



Executive Vice President
Erik Jylling
Danske Regioner

The Landscape of using Healthcare data in Denmark

The movement towards a person centric use of data

Welcome to Danish Regions

interestorganisation for the 5 regions

- to safeguard regional government interests
- to act as spokesman on behalf of the regions
- to negotiate the annual financial frames of the regions
- to negotiate pay and working conditions for regional employees



The aim for Danish Regions

A more ***person-centered health care system***, where people are supported to ***make informed decisions*** about and ***successfully manage their own health*** and care, and ***choose when to invite others*** to act on their behalf, combined with a system ***proactive and preventive population based approach***.

THE DANISH HEALTH CARE SYSTEM

Danske Regioner

From 14 counties to 5 regions

2007: Structural reform. The perhaps largest administrative change in Danish history.

Voluntary merging of municipalities

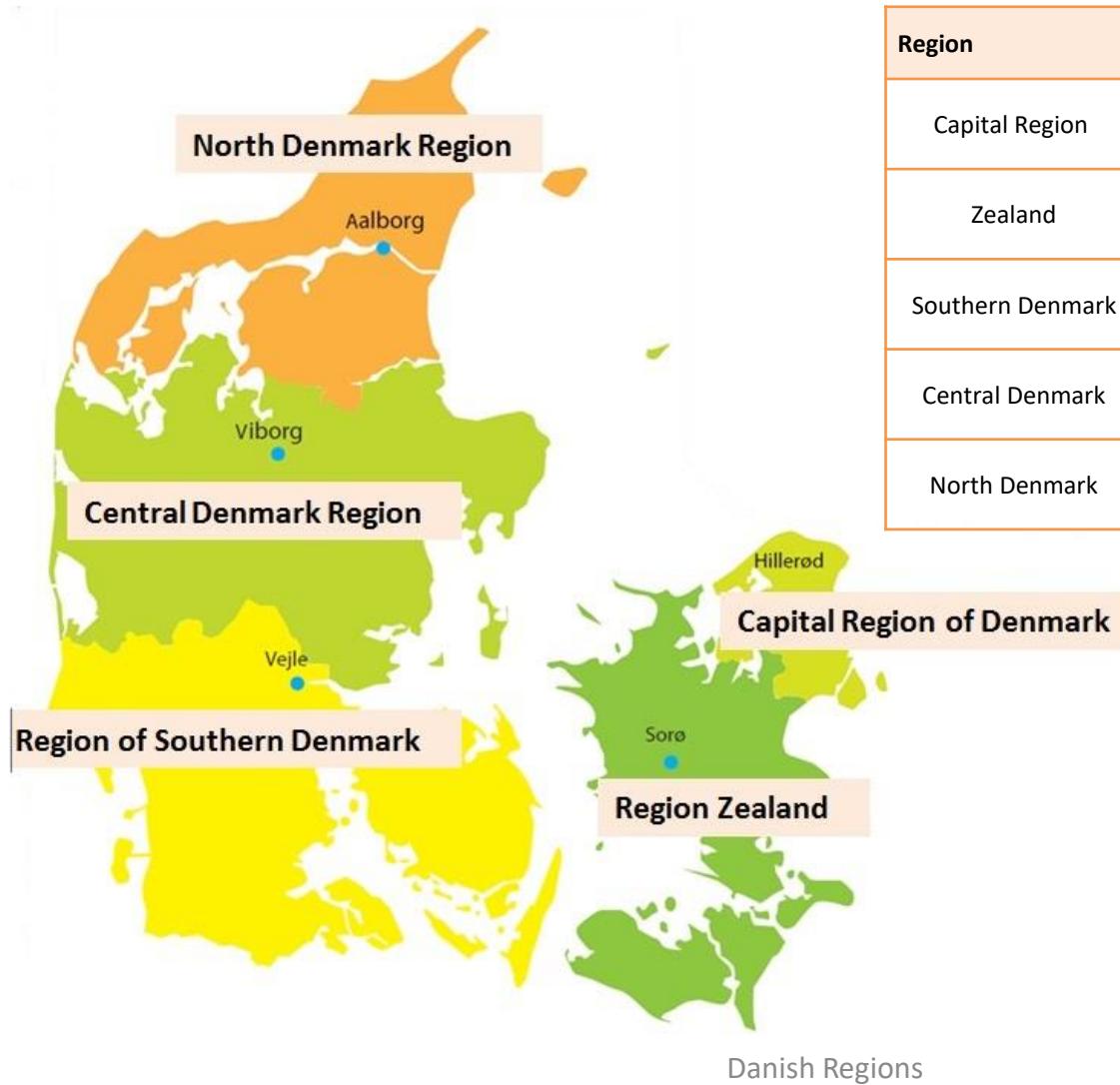
271 → 98

Establishing 5 regions

14 → 5

- 41 regional council members in each region
- Direct elections every 4th years

Regions in brief



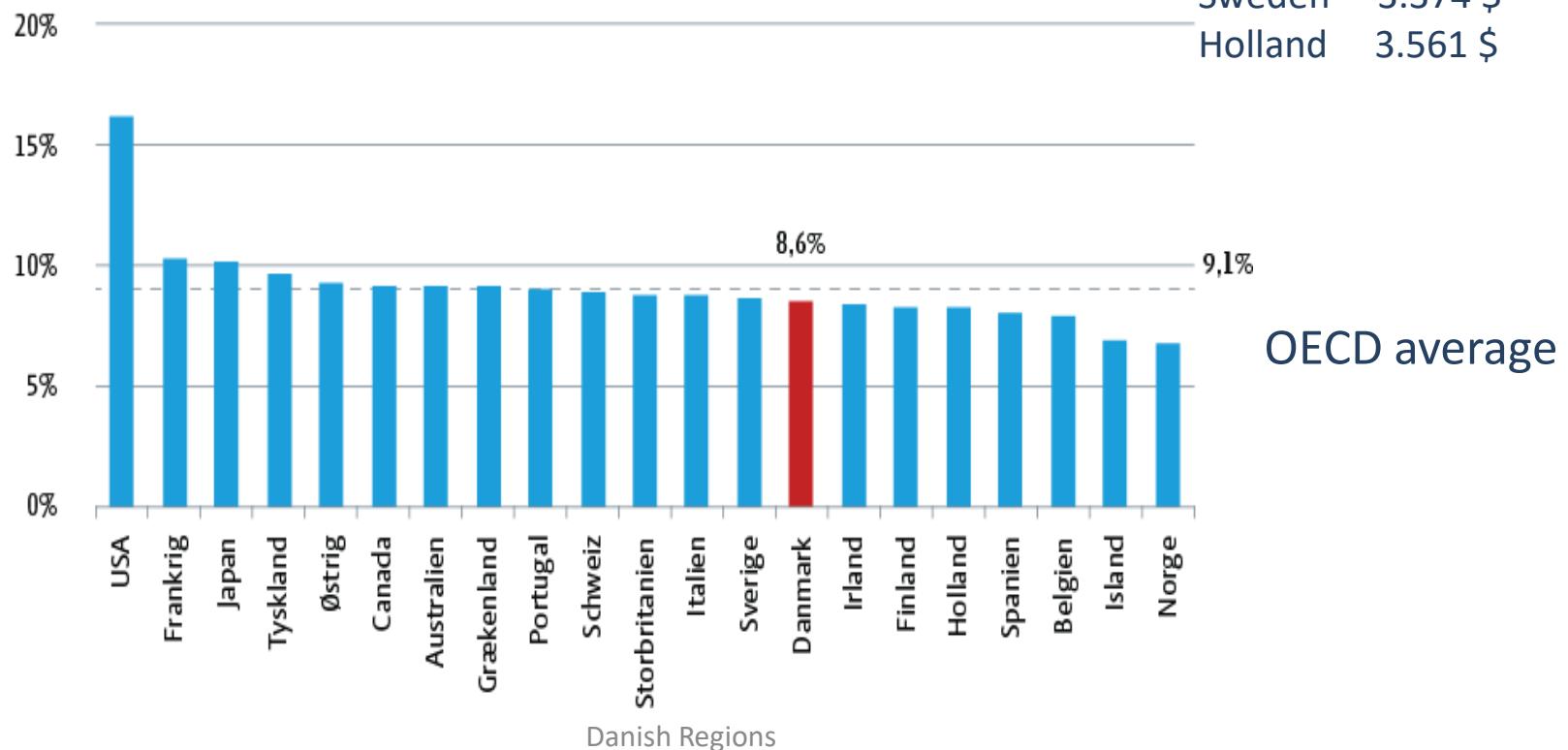
Region	Population	Inhabitants per square kilometers
Capital Region	1.766.677	698
Zealand	819.385	114
Southern Denmark	1.205.025	98
Central Denmark	1.282.250	99
North Denmark	582.413	74

Healthcare expenses below OECD average

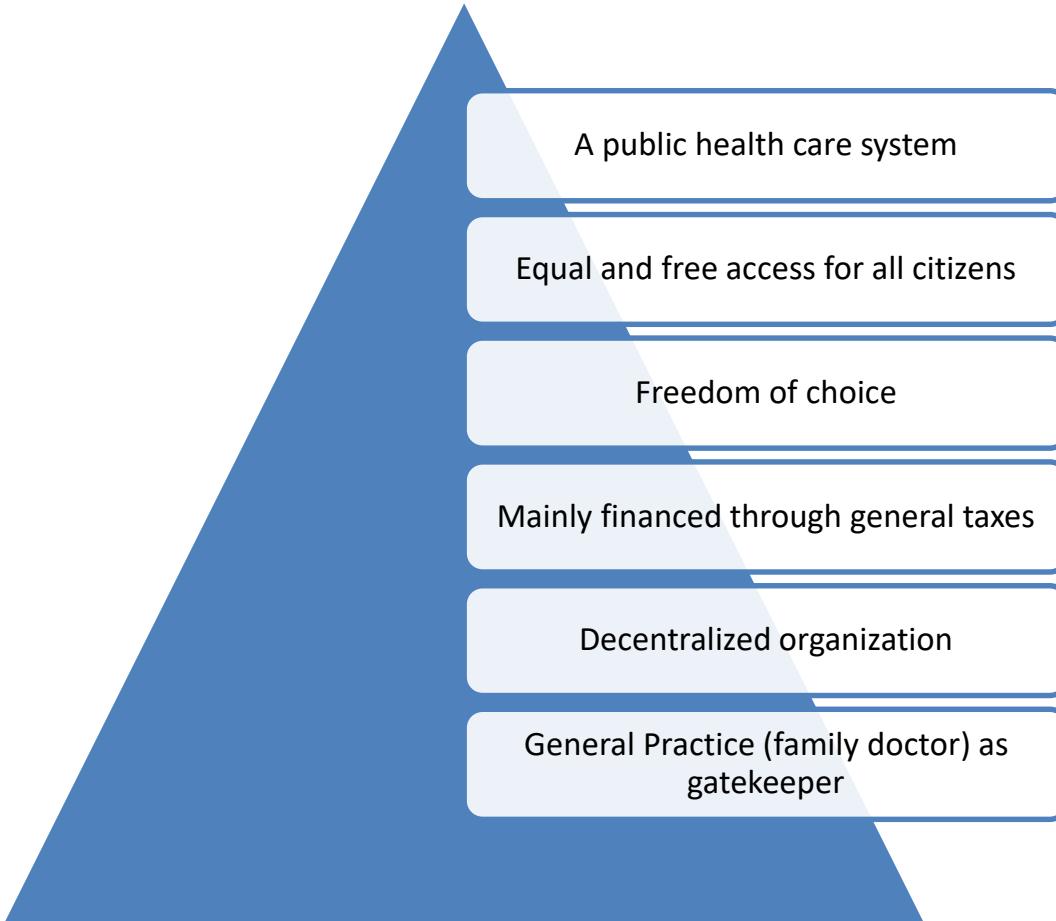
Health publishes per capita in 2015:

