Interoperability

Kommunikation i praksis

Steffen Lerche

Interoperability

The ability to share patient information across organisational boundaries

Kilde: Advisory Board, Expert Insight|May 09, 2016

Hvilken information?

Hvordan sikrer vi relevansen?
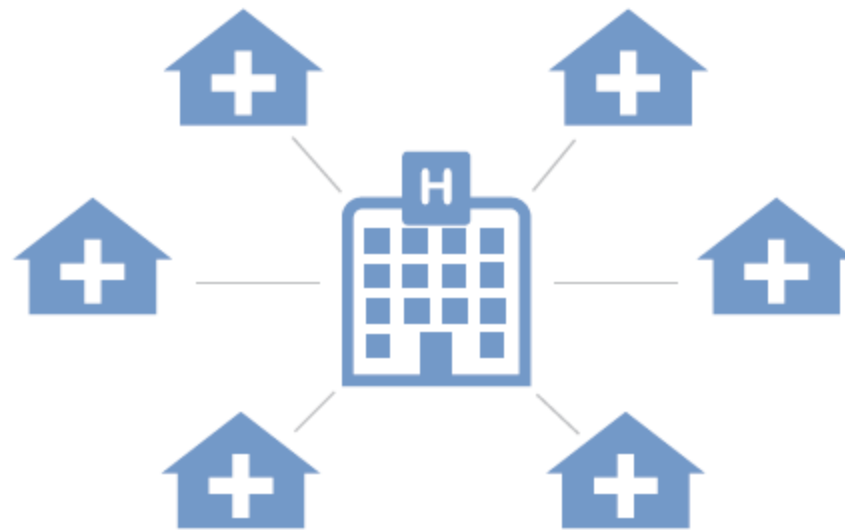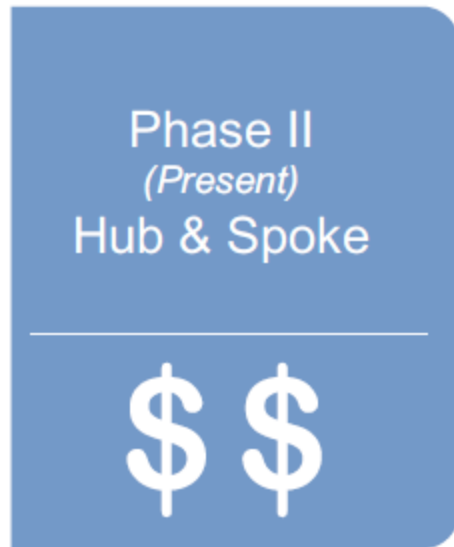
I hvilket format?

Mellem hvem?

Hvem betaler?

Hvad må vi dele?

Den integrerede kliniske arbejdsplads
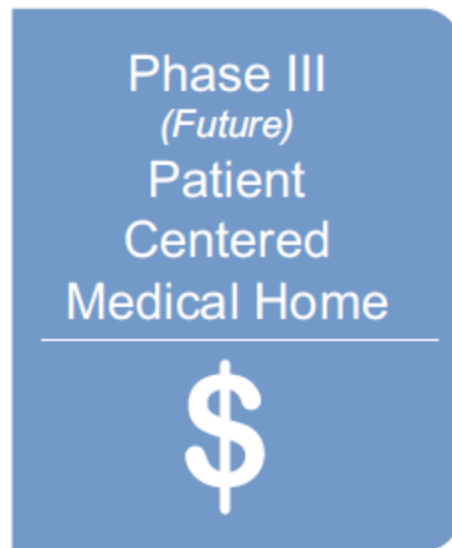

- Pipaluk
  - Et scenarie med muligheder
    - Journal
    - Videoopkobling
    - Fjerndiagnostisering
    - Kommunikation via satellit
    - Device integration

Evolution of Healthcare

Phase II
(Present)
Hub & Spoke

$ $

Evolution of Healthcare

Phase III
(Future)
**Patient
Centered
Medical Home**

$

Value Based Health Care Delivery

$$Value = \frac{\text{Health outcomes that matters to patients}}{\text{Costs of delivering the outcomes}}$$

"Value must be measured for the overall care of a patient's medical condition over the cycle of care
- not for hospitals, specialties, episodes, or Interventions"
Professor Michael E. Porter

openEHR — An open domain-driven platform for developing flexible e-health systems

What to expect…

SNOMED CT
The Global Language of Healthcare

- National initiatives – Increased funding
  - Semantic interoperability
  - PHR & Patient engagement
  - Clinical decision support

