Panel On

Advanced Citizen-oriented Services

Moderator: Salah Uddin Ahmed, PhD

University of South-Eastern Norway, Norway

The Thirteenth International Conference on Digital Society and eGovernments

ICDS 2019

February 24, 2019 to February 28, 2019 - Athens, Greece

Panelists

- **Christian Bourret** University Paris East Marne-la-Vallé, France
- **Naohisa Hashimoto** AIS, Japan
- **Sujitkumar Hiwale** Philips Research India, India
- **Arian Rajh** Croatian Agency for Medicinal Products and Medical Devices, Croatia
- **Oliver Heinze** University Hospital Heidelberg, Germany
- **Salah Uddin Ahmed** University of South-Eastern Norway, Norway

Agenda/Topics

- Co-production services. Some examples in e-Health and Real Estate sectors in France — ❖ **Christian Bourret**
- Potential of eHealth for mother and child care in the developing countries — ❖ **Sujitkumar Hiwale**
- Health services — ❖ **Oliver Heinz**
- Transportation, and can I choose automated vehicle — ❖ **Naohisa Hashimoto**
- The e-Citizens system in Croatia – services, experience, opportunities — ❖ **Arian Rajh**
- Citizen-oriented services to fight corruption in context of developing countries — ❖ **Salah Uddin Ahmed**

Main Issues

- Post panel discussions were mostly on the topics of e-health services and e-citizen systems. Audience raised several questions about the future of e-services.

➢ Issues that were raised in the discussion:

- Security – is it enough secured?
- Sensitive data – many people are reluctant to share (i.e., medical records)
- Benefits of e-services – removes the need of physical locations/presence
- Transparency – allows better transparency
- Many un-useful services – many services not used to that extent by real users
- Application Context – same services may not work in all cases due to differences among users
- Privacy, GDPR

Problems or Odds

- People’s unwillingness
- Lack of Funding
- Lack of Administrative awareness
- Lack of skilled/ knowledgeable persons
- Lack of proper infrastructure
- Interoperability

Solutions to take forward

- Make useful applications – focus on real users, Not being over enthusiastic or run after hype
- Focus on Basic needs rather than less used features
- Keep designs simple
- Context awareness – copy good examples from others but fit with context and need
- Promote, disseminate the real benefits
- People are not only convinced but also eager to use when they see the benefits
- Stable, secured and transparent application gets public trusts

Panel on Advanced Citizen-oriented Services

Citizen-Oriented E-government Services to Fight Corruption

Salah Uddin Ahmed, PhD

Associate Professor, Information Systems
School of Business, University of South-Eastern Norway

E-government Services

E-government is defined as , “the use of technology to enhance the access to/and delivery of government services to benefit citizens, business partners and employees”

E-government and Corruption

Relation between EGDI vs CPI

UN's e-government development index (EGDI)

Transparency International(TI)'s corruption perception index (CPI)

Years analyzed 2003, 2004, 2005, 2008, 2010. 2012, 2014 and 2016

World correlation average of 0.79 (high correlation)

*(Ref- Tintin et al.)

EGDI and CPI

Table 1: EGDI status of Bangladesh and its neighbouring countries.

Name of the Countries	Rank Out of 193	EGDI	Online Service Component	Telecomm Infrastructure Component	Human Capital Component
Sri Lanka	74	0.5418	0.6535	0.2341	0.7376
Maldives	94	0.4813	0.3622	0.3952	0.6865
India	118	0.3834	0.5433	0.1372	0.4698
Bhutan	143	0.2829	0.2441	0.1755	0.4290
Bangladesh	**148**	**0.2757**	**0.3465**	**0.0941**	**0.3866**
Pakistan	158	0.2580	0.3228	0.1174	0.3337
Nepal	165	0.2344	0.1575	0.1684	0.3774
Afghanistan	173	0.1900	0.1811	0.1472	0.2418
Myanmar	175	0.1869	0.0236	0.0084	0.5288

Table2: Transparency Internationals CPI

Country	**Rank**	**Score**
Afganistan	177	15
Bangladesh	143	28
Mayanmar	130	30
Nepal	122	31
Pakistan	117	32
Srilanka	91	38
India	80	40

EGDI and CPI

- Ghana reached the level of the index EGDI 0.241 in 2003 and 0.712 in 2014, an increase of 95% in the level of usage of E-government.
- The level of corruption decreases by more than 45%.

EGDI and Transparency

- Empirical evidence supports the relationship between transparency and e-government (ref- Abu-Shanab)

Strategies for Fighting Corruption

Strategies suggested by UNDP to fight corruption

- prevention
- enforcement
- access to information
- empowerment and capacity building.

E-government Services Capabilities

Benefits

- fast and effective administration
- Provide better services
- Transparency and accountability

Electronic delivery of services

- reduces interactions with officials
- speeds up decisions
- reduces human errors

Prevent corruptions

- Easy access of information
- Greater transparency
- Limiting human contact
- Closure of loopholes for bribes (ref. Lord Ntambw)

Well designed e-gov services

Transparent, limiting human involvement, ease access of information

Fight corruption through many mechanisms like

- making corruption actions more risky
- providing incentives to public officials
- making it easy to select honest officials
- making officials more accountable
- help maintain norms of integrity and trust

Areas of application and Improvement

Apply E-Services Services

- Tax Return
- Passport Office
- Railway Services
- Land Record and Survey Department
- Bus Transportation Systems
- Road Transport Authority

Measure progress using Indexes

- E-Government Development Index (EGDI)
- E-Participation – United Nations EPI
- Open Data Barometer 2017
- Open Data Index 2017

References

- Lord Ntambw – South Africa's Corruption Watch's (CW) head of finance. https://www.corruptionwatch.org.za/e-governance-useful-anti-corruption-tool/

- R. A. Tintin, C. C. Chávez, J. P. Altamirano and L. M. Tintin, "Could E-government Development Contribute to Reduce Corruption Globally?," *2018 International Conference on eDemocracy & eGovernment (ICEDEG)*, Ambato, 2018, pp. 187-194.
- Veronika Linhartová. The Role of E-government in mitigating corruption.
- Jamshed J. Mistry (*2012*) The Role of eGovernance in Mitigating Corruption. Accounting and the Public Interest: December 2012, Vol. 12, No. 1, pp. 137-159.
- Jamshed J. Mistry, Abu Jalal. An Empirical Analysis of the Relationship between e-government and Corruption. The International Journal of Digital Accounting Research Vol. 12, 2012, pp. 145 – 176.
- Emad A. Abu-Shanab. The Relationship between Transparency and Egovernment: An Empirical Support.

