

From Chip Cards to Personalized Portable Devices and Sensor Networks: Wireless Personalized Health Service Provision

Peter PHAROW and Paul CHESHIRE
EFMI WG PPD (former WG CARDS)

A few introductory remarks

- Users and stakeholders: simplified, standardized methods to access health information, applications, and services
- Modern Health Information Systems (HIS), Public Health Systems (PHS), departmental systems (including EHR), etc.
- Increasing use of wireless communication technology in the domain of health care and welfare (not only mobile phone)
- Extended networks of health care establishments crossing national borders and domain boundaries
- Networks of persons (patients, citizens, health professionals)
- Biomedical devices and state-of-the-art eHealth technology
- Home care, wellness, lifestyle, nutrition, mobility, ...

Devices, devices, devices ...

Emergency Ambulance



Diagnosis & Decision support



Questions (and domains) left:

What about further treatment ??

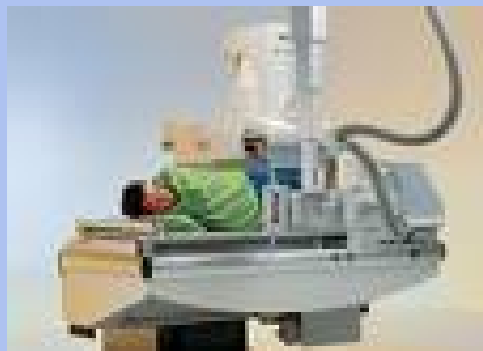
What about rehabilitation ??

What about Home Care ??

Emergency Car



Observations & Investigations

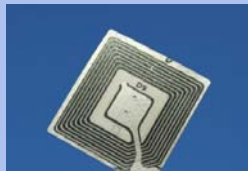


Paradigms are there to change

- Shared care paradigm → personal care paradigm
- Organization-centered → process-oriented → person-centered approach
- Static roles → dynamic workflow management
- Mainframes → decentralized systems and ad-hoc networks
- Policy makers, standards developing organizations, industry, patient and citizen groups → mobile world → mHealth
- Security, privacy, quality support, etc. → and safety !!

- Are there potentially new stakeholders to be identified ??
- What about the awareness of user communities in Europe and beyond towards personal(ized) portable devices, sensors and actuators, and networks combing all these devices ??

Personal(izable) devices ...



