



Output No. 4.2

Produced by WP4 members







Output no. 4.2

Implementation plan of tele-consultation pilots

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4. List of Abbreviations

BSR	Baltic Sea Region
EUR	Euro
GP	General practitioner
PHC	Primary health care
PHCW	Primary health care worker
ТС	Tele-consultation





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5. Abstract

The Baltic Sea Region (BSR) is confronted with an ageing population, which leads to a rising demand for primary health care (PHC) services. Moreover an increasing lack of health workers and medical doctors challenges the maintenance of PHC within the BSR. Above all the brain drain of health professionals is affecting particularly remote areas in the whole BSR. There is evidence that professional isolation is a leading cause for this brain drain.

The overall aim of PrimCareIT is to raise the attractiveness of remote primary health care for medical professionals by the means of tele-consultation and tele-mentoring. Thereby the project counteracts brain drain and professional isolation in sparsely populated areas for more equal access to primary health care in the BSR.

A better deployment of tele-consultation and tele-mentoring including social media has strong potential to reduce professional isolation and to provide opportunities for professional networking, continuing medical education and career development for younger and experienced doctors and health workers in remote areas.

Building on the Task 4.1: "Situation analysis, process description, and state-of-art of teleconsultation solutions in the 7 pilot sites and in the BSR" the Task 4.2 is concentrating work in order to:

- Set-up of the pilots
- Equip pilot sites in remote primary health for tele-consultation (both on sender/receiver side).
- Carry out tele-consultations between health professionals and log the progress.

The report contains method, context for evaluating pilots and logging pilots, together with pilot documentation.

All pilots are ready to go, and three are already running.







6. Introduction

6.1. PrimCarelT

The increasing lack of medical professionals, such as health workers and medical doctors, challenges the maintenance of primary health care (PHC) in all Baltic Sea regions. Demographic change and ageing population lead to a rising demand for PHC services with a higher morbidity and more chronic diseases.

In addition the brain drain of health professionals is affecting particularly remote areas in the BSR challenging the maintenance of rural primary care. There is evidence that professional isolation is a leading cause for brain drain among other factors such as remuneration and living conditions (UN, WHO). Such brain drain of health professionals is currently affecting remote primary care in the whole BSR.

A better deployment of tele-consultation and tele-mentoring between health professionals within the primary care and with relevant hospital specialist can reduce professional isolation, provide opportunities for professional networking and continuing education thereby attracting more medical professionals to remote areas (UN).

PrimCareIT is in part a continuation of the flagship project ImPrim. While ImPrim mainly focuses on financial incentives to attract health professionals to the PHC, PrimCareIT complements this approach by elaborating on opportunities of tele-consultation and tele-mentoring.

The overall aim of PrimCareIT is to raise the attractiveness of remote primary health care for medical professionals by the means of tele-consultation and tele-mentoring. Thereby the project counteracts brain drain and professional isolation in sparsely populated areas for more equal access to primary health care in the Baltic Sea Region.

The PrimCareIT objectives are

- To assess the regional needs and strategic opportunities of tele-consultation and telementoring to avoid professional isolation of health professionals in remote primary care
- To assess current barriers for large scale deployment of tele-consultations and telementoring in the BSR such as technology acceptance, investment decisions, work flows, legal uncertainties
- To implement and validate transnationally developed tele-consultation solutions in remote primary care in pilot sites
- To implement tele-mentoring as innovative solution for career development of younger health professionals in remote primary care
- To prepare the durability and large scale implementation of the piloted solutions in the partner regions

The objectives of the project form the structure of the Work Package (WP) framework and are represented by the diagram below:





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To assess current barriers for large scale deployment of teleconsultations and telementoring in the BSR such as technology acceptance, investment decisions, work flows, legal uncertainties (WP3)

To prepare the durability and large scale implementation of the piloted solutions in the partner regions (WP4,5)

To implement tele-mentoring as innovative solution for career development of younger health professionals in remote primary care (WP5)

To implement and validate transnationally developed tele-consultation solutions in remote primary care in pilot sites (WP4)

To raise the political awareness via NDPHS, Political Board "eHealth for Regions" how to attract health professionals to remote primary care through joint political discussions with ImPrim (WP6)

To assess the regional needs and strategic opportunities of tele-consultation and telementoring to avoid professional isolation of health professionals in remote primary care (WP3)

Figure 1: Work package structure of PrimCareIT (Source: WP3 Literature Review)

The project base and the background layer for all other activities are the assessment of the regional needs and strategic opportunities of tele-consultation and tele-mentoring to avoid professional isolation and health professionals in remote primary care. To asses these needs the background of the current situation in countries, participating in the project should be identified. The findings will lead to the generalization of overall situation regarding deployment of teleconsultations and tele-mentoring in the partner regions and also will lead to the definition of specific ways of the counteraction of professional isolation and brain drain in regional remote primary care.



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6.2. WP4 context and background

In WP4 the aim is:

- To implement successfully methods and tools for tele-consultation in 7 pilot sites in remote areas of 5 different countries within the Baltic Sea Region
- To validate the transnationally developed tele-consultation solutions in remote primary care in pilot sites
- To prepare the durability and large scale implementation of the piloted solutions in the partner regions

Sub-objectives are:

- To enhance the connection of health professionals within primary health care and the cooperation with the secondary health care sector.
- To enhance the use of ICT for collaboration of health professionals within primary health care and the cooperation with the secondary health care sector
- To improve the professional cooperation and quality in remote primary care.
- To counteract professional isolation through tele-consultation.

This WP will explore how to overcome professional isolation in the primary health care (PHC) sector in remote areas. This will be achieved by elaborating, implementing and testing methods and tools that support tele-consultation.

6.2.1. Introduction to WP4 tele-consultation baseline

Tele-consultation accounts for a substantial part of tele-medicine. It can be generally defined as a (audio-) visual communication link between health professionals. Tele-consultation enables the virtual communication between doctors of different disciplines or with specialists in other health care institutions like hospitals.

As more and more other health professionals in PHC (for example specialized nurses and physiotherapists) have their own consultations and the request for inter-professional collaboration, there is a need for technical and methodological support for communication and consultations between all health professionals in PHC

Tele-consultation is carried out in different ways. There are two broad categories: live teleconsultations via video- and audio recordings and data tele-consultations. Video- and audio recordings can be uni- or bi-directional, in real-time or not. The information can be transmitted via e-mails, the World Wide Web and through other internet applications. Data tele-consultations involve the information regarding the patient's medical condition, for example laboratory findings, which is forwarded to a consulting physician for second opinion.

The use of social media has increased rapidly in healthcare during the last decade.

