

Trendy ve sběru a využití zdravotních dat

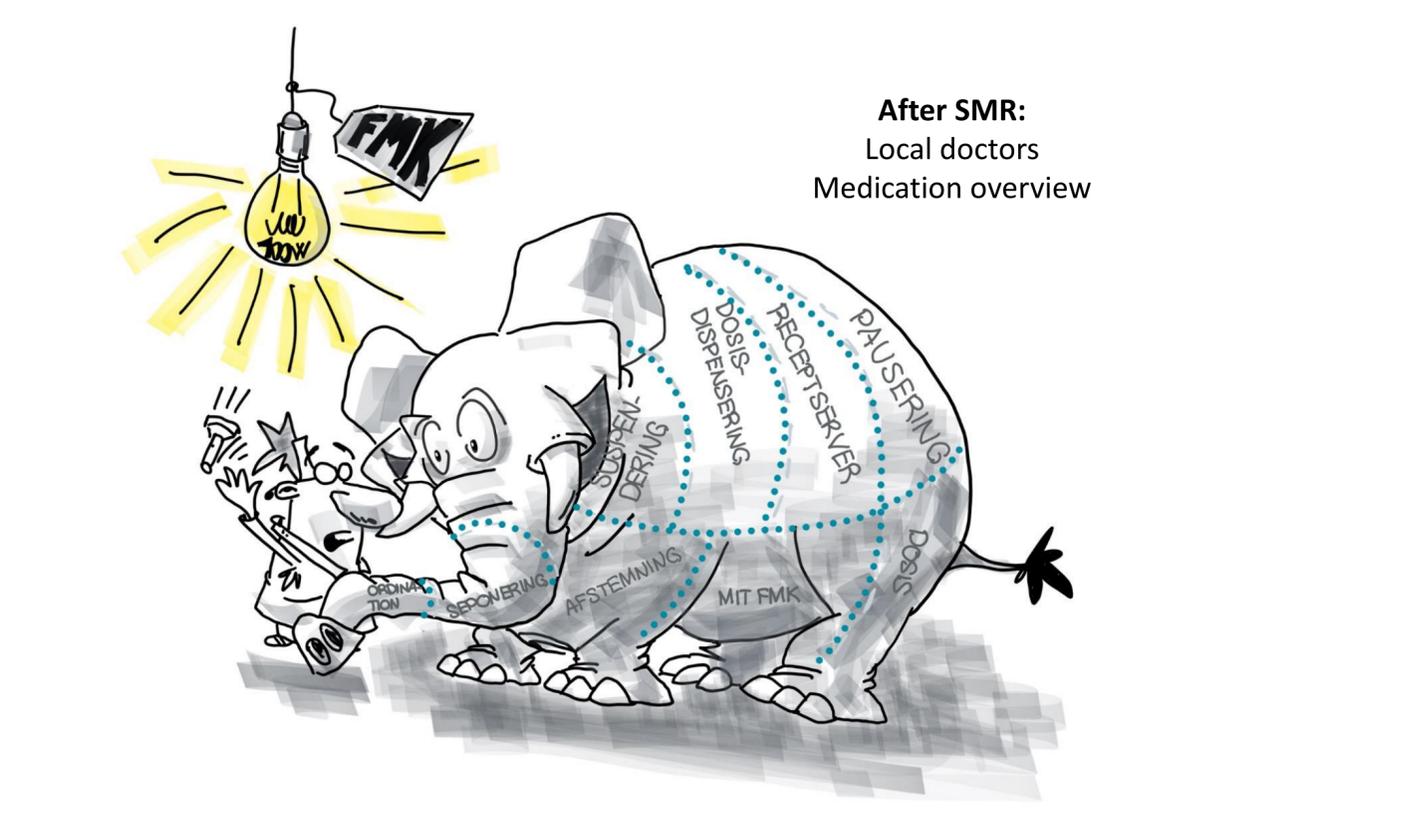
Matěj Adam

Shared Medication Record – before



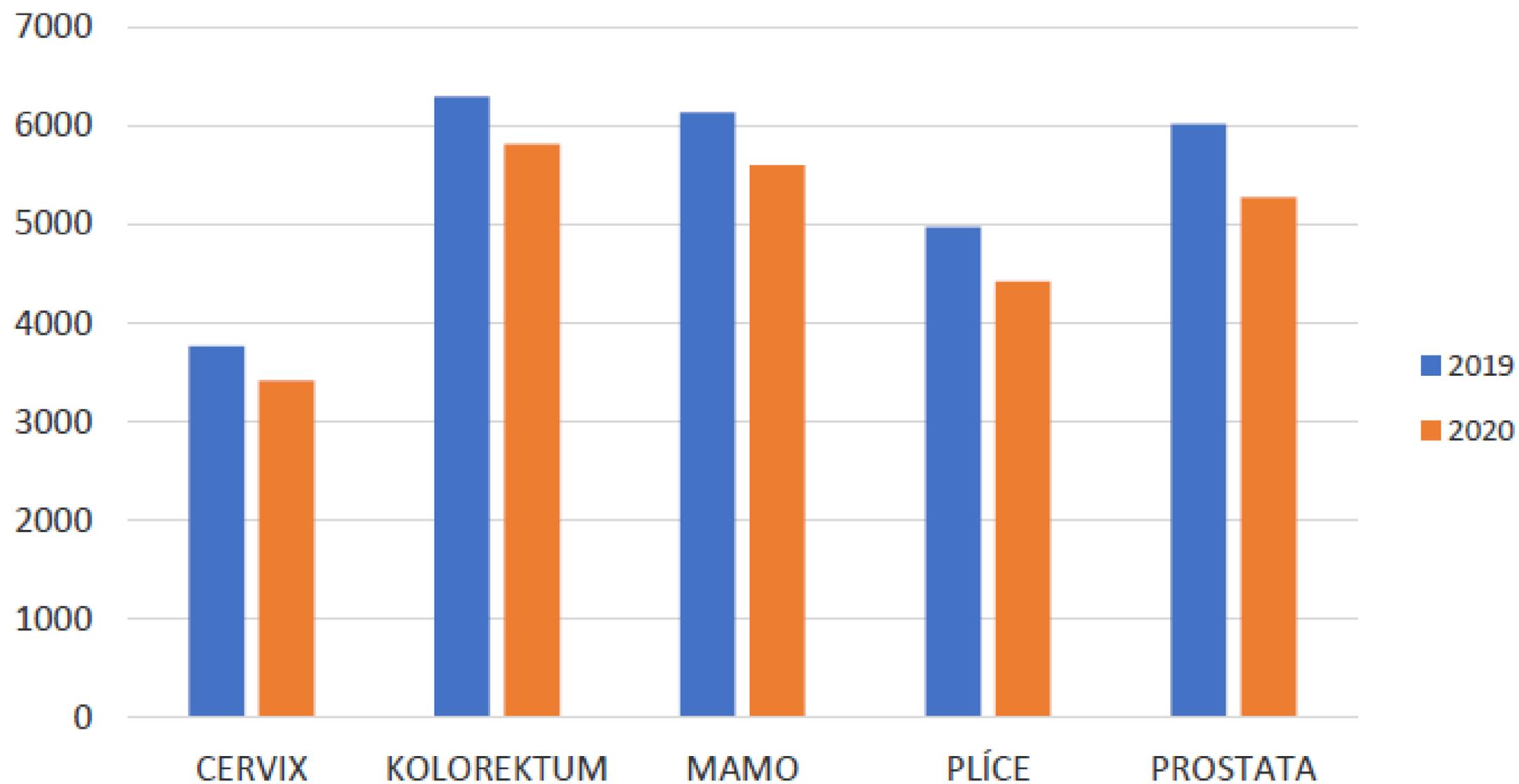
Before SMR:
Local doctors
Medication overview

