

Workshop EFMI STC 2010

New forms of collaboration in telehomecare: the role of user-driven innovation

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Agenda

1. Presentation of the Telekat-project / *Birthe Dinesen, Aalborg University, DK*
2. Issues involved in leading co-innovation in inter-organisational context when developing a telehomecare concept across sectors / by *Jeppe Gustafsson, Aalborg University, DK.*
3. User-driven innovation as a method of enhancing telehomecare across sectors/ by *Birthe Dinesen, Aalborg University, DK.*
4. Safe and effective telehomecare - what does it mean to patients and relatives?/ by *Lotte Huniche, University of Southern Denmark, DK.*
5. Discussion

Background

- Over 400.000 Danes have chronic obstructive pulmonary lungedisease (COPD)
- Rehospitalisation
 - After 1 month 14 %
 - After 1 year 46 %
- Prognose
 - Death during hospitalisation 9 %
 - Death after 1 year 36 %

(Eriksen et al. 2003; 165, pp. 3499-502)

State of the art

Education by the use of telehomecare technology chronic patients empowers patients (Boisen 2006; Aujoulat 2007; Parè 2007)

Rehabilitation of COPD patients can have positive effects on physical and mental status (Pare 2007, Sundhedstyrelsen 2007)

Lack of clinical outcomes /evidence on telerehabilitation at home (Finkenstein et al. 2004; Francisca et al. 2007; Heinzelmann et al. 2005; Hebert 2006; Koch 2006; May et al. 2005; Ram et al. 2004; Whitten et al. 2007).

Aims

- To prevent readmissions of COPD patients by promoting homebased rehabilitation
- To develop new methods and concepts for COPD patients to monitor themselves at home by the use of telehomecare technology
- To explore how COPD patients can use telehomecare technology to cope with own disease

User driven innovation



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Design of the research & innovation proces

Randomised study

- Pilotstudy (5 patients)
- 118 patients included (60 intervention/ 58 controlgroup)
- Questionnaires (quality of life)
- Clinical outcomes (saturation, weight, blodpressure, lungfunction, etc.)
- Test in the homes by a physiotheraphist

FILM:

THE TELEKAT PROJECT

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Issues involved in leading co-innovation in inter-organisational context when developing a telehomecare concept across sectors
by Jeppe Gustafsson, Aalborg University, DK.

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Co-innovation in interorganizational networks

Working definition:

