



SoftNet 2019

November 24-28, Valencia, Spain



Panel:
**Designing by Considering
User Feedback and Personalization**

Shada Alsalamah, King Saud University, Saudi Arabia

Olivia Ernestina Sanchez Graillet, CITEC, Bielefeld University, Germany

Rajeev Barua, University of Maryland, USA

Fabrizio Marangio, Institute for High Performance Computing and Networking, Italy

José Manuel Fonseca, UNINOVA, Portugal

Herwig Mannaert, University of Antwerp, Belgium

Universiteit Antwerpen



Panel Overview



- **Shada Alsalamah**
 - How to build trusted ecosystem for disaster victim identification for global patients
- **Olivia Ernestina Sanchez Graillet**
 - Precision health: is it plausible to personalize health care ?
- **Rajeev Barua**
 - To what extent do we use user input and customization for computer security and what will happen in the future
- **Fabrizio Marangio**
 - The use of DLT (Distributed Ledger Technology) technologies for the development of patient-centric systems.
- **José Manuel Fonseca**
 - Is ethics an obstacle for Artificial Intelligence in healthcare ?
 - Is Artificial Intelligence a threat to health workers ?
- **Herwig Mannaert**
 - Some related thoughts on user input and design.

Some Related Thoughts



- Using user feedback and personalization is absolutely crucial for user acceptance and adoption
- User requirements and use cases should not be seen nor used as a design methodology
 - The relationship between user requirements and constructional primitives is many-to-many
 - Designing is about generalization use case requirements, and knowing when to halt this process
- User requirements and needs do not seem appropriate nor used for deeply innovative designs

Some Related Thoughts



Where does lasting prosperity come from? The answer: Market-Creating Innovations.

— Clayton Christensen

You decide what you will make. Herman Miller has never done any market research or any pretesting of its products to determine what the market "will accept." If designer and management like a solution to a particular furniture problem, it is put into production. There is no attempt to conform to the so-called norms of "public taste," nor any special faith in the methods used to evaluate the "buying public."

— George Nelson

It took us three years to build the NeXT computer. If we'd given customers what they said they wanted, we'd have built a computer they'd have been happy with a year after we spoke to them - not something they'd want now.

— Steve Jobs

I do zero market research. Period.