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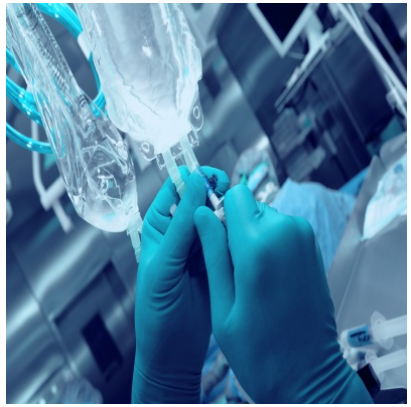


Panel on Advanced Citizen-oriented Services

Services for mobile patient engagement in healthcare

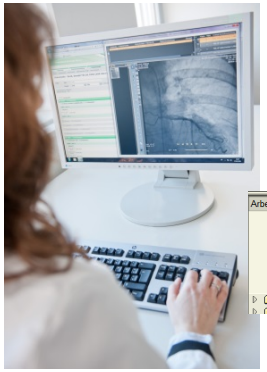
Dr. Oliver Heinze, Department of Medical Information Systems

oliver.heinze@med.uni-heidelberg.de | @_oheinze | www.mis-hd.eu

UK HD

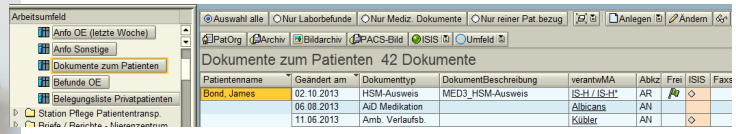
The patient journey for integrated care

Covering the whole patient journey:
Including prevention, treatment, follow-up, and research
To new healthcare related processes, services, business models

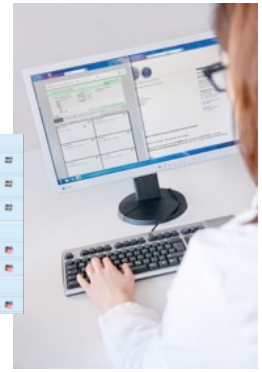


University Hospitals

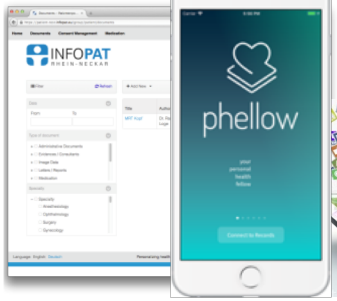
Hospital Information System



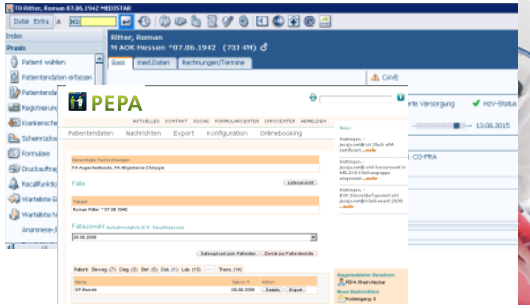
Partner clinics



Cross-Enterprise
Health Record



GP Systems & Portals



Citizens & Patients

GPs

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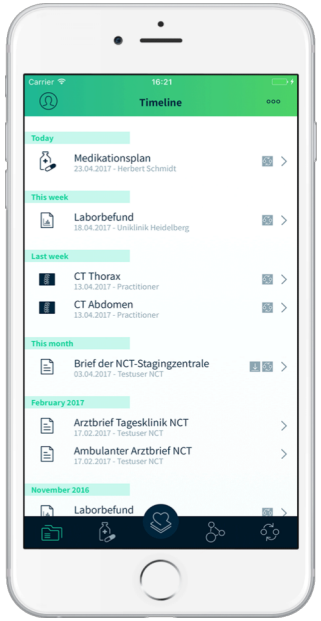
phellow seven

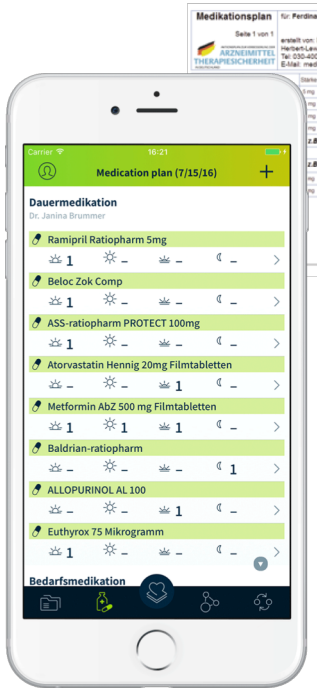
your personal health fellow 24/7
Access to information

- Age 41, engineer, married, two children
- Is doing sports (running, swimming)
- Is suffering a chronic disease (diabetes)

