

# Frailty and late life issues in Denmark

Hans Erik Henriksen, CEO Healthcare DENMARK

heh@healthcaredenmark.dk

# Agenda

- Introduction to the Danish Healthcare System
- Healthcare transformation initiatives
- Elderly Care
  - Home Care
  - Frail Elderly citizens
  - Chronic patients

# The Danish Healthcare System – main characteristics



- Free and equal access to public healthcare (5,5 mio. people)
- Universal coverage (same system for everyone)
- Tax financed (84 pct.) – 4.348 USD pr. capita
- Private co-payment in certain areas (16 pct.)

<b>Fully public financed healthcare</b>	<b>Private co-payment</b>
<ul style="list-style-type: none"><li>• GP's and specialist (with reference from GP)</li><li>• All hospital stay and treatment</li><li>• All medicines and aides received in hospital</li></ul>	<ul style="list-style-type: none"><li>• Out-of hospital medicines and aides</li><li>• Dentists</li></ul>

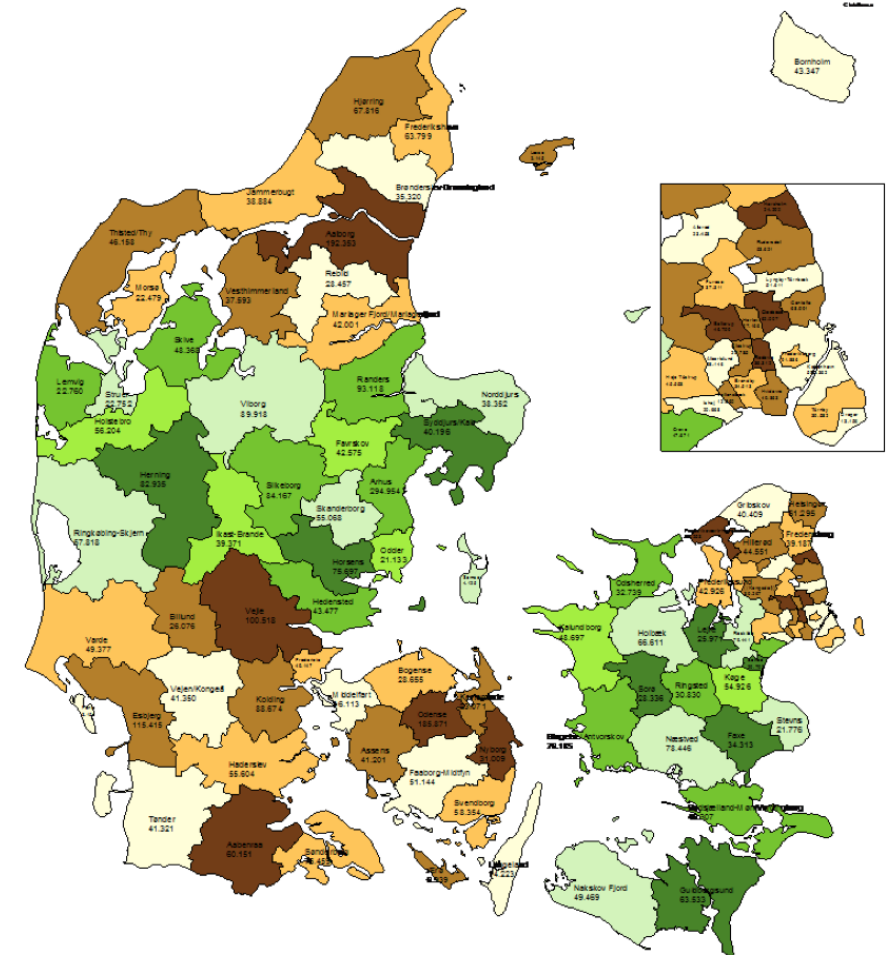
# Regional responsibilities

- Hospital and psychiatric treatment
- Primary health care / public health
  - General Practitioners (family doctors)
  - Private practicing specialists
  - Adults dental services
  - Physiotherapy



# Municipal responsibilities

- Preventive care and health promotion
- Rehabilitation outside hospital
- Treatment of alcohol and drug abuse
- Co-financing regional health care
- Child nursing
- Child dental services
- School health care
- Elderly care facilities
- Home nursing



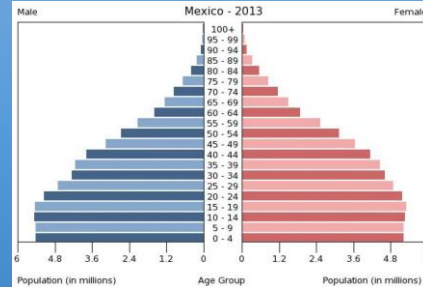
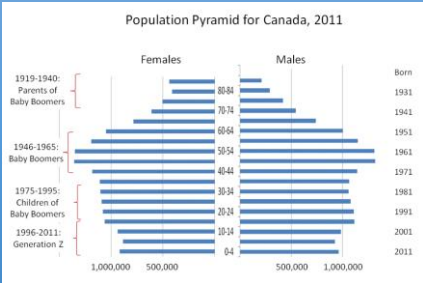
# Agenda

- Introduction to the Danish Healthcare System
- **Healthcare transformation initiatives**
- Elderly Care
  - Home Care
  - Chronic patients
  - Frail Elderly citizens

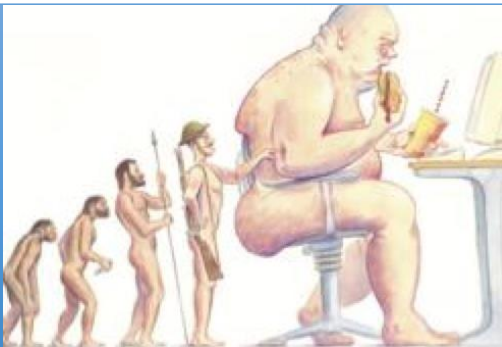
# All countries face the same healthcare challenges

## Healthcare challenges

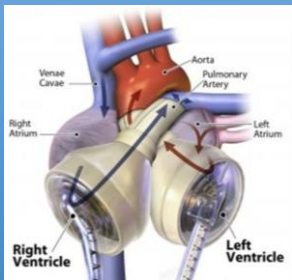
### Demographics



### Life style



### New treatments



## Denmarks initiatives

- **Early detection of critical diseases, population health initiatives and patient empowerment**
  - Early detection of diseases and immediate start of treatment
    - Nationwide screening
    - Fast access to diagnostics
  - Population health and prevention initiatives
  - Intelligent nursing homes
  - Ambient Assisted Living
  - Personalised Medicine
- **High quality and effective hospital treatment**
  - High quality treatment
  - "Just-in-time" coordination and logistics
  - More outpatient treatment
  - Primary healthcare clinics
  - E-health, telehealth and patient empowerment