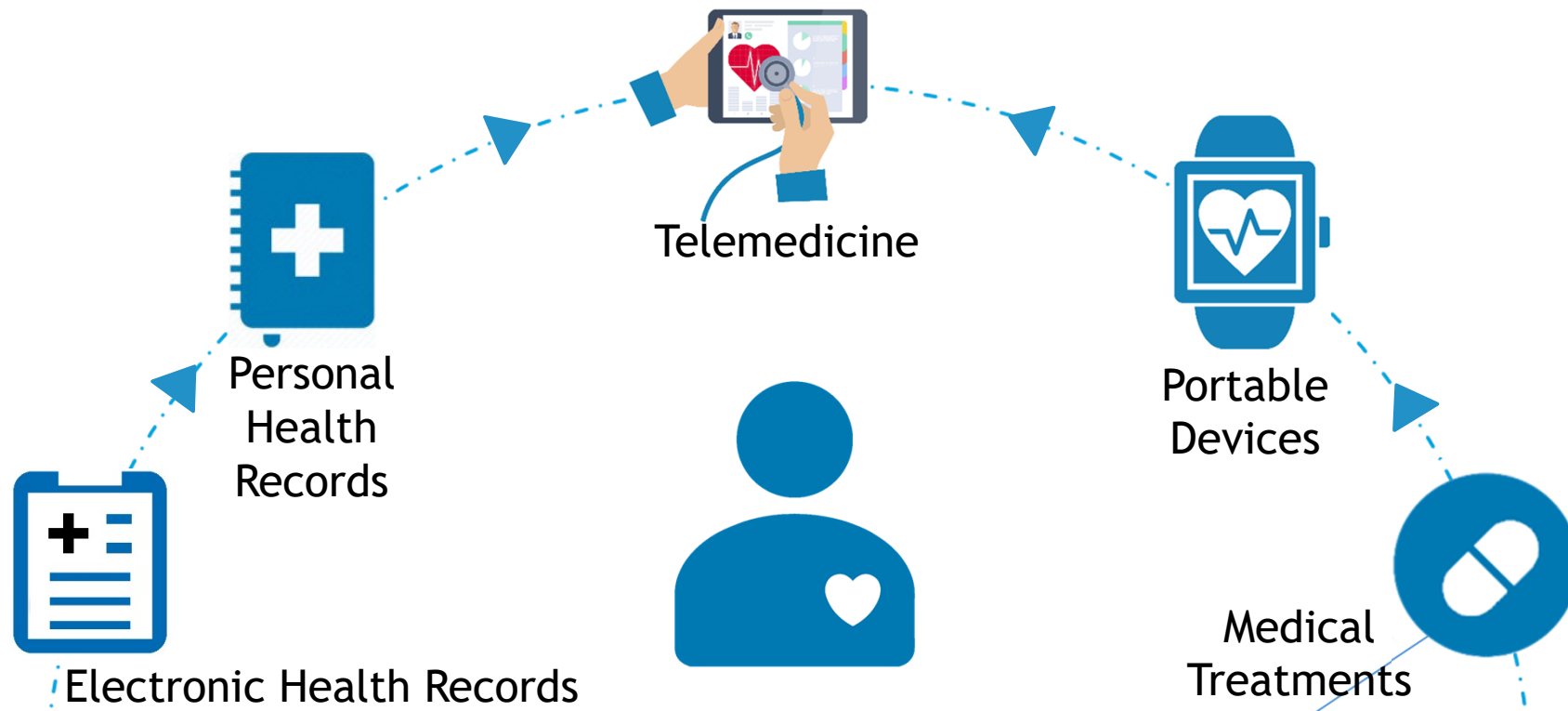
— Elon Musk

Questions, Remarks, Comments, ...

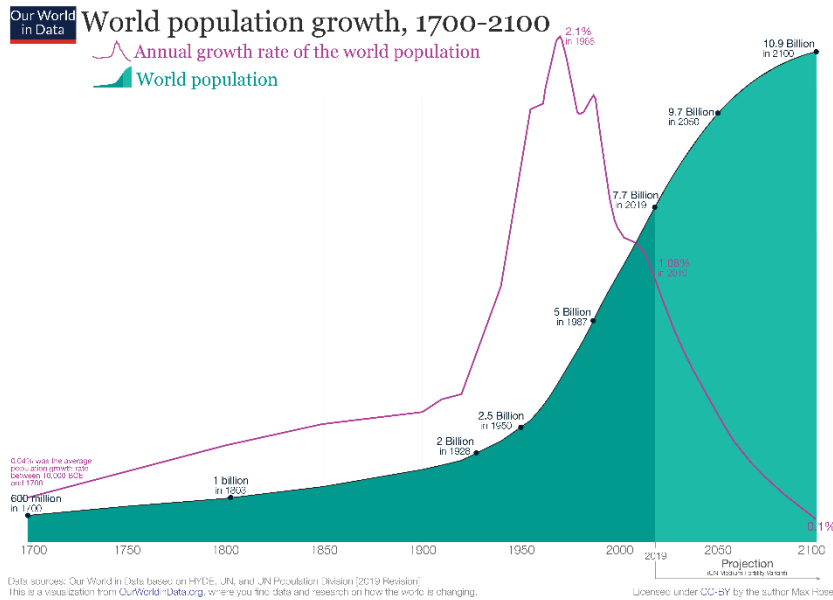


DLT for Patient-Centric Systems

Mario Ciampi, Angelo Esposito, Fabrizio Marangio,
Giovanni Schmid, Mario Sicuranza



