

## INTERNATIONAL EXPERTS

**Professor Rod Taylor** 



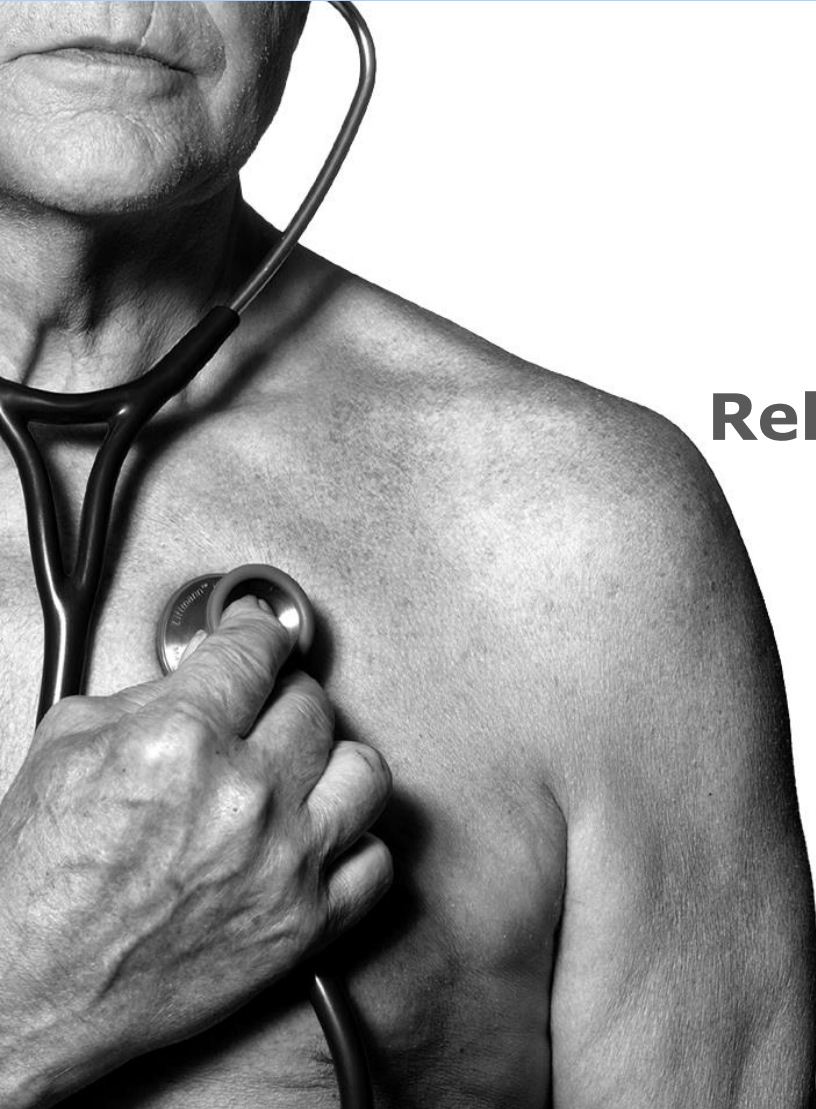
Adjunct professor, SDU  
Professor of health services research  
NIHR Senior Investigator  
University of Exeter Medical School, England

**Professor David Clark** 



Adjunct professor, SDU  
Professor of medical sociology  
Wellcome Trust Investigator  
University of Glasgow, Scotland

From evidence to clinical practice

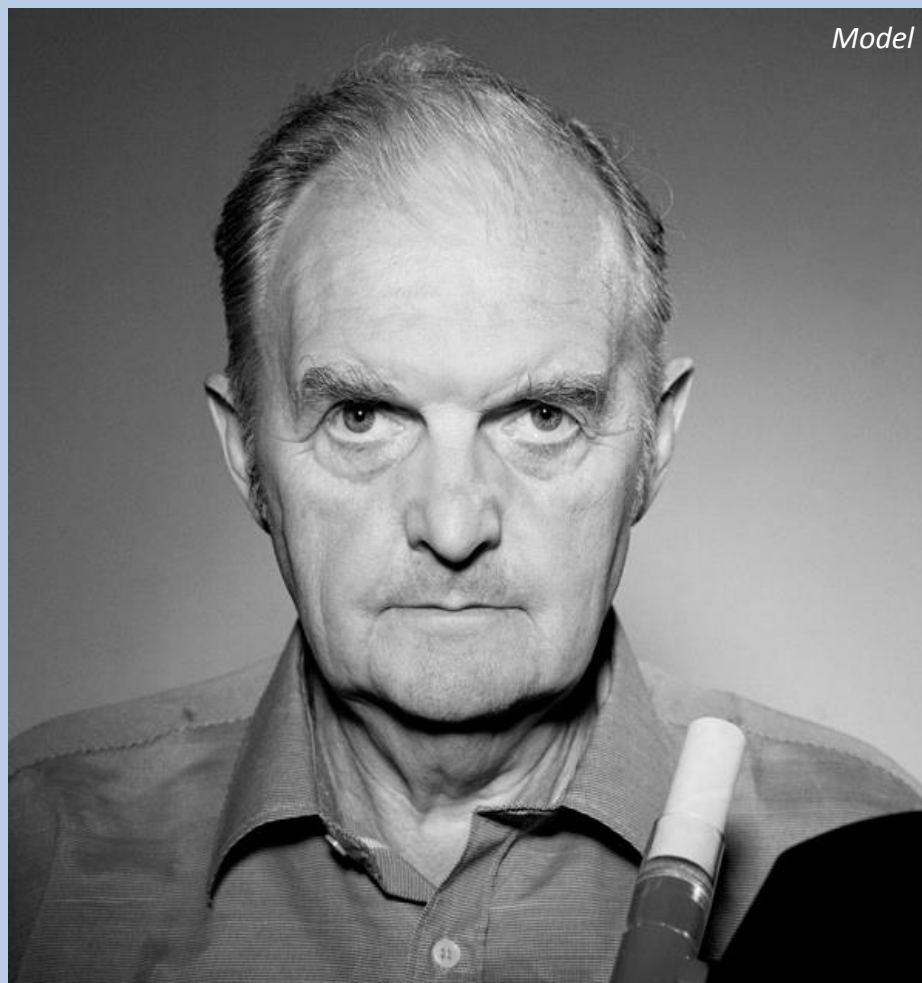


## **Rehabilitation and palliative care**

From my heart to cancer and back

*Ann-Dorthe Zwisler  
Professor, MD, cardiologist  
University of Southern Denmark*





Olauf  
1987

1997

2007

Steen  
2017

# Outline of presentation

- From student to medical doctor – from student to researcher (1987)
- Rehabilitation in coronary disease – from evidence to practice (1997)
- Rehabilitation in complex cardiac diseases (2007)
- Rehabilitation and palliative care – future directions (2017)

1987

1997

2007

2017



# Being a student – becoming a medical doctor

Lars Iversen, Professor, Medical sociology

Article on closure of a shipbuilding yard and impact on workers health

## Paradigm shift in health care From 'machine-error' to bio-psychosocial interventions



### Health is

"a state of physical, mental, and social well-being and not merely the absence of disease or infirmity (skavanker)."

WHO 1946

Medical student

Student of political science  
and administration



1986

1987

1991

1995

1997

# Working as student research-assistance

## National Institute of Clinical Epidemiology (later National Institute of Public Health)



Finn Kamper Jørgensen  
Mette Madsen  
Knud Juel

*Health service research based on surveys:*

- Children's Health at school start  
(68 communities)
- Children's vaccination-program
- Health at the workplace LEGO

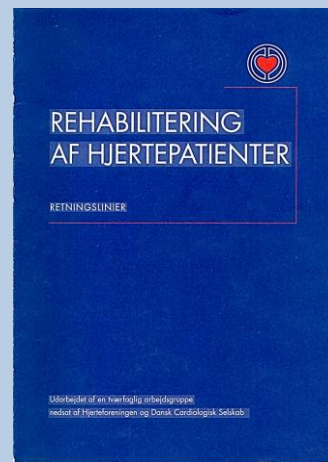
## Bispebjerg Hospital (Central administration) WHO - Health promotion hospital



*Health service research :*

- Re-hospitalisation and Length of stay  
in medical wards
- Smoke free hospital – smoking cessation

National recommendations  
Cardiac rehabilitation



1986

1987

1991

1995

1997



# Rehabilitation in coronary heart disease

*From evidence to clinical practice in Denmark*

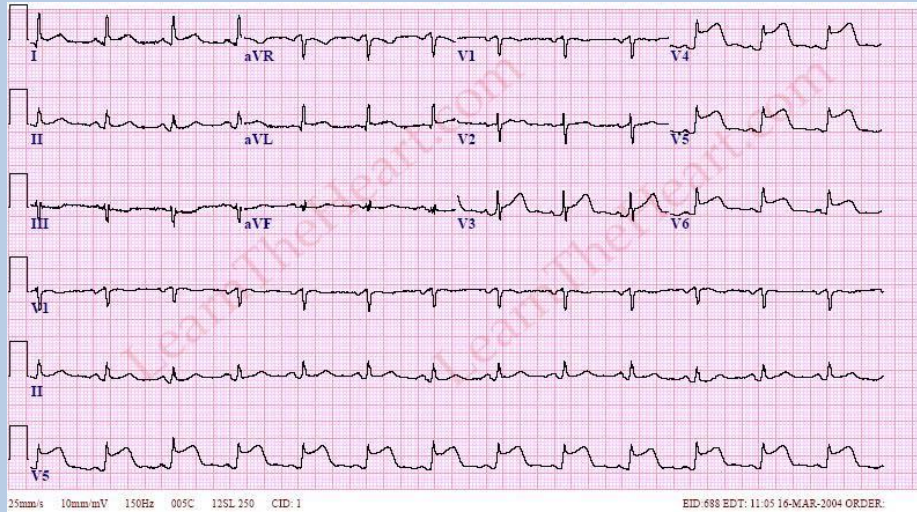
1997

2007

2017



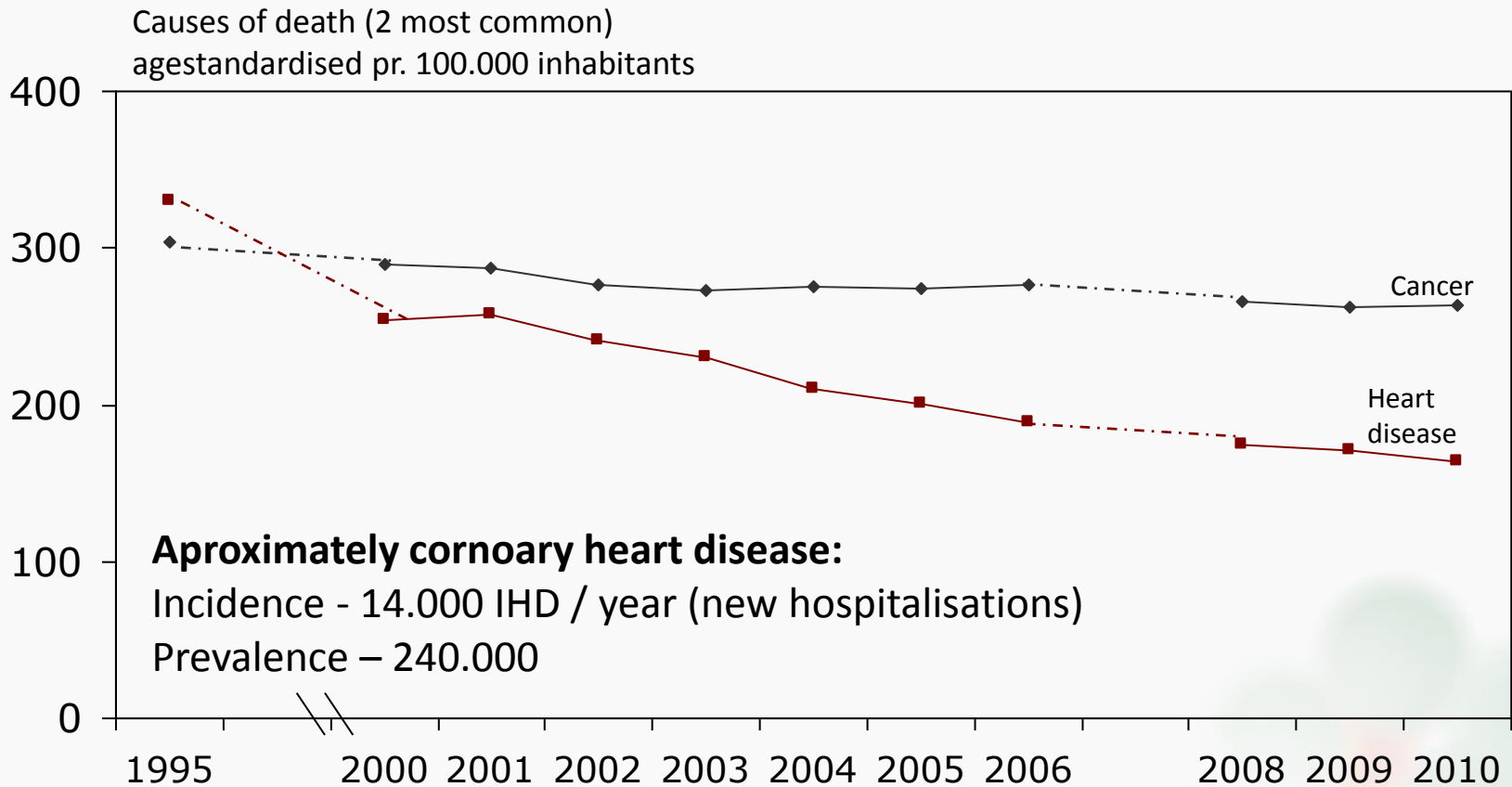
# Clinical presentation of coronary heart disease

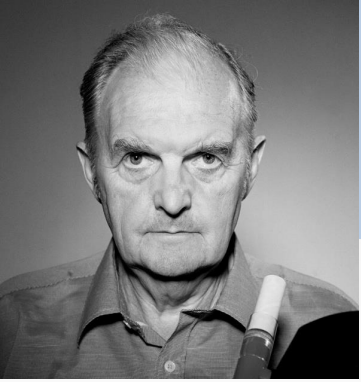


- Aspirin 300 mg straks
- ADP-receptorblockers
- Heparin 10.000 IE iv.



# From life-treathening to chronic disease





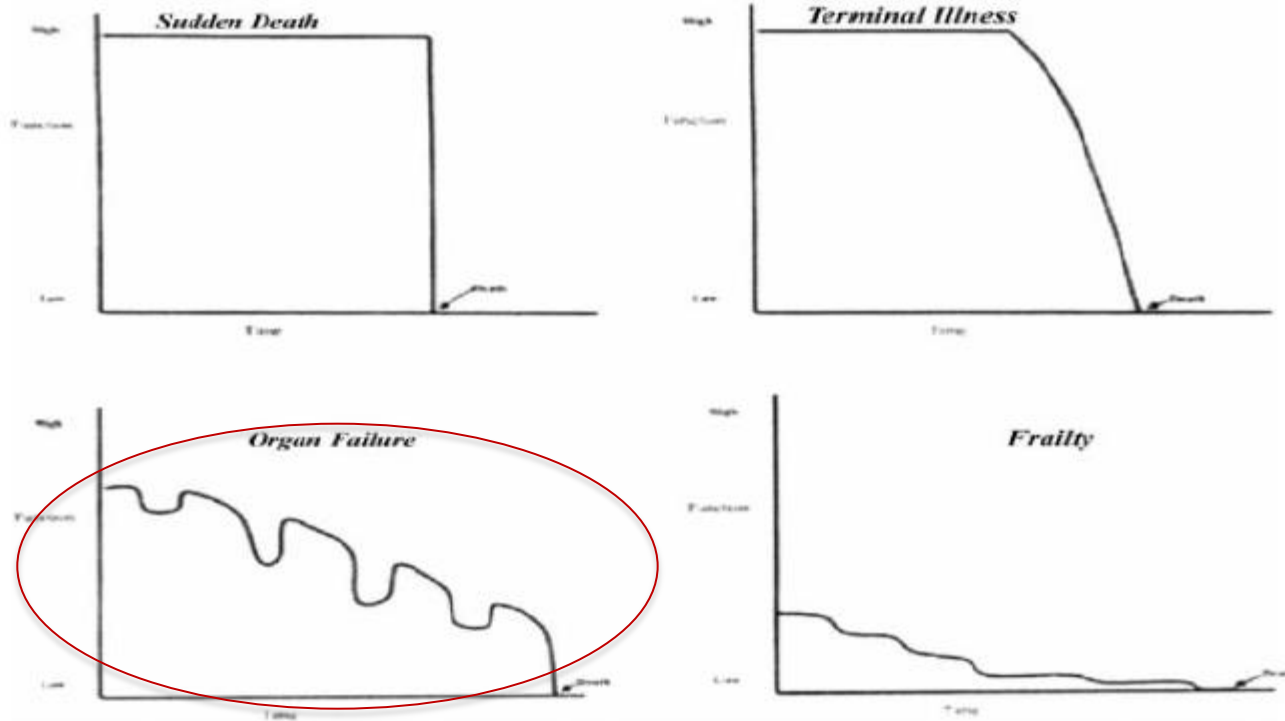
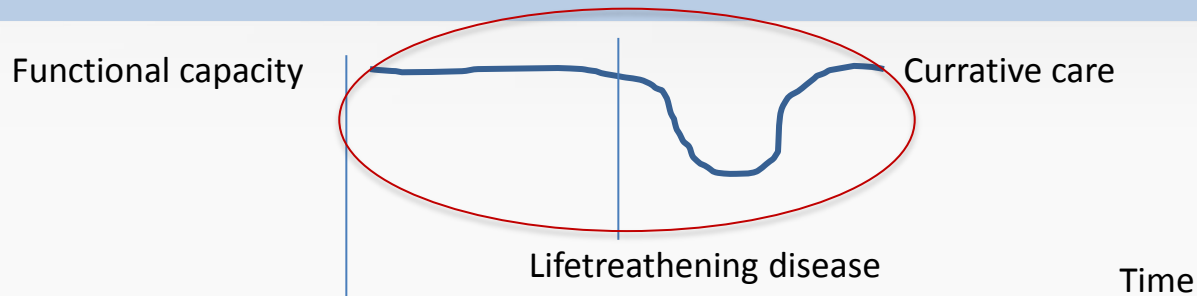
# Living with coronary heart disease

- CHD is a major cause of death and disability in developed countries with myocardial infarction as one of the main presentations
- Incidence is declining in the western world, but is expected to raise world-wide to 32 million people by 2030

## Disabilities

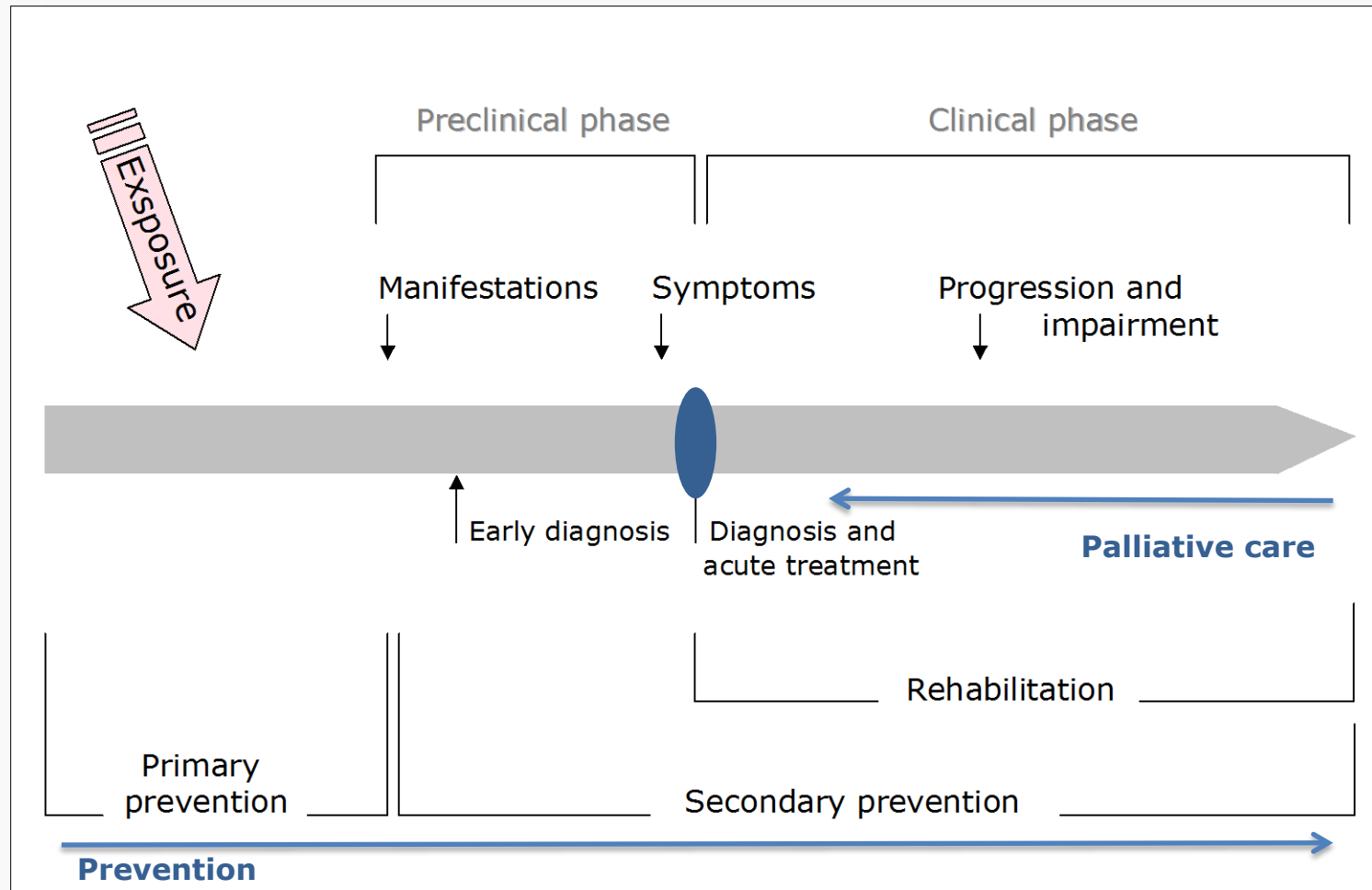
- Loss of physical functioning due to complication to disease, low physical activity level, anxiety to perform exercise
- Mental distress: 20-30% depression – 15-25% anxiety (HADS)
- High risk lifestyle (smoking, dietary habits, low physical activity level)
- Approximately 20-30% leaves the labor market
- Health related quality of life is impaired

# Disease trajectory

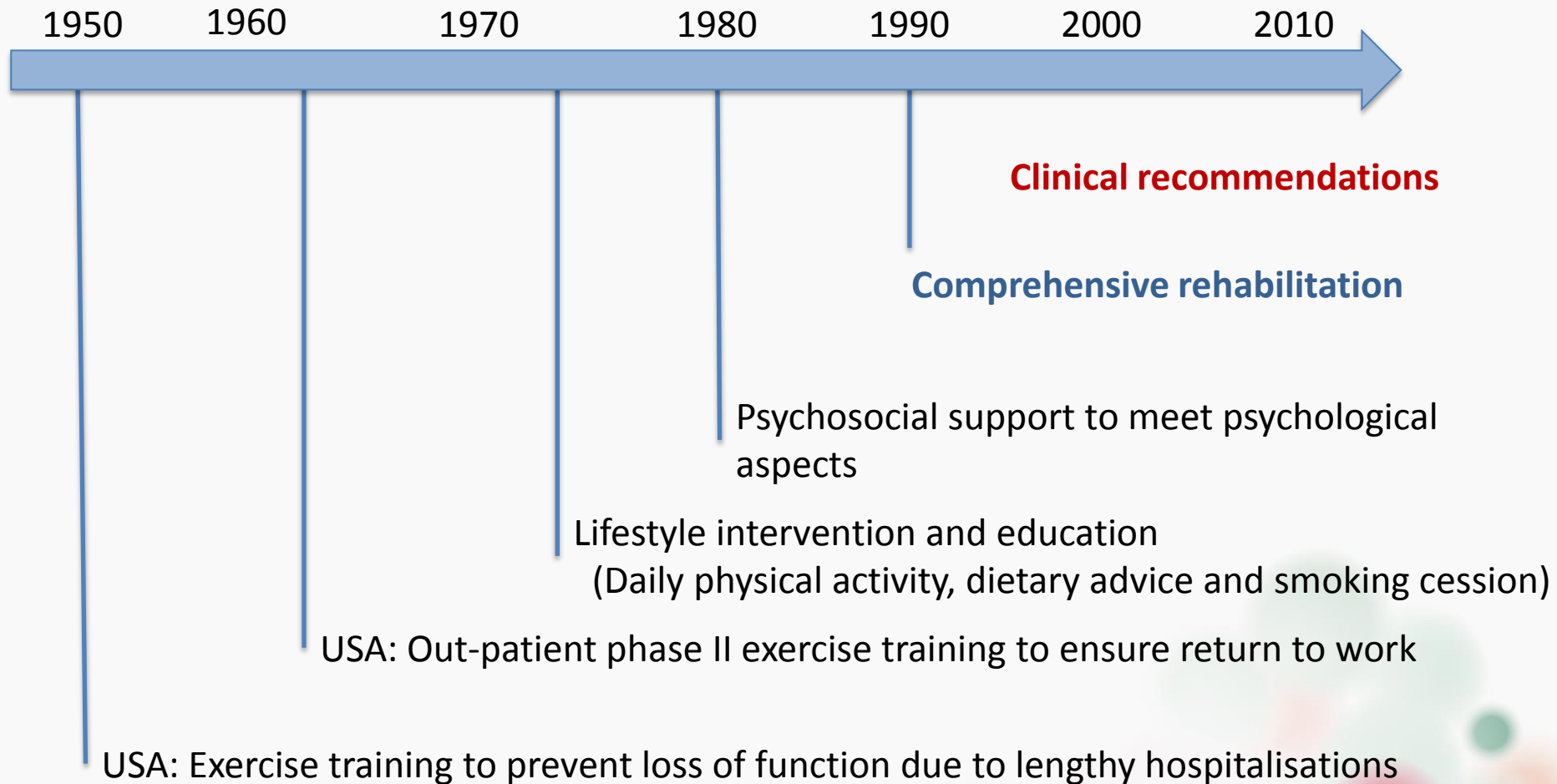


**Figure 2** The proposed trajectories of dying. Top left, unexpected death is depicted as might be seen when an arrhythmia complicates clinically silent cardiac disease. Top right, the predicted course of someone with an incurable, fatal illness such as widely metastatic lung cancer is projected. Bottom left, the gradual, often unpredictable, decline in function, punctuated by exacerbations, of persons with chronic debilitating illness is shown. Persons with chronic, progressive pulmonary diseases would fit this trajectory best. Bottom right, slowly progressive degenerative disorders such as Alzheimer's-type dementia and strokes might result in the progressive decline graphed here. From Morrison, Meier<sup>19</sup> with permission.

# Outline and terminology



# History of rehabilitation in coronary disease



# Prolonged implementation curve

Diffusion of innovation theory : Innovators – early adoptors – early majority – late majority – laggards

Average number of years since the phase II component was established (range)

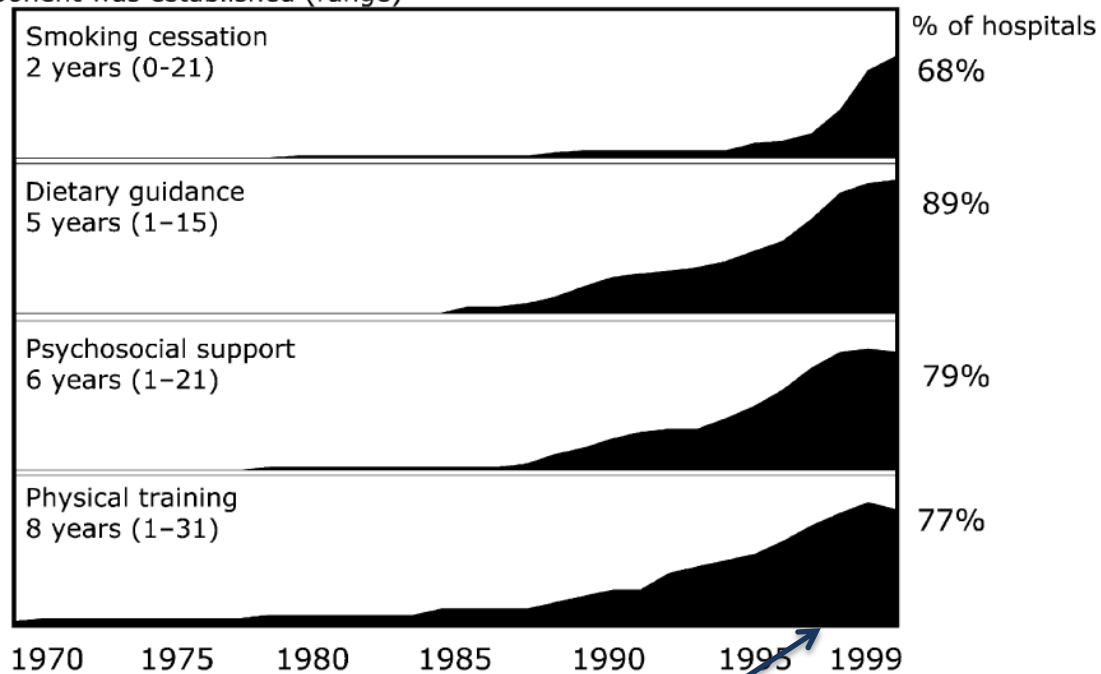
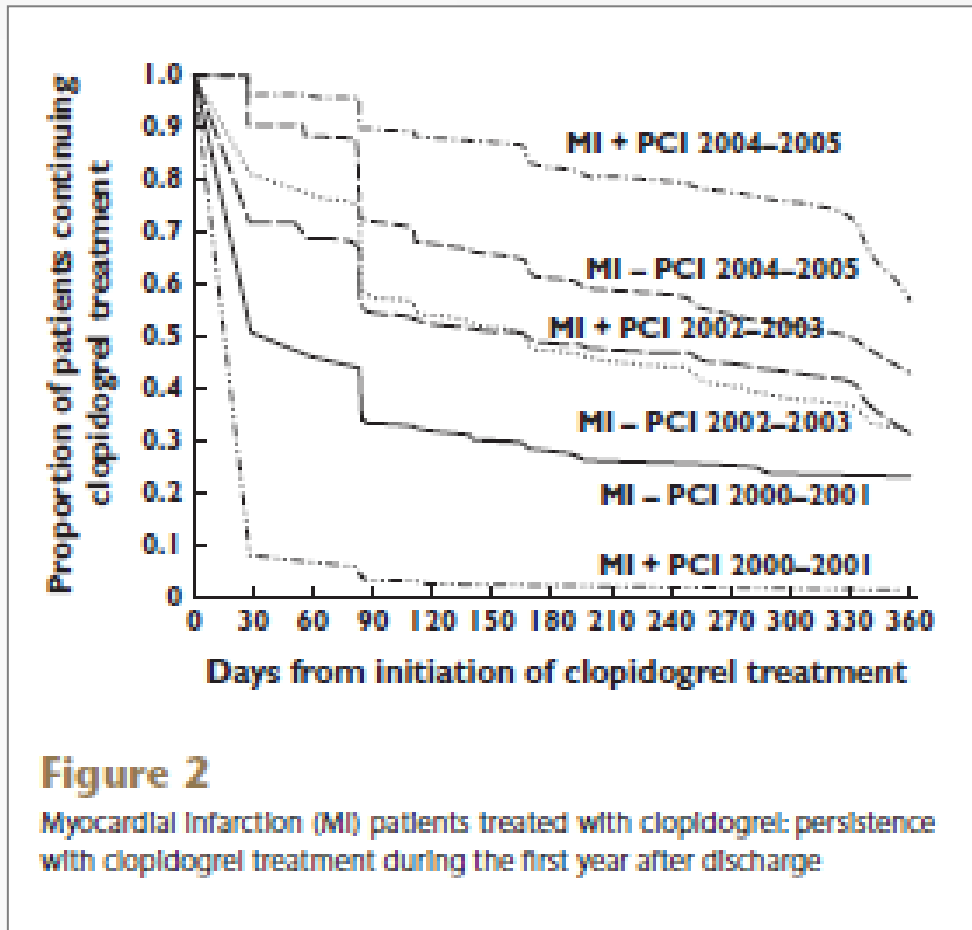


Figure 2. Years of establishment of phase II components of CR services at 53 hospitals in Denmark and average number of years since the component was established (range) based on a questionnaire survey on cardiac rehabilitation services in 1999.

