

Telehealthcare in the Southeast of Sweden – a study on cost-effectiveness

Submission date 25/09/2022	Recruitment status Recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 02/11/2022	Overall study status Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 13/04/2023	Condition category Respiratory	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Telehealthcare (THC), in addition to standard healthcare, is cost-effective when applied to patients with heart failure. Studies performed on patients with chronic obstructive pulmonary disease (COPD; in Sweden abbreviated KOL) are contradictory. The aim of this study is to analyse the cost-effectiveness of the THC intervention.

Who can participate?

Residents in the County Councils of Östergötland, Kronoberg and Jönköping with COPD

What does the study involve?

Patients suitable for telehealth care are randomly allocated to either telehealth care (as a supplement to standard health care) or not (control) and followed for at least 1 year (maximum 2 years). Annual healthcare contacts and associated costs will be analysed two ways: (i) in a historical view, comparing the individual annual contacts and costs during the THC intervention with previous years without THC, and (ii) by using healthcare contacts and costs of a group of matched control patients without THC. The superiority of THC (or not) will be assessed by analysing exacerbation frequency, survival, symptom control, and quality of life before and after the intervention and compared to a group of matched control patients. The study also aims to assess the suitability of THC. Patient attitudes towards technology and patient adherence will be analysed using questionnaires and interviews, which will cover user-friendliness and patient satisfaction. Finally, collected data from symptom assessment will be explored using machine learning to find out the importance of the individual questions to predict an exacerbation.

What are the possible benefits and risks of participating?

Possible benefits are reduced costs for health care and prevention of exacerbations, the latter leading to better control of COPD symptoms and improved quality of life. Possible risks are some patients find the interviews tiresome.

Where is the study run from?

The County Councils of Östergötland, Kronoberg and Jönköping (Sweden)

When is the study starting and how long is it expected to run for?
January 2020 to January 2029

Who is funding the study?
Medical Research Council of Southeast Sweden (FORSS) (Sweden)

Who is the main contact?
Prof. Lennart Persson, Lennart.persson@liu.se

Contact information

Type(s)
Principal investigator

Contact name
Prof Lennart Persson

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Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

ClinicalTrials.gov (NCT)
Nil known

Protocol serial number
20220805

Study information

Scientific Title
The eKOL study: a randomised multi-centre study on telehealthcare of patients with chronic obstructive pulmonary disease in Southeast Sweden – a study on cost-effectiveness

Acronym
eKOL

Study objectives

It is hypothesised that telehealthcare (THC) can successfully be added to standard healthcare without any extra expense, thus, maintaining the total healthcare cost at the level expected from previous years and compared to a matched control group. It is also hypothesised that THC proves to be superior to standard healthcare regarding the effects on exacerbations, symptom control, quality of life (QoL) and survival during the study period.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 22/10/2020, Swedish Ethical Review Authority (Etikprövningsmyndigheten, Stockholm avdelning 2 medicin, Box 2110, SE-750 02 Uppsala, Sweden; +46 (0)10 475 08 00; registrator@etikprovning.se), ref: Dnr 2020-04917

Study design

Multicenter interventional randomized controlled trial

Primary study design

Interventional

Study type(s)

Prevention

Health condition(s) or problem(s) studied

Prevention of exacerbations of chronic obstructive pulmonary disease (COPD) leading to hospitalisation

Interventions

Patients suitable for telehealth care are randomised to either telehealth care (as a supplement to standard health care) or not (control) and followed for at least 1 year (maximum 2 years). Depending on their residence and local availability of telehealth care, study patients are randomised to either group.

Intervention Type

Device

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

ImagineCare

Primary outcome(s)

Annual healthcare contacts and associated costs, assessed using data from journals and data from health care registers at 24 months (in some cases also at 48 months)

Key secondary outcome(s)

1. Annual exacerbation frequency assessed using data from journals at 24 months (in some cases at 48 months)

2. Annual survival assessed using data from journals and data from registers at 24 months (in some cases at 48 months)
3. Burden of COPD symptoms and quality of life assessed using the COPD Assessment Test (CAT) monthly during the study period (1-2 years)

Completion date

01/01/2029

Eligibility

Key inclusion criteria

1. A patient offered telehealthcare service for COPD
2. Written consent to participate in the study
3. A diagnosis of COPD
4. Global Initiative for Chronic Obstructive Lung Disease (GOLD) groups B, C or D, which in turn are decided by the COPD Assessment Test (CAT) score and exacerbation history at baseline according to the GOLD guidelines

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Senior

Sex

All

Key exclusion criteria

1. Unable to communicate because of hearing loss or difficulties understanding Swedish
2. Dementia or other cognitive disabilities and/or psychiatric disease of significance as judged by the study physician
3. Ongoing abuse of drugs (not tobacco) or alcohol
4. Other significant disease that dominates the clinical picture more than COPD as judged by the study physicians

Date of first enrolment

22/10/2020

Date of final enrolment

01/01/2027

Locations

Countries of recruitment

Sweden

Study participating centre
University Hospital
Dep. of Pulmonary Medicine
Linköping
Sweden
SE-581 85

Study participating centre
Ryhov Hospital
Dep. of Medicine
Jönköping
Sweden
SE-551 85

Study participating centre
Allmän medicinskt kunskapscentrum (AMK)
Region Kronoberg
Växjö
Sweden
SE-351 88

Sponsor information

Organisation
County Council of Östergötland

Funder(s)

Funder type
Research council

Funder Name
Forskningsrådet i Sydöstra Sverige

Alternative Name(s)
Medical Research Council of Southeast Sweden, FORSS

Funding Body Type
Government organisation

Funding Body Subtype

Local government

Location

Sweden

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Prof. Lennart Persson (Lennart.persson@liu.se). Anonymised data (Excel files) can be requested from 01/01/2030 at the earliest and for a period of 1 year.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes