



# **Danish Healthcare: Perspectives on innovation and future technologies in primary care**



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# The Danish healthcare system

## Basic features



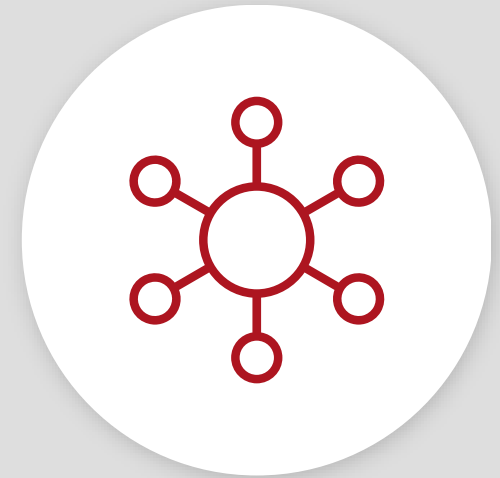
Universal coverage



Free & equal access



Financed by general taxes



A high degree of decentralization

# Who is responsible?

## Nationally – Ministry of the Interior and Health

- Legislation, policies, national goals, structural planning

## Regionally – 5 regions

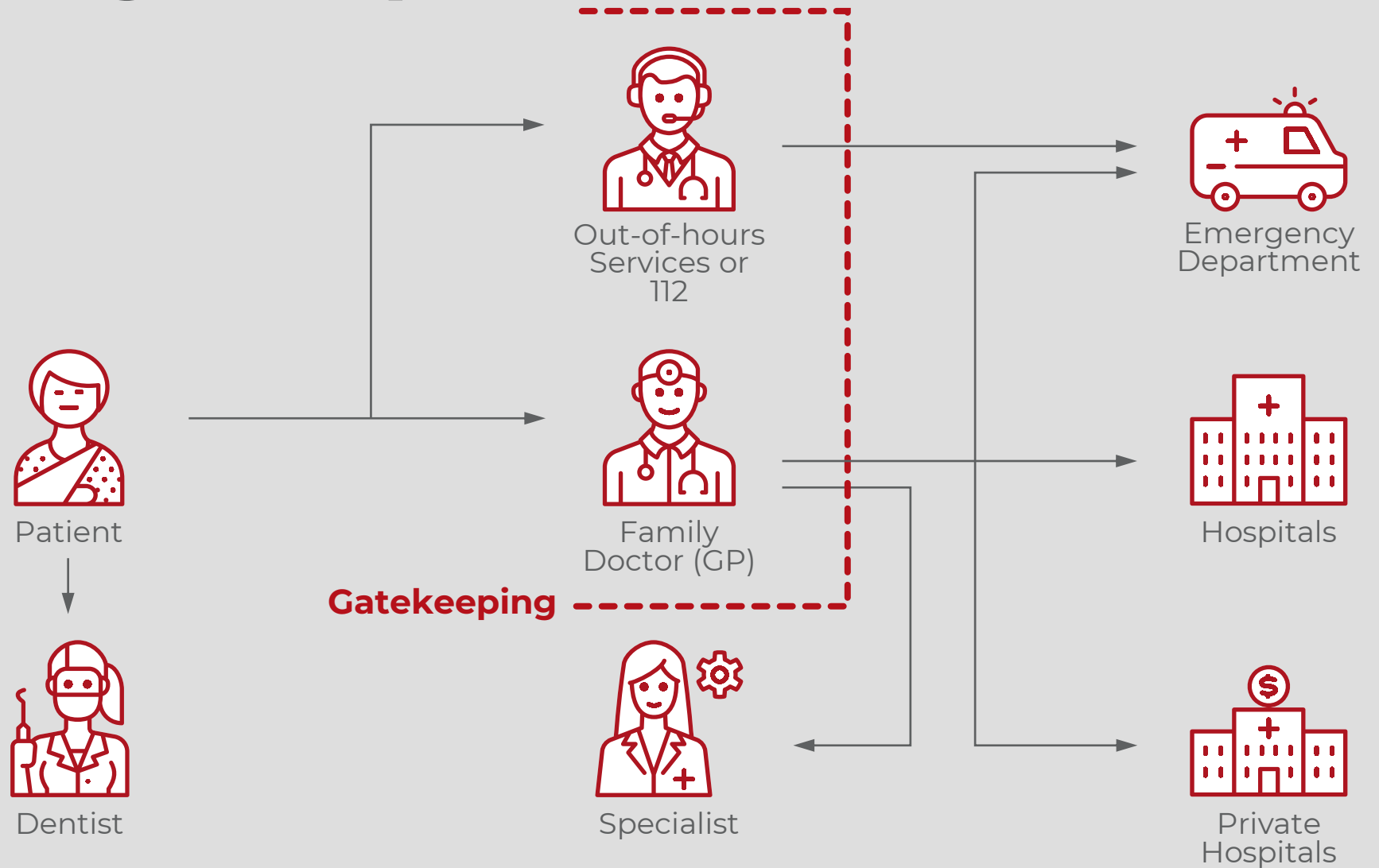
- Hospitals, psychiatry, general practitioners, specialists