Denmark	3.145\$
Norway	3.367 \$
Sweden	3.374 \$
Holland	3.561 \$

Healthcare expenses, % of GDP 2013



Basic principles of Danish Healthcare



A public health care system

Equal and free access for all citizens

Freedom of choice

Mainly financed through general taxes

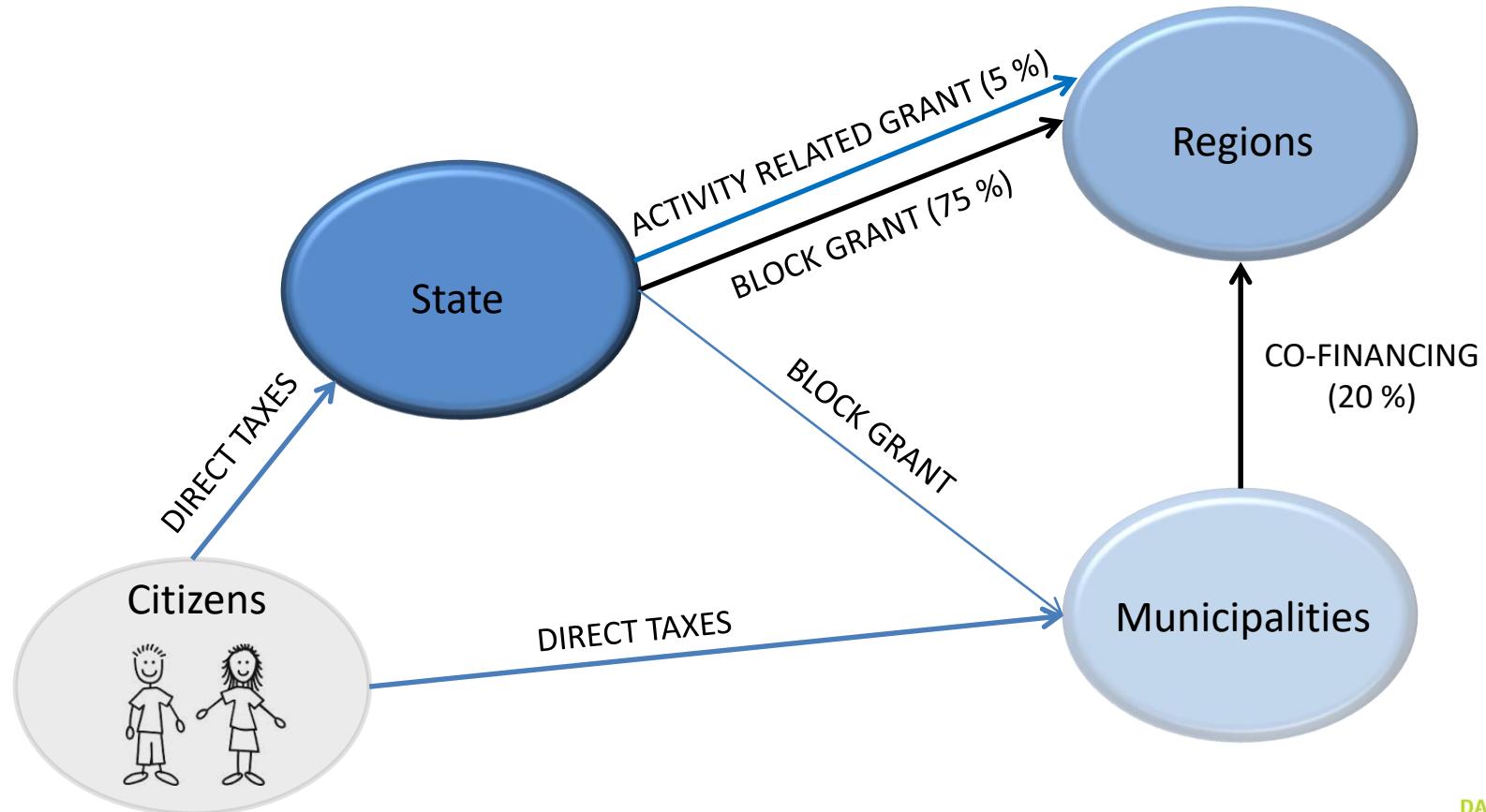
Decentralized organization

General Practice (family doctor) as gatekeeper



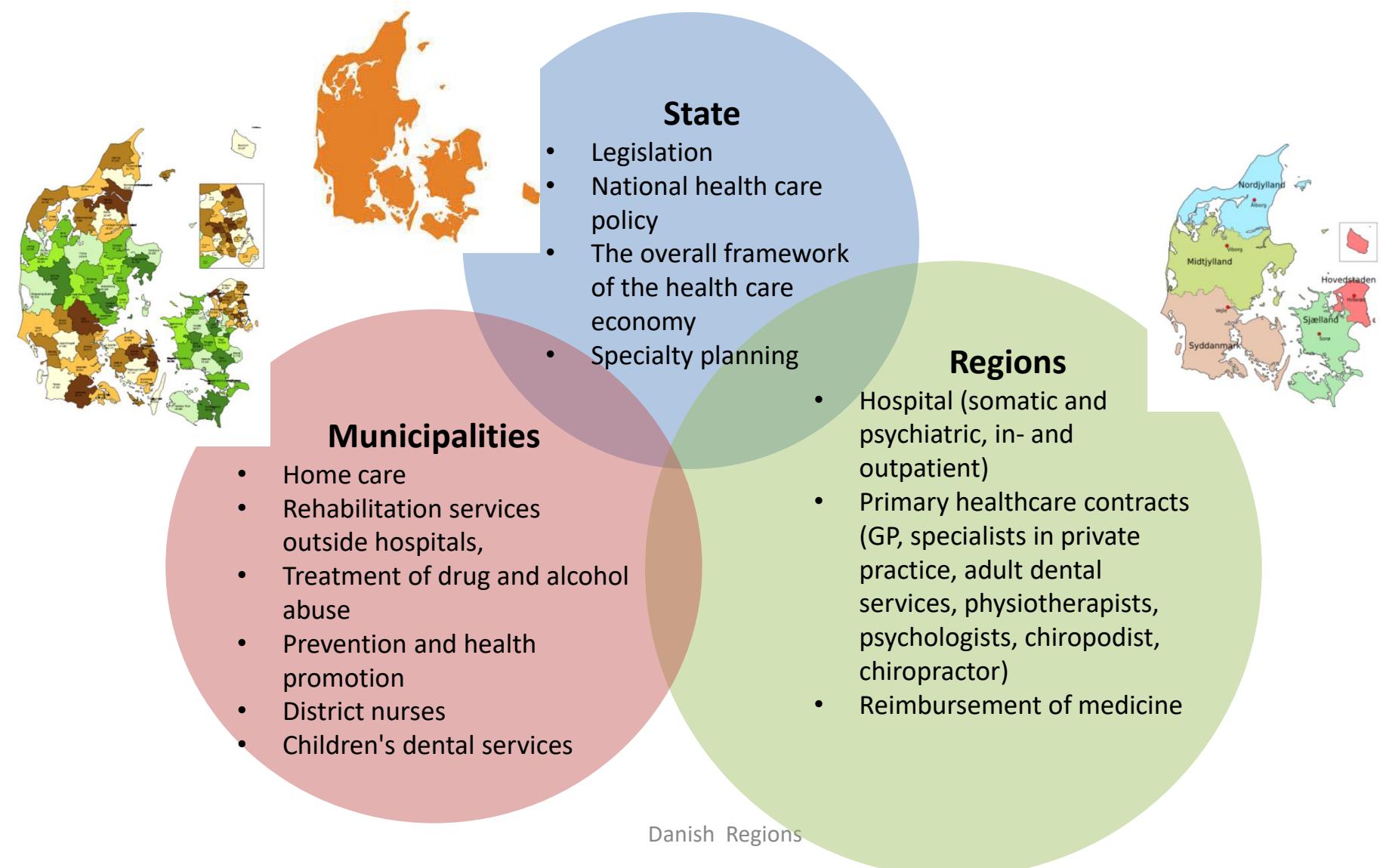
The Danish Health Care

Financial set-up



The Danish Healthcare

Who is responsible for what?



THE PATIENT IN THE CENTER



GP

HOSPITAL

PATIENT

RELATIVES

COMMUNE

Disruptive forces

– definitive changes in basic conditions:



Forandringskræfter og udfordringer i sundhedssektoren



1 pct. = 30 pct.



Flerne ældre – færre hænder



Flerne med kronisk(e) sygdom(me)



Ny sundhedsteknologi



Informationsrevolution



Den nye "sundhedsforbruger"



DATADRIVEN HEALTHCARE



THE REGIONS' VISIONS FOR HEALTH DATA

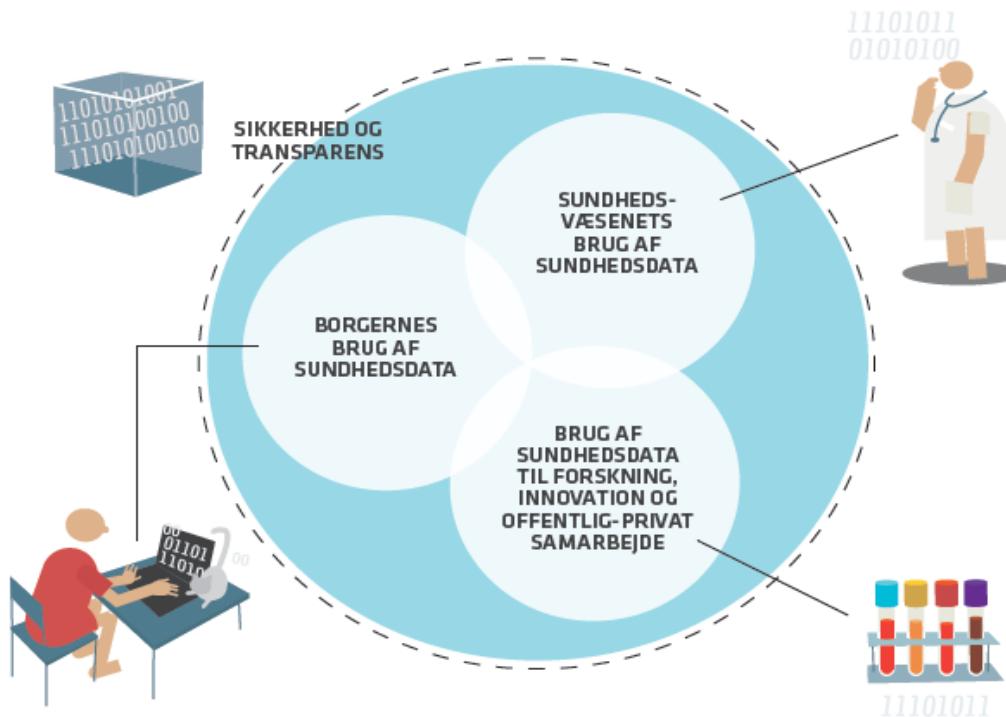
- 
- *We create the best framework for citizens and the health care professionals to use health data innovative in order to promote health and secure treatment of a high quality.*
 - *We use the same data for developing a world class health care system, and for improving the future treatment for the benefit of future patients.*

Preconditions

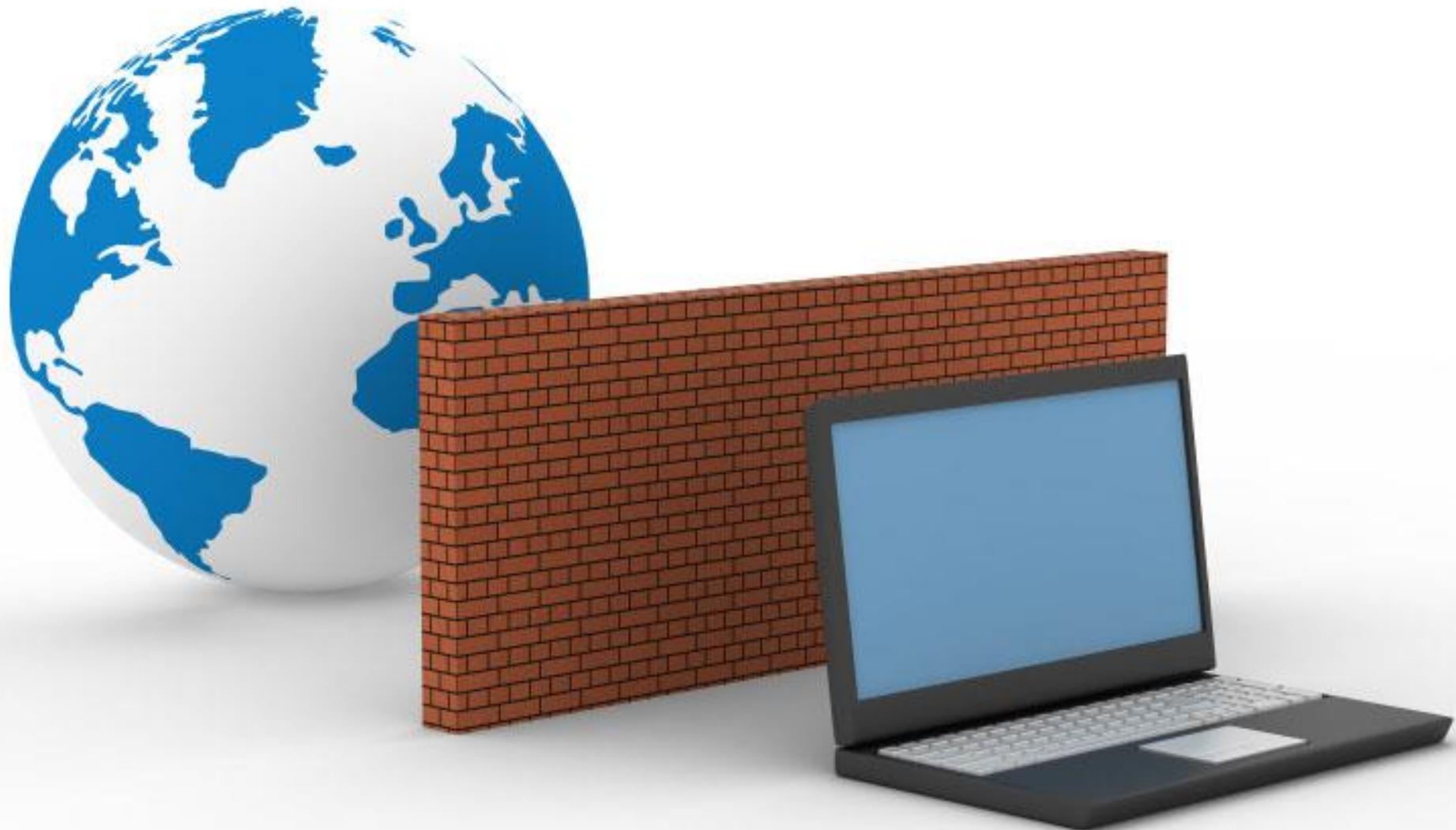
- We handle the citizens health data securely and responsibly, and we are open about how we use data.

THE ACTION PLAN

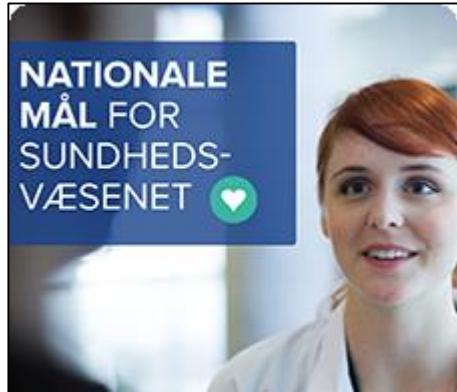
> 37 INITIATIVES WITHIN 4 THEMES



BALANCING SECURITY AND TRUST WHEN SHARING DATA



Current policy landscape relevant for the use of mHealth in Denmark



8 national goals for the health care system



Public digitization strategy 2016-2020



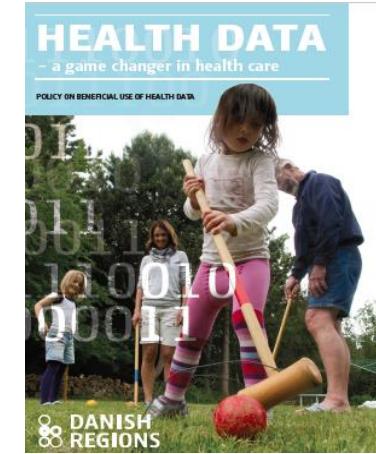
Digital support in care of complex patients



Strategy regarding elderly medical patients



Regional strategy regarding personalized medicine



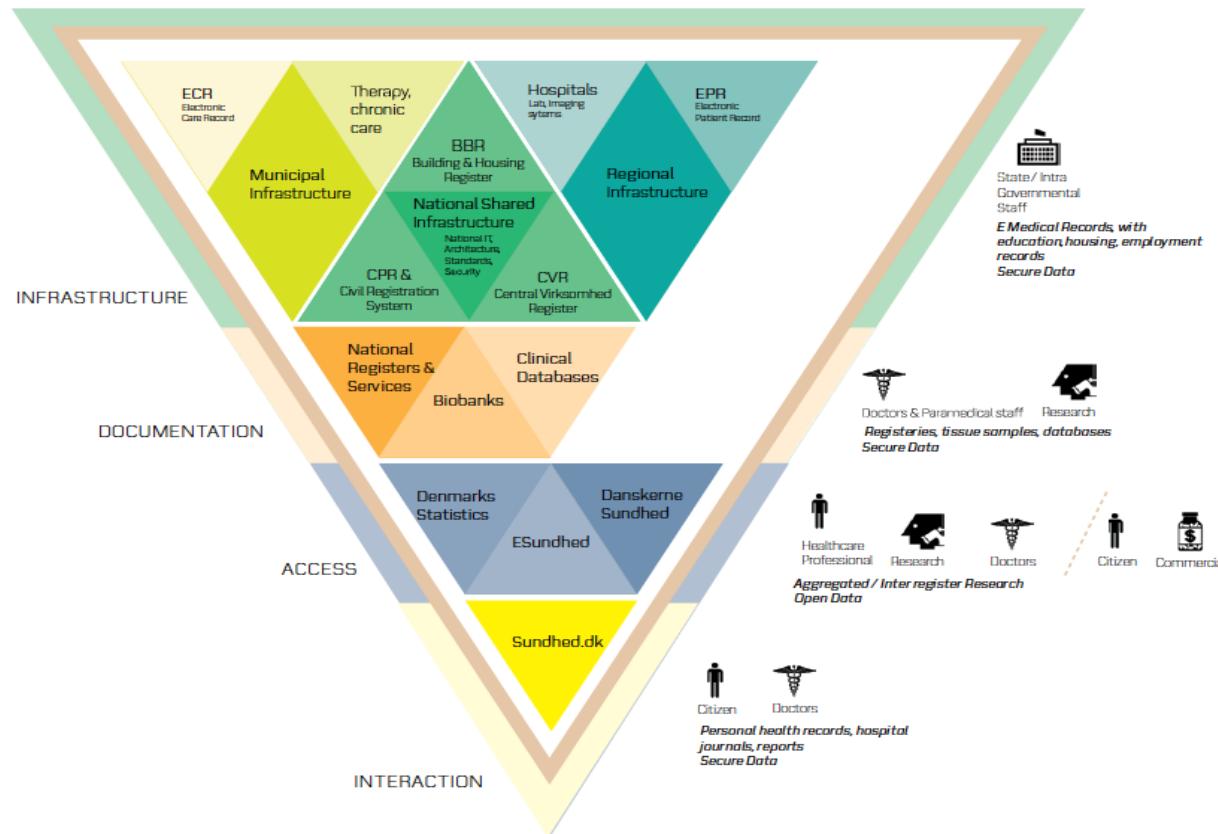
Regional policy on the beneficial use of health data