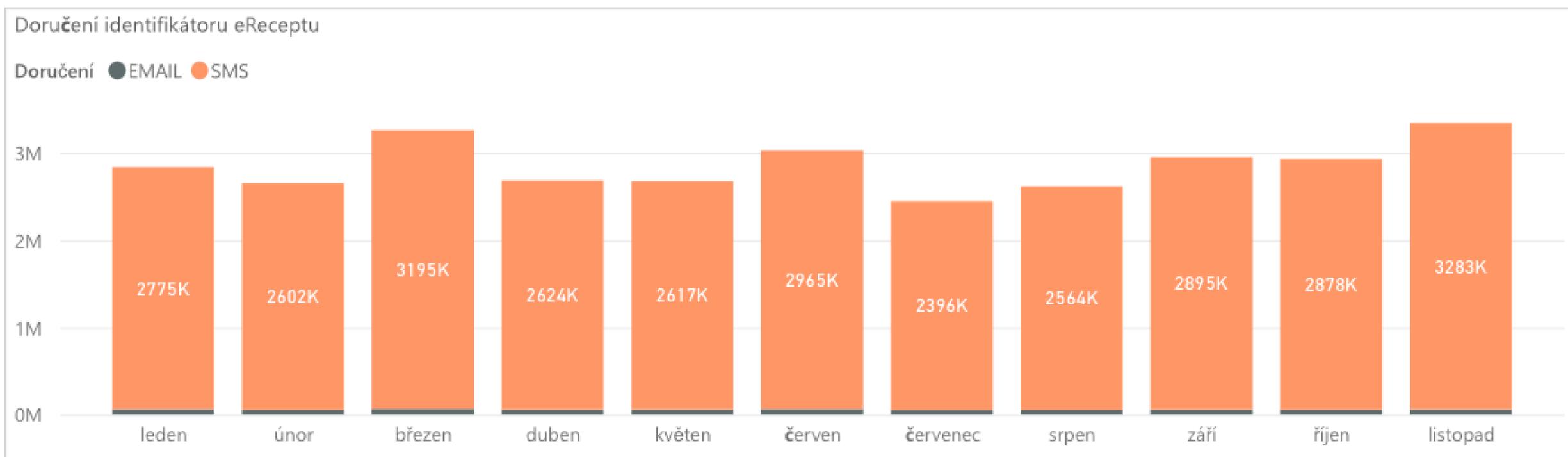
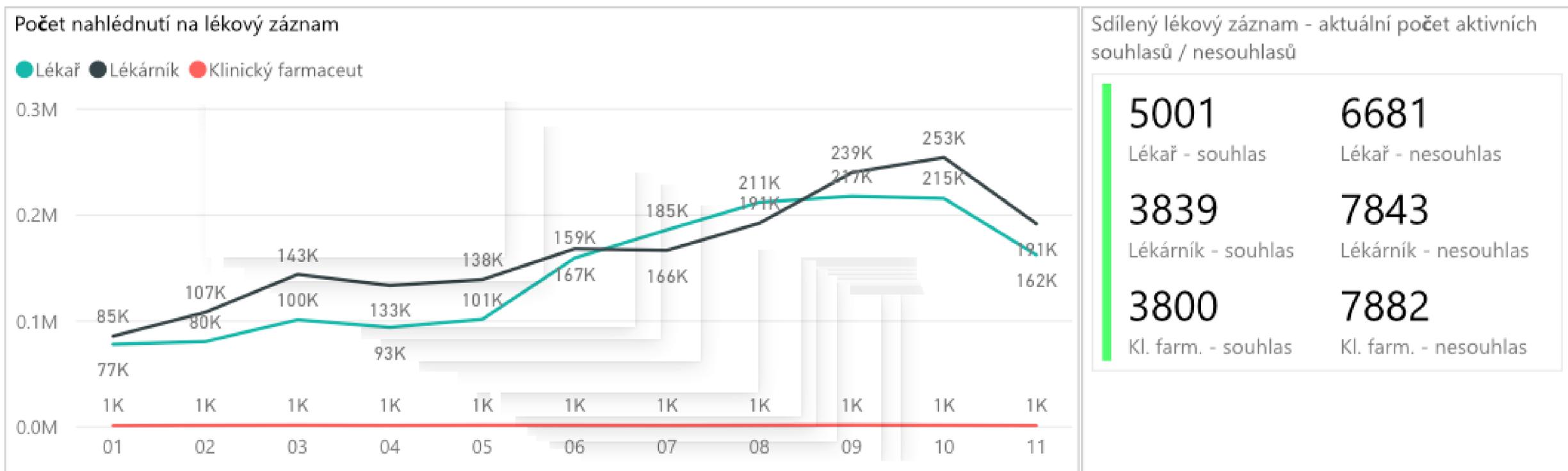
Shared Medication Record – after



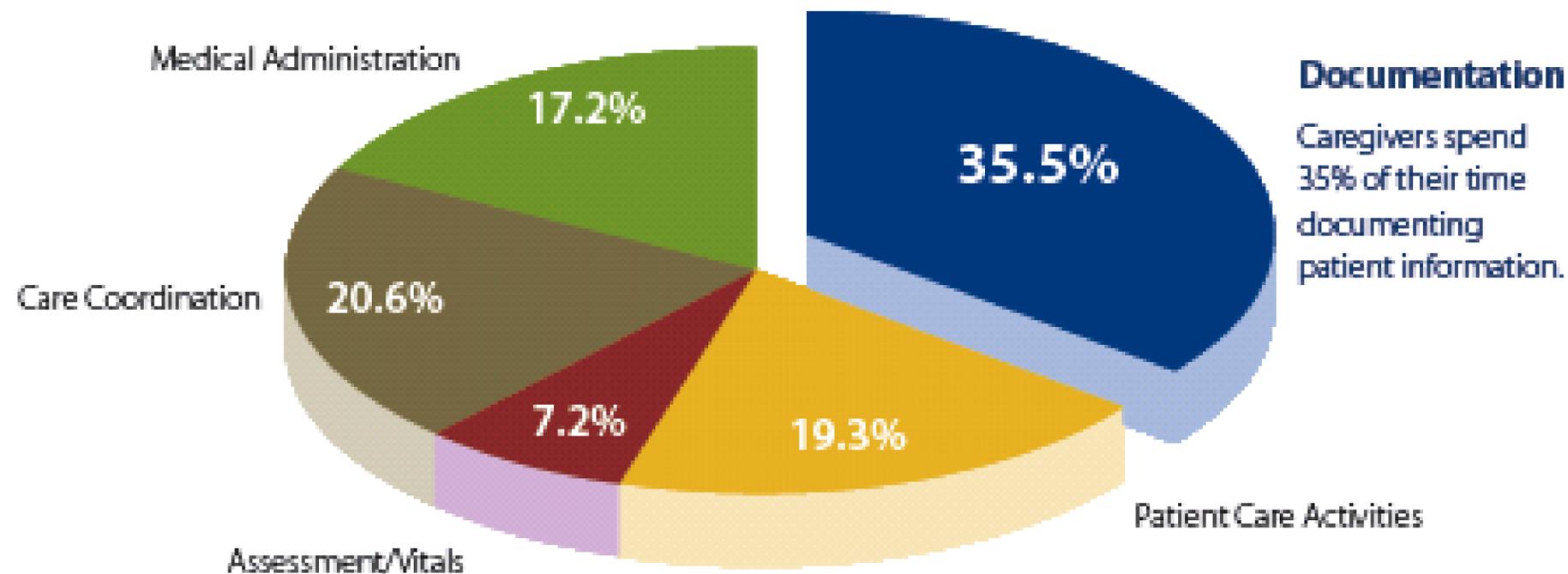
After SMR:
Local doctors
Medication overview

Záchyty podle typu a roku





Study: 36-Hospital Med/Surg Nursing - Time and Motion



Hendrich A, Chow M, Skierczynski B, Lu Z. A 36-Hospital Time and Motion Study: How Do Medical-Surgical Nurses Spend Their Time? *The Permanente J* 2008 Summer;12(3):25-34.