Physicians, patients, and healthcare organisations are all starting to employ a new generation of online and mobile technologies, which are fundamentally changing the way healthcare works. Social media, for example, can be used by healthcare providers to give general advice, provide information, and to facilitate interaction between patients and physicians or nurses. Social media also represent an untapped means for social networking among medical professionals. For



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example, social networks can be used to reduce the isolation of remote primary care physicians or to improve the means for addressing support to tele-consultation is also considered in the demonstration scenario as a possible component

Especially in remote areas tele-consultation can take place between health workers and general practitioners (GPs) as well as between GPs and medical specialists at hospitals. During a home visit by a health care worker, for example, the patient information on vital signs, pictures of ulcers or recordings of the patient's behaviour after suffering a stroke can be send via mobile phone directly to the GP, who can give further instructions to the health care worker. Thus, the patient does not have to travel to the GP. According to this example, tele-consultations will also facilitate the shift of medical tasks from hospitals to GPs and from GPs to health workers. Consequently, specialists are taken to the primary health care sector by tele-consulting. Therefore, tele-consultations ensure continuous care. Moreover, hospital visits will be reduced.

Technologies for tele-consultation are available off-the-shelf. However, there are several obstacles and problems that prevent the implementation and routine use of tele-consultation. A survey of the project participating Baltic Sea countries on challenges for implementation of tele-consultation in remote primary care showed that a reserved attitude of health workers and GPs towards eHealth and tele-consultation inhibit its use. Until now, tele-consultations are not part of daily working routines of GPs and health workers. There are no processes implemented, on which level a tele-consultation should take place. Furthermore, a missing reimbursement scheme of tele-consultation between institutions of primary and secondary health care makes an implementation and use of tele-consultation difficult.

For tele-consultation the national frameworks concerning the health care system, existing connections between health care provides as well as data protection and legal security have to be taken into account. Legal uncertainties regarding tele-consultations and documentation of health data should be clarified. The applications should be feasible and manageable. Still, tele-consultation is proven to be one instrument to counteract professional isolation of GPs. It allows them to directly communicate with a colleague to discuss clinical pictures, diagnosis and treatment of their patients. Therefore, tele-consultation is also a tool for continuing education.

Furthermore, tele-consultation leads to better cost-effectiveness, cost savings, access to specialised medical knowledge and to more attractive jobs for medical professionals in remote area

PrimCareIT addresses the aforementioned problems and will solve them in consideration of the national and regional distinctions. Seven pilot sites in five different countries within the Baltic Sea Region – Finland, Sweden, Lithuania, Estonia, and Republic of Belarus – will elaborate, implement and test tele-consultation within this project.

In most of the participating pilot regions, a secure environment for eHealth applications in primary health care is already established. In Estonia, for example, tele-consultation should be made through secure environment of the electronic health record (EHR) system. But even though the infrastructure is at hand, eHealth for consultation has not yet been introduced in remote primary care. All implementing project partners are facing resistance in the use of eHealth applications



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such as tele-consultations. These obstacles and barriers should be overcome by PrimCareIT.

The use of tele-consultation in remote areas is a new promising field of improving primary health care. The tele-consultations should take place both within regions and across borders to meet the transnational aspect. Regarding WP4 of the flagship project ImPrim, which develops measures to enhance and harmonize professional development in primary health care, this work package should establish tele-consultation as the aforementioned tool for continuing education in remote primary care and improve the cooperation between health professionals within the primary health care sector, for example between nurse and GP, as well as with the secondary health care sector.

A transnational workshop after the pilot project is completed will evaluate its results. The findings will be taken into account in WP 6. A handbook with good practices and guidelines for the successful implementation and usage of tele-consultation will be published.

6.3. WP4 task descriptions

6.3.1. Task 4.1: Transnational assignment to prepare and plan the pilot project at 7 pilot sites

The implementing partners will prepare the pilot in their regions.

Situation analysis: analysis of the country specific working models within remote primary health, e.g. communication and division of work between GP and nurse

- Literature study on best practices in tele-consultation
- Needs assessment in the pilot regions, e.g. what kind of technology and methods, for example webcam, is still needed
- Process assessment on how to implement tele-consultation in the daily work routine
- Assessment of legal aspects of tele-consultation

Output 4.1: Situation analysis, process description, and state-of-art of tele-consultation solutions in the 7 pilot sites and in the BSR

6.3.2. Task 4.2: Pilot projects on implementing tele-consultation

Based on task 4.1 the pilot on tele-consultation in the 7 pilot sites starts.

- Set-up of the pilot
- Equip at least ten doctor's offices in remote primary health for tele-consultation. According to regional/national health policy, nurses will also be equipped if performing home visits.
- Equip the corresponding medical specialists
- Carry out tele-consultations between GP-nurse, GP-resident medical specialist, GPmedical specialist in hospital

Output 4.2: Implementation plan of tele-consultation pilots

6.3.3. Task 4.3: Mid-term evaluation of the pilot projects

After the pilot has been running for six months, a mid-term evaluation will be carried out. If necessary, adjustments in the implementation will be made.





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The pilot will continue throughout the mid-term evaluation period.

Output 4.3: Mid-term evaluation report in tele-consultation implementation including necessary adjustments

6.3.4. Task 4.4: Complete pilot project on tele-consultation

After 15 months the pilot on tele-consultation will be completed. At the end of the pilot phase sustainable networks between primary and secondary health care providers in the pilot regions will be established.

Output 4.4: Report on fully implemented tele-consultation infrastructure und running processes in the pilot sites

6.3.5. Task 4.5: Transnational workshop on the lessons learned from piloting teleconsultation

Based on the results of Task 4.4 there will be a transnational workshop on the lessons learned from piloting tele-consultation in remote primary health.

The findings of this work package as well as the conclusions of the transnational workshop will be published in a handbook with good practices and guidelines.

Output 4.5: Publication of handbook with good practices and guidelines for tele-consultation.



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7. Methods

The main influence for designing the individual pilot studies in this work has been case studies [1], which provided a useful baseline because the area of concern has been in a contemporary live healthcare process that cannot be lifted out of its context and where the events cannot be controlled [1]. Yin [1, p.13] states that a case study is *"…an empirical study that investigates a contemporary phenomenon within its real-life context*". A case study approach is applicable, especially when the boundaries between the phenomenon being studied and its context are unclear. This matches the reality in the pilot cases with their rather uncontrolled interactions. For instance, it is difficult to replicate a healthcare-to-healthcare consultation without the access to the actual situation including possible stress or impact of patient presence, making it hard to mimic or replicate the consultation. Further, because the project is about understanding "how" the practical tele-consultation can be supported, and carried out, the case study approach is also appropriate.

The participants of WP4 have been asked to use templates for pilot descriptions for each pilot (PrimCareIT-WP4-PilotX-Name.docx), in order to collect data to plan and carry out the studies.



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8. Pilots

8.1. Planned pilots

There are 7 WP4 pilots planned according to Figure 2.