# Does it have to take so long?



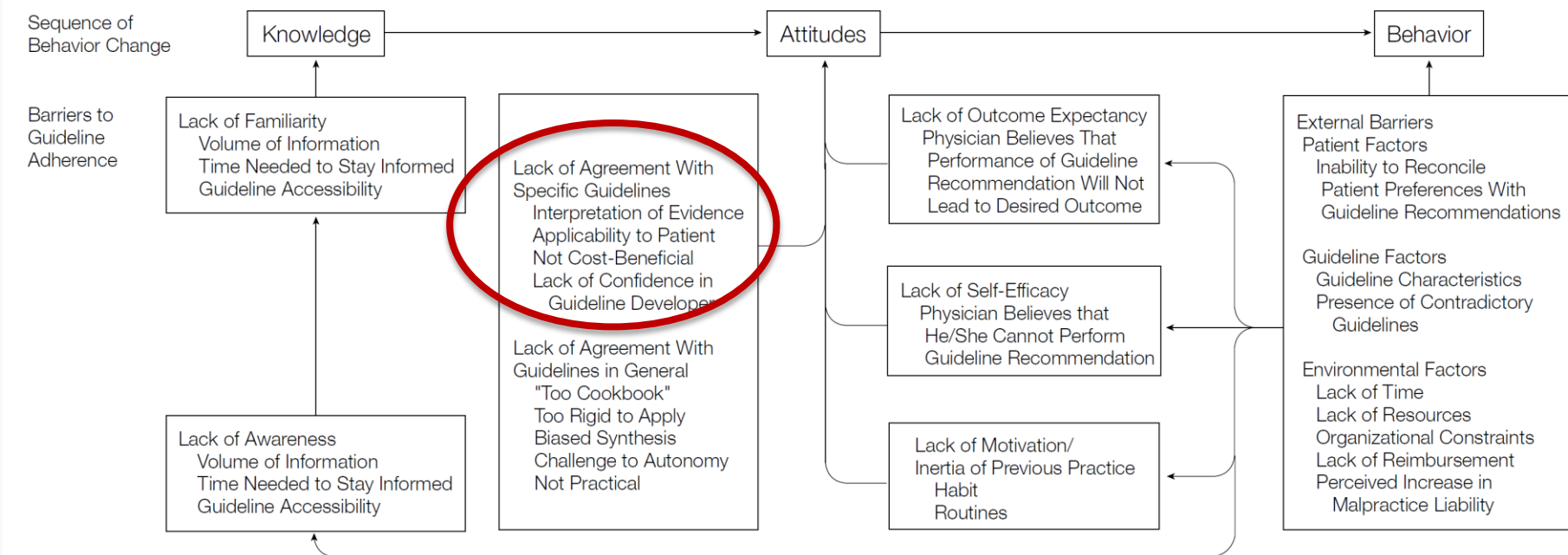
Sørensen R et al. Br J Clin Pharmacol 2008;66,875-884





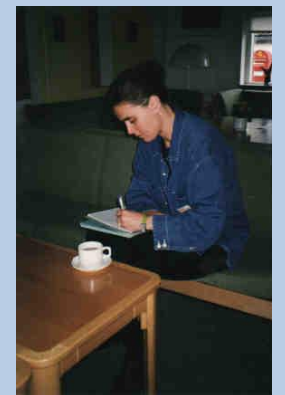
# Barriers to adherence to clinical recommendations?

**Figure.** Barriers to Physician Adherence to Practice Guidelines in Relation to Behavior Change



==>> The DANREHAB trial was initiated in 1999  
A large RCT (N=770 patients)

# Sundhed uden fanatisme

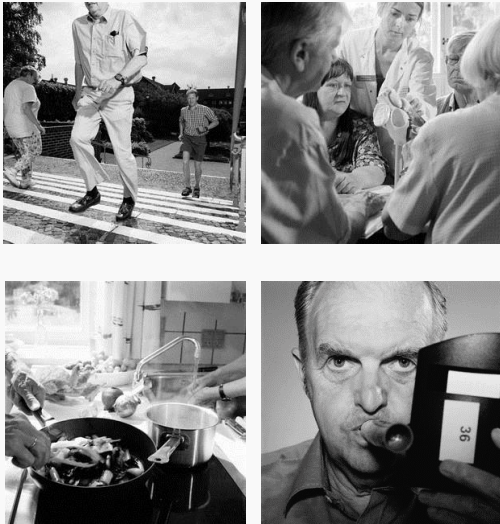


SUNDHEDS HØJSKOLEN  
diget

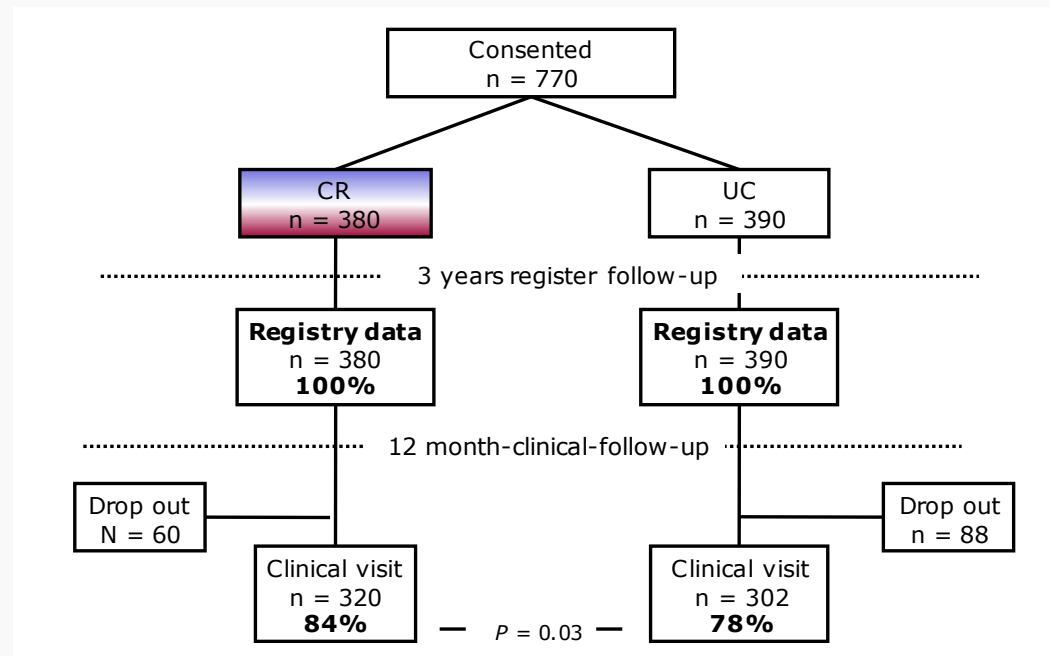
1998 - A 5 days residential rehabilitation stay formed the basis for Development of the DANREHAB 6 weeks out-patient program

# Randomised Clinical trial (RCT)

## Cardiac rehabilitation 6 weeks out-patient program



Complex intervention  
UK Medical Research Council. 2000.



# Colleges statements on Rehabilitation Not for cardiologists



Nurse-re

I man  
ee club'

Cardiologist  
the manning

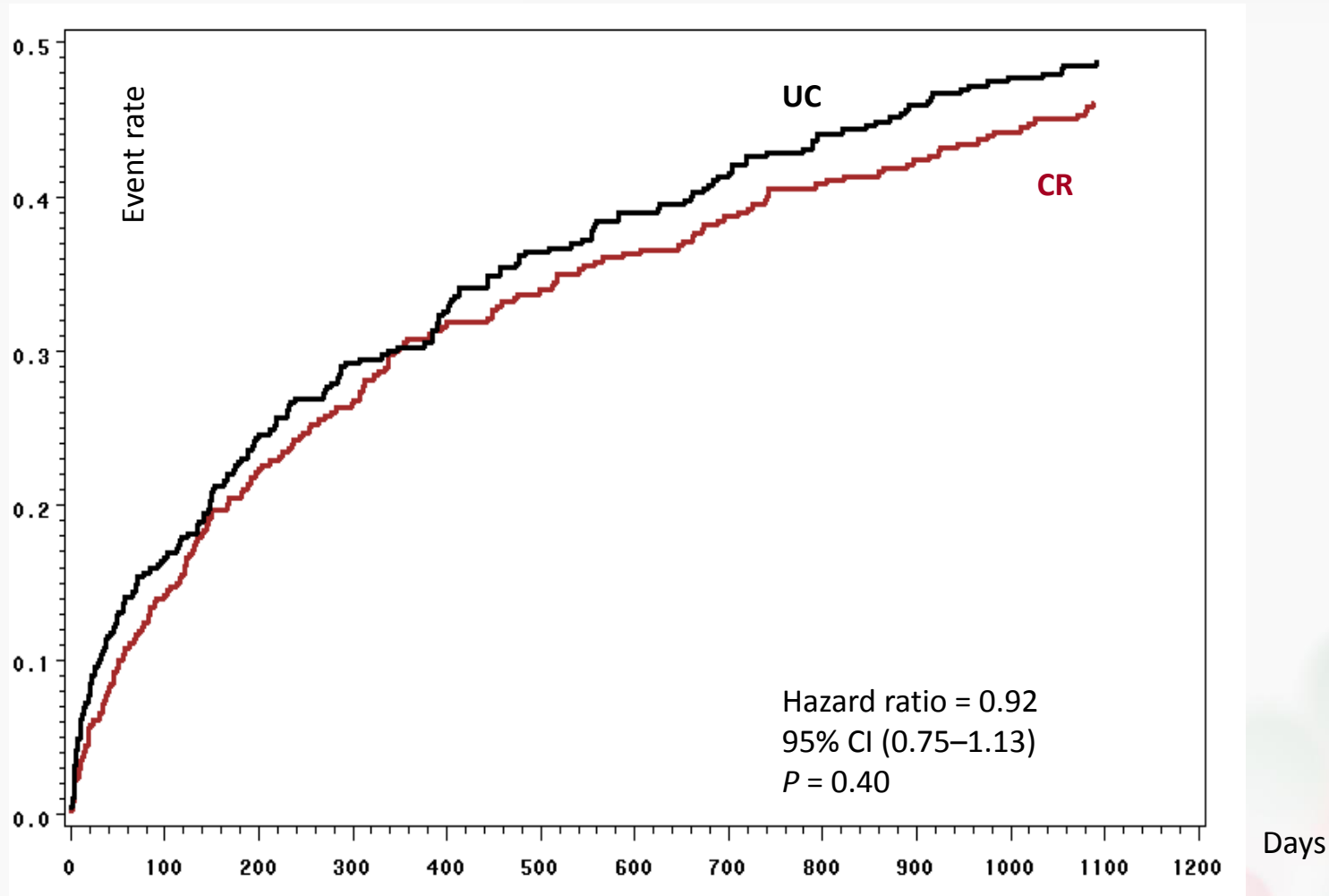
Cal

ic

I do the operation -  
The patient will be  
perfectly well!