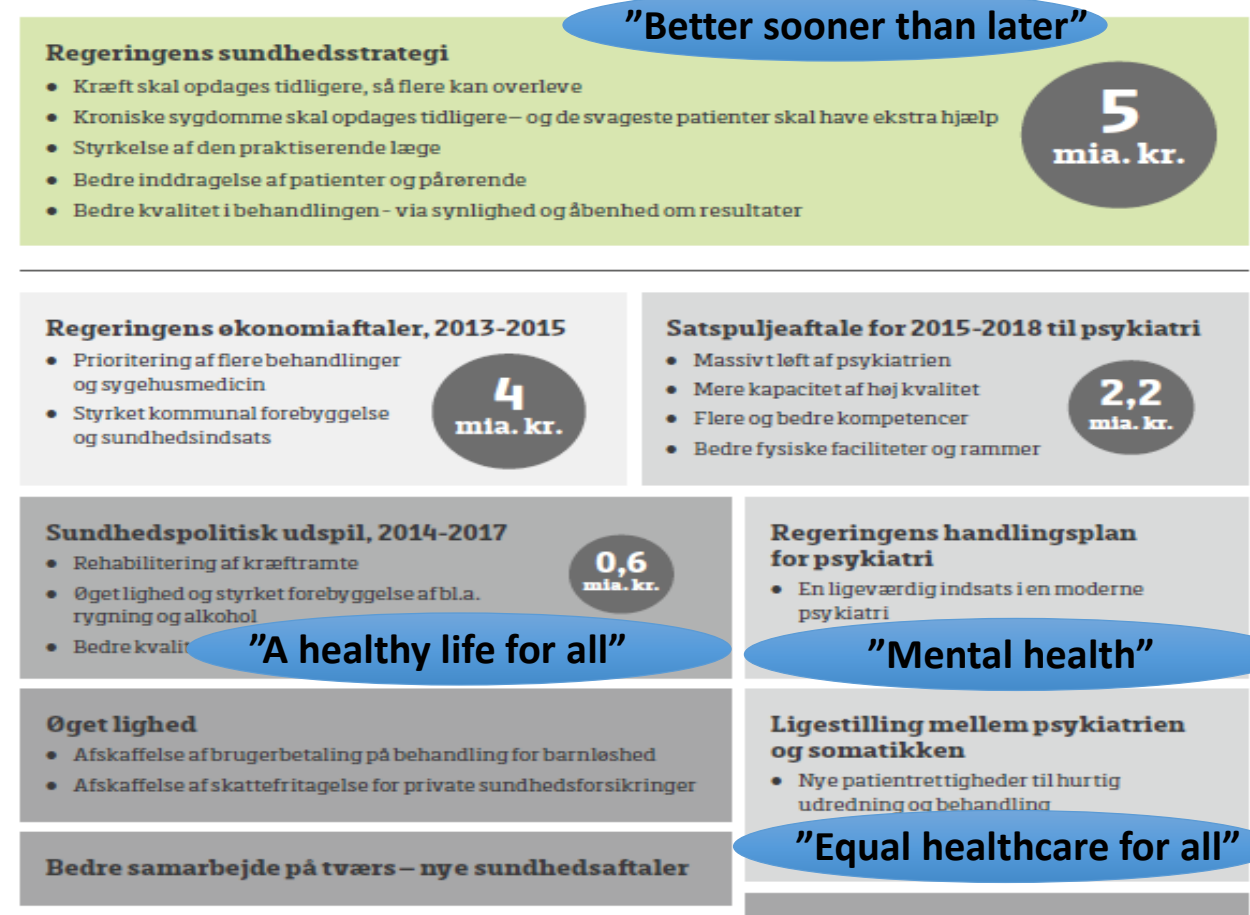
# A new strategy on top of other initiatives

-Investment in psychiatric treatment and equal rights for patients with psychiatric illness

-The strategy “A healthier life for all” – targets for health, partnerships etc.

-Economic prioritization of hospital treatment and medicine

-Investments in local prevention efforts in communities



## The dementia initiative 2016-2025:

- Approx. 80.000 patients 2015 - est. 130.000 patients in 2040
- Prime Minister, MoH, Regions, Municipalities, patient organizations

### Topics:

- Correct diagnose at an early stage
- The home and surroundings must support dementia
- Relatives as a resource
- Integrated Care
- Nursing skills



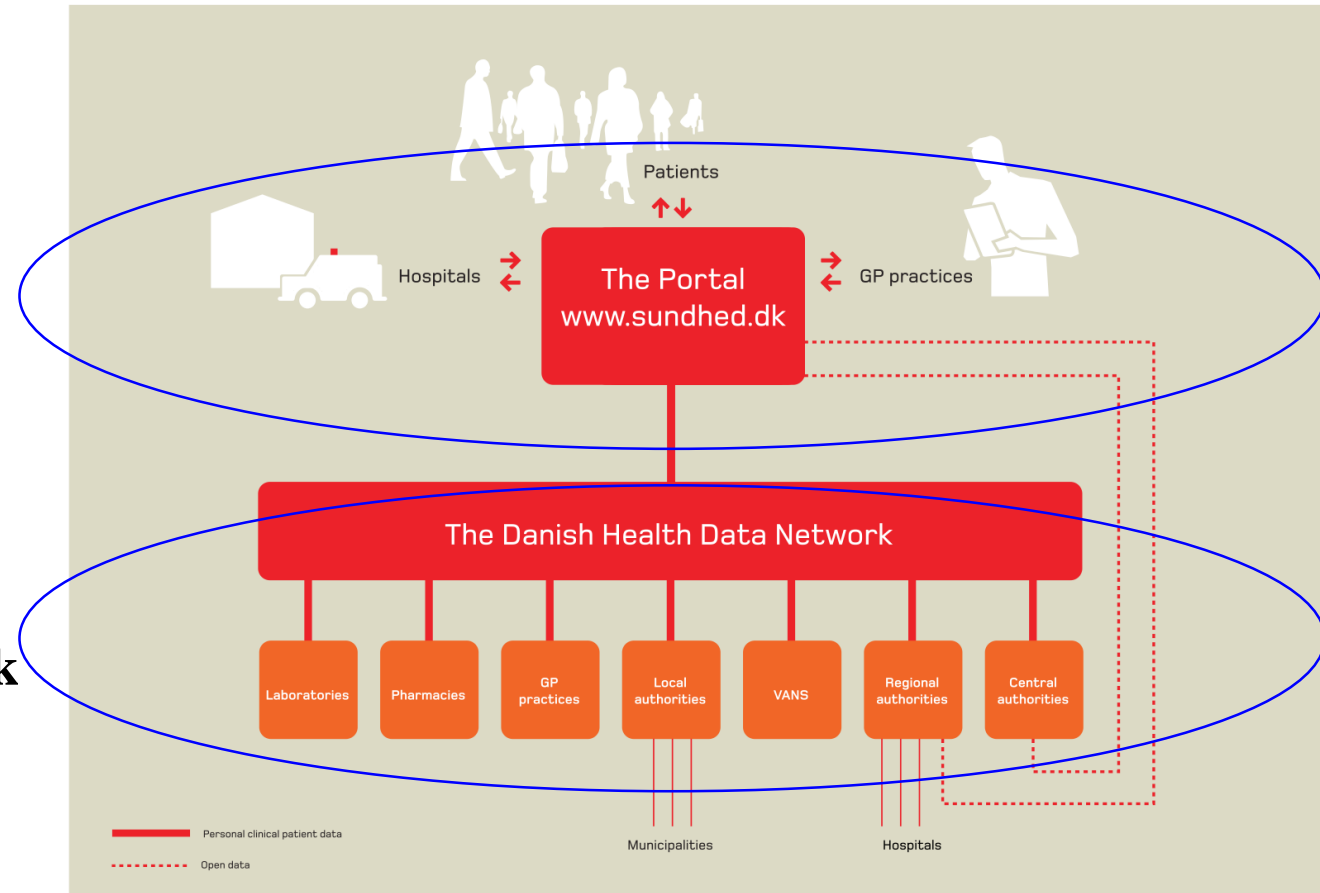


Healthcare  
DENMARK

A long term focus on health data networks and on e-health provide efficient access to healthcare information

Sundhed.dk  
**E-health Portal**  
2003 -

MedCom  
**Health Data Network**  
1994 -



Who is behind?