Figure 2. WP4 pilots (Source: Riga PrimCareIT WP4 meeting documentation).

- Pilot 1 Tele-consultation Blekinge Wound Care Center
- Pilot 2 BelMAPO Professional support of GPs from remote
- Pilot 3 KPHCD Central hospital to home care units
- Pilot 4 VCC Psychogeriatric in distant rural area
- Pilot 5 Lithuania VUHSK
- Pilot 6 Estonia Vormsi Health Centre
- Pilot 7 National Health Service

8.2. Pilot deployment scheme

As seen in Figure 3 the deployments of all pilots are underway and all pilots are started as of Jan 1 2013. There are mid-term evaluations according to WP4 directions, and final documentation by





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end 2013.

Pilot	2012	2012	2012	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013	2013
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
#1						Eval 1									Final
#2								Eval 1							Final
#3							Eval 1								Final
#4						Eval 1									Final
#5								Eval 1							Final
#6									Eval 1						Final
#7							Eval 1								Final

Figure 3. Deployment plan of pilots #1-7

8.3. Evaluation of pilots

Indicator related evaluation common for all pilot sites.

Pilot projects in WP 4 pilot projects



Formative, process- and outcome evaluation

Figure 4. Evaluation process

8.3.1. Formative evaluation

Pre test Baseline Data collection before pilot;

- Monitoring of present consultations; time duration, type, location etc.
- Observations with field notes of the settings for consultation at the pilot site (consultation rooms, equipment, localities, placement of working desk with computer, bench and chairs for the patients, etc.)
- Interviews with involved expert and PHC workers regarding work, IT-knowledge, attitudes, skills, and expectations.



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8.3.2. Process evaluation

Data collection during the pilot after each consultation

- Follow up questionnaire filled in by involved PHCW; communication, accessibility usability, technique influences on the consultation quality, advantages, disadvantages, obstacles.
- Video observations of consultation with present patient, use of equipment, communication

Data collection after the pilot

• Follow up with questionnaire/interview with participated health personnel tele-consultation could be replicated, disseminated, sustainable

8.3.3. Results Impact and outcome evaluation

Data collection after the pilot period.

- Follow up questionnaire/ interviews with involved PHCW (and other involved actors).
- Knowledge regarding pilot specific contents (assessment and treatment, skills, use of technology, self-confidence, empowerment)
- Attitudes towards use of technology for consultation
- Number of pilot consultations, types, duration
- Benefits of tele-consultation versus traditional consultation (security in care and treatment, empowerment, time, knowledge, partnership)
- Benefits tele-consultation versus traditional consultation for patients (expressed by health personnel)
- Benefits tele-consultation versus traditional consultation for the healthcare (expressed by health personnel, obstacles and limitations)
- Suggestions for further development of tele-consultation

Data collection after one year

Questionnaire/ interviews. Long term outcome; follow up maintenance, replication, dissemination.

8.3.4. Continuous work on result impacts and measures

According to dialogue at Riga meeting Oct 9 there are plenty of proposals for further evaluation of pilots and effects (see meeting notes; PrimCareIT-WP4-MeetingNotes-008-20121009.pdf) and each pilot should constantly reflect upon purpose and otucomes during deployment.









consultation pilots



Figure 5. Indicator and results dialogue

8.3.5. Template for documentation of tele-consultation

Below is a translation of example from Pilot 1 documentation at every consultation. Also see on portal (PrimCareIT-WP4-Template-ConsultationDocumentation.docx).

PrimCareIT



PrimCareIT WP 4 Pilot Wound Center Version 2 121028

NOTE: Translation from Swedish document!

Documentation of tele-consultations

To be filled out by wound center and consulting wound care personell

En form for every consultation (paper version or digital, Ewy olander will collect)

Date						
Name						
Type of	Type 1	Type 2	Type 3	Type 4	Type 5	
Mark:	Tele- consultation between Wound Centre (WC) Expert wound-nurse assistant and Primary Health Care Centre (PHC) Ronneby VC wound- nurse assistant".	Tele- consultation between WC Expert wound- nurse assistant and PHC Ronneby VC wound-nurse assistant, and PHC Kallinge VC wound nurse as a listener and learner (collegial tutoring)	Tele- consultation between WC Expert Wound -nurse assistant and PHC Ronneby VC wound-nurse assistant and district nurses at Ronneby and Kallinge VC as learners for wound assessment in collaborative learning	Tele-consultation between WC Expert wound –nurse assistant and PHC Ronneby VC wound- nurse assistant, and a patient with a wound for consultation by the Ronneby VC wound- nurse assistant.	Tele- consultation between WC Expert Wound – nurse and a Home care nurse visiting a patient with a wound in the patient's home.	
Who particpated Note participants						
Technical equipment used: Note equip.						
Type of consulation Select	Reception	Home visit	1st contact	Follow up	Planned	Unplanned
Time used for staff Note time						
Time experienced by patient <i>Note time</i>						





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Comments	
	Answer the following questions as detailed as possible using your own words.
Q1A	
How did the technology	
WORKE	
Good - in what way?	
Less good - Why?	
What to improve?	
Suggestions for change?	
Suggestions for enanger	
Q1B	
Usability of technology for	
this type of tele-	
consultation?	
Q 2	
How did we-camera work?	
Good – in what way?	
Less good – Why?	
What to improve?	
Suggestions for change?	
0.2	
Q 3 How did the	
communication/consulation	
work/go?	
Good – in what way?	
Less good – Why?	
What to improve?	
Suggestions for change?	
Q 4	
Factors that ease/enable	
use of tele-consultation?	
0.5	
Q 5 Eastars that	
raciors that	
of tele-consultation	
or tele-consultation	
0.6	
When patient takes part.	
	1





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How did the patient experience the consultation?					
Q 7 Total assessment?	100 % Perfect	75 % Good	50 % Neutral	25% Less good	0% Failure
Reason? Comment on Q 7?					

8.4. Pilot 1 – Tele-consultation between Blekinge Wound Centre and primary care actors (Municipality and County Councils)

Full description of pilot in: PrimCareIT-WP4-Pilot1-WoundCenter.docx

8.4.1. Purpose

The purpose with the pilot project is to find out and test best arrangements, structures, equipment, etc for tele-consultation between Blekinge Wound Centre and Primary Health Care actors; nurses and nurse assistants, that additional to consultation also could support collaborative learning and improve professionals competence. Such tele-consultation raises most likely the attractiveness of remote primary health care for medical professionals, and thereby counteracts brain drain and professional isolation in sparsely populated areas. Tele-consultation could also increase an equal access to a high quality wound treatment in primary health care.

The aim with the new tele-support is that health personnel with responsibility for patients with wound have knowledge, understanding and skills for high quality of professional and secure investigation, treatment and caring.

