

EUROPEAN HEALTH PROPERTY NETWORK 2017 WORKSHOP

Torino, Italy: 20-22 November

Futureproofing Health System Infrastructure Design, technology and innovation to ensure a fit for purpose healthcare estate



*The new paradigm for the Hospital/out of Hospital Integrated care:*

*The Robotics and Domotics Integrated Care*

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*Clinical Governance Unit*

*The Italian National Institute of Health*



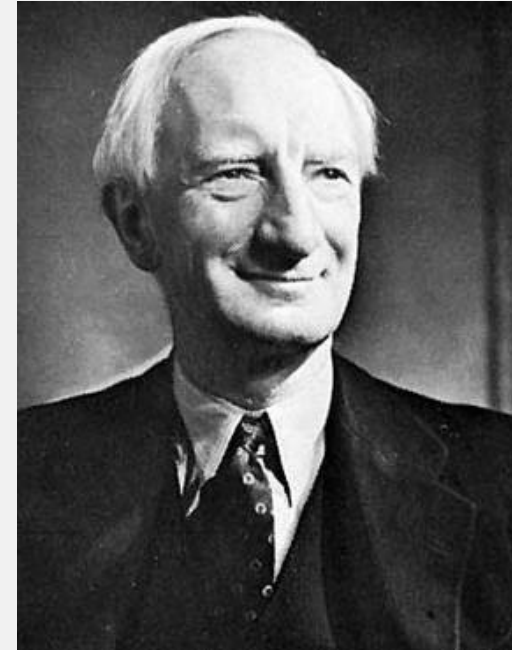
## The founding fathers of universal coverage in Europe