Ministry of Health, Danish Regions, Ministry of Interior, National Association of Local Authorities, National Board of Health, Copenhagen Hospital Corporation, Danish Pharmaceutical Association

In 2013 Denmark launched the strategy for the next 4 years

- National EHR and E-health architecture
- International standards
  - HL7
  - Continua Health Alliance
- First fully regional telehealth implementations
- Coordinated strategy:
  - Ministry of Health and Prevention
  - Danish Regions
  - Danish Municipalities



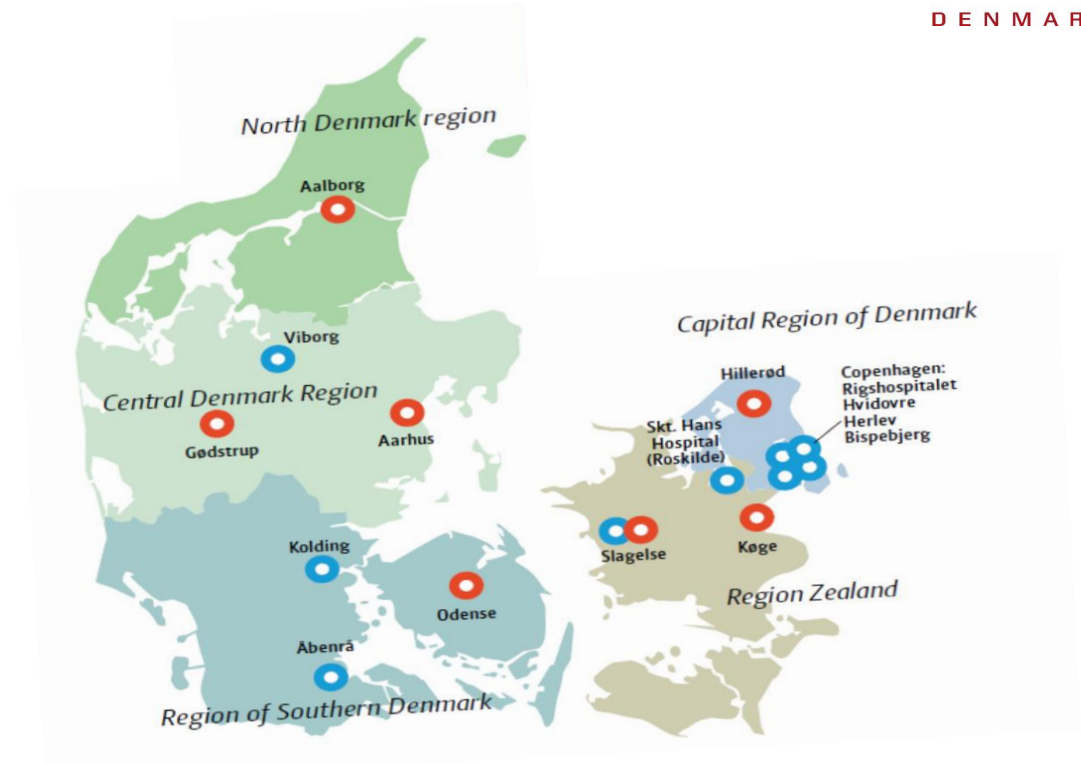
# The e-health and telehealth strategy will align with the 2013 – 2020 Assisted Living strategy

- Full scale implementation of proven solutions
  - Ceiling lifts
  - Digital rehabilitation
  - Selected robot technology
- Full scale Smart Home implementation
- Smart Home technology for disabled citizens
- Coordinated strategy:
  - Ministry of Health and Prevention
  - Danish Regions
  - Danish Municipalities

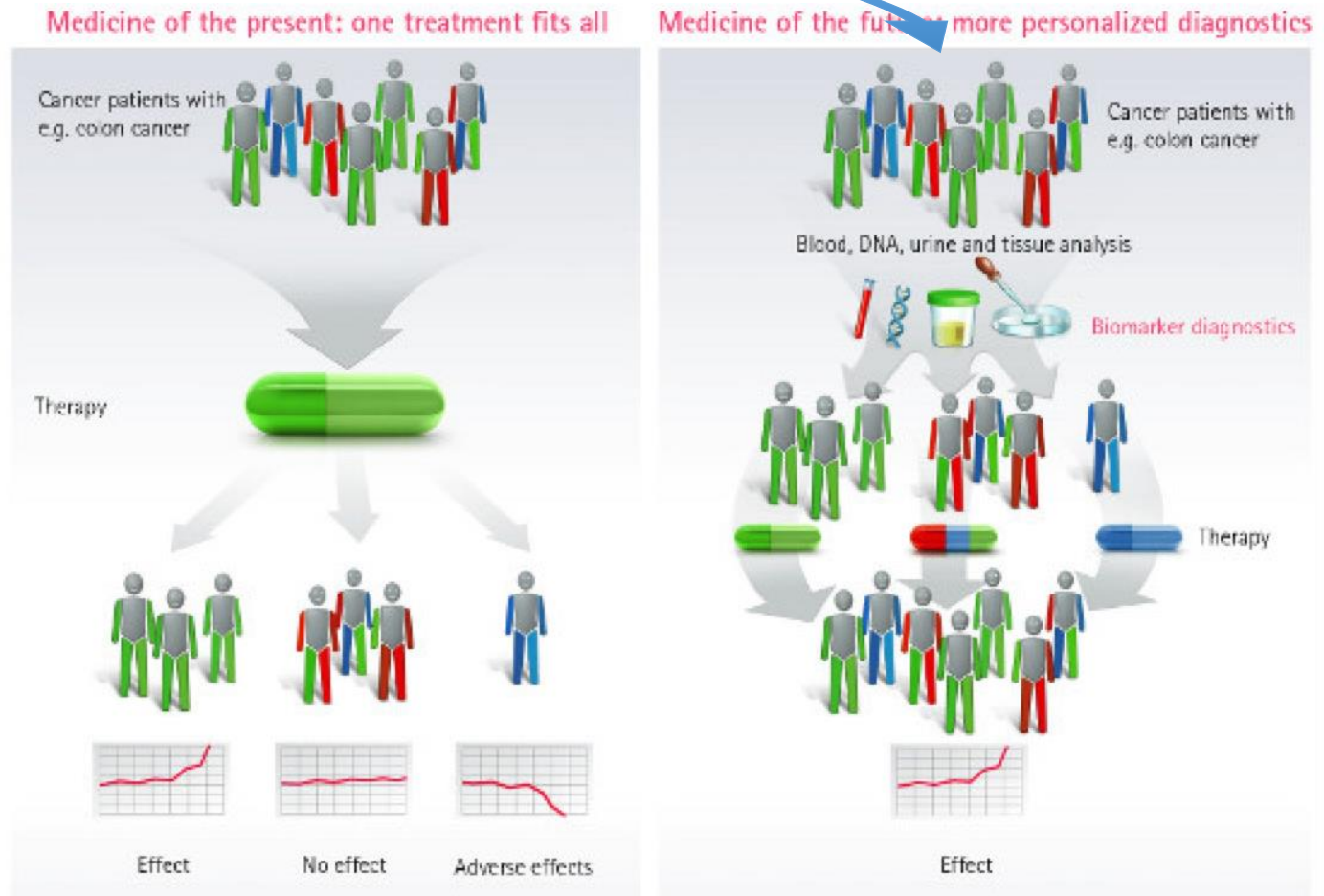


# 16 new hospitals will be the backbone of patient centric healthcare

- **Public-private partnerships**
- **New innovations**
- **Danish design**
- **Green technology**



# Personalised Medicine will increase treatment efficiency and reduce adverse effects:



# Agenda

- Introduction to the Danish Healthcare System
- Healthcare transformation initiatives
- **Elderly Care**
  - Home Care
  - Frail Elderly citizens
  - Chronic patients



## Health care and social care compared

### Health care

- \_ Hospital based health care services provided primarily by public hospitals in five regions
- \_ Primary care provided by private practitioners fully funded by the regions
- \_ 40 public hospitals, 107,000 FTE's, 82bn DKK public spending
- \_ 3,500 GP's & 900 specialists in private practice, 15bn DKK public spending