Population Growth



▶ 10.9 billion by 2100

Fewer children, more elderly people

▶ Growth rate of 0.1%



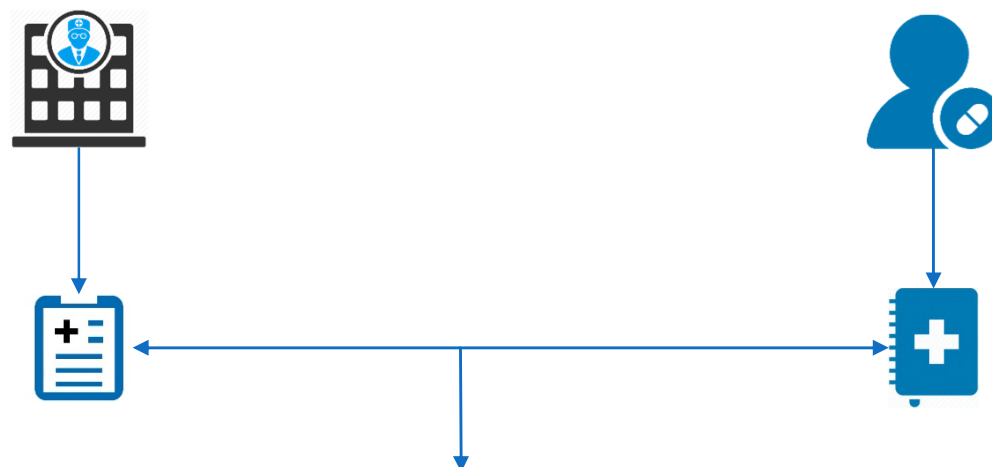
Increase in public health costs

▶ Possible solutions: Prevention and dehospitalisation

Integration Between Electronic Health Record (EHR) and Personal Health Record (PHR)

▶ EHR: health info produced and stored by health providers

▶ PHR: a set of personal health information provided by the patient



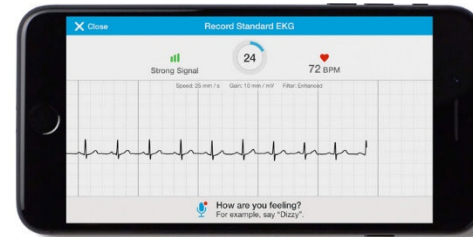
▶ The integration between EHR and PHR could improve patient's health monitoring leading to significant benefits for medical diagnoses

Portable Devices and Security Framework

- ▶ Increased use of portable medical devices



Wireless smart glucometer by iHealth



EKG monitor by AliveCor

- ▶ The IECEE established the Medical Electrical Equipment Task Force (IECEE MEE) and is focusing on cybersecurity for the medical industry

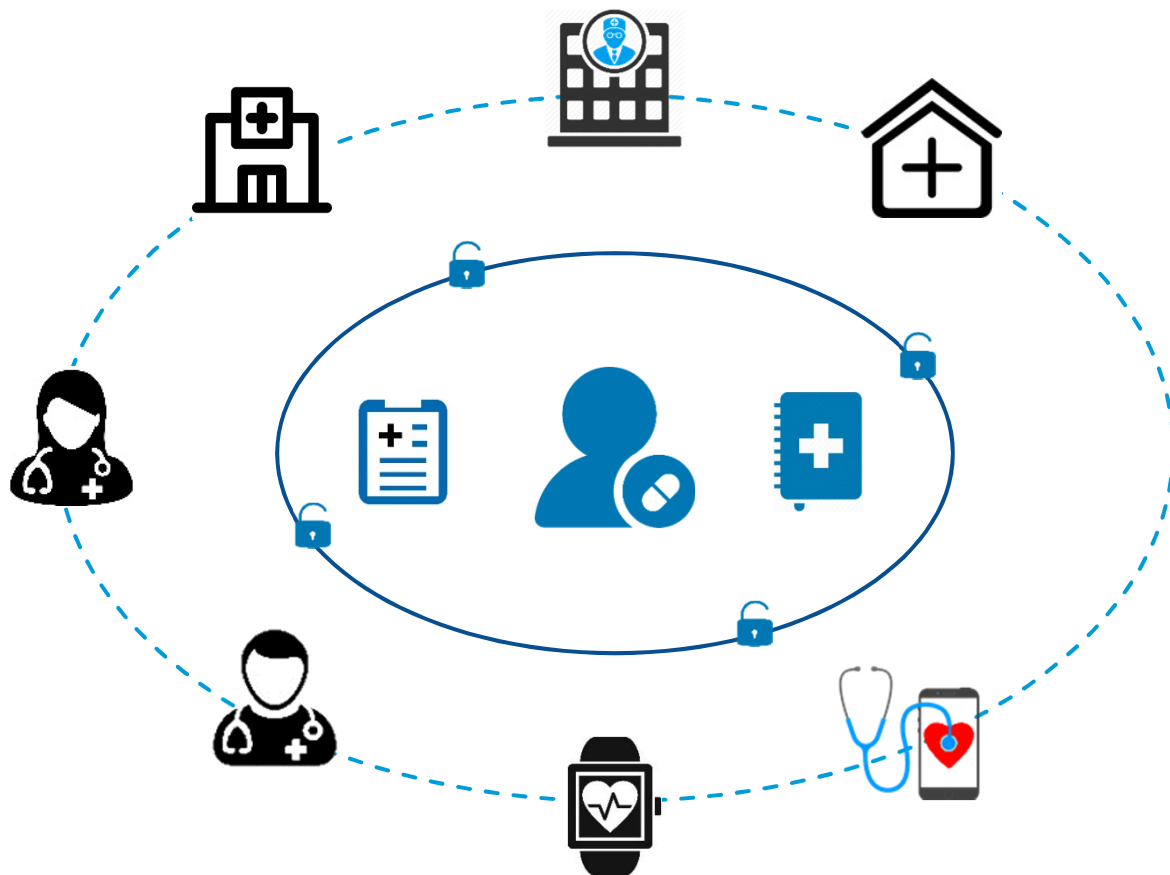
Health data are valuable and exposed to significant risks