- According to a recent study by the Mayo Clinic¹, physicians spend 1 to 2 hours on EHRs and desk work for every hour spent in face-to-face contact with patients, as well as an additional 1 to 2 hours of personal time on EHR related activities.

¹ Melnick, E. R; Dyrbye, L.N., Sinsky, C. A. et. Al

[The Association Between Perceived Electronic Health Record Usability and Professional Burnout Among US Physicians.](#)

Mayo Clinic Proceedings Vol. 95, Issue 3, P476-487 March 1, 2020

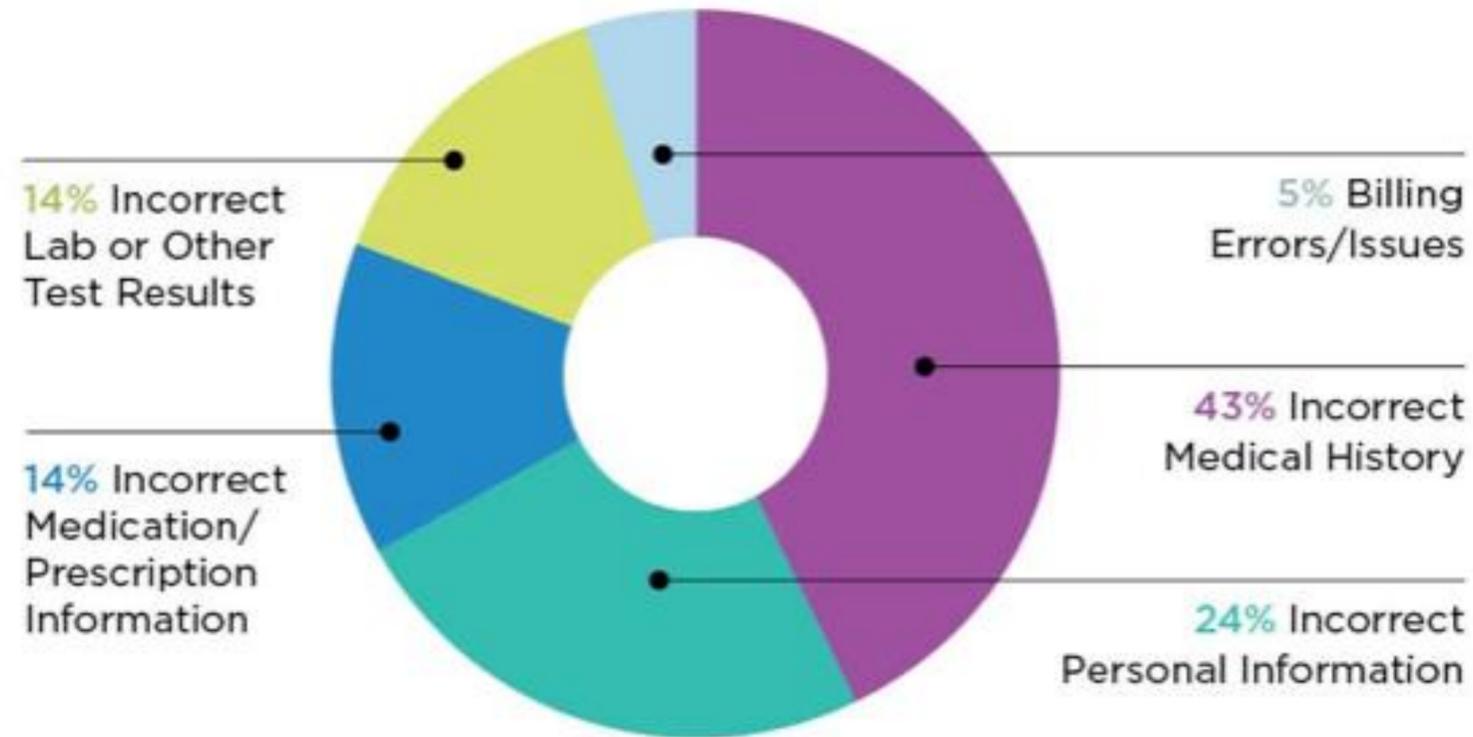
Broken Records

One in five people surveyed this year by the Kaiser Family Foundation has found a mistake in their EHR. Of those, nearly half have incorrect medical histories.

21%

OF PATIENTS FOUND AN ERROR IN THEIR EHR.

Type of Error Noticed in the Medical Record



Source: Nicolas Rapp/Fortune

Lékařská zpráva dnes

EPIDEM. ANAMNEZA: negativní
RODINNÁ ANAMNEZA: matka 30 let, zdravá, alergie na jod, otec 31 let, zdravý, zátěž. onen v anamneze neudává
OSOBNÍ ANAMNEZA: dítě z l. fyziolog. gravidity, T.P. 21.6. Porod per. vaci. pro chru. hypoxii plodu, ZPV. P.h. 3700g/53 cm, čas AS 5-6-6, pH z a. umbil. 6,80.

PRŮBĚH HOSPITALIZACE: Zralý novorozenec, čas II., pro respir. tíseň intubace, zahájena komplexní terapie vč. katecholaminů pro klin. i laborat. známky adnátní infekce s DIK. V klin. obraze dominují známky HIE a hypox. postižení ledvin- oligurie s masivní hematurií, rozsáhlé otoky, hyponatremie, hypocalcémie. UPV 1 den, v kyslíkové atmosféře celkem 4 dny, dále na postýlce bez respir. potíží. Dítě začíná močit, ustupují rozsáhlé edémy. Po neurolog. vyšetření zahájena vývojová rehabilitace - rodiče zacvičení. Po navštívení krmení dítě propouštíme do domácí péče, doporučeno sledování v rizikové poradně, vzhledem k přetrvávajícímu nálezu v moči dítě odesláno i ke sledování do nefrolog. poradny MUDr. Štarhy v DN.

STAV PŘI PROPUŠTĚNÍ: růžová, na pokožce levé ruky nad zápěstím hojící se suchá nekroza po aplikaci infuze, okolí klidně. VF v nivesu, turgor správný. Srdce, plíce fyziolog. poslech, bříško měkké, pupek zhojen. Genitál dívčí, končetiny bez anomálií, reflexy výbavně. Obvod hlava/ hrudník: 34,5/34cm.

VAHA PŘI PROPUŠTĚNÍ: 3500g
STRAVA: kojit, dokrm GMM do 70 ml

VYŠETŘENÍ: KB nevyšetřena, matka A +
Kč: Hb 153, Hkt 0,46, leu 20,8, tro 86, dif posun doleva
142 0,40 10 302 diff v normě
CRP 16,9..20,1..0 prokalc. 46,21
hemokoagul. testy - patolog. nálezy...kontrol. v normě
ionty: hypocalcémie..norma, opak hyponatremie...v normě
ost. ionty vč. K v normě
Urea 20,3...7,3 kreatinin 465,6...185,1
moč + sudi opak. CB 1 krev 2 leukocyty 2., sedi ery 11-30 epit 16-50, oj.bakterie,epitelie
ECHO mozku: opak. seřelá struktura parenchymu, PKK 1 mm, plexy neporušené, výrazná echogenita nad zad. rohy, dosud bez rozvoje pseudocyst, v oblasti BM cystické projasnění
Neurologie: centr. hypotonie s nízký roš. na DKK, nízké reflex. ůchopy na konč., chabá trakce, chabá postura i vzpřimování na bříšku, velmi nízký balant. Chabé spin. primitivní mechanizmy
UZ ledvin: obě ledviny norm. tvaru a velikosti, diferenciace mezi dřeví a kůrou se zlepšuje, nadledvinky nejsou prokrvácány, DG bez dilatace
Screening kong, katarakty bilat, negativní
ortopedie: klin. i UTZ nález na kyčlích v normě

TERAPIE: inkubátor, UPV, DZ, infuze glukózy s ionty, vitaminy, mraž. plasma, Flebogamma, Tensamin, AT III. 20 albumin, Cefotaxie, Gardenal, Furosemid, 102NaCl, Encephabol sir, Lactobacillus, Mycoax, Betadine ung, 0,5% Chloramin, Pityol ung, vývojová rehabilitace

NEKALMETOVÁNA !!! Screening FKU, SKH odeslány.

