

# il fenomeno m-health

Angelo Rossi Mori  
eHealth Unit  
Istituto Tecnologie Biomediche  
CNR, Roma

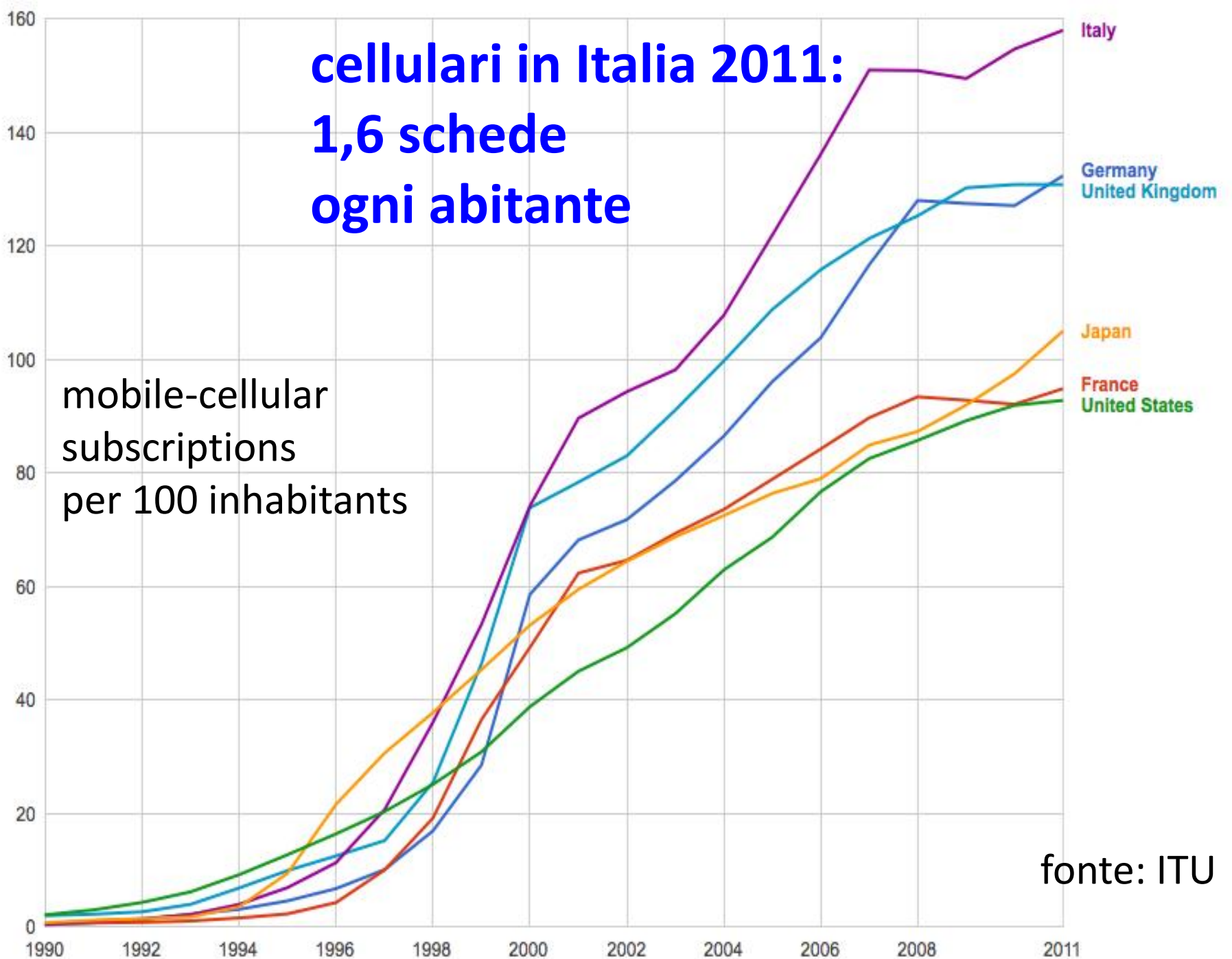
Club TI Lazio, 19 Febbraio 2012

- diffusione di dispositivi mobili
  - in generale e per la salute
- iniziative di mHealth e app sanitarie nel mondo
- *troppe aspettative o settore maturo ?*
- *quali opportunità per professionisti e cittadini ?*
- *vantaggi ed evidenze*
- *integrazione nei servizi e/o mercato consumer ?*
- *regolamentazione ?*
- **sintesi degli spunti di discussione**

