



25-26 February 2015
Madrid, Spain



Challenges of sharing medical data in the cloud

Perspective from an end-user

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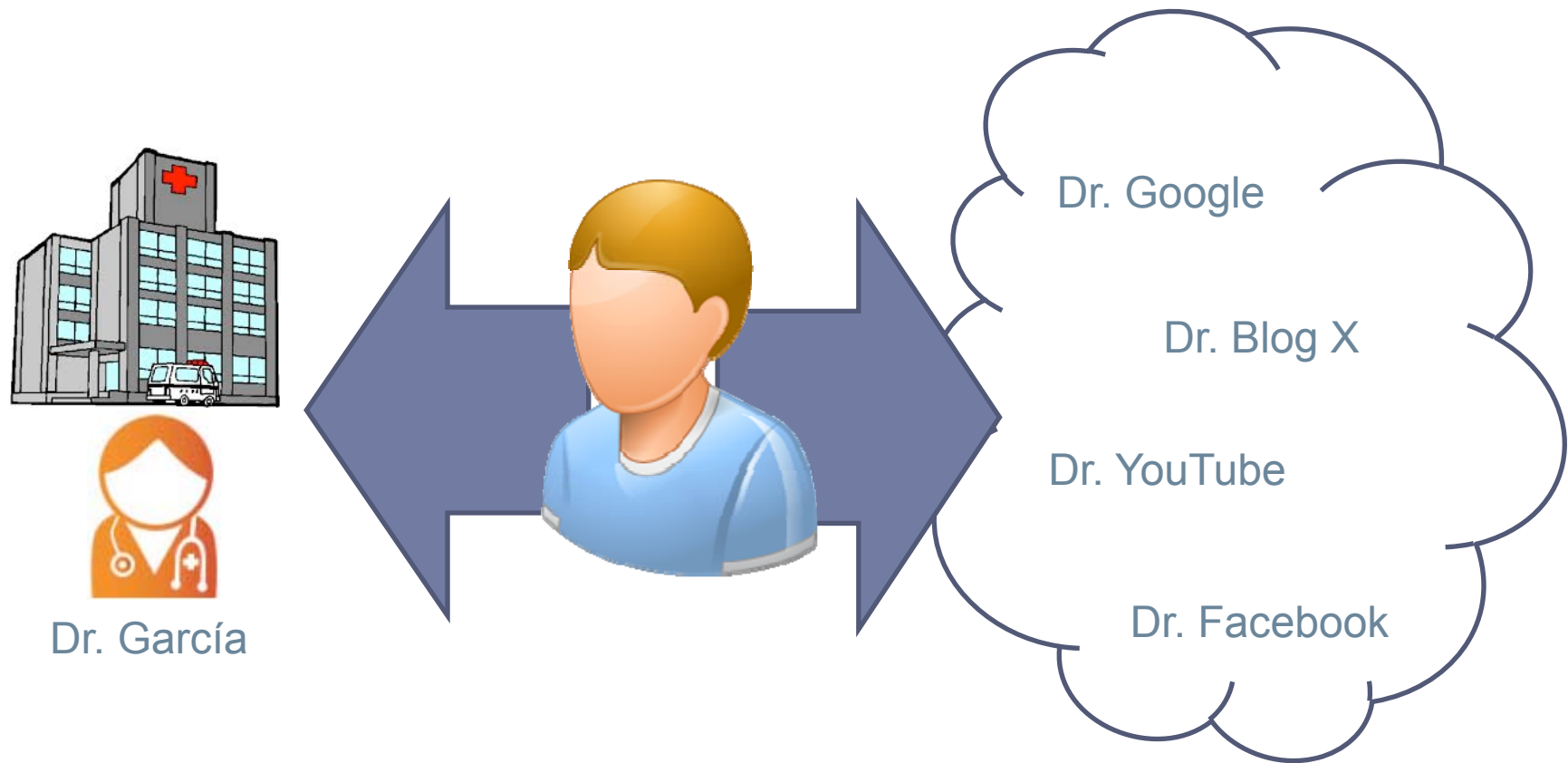
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Manos expertas

- Evolution of the medicine and the patients due to IT developments
- Potential applications of cloud computing in eHealth
 - Healthcare workflows
 - Research biobanks
- Some challenges that are foreseen

Expert patients and P4 medicine



Say RE et al. The importance of patient preferences in treatment decisions – challenges for doctors. *BMJ* 2003;327:542-545.
Granatir T. The expert patient. *Health Serv J* 2008;Suppl:26-27.