Financial agreement between government, municipalities and regions 2017

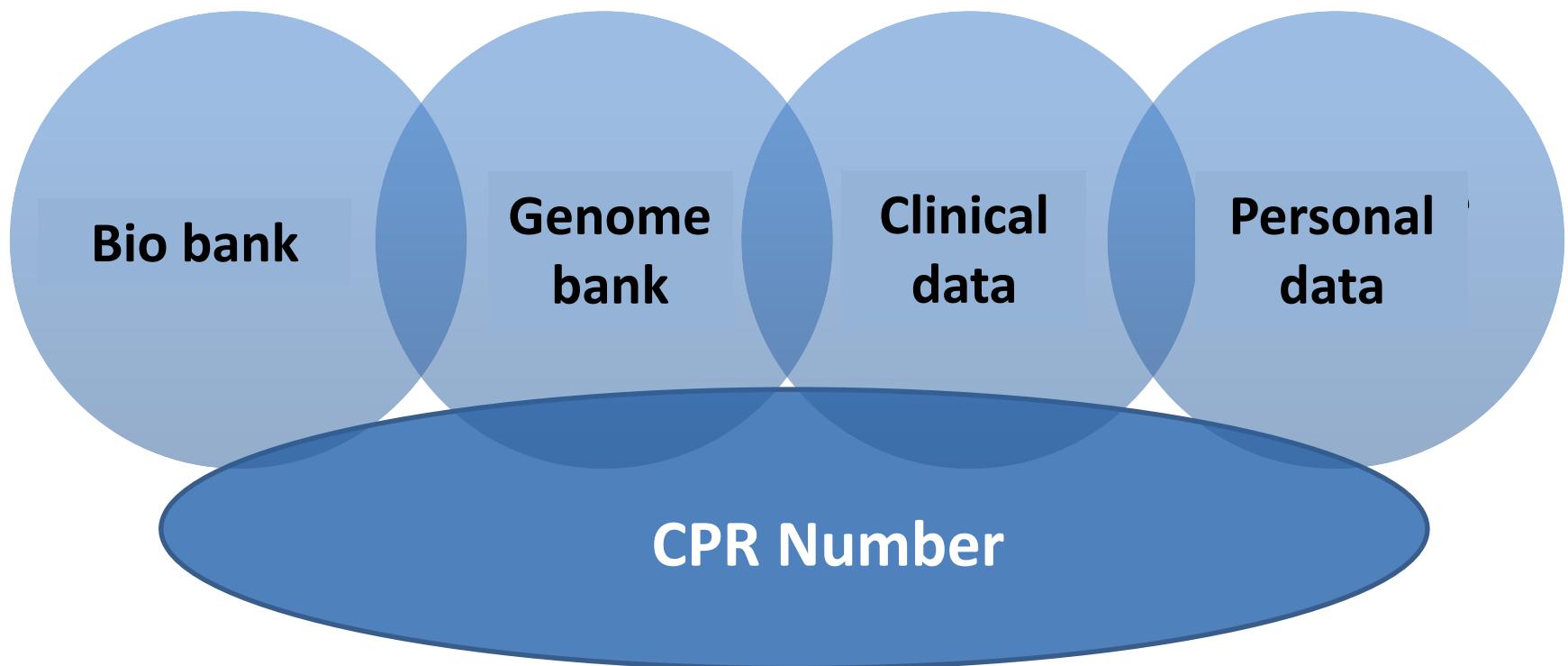


DENMARK HAS A UNIQUE POSITION ON INTEGRATED HEALTH DATA



Leapcraft "Mapping the healthcare data landscape in Denmark"

THE UNIQUE POSITION



THE NATIONAL HEALTH CARE JOURNAL

The screenshot shows the sundhed.dk website interface, specifically the 'SUNDHEDSFAGLIG' (Professional) section. The top navigation bar includes links for 'Find behandler', 'Sitemap', 'Nyheder', 'Om Sundhed.dk', 'Hjælp', 'Læs højt', 'Føj til mine links', and '+ Del'. A search bar with a 'Søg' button is also present.

The main content area features a red header with the 'sundhed.dk' logo, 'BORGER' (Citizen), 'SUNDHEDSFAGLIG' (Professional), 'LOG PÅ' (Log In), and 'MIN SIDE' (My Side). Below this is a grid of six red buttons: 'Min side', 'Min sundhedsjournal', 'Mine registreringer', 'Min læge', 'Min log', and 'Min opstætning'. Under each button is a sub-menu with various links such as 'Overblik', 'Læge', 'Medicin', etc.

A large section titled 'Overblik over din sundhedsjournal' (Overview of your health journal) follows. It contains a summary of recent medical information and a table of the latest prescriptions from a doctor.

Dato	Medicin	Behandling
18.02.2013	Lacril (øjendråbernes...)	Kunstige tårevæskesekr...
18.01.2013	Hepsera	Mod leverbetændelseW /Æ...
08.11.2012	Pankreon	Mod enzymmangel

Links below the table include 'Se flere medicinoplysninger' and 'Se din medicin i Det Fælles Medicinkort'.

Another section titled 'Seneste journaloplysninger fra sygehus' (Latest hospital information) displays a table of recent hospital visits:

Dato	Sygehus	Afdeling	Diagnose
18.02.2013	Nanortalik Sygehus	Overgreb ved andre specifiserede metoder...	Overgreb ved andre specifiserede metoder...
18.01.2013	Osteoporosklinikken Christianshavn...	Klinisk fysiologisk/Nuklearmedicins...	Reumatoid artritis med noduli rheum KU/Æ/Æ...
08.11.2012	Hvidovre Hospital	Røntgen/ultralyd overafd.	Overgreb ved andre specifiserede metoder...

Links at the bottom of this section include 'Se flere journaloplysninger fra sygehus' and 'Læs om e-journal'.

THE SHARED MEDICATION REPORT (FMK)

Patient 110201-4746 Jody Svendsen Status Aktivt - sidst ændret 30-09-2010 Afstemt 19-08-2010 Maksimer ▾

Medicinkortet Afsluttede lægemiddelordinationer

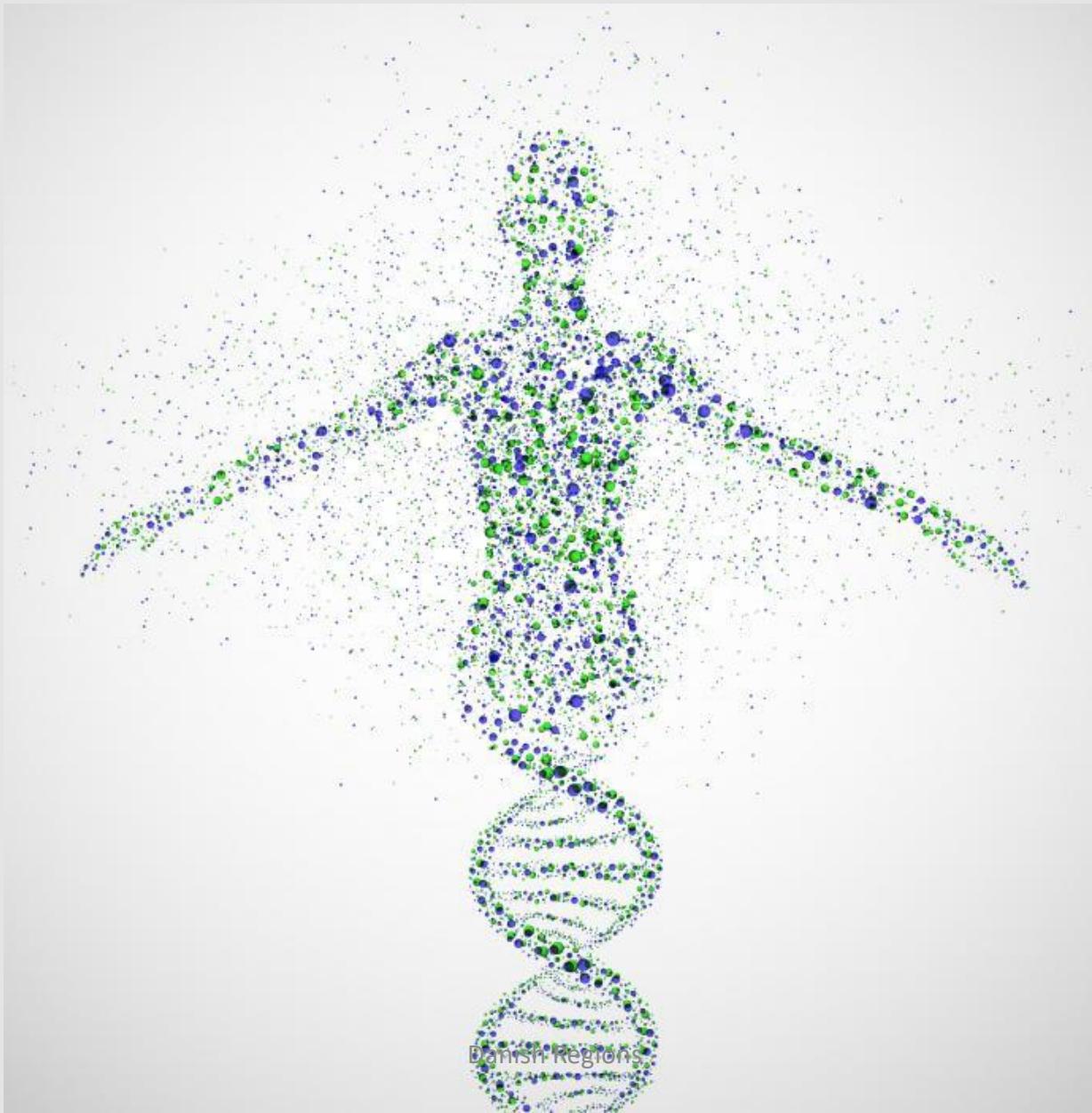
Opret ordination Ordinationen er seponeret

Lægemiddelordinationer på FMK:

Startdato ▾	Slutdato	Lægemiddel	Form	Styrke	Dosering	Indikation	
25-09-2010	25-10-2010	Procoralan	Filmovertrukne tabletter	5 mg	1 stk morgen og aften	Mod hjertekrampe	✓
21-09-2010	21-09-2011	Simvastatin "Arrow"	Filmovertrukne tabletter	80 mg	1 stk nat	Mod forhøjet kolesterol	✓
17-08-2010		Stilnoct	Filmovertrukne tabletter	10 mg	2 stk nat	Sovemedicin	✓

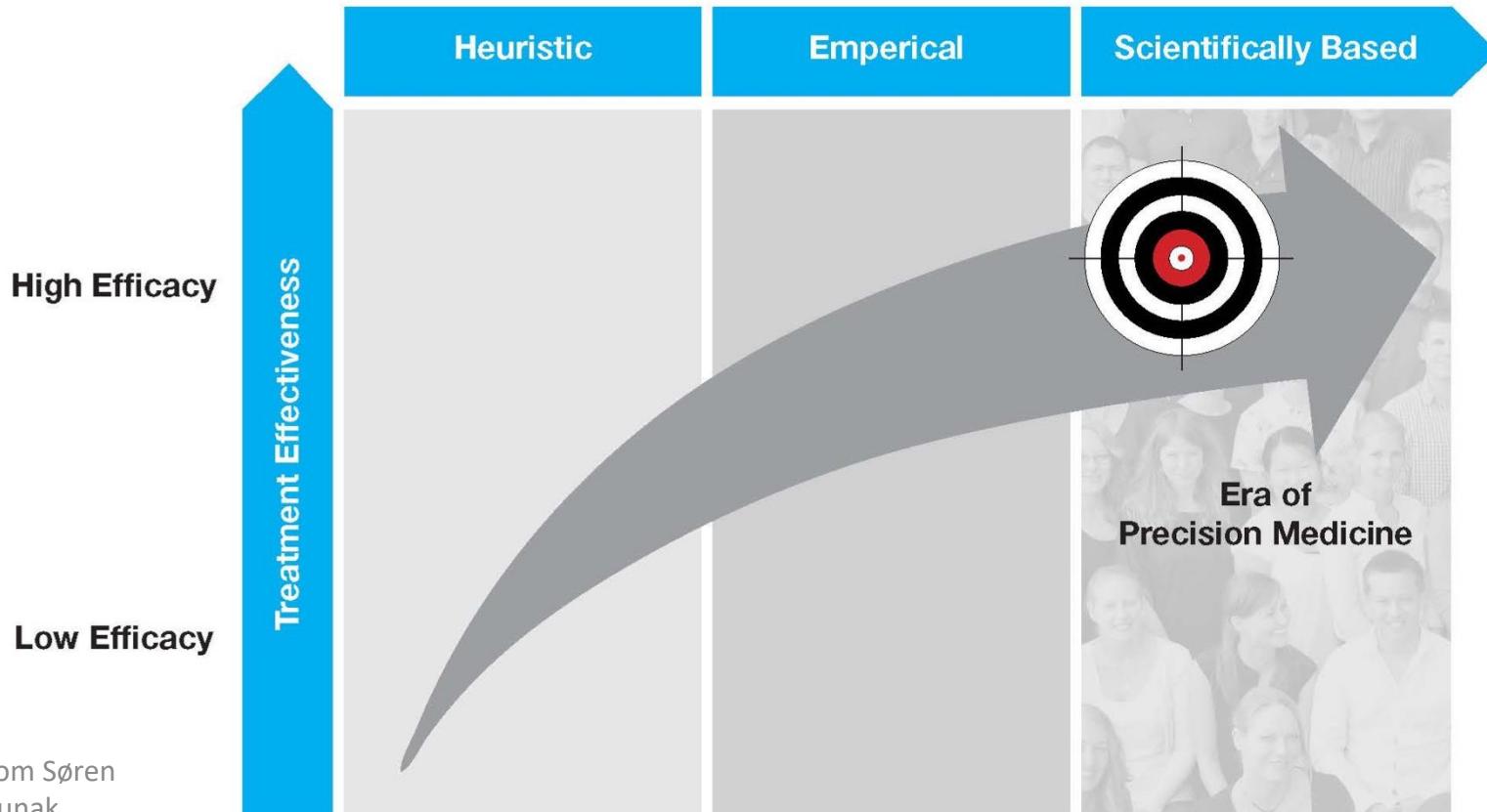
Følgende recepter er oprettet *efter* seneste medicinkortafstemning men endnu ikke tilknyttet en lægemiddelordination på FMK: Vis alle løse recepter

