

Hvordan sikrer man den bedste nationale udrulning af telemedicinske projekter? (the TeleCare North program)

Lars Ehlers



AALBORG UNIVERSITY
DENMARK

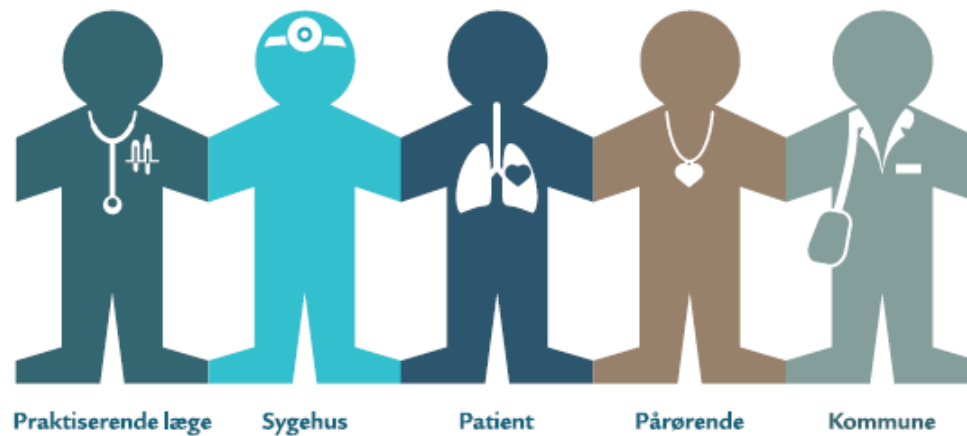


Agenda

- Overview of clinical and economics research on TeleCare North projects
 - What do we know?
 - What is still unknown?
- National decisions – Telemedicine COPD from 2020 and Heart Failure from 2021
- How to roll out?

TeleCare North

Home monitoring of patients with COPD and heart failure



Collaboration between all Municipalities, Hospitals and GP's

One joined – cross sectorial service – cross sector collaboration

Patient flow and devices

- Patients are referred by either the GP or the hospital physician
- Municipalities train the patients in using the Kit and in disease management
- Either nurses at the hospital or municipality view and assess the data, and intervene if necessary




Overview om main AAU studies on TeleCare North

- The TELEKAT COPD project
 - Pilot trial 2010-11, short term follow up
 - 111 patients were randomized to usual care or usual care plus tele home monitoring
- TeleCare North COPD project
 - Pragmatic RCT 2013-14, one year follow up
 - 1.225 patients randomized to usual care or usual care plus tele home monitoring
- TeleCare North Heart Failure project
 - Pragmatic RCT 2017-18, one year follow up
 - 300 patients randomized to usual care or usual care plus tele home monitoring

Results - TELEKAT

- The TELEKAT pilot project
 - Significant improvement in health-related QoL
 - Significant reduction in hospital admissions.
 - Cost saving of approx. € 1.115 per patient/year compared to patients in the control group
 - Recommendation to conduct large scale trial

International Journal of Integrated Care – ISSN 1568-4156
Volume 11, 29 March 2011
Publisher: Igitur publishing
URL: <http://www.ijic.org>
URN:NBN:NL:UI:10-1-101374, ijic2011-12
Copyright: 
Submitted: 20 October 2010, revised 28 January 2011, accepted 1 March 2011

Research and Theory

Development of a program for tele-rehabilitation of COPD patients across sectors: co-innovation in a network

Birthe Dinesen, PhD, Assistant Professor, Department of Health Science and Technology, Aalborg University, Fredrik Bajers Vej 7 D1, DK-9220 Aalborg, Denmark

Janne Seeman, PhD, Associate Professor, Department of Sociology, Social Work and Organisation, Aalborg University, Kroghstraede 7, DK-9220 Aalborg, Denmark, E-mail: seemann@socsci.aau.dk

Jeppe Gustafsson, PhD, Associate Professor, Department of Business Studies, Aalborg University, Fibigerstraede 4, DK-9220 Aalborg, Denmark, E-mail: jg@business.aau.dk



RESEARCH

Original article

► Using preventive home monitoring to reduce hospital admission rates and reduce costs: a case study of telehealth among chronic obstructive pulmonary disease patients

Birthe Dinesen*, Lisa KE Haesum*, Natascha Soerensen*, Carl Nielsen†, Ove Grann‡, Ole Hejlesen*, Egon Toft* and Lars Ehlers§

*Department of Health Science and Technology, Faculty of Medicine, Aalborg University, Denmark; †Department of Pulmonary Diseases, Aalborg Hospital, Århus University Hospitals, Denmark; ‡Vejgaard Healthcare Center and Healthcare Center, Aalborg, Denmark; §Department of Business and Management, Faculty of Social Sciences and Faculty of Medicine, Aalborg University, Denmark