## Locally – 98 municipalities

- Prevention, elderly homes, home nursing, rehabilitation



# The GP is the gatekeeper

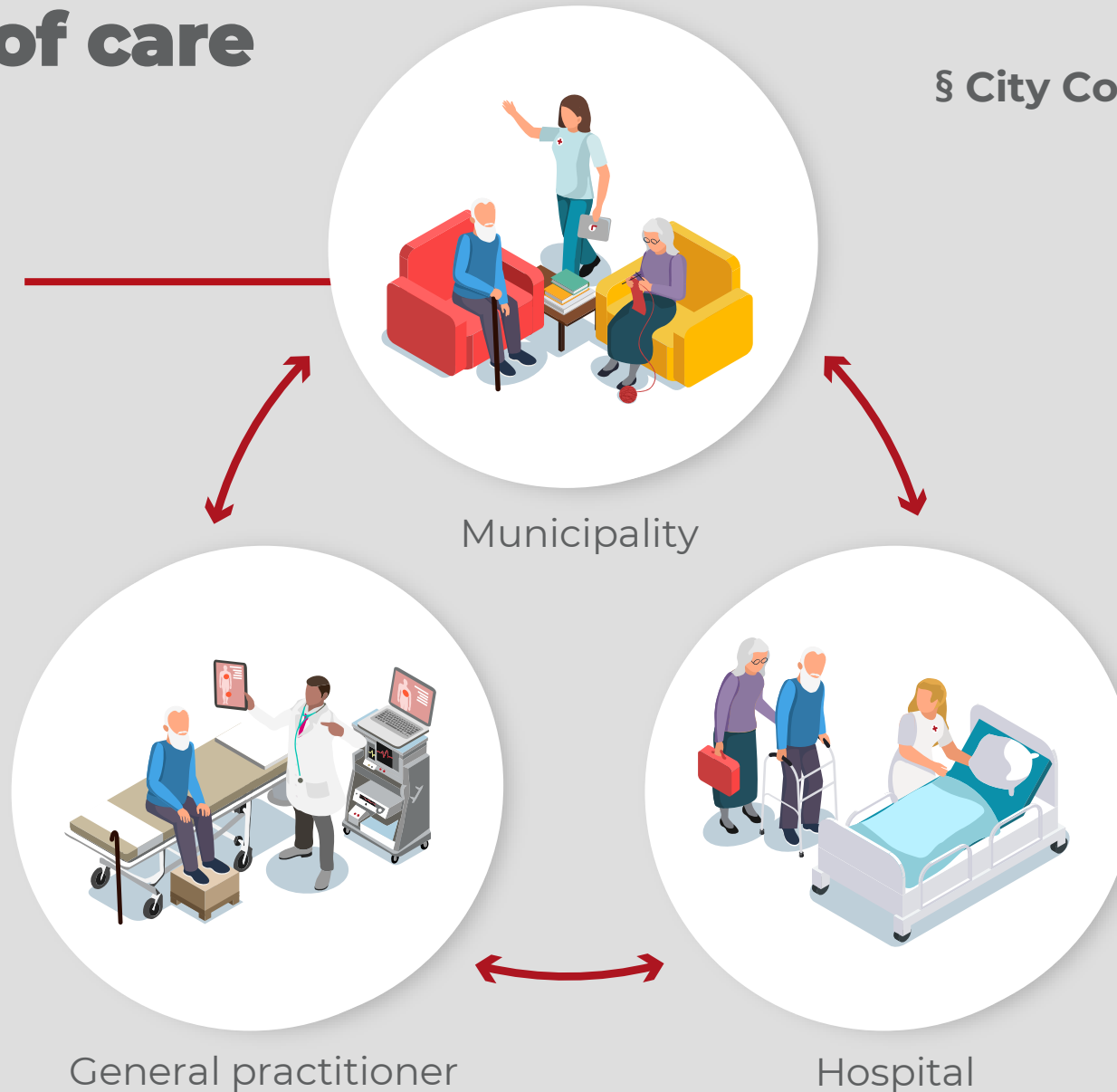