PERSONALIZED MEDICINE IS THE FUTURE

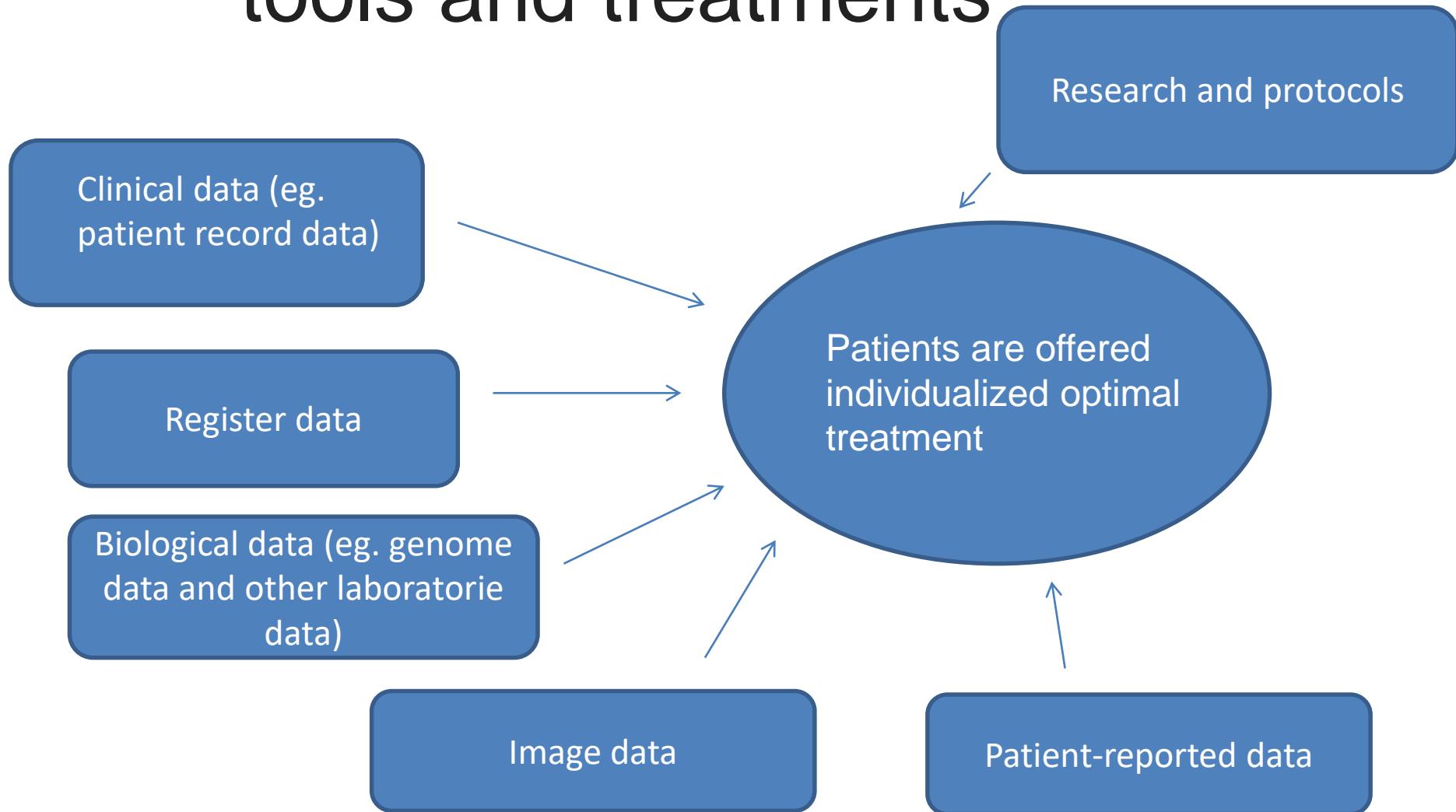


PRECISION MEDICINE IS BASED ON A COMBINATION OF MOLECULAR BIOMARKERS AND HEALTH DATA

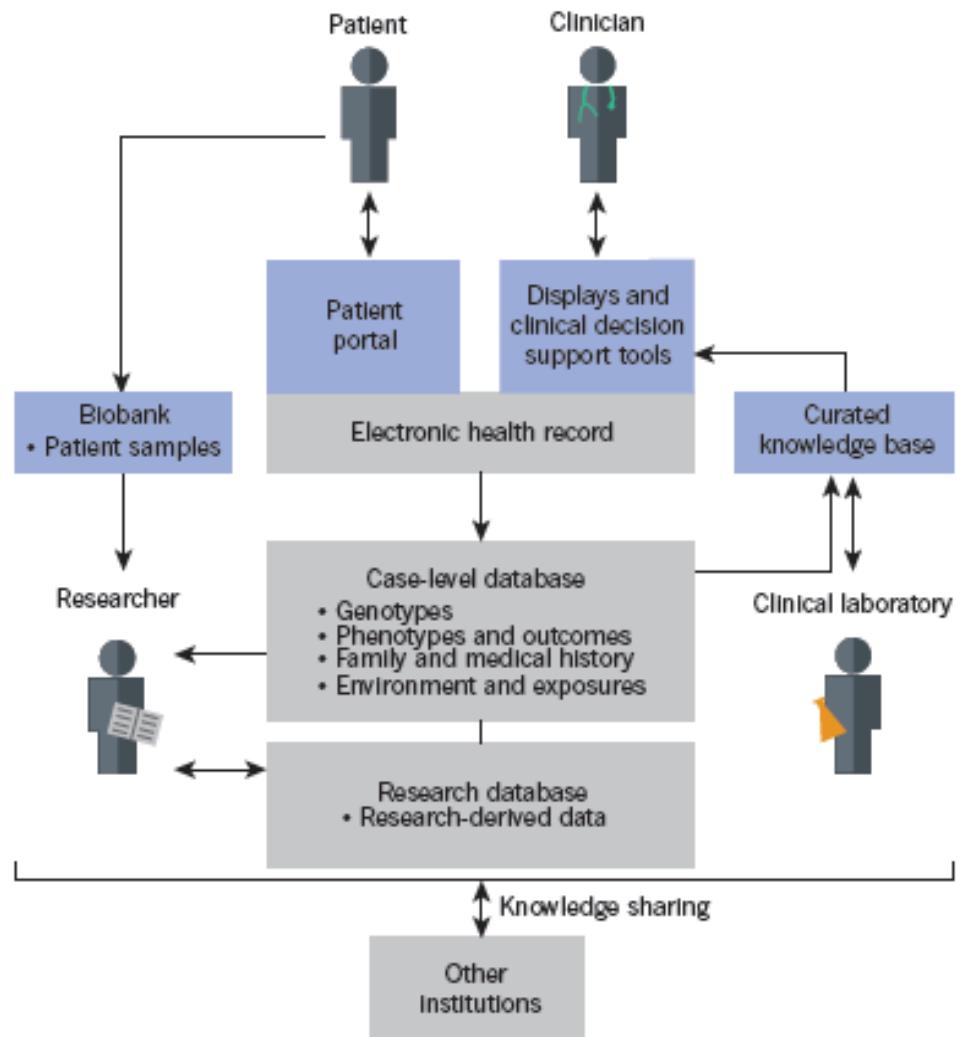
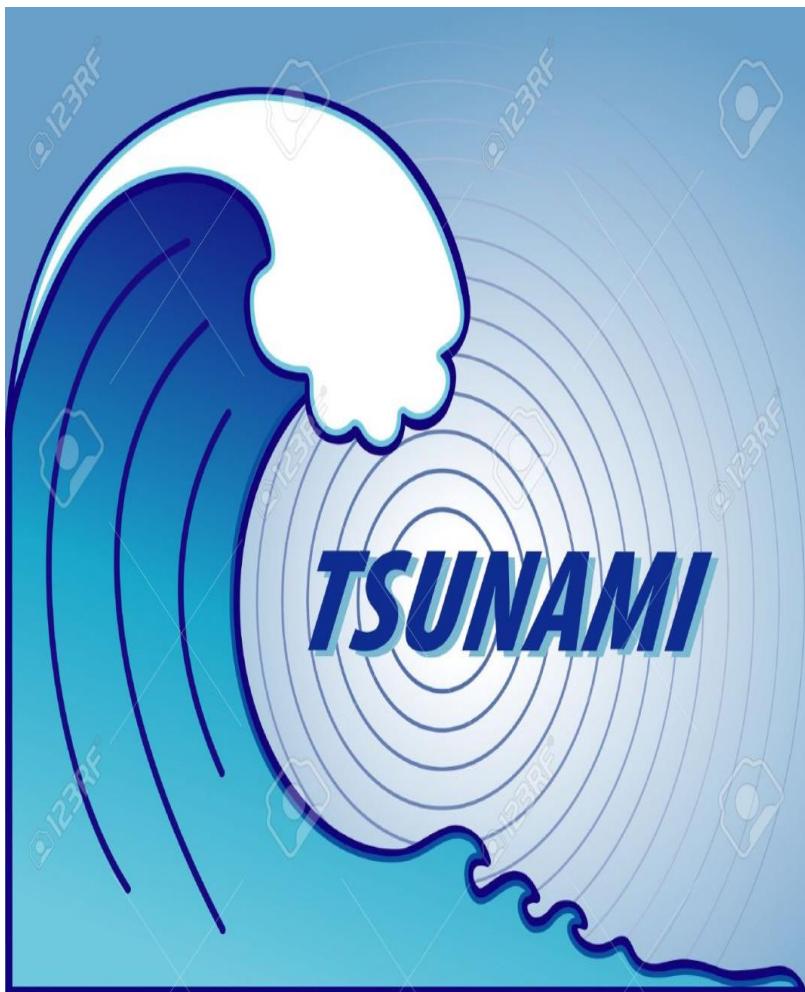
Evolution of Medicine from Art to Scientifically Based



Prerequisites for new diagnostic tools and treatments



FROM TO



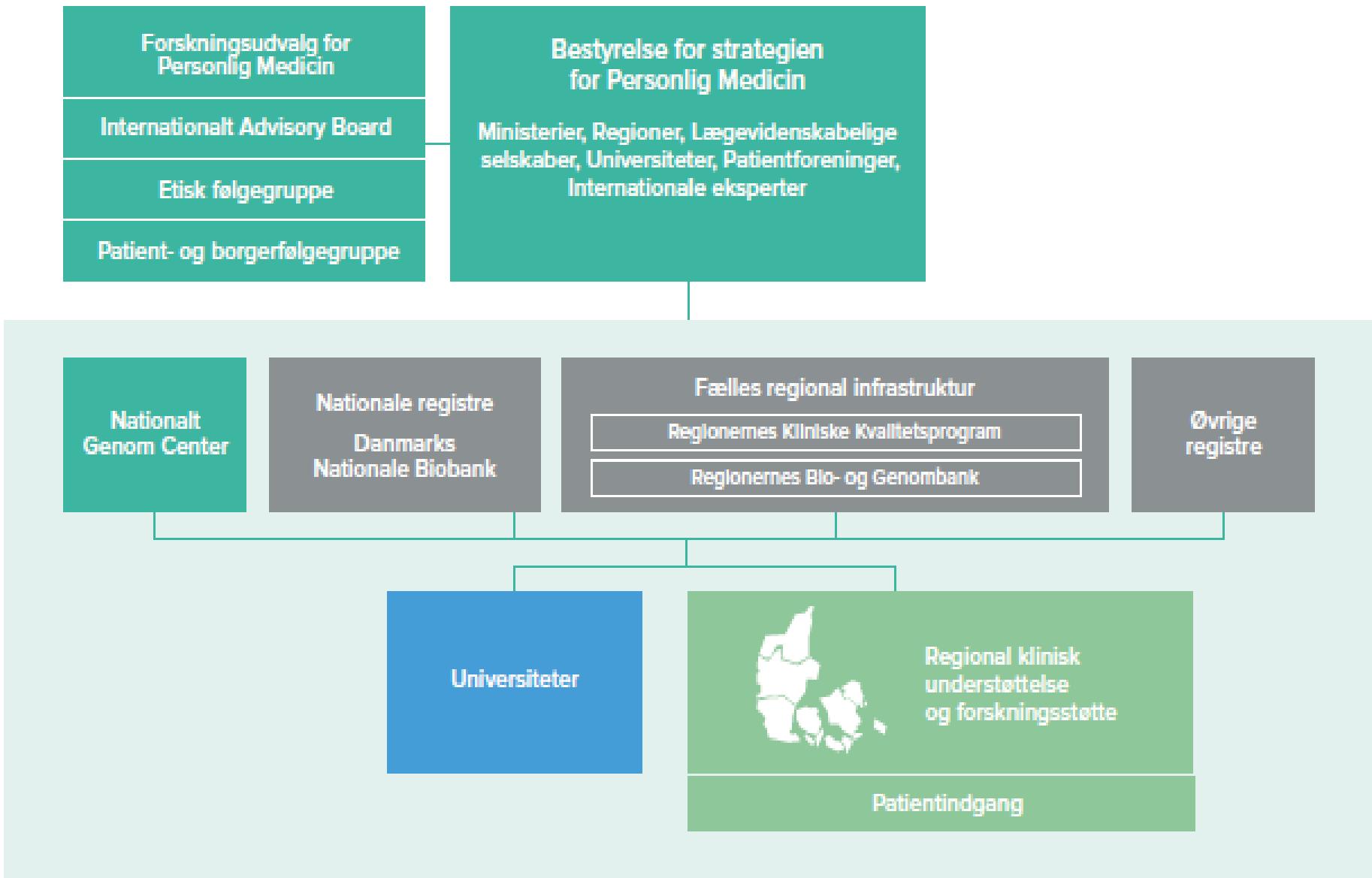
National strategy for Personalised Medicine 2017-2020

- The purpose of the strategy is to create a better healthcare system, where new technologies and knowledge is implemented to the benefit of patients
- Overall, the strategy focuses on establishing organisational and technological infrastructure foundation for research and development
- Special focus on
 - Patients – not healthy citizens
 - Genetics – other technologies can be included later
 - Cooperation between healthcare and research



FIGUR 3

Governancestruktur for national strategi for Personlig Medicin



Én fælles og sikker indgang til sundhedsdata!

*Realisering af
potentialet for
personlig medicin!*

Regionale
centre for
datastøtte

Patienten får tilbudt
individualiseret
optimal behandling

All sundhedsdata
tilgængeligt ét sted

Interre-
gionalt
BilledIndeks

Individdata
forbrug/
adfærd

Nationale registre

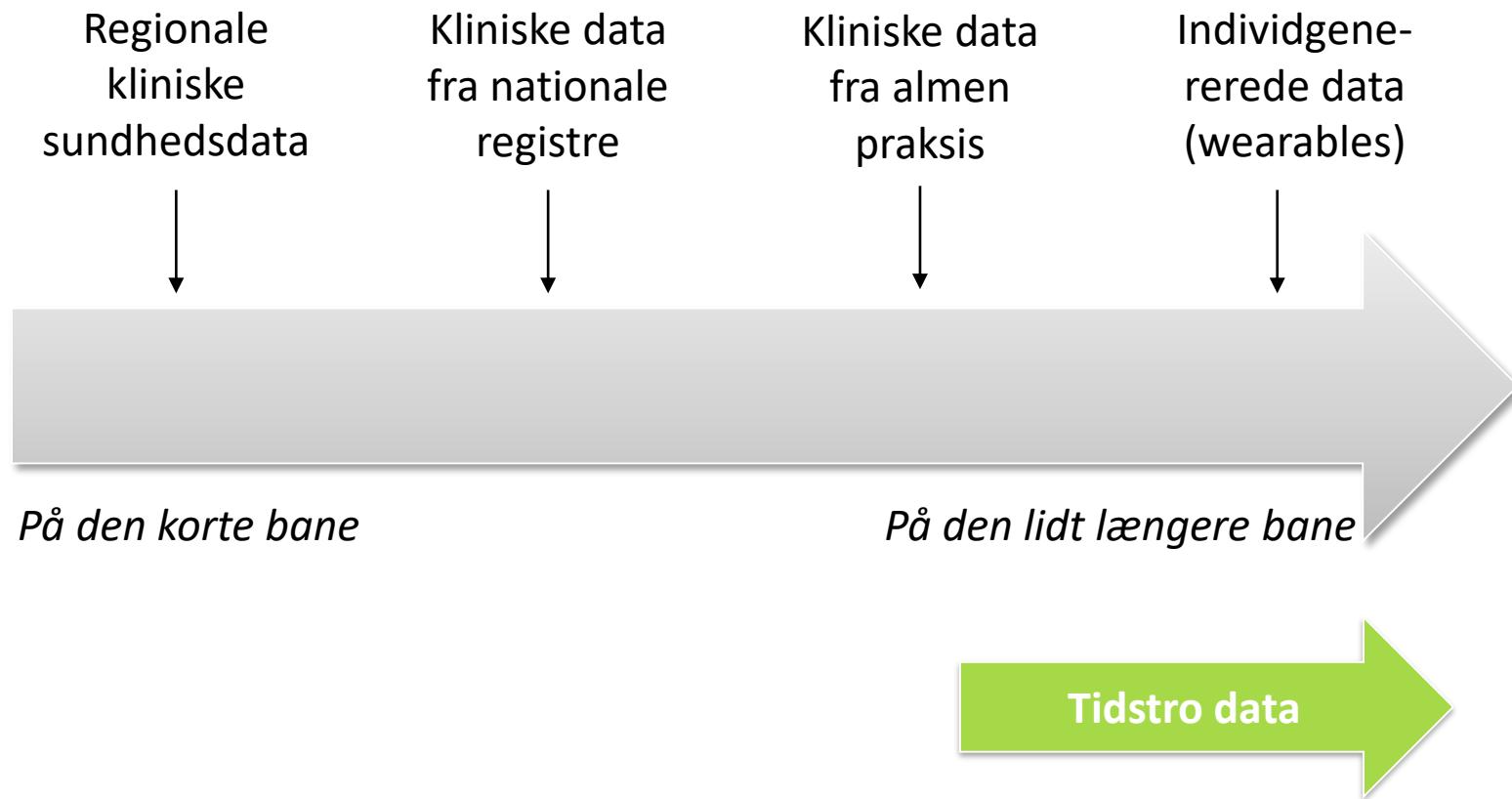
Biobanker med blod og
vævsprøver

Data fra almen praksis
og kommunerne

Kliniske data: RKKP, EPJ mv.