8.4.2. Scenario

Scenario	Consultation between Wound-centre (a specialist-driven primary health unit) and health personnel at Primary Health care Centres and home health care
Solution idea	 Video conferencing with web camera for consultation with and without patient Other forms for collaborative learning based on ICT and web 2.0 applications for professionals with discussion forum for synchronic and asynchronic communication Web based documentation Other forms of collaborative learning based on ICT and web 2.0 applications.
Evaluation	 Formative Process of video consultations, use of forums and collaborative

Table 1. Scenario for WP4 Pilot 1 - Wound Centre





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	 learning, Results, impact, outcomes: knowledge, skills, considerations, decisions, usability, quality, benefits
Partners	 Blekinge county council wound Centre, PHC–Centres in Blekinge county council, Home care, Elderly care in municipality
Responsible	Ewy Olander, Anna Tegel
Timing	September 2012 - March 2013

8.4.3. Situation analysis

- The county council of Blekinge Wound Center
- In Primary Health Care (PHC) and Home care there are not so many patients with wounds in each PHC-area and municipality, that health personnel can get insight, skills, and experiences to keep a high quality in wound investigation, assessment and treatment.
- Need of specialized support and guiding from wound expert personnel.
- Tele-consultation and collaborative learning and documentation of questions and discussions could counteract brain drain and professional isolation and thereby increase conditions for wound assessment, treatment, and health promoting and preventive patient care with high quality and safety.

8.4.4. Context situation

- A Blekinge county council owned Wound Centre is placed at Lyckeby Health Centre in Karlskrona. The Wound Center are specialists to treat slow-healing wounds.
- The Wound Centre is manned by one Wound specialist doctor, two registered nurses and two assistant nurses, all specialists to treat slow-healing wounds. Wound treatment is provided by Wound responsible nurse and nurse assistant in PHC and Home Care with support from the Wound Centre. New patients visit the Wound Centre for a first consultation to assess the wound and to get guidelines for treatment, bandage etc. Thereafter the patients have their consultations with their Wound-nurse or nurse assistant at the PHC or in Home Care.
- Today the patients and sometimes even the health personnel have to travel to Lyckeby Wound centre for a specialist consultation.
- There is no easy system for video conference today accessible in health personnel computers in the county council of Blekinge.
- Lynch Attende 2010 is installed in participating nurses' computers. The system replace the Tandberg video- conference system
- A Wound Group is established as a forum for experience- and knowledge exchange between personal and treated patients with slow-healing wounds in the County. In the wound group doctors and nurses are involved with special interests for active slow-healing from both PHC and hospitals.
- The Wound centre organizes twice a year wound treatment education for "woundresponsible nurses and nurse assistants".





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- Increased wound treatment support is requested among health personnel in PHC, home care and elderly care.
- The wound nurses identified three types of consultations and two consultations with collegial tutoring and education.
- 8.4.5. Relevance Why important?
 - Increase health personnel's knowledge, understanding and skills in rural areas and for personnel with responsibility for patients with wound.
 - Increase treatment quality, safety, professional medical investigation and treatment, caring and patient education
 - Health economic gains from a national health care perspective as well a local county council aspect, and from an individual patient perspective.

8.4.6. Implementation

The implementation contains several different local scenarios around the wound center.

8.4.7. Pilot 1A - Tele-consultation between Wound Centre (WC) Expert woundnurse assistant and Primary Health Care Centre (PHC) Ronneby VC wound-nurse assistant".



PHC Ronneby VC "wound-nurse assistant"

Figure 8. Implementation scenario Wound Center.

- Consultation and communication via video-conference system Lync using computers with web camera.
- PHC Ronneby VC "wound-nurse assistant" shows a photo of a "difficult wound" i.e. a wound that is difficult to assess or treat to assess to get supervision from the expert-nurse at WC how to assess and treat the wound.
- Documentation:
 - the WC-nurse registers the consultation in a Wound consultation record and the PHC nurse make an note in the patient record
- The patient is informed and has given consent to the consultation

8.4.8. Pilot 1B – Tele-consultation between WC Expert wound-nurse assistant and PHC Ronneby VC wound-nurse assistant, and PHC Kallinge VC wound nurse as a listener and learner (collegial tutoring)





- Consultation and communication via Video-conferencing system Lync using computers with web camera.
- The PHC Ronneby VC wound-nurse assistant shows a photo of a "difficult" wound to treat and get supervision from the expert-nurse at WC how to treat the wound, followed by a dialogue about wound treatment.
- Documentation:
 - the WC-nurse registers the consultation in a Wound consultation record and the PHC Ronneby VC (patient responsible) nurse make a note in the patient record.
- The patient is informed and has given consent for another wound nurse to participate in the consultation.

8.4.9. Pilot 1C – Tele-consultation between WC Expert Wound–nurse assistant and PHC Ronneby VC wound-nurse assistant and district nurses at Ronneby and Kallinge VC as learners for wound assessment in collaborative learning



Figure 10. Pilot 1C.

- Consultation and communication via video-conferencing system Lync using computers with web cameras.
- Participating district nurses are using the computers with access to Lynch at their working desks.
- The WC expert wound nurse assistant shows photos of wounds that have been difficult to assess and treat.
- Documentation:
 - the WC-nurse register the consultation in a Wound consultation/education record to be published at the new local webpage for Wounds.
- The consultation in Lynch is recorded for the pilot evaluation
- The wound photos have id cods and are anonymous





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8.4.10. Pilot 1D – Tele-consultation between WC Expert wound–nurse assistant and PHC Ronneby VC wound-nurse assistant, and a patient with a wound for consultation by the Ronneby VC wound-nurse assistant.



Figure 11. Pilot 1D.

- Consultation and communication via Video-conferencing system Lync using computers with separate web cameras.
- The "Ronneby VC wound-nurse make a consultation with a patient present in the "wound-room" to get guidelines how to treat the patient's wound.
- The web camera has an extension cord to make it possible for the PHC nurse assistant to show the expert WC nurse assistant the wound. A digital camera will also be used to get a photo of the wound to the patient record and for eventual wound doctor consultation.
- Documentation:
 - the WC-nurse register the consultation in a Wound consultation record and the PHC nurse makes a note in the patient record.
- The consultation in Lynch is recorded and the consultation at the PHC wound room videorecorded fort he pilot evaluation.
- The patient is informed and has filled in an informed consent form.

8.4.11. Pilot 1E – Tele-consultation between WC Expert Wound –nurse and a Home care nurse visiting a patient with a wound in the patient's home.



Figure 12. Pilot 1E.