### Social care

- \_ Nursing care, homecare, nursing homes, assisted living and training funded and provided by the 98 municipalities
- \_ Social psychiatry, assisted living for disabled adults and substance abuse programs
- \_ 900+ nursing homes, 109,000 public FTE's and 40bn DKK public spending on "elder care"
- \_ 30,000 public FTE's and 27bn DKK public spending on "specialised social care"

# How it all started – the caring hand of the universal welfare state



Healthcare  
DENMARK



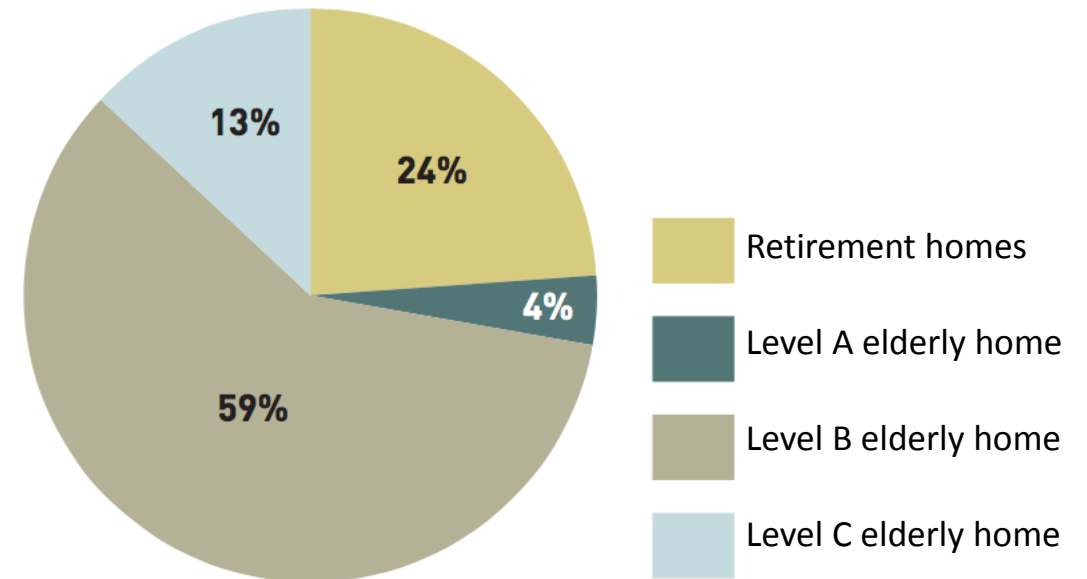


# From 1987 retirement communities replaces retirement homes in Denmark

## Supported Elderly Home Levels (2005):

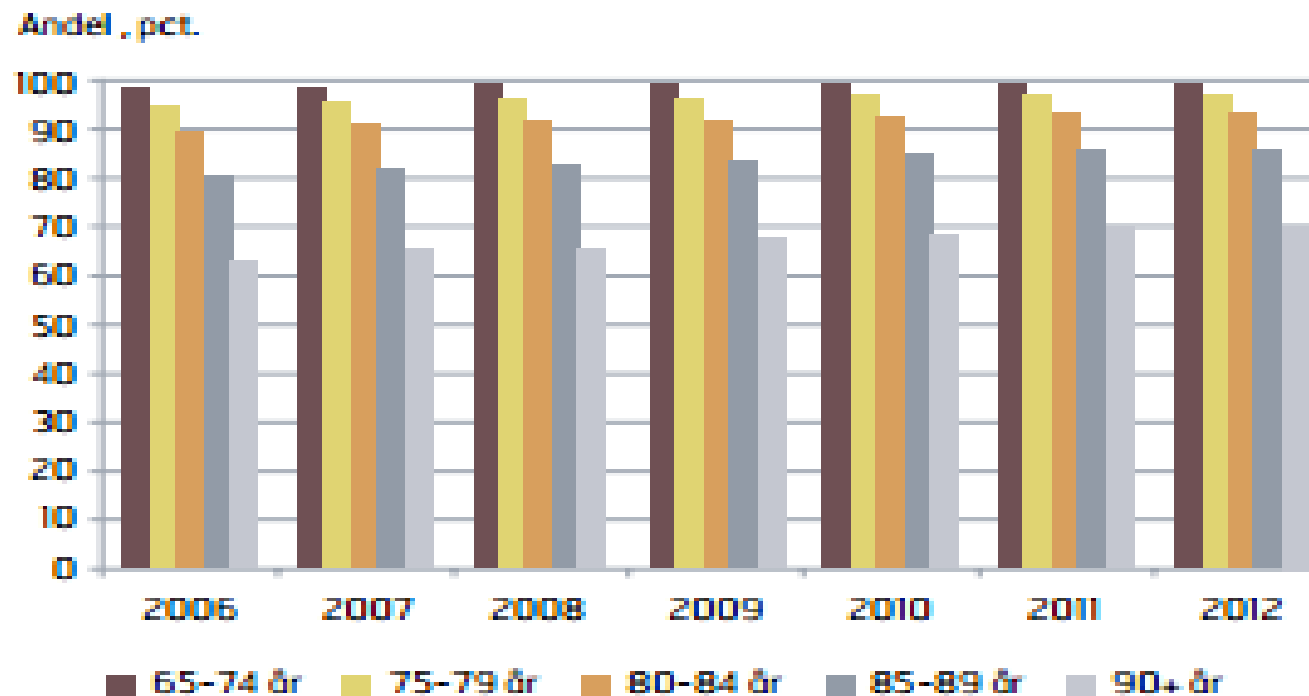
<b>Level A:</b> <ul style="list-style-type: none"><li>• 24x7 care and nursing</li><li>• Services and therapy</li></ul>	60%
<b>Level B:</b> <ul style="list-style-type: none"><li>• Homecare nursing support</li><li>• Some services (e.g. food)</li></ul>	30%
<b>Level C:</b> <ul style="list-style-type: none"><li>• Limited homecare nursing support</li></ul>	10%

In 2005 24% of 80+ age Danes live in retirement homes:



*“As long as possible in your own home”*

### Number of Danish elderly citizens in own home – age intervals – 2008-2012



Increase from 2006-2012:

- +8% age 85-89 years
- +8% age >90 years

Kilde: Danmarks Statistik, Statistikbanken tabel RESIDI og FOLK2.

The overall paradigm is changing:  
*“As long as possible in your own life”*

- **Empowerment** - active participation of the citizen
- **Personalized and flexible social care** based on the citizens needs
- **Holistic approach** to citizens life situation
- **Outcome oriented**
- **Integrated Care:** Across professions and sectors
- **Coordinated**
- **Planned**
- **Evidence based** interventions