Patientrapporterede data

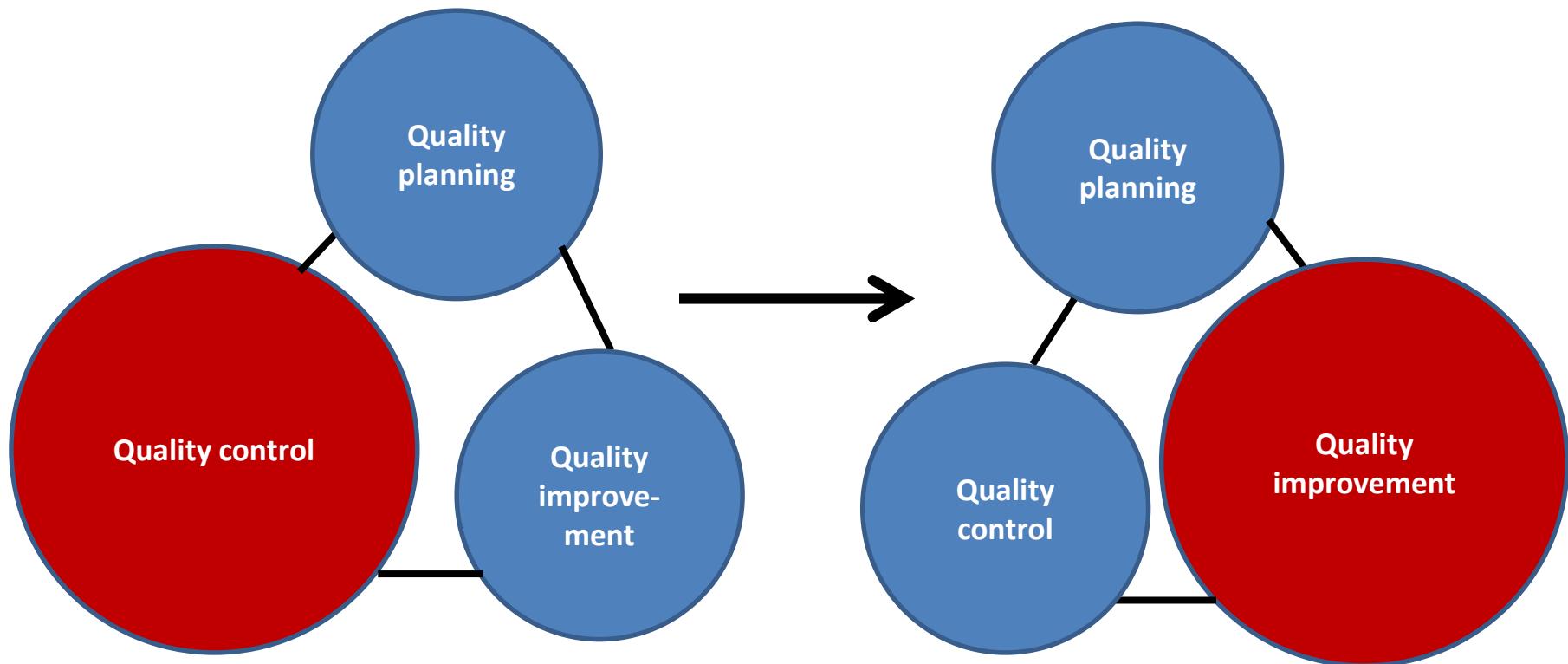
Vi starter i egen baghave! Etablering af ”skyen” har et kontinuum

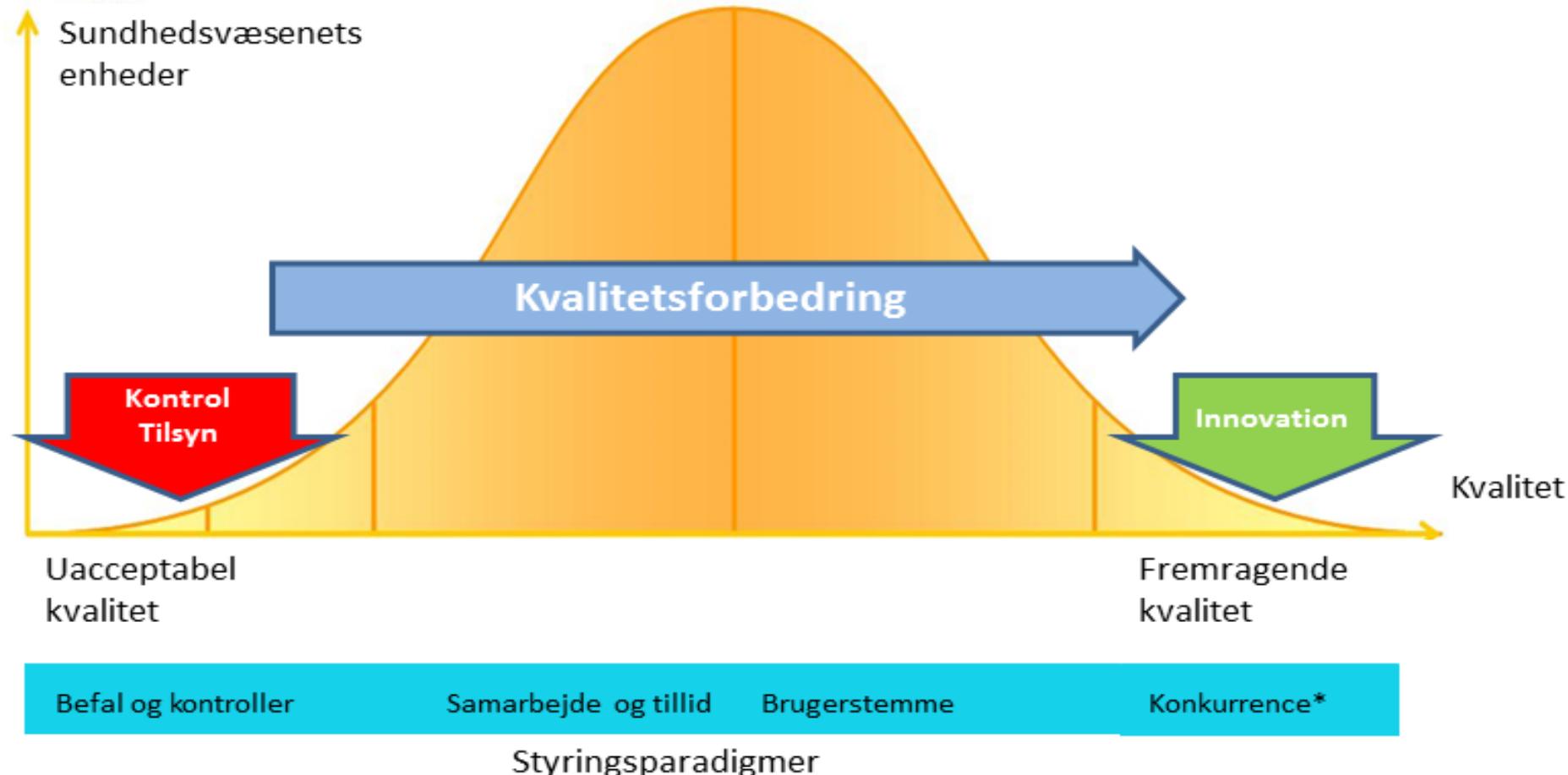


The National Quality Program

The National Quality Program

From quality control to quality improvement



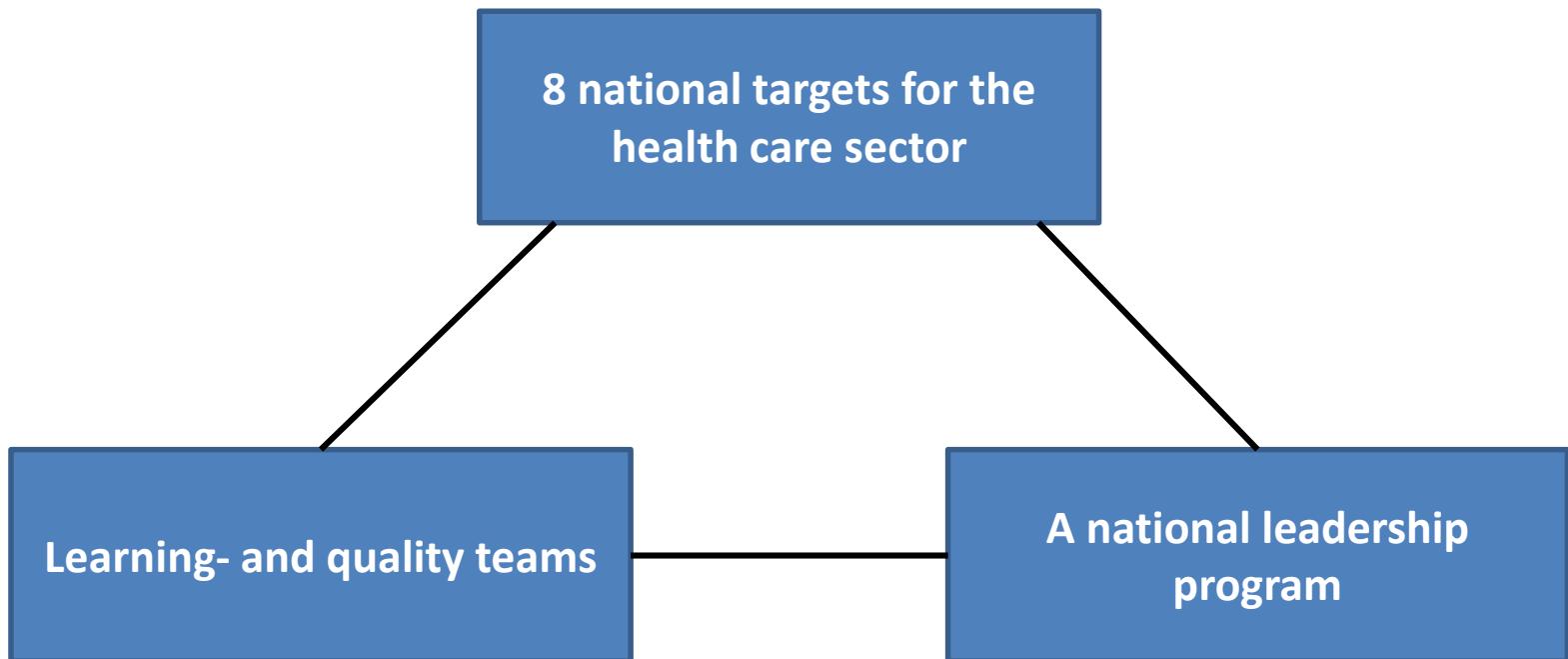


* Konkurrenceparadigmet kan have relevans, når det bruges til at identificere spydspidserne for at andre kan lære af dem, se afsnit om benchmarking, side xx

A dynamic, patient and clinical oriented approach

- At the core of the new quality program is an ambition to continuously raise the quality of health care
- It demands that we:
 - Implement the best clinical practice quickly
 - Get better at learning from one another across hospitals and regions
 - Work systematically with real time data to monitor whether we are delivering the best treatment for all of our patients.
 - Have leaders that can drive improvement and deliver consistent follow-up on the results achieved

Key elements in the new quality program



NATIONALE MÅL : BEDRE KVALITET, SAMMENHÆNG OG GEOGRAFISK LIGHED I SUNDHEDSVÆSENET



INDIKATORER

BELÆGNING AKUTTE GENINDLÆGGEL- SER INDEN FOR 30 DAGE VENTETID TIL GENOPTRÆNING SOMATISK FÆRDIGBEHAND- LINGSDAGE PÅ SYGEHUSE AJOURFØRTE MEDICIN- OPLYSNINGER (PRAKTISERENDE LÆGE)	AKUTTE INDLÆGGELSER PR. KOL/ DIABETES-PATIENT FOREBYGGELIGE INDLÆGGELSER BLANDT ÆLDRE	5 ÅRS OVERLEVELSE EFTER KRÆFT HJERTE- DØDELIGHED SYGEHUS- ERHVERVEDE INFektIONER OVERLEVELSE VED UVENTET HJERTESTOP	OPFYLDELSE AF KVALITETS- MÅL I DE KLINISKE KVALITETS- DATABASER INDLAGTE PATIENTER I PSYKIATRIEN, DER BÆLTEFIKSERES	VENTETID TIL PLANLAGT SYGEHUS- OPERATION OG TIL PSYKIATRIEN SOMATISKE/ PSYKIATRISKE PATIENTER UDREDT INDEN FOR 30 DAGE KRÆFTPakke- FORLØB GENNEMFØRT INDEN FOR TIDEN	PATIENT- TILFREDSHED PATIENTOPLEVET INDDRAGELSE SOMATISKE/ PSYKIATRISKE PATIENTER UDREDT INDEN FOR 30 DAGE KRÆFTPakke- FORLØB GENNEMFØRT INDEN FOR TIDEN	MIDDELLEVETID DAGLIG RYGERE IBEFOLKNINGEN	LIGGETID PR. INDLÆGGELSE PRODUKTIVITET PÅ SYGEHUSENE
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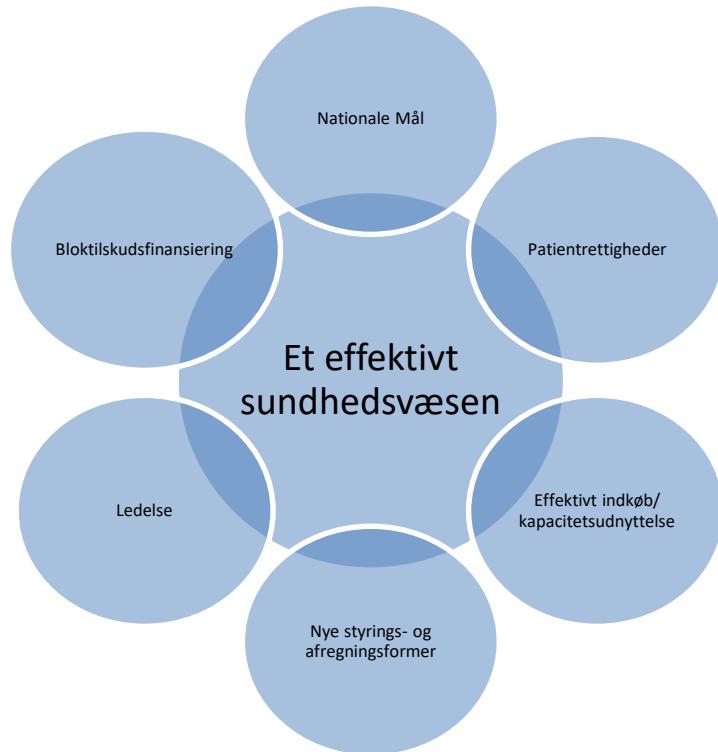
REGIONALE / KOMMUNALE LOKALE DELMÅL

INTEGRATING PATIENT COLLECTED DATA



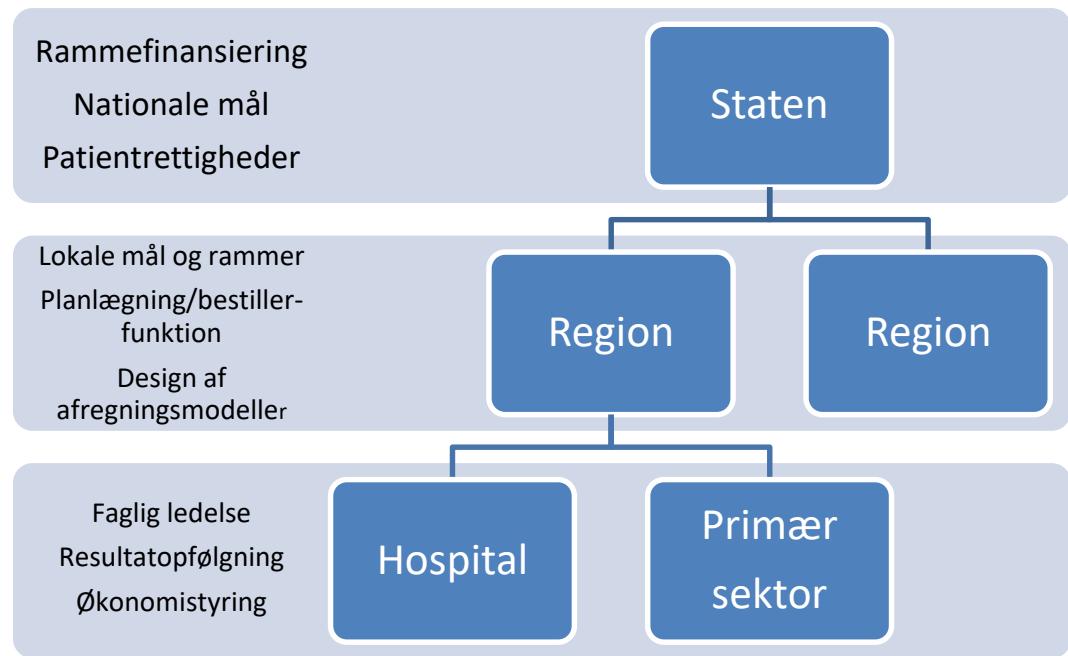
Ny styring

- Staten styring af regionerne skal ændres
- Afskaf produktivitetskrav og aktivitetspulje – skaber uhensigtsmæssige incitamenter
- Finansiering populationsbaseret og ikke afhængig af aktivitet skal understøtte udviklingen
- Styringen af regionerne baseret på nationale mål, rettigheder og aftaler om effektiviseringer, effektive indkøb mv.