**la diffusione  
di cellulari, smartphone, tablet,  
e il numero di app disponibili**

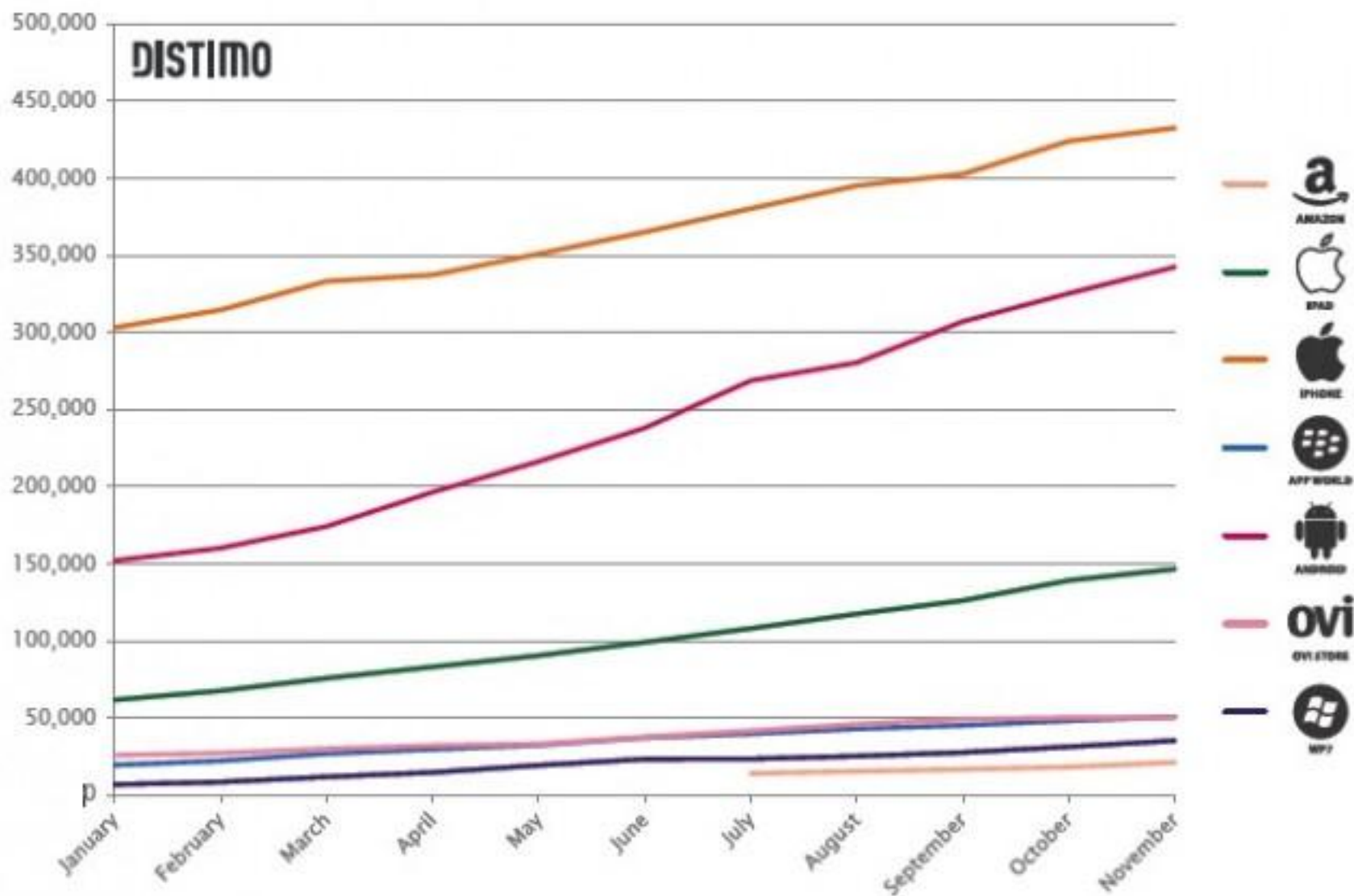
# cellulari in Italia 2011: 1,6 schede ogni abitante

mobile-cellular  
subscriptions  
per 100 inhabitants



fonte: ITU

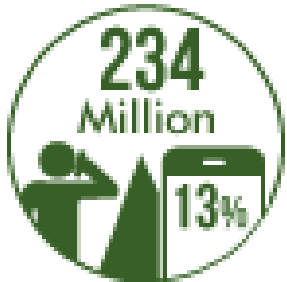
## Number of available apps in the US per month



# MOBILE STATISTICS & GROWTH



In 2011, for the first time, smartphone and tablet shipments exceed those of desktop and notebook shipments.



