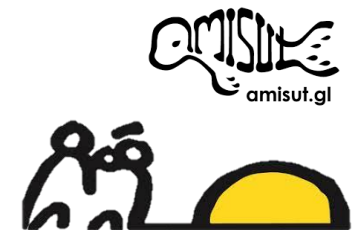


Challenges and possibilities in using spirometry when screening and diagnosing COPD

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A bit about myself

P.Bc in Nursing (2013)

M.Sc in clinical science and technology, Aalborg University (2015)

- Virtual training in the Municipality of Viborg
- Testing rehabilitation technology stimulation NWR for apoplexia patients
- Inter-organizational evaluation of acute telemedicine in Northern Norway
- Telemedicine in Southern Greenland – exploring citizens perspectives

Research & Development nurse, Lifestyle group, Queen Ingrid Health Care Center (2015)

Assistant professor, Institute of Nursing & Health science, University of Greenland (October 2016)

Background

Chronic Obstructive Pulmonary Disease (COPD) is the fourth leading cause of death in the world.

International guidelines by GOLD recommend spirometry as a diagnostic tool for COPD

Smoking is the most frequent risk factor in developing COPD

- More than half the adult Greenlandic population are daily smokers

The prevalence of COPD in Greenland is unknown

Initiatives in COPD management

Telemedicine store-and-forward system Pipaluk since 2008

- Spirometri testing in all Greenlandic settlements with a population of at least 50

Lifestyle group initiatives since 2011

- Education of healthcare professional
- Investment in new spirometers
- COPD clinical guidelines
- Lifestyle table
- Lifestyle laminate

Telemedicine initiatives 2015

- Aims to improve the usage of telemedicine across different specialises
- Renewed focus on research

Research aim

To gather knowledge on the current usage of spirometers in the Greenlandic healthcare system Greenland focusing on identifying clinical, technological and organizational challenges and possibilities.

Furthermore, to develop a new initiatives for COPD management based on empirical data from both towns and settlements.

Research methods

Case study inspired by Robert Yin

- Observational cross sectional study (study 1)
- Ethnographic field study (study 2)
 - Participatory observations
 - Semi structured research interviews
- Survey - based on the Technology assessment model (study 3)

Research aim study 1

To estimate the prevalence of patients aged 50 years or above treated with medication targeting obstructive pulmonary disease and to estimate to what extent spirometry was performed among patients treated with medication targeting obstructive pulmonary disease within two years.

Research method - study 1

An observational, cross-sectional study based on review of data obtained from electronic medical records in Greenland from October 2013 to October 2015.

Inclusion criteria

- permanent residents aged 50 years or above who had medication targeting obstructive pulmonary disease prescribed within a period of 15 months prior to data extraction.

A full review of electronic medical records was done on each of the identified users of medication targeting obstructive pulmonary disease.

- Age
- Gender
- Spirometry data

Results - study 1

Table 1: Prevalence of medication and proportion of spirometry performed in patients aged 50 years or above

Variables	Total %	Women %	Men %	P
Prevalence of medication use within a 15 months interval	7.2	10.0	4.8	<0.001
Spirometry performed within two years	34.8	33.3	37.2	0.268
FEV1/FVC under 70%	50.0	41.5	63.0	<0.001