- Consultation and communication via Video-conferencing system Lync using tablet/smartphone or a computer with separate web cameras.
- The Home care nurse makes a consultation from the patient's home with the patient present about how to treat the patient's wound.
- The web camera has an extension cord so the PHC nurse can show the expert WC nurse the wound. A digital camera will also be used to get a photo of the wound to the patient record, and for eventual wound doctor consultation.
- Documentation:
 - the WC-nurse registers the consultation in a Wound consultation record and the PHC nurse make and note in the patient record.
- The consultation in Lync is recorded and the consultation at the PHC wound room video-





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recorded for the pilot evaluation.

The patient is informed and has filled in an informed consent form. •

8.5. Pilot 2 – BelMAPO - Professional support of doctors (general practitioners) from remote areas using tele-consultations.

Full description of pilot in: PrimCareIT-WP4-Pilot2-BelMAPO.docx

Purpose 8.5.1.

Professional support of doctors (general practitioners) from remote areas using tele-consultations.

8.5.2. Scenario

Table 2. Scenario for WP4 Pilot 2 – BelMAPO.





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Evaluation	 Formative Process of video consultations, use of forums and collaborative learning, Results, impact, outcomes: knowledge, skills, considerations, decisions, usability, quality, benefits
Partners	BelMAPO - Ostrovets Central Regional Hospital
Responsible	BelMAPO (Irina Moroz , Nikolay Gvozd) Ostrovets CRH (Uladzimir Mazheika)
Timing	December 2012 - December 2013

8.5.3. Situation Analysis

In Belarus, healthcare system informatization is carried out within the state programmes on the following directions:

- information systems automatization in the healthcare organizations, which makes it possible to keep medical records in electronic documents;
- inclusion of the healthcare organizations in E-mail and Internet network in order to provide electronic documents circulation and data exchange;
- organization of the common information area of the Belarusian healthcare system based on the corporative information exchange network;
- provision with medical (discharge forms, records, history, analysis data, etc.), regulatory, organizational and executive documentation based on the common network in electronic form using the electronic signature;
- tele-medical technologies improvement;
- public health care and epidemic welfare monitoring systems development;
- formation of public electronic medical resources.

The following projects in the sphere of tele-medical technologies were introduced into practice in Belarus:

- Automated republican tele-medical system of unified electronic consultations, which covers 10 republican, regional and district healthcare organizations in Minsk, Mogilev and Gomel regions.
- 2. Republican tele-medical consultation system in the most injured Chernobyl areas of Brest, Gomel and Mogilev regions. Tele-medical system covers 11 district (CDH), 9 regional and 10 republican (RSPC) healthcare organizations.

This system makes it possible for district and regional healthcare organizations to use distant consultations based on X-ray, ultrasound and cytological examinations and diagnosing the patients. The technology of distant ECG consultation has also been developed.¹



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There are several constantly working tele-medical systems:

- Consultation network on the thyroid nodules pathologies (the recipient is the RSPC of Radiation Medicine and Human Ecology (RSRC of RMHE) in Gomel, the consulting organization is the Republican Centre for Thyroid Cancer (RCTC).
- Photofluorographic consultation network on the basis of TB dispensaries №№ 1 and 2 and Minsk polyclinic № 27.

The implementation of tele-consultation into the various spheres of life including healthcare has been activated recently. There is also quiet a good experience in carrying out the distant education via tele-systems.

State Educational Establishment «Belarusian Medical Academy of Post-Graduate Education» (BelMAPO) is a unique educational and scientific center that has been successfully realizing extended advanced training and retraining, certification of doctors, medical teachers, scientists and healthcare professionals in Belarus.

8.5.4. Context situation

Directions of the activity:

providing advanced training and retraining for doctors;

- training of PhD and clinical residency fellows;
- carrying out scientific research in different fields of medicine, biology, economics and healthcare management;
- treatment-and-consultation and treatment-and-diagnosis work.

Teaching staff involved in consultations

BelMAPO has significant scientific and pedagogic human resources. There are 2 Academicians and 3 Correspondent Members of the National Academy of Sciences of the Republic of Belarus, more than 80 Doctors of Medicine and 250 PhDs, Honored Masters of Sciences and Laureates of State Prizes.

BelMAPO has the special permission (license) of the Ministry of Education of the Republic of Belarus to carry out the educational activity and the license of Ministry of Health of the Republic of Belarus to carry out the medical activity.

BelMAPO provides training on 76 medical specialties at 4 faculties:

- pediatrics
- surgery
- therapy
- public health and healthcare management.

Every year, more than 18 000 doctors and medical teachers from Belarusian and foreign medical educational establishments take advanced courses on 51 departments of the Academy.

The web-site of BelMAPO provides the information about the courses and educational programs,





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scientific, medical and consultation activities. The electronic database called "Personnel" for the registration of medical professionals attending advanced and retraining courses has been operating since 2007. Nowadays, it contains the information about 48 346 specialists (with higher and secondary medical education) employed in the system of the Ministry of Health of the Republic of Belarus.

BelMAPO carries out medical and consultation activities on the bases of 16 republican healthcare establishments (Republican Scientific and Practical Centers and republican hospitals); 6 Minsk region and 32 Minsk-city healthcare establishments. Besides, the specialists of BelMAPO carry out consultations of the doctors from regional and district healthcare establishments of the republic (distant areas).

8.5.5. Relevance, why important?

Increase access to skilled personell, and increase security and reduncancy in health care system.

8.5.6. Mode of implementation

Deployment o tele-consultation using computers, smartphones, and tablets together with conferencing software.

8.5.7. Technical needs

The IT Centre of BelMAPO deals with technical and software issues of the educational process, provides technical support of scientific and practical conferences.

BelMAPO is experienced in conducting tele-consultations and tele-conferences. Wider implementation and dissemination of tele-consultations and tele-conferences into medical practice is holding back by the lack of technical resources. With the equipment we have now the Academy is not able to provide specialists from the distant areas with the high quality tele-consultations, it requires upgrading.

To realize WP4 tasks of the PrimCareIT we have defined the following participating parties (Scheme 1):

- BeIMAPO (departments and specialists),
- Ostrovets Central Regional Hospital (70 doctors in 21 specialties)

4 hospital-based outpatient clinics affiliated to Ostrovets CRH

8.5.8. Evaluation

Following WP4 evaluation protocol.

8.6. Pilot 3 – KPHCD - Central hospital to home care units

Full description of pilot in: PrimCareIT-WP4-Pilot3-KPHCD.docx

8.6.1. Purpose

The purpose of the project is to support Care Units and Home Care Units through tele-consultation and change the working environment to be more attractive and so counteract professional isolation





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and brain drain.

The aim is to support health personnel in their daily tasks and problem solving when taking care on chronic patients. By providing the staff possibility for tele-consultation we are improving the care standards in the units and at the same make doctors' work more manageable during the busy day. (They do not have time to visit the units during unscheduled hours.)