SMART®
An App Platform for Healthcare

HL7® FHIR®

Cloud

BIG DATA

MACHINE LEARNING

- Disruptive technologies
  - Patient driven demand
  - Eco system of contributing apps

Microservices
Decoupled

BLOCKCHAIN

TEST AUTOMATION
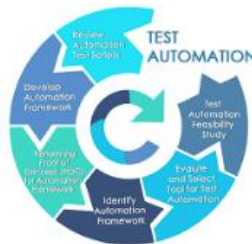
SWOT

- Styrkerne
  - Vi har løsningerne
  - Vi har beviser for at det betaler sig
  - Vi ved hvad vi skal fokusere på (men gør vi det?)

- Svagheder
  - Tager tid
  - Kræver indsigt og vilje
  - Kræver tværsektorielle aftaler
  - Hvem betaler og hvem høster?

- Mulighederne
  - Et sammenhængende sundhedsvæsen
  - Dele den rigtige information I den rigtige form på ét sted
  - Apps, Devices, personlige journaler…

- Trusler
  - Lokale løsninger underminerer
  - Apps, Devices, personlige journaler….
  - Overflow
  - Sektorernes barrierer
  - Politisk modvilje (populisme)
  - Lovgivningen

Study on the economic impact of interoperable electronic health records and ePrescription in Europe
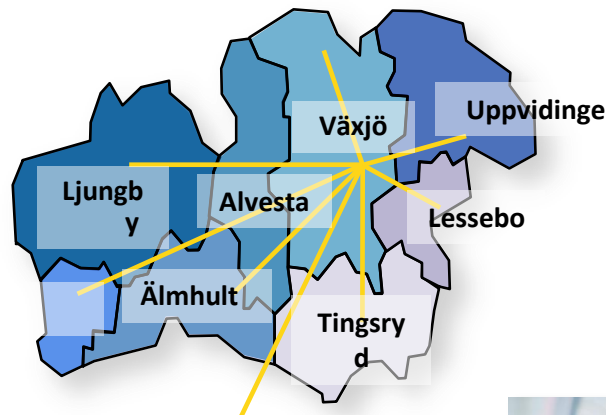**(EHR IMPACT European Commission, DG INFSO & Media)**

- The socio-economic impact of the regional integrated EHR and ePrescribing system in Kronoberg, Sweden (delstudie)

- "Quality indicators include well informed carers who are facilitated in providing continuity of care and increases patient safety. Improved patient safety in this specific case refers to a reduced risk of adverse events due to lack of information at the point and time of care."

- "Because of „Link", care planning is more precise."
 - direkte adgang til relevante journaloptegnelser fra primær sektor

One Patient – One Record – Anytime – Anywhere

Cambio COSMIC:

- Main application and platform for process support
- Common repository for all healthcare information

Integrated with:

- Clinical care support system
- Medical equipment
- Digital archives and PACS
- Decision support
- Devices
- Apps

County of Kronoberg

>7% of the working people in Kronoberg are COSMIC users.

Växjö

Uppvidinge

Ljungby

Alvesta

Lessebo

Älmhult

Tingsryd

National Patient and Care provider portal

COSMIC

Data warehouse
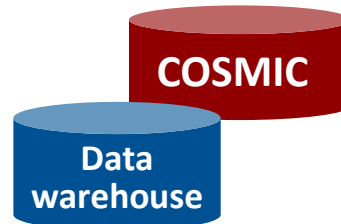
- Wireless Network in hospitals
- VPN over Mobile network
- VPN over Internet
- Network of Municipalities
- National Network for Healthcare in Sweden
- >95 % of the population in Kronoberg have an EHR record in COSMIC