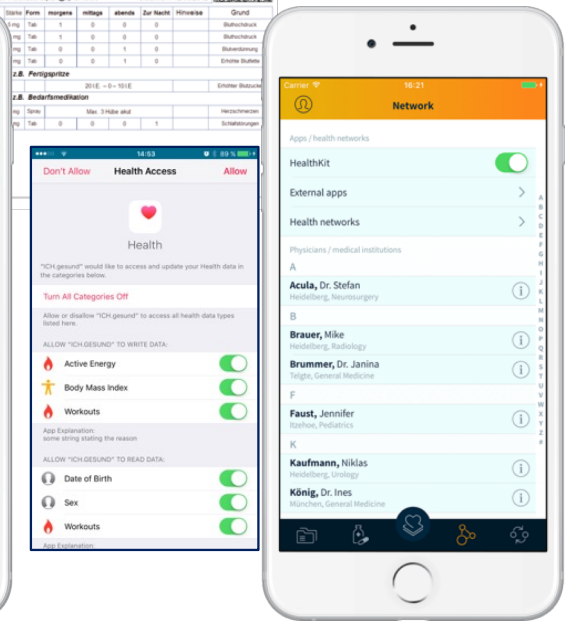
Status board



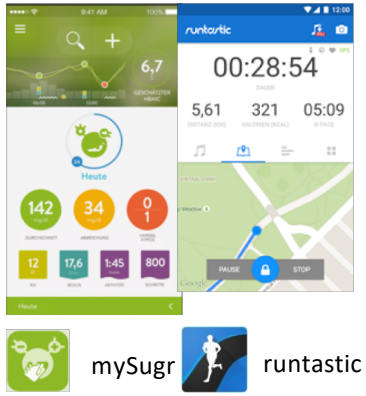
Access to medical history



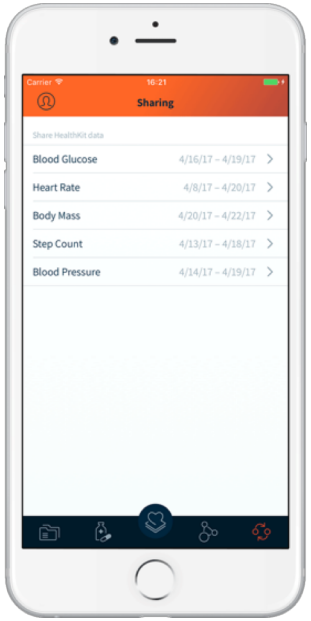
Digitize medication plans



Configure & manage the network
Treatment team, including
3rd party apps



Using 3rd party apps
& sensors

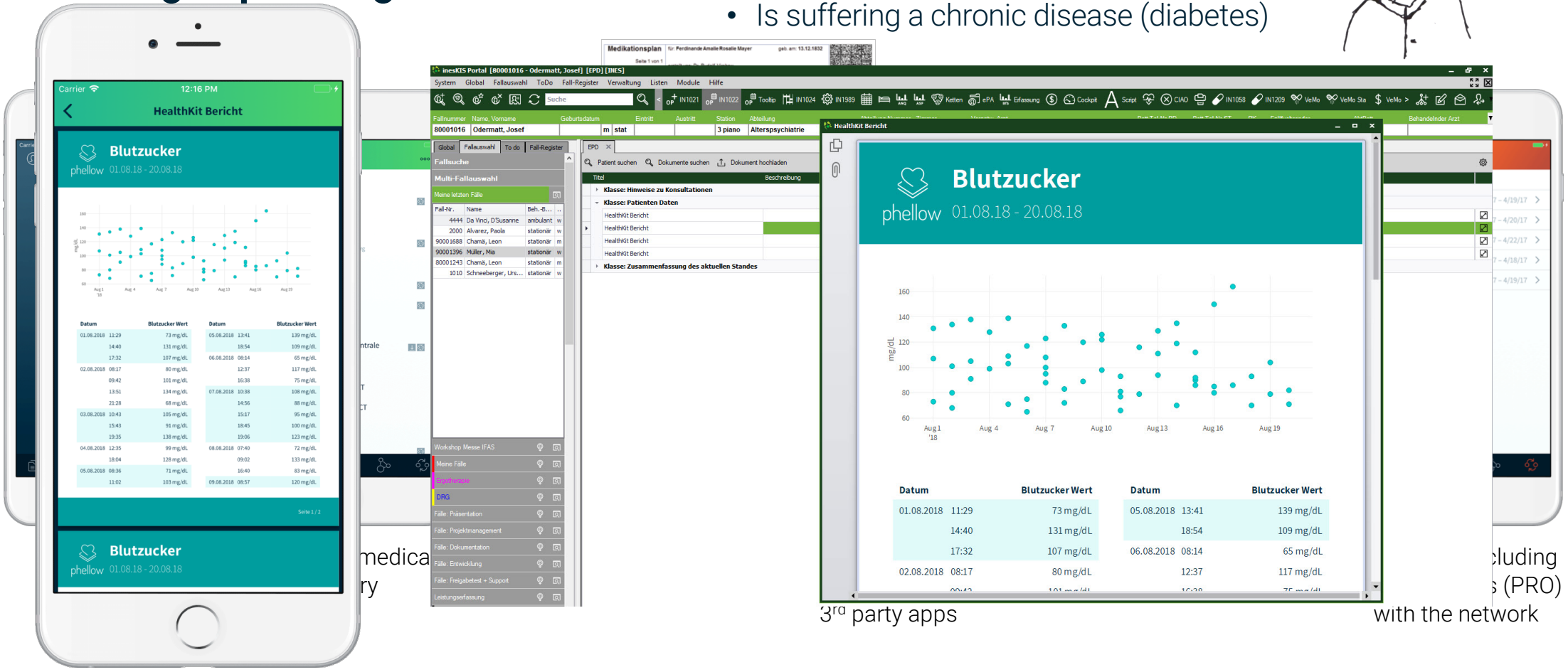


Share data including
questionnaires (PRO)
with the network

phellow seven

your personal health fellow 24/7
sharing of patient generated data

- Age 41, engineer, married, two children
- Is doing sports (running, swimming)
- Is suffering a chronic disease (diabetes)