Journal of Telemedicine and Telecare, 2012

Results: TeleCare North COPD

- The TeleCare North COPD project
 - Main result: no statistical significant difference in primary outcome (SF-36) between telehealthcare and usual practice
 - Economic results: not cost-effectiveness for COPD patients (ICER=€55.327/QALY)
 - Sub group analysis: tele monitoring for patients with severe COPD (GOLD 3) are likely to be cost-effective (QALY gains and savings)
- A national business case (PA Consult)

Open Access Research

BMJ Open Telehealthcare for patients suffering from chronic obstructive pulmonary disease: effects on health-related quality of life: results from the Danish 'TeleCare North' cluster-randomised trial

Pernille Heyckendorff Lilholt,¹ Flemming Witt Udsen,² Lars Ehlers,³ Ole K Hejlesen⁴

Open Access Research

BMJ Open Cost-effectiveness of telehealthcare to patients with chronic obstructive pulmonary disease: results from the Danish 'TeleCare North' cluster-randomised trial

Flemming Witt Udsen,¹ Pernille Heyckendorff Lilholt,² Ole Hejlesen,² Lars Ehlers¹

ClinicoEconomics and Outcomes Research

Dovepress

Open Access Full Text Article

ORIGINAL RESEARCH

Subgroup analysis of telehealthcare for patients with chronic obstructive pulmonary disease: the cluster-randomized Danish Telecare North Trial


Flemming Witt Udsen¹
Pernille H Lilholt²
Ole K Hejlesen¹
Lars H Ehlers¹

Purpose: Results from the Danish cluster-randomized trial of telehealthcare to 1,225 patients with chronic obstructive pulmonary disease (COPD), the Danish Telecare North Trial, concluded that the telehealthcare solution was unlikely to be cost-effective, by applying international willingness-to-pay threshold values. The purpose of this article was to assess potential sources of variation across subgroups which could explain null cost-effectiveness results or be utilized

Economic findings – TeleCare North Heart Failure

- TeleCare North Heart Failure project
 - Pragmatic RCT 2017-18 - 300 patients randomized to usual care or usual care plus tele home monitoring
 - Significant difference between groups in MSC of SF-36
 - No difference in PCS (SF-36), KCCQ12, or EQ-5D (QALY), but significant savings of €5.750 per patient/year

The impact of telehealth care on health-related quality of life of patients with heart failure: Results from the Danish TeleCare North heart failure trial

Journal of Telemedicine and Telecare
0(0) 1–10
© The Author(s) 2019
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1357633X19832713
journals.sagepub.com/home/jtt
 SAGE

Cost-utility analysis: Decision on manuscript BMJ Open 2019-031670 (accepted September 2019)

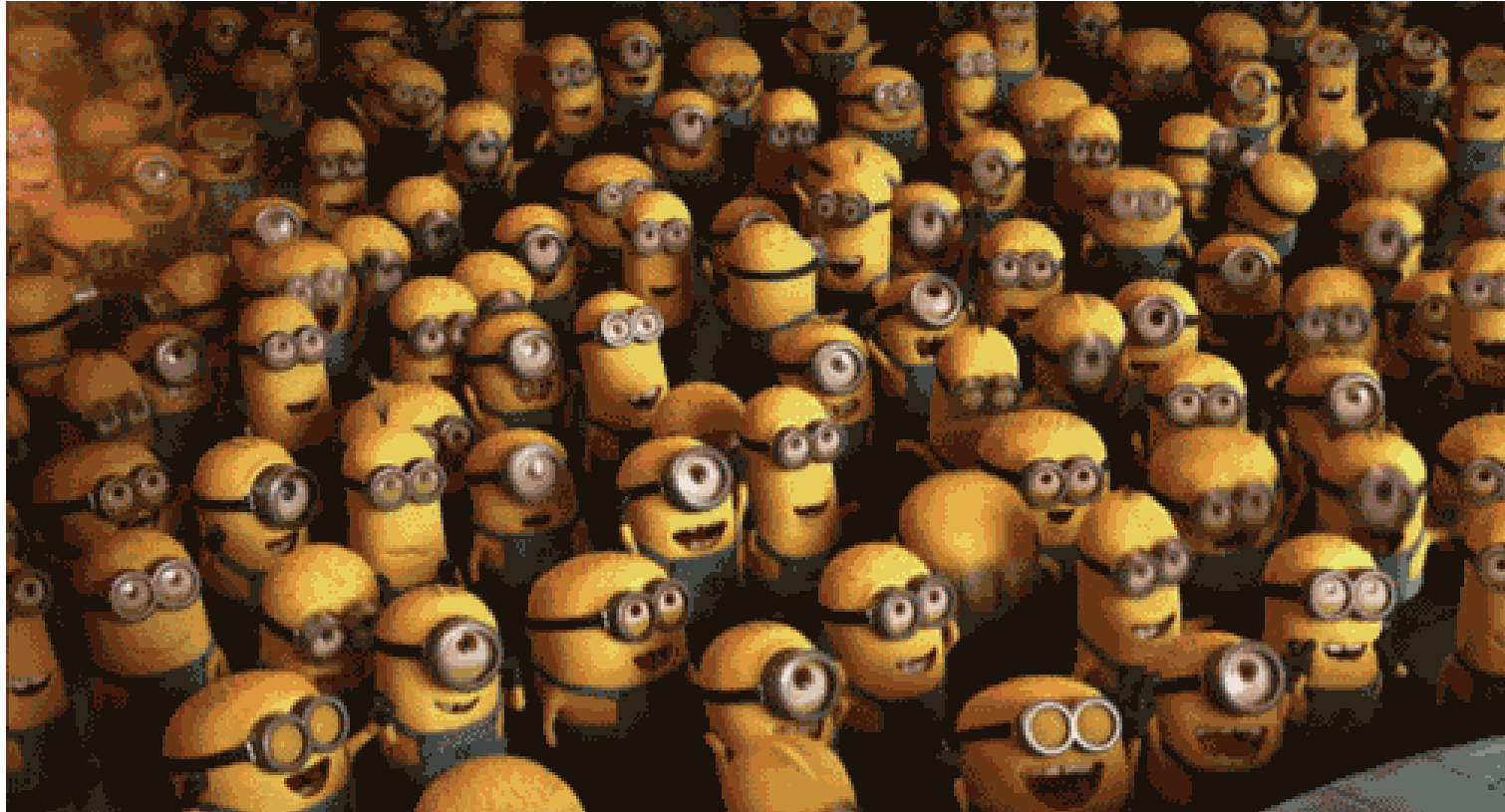
Simon L Cichosz , Flemming W Udsen and Ole Hejlesen