DIAGNÓZA: Zralý novorozenec
Hypoxia iuter, čas II.
Hypoxicko-ischemická encefalopatie
Posthypox. poškození ledvin

Vedení zdravotnické dokumentace na bázi strukturovaných dat

Vedení zdravotnické dokumentace lékaři v nestrukturované formě je jedním z klíčových problémů při sekundárním využití dat.

Vedení ZD kompletně strukturovaně má ale významné bariéry:

- × obavy z větší časové náročnosti tvorby dokumentace
- × obavy ze zpřesnění dokumentace a jednodušší kontroly

Problematiku je možno překonávat zaměřením na:

- minimalizace dopadů na produktivitu lékaře
- správné formuláře, tvořeny odbornostmi, shoda na standardizaci
- vazba na workflow (navigace tvorby záznamu)
- jednoduchý přístup k vytěžovaným údajům

NoteWriter

Subjective ROS Physical Exam Plan Note

Age at diagnosis: Prenatal 1st trimester, Prenatal 2nd trimester, Prenatal 3rd trimester, Prenatal Unknown, Postnatal <1 month, Postnatal 1-3 months, Postnatal 3-6 months, Postnatal 6-12 months, Postnatal <12 months, Unknown

Presentation: prenatal, incidental, non-febrile UTI, febrile UTI (T>38.5C/101.5F), hematuria, pain, sibling screening

Bowel/Bladder dysfunction: Yes No

Antibiotic prophylaxis: Yes No

Initial Imaging Studies

RBUS: no, 48 hours, <1 month, 1-3 months, 3-6 months, 6-12 months, >12 months

VCUG: no, 48 hours, <1 month, 1-3 months, 3-6 months, 6-12 months, >12 months

DMSA Scan: no, 48 hours, <1 month, 1-3 months, 3-6 months, 6-12 months, >12 months

Mag 3 Scan: no, 48 hours, <1 month, 1-3 months, 3-6 months, 6-12 months, >12 months

Lab Studies

Urinalysis: no, proteinuria, bacteruria, leuk esterase, nitrate

Urine Culture: no, positive, negative

Findings

Ultrasound: not performed, Date, Right (Grade 0-4), Left (Grade 0-4)

VCUG: not performed, Date, Right (Grade 0-5), Left (Grade 0-5)

DMSA Scan: not performed, Date, Right % Function (<10, 10-20, 21-30, 31-40), Right Presence of Scarring (global, focal), Left % Function (<10, 10-20, 21-30, 31-40), Left Presence of scarring (global, focal)

Service: Sensitive Bookmark

Cosign Required

Sign at close encounter

Accept Cancel



UROLOGY CLINIC NOTE
Hydronephrosis

Today's consultation for opinion and advice about present medical condition was requested by Dr. is a He comes to clinic today for evaluation of ****. He is accompanied by his , who provides the history. {translator was used with MA:19938}

Subjective:
HPI

Pertinent history was reviewed as below:

Age at diagnosis: Prenatal 3rd trimester
Presentation: Non-febrile UTI
Antibiotic prophylaxis: Yes
Initial Imaging Studies
RBUS: <1 month
VCUG: 1-3 months
DMSA Scan: No
Mag 3 Scan: No

Findings:

Ultrasound
Right: Grade 2
VCUG
Left: Grade 2
DMSA Scan not performed
Mag-3 Scan not performed

Review of Systems:

Review of Systems

Physical Exam:

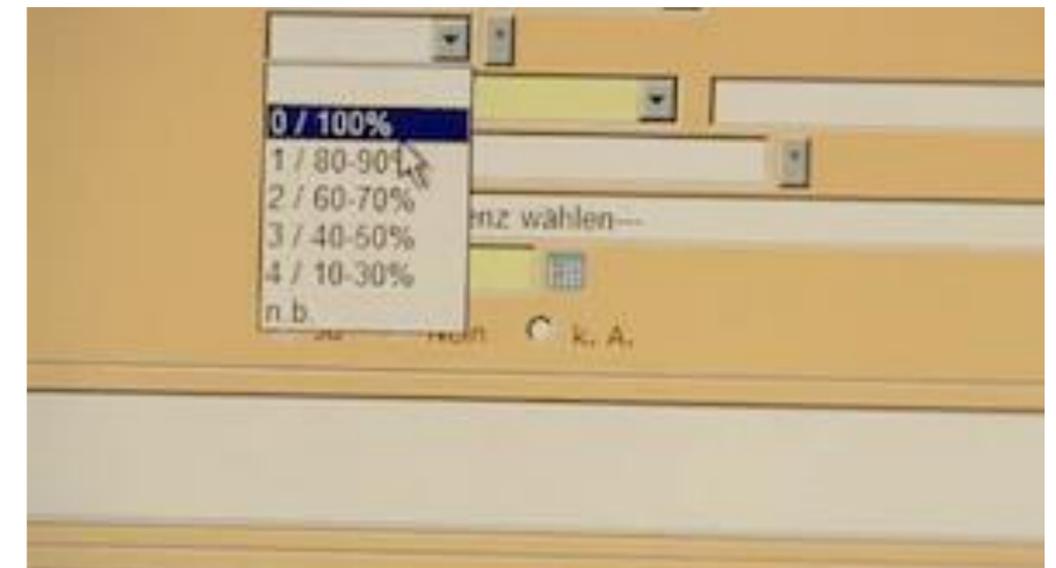
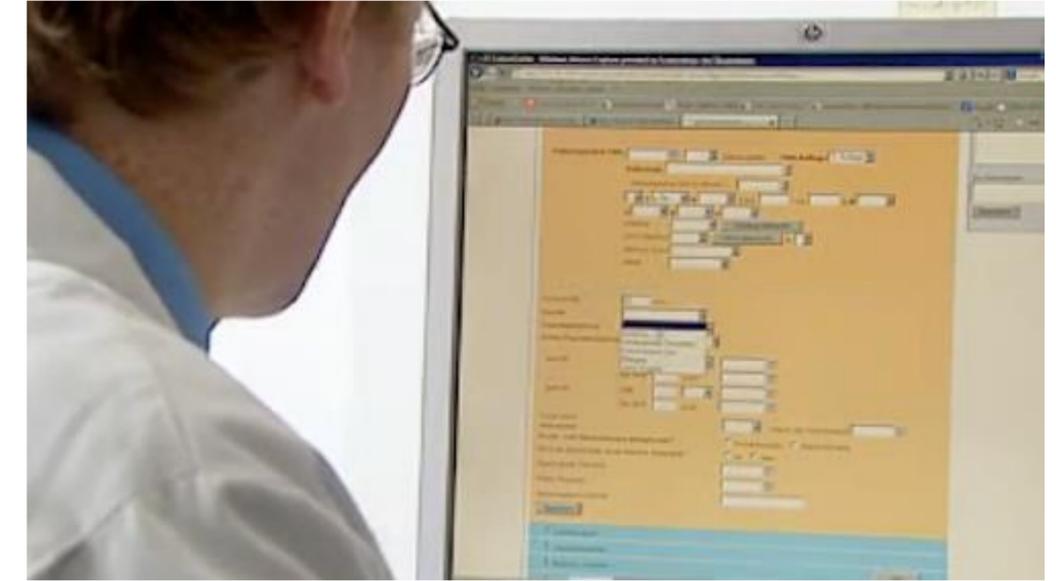
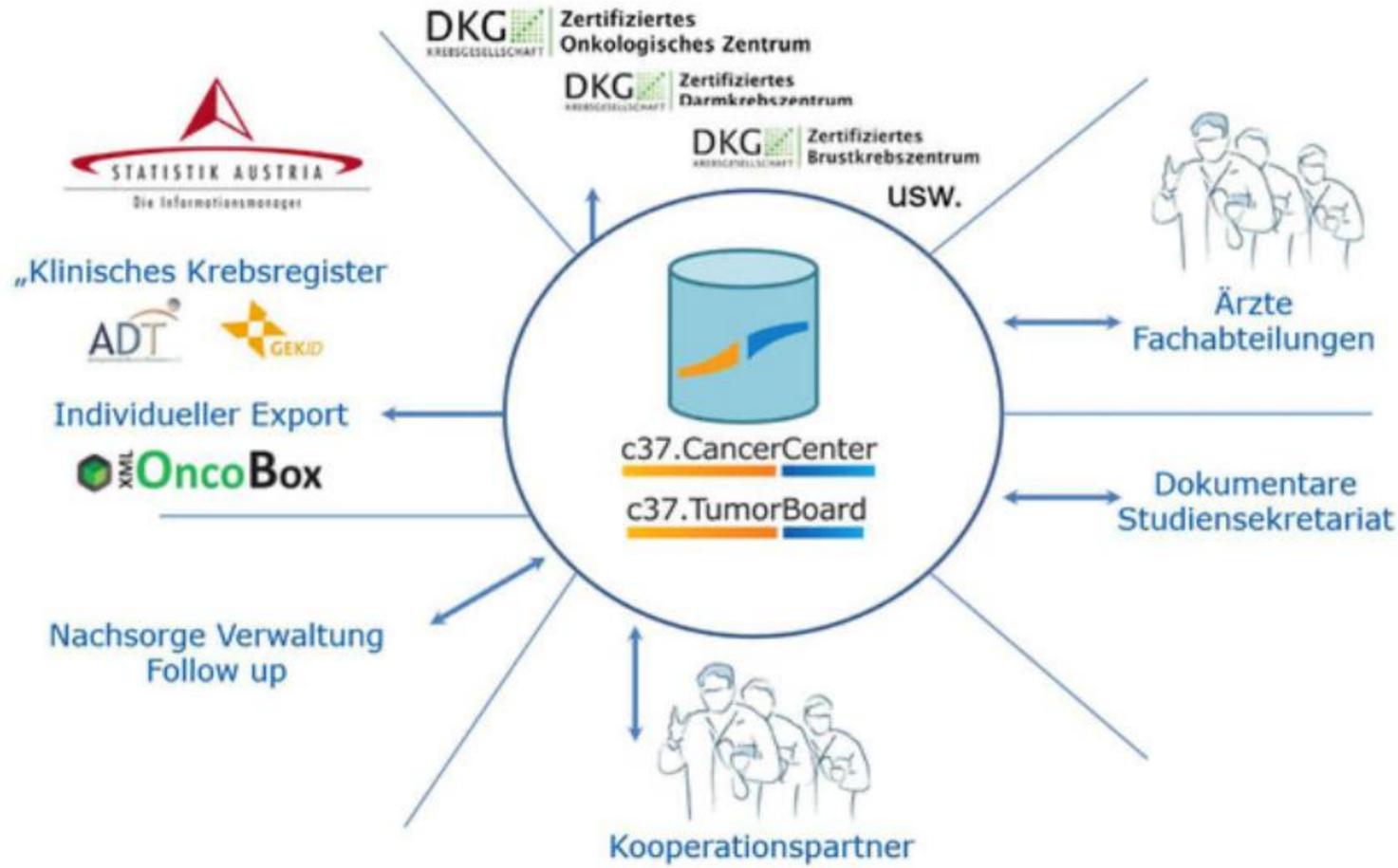
Physical Exam

Assessment:

Plan:

Further followup: Yes
Observation with ultrasound surveillance: Yes
Antibiotic prophylaxis: Yes
: **12 months**

C37



Evolution of Healthcare & Healthcare IT

Towards population health



Physician



Hospital



POPULATION



Treatment Focused

Disease Focused

Patient Focused

Wellness & Prevention Focused

Disease management

Health Management

CRM → PRM

Patient Admin.

EMR System

Clinical Doc.