medica
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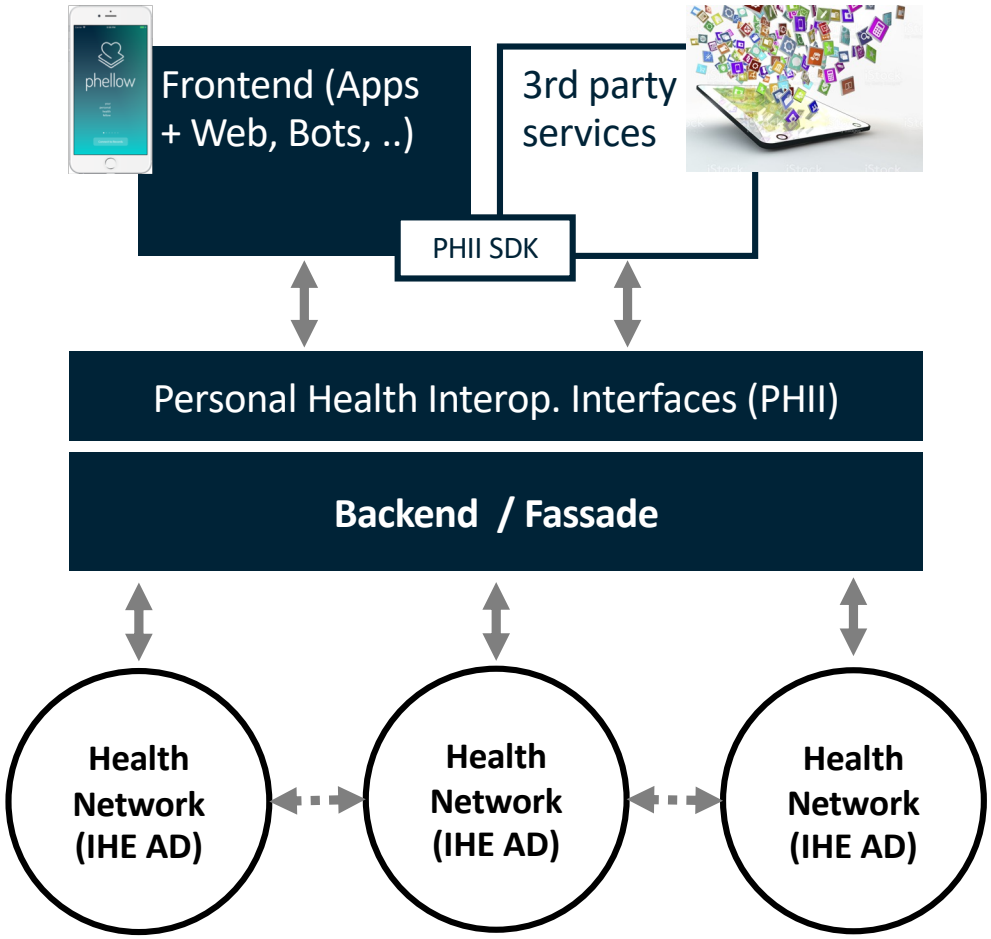
3rd party apps

cluding
s (PRO)
with the network

Architecture to integrated citizen-based services



Apps & Wearables

IHE + HL7 FHIR + Continua

Security and Privacy by Design
Interoperability / int. Standards

IHE XDS & Co.

IHE Affinity Domains
Connecting hospitals, GPs, ...

Trends

- Healthcare beyond the EHR
  - Scheduling appointment and self check-in
  - Consent management & data transparency
  - Smart wayfinding and planning
  - Video consultation e.g. for aftertreatment
  - Patient reported outcomes (for care & research)
- Seamless user experience with other services in the city of Heidelberg based on joint digital identities

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UK HD

The “e-Citizens” system in Croatia

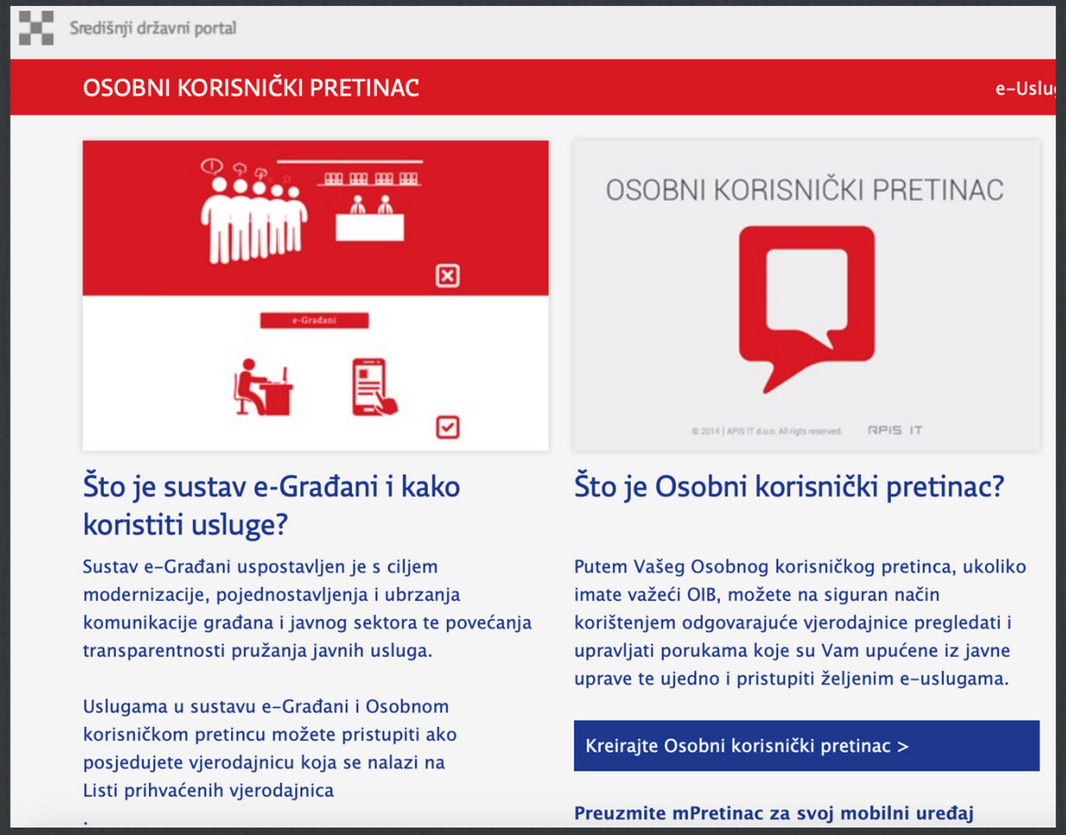
Services, experience, opportunities

Arian Rajh, PhD, Associate Professor
eTelemed 2019

Services - themes

- Components of the system
  - The eCitizens central portal
  - Personal inbox
  - National identification and authentication system
- Legal state and security
- Family and life
- Education and training
- Transport and vehicles
- Active citizens
- Finance and taxes
- Health
- Labor
- Business
- Housing and the environment