8.6.2. Scenario

Table 5. Scenario Ior W	
Scenario	Consultations between
	a) Doctor's office and static Care Units(s)
	b) Doctor's office and Home Care Units
Solution idea	Video-conferencing using mainly web-cameras for consultation
	• Support implementation of "chronic care model" through ICT and e-learning specifically in the area of pharmacy
Evaluation	 Formative using webropol KAP (knowledge, attitude, practises) related ICT, usability, benefits.
Partners	Doctor's, care units and home careunits in Kauhava Primary Health Care District
Responsible	Raimo Rintala
Timing	December 2012 - April 2013

Table 3. Scenario for WP4 Pilot 3 – KPHCD.

8.6.3. Situation Analysis

Our Health and Social services are all under the same administration. Secondary care is provided by the Central Hospital in Seinäjoki.

We have 6 Health Centers in 6 different locations, 4 hospital nursing units (2 acute, 1 rehab and 1 respite) in 3 locations. Our permanent staff is 802 + 200 temporary.

Our 6 Care Units and 6 Home Care Units are under the Elderly Care Division. They don't have their own medical staff, but weekly or monthly consultation hours are designated to certain doctors. We need consulting, e-learning and mentoring between all these units and their staff. It is somewhat difficult to separate the tele-consultation and tele-mentoring for different pilots when in the reality we are using the same staff and equipment for both pilots in WP4 and WP5. We have 3 trained mentor-doctors and 4 nursing mentors, 15 consulting doctors, 7 nurse specialists.

In Finland tele-consultation is mainly used between secondary and tertiary hospital care units. It is sporadically used between Primary Care Units and secondary care. It is not in use towards Care Units and Home Care Units, because these units mainly are under the social care administration, not health care administration, and our legislation regarding e.g. patient records does not permit free access between them.



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8.6.4. Context situation

Our 6 Care Units and 6 Home Care Units are under the Elderly Care Division. We have the same Patient record-system but with restricted access. These participating units have a responsible doctor assigned but doctor's rounds are on regular-irregular basis depending on staffing and duty situation. Therefore situations arise when consultation has not been available and patients are transferred to the Emergency Unit, where a doctor not familiar to the situation has to assess the patient. This creates unnecessary in-patient admissions and stress to the staff and doctors.

8.6.5. Relevance, why important?

We want to create a system where the staff has possibility to consult the doctor outside the designated hours through point to point teleconferencing equipment. This will create less unnecessary admissions, improve the quality of care and satisfaction. It will lessen the uncertainty and anxiety of staff and improve doctors professional satisfaction when working with care patients. Improved manageable working conditions will counteract professional isolation and brain drain.

Financial savings are expected.

This tele-consultation is strongly related to other forms of collaborative e-learning.

8.6.6. Mode of implementation

Deployment o tele-consultation using computers, smartphones, and tablets together with conferencing software.

8.6.7. Technical needs

Pilot focus:

Teleconsultation and telementoring between units in different locations and professional staff

- 1. Group videoconferencing (consulting, Mentoring) between
 - a. our 6 Health Centers (802 staff)
 - b. group videoconferencing between other institutions
- 2. Individual videoconferencing (consulting, mentoring) between single/multiple users
 - a. Our own doctors, nurses and other professionals
 - b. Between professionals in other institutions (Uni, hospital, national institutions)

Equipment list:

- 6 teleconferencing units with stands for meeting rooms (alternative if money not enough: 2 teleconferencing units and 4 PCs +tv + web-camera, mic and speakers) Distribution: WP4: 4, WP5: 2
- 2. 40 web-cameras, 40 microphone-loudspeaker units (ecco-free) for individual PCs Distribution: WP4: 25, WP5: 15
- 3. teleconferencing licence-bridge (may be part of the teleconferencing equipment rental fare).
- 4. licence for 40 PC-PC-conferencing
- 5. 3 laptop-units including web-camera, mic, loudspeakers Distribution: WP4: 2, WP5: 1





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Present:

- 1. fixed network 100 Mb/s between units and professionals
- 2. hired server
- 3. those 40 PCs

Present network system:

- 1. can rent us teleconferencing equipment and virtual room services/teleconferencing license.
- 2. can rent teleconferencing licenses for PC-PC conferencing (Cisco Movi)

8.6.8. Evaluation

Following WP4 evaluation protocol.

8.7. Pilot 4 – VCC - Psychogeriatric in distant rural area

Full description of pilot in: PrimCareIT-WP4-Pilot4-VCC.docx

8.7.1. Purpose

The main purpose of this pilot is to implement distant psychogeriatric consultations in distant rural area. The ambitions are to increase both diagnostic in early cognitive decline and also management of BPSD(Behavioural and Psychic Symptoms in Dementia).

8.7.2. Scenario

 Table 4. Scenario for WP4 Pilot 4 – Psychogeriatric in distant rural area.

Scenario	The vision is that all patienents with on-set of cognitive decline and dementia disorders will have a full and professional evaluation to
	secure adequate diagnos and treatment and that all patients with
	BPSD will have well based interventions and evaluations.
Solution idea	The VLL pilot project for implementation of telemedicine will start with an analysis and data collections to be able to answer questions such as a check of and documentation of present local knowledge, administrative including budget and medical visions, preparing the different roles in the process and also include plan to follow and evaluate the implementation process. Important is to find sponsors that are active enough and will to actively support the processes. In next step this information will be analyses and visions moved to more detailed plans for information, education and service specifications (especially technical equipment
Evaluation	In accordance with WP4
Partners	University hospital
Responsible	Käte Alrutz, Sture Eriksson











Timing	October 2012 - December 2013

8.7.3. Situation Analysis

The are a number of patients today in distant rural areas with cognitive decline that passes on for years with out detection. Even if the seek medical care for symptom, very often these are not fully evaluated and well base diagnosis and treatment are therefore often lacking. This depends both on lack of staff and lack in knowledge in the rapid expanding field of knowledge in te area of cognitive decline and dementia disorders.

The VLL pilot project for implementation of telemedicine will start with an analysis and data collections to be able to answer questions such as a check of and documentation of present local knowledge, administrative including budget and medical visions, preparing the different roles in the process and also include plan to follow and evaluate the implementation process. Important is to find sponsors that are active enough and will to actively support the processes. In next step this information will be analyses and visions moved to more detailed plans for information, education and service specifications (especially technical equipment). Plans information and educational activities will be planned in details. After this two-steps the pilot will start and reviewed in relations to the previous planning.

This implementation process will be run and documented according to international guidelines of telemedicine implementation (Ready, Steady Go Toolkit).

The actual activities have started 1 Oct 2012 and a report rom the initial phases of implementation will be produced at the end of Nov 2012.

8.7.4. Context situation

The context is a combination between University hospital specialists and local staff at a small health care centers. There is a lack of physicians, lack of continuous professional development in the area of managing cognitive decline, hampering professional management of disorders with cognitive decline.

