



Instituto de Aplicaciones de las Tecnologías de la
Información y de las comunicaciones avanzadas



Personal Health: The New Paradigm to make Sustainable the Health Care System



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Goal

To be aware of the current management of the chronic conditions,

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THE PATIENTS KNOW MORE ABOUT THEIR DISEASES THAN ME. I MUST GET FASTER MODEM, HIGHER SPEED INTERNET ACCESS THAN THEM



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Noncommunicable diseases are responsible for 86% of deaths and 77% of the disease burden in Europe

Cuidado innovador para las condiciones crónicas:
Agenda para el Cambio

Informe Global



Informe Global

Atención de salud para las condiciones crónicas
Enfermedades no transmisibles y salud mental
desarrolladas en las autoridades nacionales
de enfermedades no transmisibles

Chronic conditions are estimated to account for 70-80% of health care expenses in Denmark

Chronic conditions comprise 8 of the top 11 causes of hospital admission in the United Kingdom

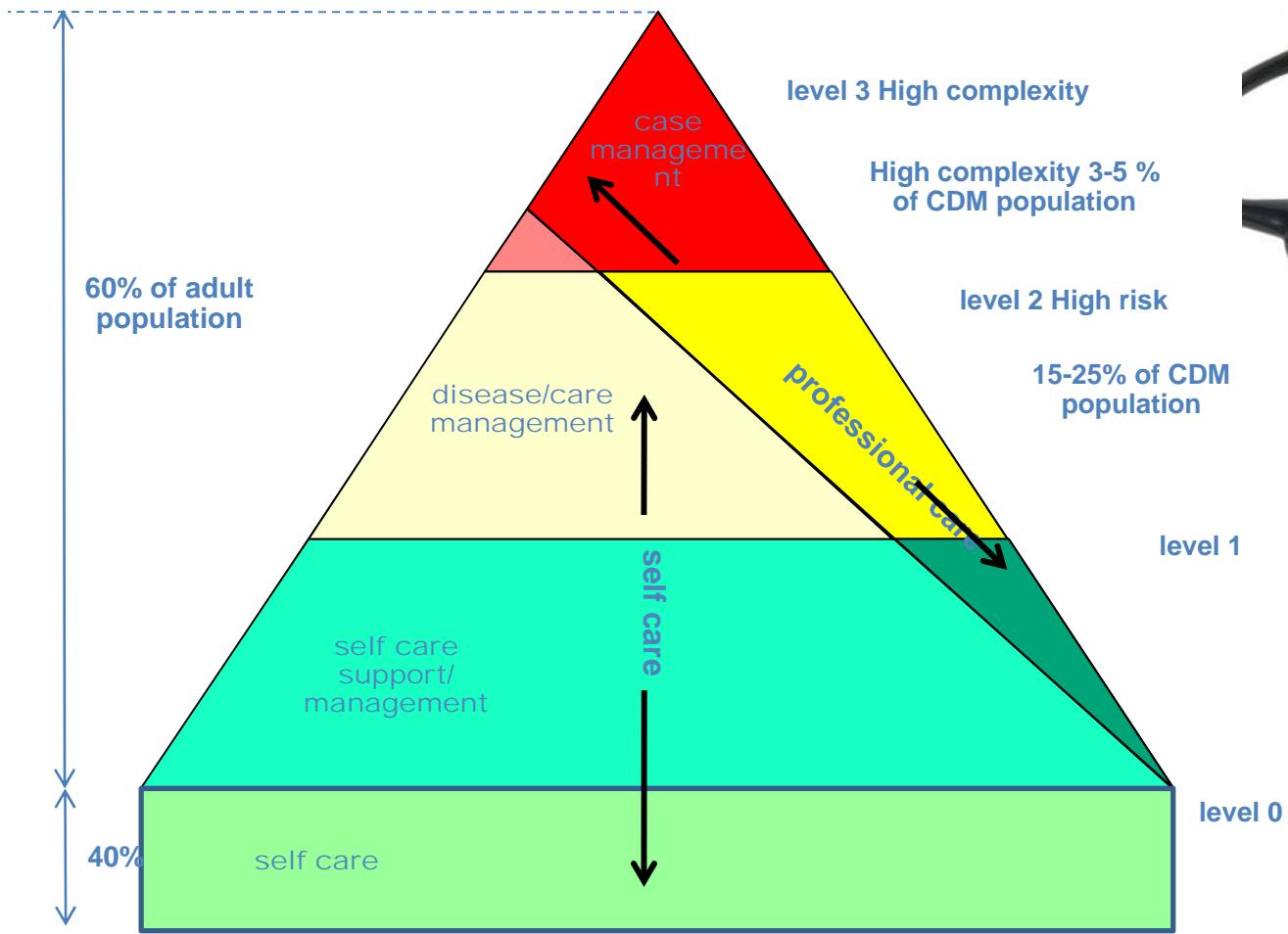


Panorama general
Prevención de las ENFERMEDADES CRÓNICAS:
una inversión vital

Preparación de los profesionales de la atención de salud para el siglo XXI

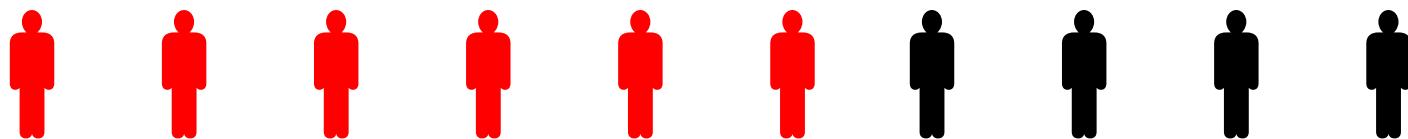
EL RETO DE LAS ENFERMEDADES CRÓNICAS

Kaiser Permanent Pyramid



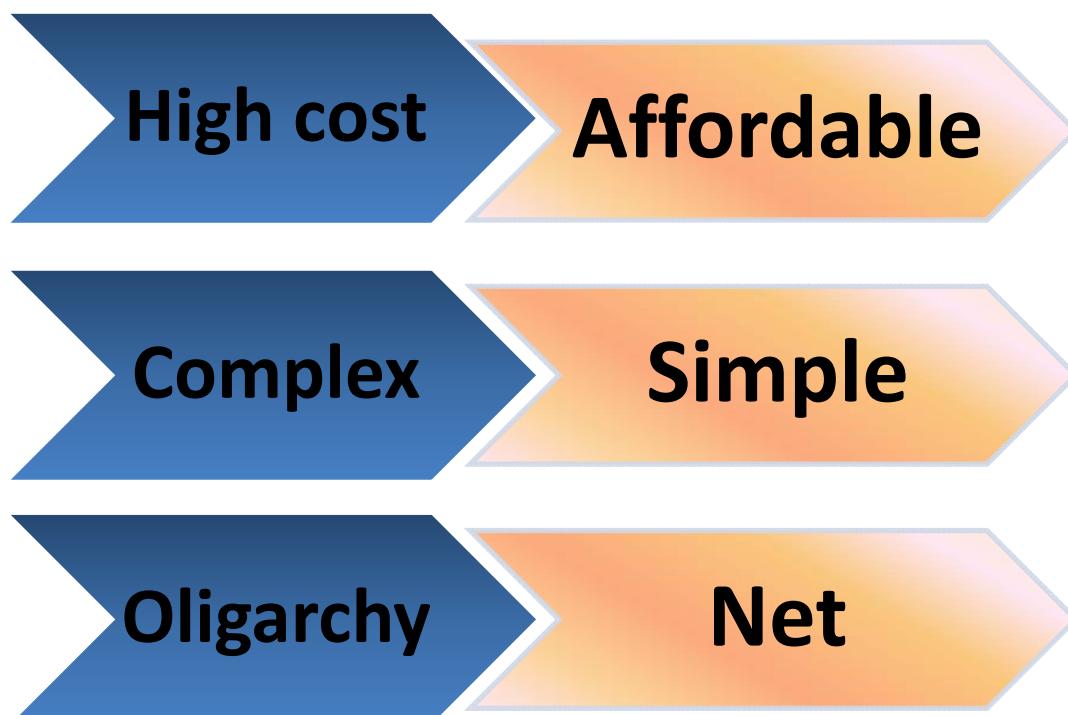
Chronic diseases

60% adults





Disruptive innovation



Disruptive innovation



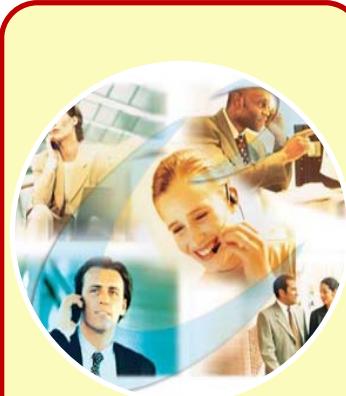
Personalized
vs massive



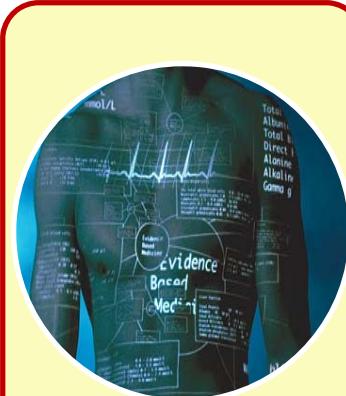
Sustainable
care services



Better
quality of
service



Closed loop