In April, 234M Americans aged 13 and up used mobile devices and 74.6M owned smartphones, up 13% from the three-month period ending in January 2011.



By 2014, mobile will become the most common way of accessing the Internet.



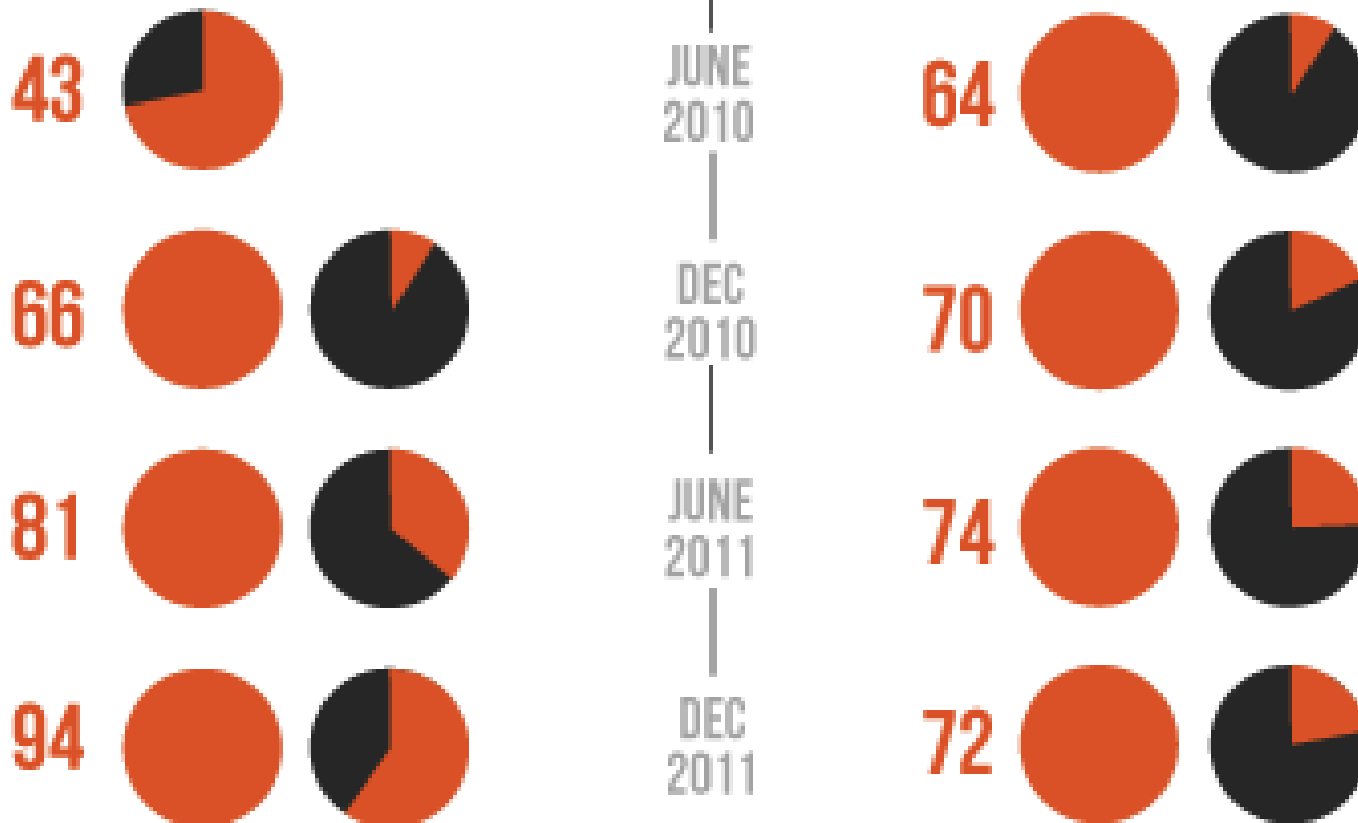
Over 300,000 mobile apps have been developed in three years. Apps have been downloaded 10.9 billion times. But demand for downloadable mobile apps is expected to peak in 2013.