National decisions

A national financial agreement (Finance Act) between the Danish Government, the regions and the municipalities in Denmark that the rest of the country by the end of 2020 should deliver telemedicine for patients with severe COPD

A national agreement between Danish Government, the regions and the municipalities to continue the work with telemedicine for heart failure patients under the auspices of the national board of health-IT.

Danish politicians hear the words “tele medicine”



An increasing amount of improvement initiatives in health care are “top-down”
An increasing focus on possible savings
An increasing pressure to do applied research quickly and focused

More research is needed on mechanisms of effect

Why is tele medicine cost-effective for patients with severe COPD?

- Primary reason:
 - patients learn about their COPD and change behavior (avoid exacerbations)
- Secondary mechanisms:
 - a tele nurse can change medication more rapidly than the g.p.
 - telemedicine project identifies "gaps" in need
 - other

Why does tele medicine provide savings for heart failure patients?

- A mix of:
 - substitution-effect at the hospital ("no need for physical visits")
 - patients feel more safe to "stay at home" (treatment of heart failure and treatment of co-morbidity)
 - a tele nurse can change medication more rapidly than the g.p.
 - other

How can a national roll out
become a success?

...if we don't know the mechanisms of effect?

A more ambiguous research design?



Developing and evaluating complex interventions:

Following considerable development in the field since 2006, MRC and NIHR have jointly commissioned an update of this guidance to be published in 2019.

Preparation for the national roll out is a challenge!

- Actors involved from all health care sectors, industry, authorities, medical societies and interest organizations.
- National digitalization strategy
- RSI/National governance structure for health IT (from 2020)
- National porteføljestyregruppe & FUT (in Danish: "Fælles Udbud og Udvikling af Telemedicin")
 - A joint tender call for telemedicine, The development of a national telemedicine infrastructure & Common telemedicine citizen and employee solutions
- New standards and platforms and procedures
- Roll out components include IT pilot trials, preparations for a national educational program, and a national PR and communication plan, common system administration unit, national questionnaires
- National Board of Health and medical societies to define health related service level together with regions and municipalities
- Regional variances allowed

We need to set up a research-based monitoring system based on Danish Registers

- Danish Civil Registration System – each individual in Denmark have a unique civil registration number used in all Danish registries
- Information from the Danish National Patient Registry on inpatient, outpatient, and emergency hospitalizations in somatic and psychiatric care
- Information from The Danish Clinical Registries (RKKP) of clinical quality

Monitoring of the national implementation

- A two level set-up for monitoring based on Danish register data
 - At national level: a monitoring system with focus on key indicators ("do we realize the expected savings on acute hospital admissions and outpatient visits?")
 - A research program to document effects in full scale implementation and do ad hoc analyses (e.g. "does the implementation of telemedicine affect the quality of care?")
- A national prospective cohort design with difference-in-difference measures of effects
 - Building on the unique Danish model for cooperation between Government, national health authorities, regional and municipal health care, and researchers
 - Building on common principles for registration and roll-out plans

Thank you for listening