# Continuity of care

§ City Council

## Responsibilities:

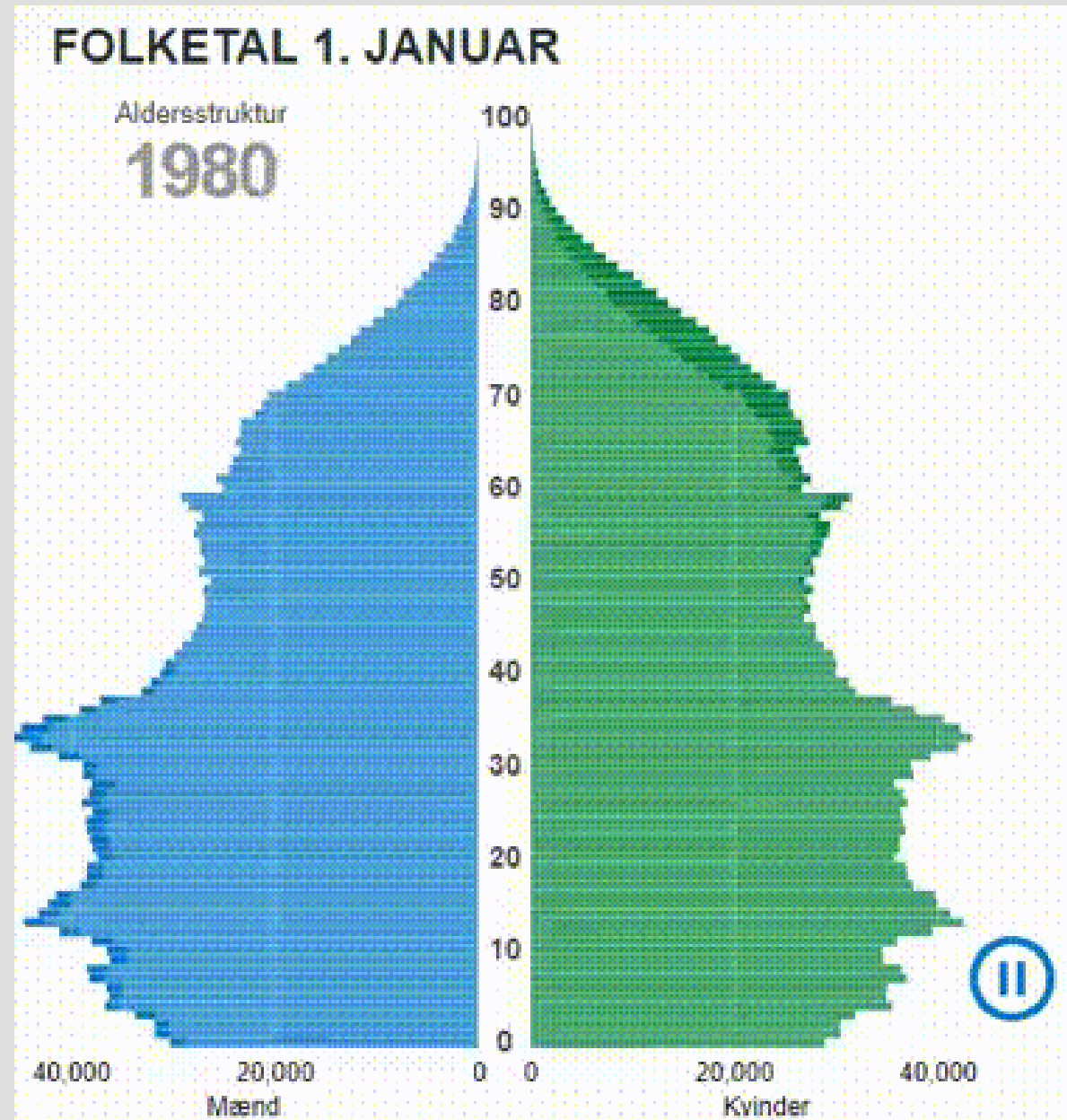
- Prevention
- Rehabilitation
- Elderly care