Gevinsterne er tydelige

Chart 2: Estimated cumulative cost and benefits

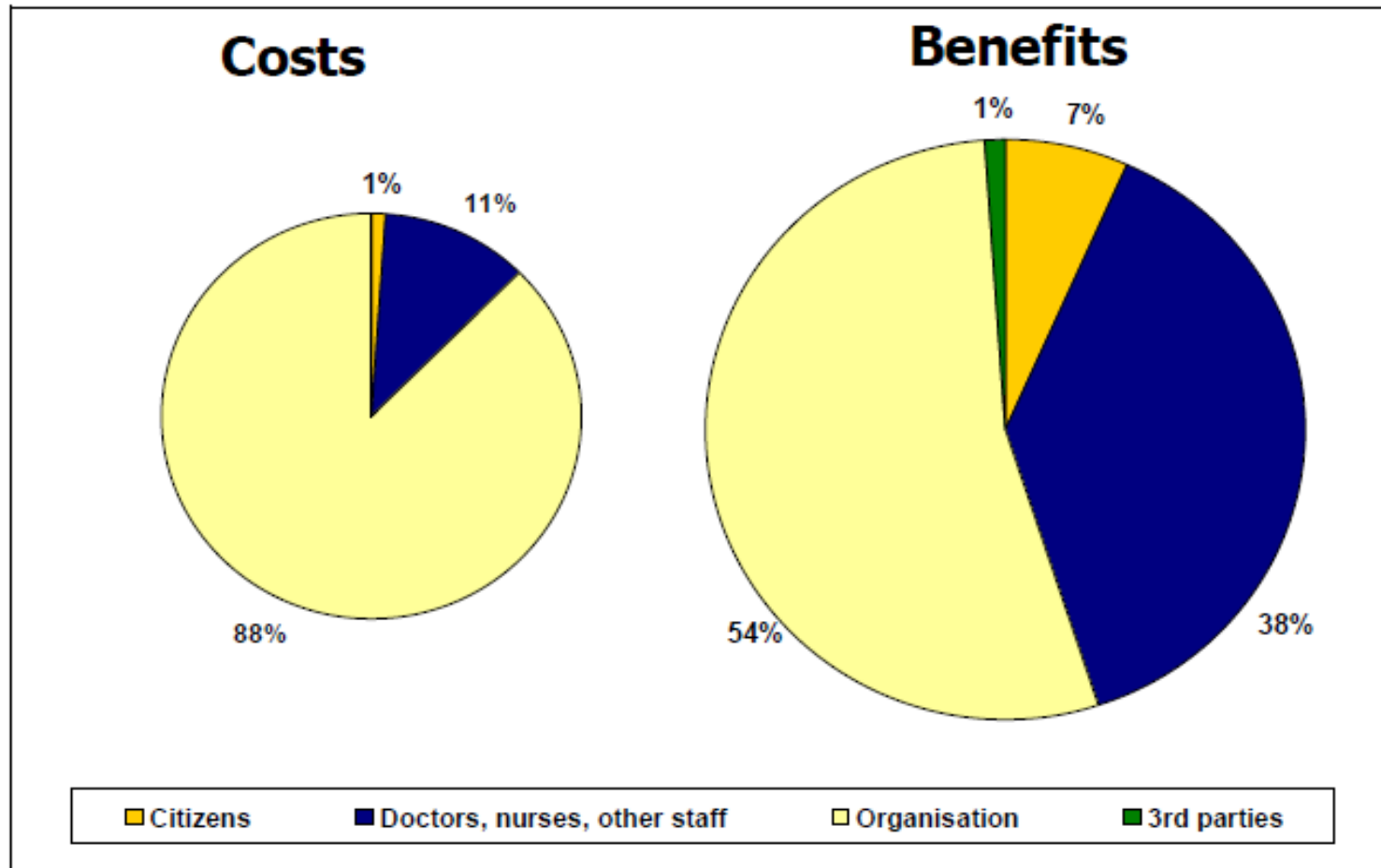Present value of cumulative costs — Present value of cumulative benefits
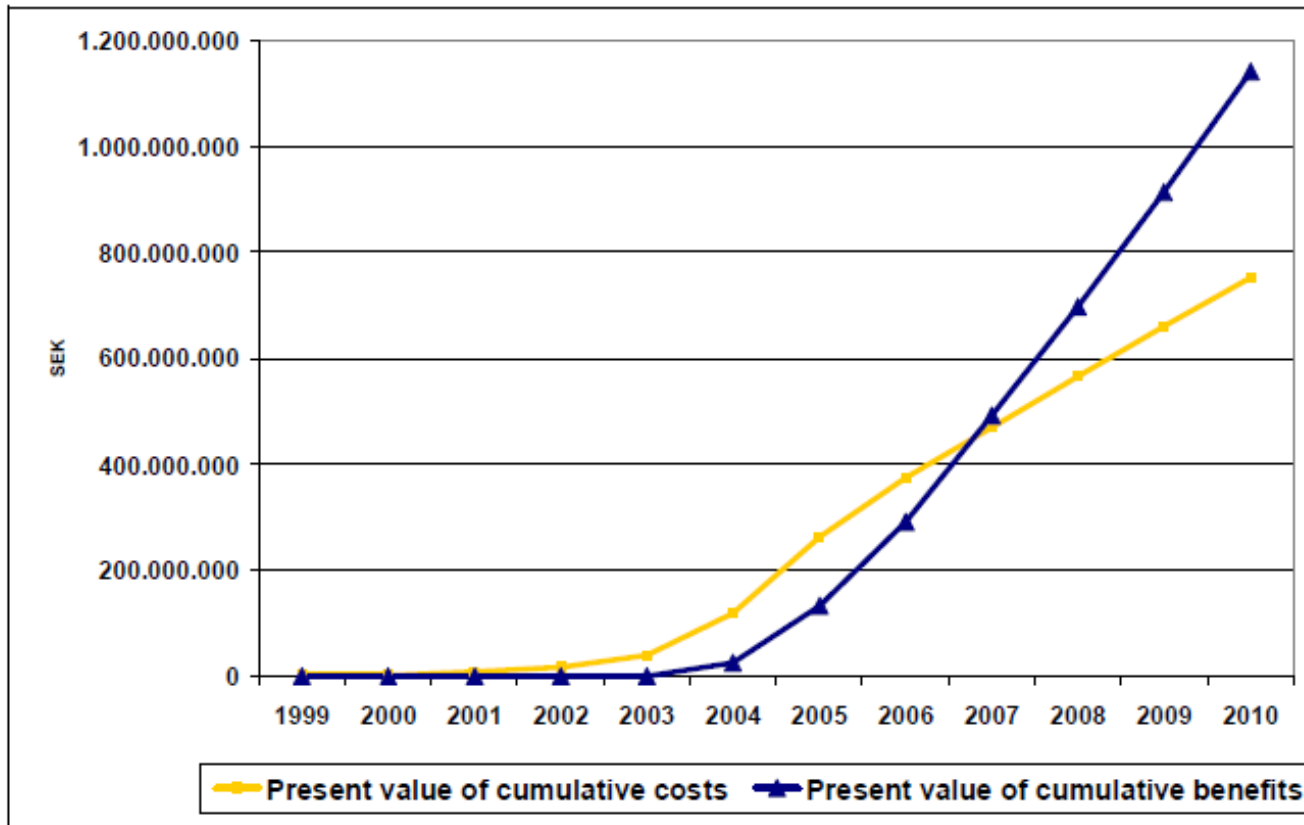
Source: EHR IMPACT study