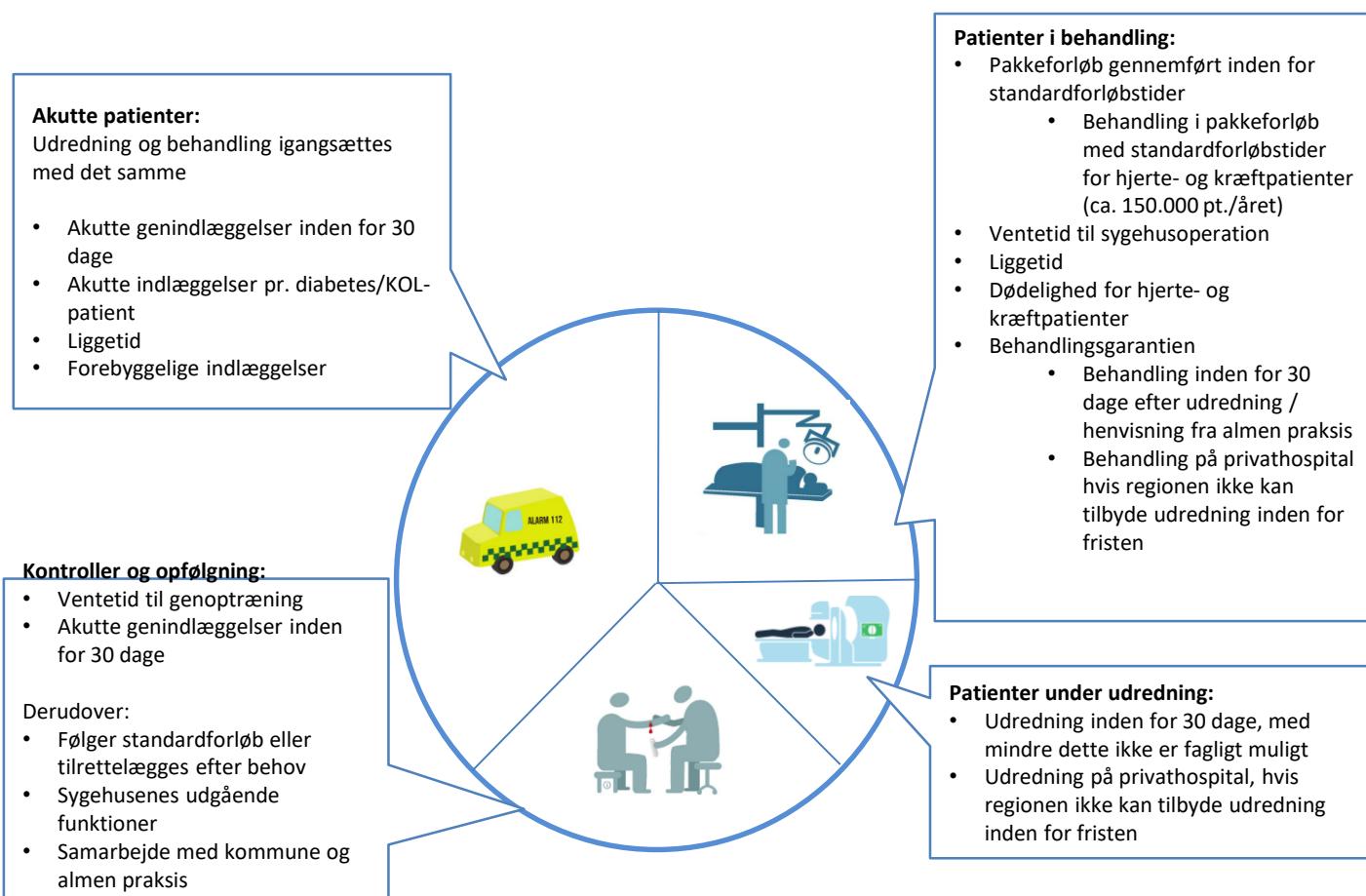
Styringsmodellen på flere niveauer

- ØA-krav handler om statens styring og finansiering af regionerne
- Værdibaseret styring vedrører regionernes styring – og handler om at styre på outcome
- Dermed ikke et alternativ til statsligt produktivitetskrav.
- Faglig ledelse og resultatopfølgning i fokus



De nationale mål

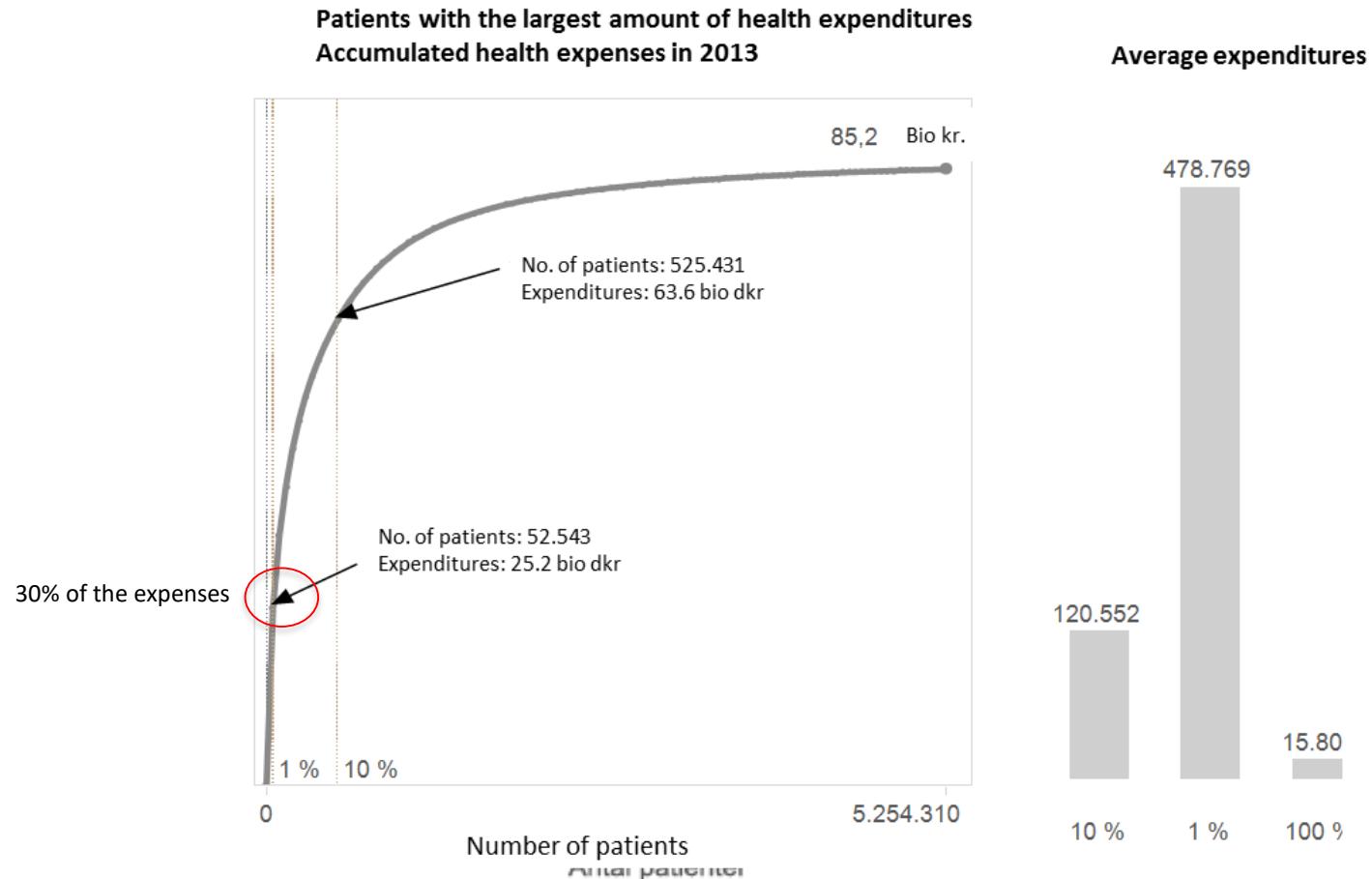
- De nationale mål favner allerede patientpopulætationen og måler også på ventetid og hurtig udredning
- Synlighed og løbende monitorering er grundlag for opfølgning



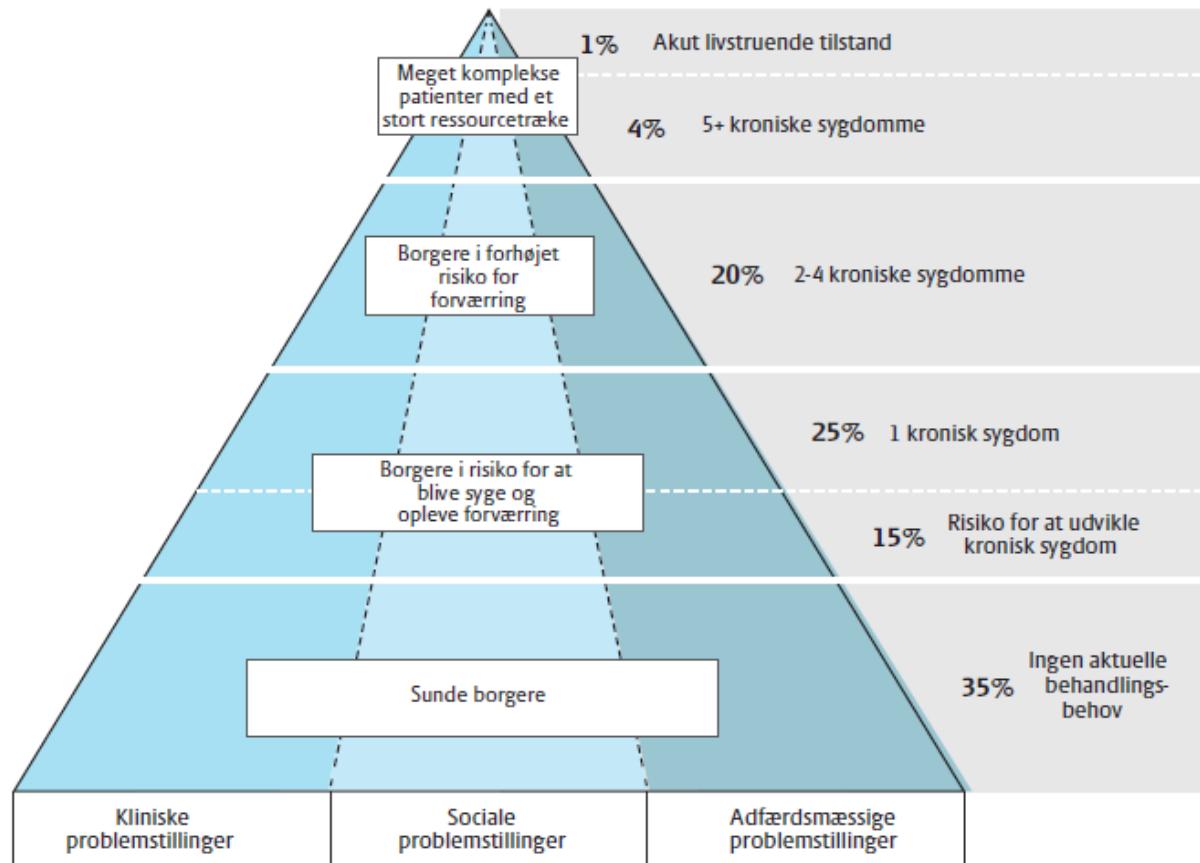
COMPLEX PATIENTS

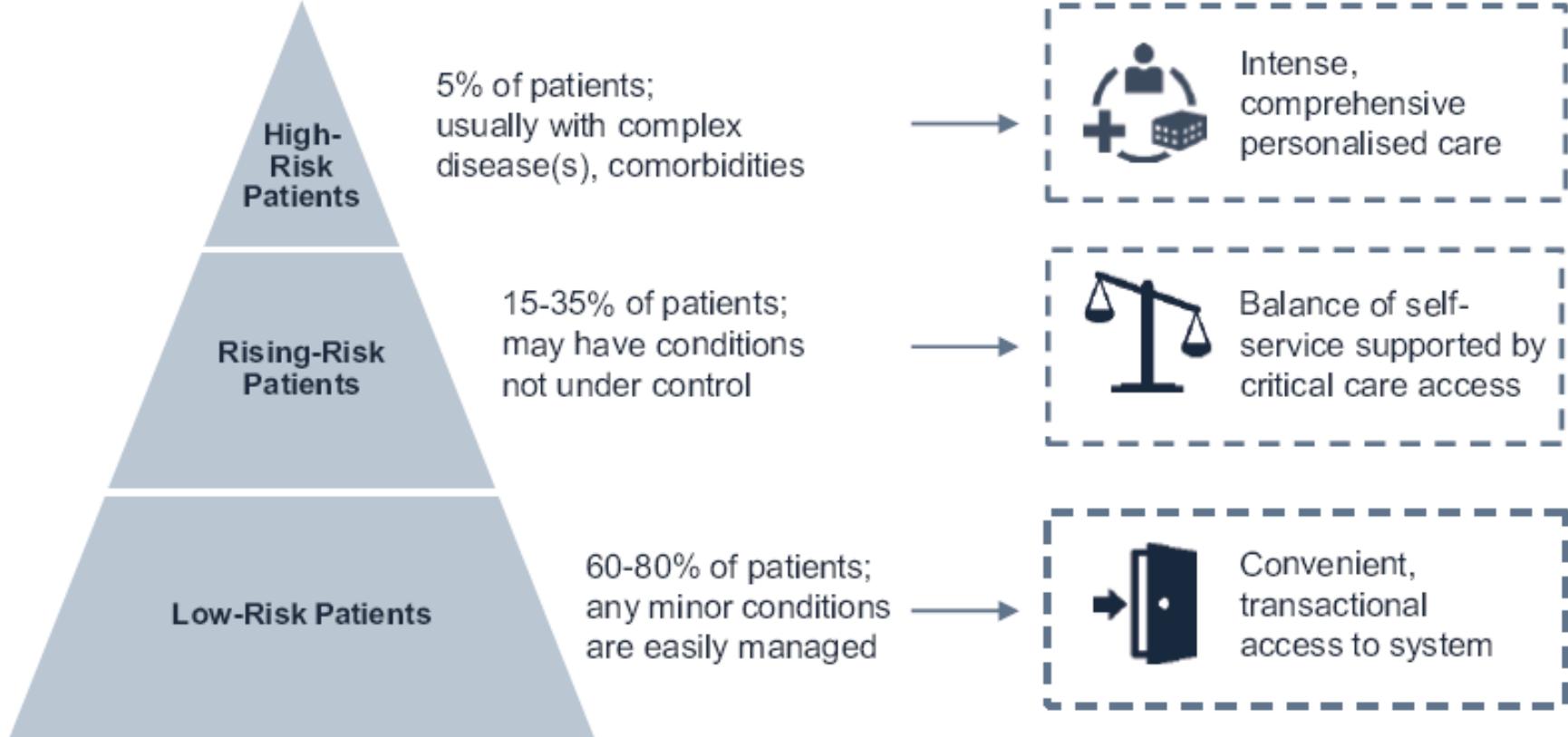


DATA PROVIDES US WITH FACTS



Populationstænkning og tilpassede indsatser





Source: Advisory Board interviews and analysis.