**Otto von  
Bismarck**  
**1815-1898**

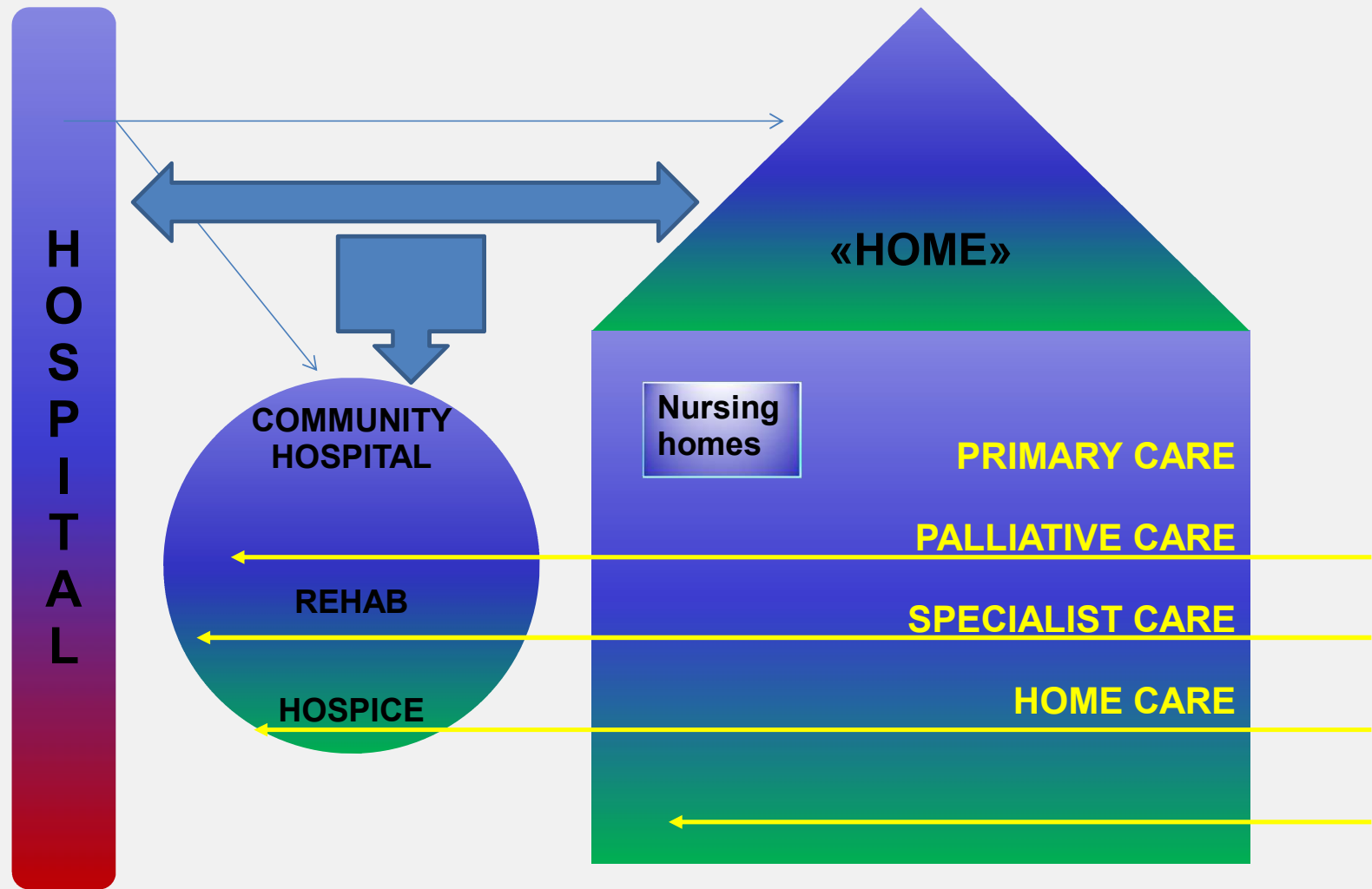


**Nikolai  
Alexandrovich  
Semashko**  
**1874-1949**



**William Henry  
Beveridge**  
**1879-1963**

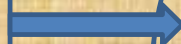
## *The Hospital/Out of Hospital Integrated care*



## TRANSFORMING HEALTH CARE

### 20th Century Health Care

Doctor centred  
Patient as passive compiler  
Hospital as focus  
Operated through bureaucracy  
Driven by finance  
High carbon usage  
Aim to increase effectiveness  
Challenges met by growth

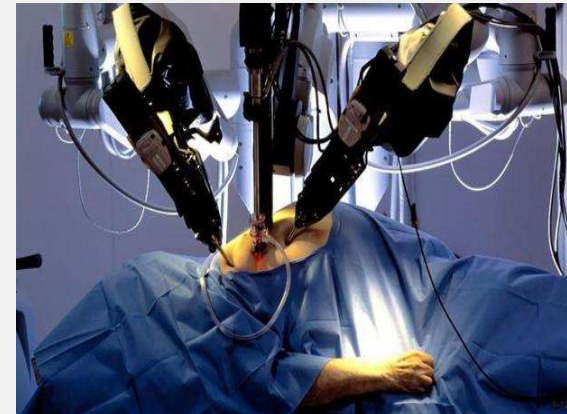


### 21st Century Health Care

Patient centred  
**Patient as co-producer**  
Focus on systems  
Operated through networks  
Driven by knowledge  
Low carbon usage  
Aim to reduce waste and increase value  
Challenges met by transformation



## TECHNOLOGY AS A KEY ENABLER



In Canada Dr. Mehran Anvari's robot works in a Community Hospital 400 km

"I have both my hands on the robot the same way I would have instruments in both hands"

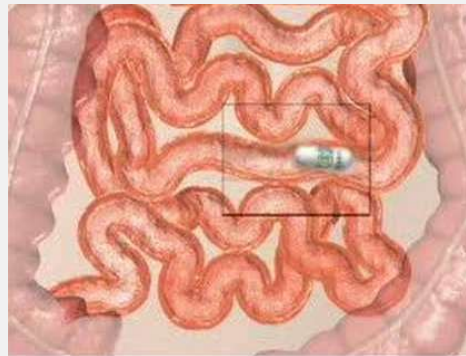
## TECHNOLOGY AS A KEY ENABLER



Britain's first RP7 is doing the rounds at Daisy Hill Hospital in Newry, Northern Ireland, acting as its intensive care consultant



Capsule Endoscopy is an example of the increasing use of non-invasive methods and the reduction in space requirements for diagnostic equipment



# Nanomedicine approaches

## Drug Delivery

Organic and  
Inorganic  
Nano-  
materials

- **Silica & Carbon Nanoparticles**
- Dissolve hydrophobic drugs
- Fluorescent (Carbon) and photostable
- Excellent hydrophilicity
- Easy to functionalize

Biologic  
Nano-  
materials

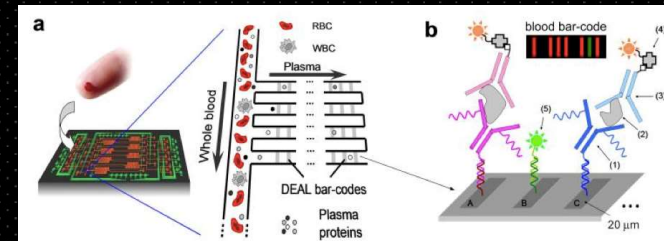
- **DNA Origami**
- Programmable self-assembly
- Biocompatibility
- Low cytotoxicity

Cell Based  
Nano-  
materials

- **Exosomes**
- Biocompatibility
- Cellular communication
- Natural cargo for delivery

## Nanodevices

### Point of Care devices



1. Therapeutic drug monitoring
2. Circulating biomarkers



Tech

SEP 3, 2014 @ 08:01 AM 95,848

Forbes



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12 Big Data Definitions: What's Yours?