# Our burning platform

## Double demographic pressure

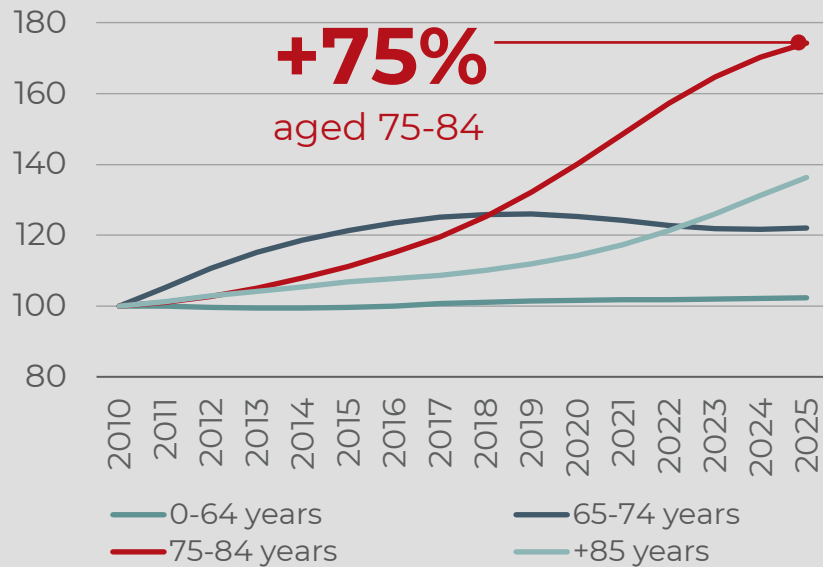
- Growing elderly population
- Decline in young people entering the labour market



# Our burning platform

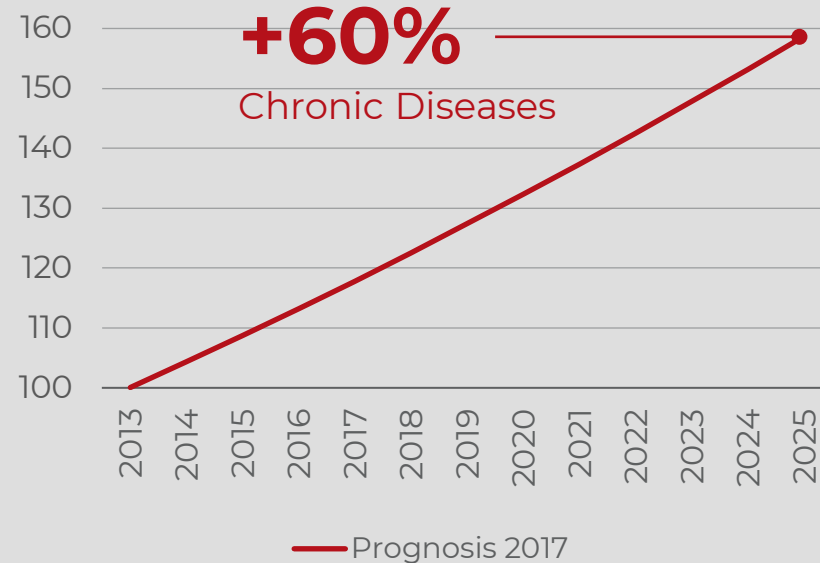
## Population is getting older

Index,  
2010=100



## More people suffer from chronic diseases

Index  
2010=100





MORGENAVISEN

# Jyllands-Posten

SØNDAG

**OPINION**  
SIDE 30

Samuel Zele...  
Alle b...  
Zelus...  
men c...

**AOK**  
SIDE 6

Lasse...  
fik is i...  
Sirius...  
filmer

**OPINION**  
SIDE 24

Politisk...  
for Dan...  
demok...  
kvinder

**Stem**  
der i...  
Sanger...  
hanet...  
oprejs...

**BEB**

**Hol**  
Mangel...  
planlagt...  
til at udt...

**Ai**  
Ingen k...  
i hjemm...  
Lolland

**Bo**  
For 35 år...  
svært ove...  
svært ove

**Op**  
er i...  
Personal...  
patiente...  
Sundhed...  
professor...  
alt for tr...

**Op**  
er i...  
Personal...  
patiente...  
Sundhed...  
professor...  
alt for tr...

**Bo sm**  
landsd...

**MILLI**  
**FOUR**  
**TOPS**

# J B J J J

Mandag | 1

Ny an...  
af ans...  
og kor...  
steget

**BUSINESS**  
SIDE 4

**Rich**

Endnu...  
få gavn...  
Rigsrevi...  
til at bli...