# Composite outcome measure\*

Register-based 3 years follow-up



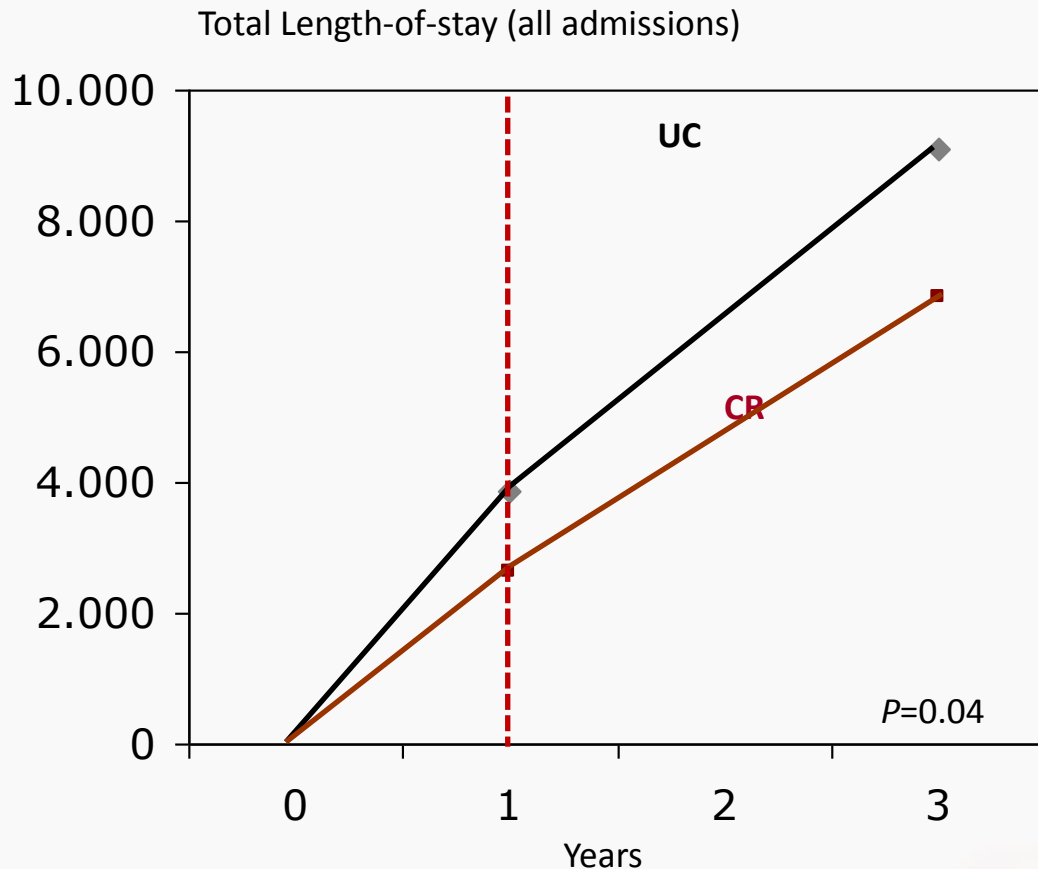
Zwisler et al. Am Heart J, 2008

Zwisler et al. ESC, 2008

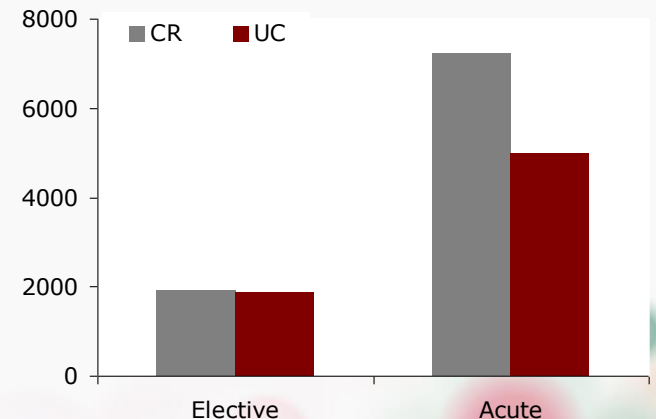
\* *Death, myocardial infarction, acute first time re-admission due to heart disease which ever came first*

# Length-of-stay (LOS) – cost saving intervention

Register-based 3 years follow-up

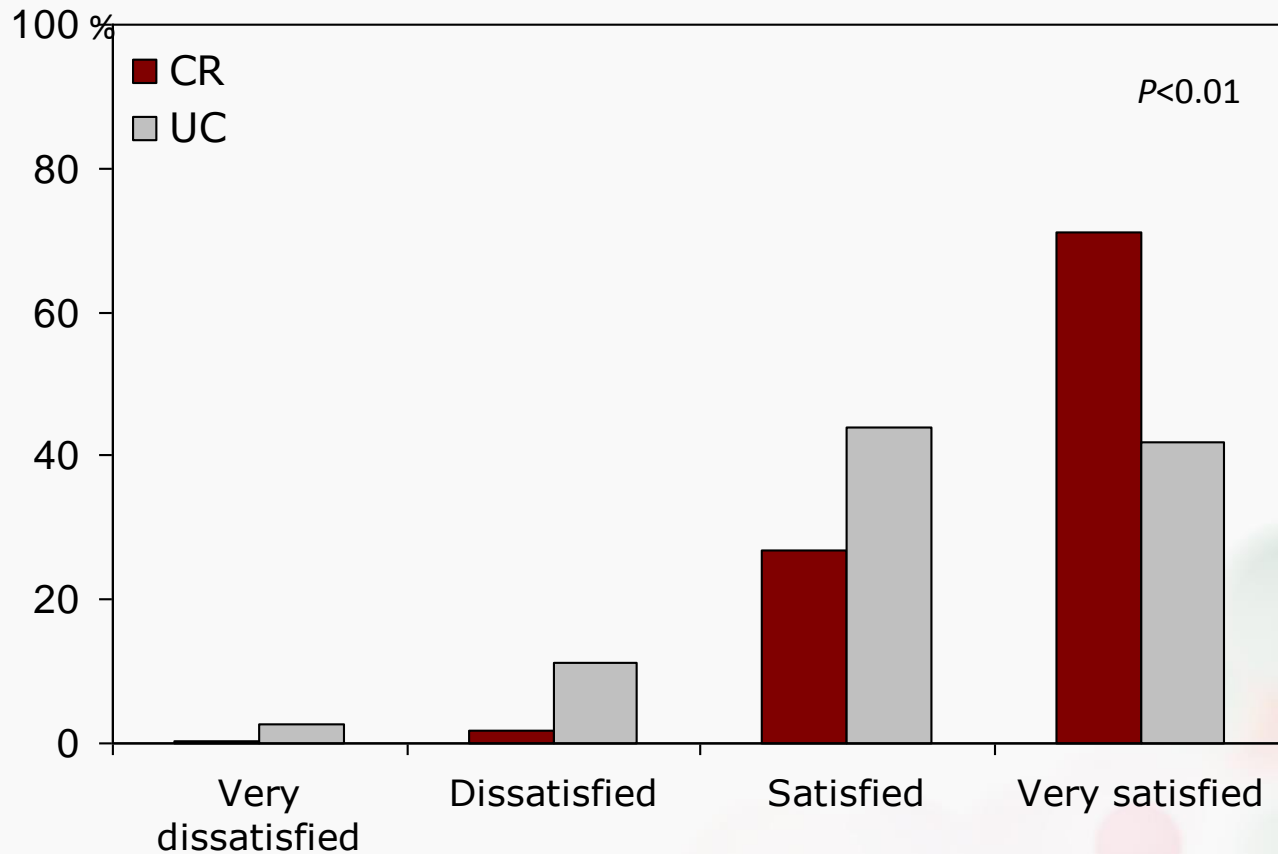


LOS	UC	CR
Total	9.099	6.847
Range	(1–217)	(1–94)
Mean	6.2	5.4
<b>Reduction</b>	<b>25%</b>	



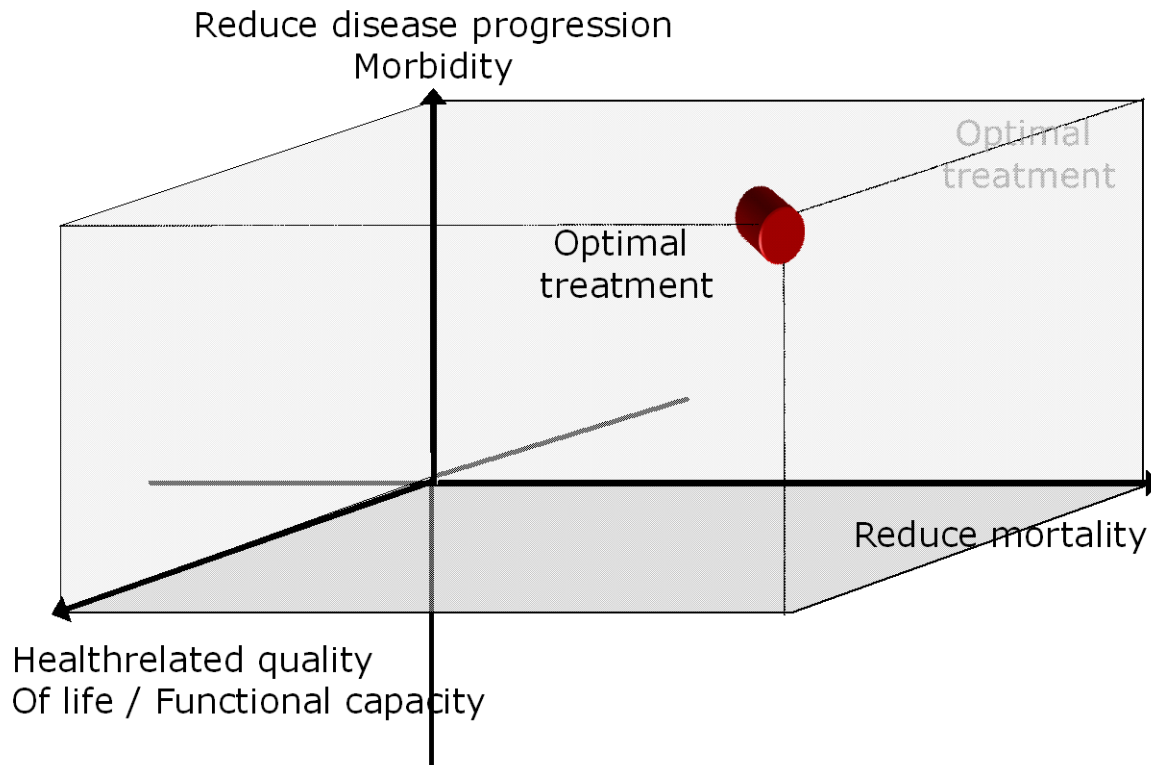
# Patient satisfied – however no effect on HRQL

How satisfied have you been with the follow-up services offered within the past 12 months?



