

## STUDY VISIT Odense, Region of Southern Denmark

### Telemedicine Evaluation Model (MAST)

23. – 24.4.2013 Odense, Denmark



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#### I. SUMMARY

The study visit to the Region of Southern Denmark focused on the telemedicine evaluation model and the assessment of telemedicine services using the new European evaluation model “MAST”, developed on behalf of the European Commission. The first day of the visit was dedicated to a seminar on how to use MAST. The following day, the participants were able to see services that have been evaluated using the MAST methodology at Odense University Hospital.

#### II. DEBRIEFING ONSITE VISITS

Together with other European partners, the Region of Southern Denmark has developed **MAST: Methodology for the Assessment of Telemedicine** on behalf of the European Commission. Since then, MAST has been used on several telemedicine projects in Denmark and will be used on large scale projects like RENEWING HEALTH, United 4 Health, and Smart Care.

On April 23th the participants visited Forskerparken in Odense for a seminar on MAST. The different dimensions of the methodology were introduced:

- An introduction to MAST
- Assessment of clinical outcomes
- Assessment of patient perspectives
- Assessment of economic aspects
- Assessment of organisational aspects

Followed by an example of how MAST was used on the COPD briefcase.

The participants were also able to try MAST on one of their own projects and present the results at the plenum.

The background on MAST can be found in this publication: [Kidholm et al. A MODEL FOR ASSESSMENT OF TELEMEDICINE APPLICATIONS: MAST. International Journal of Technology Assessment in Health Care / Volume 28 / Issue 01 / January 2012, pp 44-51](#)

The MAST toolkit, video presentations, and power point presentations can be found here: <http://www.mast-model.info/>.

Further information (videos, tips, and other material) can be found here: <http://www.renewinghealth.eu/assessment-method>

On the second day, the study visit took place at Odense University Hospital.

The participants first learned about Integrated Care in the Region of Southern Denmark, as Maria Hardt-Madsen and Allan Nasser presented the **Shared Care Portal** (SCP). Shared Care is an IT platform that builds on a long tradition of electronic communication between the different sectors involved in the care and treatment of patients: hospitals, GP's, and the local municipality. SCP allows all the healthcare professionals from these sectors as well as the patient him/herself to access data on their disease and treatment at one local place (the portal). The platform supports the care pathway for chronic diseases and eases the collaboration on care between the actors involved. Further, the platform supports home monitoring and enables the patient to take his/her own notes.

Next, three solutions where the MAST framework has been used in the evaluation were shown.

**The Patient Briefcase:** The Region of Southern Denmark is conducting a telemedicine study allowing COPD patients to receive, via the Patient Briefcase, live video consultations with a hospital nurse without leaving the comfort of their living room.

At discharge, the patients are provided with a Patient Briefcase, which is installed within 24 hours. The briefcase includes a display for video-communication with the hospital nurses during the consultations. In addition, it contains the equipment for the measurement of pulse, blood oxygen saturation, and spirometry. The briefcase is user-friendly, with only three controls (on/off, volume, alarm). Daily scheduled tele-consultations are held with a specialised nurse for one week. After one week, the briefcase is removed and patients continue to have permanent access to a telephone hotline for four weeks after discharge.

For more information and videos, go here:

<http://www.renewinghealth.eu/cluster-4/region-of-southern-denmark>

A video on how the patient briefcase is used for rehabilitation is available here: <http://youtu.be/wsczidC8i24>

**Telemedicine wound assessment:** All hospital units in the Region of Southern Denmark and 20 municipalities are collaborating to form a regional, cross-sectorial research co-operation aiming to improve the

treatment of diabetic foot ulcers. The telemedicine solution replaces conventional consultations at the outpatient clinic with consultations in the patient's home. As a result, patients are no longer forced to spend time travelling back and forth to the hospital, and ulcer specialists can instruct homecare nurses in the care of each patient without leaving the hospital.