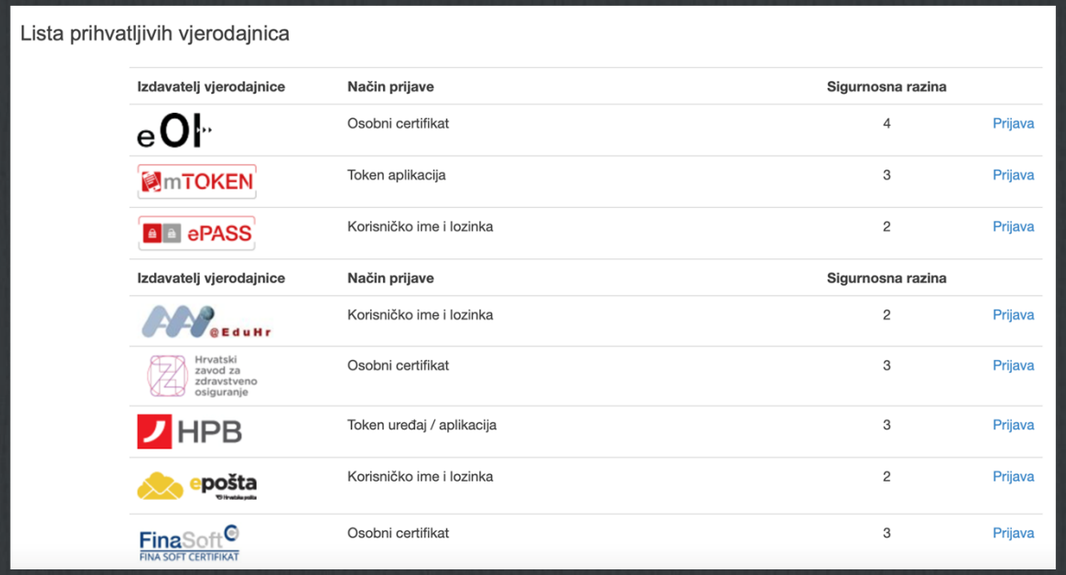
Services



The eCitizens web portal

- Health
  - My prescriptions
  - Issuing EU health insurance card
  - My GP
  - My health portal
  - Appointments

The use of the system



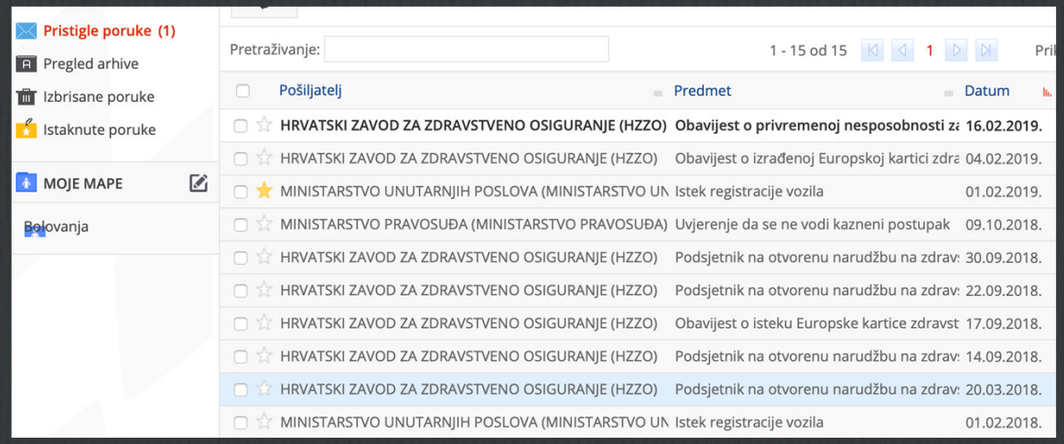
Lista prihvatljivih vjerodajnica

Izdavatelj vjerodajnice	Način prijave	Sigurnosna razina	
eOI	Osobni certifikat	4	Prijava
mTOKEN	Token aplikacija	3	Prijava
ePASS	Korisničko ime i lozinka	2	Prijava
Izdavatelj vjerodajnice	**Način prijave**	**Sigurnosna razina**	
AAI@EduHr	Korisničko ime i lozinka	2	Prijava
Hrvatski zavod za zdravstveno osiguranje	Osobni certifikat	3	Prijava
HPB	Token uređaj / aplikacija	3	Prijava
epošta	Korisničko ime i lozinka	2	Prijava
FinaSoft FINA SOFT CERTIFIKAT	Osobni certifikat	3	Prijava

Naziv_vjerodajnice	Ukupni_broj_prijava	Broj_jedinstvenih_korisnika
ePASS	7.524.374	381.976
ZABA token	970.597	122.529
AAI@EduHr	867.636	92.722
PBZ	541.537	72.583
mToken	397.695	43.585
Erste e-Građani	176.810	26.350
RBA	178.541	23.163
eOsobna	105.501	18.315
ePošta	236.758	13.832
HPB token	100.617	10.803
HT Telekom ID	88.819	10.761
OTP banka d.d.	59.410	9.331
Fina RDC osobni certifikat razina 4	27.918	1.895
HZZO	8.453	710
KentBank	5.331	533

- The system works with various credentials and ID certificates for access to the services
  - academic ID data
  - electronic ID card
  - bank card
  - health insurance certificate
  - ID for the ePost portal

The use of the system

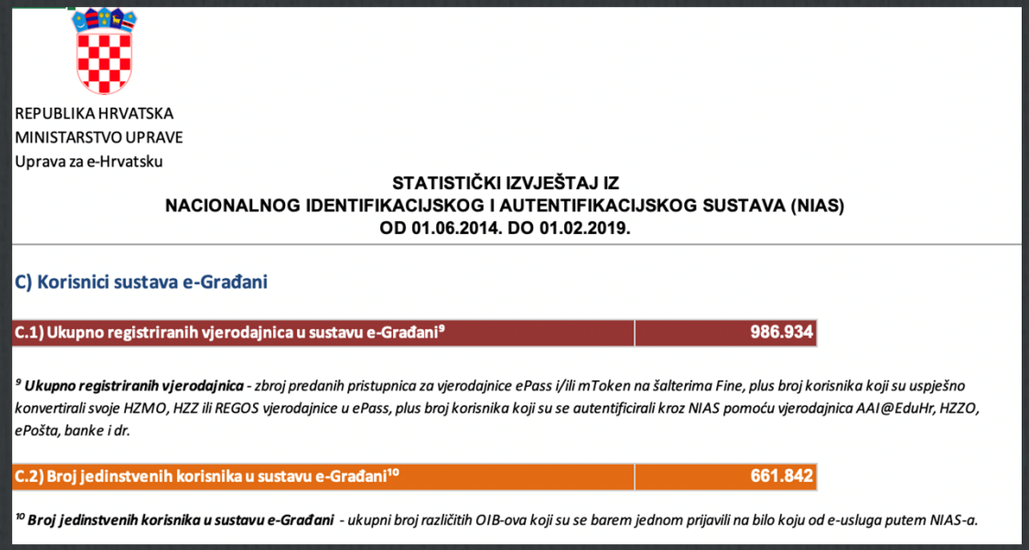


Notifications in personal inbox

- Personal inbox messages
  - Taken sick leave notifications
  - Various reminders (e.g. for renewal of vehicle registration)