We face eHealth challenges

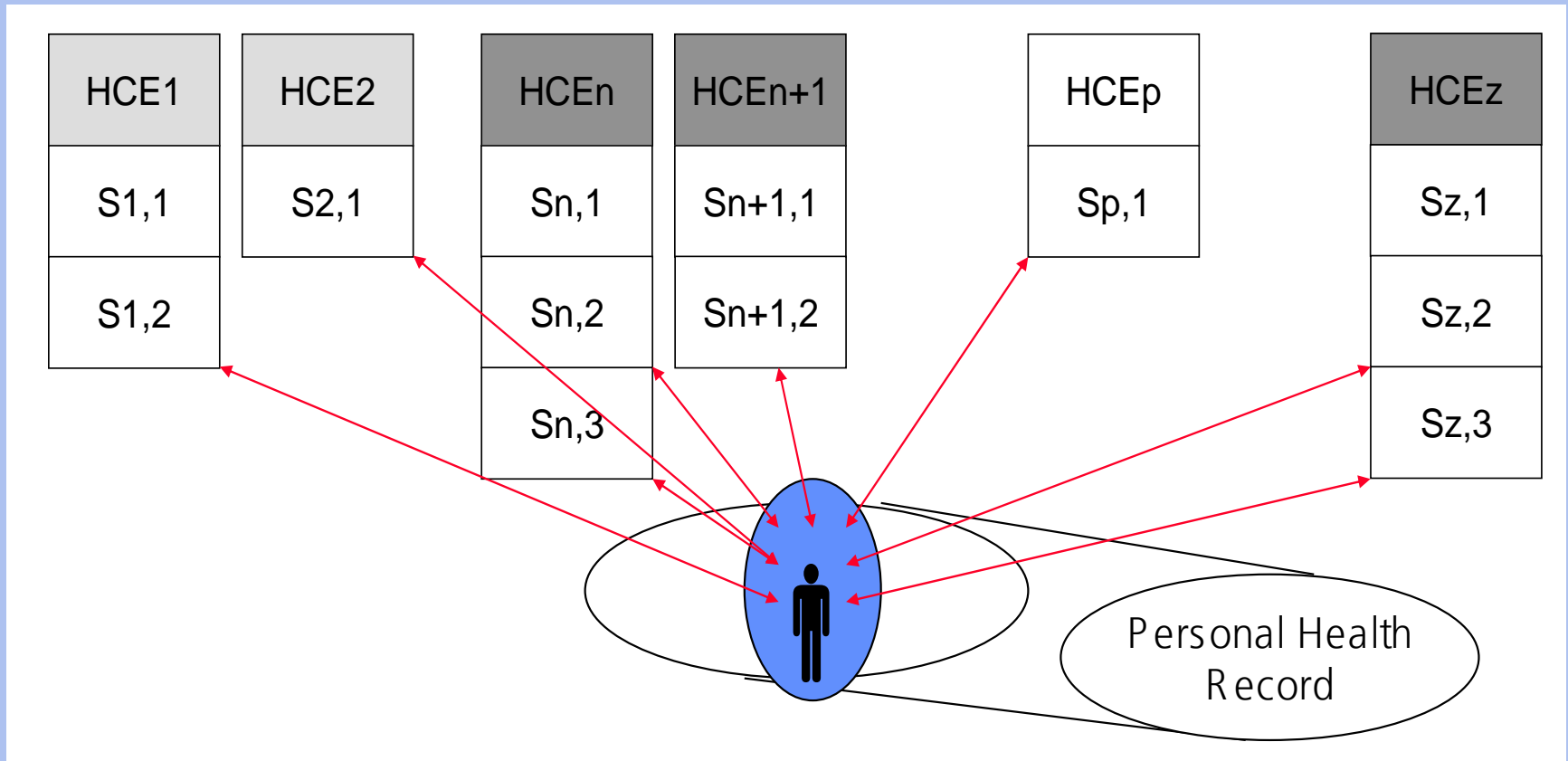
- Challenge 1: Make health care and welfare safe and reliable
- Challenge 2: Make health care and welfare available to all

- Biomedical devices and state-of-the-art eHealth technology
- Personalized ubiquitous health services, Body Area Networks (BAN, WBAN), micro systems, nano technology, networks of sensors
- Standardized and secure personal (and personalized) access to health care applications, information and services anytime

- Extended communication and cooperation in health care and welfare within and between all (!) collaboration partners
- Cross-border healthcare needs in an enlarged and even enlarging world beyond the current (national and domain) borders

Towards personal(ized) health

Many sources, many modalities, many connections, many requirements



Monitoring persons



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“Ubiquitous Computing“ as better way for home care

To what degree may, shall, and must “Monitoring” be installed?



Some related aspects to address

- Who represents the **driving force** for the paradigm shift in the domain of health care and welfare?
- Can networks of PPD, sensors, and actuators be used for **seamlessly** providing ID management, personalization, health data, health information, and controlled access to health services?
- Can all these devices **incorporate the advantages** of formerly used tokens, cards, and chips?
- Can **security, safety, privacy, quality** be guaranteed while applying PPD in a personal (BAN, Home Care) environment?
- What are the currently applicable and **key science and technology** trends in personalized health care, and does the networked approach of PPD, sensors, and actuators meet them?
- How can current and future **health care management scenarios** benefit from advanced networks of devices?
- How to attract **patients (citizens)** to take up their **role**?

Thematic presentations

1. Qiang PAN (Shanghai, China): “Collaborative Information Processing in Sensor Networks”
2. Françoise PETERSEN (Sophia Antipolis, France): “Standard for Personalized eHealth Services”
3. Tomas TRPIŠOVSKÝ (Prague, Czech Republic): “NFC - Near Field Communication Mobile Phones as Enabler for Wireless Health Services”
4. Asbjørn HOVSTØ (Oslo, Norway): “Intelligent Transportation Including Support for Sensor Networks”
5. Fritz MEIER (Nuremberg, Germany): “Sensor Networks for Optimization of Blood Bag Logistics in Hospitals”
6. Pekka RUOTSALAINEN (Helsinki, Finland): “Intelligent Chips – An Advisor Towards Health Support for the Wireless Patient”

Presentations

<http://www.efmi.org>

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