**Bil**  
an...  
Internet...  
psykiatr...

**Har du p**  
Aasonor® til...  
Kædetilskud...  
Citronmelisse...  
L-Tryptofan...  
Aasonor® til...  
Reducerer +...  
Dokumenter

**Der**  
i 20...  
der...  
KULT

**Elpriser**  
kan ikke...  
INDLAN

**Bo sma**  
landsd...

**»Kra**  
lan

**En tog**  
af jern...

**Bo sma**  
landsd...

**Nu**  
det...  
For fæl...  
de...  
INTERNA

**En tog**  
af jern...

**Bo sma**  
landsd...

**INTERVIEW**  
SIDE 28

Nye f...  
nye f...  
af at p...

**Sj**  
be...  
Der er i...  
Sjællan...  
skader.

**En tog**  
af jern...

**Bo sma**  
landsd...

# J B J J J

Tirsdag | 10

**Zlatko**  
stort...  
Jeg har...  
været

**AOK**  
SIDE 6

**BRA**  
**I OPI**  
**STO**  
**DEM**

**NYHEDER**  
SIDE 6

**En lis**

I Storbi...  
syge på...  
lønvilk...  
vurderi...  
INDLAND.

**MUSE**  
**SMYK**

**Alb**  
Fild...  
for...  
INDBLI

**En lis**

I Storbi...  
syge på...  
lønvilk...  
vurderi...  
INDLAND.

**MUSE**  
**SMYK**

**Frygten**  
uro og k...  
på resso...  
fæet Kin...  
ændre c...  
strategi.

**INTERNAT**  
side 16

**En lis**

I Storbi...  
syge på...  
lønvilk...  
vurderi...  
INDLAND.

**MUSE**  
**SMYK**

**Stem**  
der i...  
Sanger...  
hanet...  
oprejs...

**Op**  
er i...  
Personal...  
patiente...  
Sundhed...  
professor...  
alt for tr...

**Bo sma**  
landsd...

## Ambulancer og akutlægebiler holder i stigende grad stille

Flere regioner melder om store problemer med at bemane akutlægebiler og ambulancer. De tyndt befolkede områder er hårdest ramt. I Lemvig var akutlægebilen sidste år ude af drift i knap 14 pct. af tiden. Ifølge en sundhedsprofessor er netop akutlægebilerne en kompensation for nedlagte sygehuse og længere vej til hurtig hjælp for borgere i yderområder. **INDLAND, side 6-7**

I foråret reddede en konservativ finanspolitiker **den russiske økonomi**, men faldende indtægter begynder at true landet på pengepungen. **INTERNATIONAL, side 14-15**

I to år boede Mogensalle på sofaen hjemme hos sin datter, **Bettinaalle**, der nægtede at sende sin kræftsyge far på plejehjem. Han fortjente at have sin familie tæt på til det sidste, siger hun. **SPORT, side 32-34**



## Fogh vil lære af sine fejl

Tidligere statsminister Anders Fogh Rasmussen (V) ser i et stort interview tilbage og erkender fejl, der er begået undervejs. **INDBLIK, side 8-11**

Foto: Joachim Ladefoged

**INTERVIEW**  
SIDE 10

**KRI**

**Bo sma**  
landsd...

**Har du p**  
Aasonor® til...  
Kædetilskud...  
Citronmelisse...  
L-Tryptofan...  
Aasonor® til...  
Reducerer +...  
Dokumenter

**Bo sma**  
landsd...

**Bo sma**  
landsd...

**Bo sma**  
landsd...

**Bo sma**  
landsd...

**Bo sma**  
landsd...

**Bo sma**  
landsd...

**Bo sma**  
landsd...

**Bo sma**  
landsd...

**Bo sma**  
landsd...

**Bo sma**  
landsd...

**Afhængig af alkohol?**

**STIEN**

STIEN fra Kase W. har været effektivt i rigtig mange og skænske omgivelser, professionelt team af behandlere, læge m.m., efterfølgende forberedelse af behandling.

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Aasonor® nærespray - Hjælp mod anoraksi. Reducerer eller fjerner kraftig sult. Dokumenteret effekt. Bestil i Test.

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**Kroforie**

2 døgn 1.198,-  
3 døgn 1.498,-  
4 døgn 1.848,-  
5 døgn 2.098,-  
PRISER PR. PERS.

**Weekend-ophold**

Med gæsteværelse med køk og bryllup, 2 personer, 2 voksne og 2 børn, 2 voksne og 2 børn, 2 voksne og 2 børn, 2 voksne og 2 børn.