Clinical Decision Support

Healthcare BI & Analytics

TeleHealth & Consultation

Patient Health & Relationship Mgmt

Personal Health Mgmt

Personal Health Record

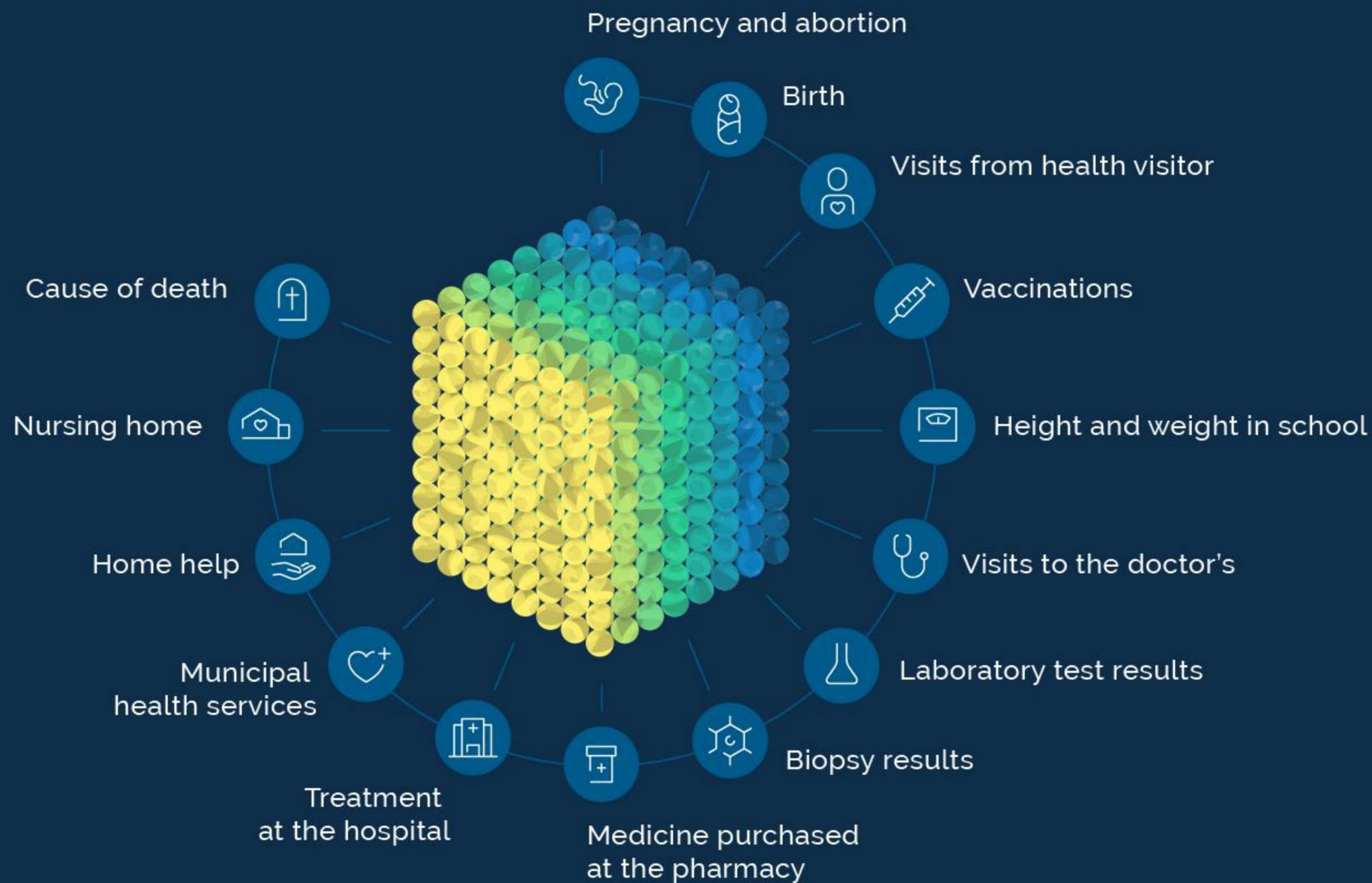
HIT Adoption & Maturity

Dánsko – e-health

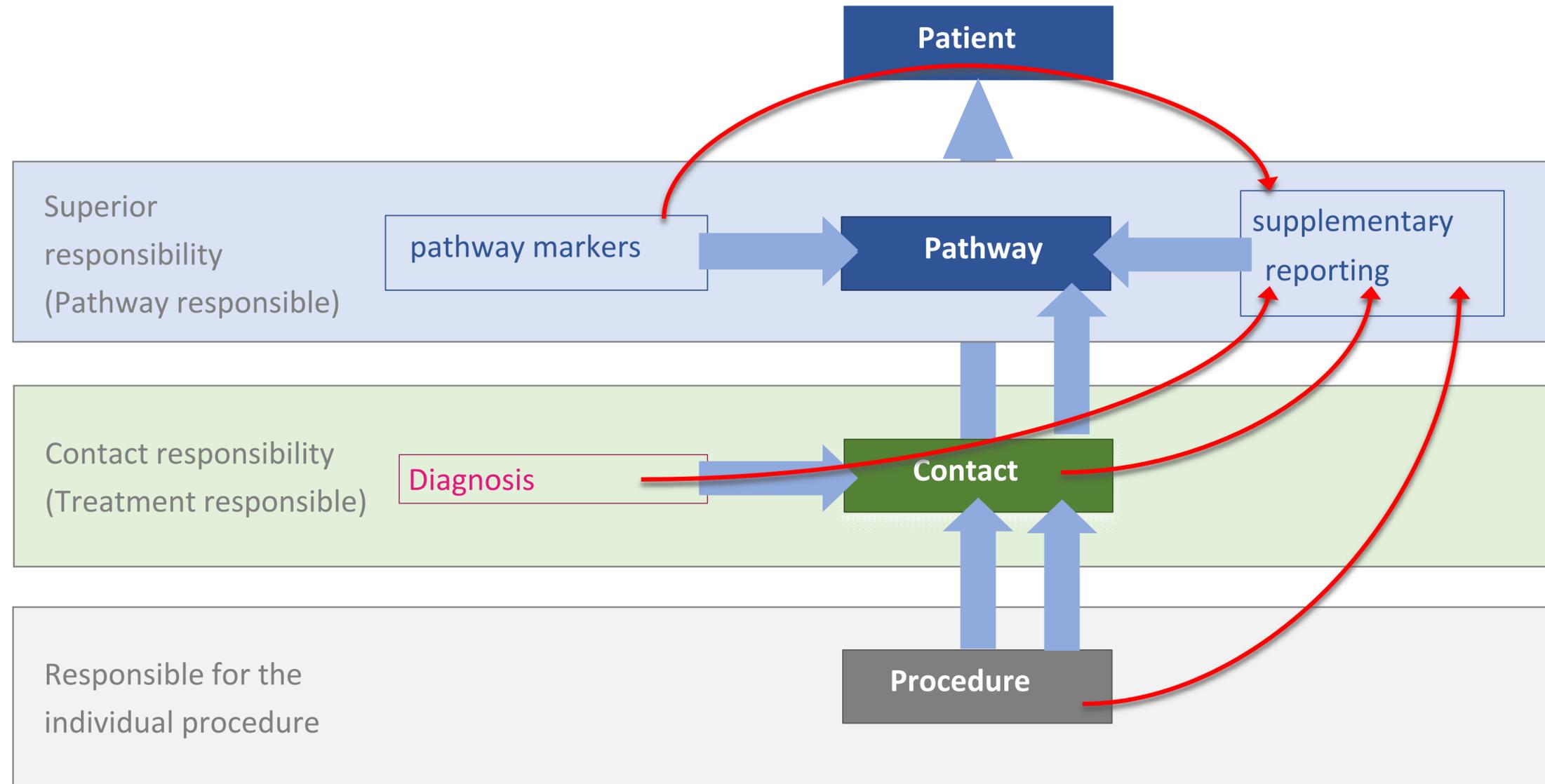
Standardized communication across sector and providers

- The electronic health record at the GP – **100 %**
- Sharing of records between GP's – **98 %**
- Test results from hospitals to GP – **100 %**
- Prescription information – **99 %**
- Referral to hospitals – **97 %**
- Referrals to specialists and psychologists – **100 %**

Data in the Danish Health Data Authority

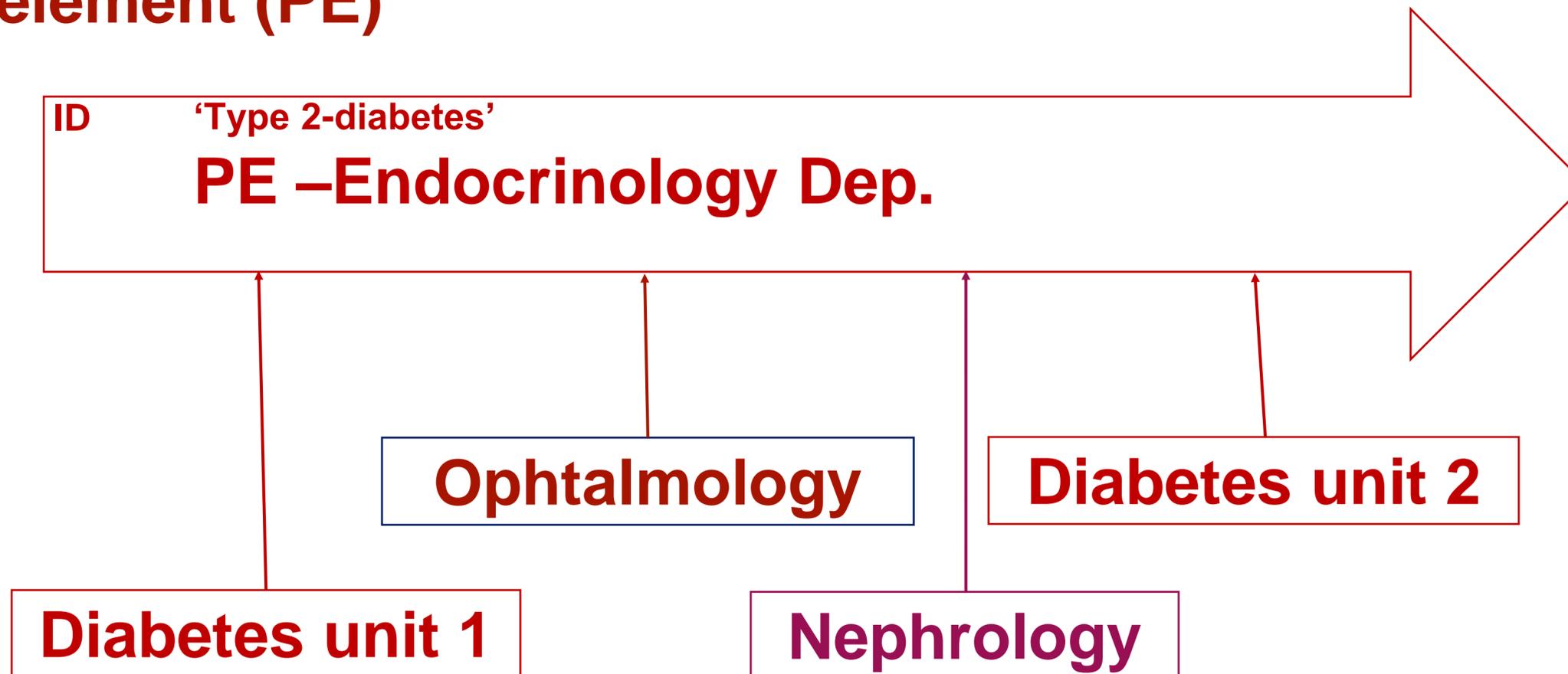


The overall concept in the new NPR



Clinical pathways

Example – same disease several actors – one pathway element (PE)