# U.S. MOBILE APPS VS WEB CONSUMPTION



Minutes/Day



*in minuti al giorno, da giugno 2010 a dicembre 2011  
l'uso di dispositivi mobili si è aggiunto all'uso del web*

Da WHO – mHealth, 2011





**la diffusione nel mondo  
delle iniziative mHealth  
e delle app  
per la salute e il benessere**





salute e  
benessere

**1.000**  
nuove app  
rilasciate  
ogni mese

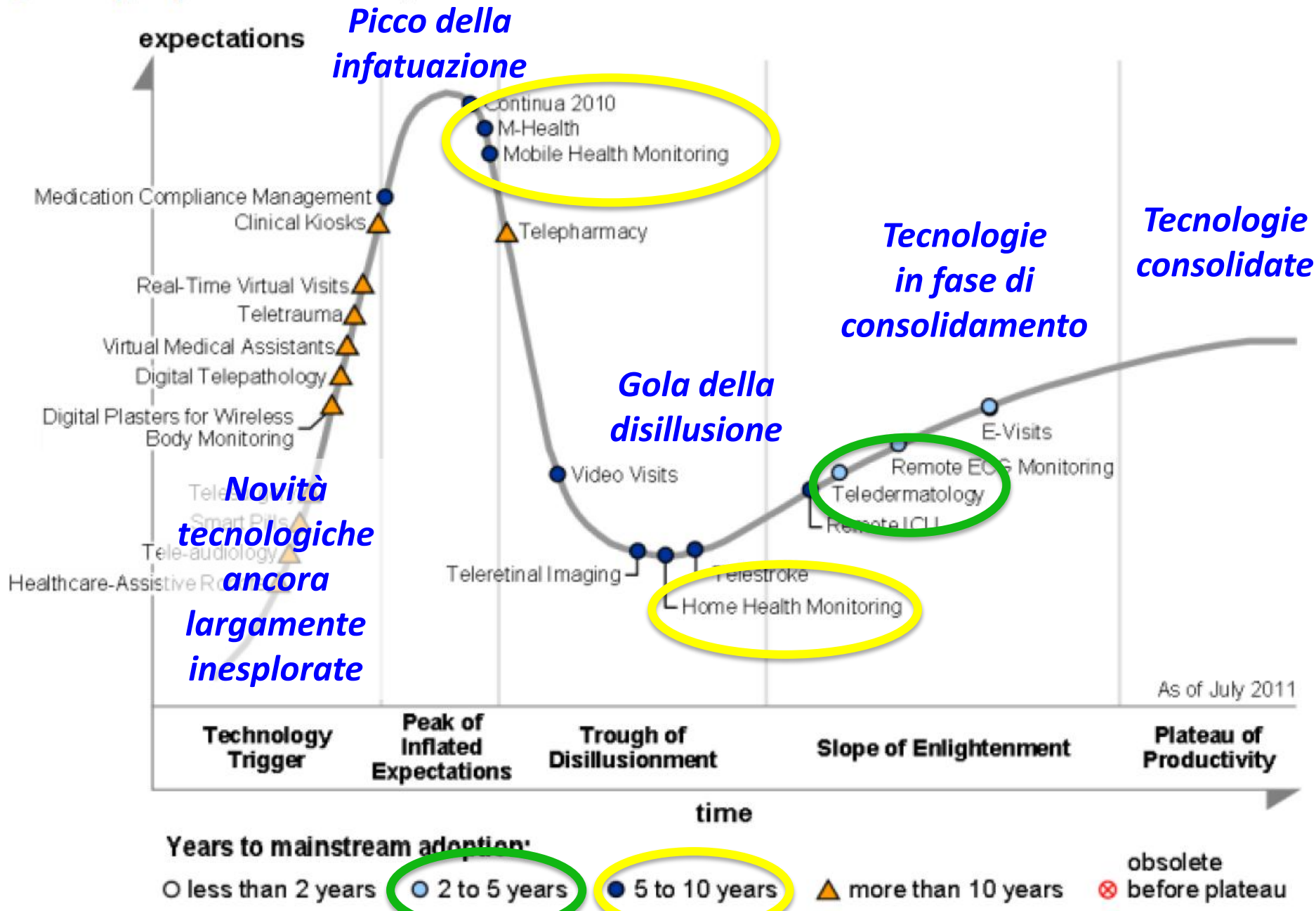
(nel 2011)