# Integrated Care relies on close coordination between Hospitals and Municipalities

## Municipality



Homecare system

<< Admission Notification  
Admission Response >>  
Care Report >>

<< Rehabilitation Plan  
<< Discharge Notification  
<< Care Report

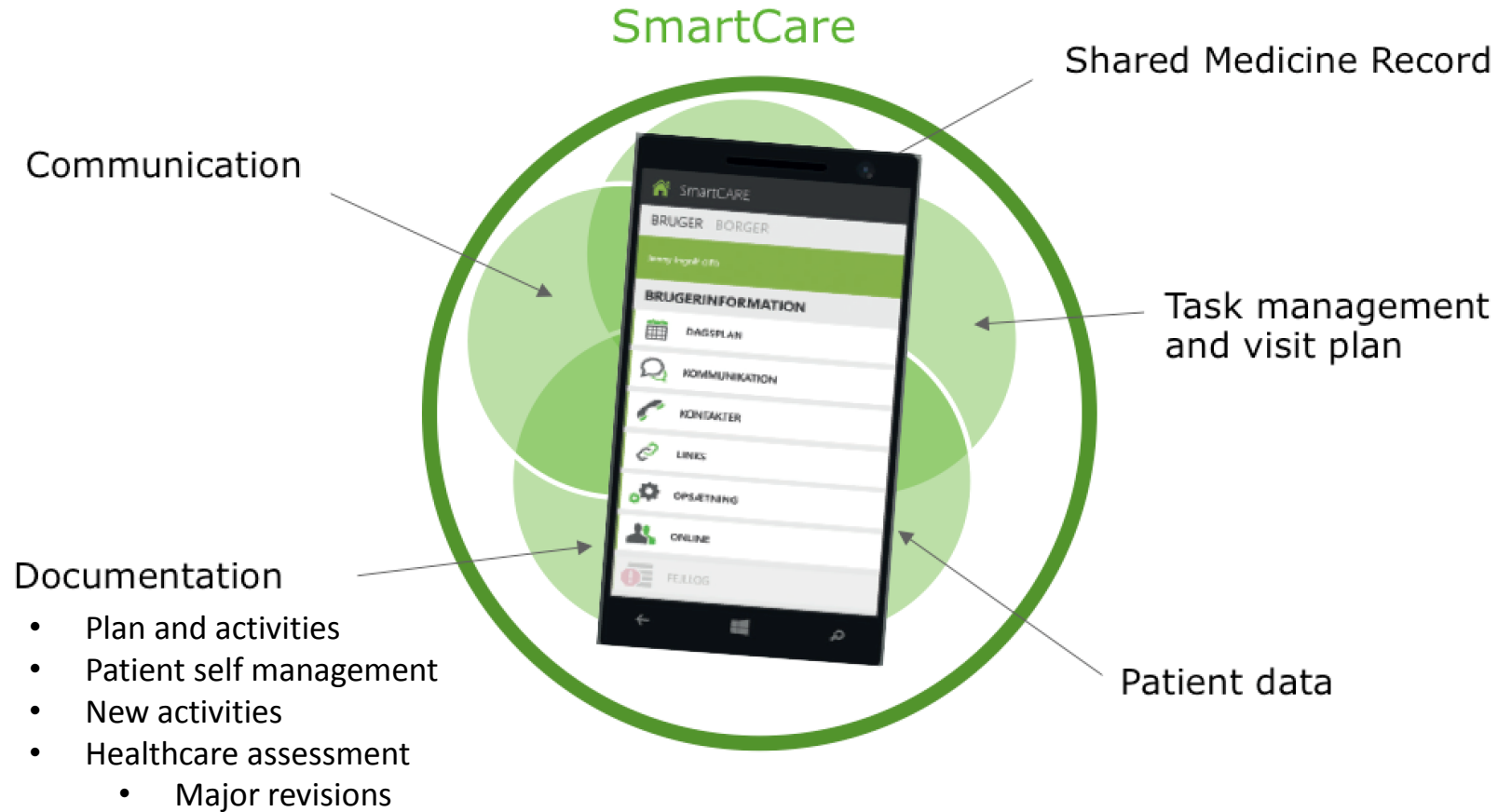
## Hospital



Hospital PAS and/or EMR

	Year	Age >65	Age 18-64	Age 0-17
Avg. length of stay at danish hospitals has been reduced by 22% for the elderly Patients during the period 2008 - 2011	2008	6,79	3,83	2,33
	2009	6,22	3,61	2,18
	2010	5,91	3,50	2,11
	2011	5,59	3,38	2,05
	2012	5,40	3,32	2,02
	2013	5,28	3,24	2,02
	Change from 2008- 2011 avg. days	-1,51	-0,59	-0,30
	Relative change - %	-22,24	-15,50	-13,08

Supporting more than 70% of elderly age >80 in their own homes require a mobile and well coordinated workforce of nurses and assistants



# Medicine is a risk for elderly citizens – compliance and avoiding interactions is critical

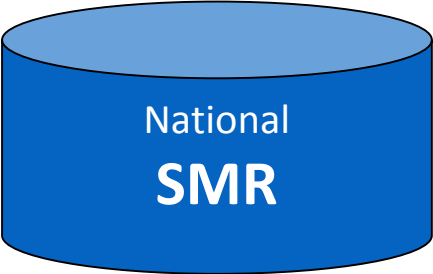


Healthcare  
DENMARK

Primary Care



Pharmacy



Hospital



Home Care

sundhed.dk Den direkte adgang til sundhedsvæsenet

Personlig Elektronisk Databehandling - Microsoft Internet Explorer

Købtte lægemidler | Medicintilskud | Beregnet bekoldning

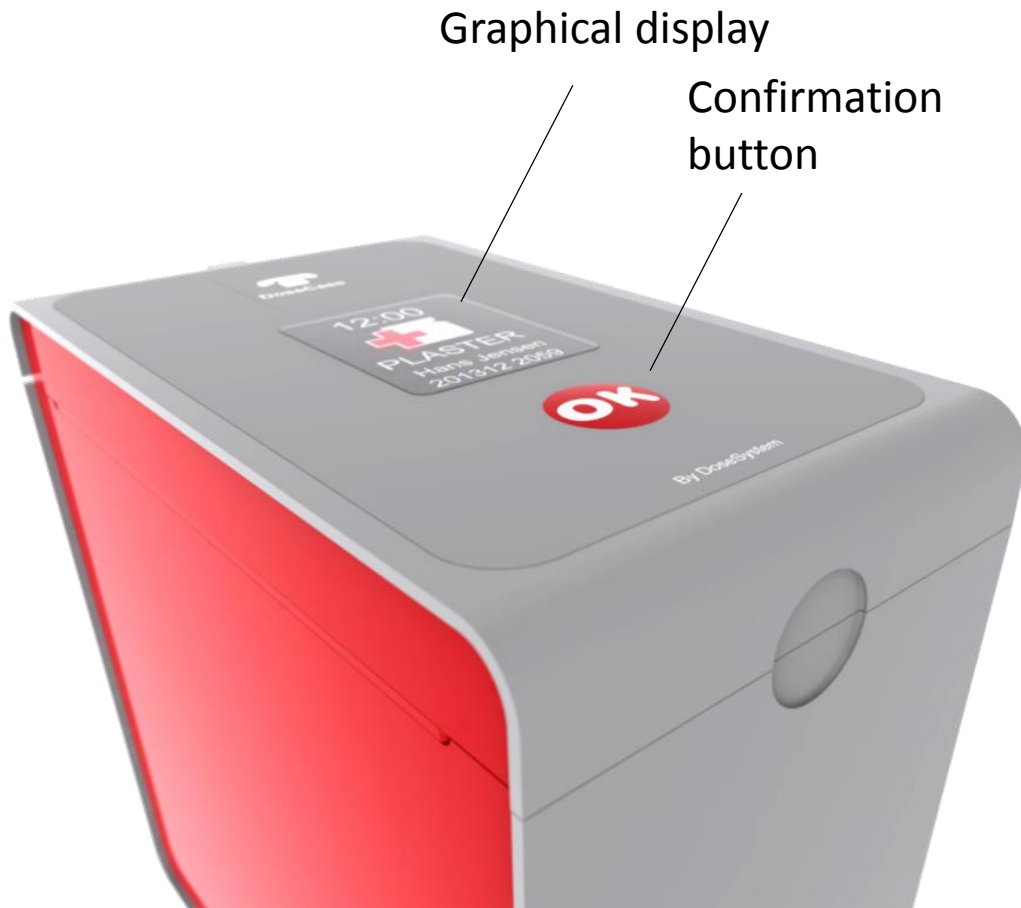
Personoplysninger  
 Navn: Oda Olsen  
 Adresse: Tværvej 9, 2933 Tværby  
 4103 & 2222