Opportunities and future developments

- Disruption of paper-based processes
- New services are continually being made
  - …in the health domain
    - pharmacovigilance related



REPUBLIKA HRVATSKA
MINISTARSTVO UPRAVE
Uprava za e-Hrvatsku

STATISTIČKI IZVJEŠTAJ IZ NACIONALNOG IDENTIFIKACIJSKOG I AUTENTIFIKACIJSKOG SUSTAVA (NIAS) OD 01.06.2014. DO 01.02.2019.

C) Korisnici sustava e-Građani

C.1) Ukupno registriranih vjerodajnica u sustavu e-Građani[9]	**986.934**

[9] ***Ukupno registriranih vjerodajnica*** *- zbroj predanih pristupnica za vjerodajnice ePass i/ili mToken na šalterima Fine, plus broj korisnika koji su uspješno konvertirali svoje HZMO, HZZ ili REGOS vjerodajnice u ePass, plus broj korisnika koji su se autentificirali kroz NIAS pomoću vjerodajnica AAI@EduHr, HZZO, ePošta, banke i dr.*

C.2) Broj jedinstvenih korisnika u sustavu e-Građani[10]	**661.842**

[10] ***Broj jedinstvenih korisnika u sustavu e-Građani*** *- ukupni broj različitih OIB-ova koji su se barem jednom prijavili na bilo koju od e-usluga putem NIAS-a.*

Opportunities and future developments

- What could be done to increase the user-centricity of the e-Citizens e-government system?
  - widen services, rely on open data to create new services, including all public institutions which interact with citizens (G2C) + evaluation of services by their users and lessons learned
  - all the platforms should be covered
    - free legally valid eSignature can be used only in Windows environments (e.g., for registration of baby's name after the birth, which requires mother's and father's eSignature)
  - simplification and adjustment of services
    - adjustment for senior citizens + education campaign
    - gamification for younger citizens etc.

Potential of eHealth for mother and child care in the developing countries

Dr. Sujitkumar Hiwale

Philips Research India
February, 2019

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Content

- Trends in maternal and infant mortality
- Issues in the developing countries
- Trends in eHealth
- Potential and Challenges with eHealth

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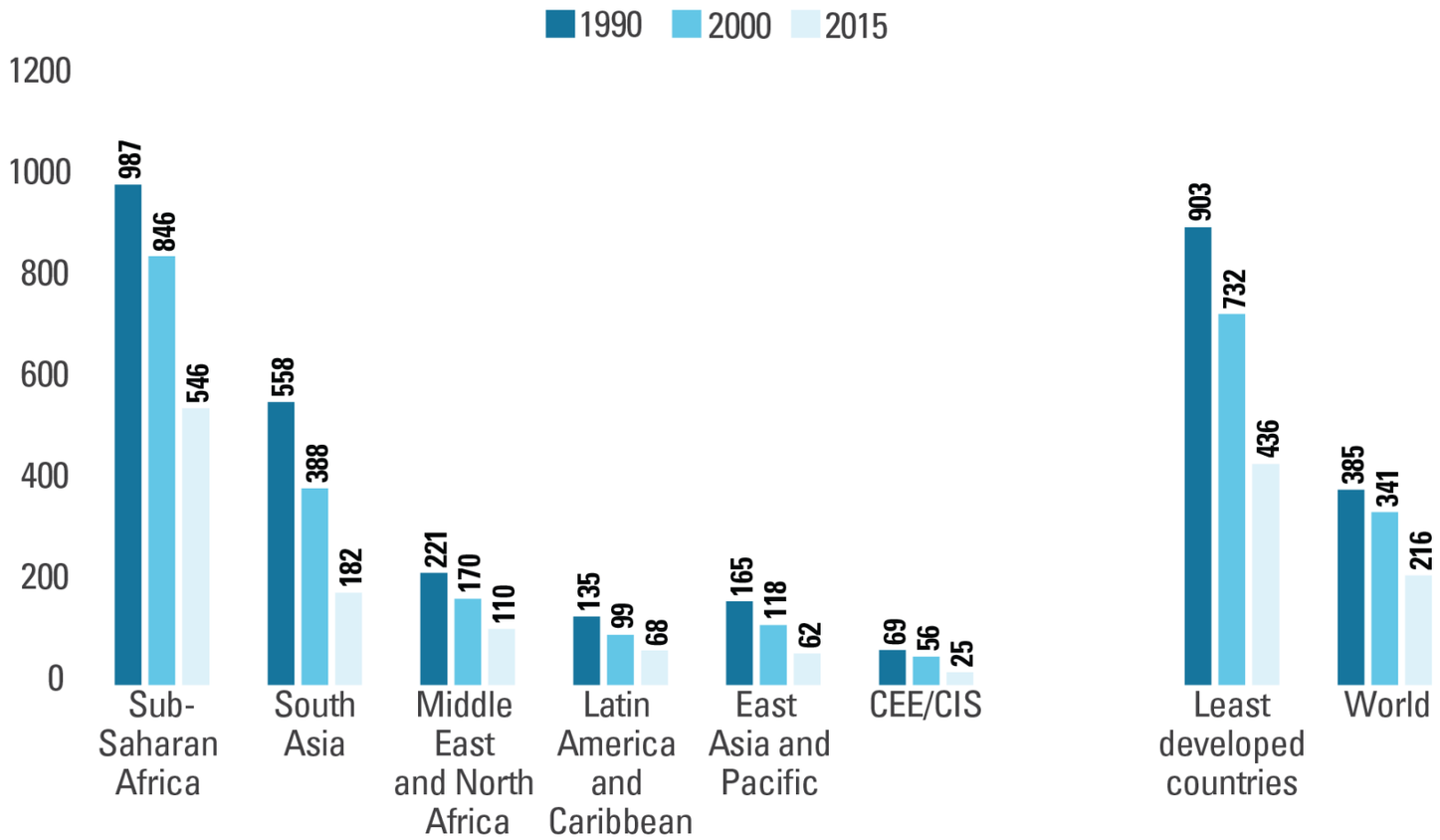
Trends in Maternal Mortality