# European Directory of Health Apps 2012-2013

A review by patient groups  
and empowered consumers

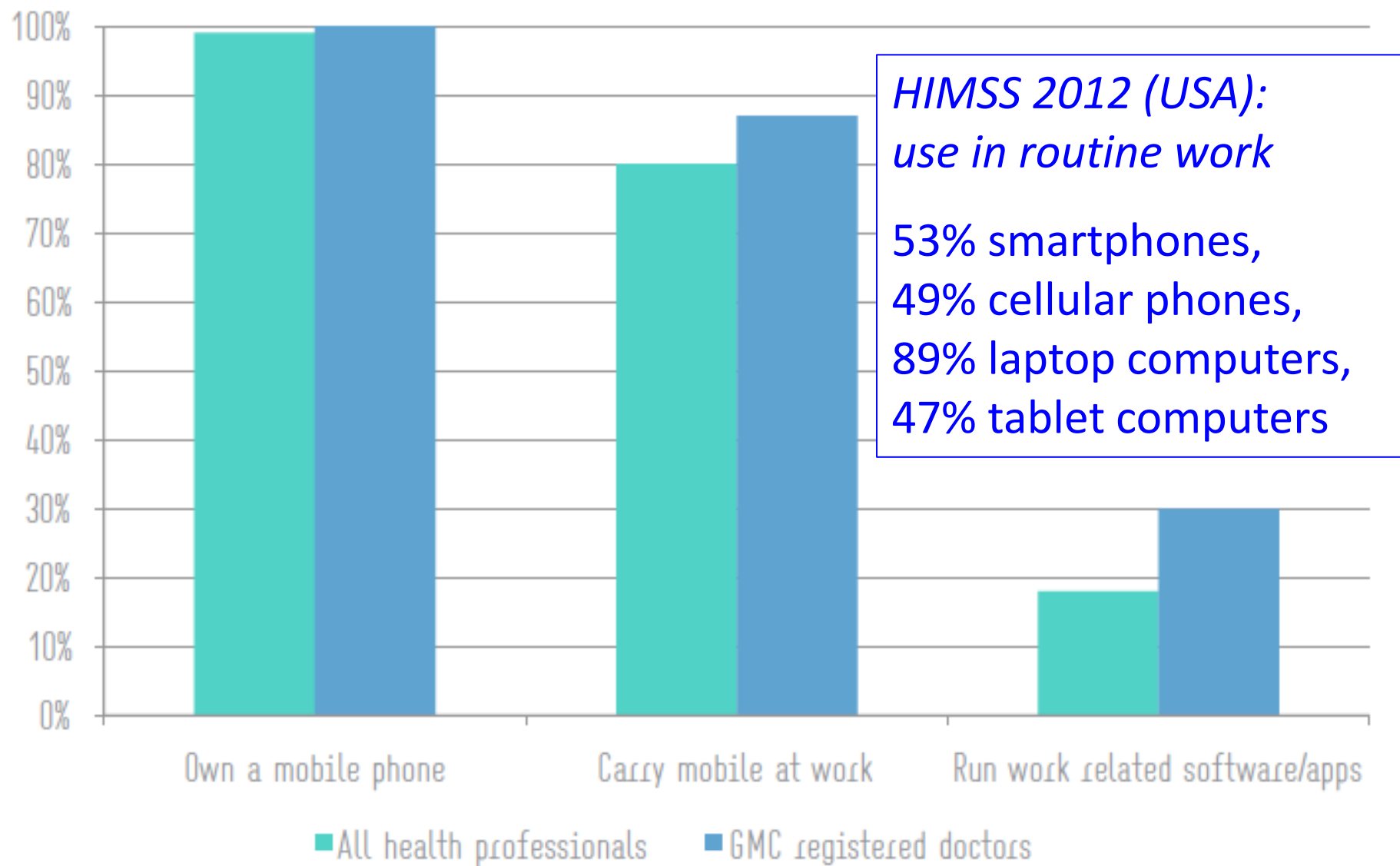
**mHealth:  
l'aspettativa è eccessiva ?  
dove si assesterà ?**