Pr. pers. i db. væk. 879,-

**Rudolf Petersen**

Rudolfsgade 16, DK-4280 Pinner, Tlf. 7473 8342, 7473 8318, www.rudolf.dk, rudolf@rudolf.dk



# Current state of the elderly sector

- **Care homes as mini hospitals**
  - ¼ dies within 1 year!
  - 80% have more than 5 concomitant diseases!
- **3,500 temporary post-hospital beds**
  - In practice they function as long-term medical beds!
- **When hospitals are under pressure, tasks are pushed out to the municipalities faster and unplanned**
  - Patient safety is threatened
- **Primary sector lacks workforce in the same way hospitals do**



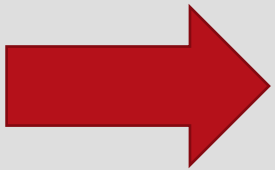
# Long term solution – Healthcare reform (2022)

- Resilience
  - larger workforce
- Prevention and health promotion
  - to prevent or postpone citizen´s needs for treatment and care
- Proximity
  - treat more people in, or close to their own homes



# What are the solutions?

- **Acute plan to the hospitals**
  - Reduce waiting lists
  - Recruiting and retaining nurses, assistants and therapists



- **Reinforce the challenges in the municipalities**
  - Highlights the need for innovative solutions that supports new workflows



# Medical and health Technology

- Technology, devices, and equipment to diagnose, monitor, treat, and manage medical conditions and diseases.
- The goal is to improve patient outcomes, increase efficiency in healthcare delivery, and enhance the overall quality of care.



# Technologies as a relief to a healthcare system under pressure?

- **Electronic Health Records**

- Quick and easy access to information
- Reducing risk of errors

- **Telemedicine**

- Video conferences
- Increase accessibility to healthcare services



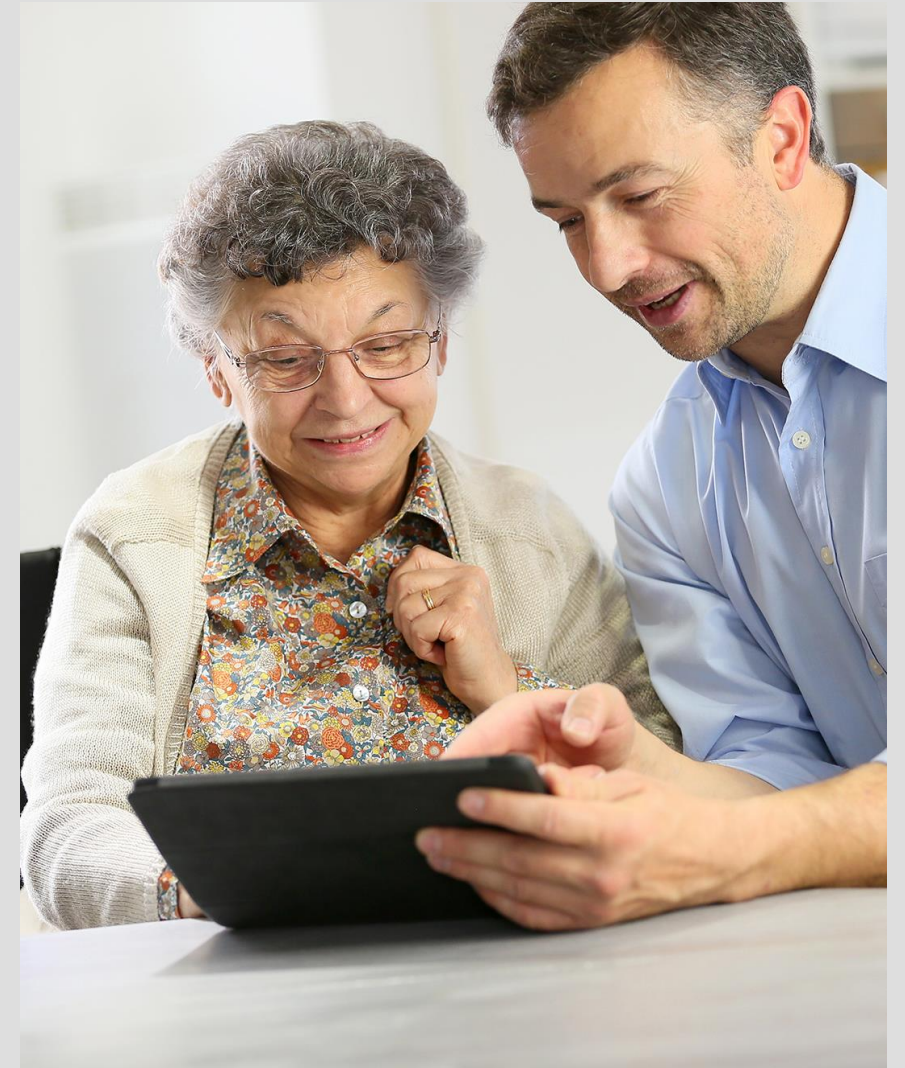
# Technologies as a relief to a healthcare system under pressure?