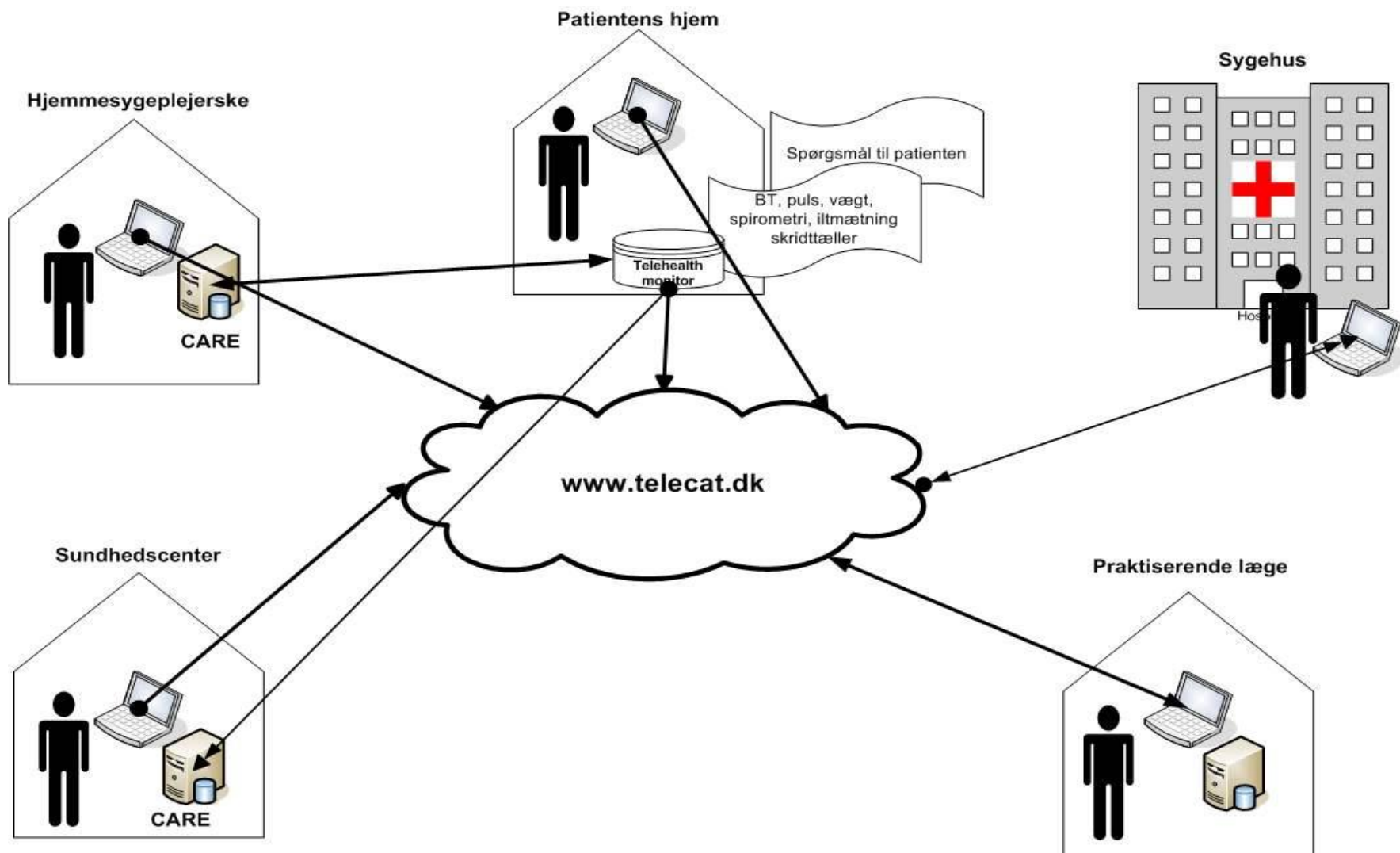
- The fifth generation of innovation model – continuous innovation, system integration, extensive networking, flexible and customized responses Rothwell (1992)
- User driven innovation

Some preliminary findings concerning

- Dynamics in innovation processes in interorganizational systemic networks
- Some aspects of facilitators or network leaders challenge

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- The COPD network
 - The parties have different mandates, goals and tasks
 - The parties have different core competences and technologies
 - The parties have different cultures, structures and systems
 - The parties have different power
 - The parties have different institutional context
 - There are many perspectives on COPD treatment in the field
 - There are many change initiatives, competing for attention and resources
 - Task interdependence in the network
 - There are no one in charge of “The COPD Network”
 - The network has emerged over the years and is influenced by path dependence – inertia prevailed on network level