Need to develop very sophisticated protection systems



Permissioned DLT Systems



- ▶ Data access monitoring
- ▶ Transparency of processes
- ▶ Fewer disputes
- ▶ Easy retrieval of data
- ▶ Immutable
- ▶ Event driven

Permissioned DLT Systems for e-Health

*It make sense to use
permissioned systems?*



*Can we identify predefined
assets?*

*Is it possible to create
general transactions?*

*Can the immutability have
some side effects?*



Thank you for your attention!

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Istituto di Calcolo
e Reti ad Alte Prestazioni



The Fourth International Conference on Informatics and Assistive Technologies for
Health-Care, Medical Support and Wellbeing

HEALTHINFO 2019

November 24, 2019 to November 28, 2019 - Valencia, Spain

Panel on Citizen-Centric Systems

Designing by Considering User Feedback and Personalization

José Manuel Fonseca

UNINOVA / Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa



Is ethics an obstacle for Artificial Intelligence in healthcare ?

- Research focused on personalized medicine has developed significantly over the past decade...
- What are the ethical, legal and social implications of this type of research?
- Is medical data kept hidden due to ethical problems fear?



Is Artificial Intelligence a threat to health workers?

- Is AI a threat or benefit to health workers?
- Can AI substitute healthcare professionals in the future?
- Will patients benefit by gaining increased access to their data ?



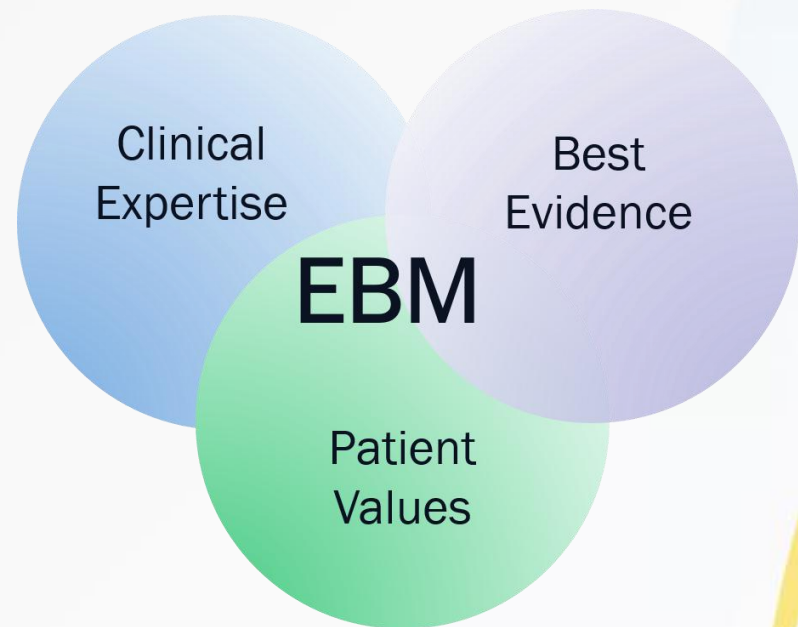
Panel on Citizen-Centric Systems Designing by Considering User Feedback and Personalization