- **Patient Portals**

- App's with acces to own health information
- Empower patients to be an active part

- **Patient Reported Outcome**

- Monitor patients with chronic conditions
- Stratify patients who needs assessment of a doctor



# Assistive Technologies in elderly care

- Improve quality of life
- Independent living
- Support caregivers (shortage of staff)

## Examples:

- Medication management systems
- Fall detection and prevention systems
- Personal emergency response systems (incl. wearable device)
- Screen visits in home care



# Home care - now and in the future

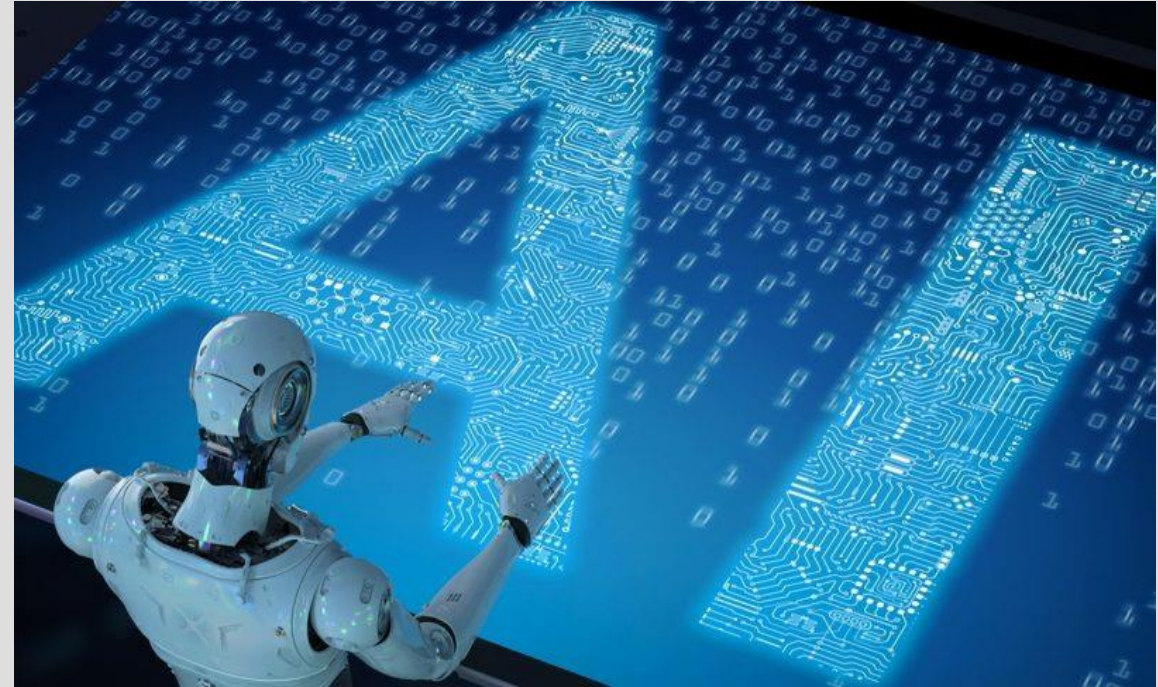
- Telemedicine
  - Access specialists for district nurses
- Wearable technology
  - Alert caregivers if there are any concerning changes.
- Smart homes
  - Sensors to detect falls and alert caregivers





# Home care - now and in the future

- **Robotics**
  - Medication management
  - companionship
- **Virtual reality**
  - entertainment and socialization
- **Artificial Intelligence (AI)**
  - Expanded recent years
  - Technologies with build-in AI



# Innovation

- **Mix of public and private innovation**
  - Primarily publicly funded
  - Development of health records
- **Life Science Strategy**
  - Better use of health data
  - Funds dedicated to innovative procurement

