

*Health systems are straining under the pressure of having **to do more with less***



Increasing need	Increasing spend
<p>+63% cancer incidence from 2018 to 2040</p>	<p>+51.2% increase in healthcare spend from 2015-2030*</p>
<p>5b people with no access to healthcare in 2030</p>	<p>1/3 <small>* In OECD member countries</small> of spend increase driven by aging population</p>

Sources –gco.iarc.fr/tomorrow/home
who.int/news-room/detail/23-09-2019-who-welcomes-landmark-un-declaration-on-universal-health-coverage
eiu.com (for GDP data) , oecd.org (for % share of healthcare spending in GDP)

Christian Kersten, MD PhD, Oncologist

Medical Manager Roche Norway
Senior Researcher Sørlandet Hospital



Why am I invited ?

Pioneering Solutions Together

Examples of how we are collaborating to deploy PHC ecosystems



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As a Medical Manager at Roche, I have insight to and worked with

- International public private IT partnerships
 - Croatia
 - Australia
 - Taiwan
- National public private IT partnerships
 - IMPRESS - Norway
 - several IT companies

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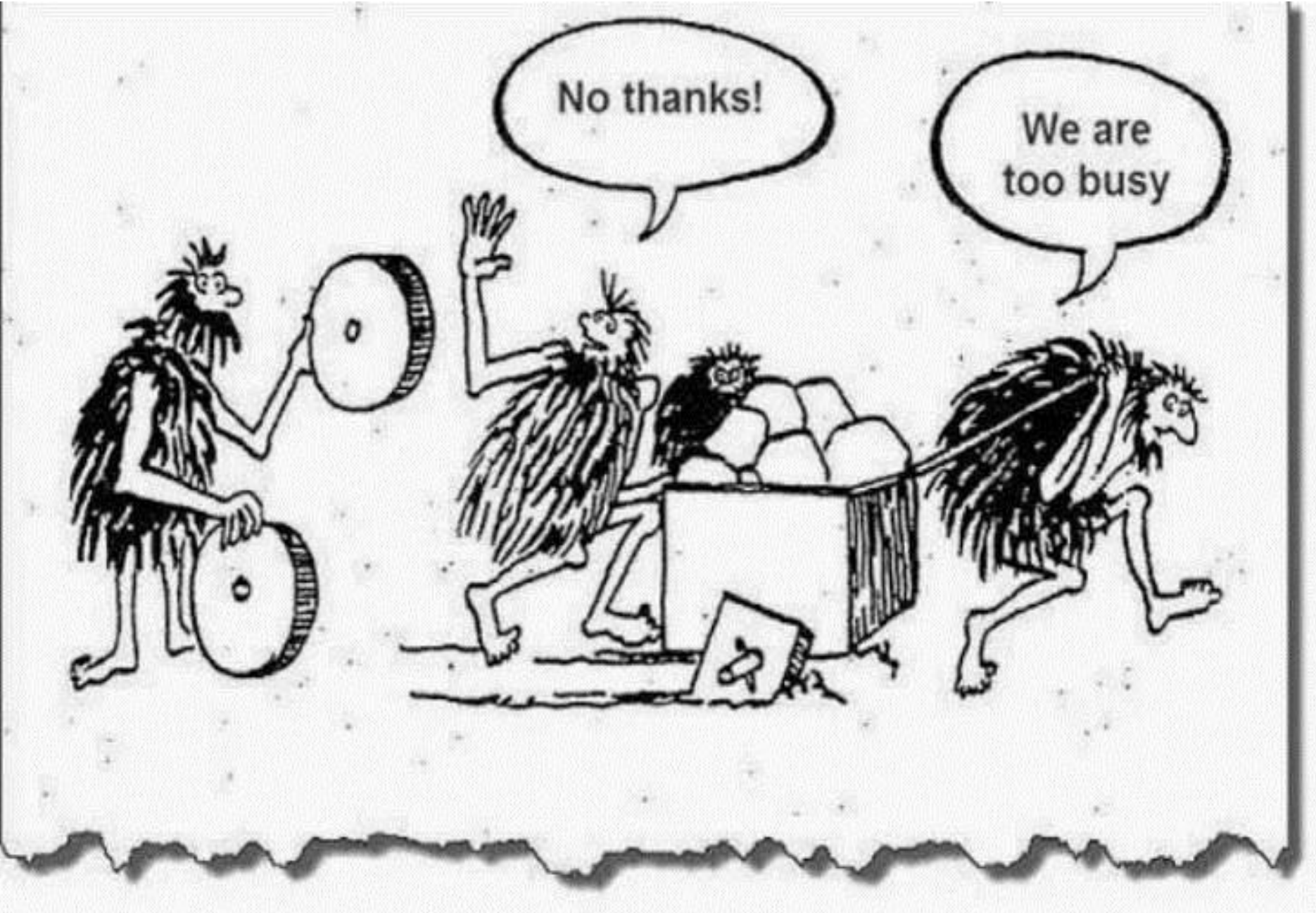
- experienced a decrease in clinical effectiveness also due to inefficient IT systems that were devoped top-down without involvement from clinicians.