Source: World Health Organization, UNICEF, United Nations Population Fund and The World Bank, *Trends in Maternal Mortality: 1990 to 2015*

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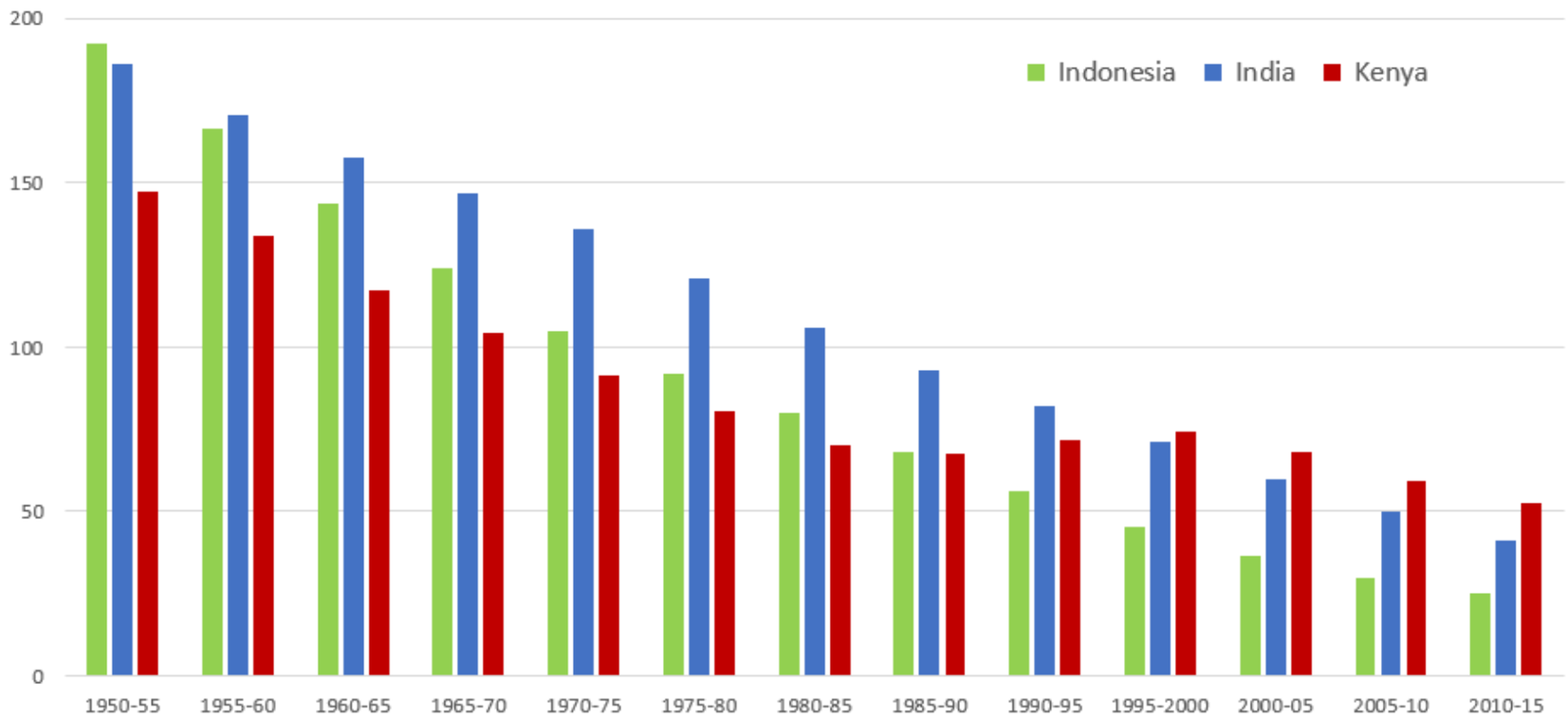
Trends in Infant Mortality



Source: United Nations, World Population Prospects

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Reasons for sluggish progress…

- Limited access to preventive maternal health services,
- Poor administration,
- Poor logistical and technical ability,
- Insufficient financial assets, and
- Dearth of skilled health personnel