At year 8, the annual net benefit ratio to costs turns positive and rises continuously to +1.46 at year 12. The cumulative ratio increases steadily, reaching at +0.52. This means that for every SEK100 worth of negative impact, there are SEK152 worth of positive impact

Hvem skal betale for at alle andre får fordelene?
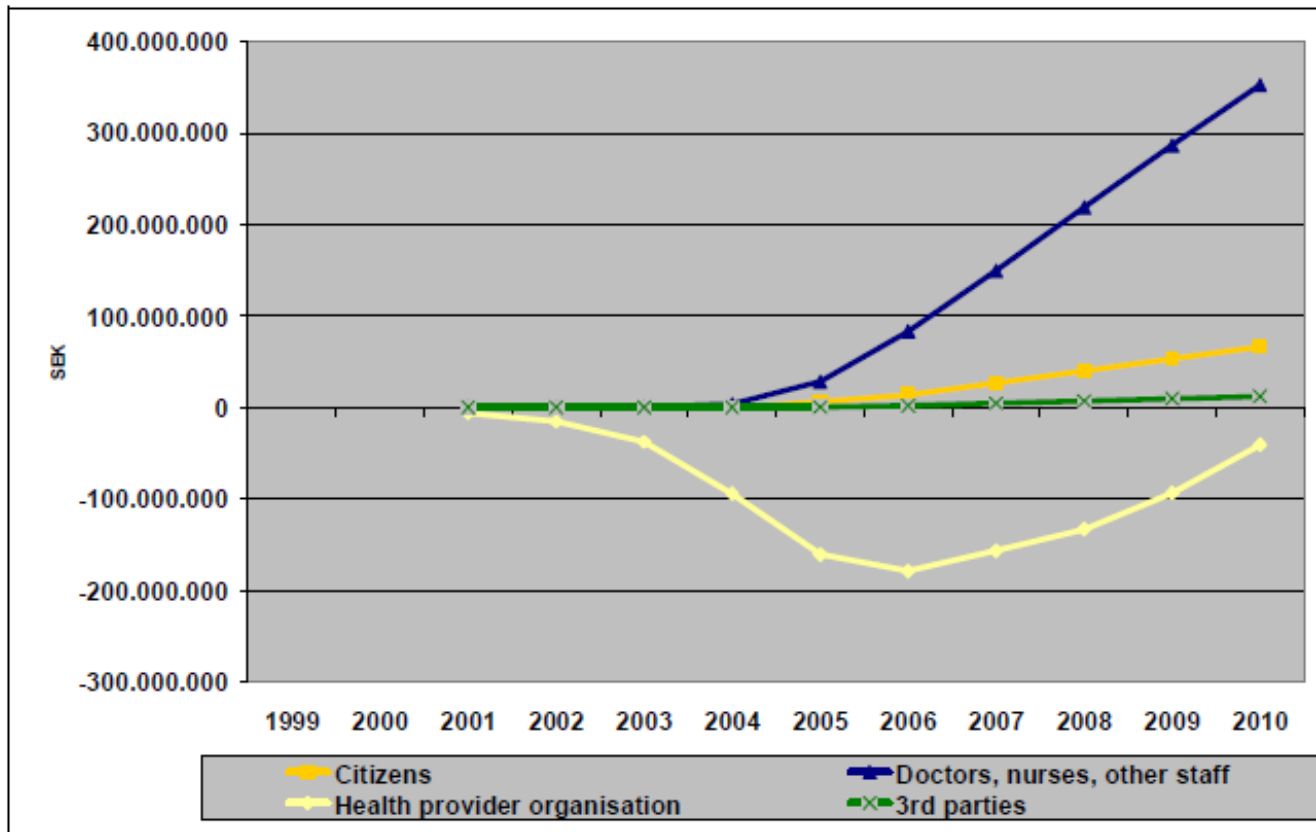