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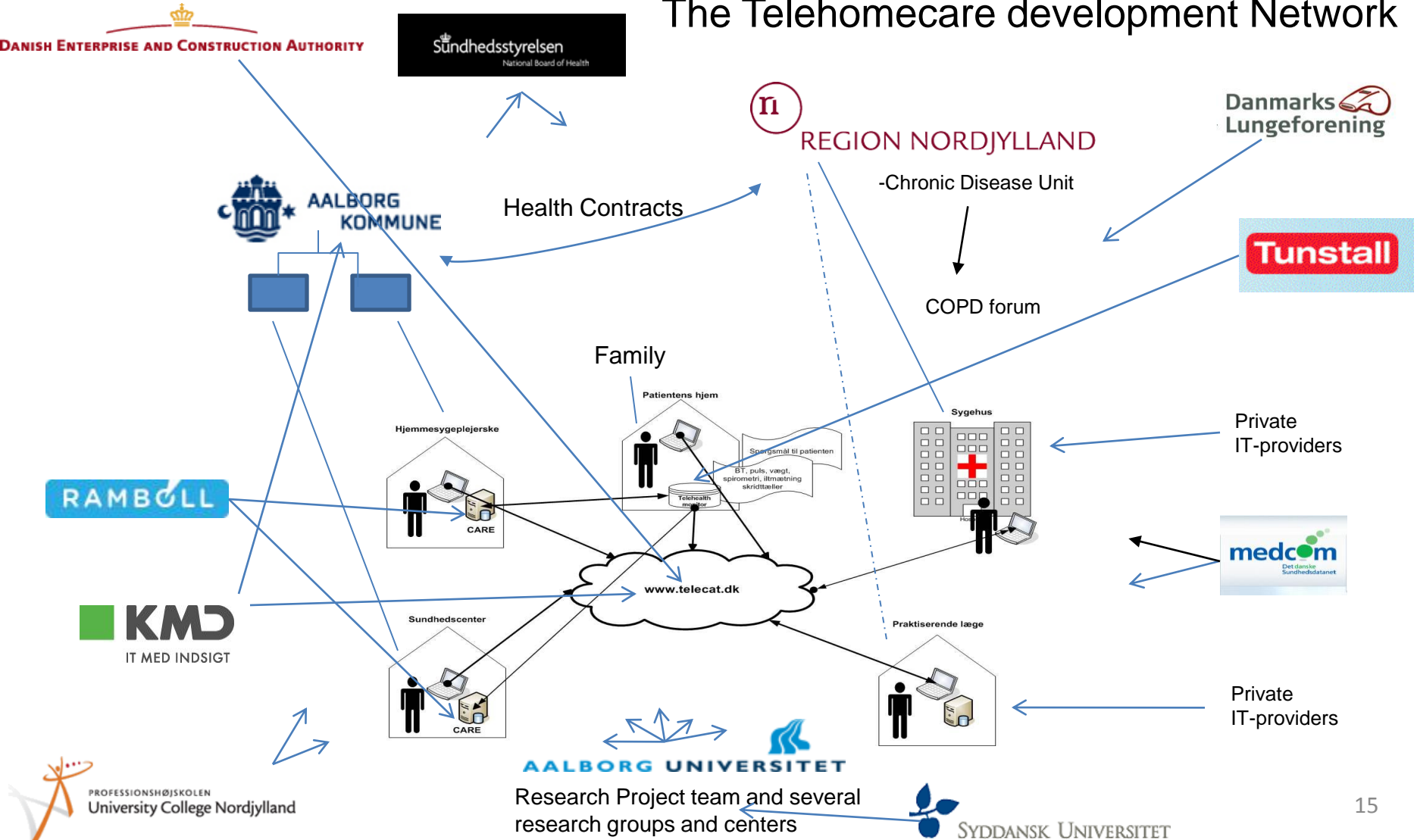
4 types of “Network innovations”	The parties work on their own and protect their Turf (at the expense of collaboration)	The parties collaborate across sectors (respectful to other parties)
The parties focus on their own discipline with limited attention to integration of tasks and knowledge across sectors	Silo innovations, fragmented solutions based on own resources, Limited collaboration	Collaboration focus on network interfaces Logistic and administrative innovations
The parties focus on integrated care and promote visions of system integration across sectors	Parties try to force their own logic on network solutions, Unstable, competing innovations and flux on network level (no one can control the processes across sectors)	Co-innovation, Integrated COPD treatment concept and processes

- Making innovation happen involve collaboration between many different players from public and private organizations
- Success depend on alignment of innovation efforts across the network
- There will be no interorganizational organizing without network pioneers – mandated collaboration and task interdependence isn't enough
- Who can play the role as interorganizational leader or facilitator and who are willing to do the job?
 - A strong part, a third part, an interrrganizational team?
 - The Aalborg University team became the pioneers – in an action research model
- The challenge was to identify, mobilize and organize relevant parties

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The Telehomecare development Network



- How can network pioneers mobilize relevant parties?
 - The vision is crucial, a common vision will at best be very abstract, and there will be many interpretations
 - A large budget and business opportunities for private parties
 - What's in it for me – tailor made goals, activities and benefits (lateralizing)
 - Communication through peer professionals across the field
- Often you need to persuade the parties to co-finance innovation projects
- TELEKAT follows a bottom up and an emergent strategy – trying to thrive on organizing themes in the health sector (integrated care, health technologies and user driven innovation)

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- Project management is a must - But project management is not enough
- There is a permanent need of process facilitation
 - Improve communication concerning difficult issues within the network and facilitate conflict resolution
 - Deal with problems concerning intellectual properties
 - Deal with turf and technology struggles
 - Deal with parties defending their business secrets
 - Deal with competing project within the network
 - Deal with stalemate situation and delay in network processes

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- Persuade parties to share knowledge – knowledge sharing is difficult, even in closed networks
- To consolidate learning in the network, to weave different knowledge together
- Try to create a culture of fairness and equality
- Try to build mutual trust in the network
- It is a constant battle against silo-thinking, it is difficult to make parties look beyond their own mandates and professional concepts
- To start the transition from pilot project to operation – you need to facilitate that bottom up connect to top down

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It is a delicate balance

- between facilitation and leadership
- between facilitation of self organizing and intervention in ongoing negotiations of parties roles and development of competence, skills, cooperation style, etc.