Købtte lægemidler 0

Fr. dato	Til dato	Lægemiddel	ATC-gruppe
11-08-2004		Ornitidin	01AC06
14-08-2004		Paracetamol	02BA01
15-08-2004		Paracetamol	02BA01
16-08-2004		Paracetamol	02BA01
17-08-2004		Paracetamol	02BA01
18-08-2004		Paracetamol	02BA01
19-08-2004		Paracetamol	02BA01
20-08-2004		Paracetamol	02BA01
21-08-2004		Paracetamol	02BA01
22-08-2004		Paracetamol	02BA01
23-08-2004		Paracetamol	02BA01
24-08-2004		Paracetamol	02BA01
25-08-2004		Paracetamol	02BA01
26-08-2004		Paracetamol	02BA01
27-08-2004		Paracetamol	02BA01
28-08-2004		Paracetamol	02BA01
29-08-2004		Paracetamol	02BA01
30-08-2004		Paracetamol	02BA01
31-08-2004		Paracetamol	02BA01
01-09-2004		Paracetamol	02BA01
02-09-2004		Paracetamol	02BA01
03-09-2004		Paracetamol	02BA01
04-09-2004		Paracetamol	02BA01
05-09-2004		Paracetamol	02BA01
06-09-2004		Paracetamol	02BA01
07-09-2004		Paracetamol	02BA01
08-09-2004		Paracetamol	02BA01
09-09-2004		Paracetamol	02BA01
10-09-2004		Paracetamol	02BA01
11-09-2004		Paracetamol	02BA01
12-09-2004		Paracetamol	02BA01
13-09-2004		Paracetamol	02BA01
14-09-2004		Paracetamol	02BA01
15-09-2004		Paracetamol	02BA01
16-09-2004		Paracetamol	02BA01
17-09-2004		Paracetamol	02BA01
18-09-2004		Paracetamol	02BA01
19-09-2004		Paracetamol	02BA01
20-09-2004		Paracetamol	02BA01
21-09-2004		Paracetamol	02BA01
22-09-2004		Paracetamol	02BA01
23-09-2004		Paracetamol	02BA01
24-09-2004		Paracetamol	02BA01
25-09-2004		Paracetamol	02BA01
26-09-2004		Paracetamol	02BA01
27-09-2004		Paracetamol	02BA01
28-09-2004		Paracetamol	02BA01
29-09-2004		Paracetamol	02BA01
30-09-2004		Paracetamol	02BA01
01-10-2004		Paracetamol	02BA01

Citizen

Medicine compliance can sometimes be achieved by means of simple solutions



9:00

Næste medicin

I dag  
kl. 10:00

Gerda G Hansen  
201312-2059

10:00

Dosis



Gerda G Hansen  
201312-2059

18:30

Dråber



Gerda G Hansen  
201312-2059

Reminders – next medicine or next event etc.

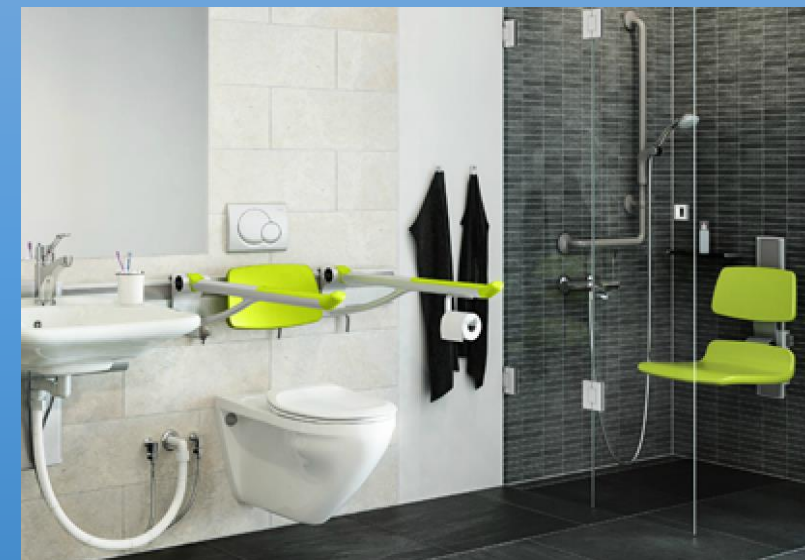
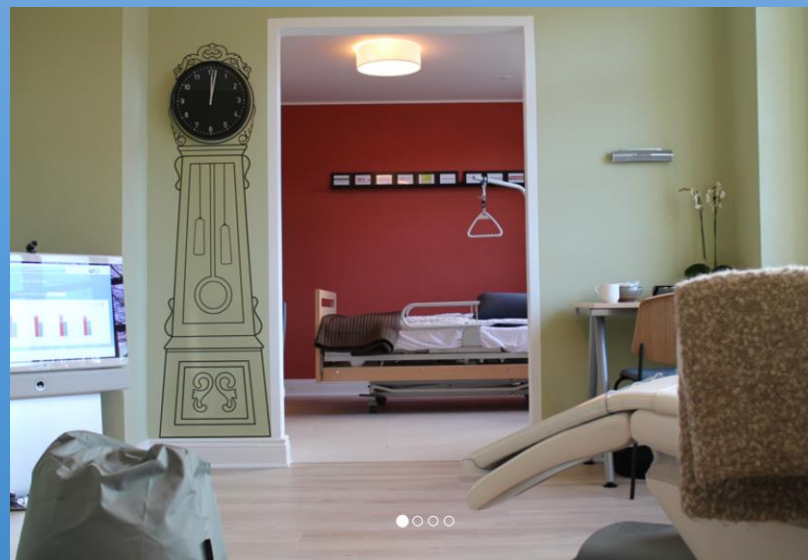
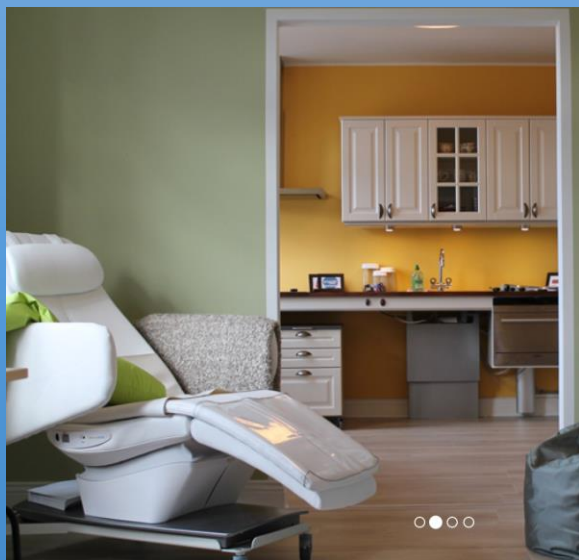


# Assisted living – the “Smart home”

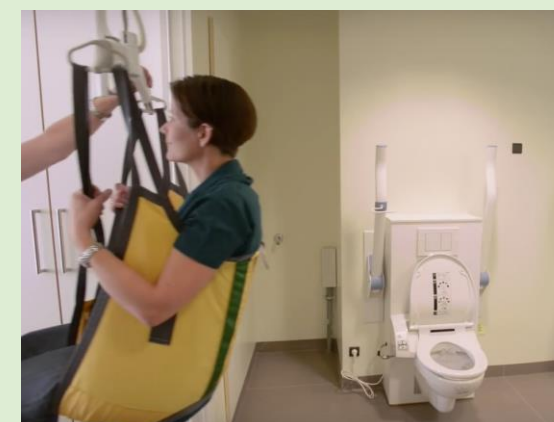


Healthcare  
DENMARK

## Living labs



## Smart homes



05-10-2015



# Agenda

- Introduction to the Danish Healthcare System
- Healthcare transformation initiatives
- **Elderly Care**
  - Home Care
  - **Frail Elderly citizens**
  - Chronic patients