Chart 4: Costs and benefits per stakeholder group

Costs
- 1%
- 11%
- 88%

Benefits
- 1%
- 7%
- 38%
- 54%

Legend: □ Citizens ■ Doctors, nurses, other staff □ Organisation ■ 3rd parties

Source: EHR IMPACT study

Fordelene er målbare og tydelige

Chart 5: Cumulative net benefits according to stakeholder groups

Source: EHR IMPACT study

- Værdien er fortsat stigende, men hvornår fader kurven?

- Nyere tal indikerer at citizens stiger mere

Hvor ligger gevinsterne?

By its design, the system ensures interoperability as one of its primary purposes. The strategy to implement one system across all healthcare facilities was driven by the realisation that interoperability is a critical factor to providing value added through EHRs and thus for the success of the initiative.

These strategic thoughts have been proven accurate by experience. The benefits identified in the analysis rely to a large extent on information being available regardless of the place of creation and the place of access. Local IT systems lacking interoperability would miss these substantial gains. An exception proves the point – lacking interoperability between some nursing home systems and COSMIC lead to time being spent on manual re-entry of data. Absent interoperability on a larger scale may have an impact on costs, which can threaten the overall performance of the initiative.
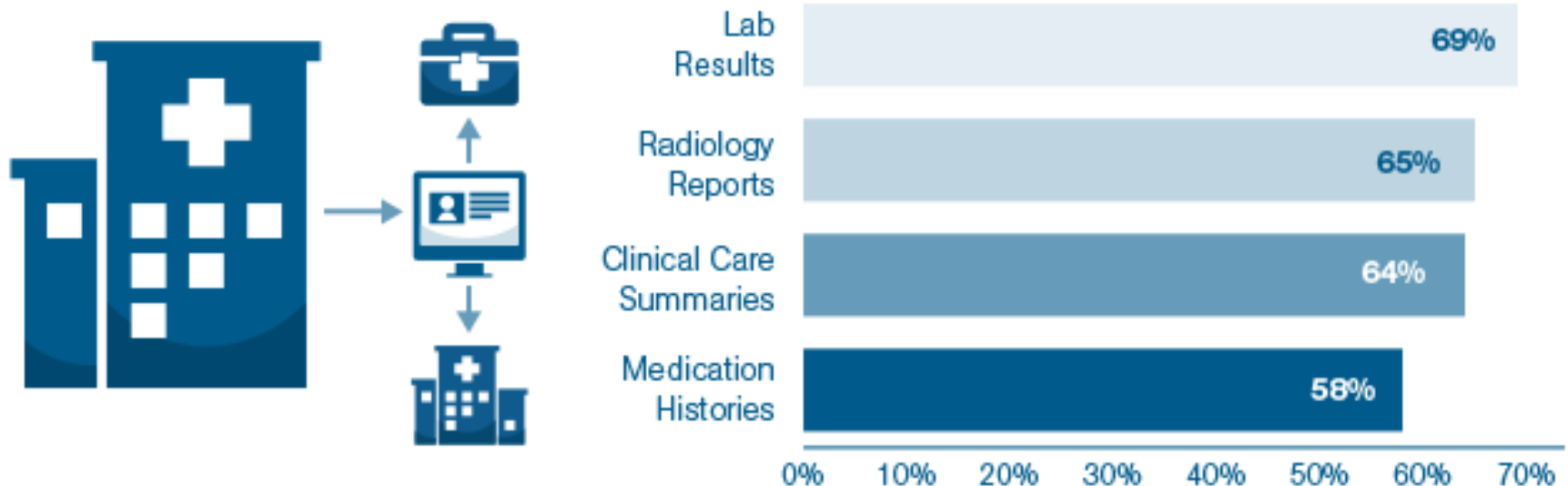
I den rigtige retning