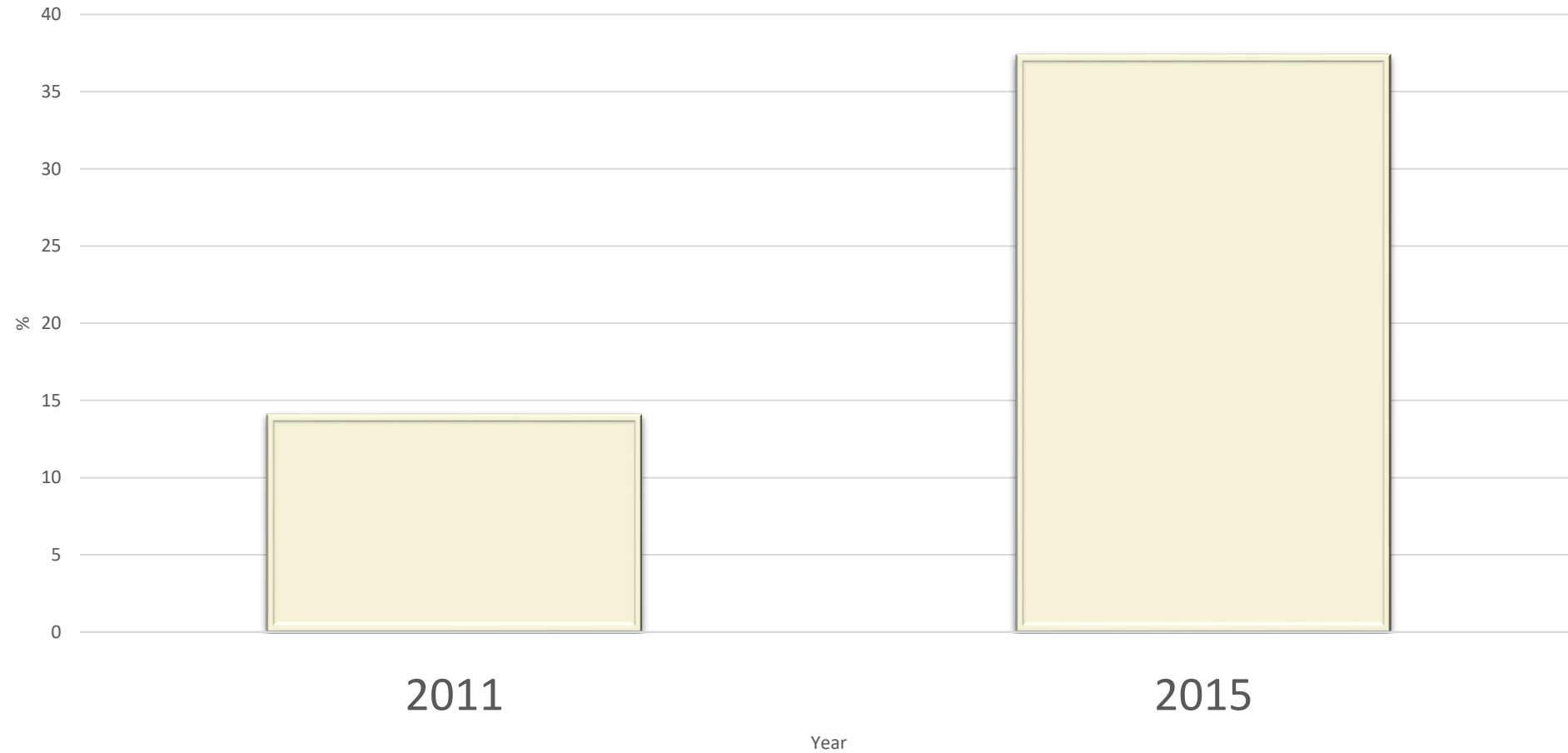
Conclusion study 1

7% of the population aged 50 years or above has had a prescription for medication targeting obstructive pulmonary disease within 15 months

A third have had a spirometri test within 2 years

Half of the performed spirometries showed an FEV1/FVC under 70%

Number of spirometries from 2011 to 2015



Discussion study 1

There has been an increase in the number of performed spirometries

- This would suggest an effect of the initiatives by the lifestyle group.
- Previous studies have proven an effect between educational programs in primary health clinics and increase of performed spirometries

How is it possible to perform more spirometries in the Greenlandic healthcare system?

- Changes in clinical practice
- Technological problems
- Organizational difficulties

Ethical perspectives - preparing second study

Cultural differences

- Danish
- Language barriers
- Information provided informants when securing informed consent

Only third time outside of Nuuk (cultural differences)

Problem building trust – short visits

Managing outcome of study in a small community

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