Telemedicine in Russia: Possibilities for Co-operation from the Finnish Perspective

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Background

Finnish-Russian research and development project is aiming to study the possibilities for commercialization and further development of Finnish telemedicine applications in Russia, especially in St. Petersburg area.

Partners:
• Telemedicine Laboratory of Tampere University of Technology
• Lappeenranta University of Technology
• Lappeenranta district hospital
• St. Petersburg State University of Aerospace Instrumentation
• St. Petersburg State University of Economics and Finance
• Hospitals and companies in St. Petersburg
NORDI is a multidisciplinary research institute, which coordinates the research and operations related to Russia and the region of Northern Dimension within the Lappeenranta University of Technology.

The main operations of NORDI:

- Make research in the fields of technology and economics which support the northern dimension initiative of the European Union.
- Provide expertise based on research on the international, national and local levels, with attention paid on the needs of private, public, and academic sectors.
- Promote and cultivate research work related to Russia through the results of the research projects, reports, academic articles, and the scientific as well as business oriented seminars and events in Russia and Finland.
Telemedicine Laboratory of TUT

- The Laboratory is a part of Seinäjoki Regional Unit of Tampere University of Technology
- Established in 2002
- Works in close co-operation with the local district hospital and local telemedicine equipment companies

Expertise areas:
- Wireless systems (e.g. ECG, videoconferencing),
- Wearable computing devices,
- Homecare monitors, alarms, systems
- Electronic patient records
Examples of research projects

EPR Implementation

• **Project**: EPR (electronic patient record systems)
• **Aim**: Develop use and evaluation of EPR systems in hospitals and health centers.
• **Method**: Project started in 2004, received several research grants. Includes 7 regional health centres. Material includes over 3 000 patient cases
• **Results**: Improved utilisation of EPR systems, changes to clinical practice.
Examples of research projects

Teledentistry education

Aim: To develop ICT applications in dental teaching and specialist dental services.

Method: EU research projects involving TUT, University of Turku (Dentistry) and regional care organisations.

Results: First use specialist dental courses via videoconferencing in Finland. First widespread ICT application in dental consultation between regional dental centres and central hospital.
Examples of research projects

ICT in elderly and home care

• **Aim:** Improve independent living at home with use of home care technology.

• **Method:** 40 elderly person suffering from mild to severe dementia in home care, all homes fitted with range of devices.

• **Results:** Total of 35 distinct technologies used, 3 new developed. As of 1.1.2008 mean extension in ability to live at home due to technology minimum of 9 months.
Research Questions

The first preliminary screening aimed to answer questions like:

- General development of health care in Russia?
- What kind of telemedicine applications are used in Russia presently? Why?
- Which segments could benefit from utilization of telemedicine?
- Which factors should be studied in greater detail?
History of health care in Russia

GDP and expenditure on health in Russia (1999-2006)

Share of government and private expenditure (2006)

Russia (99,4 billion USD)

Finland (12,2 billion USD)

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Some Characteristics

1. Fast growth of living standard has created demand for high quality medical services
2. … which has resulted in a heterogogenous health care sector
3. The largest country in the world with a relatively low population density
4. Long distances and inequality in diagnostic and treatment options between cities and rural areas
5. Earlier experience in telemedicine utilization and similar technologies
Russian Expertise

• Multiple successful projects for distance consultations and treatment (e.g. by RTF, Russian Telemedicine Association)
• Disaster medicine technology development
• Strong technological know-how, e.g. through the history of space programs, materials science, optics etc.
• Very skilled software programming sector
Hospital ICT

- Electronic patient records present mainly at private institutions
- Some pilot projects for home and elderly care
- Some experienced players, e.g. in distance consultations

- Basic infrastructure still lacking (availability of computers)
- Available systems lack integration
- Legislation and standards are not finished (paper documents required)
- Effects of the financial crisis are a major setback
Possibilities for co-operation

- Utilization of Finnish home and elderly care equipment in Russia?
- EPR system implementation, evaluating the Finnish process and avoiding the same mistakes?
- Studying the possibilities of implementing Russian technology to smaller scale home care equipment?
- Cross-border co-operation using, e.g. video-consultations or education?
- Cross-border patient data transfer?
Next steps of research

• A complete review of the existing Finnish telemedical home care equipment from different manufacturers
• Study of the registration process of CE-approved health care equipment in Russia
• Comparison of the EU and Russian standards
• In depth review of the advanced technologies utilized, e.g. in disaster medicine in Russia