# Treatment rationale and outcome in rehabilitation

## Focus on quality of life



### Initiated studies – Region Sjælland and Holbæk sygehus

Development and validation on HeartQol core-disease questionnaire

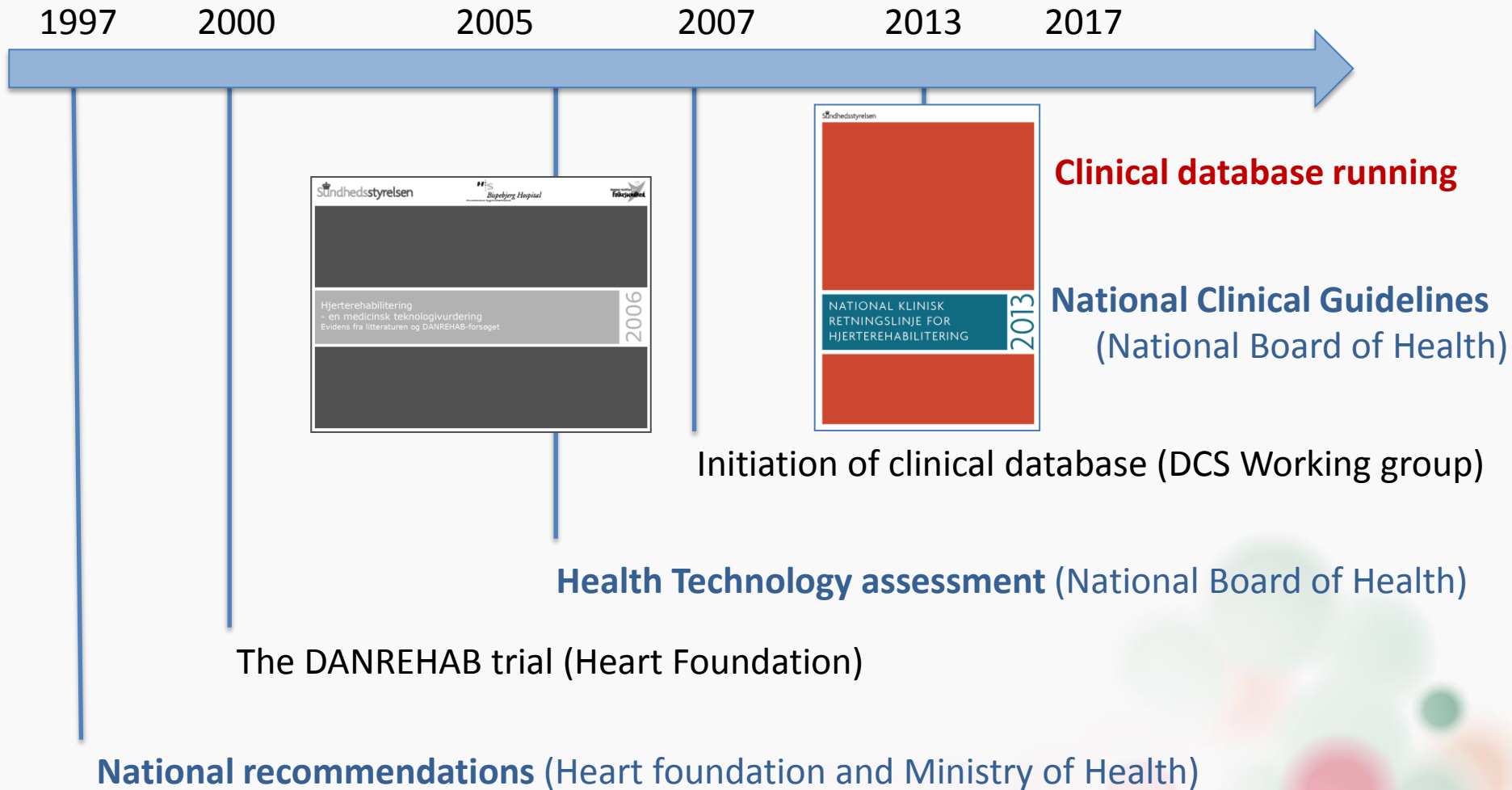
Hospital anxiety and depression scale HADS

Prevention of re-hospitalisation, Psychosocial support

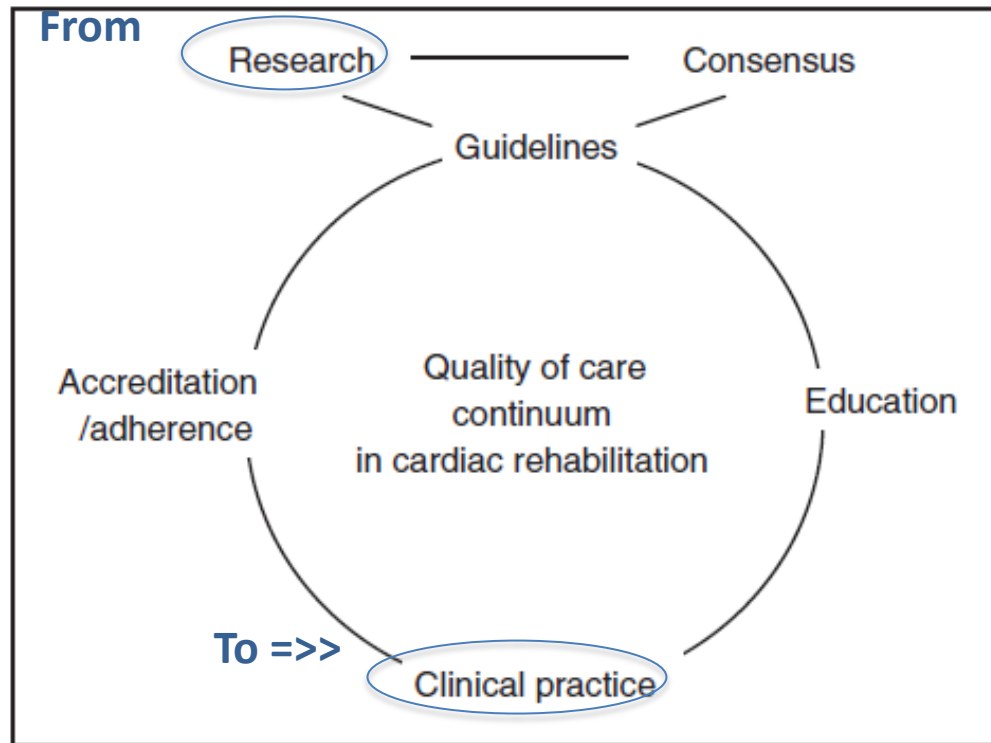
Quality of life in haematological cancer with focus on MPN



# From guidelines to clinical practice in coronary disease



# Quality assurance in rehabilitation



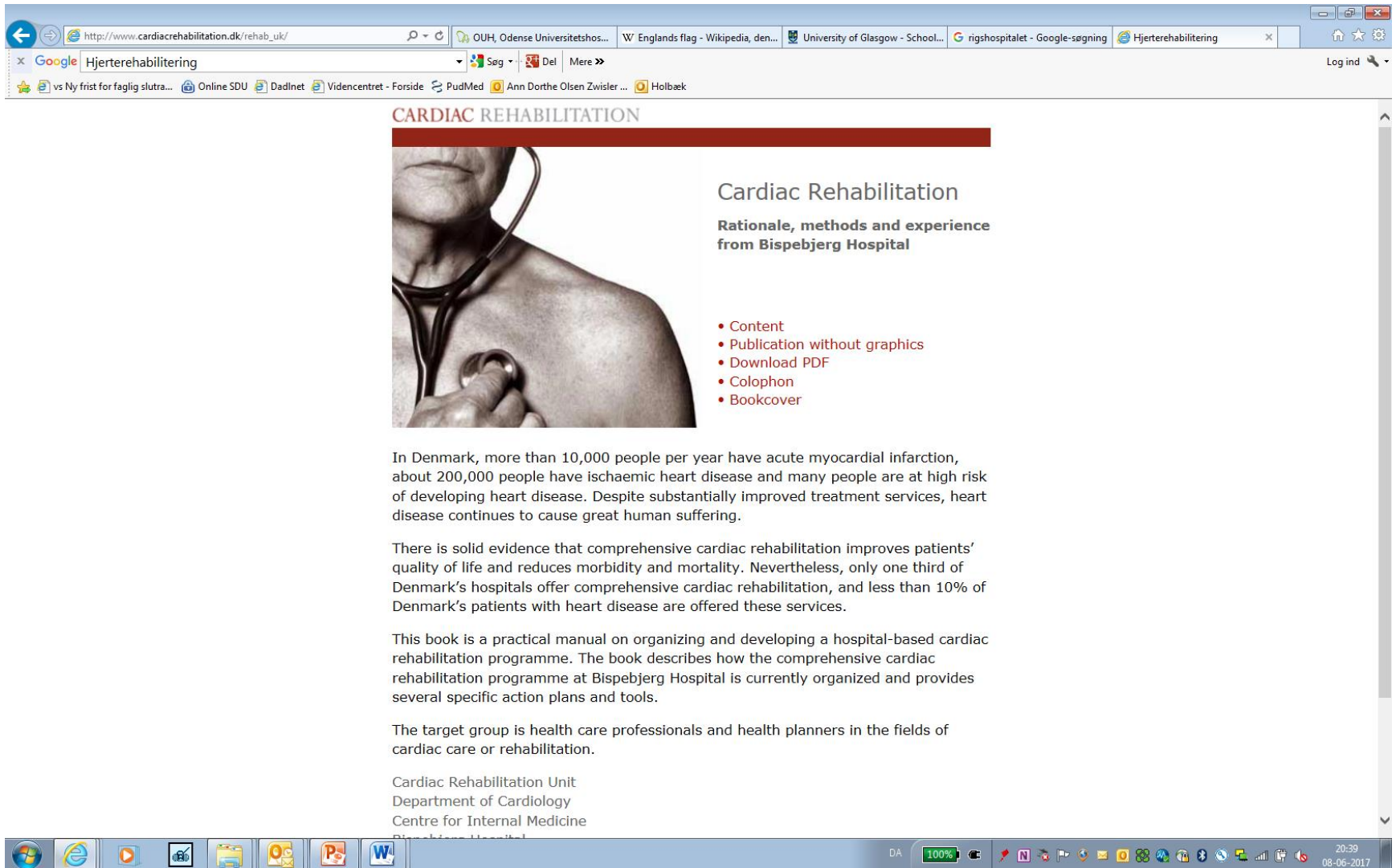
**Figure 1.** The quality of care continuum in cardiac rehabilitation. Adapted with permission from the EuroHeart Survey Programme.