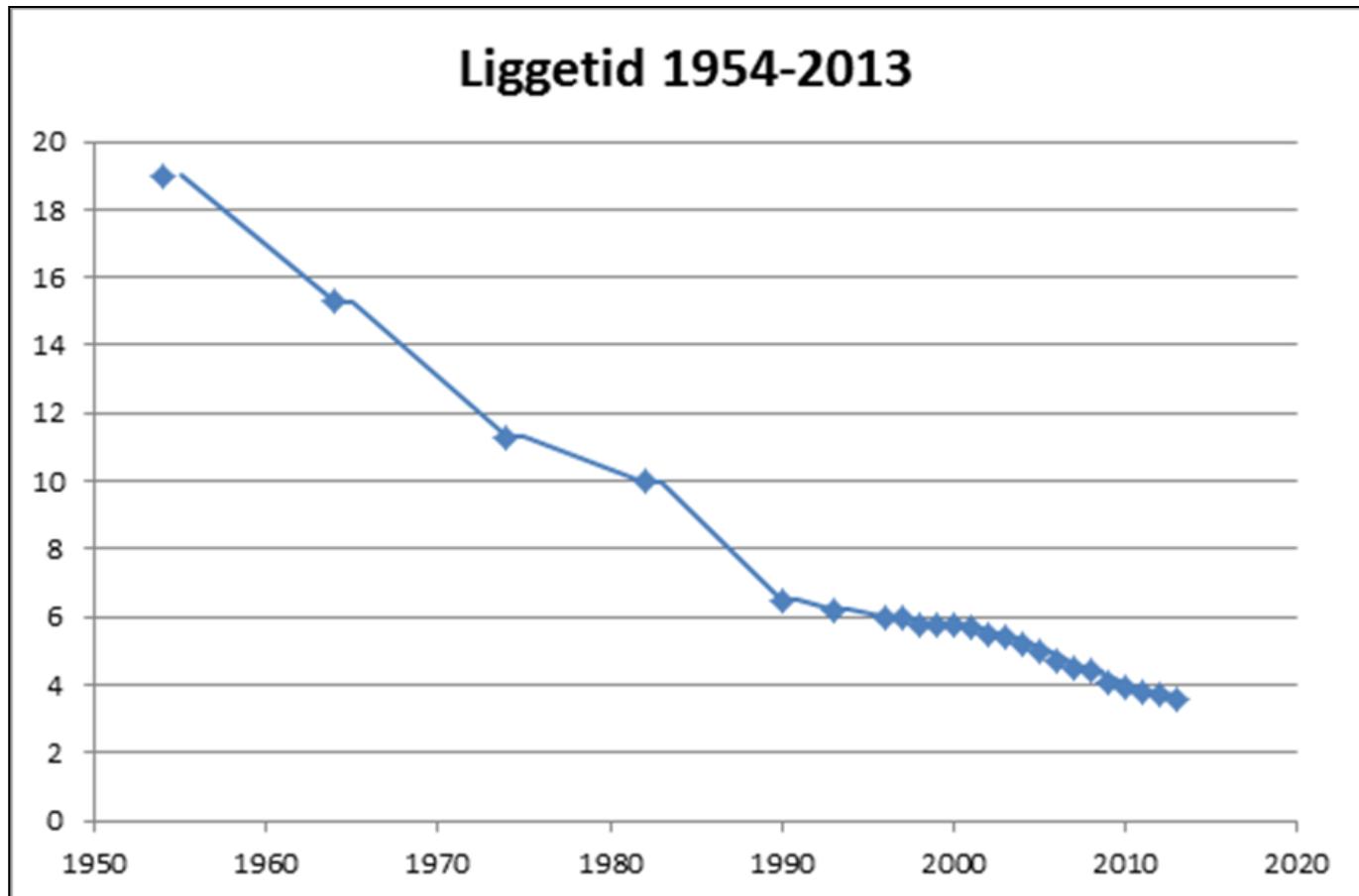
Models for organizing, collaboration and integration

Hospital Care Integration Organisational Model Types

				
Model Structure	<i>Regional Collaborative</i>	<i>Mergers & Acquisitions</i>	<i>Partial Risk-Sharing Agreements</i>	<i>Full Population Health Manager</i>
Advantages	<ul style="list-style-type: none">Optional affiliation of geographically-proximal organisationsMinimises investment, risks	<ul style="list-style-type: none">Single ownership of two or more organisationsFormalises governance, control	<ul style="list-style-type: none">Contracted cooperation of independent entities for shared outcomesOffsets losses through shared gains	<ul style="list-style-type: none">Single or joint entity assumes full risk for population healthUnifies goal across institution or partnership
Drawbacks	<ul style="list-style-type: none">Lacks strong mechanisms for partner accountability	<ul style="list-style-type: none">Requires significant capital, operational investment	<ul style="list-style-type: none">Limits ability to drive more significant system change	<ul style="list-style-type: none">Hinges success on patient and provider-behaviour

**NEW HOSPITAL STRUCTURE AND
BUILDINGS**
**- AND A NEW ORGANISATION OF THE
HEALTH CARE SYSTEM...**

The historic time for length of stay 1954-2013



Danish Regions

Before, now and in the future

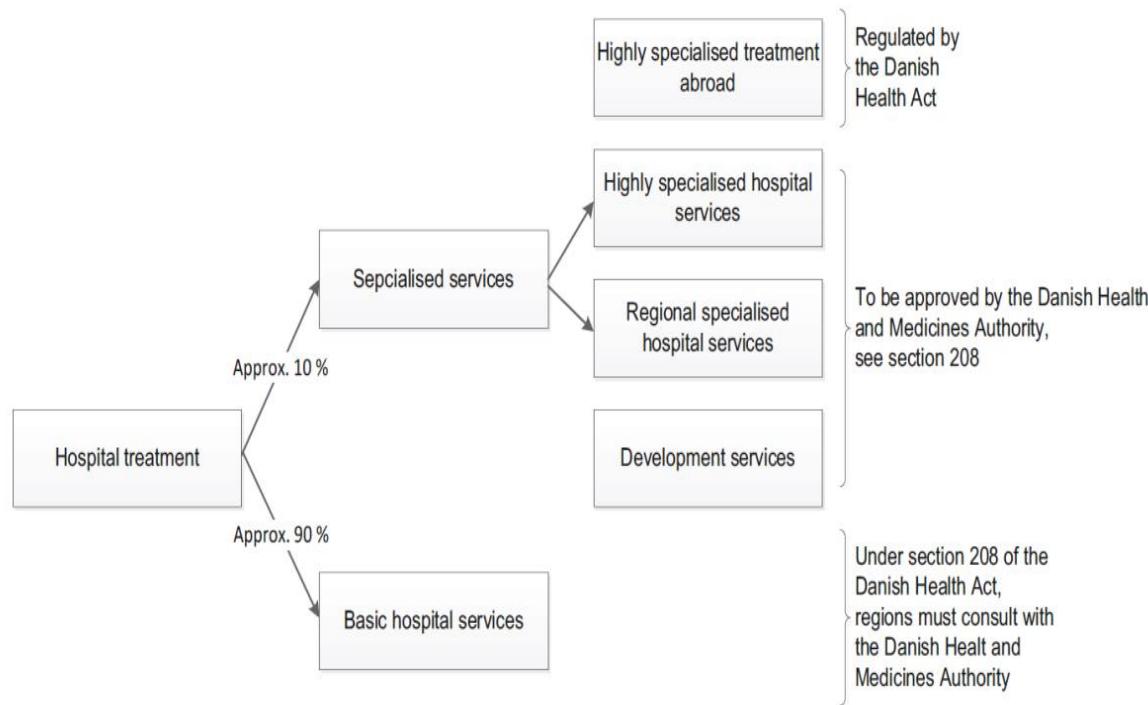
	1980	2000	2020*
Discharges	916.000	1.130.000	1.500.000
Outpatient treatments	3.295.000	4.405.000	10.700.000
Number of beds	42.500	20.592	13.000
Admission days	9.045.000	7.152.000	3.400.000
Organizational units	128	78	20
Average length of stay	10	6	2,7

* : Expected

Instruments to specialise and centralise the hospitals

- National plan for specialized hospital services
- Regional mandate to establish or close *general* hospital services
- Economic incentives

Figure 1. Overview of concepts used in planning of specialised hospital services



Changing the Danish hospital landscape

- From 40 acute hospitals to around 20 acute hospitals with 24 hour acute reception.
- Massive modernization of our hospitals



Danish Regions



A COHERENT HEALTH SYSTEM

Danish Regions

Effects of the new and modernized 20 hospitals

- Better planned patient pathways,
- Increased patient safety
- More effective workflows through using new technology and health innovation
- Emergency and prehospital care of higher quality
- Fewer transports of patients, staff and goods at the specific hospital and between hospitals
- Rationalization of staff on duty 24 hours, laboratory functions, X-ray etc.
- Better use of equipment, scanners, labs and X-ray apparatus
- Merging of administrative units and technical functions
- Expects more cooperation with GPs and municipalities



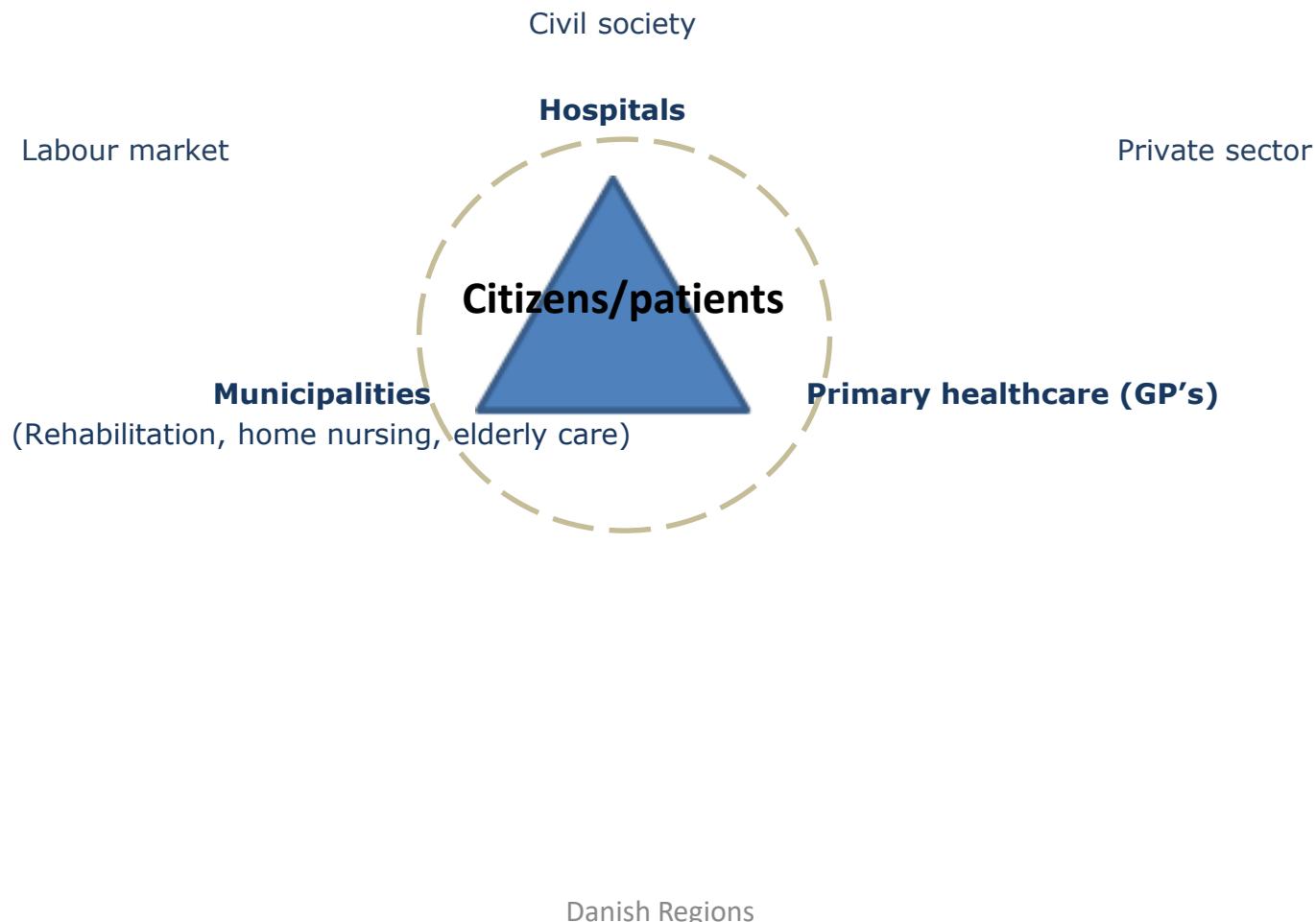
Needed is an intensified corporation between municipalities, general pract., patient/citizen and hospitals

- Healthcare agreements (regions and municipalities)
- More counseling from the hospitals
- Strengthening of seamless patient care
- Person centered Healthcare System
- Inclusion of the patients/citizens own resources as coproducer of health
- Interaction with the civil society



Danish Regions

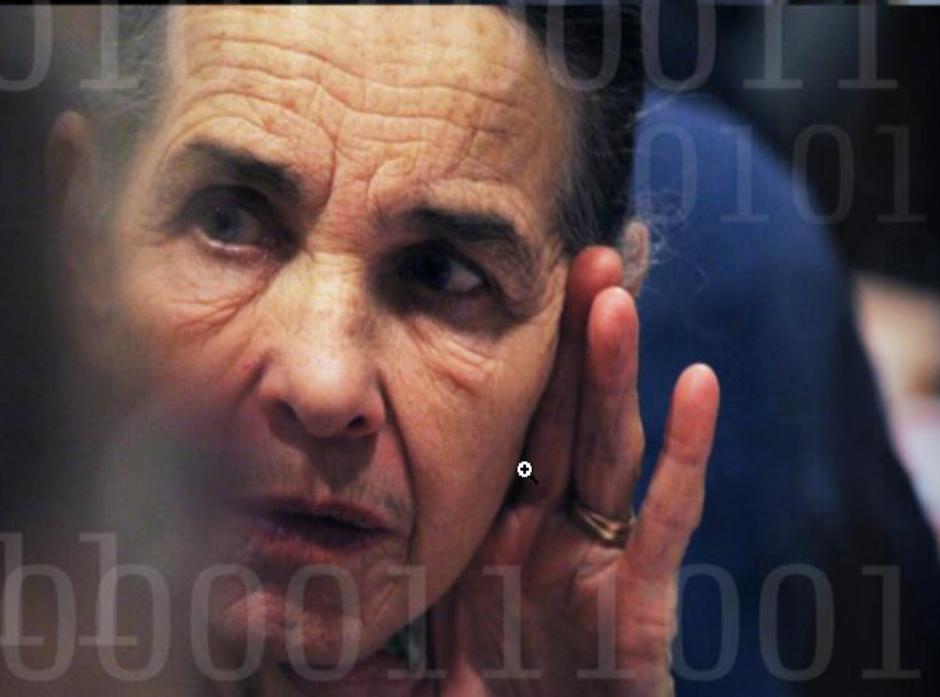
A coherent healthcare system

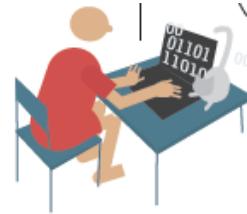


Our vision: Stay at home!