Contacts and activities in all units are reported to the same pathway,

Finsko - KANTA

FINDATA

The image shows the cover of a report titled "Health Sector Growth Strategy for Research and Innovation Activities". The cover features a white background with a pink header and footer. The main title is in pink and black text. There are several small images showing healthcare professionals and medical equipment. The report is dated 26.5.2014 and is from the Enterprise and innovation department. At the bottom, it mentions "MEE reports 16/2014" and lists the ministries: "TVÖ- JA ELINKEINOMINISTERIÖ", "RIBETS- OCH NÄRRINGSMINISTERIET", and "MINISTRY OF EMPLOYMENT AND THE ECONOMY".

Health sector
GROWTH STRATEGY

Innovating together
Health Sector Growth Strategy
for Research and Innovation Activities

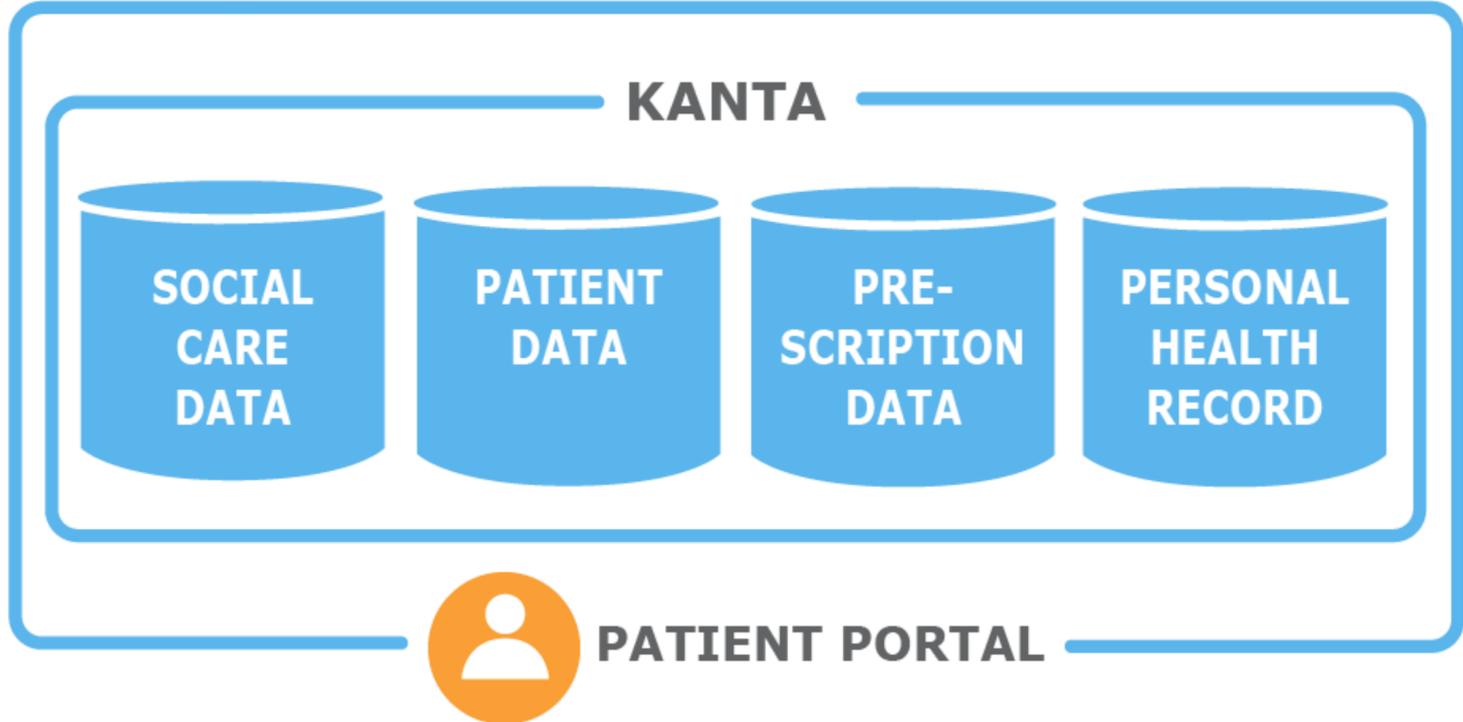
Enterprise and innovation department
26.5.2014