- tried and failed to develop EHR with categorical longitudinal data
 - within DIPS
 - outside of DIPS together with Innovation Norway



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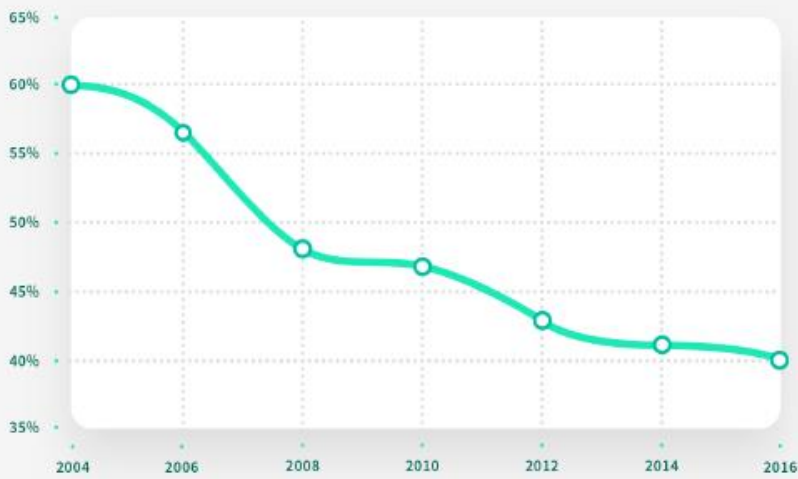




Sykehus

Big Pharma

% Pasientrettet tid for sykehusleger

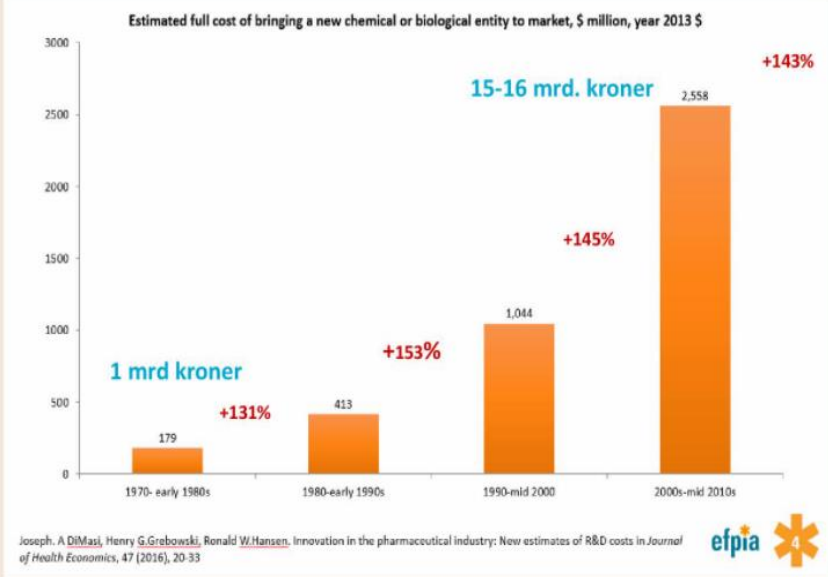


Referanse: Legeforskningsinstituttet

Det koster stadig mer å utvikle nye legemidler
- Det blir stadig vanskeligere å finne frem til nye medisiner som kan toppe den helsegevinsten vi allerede har



Legemiddel-firma



Joseph A DiMasi, Henry G.Grebowski, Ronald W.Hansen, Innovation in the pharmaceutical industry: New estimates of R&D costs in *Journal of Health Economics*, 47 (2016), 20-33



I dag:
22 mrd. kroner?