# Identifying frail citizens – municipality initiatives

## 1996, the law on preventive home visits:

- Municipalities must make at least one yearly preventive home visit to all citizens above age 75

## Effect of preventive home visits (studies in 2001):

- Reduced mortality:
  - In eight studies investigating the general population of older people, there showed a significant reduction in the mortality rate at a so-called odds ratio, or the probability of mortality, of 0.76.
  - In five studies on mortality among frail older people, four studies conducted on the basis of drawing lots showed that the odds ratio was 0.72.
- No effect on number of hospital admissions or re-admissions
- Reduction in the number of admissions to institutional care:
  - Odds ratio 0,65 for elderly
  - Odds ratio 0,55 for frail elderly



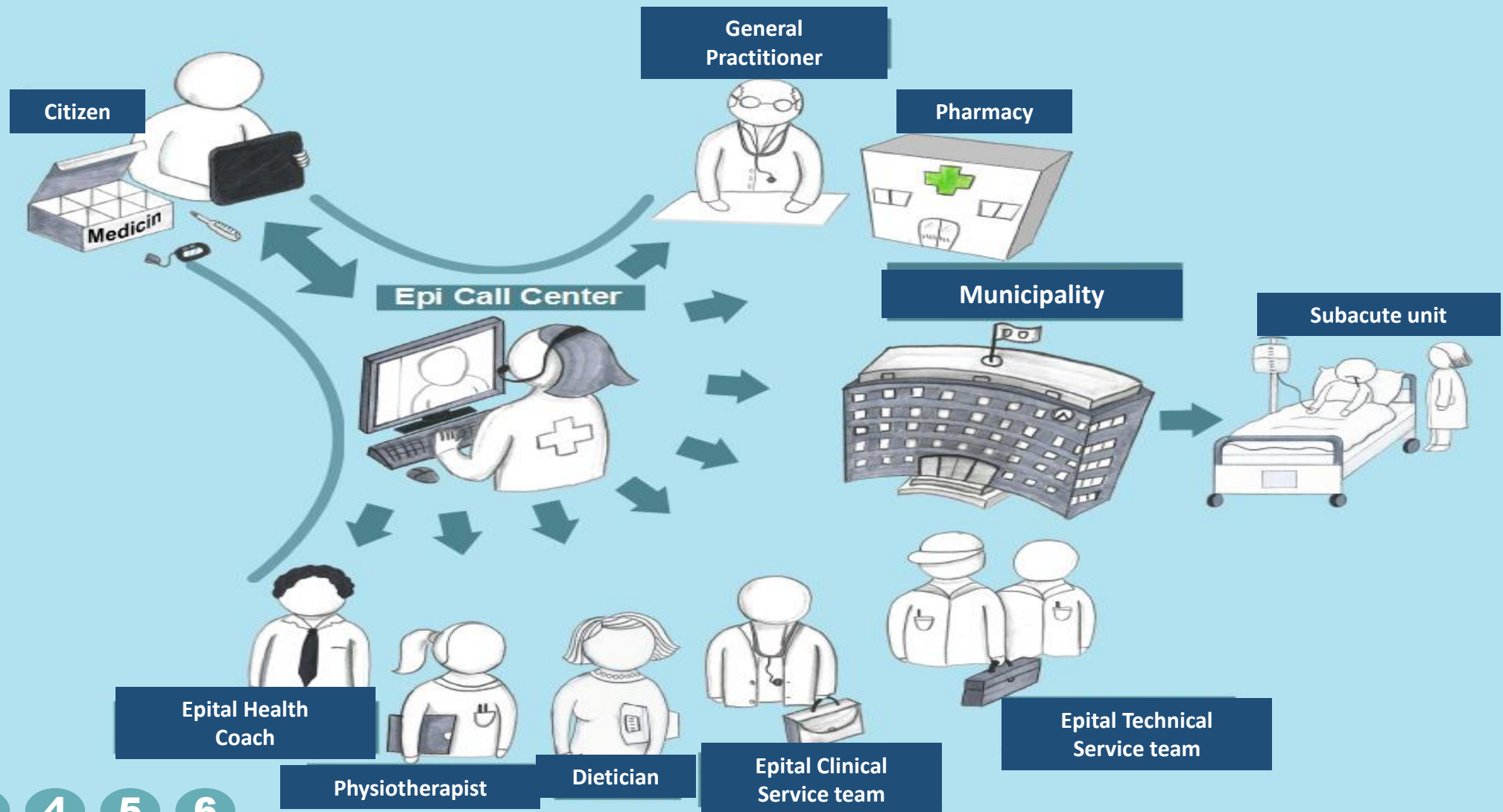
# Identifying frail citizens – hospital initiatives

- Pre-admission follow up visits in cooperation with municipalities
- Geriatric hospital department screening initiatives:
  - Dementia
  - Nutrition
  - Fall risks

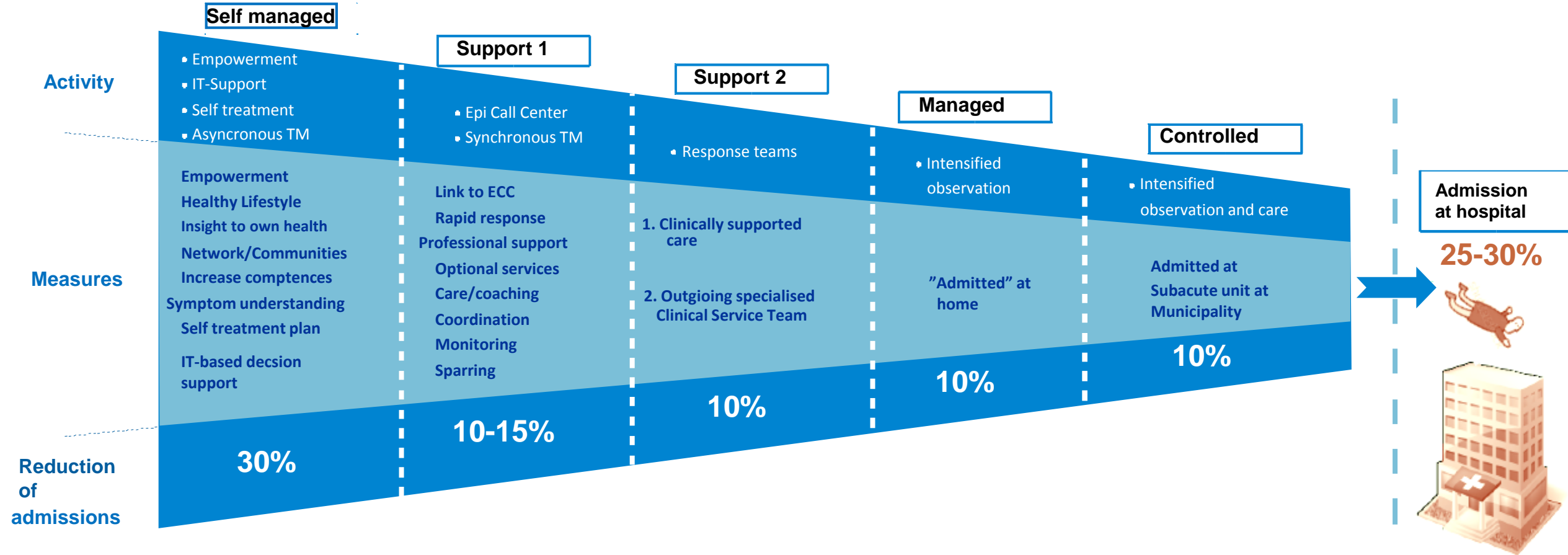
# Agenda

- Introduction to the Danish Healthcare System
- Healthcare transformation initiatives
- **Elderly Care**
  - Home Care
  - Frail Elderly citizens
  - **Chronic patients**