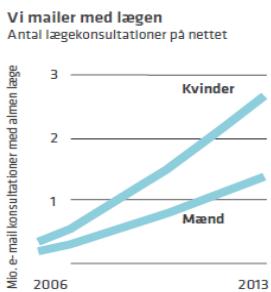
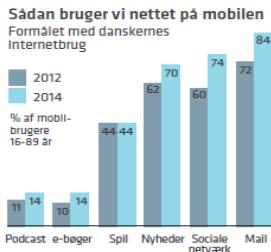
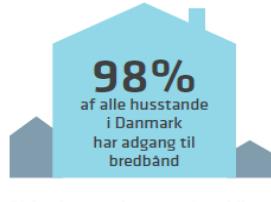


Danish Regions





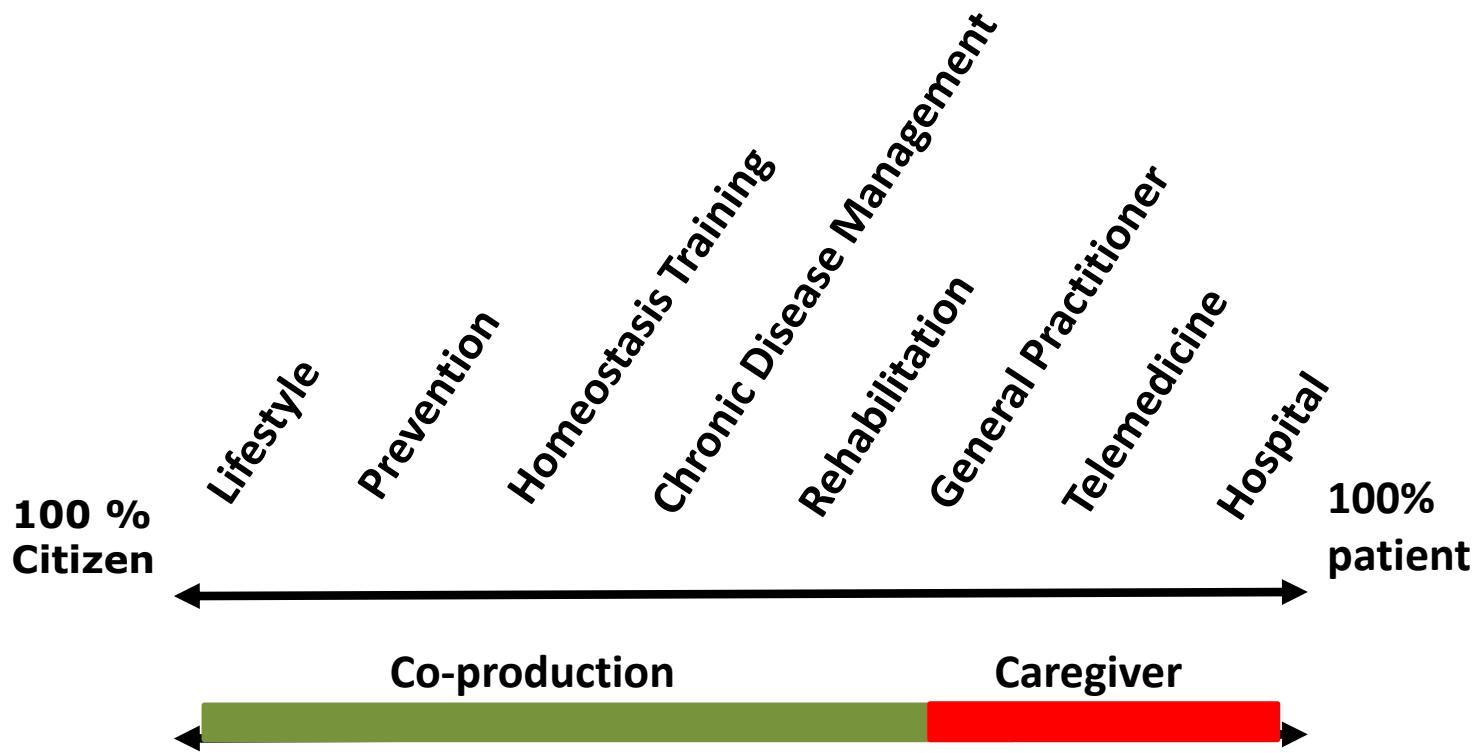
THE CITIZENS' USE OF HEALTH DATA



Outpatient Strategy

- Diagnostics and treatment take place in the patient's home
- The GP's are responsible for treatment of the big chronich diseases
- Strengthen the patient's empowerment
- "Same day surgery" – if possible
- Hospitals attitude change: outgoing -> outreach

The Digital Continuum of Health



The Digital Continuum of Health (DHC), which are the basis for the InSilico method: I "Coproduction of Health" and an extended cooperation model in which Citizen, the Health Care system and other relevant actors enter into eco-systems (see figure 2)

Empowering patients calls for cultural changes



Health in your pocket!

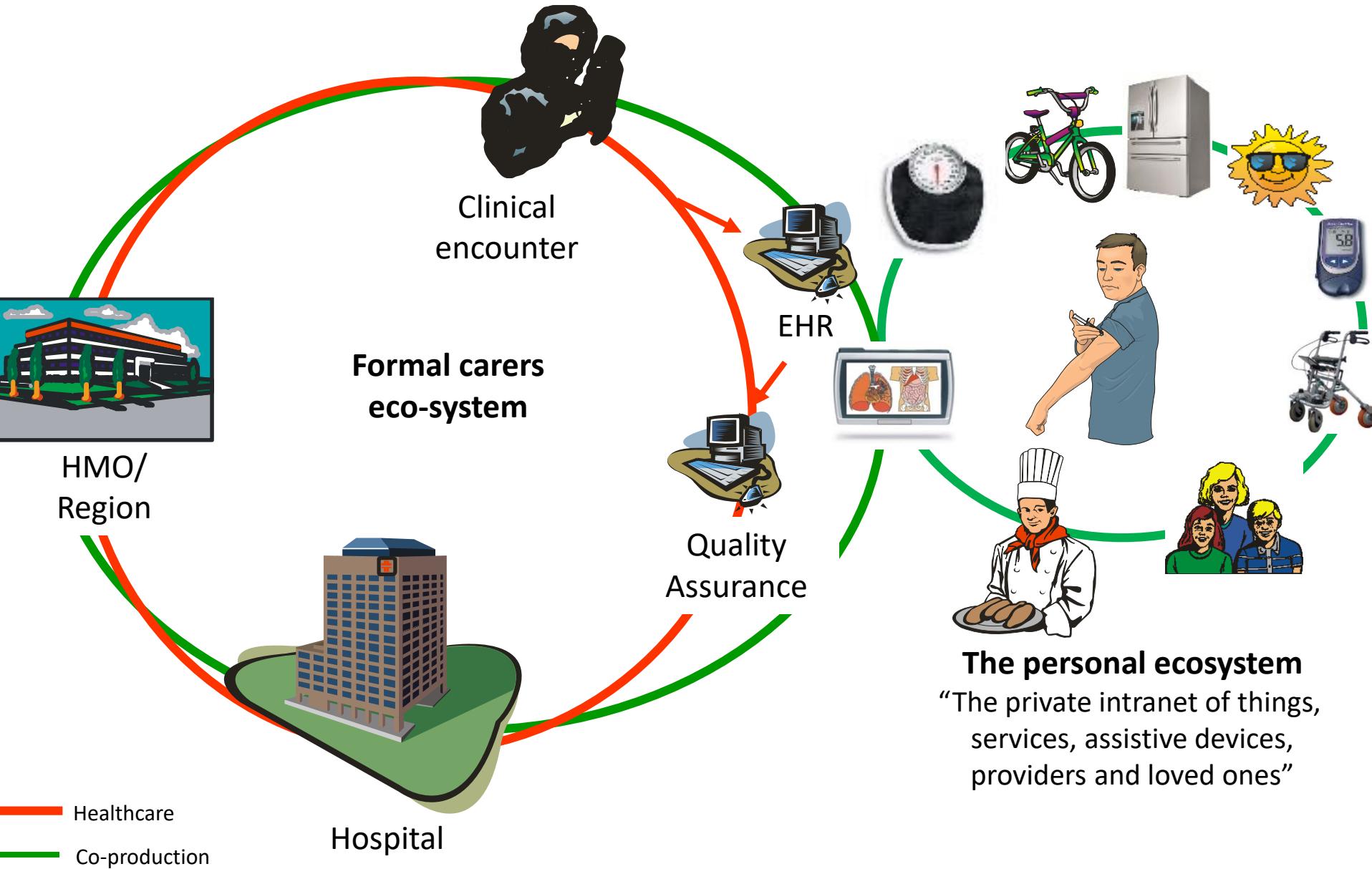
sundhed.dk

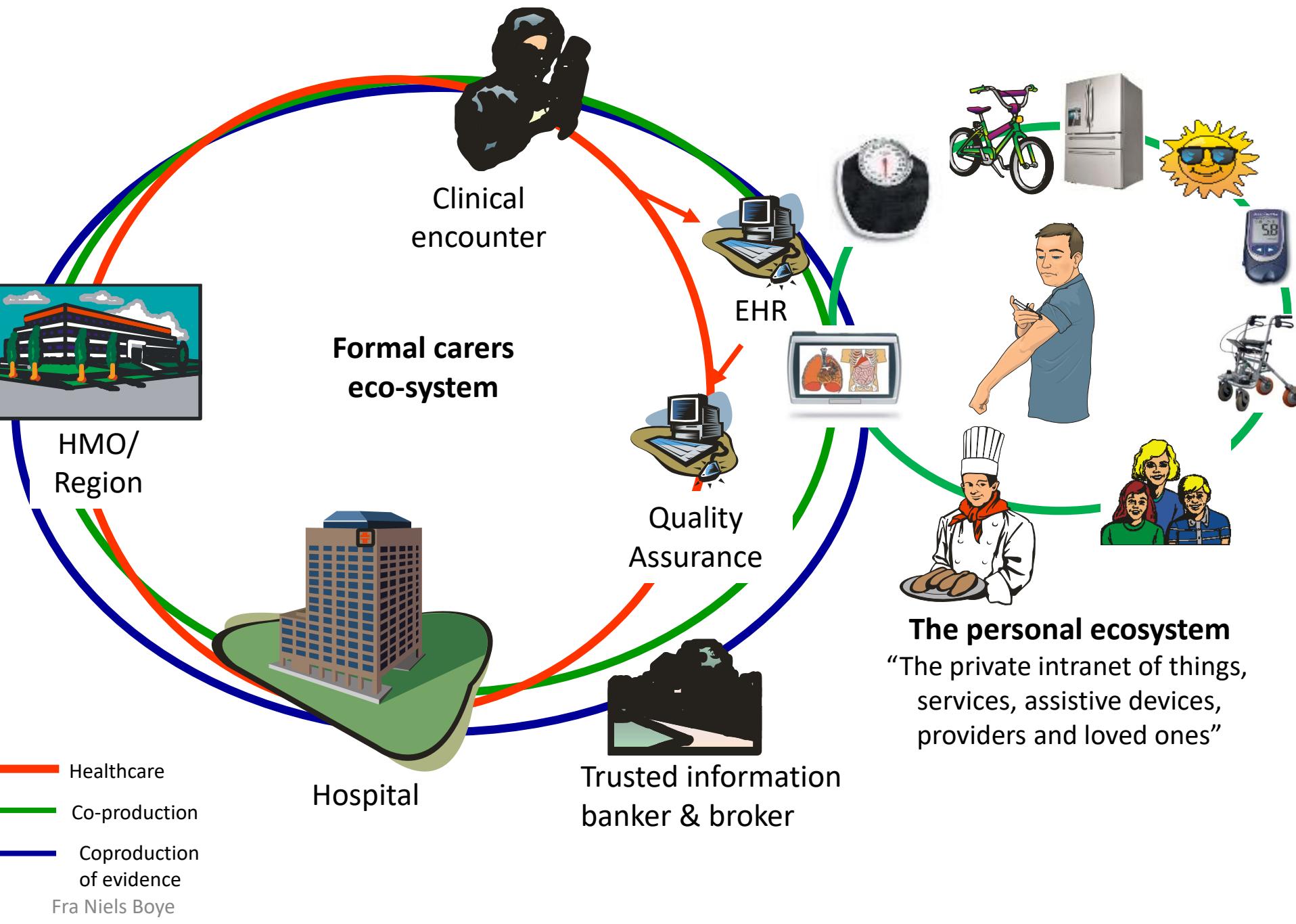
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Danish Regions



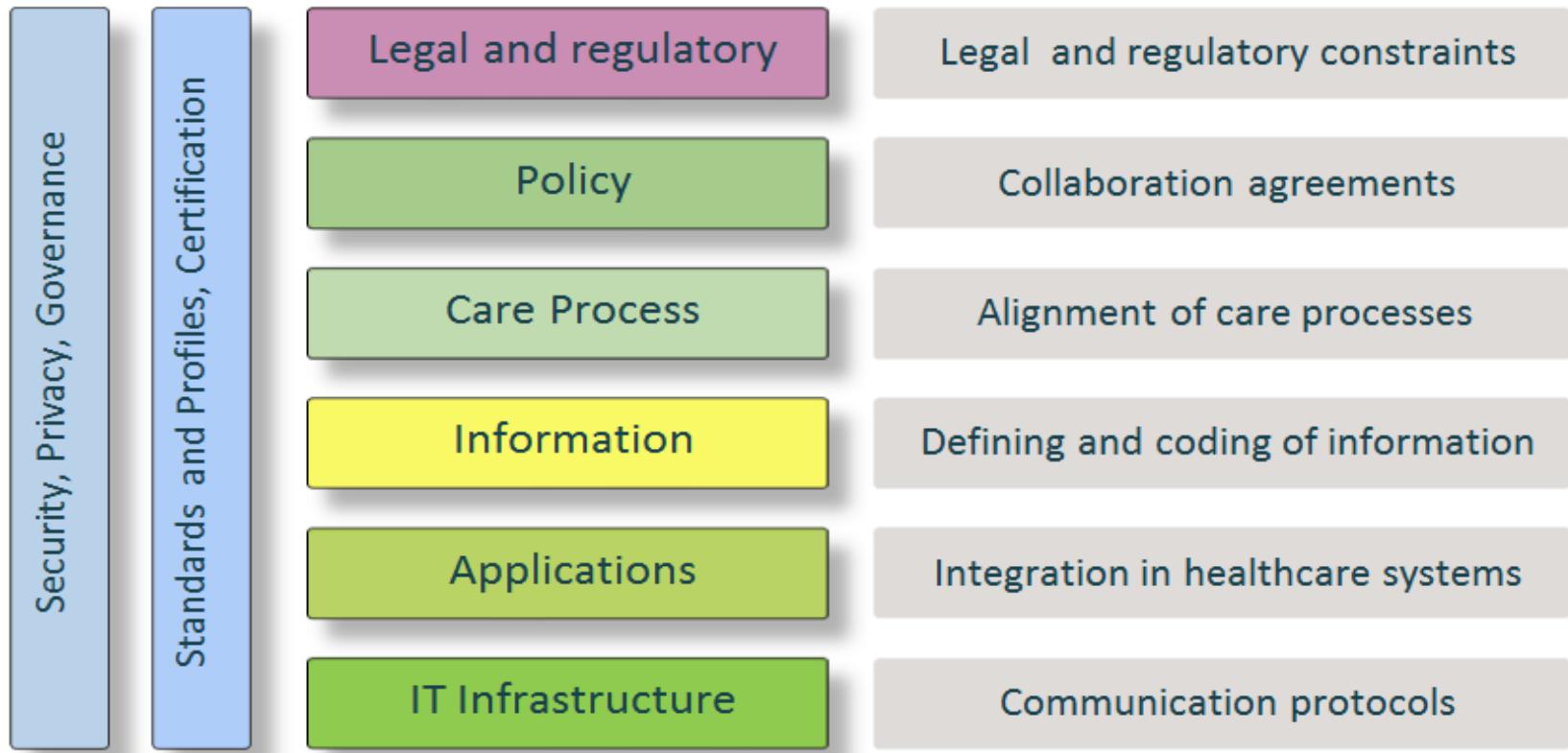




TELEMEDICATION: FROM REGIONAL PILOT TO NATIONAL PROJECT



Interoperability Framework



Ambitions for telemedicin

- Person/citizen centeret:
 - Easy to deliver data
 - Seemless admit. to own data
 - Patientempowerment
 - Easy collaboration with healthprov.
- Proactiv use from healthprofs.:
 - Easy usable
 - Seemless admit. to citizen data
 - Comm. and intervention on demand
 - Reuse (2. use) of data
- Collaboration crossbordeer:
 - Standardization
 - Data available and a jour
 - Coordinated interaction between prov.
 - Better follow up

*...organization is the
biggest challenge!*





**Thank you for your
attention**

Questions ?

www.regioner.dk

www.hospitalconstruction.com