During the treatment process, homecare nurses regularly attend to the patient and take pictures of the ulcer using a mobile phone. The pictures are uploaded directly from the mobile phone to an electronic ulcer database. The hospital is notified that new images and notes on a particular ulcer are available and the ulcer specialist at the hospital then examines the ulcer based on the received data. The ulcer specialist then contacts the homecare nurse directly via the ulcer database or on the phone, and instructs her in the care of each patient. Hence, patients can now be attended by skilled specialists without leaving the comfort of their own living room.

For the time being and during the trial, both the patient and his or her general practitioner can access the ulcer database and see the images as well as the communication between the homecare nurse and hospital specialist. However, a future scenario is that both are involved much more actively and e.g. a patient can take and upload images him or herself and communicate with specialists.

For more information and videos, go here:

<http://www.renewinghealth.eu/web/rh-international/cluster-3/region-of-southern-denmark>

### III LEARNING OUTCOMES FOR THE PARTNERSHIP

	Area (self- management /policy/ICT)	Key characteristics
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<p>Learning Outcome 1</p>	<p>MAST: Model for the Assessment of Telemedicine</p> <ul style="list-style-type: none"> <li>• Evaluation of telemedicine applications</li> <li>• Decision making tool</li> <li>• Transferability</li> </ul>	<p>MAST is a framework ensuring a rigorous evaluation of telemedicine applications in the healthcare sector. The model was developed as part of the MethoTelemed project, which aimed to provide a structured framework for assessing the effectiveness and contribution to quality of care of telemedicine applications.</p> <p>MAST should be used if the purpose of an assessment is to describe effectiveness and contribution to quality of care of telemedicine applications and to produce a basis for decision making. If this is the aim, MAST defines the relevant assessment as a multidisciplinary process that summarises and evaluates information about the medical, social, economic and ethical issues related to the use of telemedicine in a systematic, unbiased, robust manner.</p> <p>MAST includes three elements:</p> <ul style="list-style-type: none"> <li>- Preceding considerations of a number of issues that should be considered before an assessment of a telemedicine application is initiated.</li> <li>- A multidisciplinary assessment of the outcomes of telemedicine within seven domains</li> <li>- An assessment of the transferability of results found in the scientific literature and results from new studies.</li> </ul>
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<p>Learning Outcome 2</p>	<ul style="list-style-type: none"> <li>Technology solutions for the care of chronically ill patients</li> </ul>	<p>The Shared Care Platform: a platform that offers information on the disease and supports the care pathway for chronic diseases, e.g. heart failure. The portal offers the same relevant information to all health professionals involved in the treatment – and the patients themselves.</p> <p>The Patient Briefcase: a telemedicine device that allows the patients in their own home to have tele-consultations with the specialist nurse at the hospital AND monitor their wellbeing as well.</p> <p>Telemedicine wound assessment: collaborative solution for the assessment of diabetic foot ulcers. A database allows the home care nurse to upload pictures of the ulcer to a database while visiting the patient in his/her own home. The picture is assessed by specialists at the hospital, allowing specialist care while staying at home.</p>
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#### IV. IDENTIFICATION OF POTENTIAL BEST PRACTICES

<p><b>1.Name of the Region</b></p>	<p><b>Region of Southern Denmark</b></p>
<p>Potential Best Practice</p>	<p>The roll-out and implementation of health technology, telemedicine, and assisted living solutions and services is widely supported by evaluation.</p>
<p>Brief Characteristics of the Practice</p>	<p>In the Region of Southern Denmark, most investments in health technology, telemedicine, and AAL solutions are supported by an evaluation. This includes Health Technology Assessments (HTA), mini-HTA's, and MAST. On this basis, decision makers can make an informed decision when it comes to what solutions and services to invest in and implement. Examples include small solutions at the hospitals (here, HTA and mini-HTA is used most often) and the large-scale projects Telemedicine Wound Assessment and the Patient Briefcase. Also the Smart Care project on integrated care is to be evaluated by the use of MAST.</p>





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