Expert patients and P4 medicine

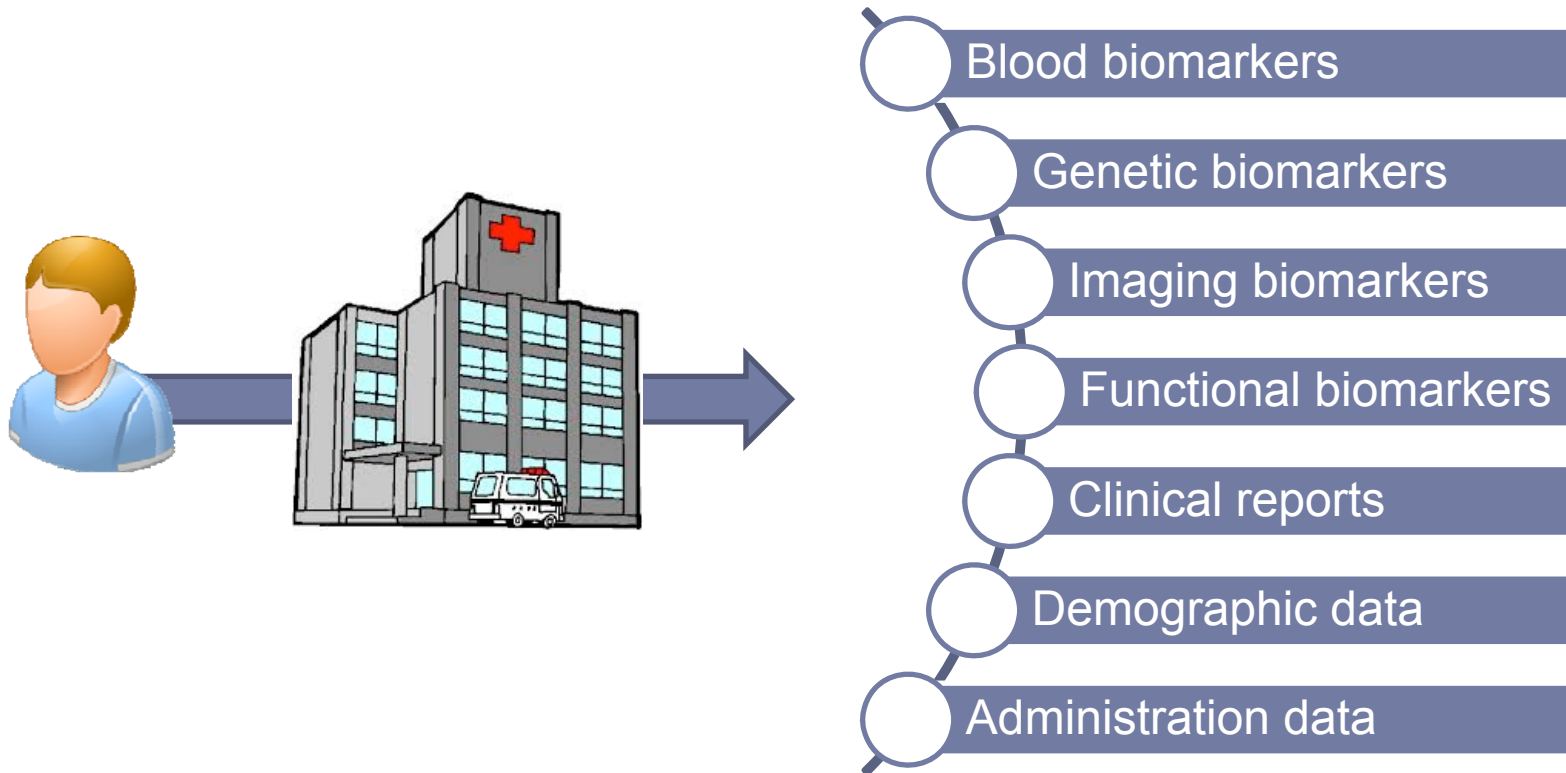
- Personalized
- Predictive
- Preventive
- Participatory



“Medicine is changing from a reactive science based on the experience and intuition of a physician to more integrated diagnostics, where imaging, pathology and laboratory tests converge with advanced information technology”

M. Flores, G. Glusman, K Brogaard, ND Price, L Hood. P4 medicine: how systems medicine will transform the healthcare sector and society. *Personalized Med* 2013;10:565-576.

Expert patients and P4 medicine



Let's say we live for 100 years and we want to store on all these data because it may be relevant for our grandchildren

Opportunities for cloud-based solutions



- Grupo Quirón is the leading Spanish private hospital group in terms of patient numbers and care facilities.
- The new group administers 45 healthcare centers, more than 2.250 hospital beds, 6.500 associate doctors and 600,000 hospital stays a year.
- [In 2011, the centers integrated in the new Quirón Hospital Group recorded a total of 835,112 emergencies attended, 185,268 surgical interventions, 17,223 births, over 10,000 assisted reproduction cycles (IVF), around 40,000 oncological treatments, and more than 200 clinical trials.