**Challenge: Knowledge sharing!**

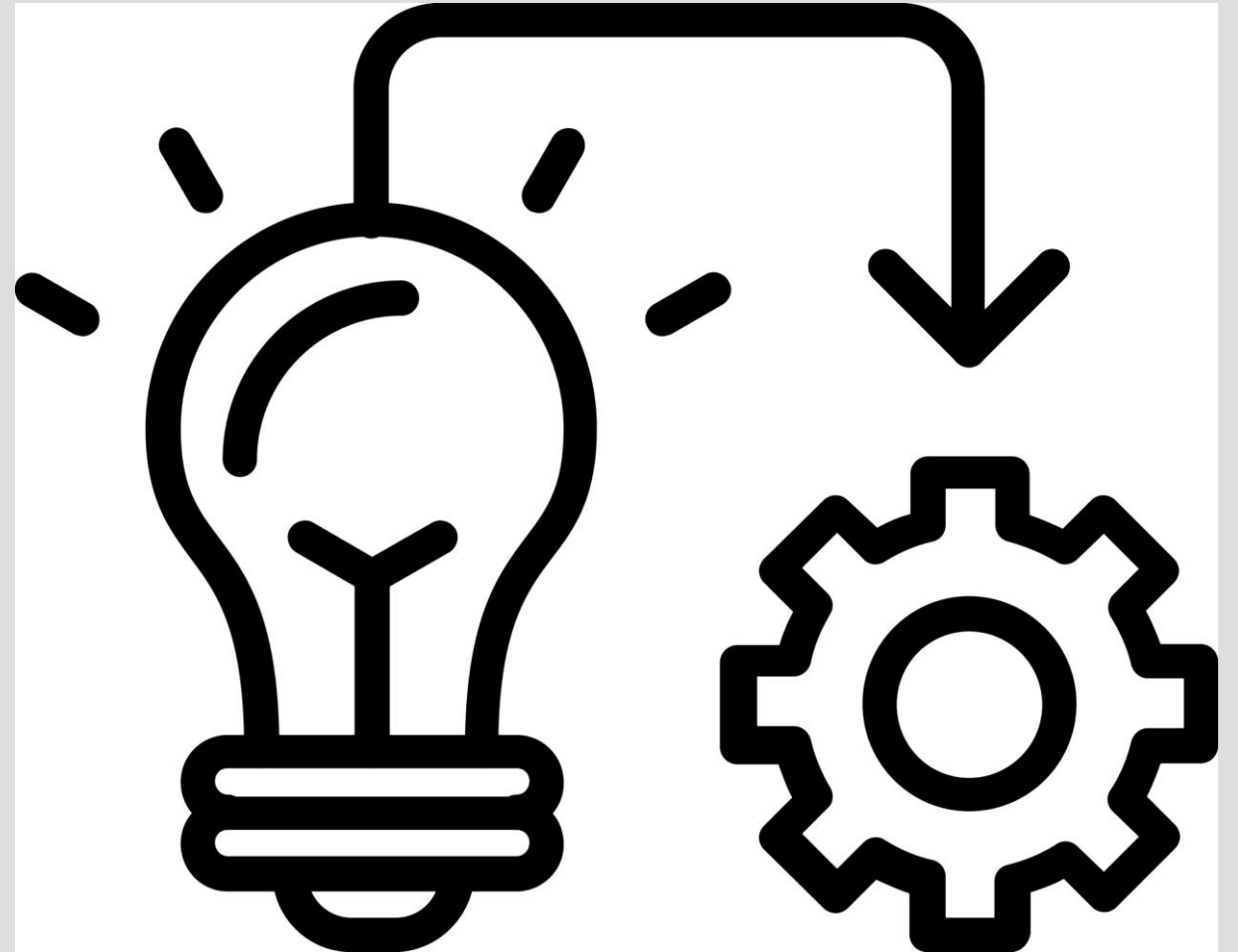


# Implementation and workflows

- Challenges in implementation are highly underestimated
- New way of delivering a professional service or treatment

Why is that a challenge?

- Professional bureaucracy
- Professional authority and autonomy



# Digital health literacy

## Digital literacy:

“The ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills”

## Health literacy:

“The ability to obtain, read, understand, and use health-care information to make appropriate/informed health decisions”

# Digital health literacy



- The technologies require new forms of collaboration between patients and staff.
- We have very little knowledge about the level of digital health literacy in Denmark
  - For healthcare staff?
  - For citizens/patients?
- **Increasing health inequalities**
  - how we can support those with few skills to use health technologies?
- We need to have a strong focus on that, if we want to harvest the the advantages of the new technological solutions

# Does digitalisation or AI in itself create ethical issues?

- The “none-digital” citizen/patient
- Do I have the right to privacy?
- Do I have the right behaviour to receive healthcare?
- Can the computer decide the best treatment for me?
  
- Are we ready to disrupt the way we deliver healthcare?



# Healthcare

D E N M A R K

