Telemedicine Pilot

Prescribed Healthcare

Norrbotten, Sweden

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Service: Prescribed Healthcare for lifestyle health coaching.

Service domain and objectives: Lifestyle improvement for patients with Type II Diabetes (Cluster 1) and CVD (Cluster 6). Improve health and reduce the need for medication. Make patients more self-confident living with chronic diseases.

Target population: Patients with Type II Diabetes and/or CVD.

Target care setting and care organisations: Four Healthcare centres at County Council of Norrbotten.

Financial model: Mixed model. Basic part founded by Healthcare provider. PC’s, preventive health equipment and Blood Pressure meters will mainly be purchased by individuals when service is launched large scale.


Networking of the Service with other Health-IT services: Application is available for patients and healthcare staff. Integration with patient record system.

Lessons already learned: Extend the empowerment of patients.
Introduction to the Swedish field trial

The film presented at the symposium is accessible at: http://www.youtube.com/watch?v=sfta6mS8C_o

09/12/2011
4 Primary Healthcare Centres (PMC) are involved

<table>
<thead>
<tr>
<th>Diagnose</th>
<th>Invitations</th>
<th>Accept</th>
<th>Dropout</th>
<th>Fullfill inclusion criterias, made baseline test</th>
<th>Intervention group (Drop out)</th>
<th>Control group (drop-out)</th>
<th>Total drop-out</th>
<th>Total field trial participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVD</td>
<td>3 748</td>
<td>610</td>
<td>37</td>
<td>573</td>
<td>244 (32)</td>
<td>281 (1)</td>
<td>33</td>
<td>540</td>
</tr>
<tr>
<td>Type II Diabetes</td>
<td>1 048</td>
<td>287</td>
<td>121</td>
<td>166</td>
<td>69 (16)</td>
<td>81 (1)</td>
<td>17</td>
<td>149</td>
</tr>
<tr>
<td>TOTAL</td>
<td>4 796</td>
<td>897</td>
<td>158</td>
<td>739</td>
<td>313 (48)</td>
<td>362 (2)</td>
<td>50</td>
<td>689</td>
</tr>
</tbody>
</table>

Efficient Co-Operation between professionals

- “Spider in the net” - Person that manage all practical activities.
- 2 Super-Users/PHC. Educate and provide 1st line support to patients and healthcare professionals.
- Teamwork between GP’s, diabetes nurses, physio-therapists, bio-medical analytics and dietician
• Prescribed Healthcare implementation has to be **easy to use** for patients and for healthcare staff

• It has to be **easy to educate and support** elderly people with none or minor ICT competence using the technology

• Technical solution has to follow the **Swedish laws and regulations**

• The solution has to be **scalable**, i.e. easy and cost efficient to provide large scale for all public and private healthcare providers in Sweden after the field trial

• The equipment has to be **reasonable priced** and regional/local support provided
**Prescribed Healthcare**

### Mina Vårdkontakter

- **National Patient Portal**
- **Secure** authentication
  - Patient: eID or one-time SMS
  - Staff: SITHS Smart-Card
- **Open Source** => All Health-care providers can offer the applications they select to their patients
- **Open architecture** for scalability and flexibility

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**Diagram**

- Systolic
- Diastolic
- Rek. Min Systolic
- Rek. Max Diastolic
- Rek. Max Systolic
- Rek. Min Diastolic

**Technical implementation**
Prescribed Healthcare

- **Treatment instructions** through video messages and other descriptions
- **Own preventive healthcare and medical diagnose measurements**
- **Medication information, alarms and follow-up**
- **Video consultations**

Functionality and equipment

- Step meter
- Blood pressure
- Glucos
- Pulse watch
- Zenicor 2-channel ECG
- Cuaguchek PK
- Tablet-PC
### Evaluation Cluster 1 (Type II Diabetes) and Cluster 6 (CVD)

<table>
<thead>
<tr>
<th>Primary outcome</th>
<th>C1</th>
<th>C6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health related quality of life as measured by the SF 36 v2 questionnaire</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>HbA1C</td>
<td>X</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Secondary outcome</th>
<th>C1</th>
<th>C6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Blood lipids</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Physical activity</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Body weight</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Smoking habits.</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Alcohol consumption.</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Sense of Coherence (SOC)-13 questionnaire.</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>EQ-5D questionnaire (Quality of Life)</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic evaluation</th>
<th>C1</th>
<th>C6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investments, Running-costs and Economic effects (work time)</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**C1:** Northern Norway, Norrbotten, South Karelia and Carinthia

**C6:** Norrbotten and South Karelia
Patients

• Education of life style impact on health is important

• Extend the empowerment of patients

• Patients with own computer manage well (91% penetration)

• Patients with no web-experience need more support

• Patients engagement are impressive!
Healthcare professionals

- Health development plans have to be individual for each patient
- Nurses and Physiotherapists are mostly involved, but request stronger engagement from GP´s
- Equipment
  - CE Certified Diagnose equipment and SW applications
  - Approve usage of general PC´s for data transfer
Questions

www.ltu.se/eic