Zwisler et al. EJCPR, 2011

# Danish Cardiac rehabilitation Database (DHRD)

	Goal %	Achived	%	95% CI
1a: Deltagelse *	35	No	Not aviable for public	
1b: Vedholdende deltagere **	75	No		
2a: 80% af træningssessioner	70	No		
2b: 10% stigning funktionstest	80	No		
3: Rygestop	60	No		
4: Diætbehandling	***	***		
5: Reduktion af LDL kolesterol	60	No		
6: Blodtryk	70	No		
7: Screening for diabetes	90	Yes		
8: Screening for depression	80	Yes		
9: Antitrombotisk behandling	95	Yes		
10: Statinbehandling	80	Yes		
11: Betablokadebehandling	80	Yes		

# Cardiac Rehabilitation from Denmark going global



**CARDIAC REHABILITATION**

## Cardiac Rehabilitation

**Rationale, methods and experience from Bispebjerg Hospital**

- Content
- Publication without graphics
- Download PDF
- Colophon
- Bookcover

In Denmark, more than 10,000 people per year have acute myocardial infarction, about 200,000 people have ischaemic heart disease and many people are at high risk of developing heart disease. Despite substantially improved treatment services, heart disease continues to cause great human suffering.

There is solid evidence that comprehensive cardiac rehabilitation improves patients' quality of life and reduces morbidity and mortality. Nevertheless, only one third of Denmark's hospitals offer comprehensive cardiac rehabilitation, and less than 10% of Denmark's patients with heart disease are offered these services.

This book is a practical manual on organizing and developing a hospital-based cardiac rehabilitation programme. The book describes how the comprehensive cardiac rehabilitation programme at Bispebjerg Hospital is currently organized and provides several specific action plans and tools.

The target group is health care professionals and health planners in the fields of cardiac care or rehabilitation.

Cardiac Rehabilitation Unit  
Department of Cardiology  
Centre for Internal Medicine  
Bispebjerg Hospital

20:39  
08-06-2017

# From Bangladesh to Denmark and back



**FIGURE.** World map denoting low- and middle-income countries where cardiac rehabilitation is known to be offered based on English peer-reviewed publications and grey literature.

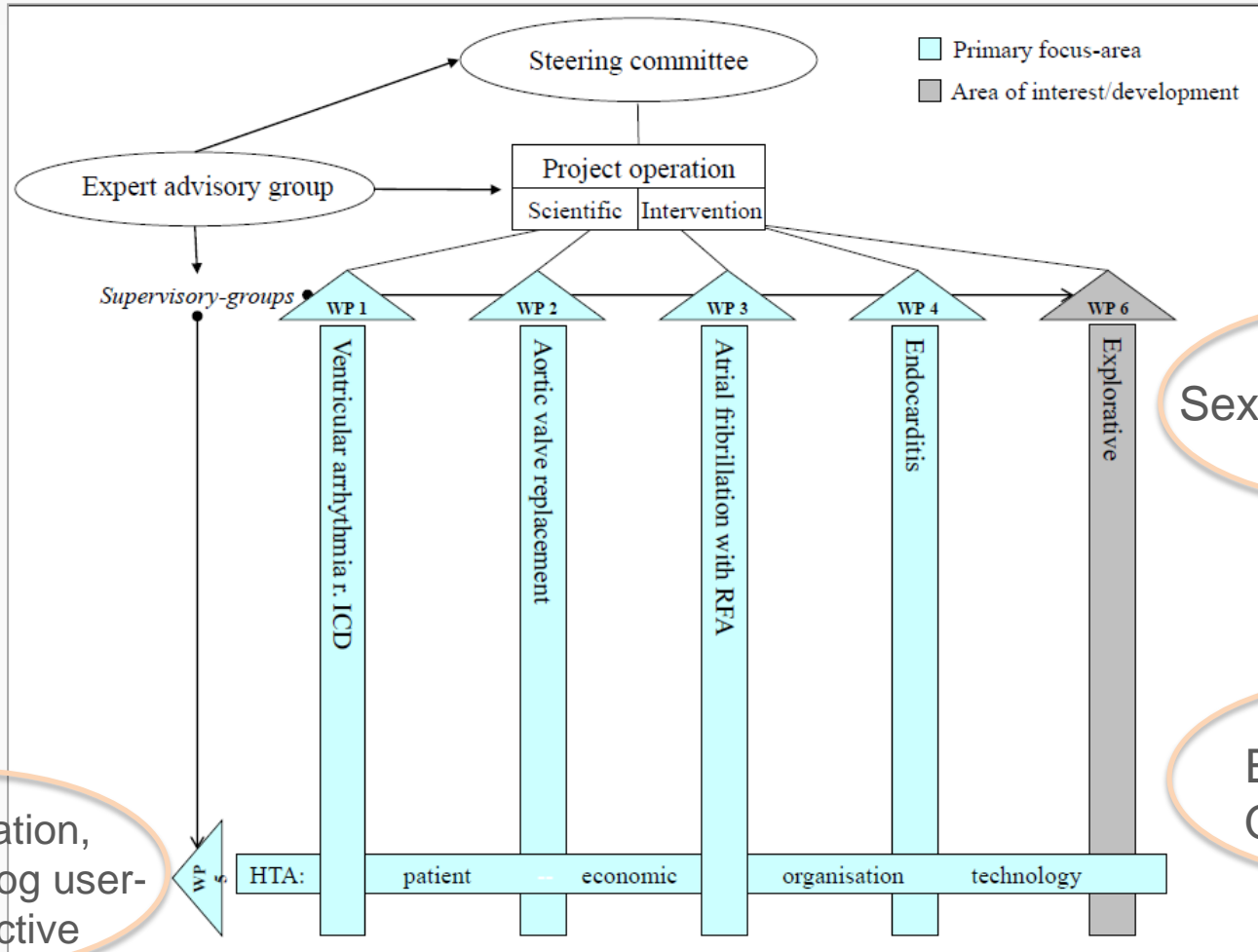


# Rehabilitation in complex cardiac diseases

## *The CopenHeart trials*

Research question: Can recommendations for specific diseases i.e. CHD be transferred to other cardiac conditions?

