in low resource settings were demonstrated and examined: wireless, phone, web applications, videoconferencing and mobile technologies appropriate for Telemedicine and e-health.

The Palestine Telemedicine Rehabilitation Network (PalRehab.Net)

The Palestine Telemedicine Rehabilitation Network (PalReb.Net) supports the rehabilitation centres in Palestine via telemedicine and e-health. The PalRehab.Net will connect the four national rehabilitation centres in Palestine and abroad when need be. The network consists of dedicated broadband lines suitable for computer and video transmission, in addition to a computer network.

During 2007 the NST has conducted several visits to the centres in Palestine. The main purposes with these visits have been to close the contracts between the different local partners and NST. The project's local telecommunication partner, Hadara, has done the installation of all necessary network components, and the network was up and running by the end of the year. The network consists of 1Mbits lines and a 2Mbits Internet Access Point. All video conference units will be fully accessible between the centres and by Internet to and from anywhere in the world.

Unfortunately the unstable political situation in Gaza has made it impossible to do any work there. Implementing the services in Gaza will be done as soon as the situation allows. Further work has started regarding establishing routines and practices, and ensuring a long term perspective for the activities. NST has together with Sunnaas Hospital also established a new project group developing new eLearning courses specially adapted for the centers.

The project has lasted a year commenced in 2006 with funding from the Norwegian Ministry of Foreign Affairs. The project is based on the recommendations from a pre-project conducted in September 2004. The study revealed the challenges the rehabilitation sector is facing due to travel restrictions for patients and health care personnel and the increasing isolation the region is facing.

During the project period there will be established routines ensuring a long term perspective, making the network operable also after the actual project period. The Norwegian Association of the Disabled (NAD), Sunnaas Hospital, and the Norwegian Centre for Telemedicine, Tandberg and Cisco are the Norwegian partners in this project.[4]

PERSONA: perceptive spaces promoting independent aging

The European FP-6 project PERSONA aims at the development of sustainable and affordable solutions for the social inclusion and independent living of Senior Citizen through harmonisation of Ambient Assisted Living (AAL) technologies and concepts. The AAL-technologies will develop the technological context for elderly people to increase their independent living. The PERSONA project believes that the application of new technologies can improve the quality of life of senior citizens. For that reason, the project will validate and analyze the future impact of the application of AAL technologies in different scenarios.

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[4] A web-site prototype has been developed, http://www2.helseutdanning.no/palestina/

The PERSONA technical platform will exploit and incorporate a broad range of relevant technologies which are developed and integrated in the project: AAL system reference architecture, micro- and nano-electronics, embedded systems (e.g. as in smart textiles), Human Machine Interfaces (display technologies, natural language communication), communication (e.g. body area network, wireless sensor networks), software, web & network technologies (e.g. tele-services), biosensors (to measure physiological data), embedded and distributed sensors (to observe activity patterns, nutrition, gait, sleep), energy generation and control technologies (energy harvesting), and intelligent software tools for decision support.

The project is lead by Vodafon Omnitel, Italy, and has project partners from Denmark, Greece, Germany, Spain, and Norway. It started 1 January 2007 and will end by 30 June 30 2010. The total project budget equals €11.629.000 and is 50 % co-funded by the European Commission, more specifically within the thematic area 'Information Society Technologies' of 6th Framework Program (FP6-IST).

Constellation for AIDS Competence – developing a blended learning program

The Constellation for AIDS Competence[5] is an organization working with fostering local knowledge and local response to the issue through their international network of coaches. In order to expand their successful approach, maintain the quality of the approach, and increase and improve the sharing of the results, the Constellation and the Norwegian Centre for Telemedicine have developed a two year project for a blended learning program combining local training with a wide range of on-line tools for learning, communicating and collaborating. The expected outcome is an increased capability to train coaches, making the Constellation able to reach more communities and communicate and coordinate the results more efficiently. A total of six online learning modules will be developed, and about 100 coaches will participate in the program. The project started 1 December 2007 with the funding from the Norwegian Ministry of Foreign Affairs.

Baltic e-health

The NST was the work-package leader in the EC/Interreg funded project 'Baltic e-health', which was successfully finalized in May 2007 in Stockholm with a final international conference: 'Cross-border e-health in the Baltic Sea Region'. The project goal was to make cross-border e-health services possible, starting in the Baltic Sea Region. An important reason to do so is the expectation that cross-border e-health services will prevent migration of highly competent healthcare staff from rural areas in the region. In 2006 and 2007 the NST coordinated the work that led to the country reports on e-health and migration from rural areas.[6] The lessons learnt from the project will serve as a good knowledge base for other cross-national e-health projects. 'R-Bay' is a follow-up of the Baltic e-health project. It started in august 2007, managed by the Danish organisation Medcom.