8.7.5. Relevance, why important?

This implementation is of high relevance for patients with cognitive decline and dementia disorders. Both correct diagnosis, adequate treatment are mandatory as well as a professional base for information to patient and family. BPSD is the main cause of subjective suffering of dementia patients and adequate evaluation and interventions are mandatory, in order to secure the patients quality of life.

8.7.6. Mode of implementation

Deployment o tele-consultation using computers, smartphones, and tablets together with conferencing software.





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8.7.7. Technical needs

There is a need of personal video conference equipment fort he psychogeriatric specialist and also video conference equipment at the two distant health care centers as well as video conference equipment in local nursing homes (4 sets).

8.7.8. Evaluation

Following WP4 evaluation protocol.

Pilot 5 – VUHSK – Remote General Practitioner 8.8.

Full description of pilot in: PrimCareIT-WP4-Pilot5-VUHSK.docx

8.8.1. Purpose

The purpose of the pilot is to setup teleconsulting environment in Vilnius University Hospital Santariskiu klinikos and few remote GP clinics to test the possibility of improvement professional skills and reduce professional exclusion of those remote GPs using telementoring and online teleconsulting

8.8.2. Scenario

Table 5 Scenario for WP4 Pilot 5 - VUHSK

Scenario	Pilot will include testing of live teleconsultations, sharing of patient medical data, including images, monitoring of some health functions. This would allow exploring and choosing the best available telemonitoring and teleconsulting options in terms of software, hardware and human resource
Solution idea	The mobile IT hardware (e.g., tablet PCs equipped with web camera, 3G and WiFi modules) will be used on site in order to facilitate their medical expertise in case of rare medical conditions, need of second opinion or more specialized medical knowledge (e.g. consultation of secondary /tertiary level medical professional). The adaptive changes within hospital information system (HIS) of VUH Santariskiu Klinikos might also be implemented if necessary in order to allow remote access to patient data, data transfer and synchronous VOIP or Videoconferencing information exchange.
Evaluation	In accordance with WP4
Partners	Family Medicine Centre of VUH Santariskiu Klinikos Vilnius University Hospital Santariskiu klinikos
Responsible	Romualdas Kizlaitis
Timing	December 2012 - December 2013



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8.8.3. Situation Analysis

- Family Medicine Centre of VUH Santariskiu Klinikos
- Vilnius University Hospital Santariskiu klinikos

Currently used technical tools (modern e-learning platform, e.g. Moodle, server system, databases, broadband Internet access) allow for using micro technology achievements as a new approach to design virtual education. The following mobile devices might be used: notebooks, palmtops (PDA), smart phones and mobile phones. Modern development of professional education should be taken into consideration in designing virtual courses for particular family physicians. Its core is creating the shortest possible pathway of professional competence development for a family physician of virtual educational space. The most significant elements are optimal form and amount of knowledge transferred in proper modules by the consultant as well as family physician activity connected with it. The criteria of an effective teleconsultation system are the rapid response time. medical image guality and communication manner. With the advance of the communication technology, such as the Gigabit Ethernet, highspeed WLAN (wireless LAN) and WiMAX (Worldwide Interoperability for Microwave Access), it provides seamless, reliable and fast transmission to meet the response time requirement. When a family physician needs consulting about the disease question, he or she can use the desktop computer or personal mobile computing devices to search the user on-line list with client interface and ask the remote expert for consulting. The family physician shares the retrieved medical image with the remote expert through the infrastructure network, and they can discuss like face-to-face way with web-camera and microphone.

8.8.4. Context situation

Pilot will include testing of live teleconsultations, sharing of patient medical data, including images, monitoring of some health functions. This would allow exploring and choosing the best available telemonitoring and teleconsulting options in terms of software, hardware and human resource.

8.8.5. Relevance, Why important?

Test the possibility of improvement professional skills and reduce professional exclusion of those remote GPs using telementoring and online teleconsulting.

8.8.6. Implementation

The mobile IT hardware (e.g., tablet PCs equipped with web camera, 3G and WiFi modules) will be used on site in order to facilitate their medical expertise in case of rare medical conditions, need of second opinion or more specialized medical knowledge (e.g. consultation of secondary /tertiary level medical professional). The adaptive changes within hospital information system (HIS) of VUH Santariskiu Klinikos might also be implemented if necessary in order to allow remote access to patient data, data transfer and synchronous VOIP or Videoconferencing information exchange.

8.8.7. Technical needs

Almost all of the family physicians and specialists in the consultation clinics have use computers at their working place. All specialists in the Hospitals have good access to computers, as all of the Lithuanian physicians are obliged to use qualified electronic signature (PKI infrastructure) for sickness documents, as they are completely electronic in the country. Physicians are able to sign



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electronic documents using mobile phones and tablets using mobile signature that is provided by all three Lithuanian mobile operators. More than 60 health care institutions (80 different places) - VUH Santariskiu klinikos partners are able to use private medical network (based on VPN), PACS and Telemedicine infrastructure for images and ECG teleconsultation. VUH lecture rooms are equipped with H.323 enabled videoconferencing capabilities, some cardioechoscopy at regional machines are able to transmit live investigation to VUH specialists or colleagues. Some of the GP's workstation are able to use software solutions for videoconferences. All computer hardware is up to date, using Windows 7, or at least Windows XP OS. VUH has their own Moodle server for eLearning.

8.8.8. Evaluation

Following WP4 commonality

8.9. Pilot 6 – Estonian Vormsi Health Center GP support

Full description of pilot in: PrimCareIT-WP4-Pilot6-Vormsi.docx

8.9.1. Purpose

Supporting GPs from remote areas via tele-consultations

8.9.2. Scenario

Table 6. Scenario for WP4 Pilot 6 - Vormsi

Scenario	Terviseagentuur Ltd have 5 small healthcare units in rural areas in Estonia. One site is situated in small island Vormsi, with 200 inhabitants.
Solution idea	Skype videoconference solution, PC with external headset and camera
Evaluation	After every three months
Partners	East –Tallinn Central Hospital
	 North –Estonian Regional Hospital
Responsible	All activities are coordinated and managed by Madis Tiik.
Timing	January 2013 - December 2013

8.9.3. Situation Analysis

Vormsi healthcare center is open 5 days a week 8 hours per day, and there are always one nurse. Family doctor is visiting island 1-2 times per week. In other days communication between nurse and doctor is organized by skype or telephone consultations. Doctor can access patient record remotely, and can renew prescriptions. There is also need to consult patients with specialist in the mainland (East-Tallinn Central Hospital).





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Three different scenarios can be tested there:

- teleconsultation between nurse and family doctor
- teleconsultation between nurse and specialist in the hospital
- teleconsultation between nurse, doctor and specialist in the hospital

In all cases patient can be involved or not, depending of the situation.