relationship



Evidence
based
medicine

ICT for personal health systems

The paradigm shift: PHS

From...

Towards...

Treatment

**Promotion,
prevention and
treatment**

**Disease
management**

**Health and life
management**

**Patient
consent**

**Patient
empowerment**

Patient

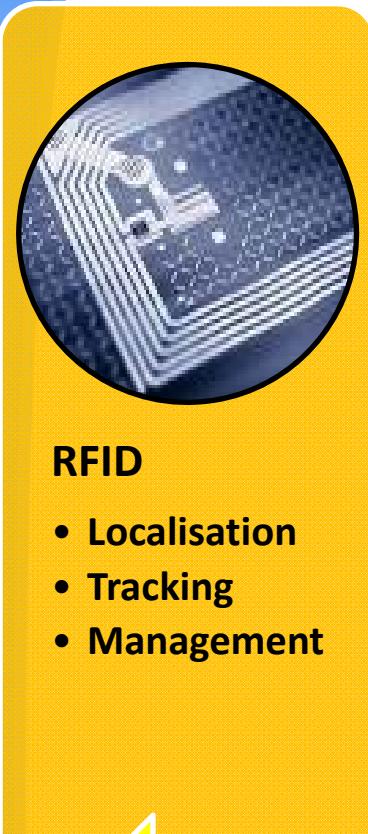
Client

Key elements – WHO recommendations

1. *Identify, score and stratify population*
2. *Planify and coordinate care within all health care levels, using case management methodology*
3. *Specific guidelines and protocols for each disease*
4. *Specific educational disease programmes*
5. *Integrated Information Systems, allowing a predefined Balanced ScoreBoard*
6. *Align resources and incentives*
7. *Evaluate and improve quality, cost and service*

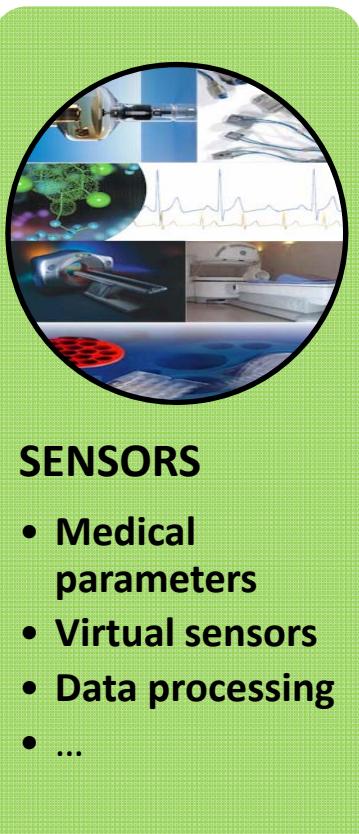
Where can technology help?