Source: United Nations, World Population Prospects

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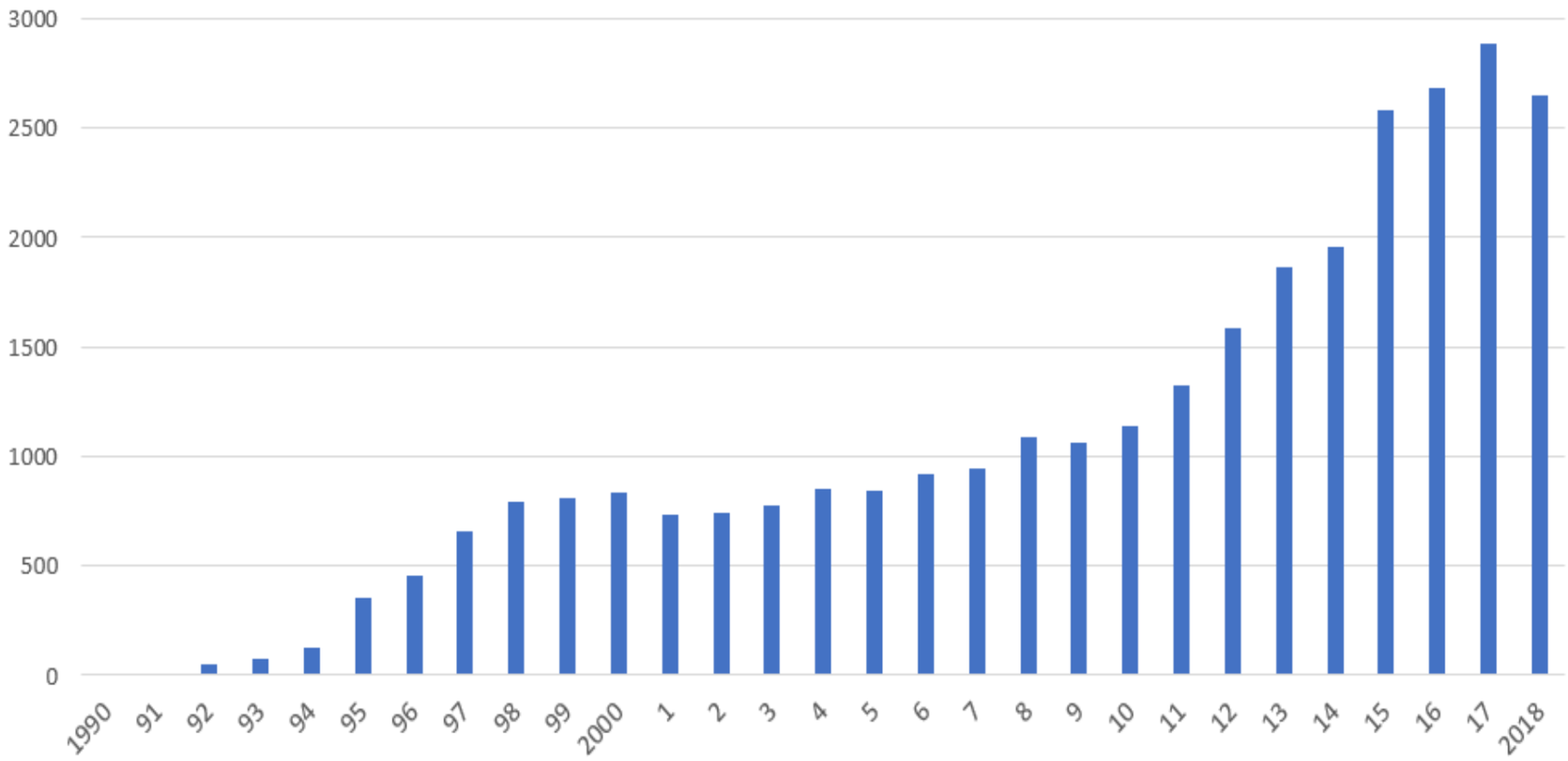
Trends in eHealth literature



Source: PubMed

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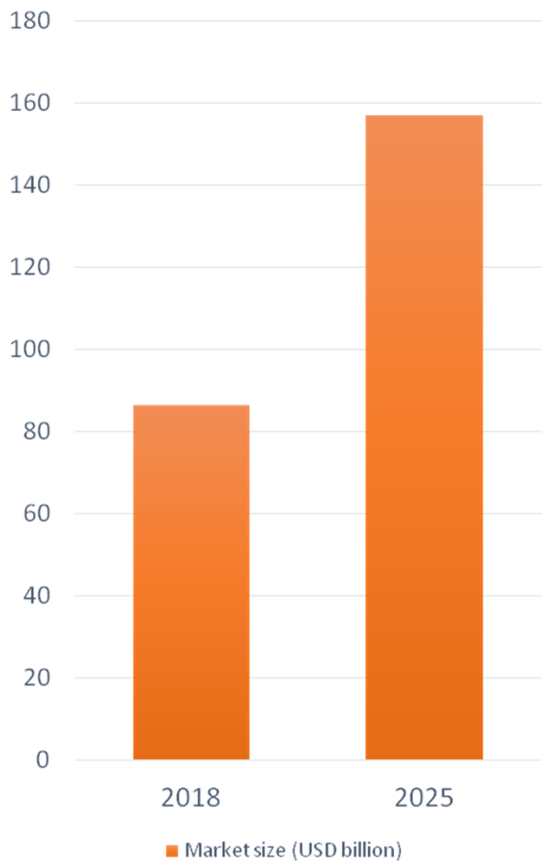
eHealth: Potential and challenges

Potential



Challenges

- Usability
- Low adoption
- Limited evidence and deployment
- Scalability
- Interoperability
- Cost effectiveness
- Contextual factors
- Uncertain regulations, ethical and, privacy related issues

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UNIVERSITÉ PARIS-EST MARNE-LA-VALLÉE

INSTITUT FRANCILIEN D'INGÉNIERIE DES SERVICES

DicenIDF
Dispositifs d'Information et de Communication à l'Ère Numérique - Paris Ile de France

Services Co-production.

Some examples in e-Health and Real Estate / Building Sectors in France

Christian BOURRET

PANEL - **Advanced Citizen – Oriented Services**

ACHI – Athens – February 25, 2019

E-Healh through the evolution of the French *Groupe La Poste*

Groupe La Poste = **Mail** delivery (postage stamps) now largely electronic and sharp decrease in paper mail (letters).

The **Postman's job** must be completely redesigned through innovations centered on everyday life betting on start-ups.

"**Caring for my parents**" experience launched in 2017. Postmen stop to parents' home / once or several times a week and send a short report via SMS or email.

Service completed by **Helpline** for older people at home. Highly competitive market. A competitive advantage on the human follow-up by the postmen during their visits.

Caring for my Parents

Groupe La Poste

Also **home delivery of drugs** by the postmen: partnerships with **chemists** that will thus better retain their customers.

Also Partnerships with **private hospitals** companies to prepare hospitalizations and **optimize care pathways.**

Social responsibility of company with **citizenship values** + social link

Idea of **services co-production** at the heart of all this evolution

But far **away from public service** ideal … A form of public services “commodification” of public services ?

Importance of **data** and connection / internet also / Real Estate and Building Sectors

In Real Estate and Building Sectors

Always idea of services co-production

Tablet uses / individual house building. Example of **bachelor students** in apprenticeship.

To visualize evolutions of the house building

To **coordinate interactions** / different building jobs (painting, plumbing, electricity ...). And also

With home buyers and different services (municipality, etc.) + neighbors

Data and **memory of the house** cf. EHR (Electronic Health Record).

Memory and traceability.

BIM or Building Information Modeling

A smart house in a **Smart City** or Village.

→ **All is data for Advanced Citizen-Oriented Services** in a services co-production way