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[5] www.aidscompetence.org/ 15 March 2007
[6] See http://www.baltic-e-health.org/ for the reports and further information

COGKNOW

The COGKNOW is a three year research- and development project within the EC/IST program with partners from nine different European countries, and a total budget of 2,1 million Euros. The objective of COGKNOW is to develop a user-validated cognitive prosthetic device with associated services for people with early stage dementia of the Alzheimer disease and their care-givers. Research within the project is carried out by technical- and human factor research teams in Sweden, Norway, the Netherlands and Ireland. The project started in September 2006 and will continue throughout August 2009. The project is implemented as a research and development process with three iterations where the first iteration involves a needs assessment among persons with early stage dementia and their carers, a technical development based on functional requirements developed from the needs assessment, and a first test of a prototype COGKNOW day navigator device at three test sites, Luleå, Amsterdam and Belfast. In 2007The NST has been responsible for the human factor analysis report of the first iteration of the Cogknow project. [7]

Medical Peace Work

The Medical Peace Work project has developed a new European field of expertise that merges health- and peace work, in order to strengthen European physicians' competence in violence prevention and sustainable peace building. Strengthened competence will benefit citizens by improving their health and social wellbeing in conflict areas. The project has developed an e-learning course with focus on the above mentioned issues. The course is an open web-based course consisting of seven modules. This course is a self-running and multi-media learning tool which aims to create awareness about the peace role of health professionals and to strengthen their peace capacities. A network linking key teaching-institutions in Europe, NGOs and health institutions has also been established. The lead partner was the Centre for International Health (SIH) in Norway. The project started in 2005 and ended by the end of 2007. [8]

Croatian Island Telemedicine System Project: Public Health and Technical Evaluation

The Ministry of Health and Social Affairs of the Republic of Croatia has embarked on a telemedicine project to improve access to specialized health services for the population residing permanently or temporarily on Croatian islands. The project consists of pilot implementation in 21 remote locations and four referral centres. The implementation took place in 2006. The NST's involvement in the project has been to contribute with advice regarding legal and security-related issues, network bandwidth, integration, choice of telemedicine solutions and organizational challenges associated with implementation and operation of the services. The collaboration ended in 2007.

Master of Science in telemedicine and e-health

In August 2005, the University of Tromsø commenced a two-year International Master program in telemedicine and e-health. The program admitted 20 students in the first year,

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[7] The report is available at www.hholthe.no . Additional material
may be found at www.cogknow.eu/ checked 5 February 2008
[8] http://www.medicalpeacework.org/ checked 5 February March 2008

and is intended for people who have a Bachelor's degree in technology or health as their basic education. For 2006-2007 the program has 19 students.

The Master program has been developed in close cooperation between the University of Tromsø and the NST. The university is responsible for implementation of the program, while the NST contributes to the development of the curriculum and providing teaching resources. The students participate in research and development projects at NST.

In 2007 master thesis titles included "Mobile blood donor registration system, Dodoma Regional Blood Transfusion Centre, Tanzania", "Visualization of contagious disease outbreak information for primary care physicians", and "Writing Electronic nursing care plans".

The Master program is international with students from all continents. The program plans to expand the international collaboration with universities and e-health centres in other countries. After graduating with a Master's degree, the students can take a PhD in telemedicine at the University of Tromsø.

Interest has been expressed by WHO Euro to develop a module specifically for e-health in developing countries and this will further be investigated in 2008.

Collaboration with Russia

The NST has participated in WHO Regions for Health Network - Health and Wealth in Regional Perspectives (Annual Conference) in Dusseldorf, Germany, 25-27 November 2007.[9] The Conference focused on new transnational services in health care and health system development and contributed to this by providing insight into new international trends - especially in regional health economy. Special focus was on regional health and wealth and on the various aspects of health economical development. The conference contributed to the formulation of an important and promising policy impulse, which will be further developed within the WHO, EU, national and regional contexts.

NST participated in a Russian-Norwegian seminar on 'Organization of monitoring and its informational support in the modern health care system', in Arkhangelsk, Russia, 20-21 September 2007.

The lessons learnt from the ten year collaboration between Northern Norway and Northwest Russia was published in The International Journal of Circumpolar Health in September 2007.[10]

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[9] http://www.loegd.nrw.de/publikationen/pub_tagungen_vortraege/tagungen/071127duesseldorf_rhn-conference.html checked 5 February 2008

[10] Lessons learnt: Telemedicine in practice in Arkhangelsk region, Russia: from a blank page to routine operation: Published in the fourth issue (vol 66:4) International Journal of Circumpolar Health in September 2007. http://ijch.fi/issues/664/664_Bye.pdf

4. Collaboration between the centre and WHO

4.1 Visits by WHO staff (headquarters and/or Regional Office) to the Norwegian Centre for Telemedicine

Mr Niels Rossing, consultant to the WHO-Euro visited TTeC in June 2007.