There is PC and screen, and web camera with external microphone in use.

8.9.4. Context situation

Vormsi healthcare centre has a set of telemedicine equipment: physiological parameters registered by different devices (12-lead ECG, ECG monitoring, NIBP, SpO2, pulse rate, breathing rate, body temperature, haemoglobin, troponin T or I, C-reactive protein) and the results of procedures (review of general and local status, spirometry, video otoscopy, audio auscultation) are connected to a portable telemetry system with the help of a tablet computer and the transmission of information collected to the telemetry system to the consultant doctor situated on the mainland. All this results can be transferred digitally by nurse and discussed over video call with doctor. 3G and WLAN connection of 10MB are the possible solutions for internet connection.

8.9.5. Relevance, why important?

This kind of complex set of equipment is tested first time in Estonia. In the future more and more similar equipment will be used and also patients have more self-monitoring equipment at home. Video conferencing is becoming an important tool for medical professionals.

8.9.6. Implementation

Skype videoconference solution, PC with external headset and camera

8.9.7. Technical needs

- Internet connection
- There is 3G network and 10MB wlan network available.
- Hardware
- PC with 21* screen, external microphone, headset and speakers, external web camera

8.9.8. Evaluation

After each consultation an evaluation form is filled, generalisation period is three months.

8.10. Pilot 7 – National Health Service - Supporting GPs from remote areas via tele-consultations

Full description of pilot in: PrimCareIT-WP4-Pilot7-NHS.docx

8.10.1. Purpose

Supporting GPs from remote areas via tele-consultations









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8.10.2. Scenario

Table 7. Scenario for WP4 Pilot 7 - NHS

Scenario	 Two regions are selected to pilot the solution of tele-consultation in Latvia. All GP are located in sparely populated areas. The nearest Health center from some of the GP are more than 50 km with bad road infrastructure. All activities will be carried out with involvement of local commissioners of primary health care services of NHS Kurland region Ms. Dzintra Eglite and the head of NHS Latgale region is Mr, Janis Pitrans Association of rural GP and Association of GP will be involved from 1 March 2013 to support Latvian pilots in exchange of knowledge and dissemination of results of the project PrimCareIT in whole Latvia.
Solution idea	Tablet computer with camera - 8 pieces
	Lap top - 1 piece
Evaluation	Following WP4 evaluation process
Partners	The GP practices in Kurland (West Part of Latvia)
	 Ilga Grigale (Ruba, Saldus district)
	Lidija Vigrieze (Piltene)
	Elena Gavrilova (Skrunda)
	Ieva Pupola (Alzpute) The CB prostions in Latrale (East part of Latvia
	Olga Golube (Dada)
	 Iveta Civkule (Nauiiena)
	 Liga Kozlovska (Balvi)
Responsible	All activities are coordinated and managed by Project unit of NHS (Aigars Miezitis and Madara Vegnere).
Timing	November 2012 - December 2013

8.10.3. Situation Analysis

At present the telemedicine projects in Latvia are implemented only in inpatient care. The best result is project BITNET (BalticInternational Telemedicine Network) Project that created the telemedicine network of Balticand North European countries. Project was implemented in year 2002 and the developed solutions are used till now.

The goal of this Project was to make consultations from the distance without sending specialists out from university clinics when the local doctors are not sure about the decision based on the images of computertomograph. Using the solution of this Project it is possible to get consultation in one our from the hospitals which are participants of this network.



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With support by Sweden Baltic Sea Information Technology Fund it is developed the Project BITNET to support health care institutions in Telemedicine in Latvia, Lithuania and Estonia and S-Petersburg (Russia). The technical centre for Latvia - Stradina University hospital where it was procured computertomograph, equipment of magnetic resonance, ultrasound, gamma camera, equipment for angiography.

Similar solutions for primary health care specialists does not exist in Latvia. Project PrimCareIT is excellent possibility to start to introduce IT solutions in primary health care.

8.10.4. Context situation

The National Health Service (NHS) is the operating direct administrative institution subordinate to Ministry of Health. It was established on 1st November 2011.

The aim of the NHS is to:

- implement State policy for availability of health care services,
- administrate the State budgetary funds prescribed for health care,
- implement State policy in the planning of health care services,
- ensure rational and the most effective use of State budget,
- **implement** the e-Health programme according to the policy decided by the State.

The scope of activities and functions of the NHS is to:

- administrate the State budgetary funds prescribed for health care and in accordance with the concluded agreements to settle accounts for the provided health care services, as well as the medication and medical equipment prescribed for outpatient treatment;
- **supervise the expenditures of State budgetary funds** in medical institutions and pharmacies submitted to the administration of the National Health Service;
- **analyze the financial and quantity indices of health care services**, to make prognoses concerning the volume of health care services, as well as to evaluate the necessity of these services;
- **inform the society about the available health care services** and the procedure according to which the latter can be received, as well as advise the country's residents on their rights while receiving health care services;
- **organize and carry out the State centralized purchases** of medications and medical equipment in the field of health care, which are stipulated in the normative acts;
- provide with the implementation of the programme on timely detection of cancer;
- in the regression procedure to recover the financial means for course of treatment for persons, provided that the present course of treatment is the consequence of an unlawful activity, inactivity or criminal offence;
- **ensure the execution of the international liabilities** in the implementation of the availability of health care services, as well as in the administration of the State budgetary funds prescribed for health care;
- determine the health care services funded from the State budget and calculate their tariffs;
- develop, maintain and update the list of State reimbursed medicine, that is based on the principles of health economics;
- **develop health care financing models** and to determine types of health care services funded from the State budget;





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- **approve medical technologies and register them**, to create and maintain the medical technology accounting and database;
- develop and evaluate clinical guidelines, as well as ensure the implementation of methodological guidance;
- develop guidelines of rational pharmacotherapy;
- administer the Medical Treatment Risk Fund;
- **cooperate with foreign and international institutions**, as well as to exchange information in the field related to the service;
- **implement the e-Health programme according to the policy decided by the State** (now carrying several co-funded projects by ERDF (European Regional Development Fund): electronic health record; e-booking; e-prescription etc.).

8.10.5. Relevance, why important?

- To introduce the first telemedicine solution (tele-consultations) for primary health care in Latvia with futher aim to organize bigger network for PHC specialists.
- Increase primary health care specialists knowledge, understanding and skills in rural areas
- Increase treatment quality, safety, professional medical investigation and treatment.
- Health economic gains from a a national health care perspective as well as well from an individual patient perspective.

8.10.6. Implementation

Videoconferencing equipment and pc with webcamera.

8.10.7. Technical needs

Tablet computer with camera- 8 piecesLap top- 1 piece

8.10.8. Evaluation In accordance with WP4







9. List of References

1 Yin, R.K. (2003) Case Study Research - Design and Methods, Newbury Park, Sage.



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