**Health Sector Growth
Strategy for Research and
Innovation Activities**

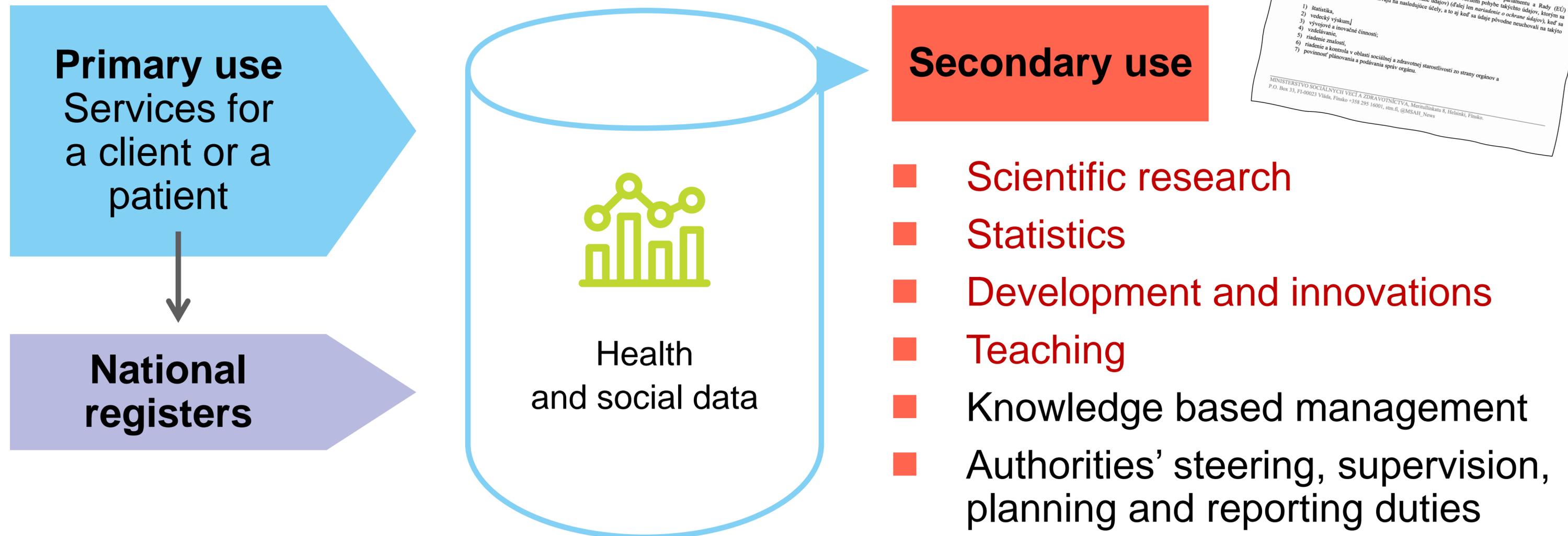
MEE reports 16/2014

TVÖ- JA ELINKEINOMINISTERIÖ
RIBETS- OCH NÄRRINGSMINISTERIET
MINISTRY OF EMPLOYMENT AND THE ECONOMY

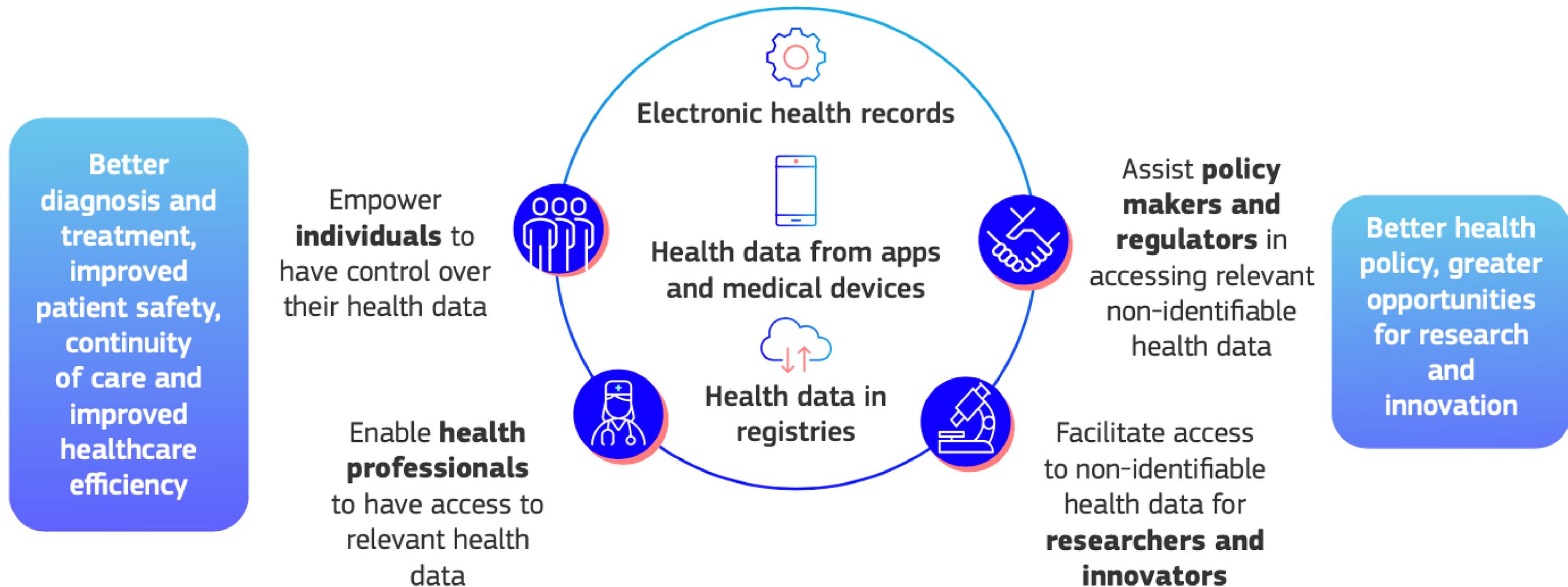
KANTA is an entity of digital services, which brings benefits for citizens, pharmacies and the social welfare and healthcare sector



Primary and secondary use of personal data



EHDS



EHDS2: access to data for research and policy making

(secondary use of health data)

Digital infrastructure – by 2025

EHDS2 NODEs are the entry point for stakeholders into the EHDS

EHDS2 NODEs can be established by National or Trans-national stakeholders

EHDS2 NODEs follow common policies and interoperability specifications

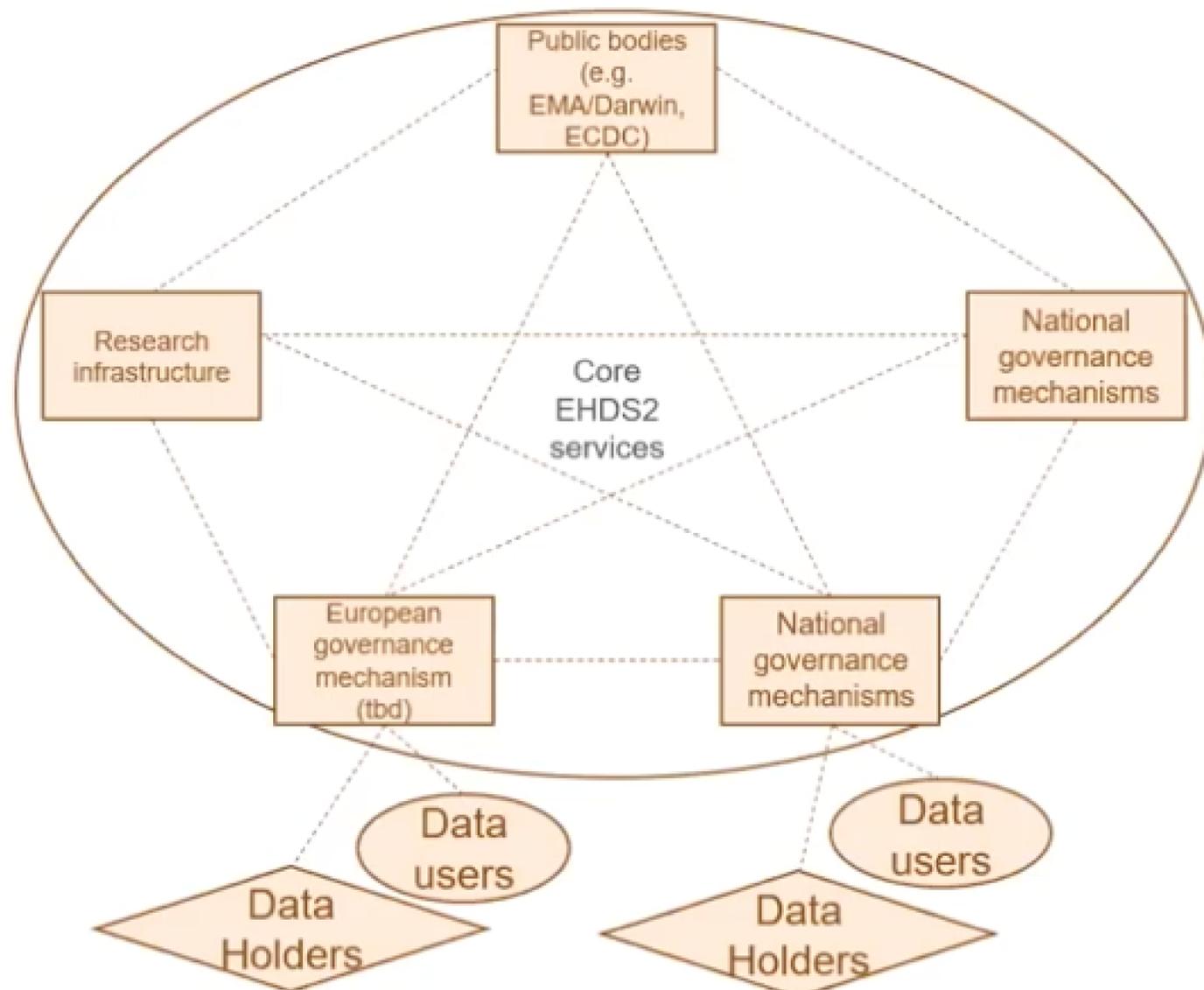
DATA Holders make health data available for research and policy making

DATA Consumers use data for research or policy making

Findata, FR Data Hub, DK Data permit authority, DE Research Data Centre

EMA/Darwin, ECDC

ERNs, BBMRI, PHIRI, ELIXIR, eBrains



Děkuji za pozornost

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