Visit from the WHO office in Moscow, Russia, by director Ms Mary Collins, and from the Chuvash republic in May 2007.

4.2 Visits by the centre staff to WHO (headquarters and/or Regional Office)

There were no visits to WHO from the NST in 2007.

4.3 Use of the centre staff by WHO

Albania-mission, July 2007

SAFE-demonstration, Crete, November 2007

Support to the WHO Global Observatory on eHealth European report

Review and feedback provided to WHO proceedings speech to the EU ministerial conference on eHealth (Berlin April 2007)

Research provided in support of eHealth and telemedicine activities across boarders used in the consultation for the proposal of the EU Health Directive.

Review and consideration of Kazakhstan World Bank project involvement.

General advice to WHO on various aspects of telemedicine and e-health.

4.4 Support provided by centre staff for courses co-sponsored or organized by WHO (headquarters and/or Regional Office)

No co-sponsored activities took place in 2007.

4.5 WHO financial support to the centre through contractual or technical services agreement

WHO has financed the participation of Tove Sørensen in the e-health assessment to Albania 11-14 July 2007

No other financial contribution has been made in the period.

4.6 Collaboration with other WHO collaborating centres

The NST collaborates with several WHO Collaborating Centres. The NST acknowledge the need for more collaboration in the field.

Collaboration initiated with King Faisal Specialist Hospital, Riyadh, Saudi Arabia, which is in the process of becoming a WHO Collaborating Centre. A delegation from King Faisal hospital visited the NST 18-19 October 2007.

Professor Maurice Mittlemark, Research Centre for Health Promotion, University of Bergen, Norway (HEMIL-centre), is a member of the Advisory group for European e-health Consumer trends survey. In addition the two centres (HEMIL and NST) are collaborating in research projects and exchange of information and meetings have been arranged.

A Memorandum of Understanding between the NST and the Medical Research Council, Telemedicine Lead Program, in South Africa, was signed late in 2005. Tove Sørensen visited the MRC in December 2007.

4.7 Other

Almost every month we welcome visitors from all across the world to the NST. The year 2007 was a busy year with many visits for various reasons, i.e. general interest in telemedicine and e-heath and the work of the NST, possibility for co-operation on projects and ideas, presentations of research, project visits, demonstrations, networking and studies. Researchers, politicians, minsters, government representatives and students from five continents and more than 15 countries visited the NST in 2007.

During the year we had several students staying for a period of time at NST to study and make use of the experience and knowledge within these walls. New networks have been built and we receive many inquiries about the possibility to join the Master study.

Annex1
Proposed workplan 2007-2008[11]

All activities are based on ongoing or planned activities of WHO. No financial support will be provided by WHO to the centre. However, individual arrangements will be discussed and agreed upon separately for joint tasks.

		Activity	Dates / comments
		Support to WHO Regional Office for Europe **Support to e-Health activities in 29 BCA countries**	2007-2009
		Responsible in WHO/Europe: Angela Dunbar, Gérard Schmets **Responsible in Centre:** Tove Sørensen	
1.1		Assist in identification of 5 hand-picked European experts to form an advisory board in support of the health systems conference 2008 and associated sub-conferences. It was decided that the Global Observatory for eHealth Thematic working groups are the most appropriate vehicle for this activity.	2007-2008
1.2		Perform feasibility (e-readiness; needs assessment) studies in approx. 2 central or eastern European countries based on already developed feasibility guidelines. Countries to be determined by WHO Euro. Albania (2007) and Bulgaria (tentative 2008)	Albania (2007) / Bulgaria (tentative 2008)
1.3		Compile examples of 'proven practice' within the 4 functions of the health system. (primarily Central or Eastern Europe) Examples should be 1-2 pages each, 1-2 examples per function in the first phase. Essentially these proven practice examples will be used by internal technical units, and then will be a basis for the HS conference 2008 if necessary. - identify requirements of what is a ´proven practice´ - report on eHealth use for resource generation (e-learning for health professionals) - report on eHealth use for service provision (connecting primary care with secondary and tertiary care, home care provision, e-prescription) - report on eHealth use for stewardship (health information systems at national level, surveillance, medicine monitoring) - report on eHealth for financing (financial pooling, telemedicine reimbursement, health cards)	2006- eHealth training in CPH done
1.4		Coordinate mechanisms for interface with technical units such as HIV/AIDS, TUB, and malaria with using WHO collaboration with partners.	2007- SAFE

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[11] Updated after 19 March 2007