The facilitator/IO leader needs fellow facilitators

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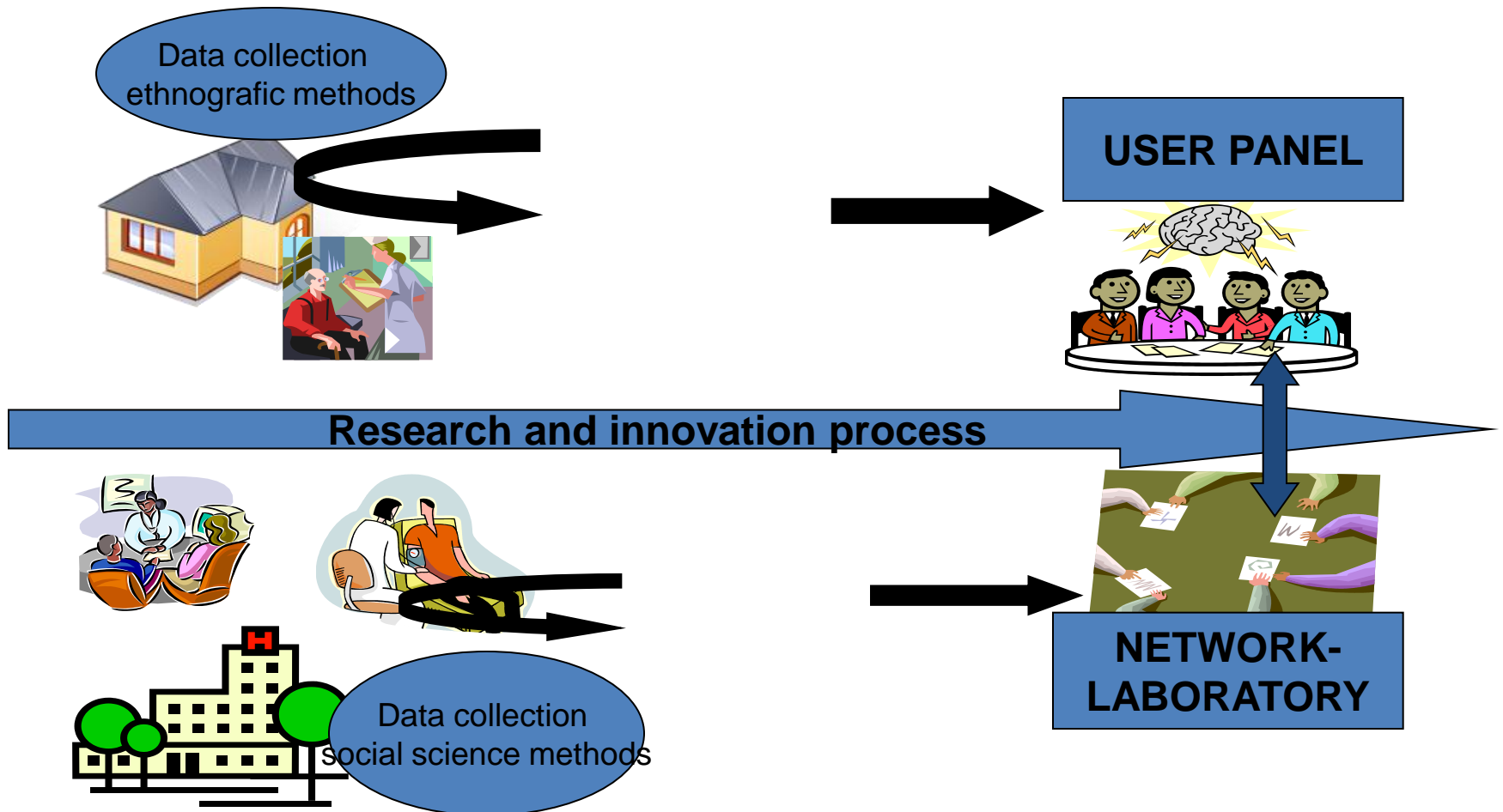
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Userdriven innovation as a method of enhancing telehomecare across sectors/ by Birthe Dinesen

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User driven innovation: How?