Deloitte
12 firma:
kr. 18 mrd. i 2019

R&D returns for our original cohort of 12 large cap biopharma companies have steadily declined since 2010



My personal view on the potential future of personalized medicine

Fear

clinical

germline

microbiome

tumor

microenvironment

phase III data >> EMA >> HTA

Random sampling of data
Different clinical decisions
Fragmentation of public health care system

Vision

P/PROM's

omics

IT

pharma

HTA

«Democratizing health care»/
Reality Based Medicine



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Public private partnership
Data protection regulation

«Democratizing health care»/
Reality Based Medicine



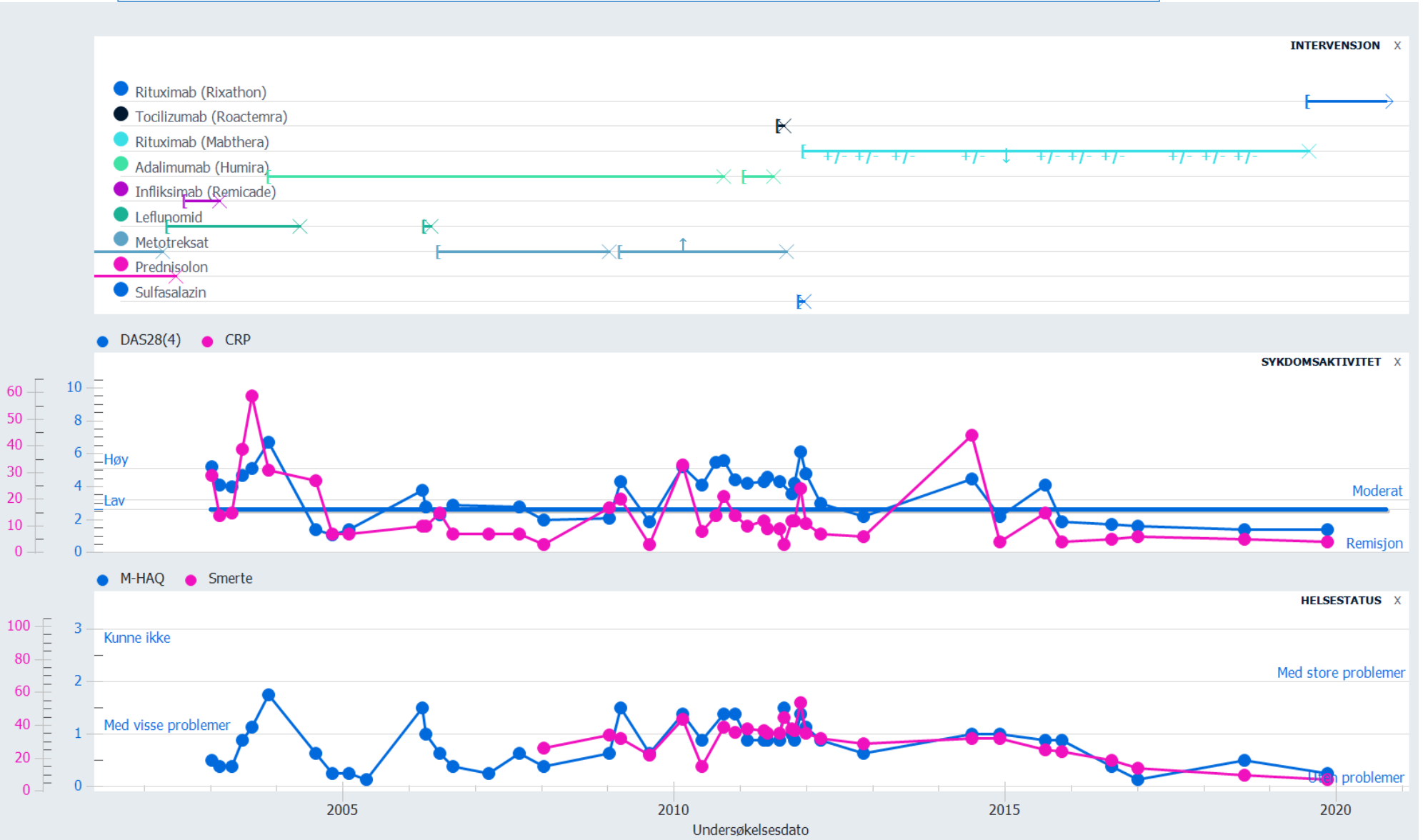
Trust



Public Private Partnership means **developing together and sharing the fruits.**

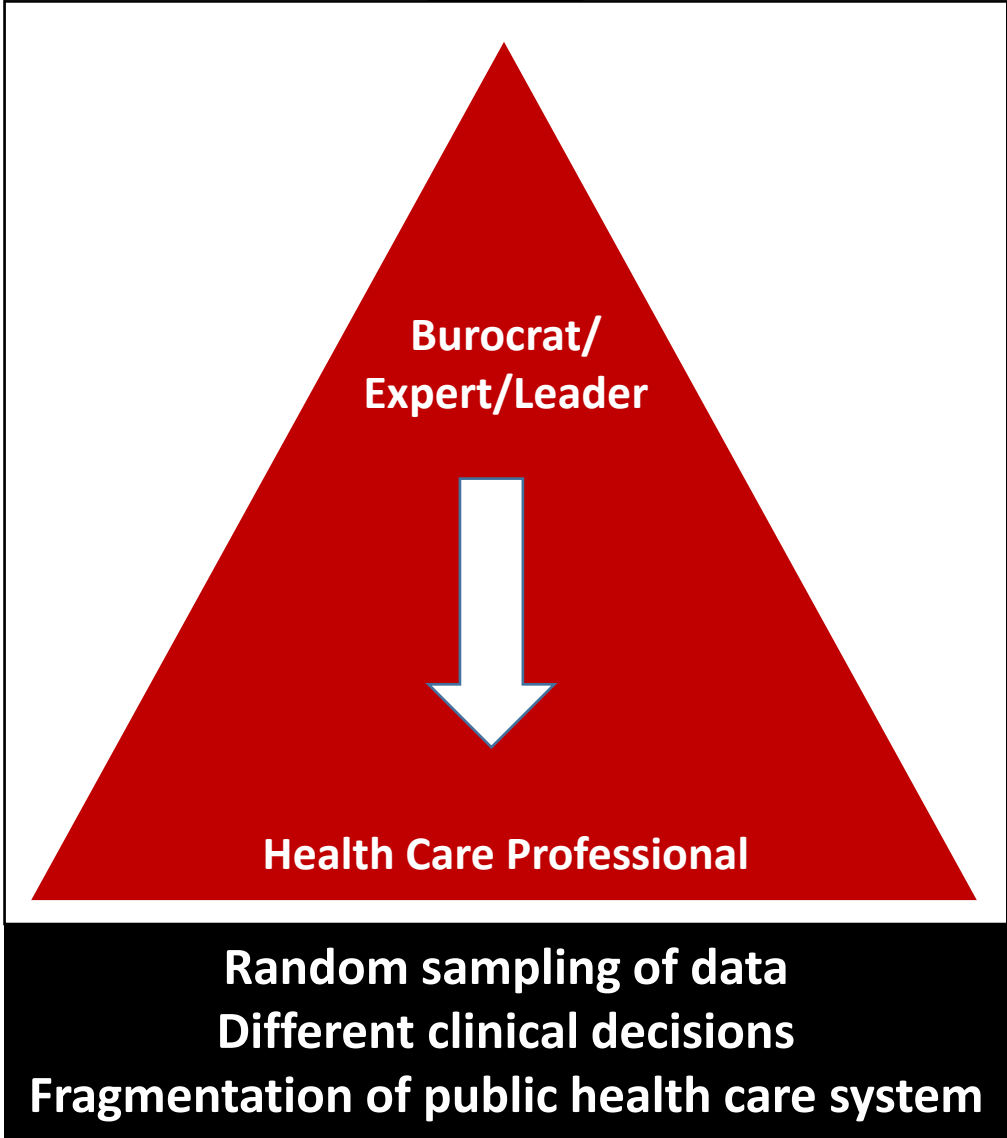
Eksempel på en (vellykket) Private Public Partnership - Slide from DiaGraphIT® -