# 12 Big Data Definitions: What's Yours?





**Gil Press**, CONTRIBUTOR  
*I write about technology, entrepreneurs and innovation.* [FULL BIO](#) 

Opinions expressed by Forbes Contributors are their own.





**Dan Ariely**

Professor of Psychologie,  
Duke University USA



January 6, 2013 at 6:17pm · 

Big data is like teenage sex: everyone talks about it, nobody really knows how to do it, everyone thinks everyone else is doing it, so everyone claims they are doing it...



## Big Data



Every 60 seconds  
1.820 TB data worldwide

=

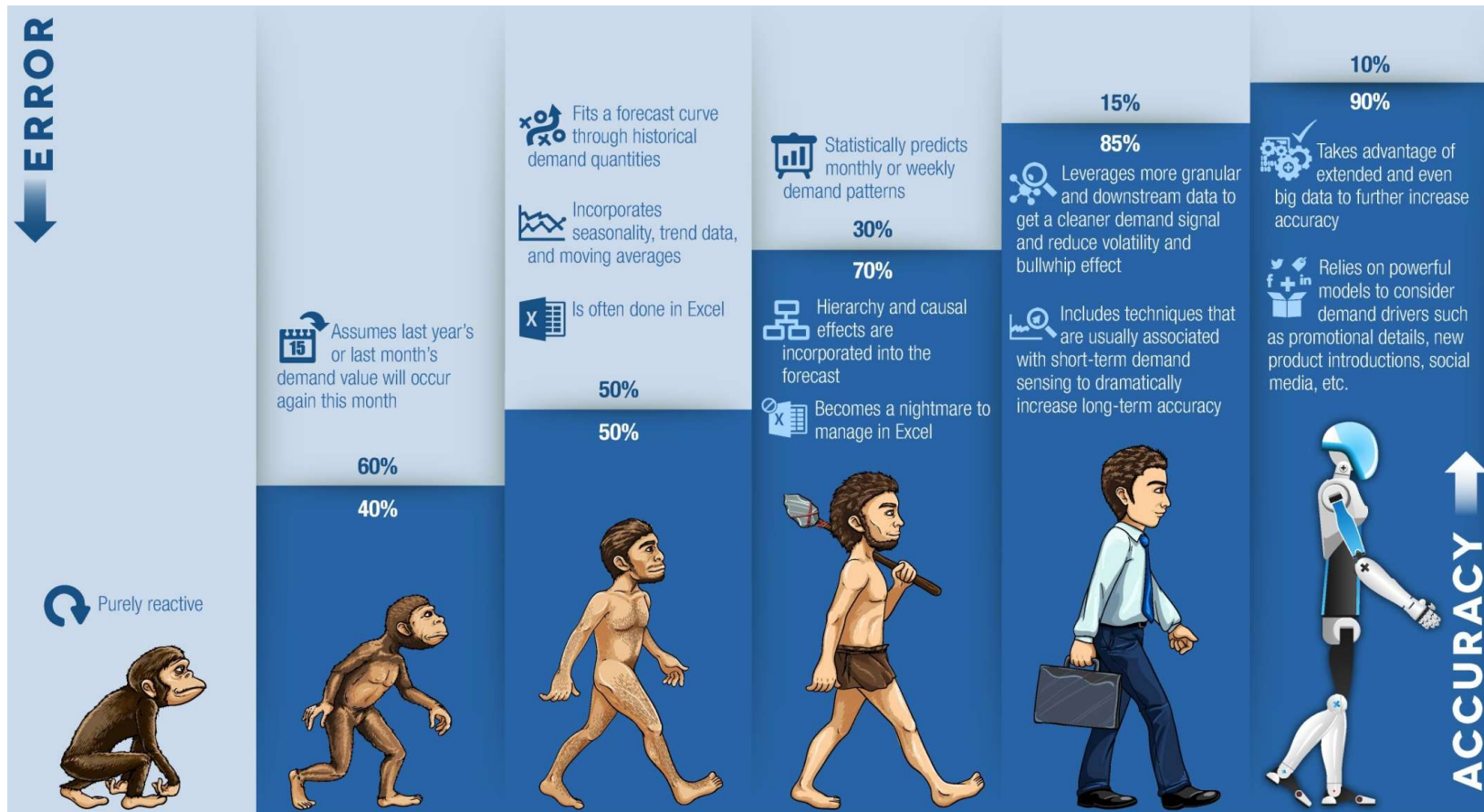
530.803.000.000  
paper docs

## Is There A Doctor In My Pocket?

Advances in medical technology can be painfully slow. But, there are signs that a digital revolution in health care is imminent. It will be more personalised, and potentially more useful, than anything the world has seen before. It promises to help us manage our health and inform us about the risks ahead. We are on the verge of such a transformation in health care that will render visiting the doctor a thing of the past