Need for moving and managing all this information (medical records, images, clinical databases) from a local perspective to a distributed environment (cloud-based)

Opportunities for cloud-based solutions



Size matters

Reliability matters

Accessibility matters

Long (life) time storage matters

Data processing matters

Opportunities for cloud-based solutions



Size matters

Scalable storage

Reliability matters

Servers 'always up'

Accessibility matters

Ubiquitous access

Long (life) time storage matters

Backup support

Data processing matters

Research applications

Opportunities for cloud-based solutions

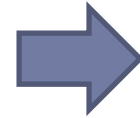
Oriented to clinical workflows

EHR platforms

TeleHealth

PACS platforms

New services for patients



Research oriented

Biobanks

Knowledge extraction

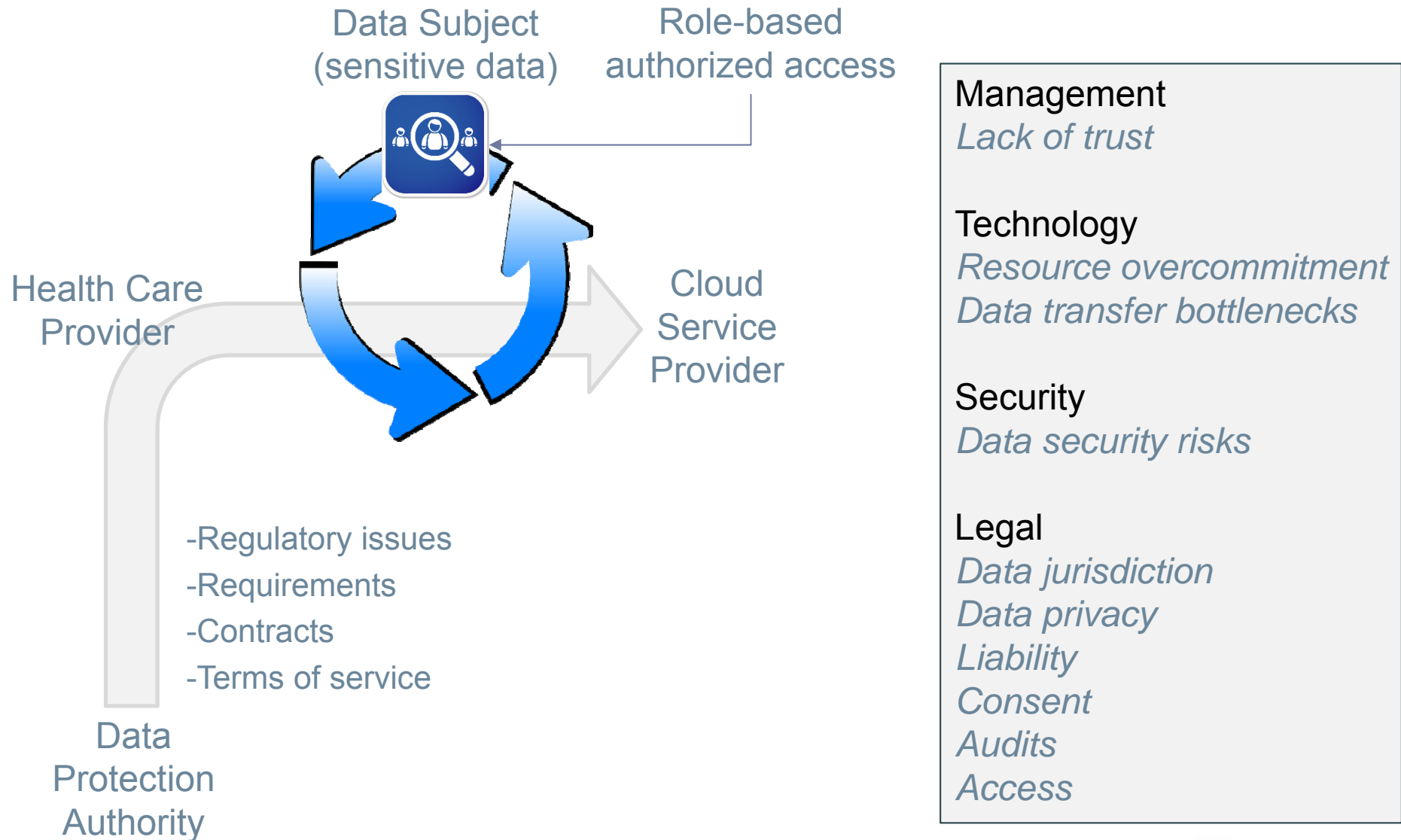
Cloud-computing

Disease models

Individual patient models



Some challenges that can be foreseen in a real scenario





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