TELEHEALTH TODAY AND IN THE FUTURE - CHALLENGES AND OPPORTUNITIES

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Agenda

1. Telehealth today in Denmark
2. Challenges and opportunities
3. Telehealth in the future
4. Invitation for participation in the Danish-Japanese TeleTech Network for researchers, healthcare professionals and companies
Aalborg University (AAU) – campus 3 cites in Denmark
TELEHEALTH TODAY IN DENMARK
DENMARK ONCE AGAIN THE MOST DIGITAL COUNTRY IN THE EU

The Digital Economy and Society Index (DESI)

Denmark, Sweden, Finland, and the Netherlands have the most advanced digital economies in the EU.

Video on the Danish Healthcare system

http://www.healthcaredenmark.dk/

Reference:
http://www.healthcaredenmark.dk/media/1625194/HCD-Telehealth-white-paper-v1-single-0318.pdf
Userdriven innovation as a starting point within telehealth
From pilot study to national implementation

Telecat study (2008-2011) - Telerehabilitation of COPD patients

- Randomised controlled study across sectors (n=111 patients)
- Intervention 4 months
- Decrease in readmission with 54%
- Higher quality of life
- Inspiration for large scale and national implementation in Denmark

Telecare North Study

- Target group: COPD patient
- Implementation in all municipalities in Denmark
Home-based wound treatment

At Bispebjerg Hospital, a telehealth service for wound patients has increased efficiency and patient satisfaction. Specialised home nurses are responsible for the treatment, which is coordinated by a wound healing centre at the hospital.
Chemo at Home – the hospital in a backpack

A portable digital pump a redesigned workflow are at the core of Rigshospitalet’s “Chemo at Home” concept. For patients diagnosed with acute leukaemia, it has reduced the average number of hospital days for inpatients from 30 to 10.
Home monitoring of women with pregnancy complications

Pregnancy complications usually call for hospitalisation. But Aarhus University Hospital now offers home monitoring as an alternative for women who experience health problems during pregnancy.
Neonatal home care – telehealth support for premature babies and their families

*Odense University Hospital has introduced a telehealth service that relocates neonatal care from the hospital to the family’s own home*
Telepsychiatry – improving access to mental health treatment

_Digital technologies such as videoconferencing, mobile apps and interactive software can provide faster, easier and more cost-effective access to psychiatric help_
Future Patient - telerehabilitation of heart failure patients – to reduce readmission and higher quality of life

https://www.labwelfaretech.com/fp/heartfailure/?lang=en
National infrastructure within telehealth

The national telehealth infrastructure enables sharing of telehealth data between hospitals, GPs, and municipalities. Secure access to data and data sharing relies on the National Service Platform, which is already being used to facilitate sharing of e-health and EHR data in Denmark.
CHALLENGES AND TELEHEALTH IN THE FUTURE
Challenges

• Matching patients with the right technologies ("individualization")
• Privacy & dataprotection
• Technologies are being developed fast (Internet of Things)
• How to implement telehealth technologies from pilot to large scale
  • Project management (context matters)
  • Reimbursement of new services
  • Bureaucracy is slow
  • Integrated new workflow to daily routines takes time
  • Scaleable technical solutions
  • International standards to be developed
• Creating evidence is slow…
• ???
Personalized Telehealth in the Future: A Global Research Agenda

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Personalized Telehealth in the Future – a global research agenda (Dinesen et al. 2016)

1. Patient
   - Assessment of personal engagement in own health through the use of telehealth technologies (quantified self)
   - Self-determination and motivation with regard to the use of new telehealth technologies
   - Health literacy, eHealth literacy, technology literacy, contributions to design features of technology, and interaction with telehealth technologies

2. Home
   - Integration of smart home telehealth technologies (wellness and health devices and software, Internet of Things)

3. Health care professionals
   - Communication for and between providers and patients (telehealth through mobile, wearable, and remote monitoring)
   - Telehealth training and education, including designing communities of knowledge and practice
Personalized Telehealth in the Future – a global research agenda (Dinesen et al. 2016)

4. Health system design, organization, and practice
   • Cross-sector integration using telehealth technologies (Accountable Care Organizations, bundled care, medical homes)
   • Telehealth in redesign of chronic disease management
   • Adoption of telehealth programs in clinical practice

5. Technologies
   • Use of self-tracking technologies
   • Design of user-friendly technologies
   • Development of sensor technologies for detection of fluid in the body, sleep patterns, etc

6. Data systems and infrastructure
   • Integration of telehealth devices with electronic health records and cloud databases
   • Integration of personal health records data and telehealth devices and systems
Personalized Telehealth in the Future – a global research agenda (Dinesen et al. 2016)

7. Data analytics
• Algorithms for multimodal data platforms, devices, and sources
• Innovative data analytic approaches for integrating data for precision medicine, including predictive, personalized, and customized analytics

8. Development of new telehealth technologies
• Assessing mobile, intelligent, and individualized telehealth technologies
• Enhancing the matching of patient preferences and telehealth use
• Anticipation of telehealth innovations still to be invented
• International telehealth technology standards

9. Research methods
• Multidisciplinary assessment of the effectiveness of new telehealth services
• Rapid cycle design evaluation vs traditional randomized controlled trials
Personalized Telehealth in the Future – a global research agenda (Dinesen et al. 2016)

10. Financing
• Assessing innovative payment and reimbursement systems, especially in the emerging value-based health care environment
• Global variations in financing and paying for telehealth

11. Privacy and security policy
• Addressing different cultures of privacy (ethical issues) for patients
• Enhancing telehealth data security (given advances in mobile, wearable, and cloud-based system configurations)
• Local, regional, and international regulatory requirements (licensing, guidelines, standards)

12. Public policy
• Telehealth across state and international borders
• Professional licensing and standards
• Variation in intergovernmental and international telehealth policies and financing
INVITATION FOR PARTICIPATION
IN THE DANISH-JAPANESE TELETECH NETWORK

DJ-TELETECH NETWORK
The purpose of the JD-TeleTech network is

• To prepare and launch an interdisciplinary Danish and Japanese Research Network on Telehealth and Welfare Technologies (DJ-TeleTech)

• To develop a joint research program on telehealth and welfare technologies for patients with chronic diseases between Denmark and Japan

• To develop a program for exchange of PhD students and senior researcher between Denmark and Japan within telehealth and welfare technologies
Target groups in Denmark & Japan

- Researcher within telehealth
- Healthcare professionals
- Companies
Next steps

Send email to bid@hst.aau.dk if you are interested to know about:

- Homepage DJ-TeleTech with activities
  - Workshops in Denmark and Japan
  - Start research projects
  - Test of technologies in Denmark with stakeholders of the network
  - Planning of visits in Denmark and Japan (research, healthcare professionals and companies)
  - Other activities

- Planning organization of DJ-Teletech
  - Conference calls

LET US GET GOING..........
Invitation for future collaboration and contact informations

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