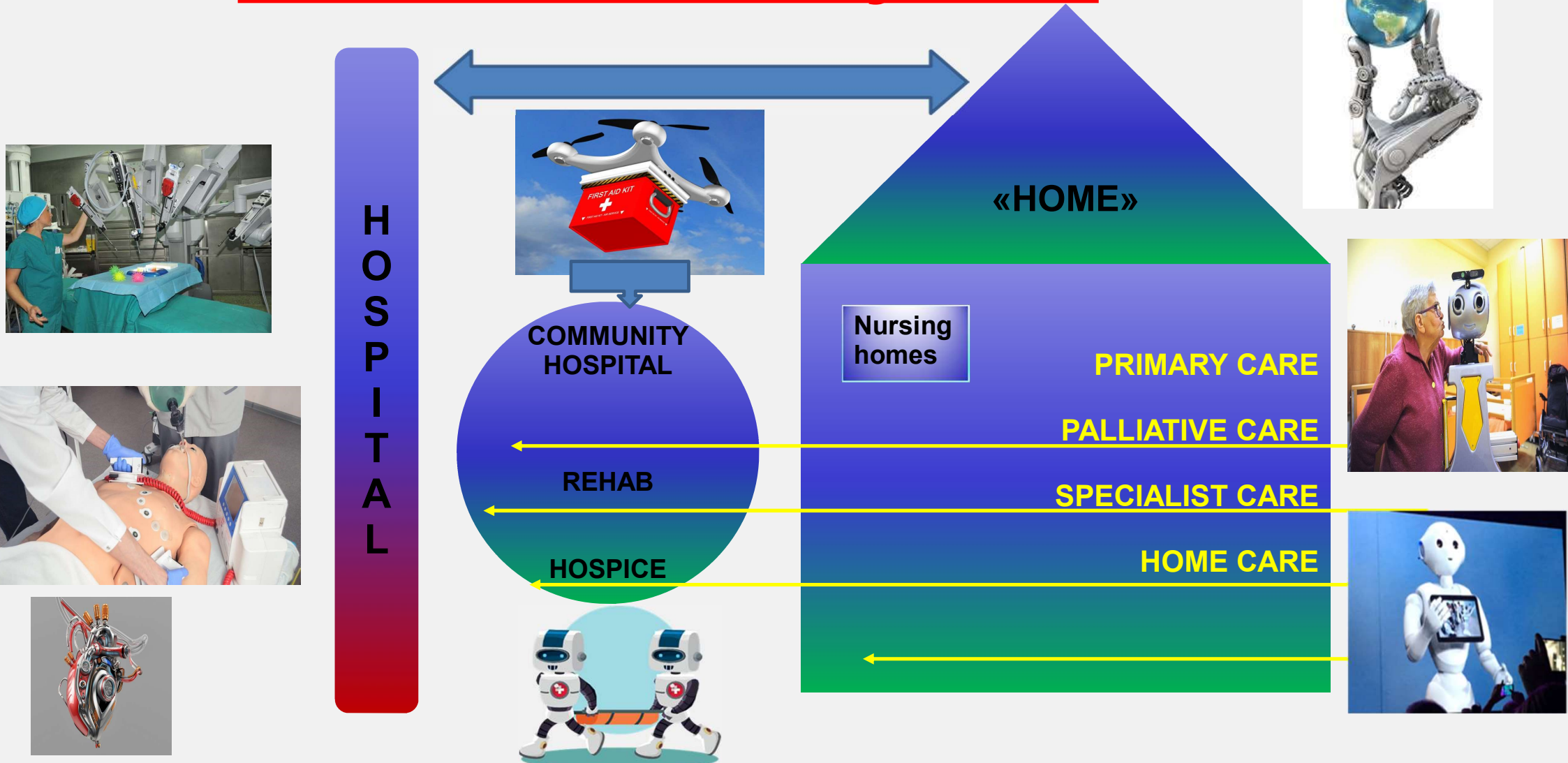


# Robot vs Doctor



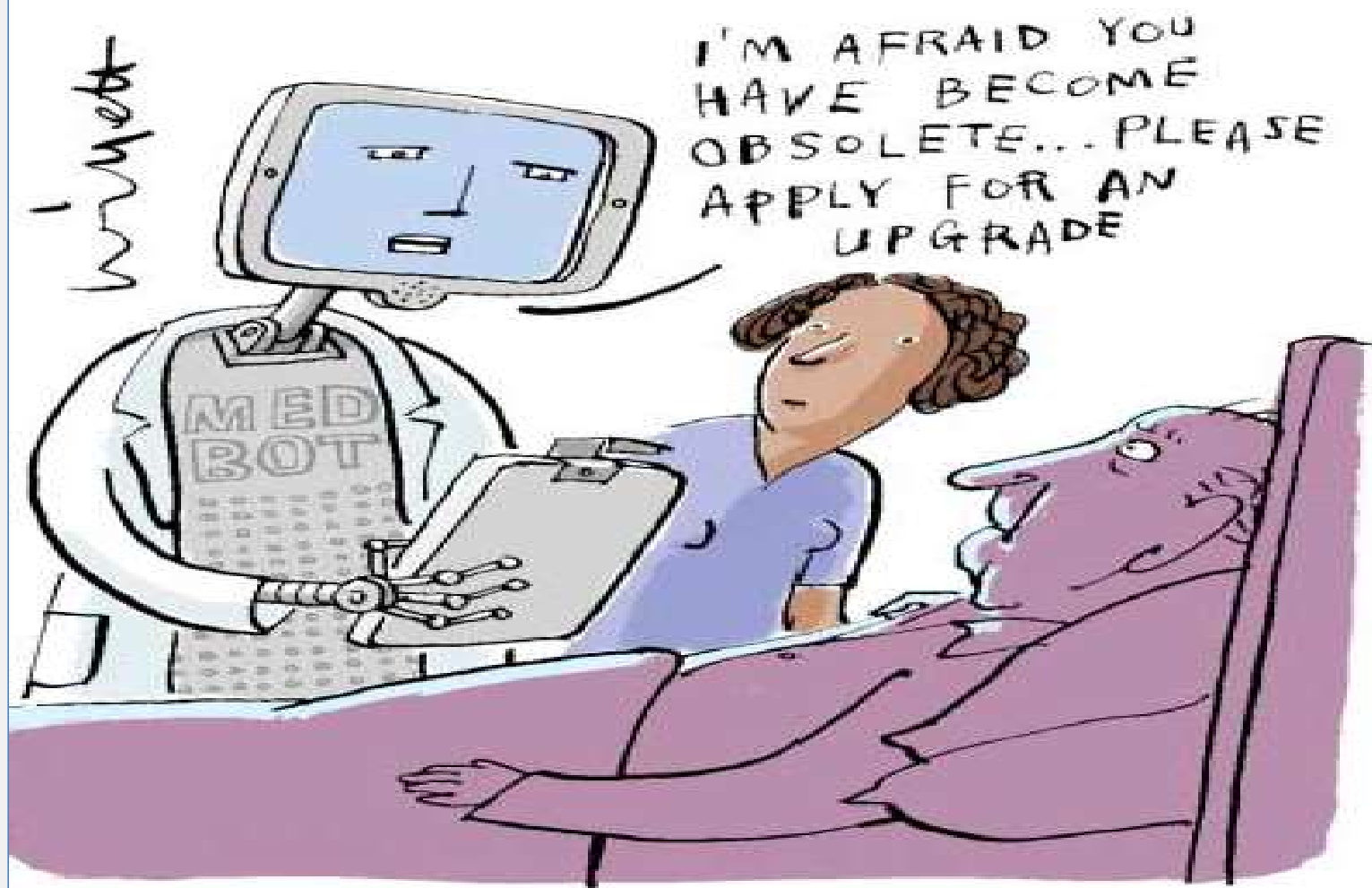


# *The new Paradigm: The Robotics and Domotics Integrated Care*



**The founding fathers of the *new* universal coverage  
in Europe today !**





*Thank you for your attention !*

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## Le continuità territorio – (ospedale) - territorio

Superamento del concetto di continuità ospedale – territorio.

La continuità delle cure inizia dal territorio.

**I dati sanitari (e non sanitari) partono dal territorio.**

Ospedalizzazione come evento incidentale.

Continuità assistenziale è **territorio – territorio.**