Olivia Sanchez-Graillet
CITEC, Bielefeld University, Germany



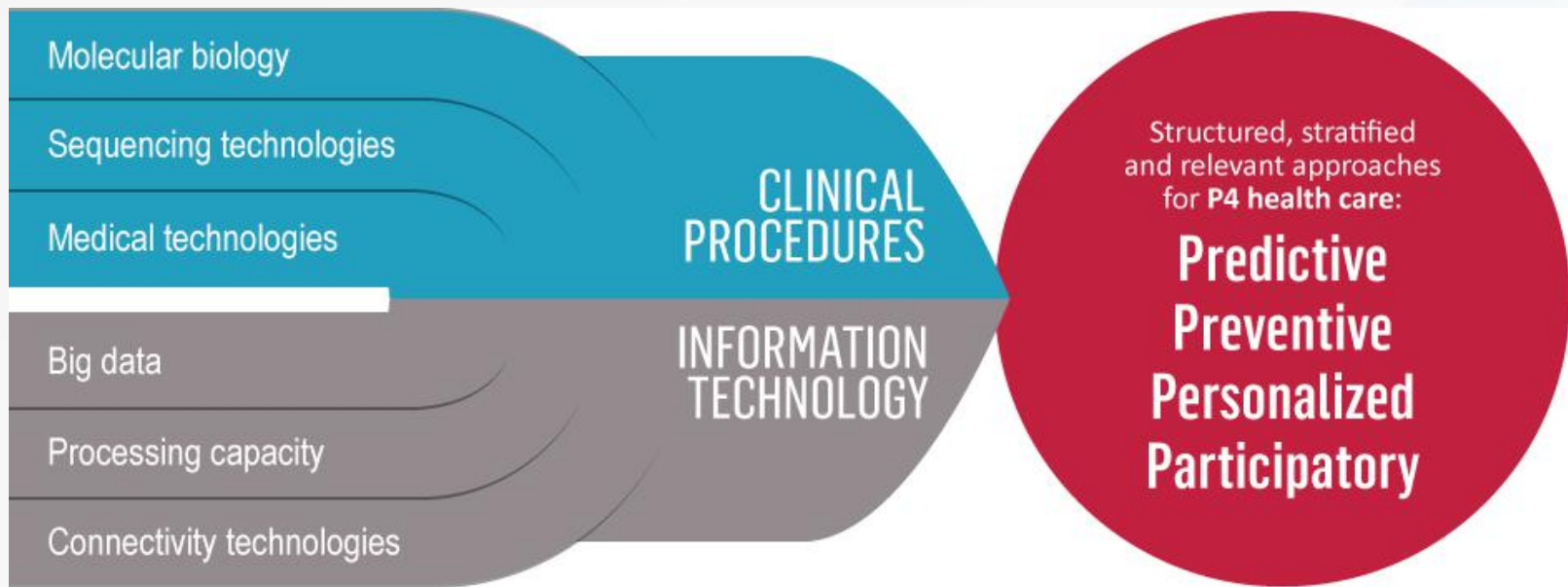
Introduction

- **Eminence**-based medicine vs. **Evidence**-based medicine



Personalize Healthcare

- Tailoring medical patient care/treatment to the individual characteristics of each patient.
- **P4:** use of tools and strategies of systems biology and medicine to quantify wellness and demystify disease for the well-being of an individual.



Questions

- By analyzing biomedical data on a big scale, is it feasible to tailor the right therapeutic strategy to a person at the right time?
- Would individualized healthcare help health prevention and promotion, and as a consequence, to reduce costs associated with healthcare?