# The actors in Epital Health



# "The Funnel"



# Citizen - Summer 2014

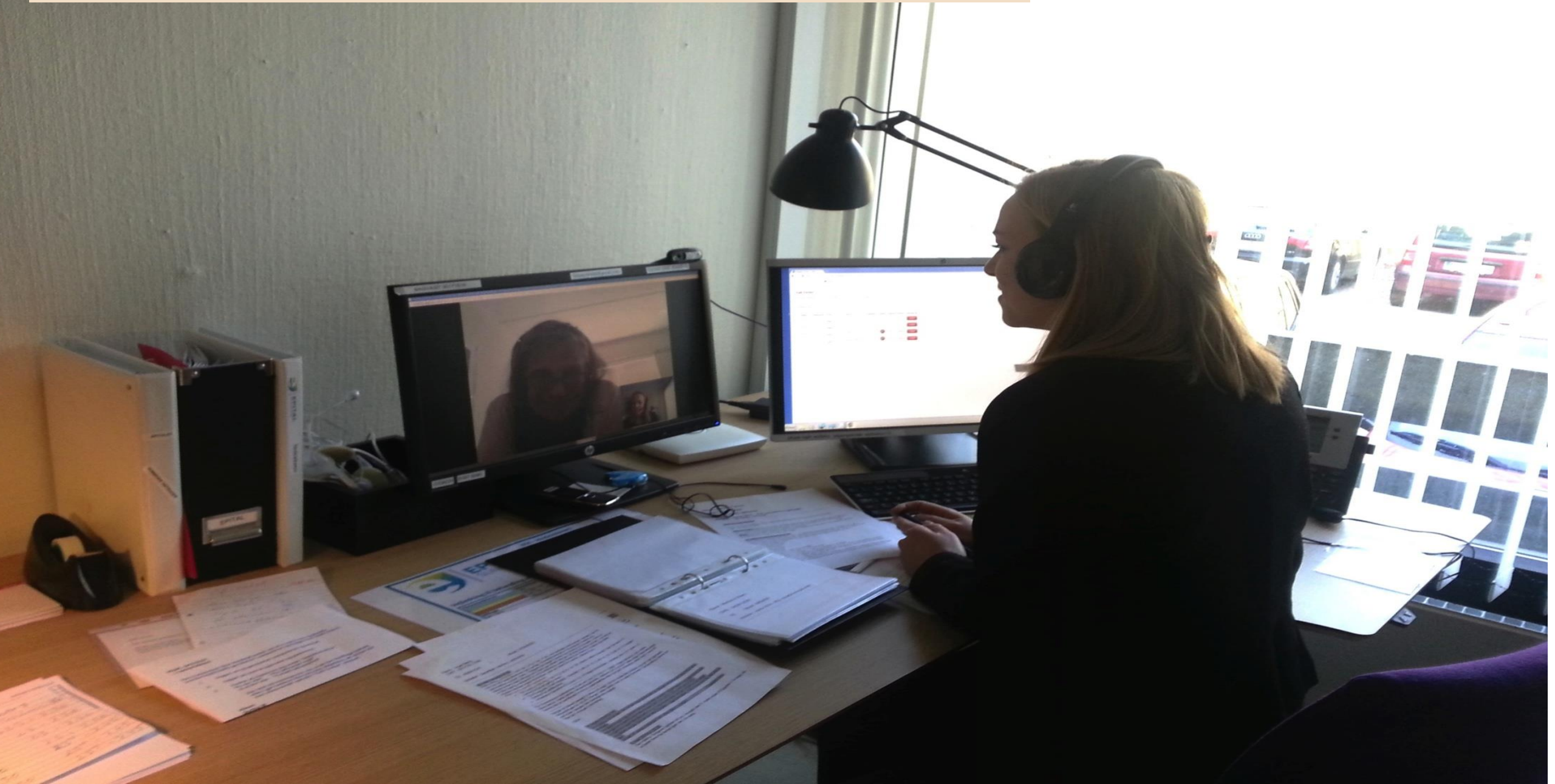
Medical box – rescue medication

e-health navigator

e-health monitoring devices



# CallCenter, Lyngby-Taarbæk, – Summer 2014







CallCenter in Lyngby-Taarbæk



Doctor at Bornholm

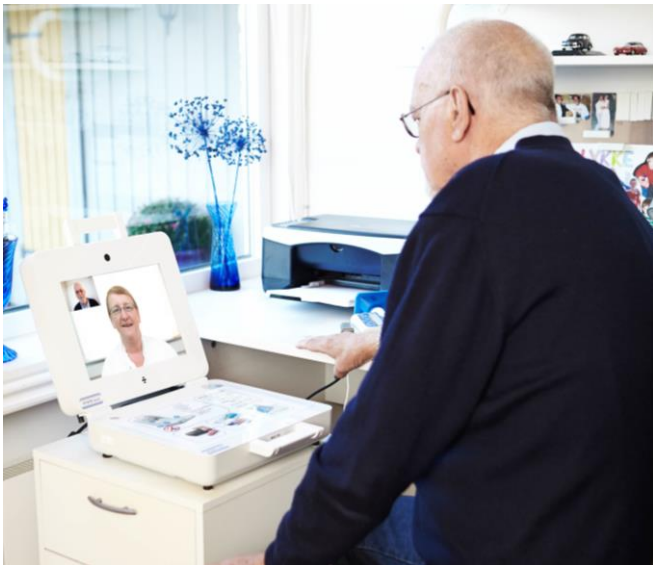


Citizen in Florida



# Are elderly people able to use Telehealth solutions ?

- The Danish Digitalization strategy – electronic mailbox by Nov. 2014
- Patient Empowerment and quality of life
- Integrated Care



The New York Times Health


WORLD U.S. N.Y. / REGION BUSINESS TECHNOLOGY SCIENCE HEALTH SPORTS OPINION

RESEARCH FITNESS & NUTRITION MONEY & POLICY VIEWS HI

Search Health 3,000+ Topics

Go

### Denmark Leads the Way in Digital Care



Sindya N. Bhanoo/The New York Times

VIRTUAL VISIT Jens Danstrup, 77, takes his own medical readings at home and sends them over the Internet to his doctor in Copenhagen.

By SINDYA N. BHANOO  
Published: January 11, 2010

COPENHAGEN — Jens Danstrup, a 77-year-old retired architect, used to bike all around town. But years of smoking have weakened his lungs, and these days he finds it difficult to walk down his front steps and hail a taxi for a doctor's appointment.

Enlarge This Image

Now, however, he can go to the doctor without leaving home, using some simple medical devices and a notebook computer with a Web camera. He takes his own weekly medical readings, which are sent to his doctor via a Bluetooth connection and automatically logged into an electronic record.

Sindya N. Bhanoo/The New York Times

Mr. Danstrup, who finds it difficult to walk down his front steps, can go to the doctor without leaving home, using

“You see how easy it is for me?” Mr. Danstrup said, sitting at his desk while video chatting with his nurse at


TWITTER

SIGN IN TO E-MAIL

PRINT

REPRINTS

SHARE





Healthcare  
DENMARK



# Healthcare

# D E N M A R K

INNOVATING BETTER LIFE

Hans Erik Henriksen, CEO Healthcare DENMARK

[heh@healthcaredenmark.dk](mailto:heh@healthcaredenmark.dk)



integrated **care**  
Et visionært og nyskabende partnerskabsprojekt



Healthcare  
DENMARK



# Healthcare

# D E N M A R K

INNOVATING BETTER LIFE

Hans Erik Henriksen, CEO Healthcare DENMARK  
[heh@healthcaredenmark.dk](mailto:heh@healthcaredenmark.dk)