- Rituximab (Rixathon)
- ⊖ SYKDOMSAKTIVITET
 - ⊖ DAS
 - DAS28(4)
 - DAS28(3)
 - DAS28-CRP(4)
 - DAS28-CRP(3)
 - Øm28
 - Øm32
 - Hov28
 - Hov32
 - SR
 - CRP
 - Pasient total
 - Us. total
 - CDAI
 - Ømme ledd
 - Hovne ledd
 - BASDAI
 - ASDAS-CRP
 - ASDAS-SR
 - Selvrappr. leddsmerte
- ⊖ HELSESTATUS
 - M-HAQ
 - MDHAQ (FN)
 - MDHAQ (PS)
 - BASFI
 - BAS-G
 - Smerte
 - Leddsmerte
 - Ryggsmerter
 - Ryggsmerter (natt)
 - Tretthet
 - Morgenstivhet
 - Revmatisk aktivitet
 - RAPID3 (0-30)
 - RAPID3 (0-10)
 - Smertekatastrofering
- ⊕ LIVSKVALITET
- ⊕ ORGANSKADE

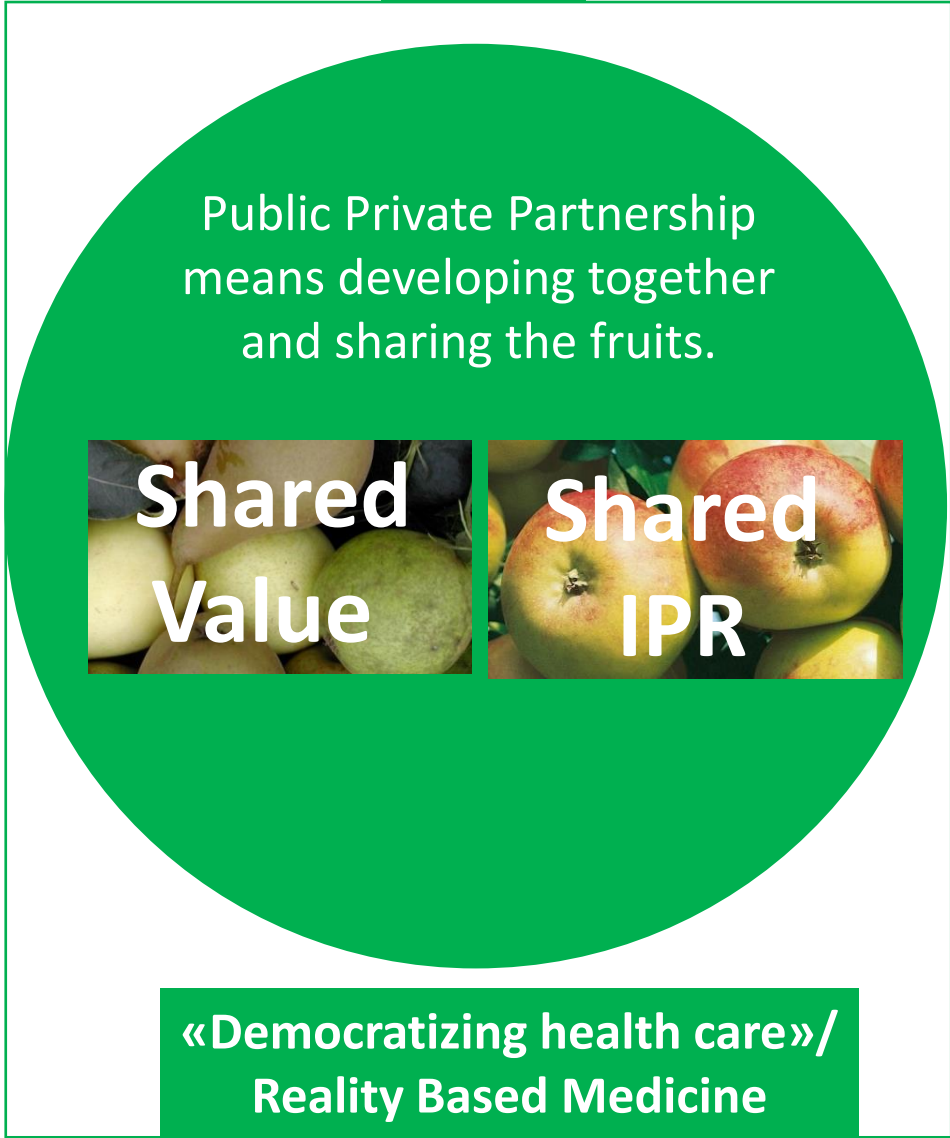


Models for Development of Electronic Health Records

Fear



Vision



Trust



CO



11 Roche PHC ecosystem programmes are collaborating with health systems around the world to deliver better outcomes for patients

**I am looking forward to discuss.
Thank you for your attention!**

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***Doing now what patients
need next***