Technologies



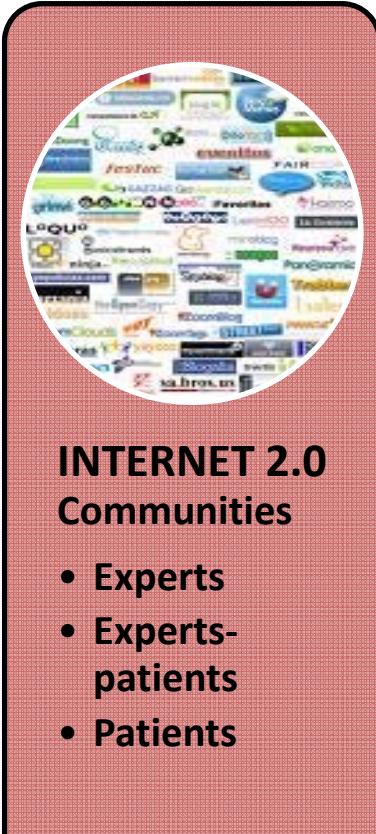
RFID

- Localisation
- Tracking
- Management



SENSORS

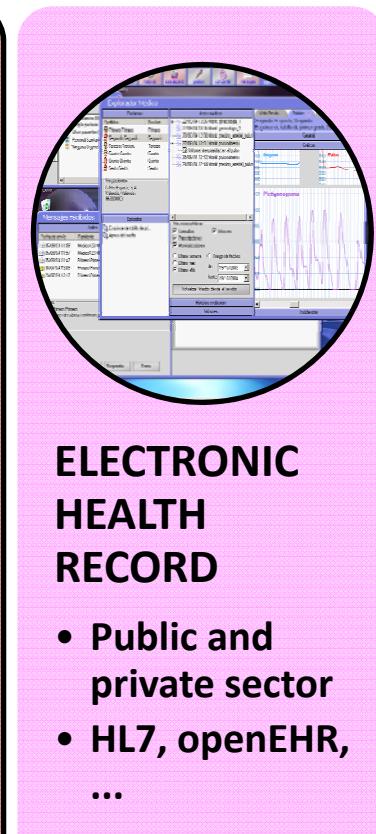
- Medical parameters
- Virtual sensors
- Data processing
- ...



INTERNET 2.0

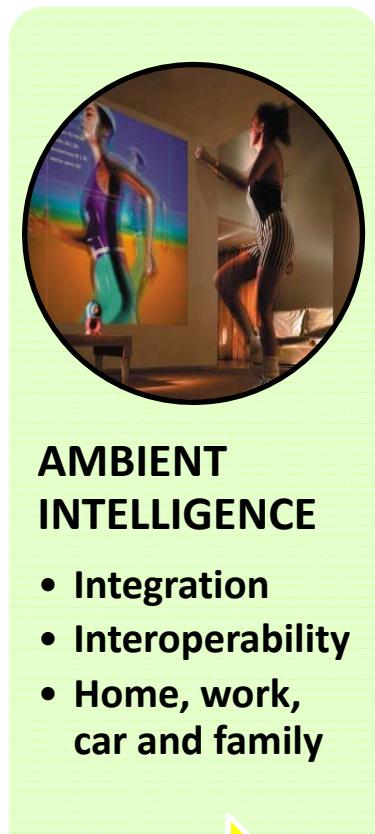
Communities

- Experts
- Experts-patients
- Patients



ELECTRONIC HEALTH RECORD

- Public and private sector
- HL7, openEHR,
- ...