Does your hospital electronically exchange patient information with health care providers outside of your health care organization?

AMBULATORY CARE PROVIDERS

2010 — 38% YES

2014 — 69% YES

OTHER HOSPITALS

2010 — 19% YES

2014 — 62% YES
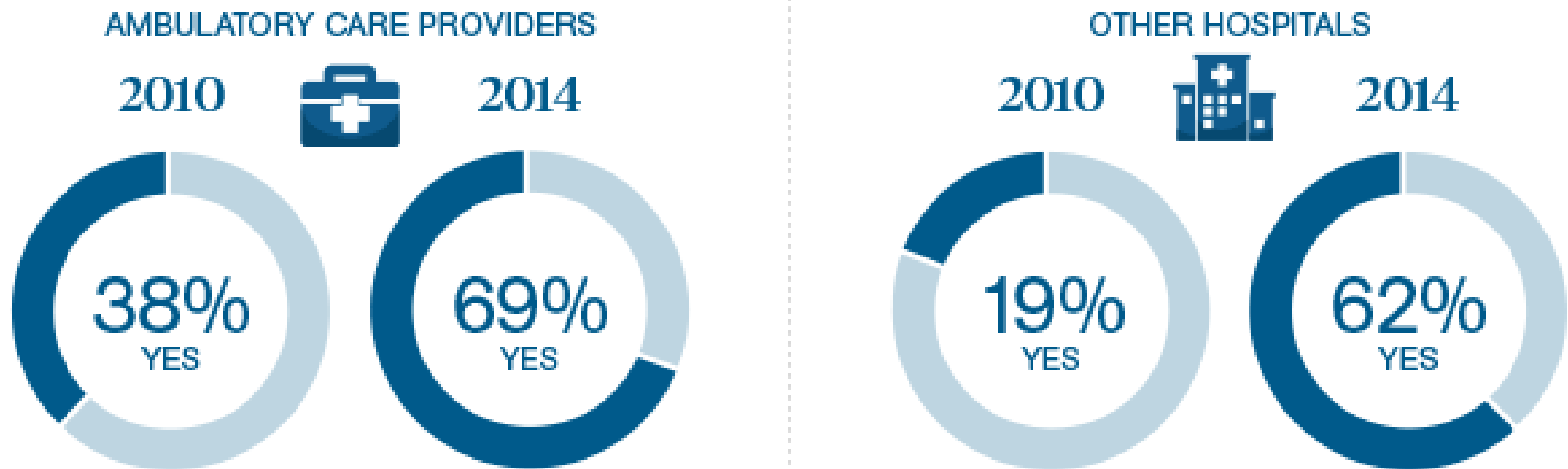
Source: HHS Office of the National Coordinator for Health Information Technology

De gode delinger

What types of patient information does your hospital electronically exchange with ambulatory care providers and other hospitals outside of your health care organization currently?

Type	Percentage
Lab Results	69%
Radiology Reports	65%
Clinical Care Summaries	64%
Medication Histories	58%

Source: HHS Office of the National Coordinator for Health Information Technology

Men hvordan håndterer vi?

- Patientens egen journal

- Multi system landskaber

- Health Apps

- Selvmonitorering

- Den informerede patient vil ege egne data
  - Enten leverer vi varen ellers?

- Vi kan integrere, men hvor går grænsen?
  - Sikkerhed, understøttelse af komplekse processer, videreudvikling

- Hvilke indgår i det samlede system og hvilke er støj?

- Hvem, hvordan og hvad gør vi med data?