Design of the research & innovation proces

Organisational perspective

- Qualitative interviews
 - Healthcare professionals (n=21)
 - Repræsentatives form private firms (n= 5)
- Action research – to facilitate the process
- Networklaboratory



Seamless Care – Safe Care

Can userdriven innovation be the answer?

- The patients are motivated and participate
- The healthcare professionals are locked in their own logic on care and treatment
- The healthcare professionals participate in the project on different conditions

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Seamless Care – Safe Care

Can userdriven innovation be the answer?

- The users can contribute to point out issues hindering seamless care (clinical issues, communication, administrative procedures, etc)
- To break habitual thinking across sectors takes time – the network perspective is important on “the way to seamless care”

Safe and effective telehomecare - what does it mean to patients and relatives?

*by Lotte Huniche,
University of Southern Denmark*

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Concept for home monitoring

- Education of patients and professionals to engage with home monitoring
- Referral by physician (4 months of monitoring)
- Weekly measures of values plus feedback (home visits, telephone/e-mail consultation)
- Physical exercises in patients homes (instruction by physiotherapist, pedometer, Wii-console).

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Methods

- 22 patients interviewed at home (duration 1-2 hours)
- 3 interviews with each patient:
 - shortly after monitor has been installed
 - after app 2 months with monitor
 - shortly after monitor has been collected

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Interview themes

- Everyday life with COPD: How chronic illness matters and is handled in everyday life (patients and relatives perspectives on their needs, constraints and opportunities)
- How patients and relatives make use of the monitoring of health values
- How patients and relatives engage in treatment, rehabilitation and activities of the

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Why investigate the use?

”Our assumption is that specific patterns of interaction result from the constraints and opportunities associated with the technology, the illness and the place where it is used.”,
(Lehoux, Saint-Arnaud & Richard 2004:618).

Lehoux, P., Saint-Arnaud, J. & Richard, L. (2004). *Sociology of Health and Illness*, 26 (5) 617-644.

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Preliminary results

- The experience of measuring
- The use of values
- Participation in treatment, rehabilitation and research project activities

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The experience of measuring

- Values are experienced as an expression of "how the body is doing"
- Values are experienced as:
 - "encouraging" (normal, or better than usual)
 - "depressing" (subnormal, or worse than usual)
 - "disturbing" (fluctuating blood pressure, increase in weight)
- Values are experienced as a tool of the health professionals that assist their provision of care and treatment

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The use of values

- Values are used to assess when to contact health professionals (increase in temperature, continuous high or fluctuating blood pressure or low oxygene levels)
- Values are used to check how physical activities influence the body
- Values are used to assess the planned activities of the day (low oxygene levels may prompt a decision to postpone a walk to town)
- Some patients do not use values as part of their efforts to handle chronic illness in everyday life with other concerns and interests that those related to illness

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Participation in treatment, rehabilitation and research

- Patients work on living the best lives possible with COPD
- May involve co-operating with health professionals on aspects of life related to disease (continuous contact, treatment, self treatment)
- May involve seeking out information and making use of COPD related health activities (rehabilitation, patient driven initiatives, Telekat)
- May involve accept of, questioning, and/or demanding treatment and other health related activities
- May involve leaving health professionals to do their job and complying with aspects of treatment
- May involve focussing on other aspects of life, making everyday life work

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Ways of participating in Telekat

- **Learning** to handle symptoms, recognise early signs of worsening and to juggle limitations and activities
- **Developing** relations to professionals
- **Participating in community activities** as a way of handling life with chronic illness
- **Delegating** treatment related decisions and actions to health professionals
- **TYPES OF PARTICIPATION AS A BASIS FOR ASSESSING THE USEFULLNESS OF HOME MONITORING FOR INDIVIDUAL PATIENTS?**

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The project is sponsored by

- The Danish Enterprise and Construction Authority
 - *The National Program for User driven Innovation*
- Center for Healthcare Technology, Aalborg University
- All partners

Total budget 9 million kroners (1.3 million Euro)

Thank you for your attention

For further informations please contact:

See www.telecat.eu

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