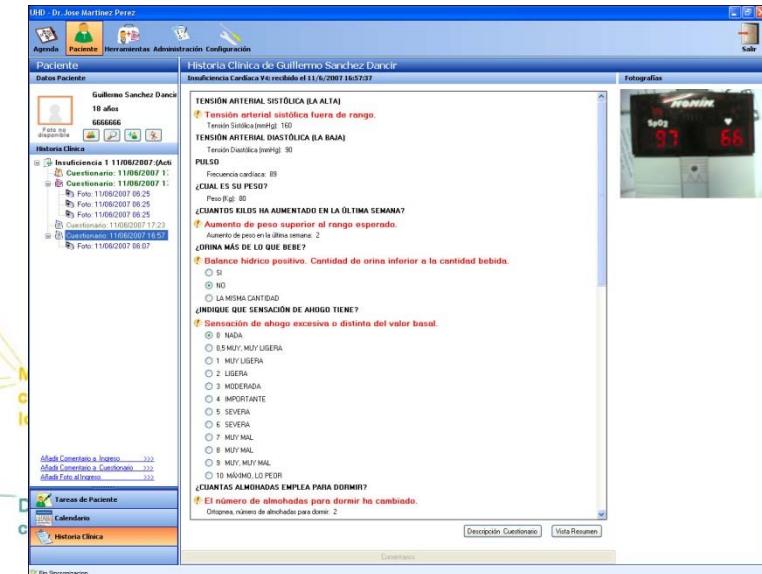
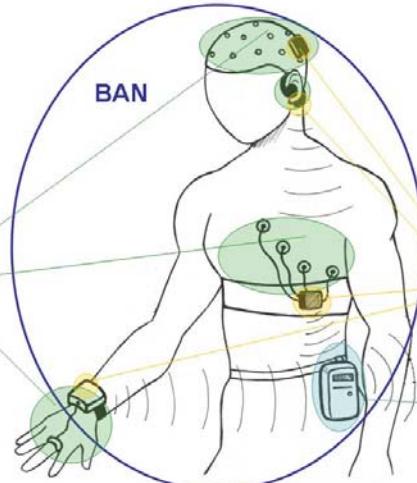


AMBIENT INTELLIGENCE

- Integration
- Interoperability
- Home, work, car and family

ICT applied to health

THE PRACTICAL SIDE

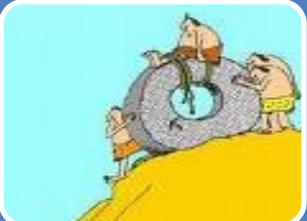


Ethical and legal considerations

- Patient consent
- Data protection
- QoS guarantee
- Security
- Non repudiation guarantee (source and destination)
- Ethical aspects
 - Private information in social networks

Around a common basis, there are specific issues to be addressed for each service

To sum up and discuss



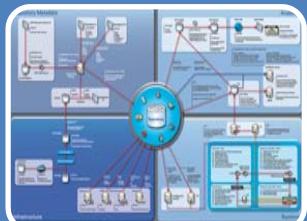
There is no unique recipe to deploy successfully telemedicine systems as they need to be based in the specific needs of each area (**user need driven** vs technology driven) without reinventing the wheel at any stage



All the stakeholders needs to be involved since the beginning with a clear roadmap and a win-win schema



Be careful with maintenance and sustainability



A proper selection of architecture and standards are key to guarantee scalability and interoperability

To sum up and discuss



pHealth will happen. No other way. The question is when. A new model of health care is required for an integral management of the chronic conditions



Please, keep in mind that R&D projects, standardisations, EHR, ethical aspects,... are only TOOLS



Health 2.0 is already here and aligned with Personal Health Systems



Synergies among all the biomedical engineering disciplines are key to succeed with this challenge



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This presentation is also available in
<http://www.slideshare.net/vtraver/>

Thanks for your attention

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