# The CopenHeart Trials

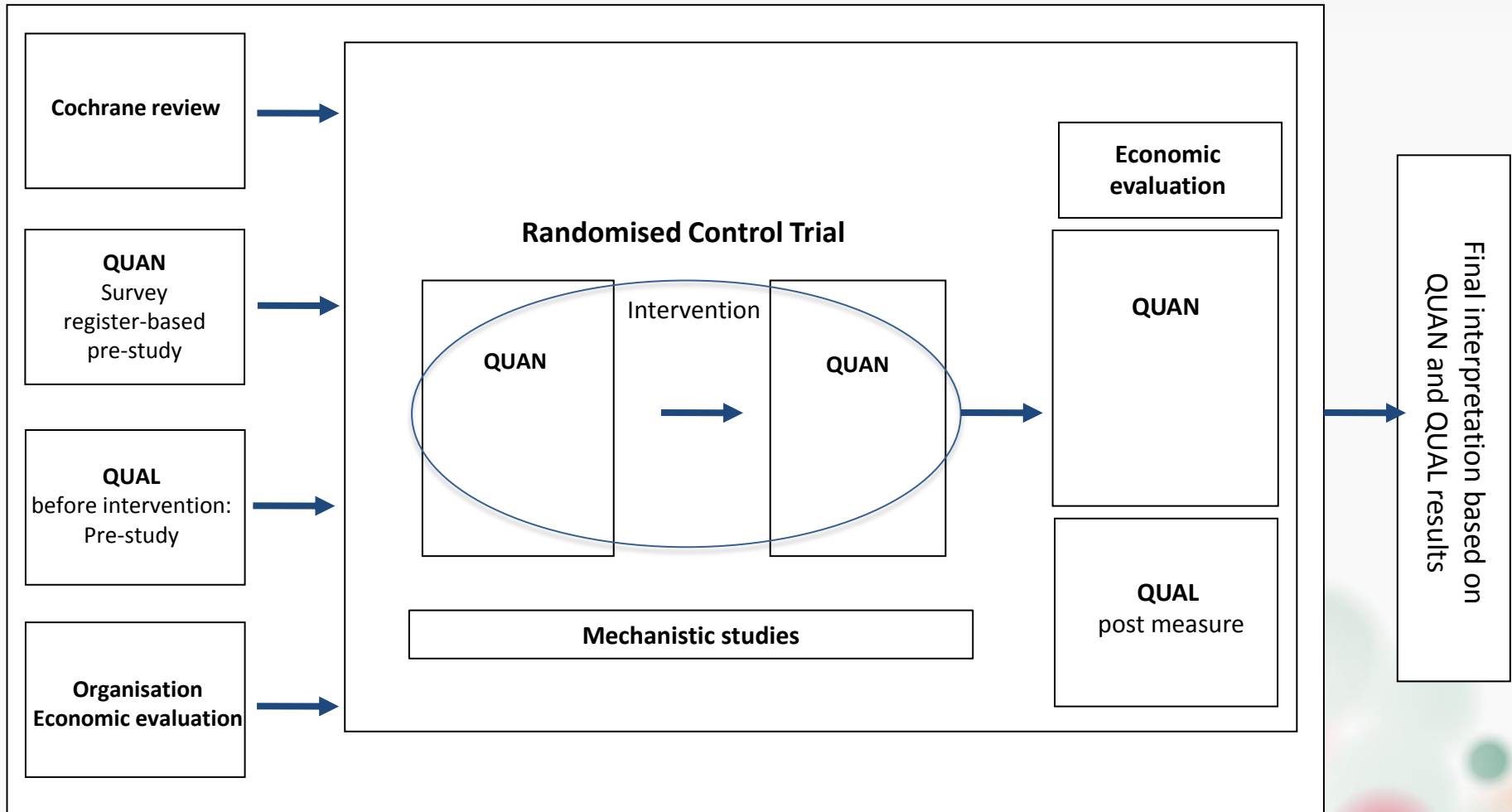


Organisation,  
Economic og user-  
perspective

Sexual dysfunction

Exercise and  
Quality of life

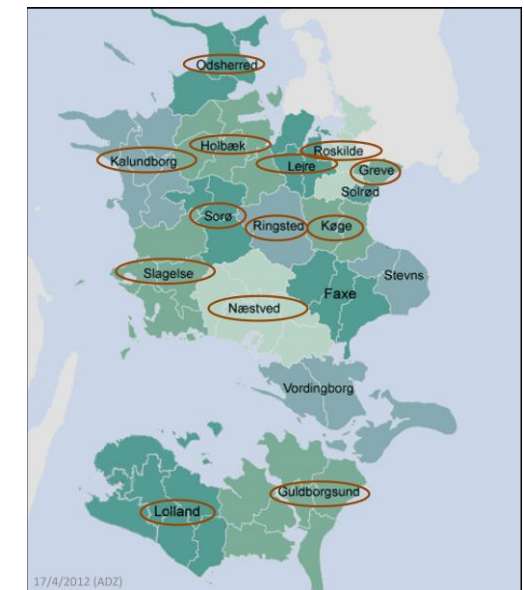
# Mixed methods





# Mode of delivery

21 communities participate in CopenHeart



**Rigshospitalet – psychoeducation + initiation of exercise training**

*Then by choice:*

- Home-based training
- Local setting community or hospital

# The CopenHeart Team and partners

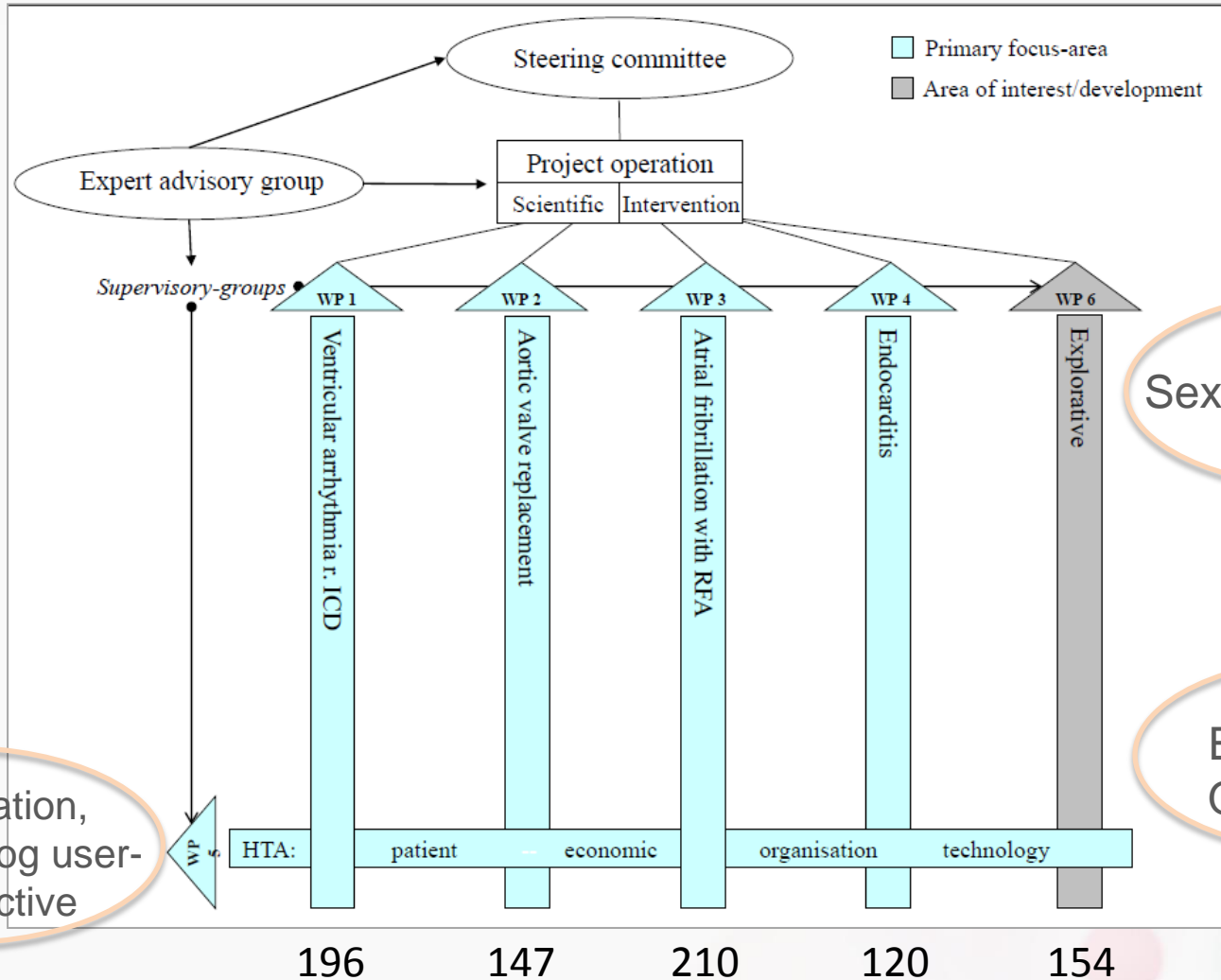


## Hjertecenteret, Rigshospitalet

Gentofte Hospital, Kardiologisk afdeling P  
Roskilde sygehus, Kardiologisk afdeling  
Region Sjælland  
CopenHearts kommunale træningscentre  
og samarbejds-sygehuse/hospitaler

Statens Institut for Folkesundhed, SDU  
CTU, Rigshospitalet  
CopenRehab, KU  
PH Metropol  
REHPA

# The CopenHeart Trials



Sexual dysfunction

Exercise and Quality of life

Organisation, Economic og user-perspective

196      147      210      120      154

= 827 patients enrolled

# Rehabilitation and palliative care

## REHPA

### Future directions?

# Rehabilitation and palliative care on the national budget

Improving cancer care trajectory - 2012



## Overall aim of the centre

- To strengthen clinical research in rehabilitation and palliation
- To ensure that research is transferred rapidly into cross-professional and cross-sectorial clinical practice to the benefits of patients and society

# Cancer and other diseases with high mortality



Generic topics and aspects of interests

Research in clinical practice

Cardiac rehabilitation and palliative care

Research in clinical practice

Cancer rehabilitation and palliative care

Research in clinical practice

Research in clinical practice



**REHPA**  
The Danish Knowledge Centre  
for Rehabilitation and  
Palliative Care



**Palliative Care in Advanced Heart Disease**  
- A position statement from the Danish Society of Cardiology

Vibeke Brogaard Hansen<sup>1</sup>, Susanne Aagaard<sup>2</sup>, Tove Bahn Vejlgård<sup>2</sup>, Jens Brock Johansen<sup>2</sup>, Susanne S. Pedersen<sup>3,4</sup>, Vivi Lindeborg Nielsen<sup>2</sup>, Mette Asbjørn Neergaard<sup>5</sup>, Gitte Ryom Salomonsen<sup>2</sup>, Mai-Britt Guldin<sup>2</sup>, Ida Gustafsson<sup>2</sup>, Hans Eiskjær<sup>2</sup>, Finn Gustafsson<sup>10</sup>, Betina Nørager<sup>10</sup>, Henrik Larsen<sup>11</sup>, Ann-Dorthe Zwisler<sup>12,13</sup>, Danish Society of Cardiology (DCS) Task Force on Advanced Heart Disease and Palliative Care

2012

2017

# Current topics to address across diagnosis

- How to integrate rehabilitation and palliative care
- Content and delivery of across sectors
- Needs assessment ? Intervention for all or only some patients?
- What is the proper outcomes of rehabilitation
- Spouse involvement and interventions
- Patient and public involvement (PPI)
- Patient Reported Outcomes (PRO)
- Quality assurance
- How to reach vulnerable patients? I.e. migrants, social inequity
- Rehabilitation and palliative care in low and middle-income countries
- Many, many more questions needs to be adressed

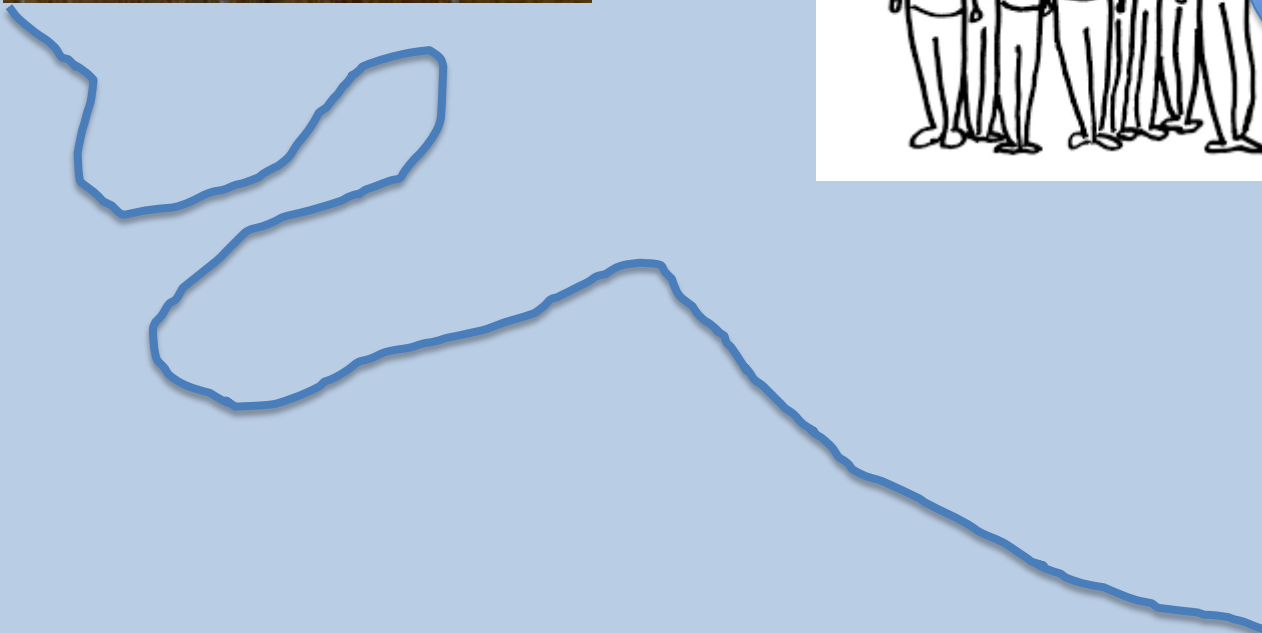
# Collaboration and support

Rehabilitation Centre, Beitostölen

1987 - Take off for Oslo



We support you



**REHPA**

2017 – Opening of centre



1987

1997

2007

2017



# Dedicated collaborators - dear colleges



## **REHPA**

DIKE – nu SIF

Ibrahim Cardiac Hospital  
Dahka, Bangladesh

Bispebjerg hospital

Rigshospitalet

Afdeling R



ospital

DCS

NE

SDU

DELTA TOM

Hjerteforeningen

DSR

Kræftens Bekæmpelse

Danske fysioterapeuter

Kliniske diætister



University  
of Glasgow

1997

2007

2017

Det hele menneske