Figure 1. Hype Cycle for Telemedicine, 2011



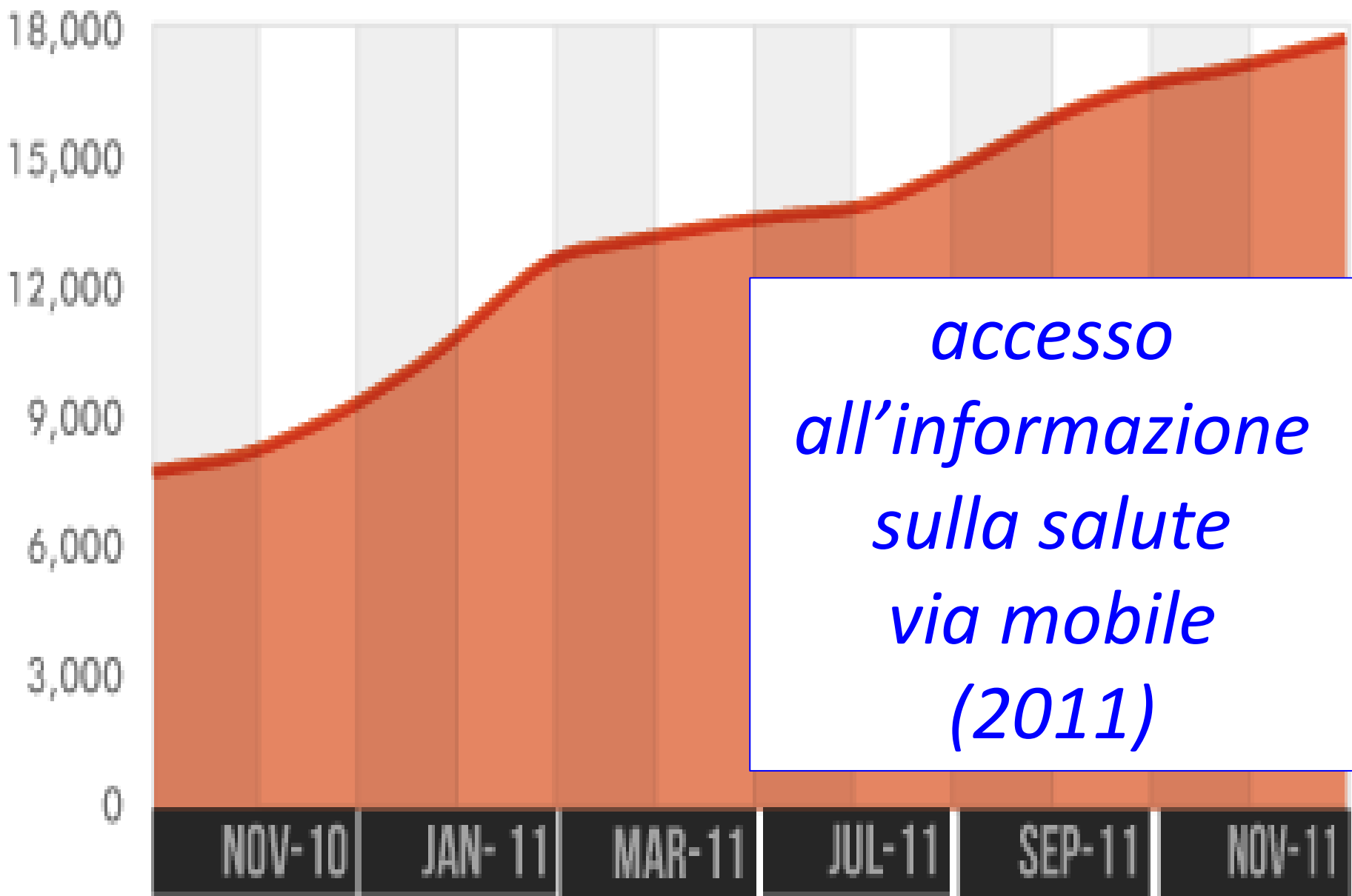
Source: Gartner (July 2011)

Figure 5: Mobile phone and app use by health professionals in the UK



Source: d4 survey of mobile phone usage by health professionals in the UK, 2010

# Accessed Health Information via Mobile Device



*accesso  
all'informazione  
sulla salute  
via mobile  
(2011)*

Figure 4: Medical and Health & Fitness apps by month released in the UK Apple App Store





# un'occasione per le PMI

**MOWA**<sup>®</sup>  
Mobile Wound Analyzer

**MOWA**

Mobile Wound Analyzer



**T-ECG**

Telephonic ECG

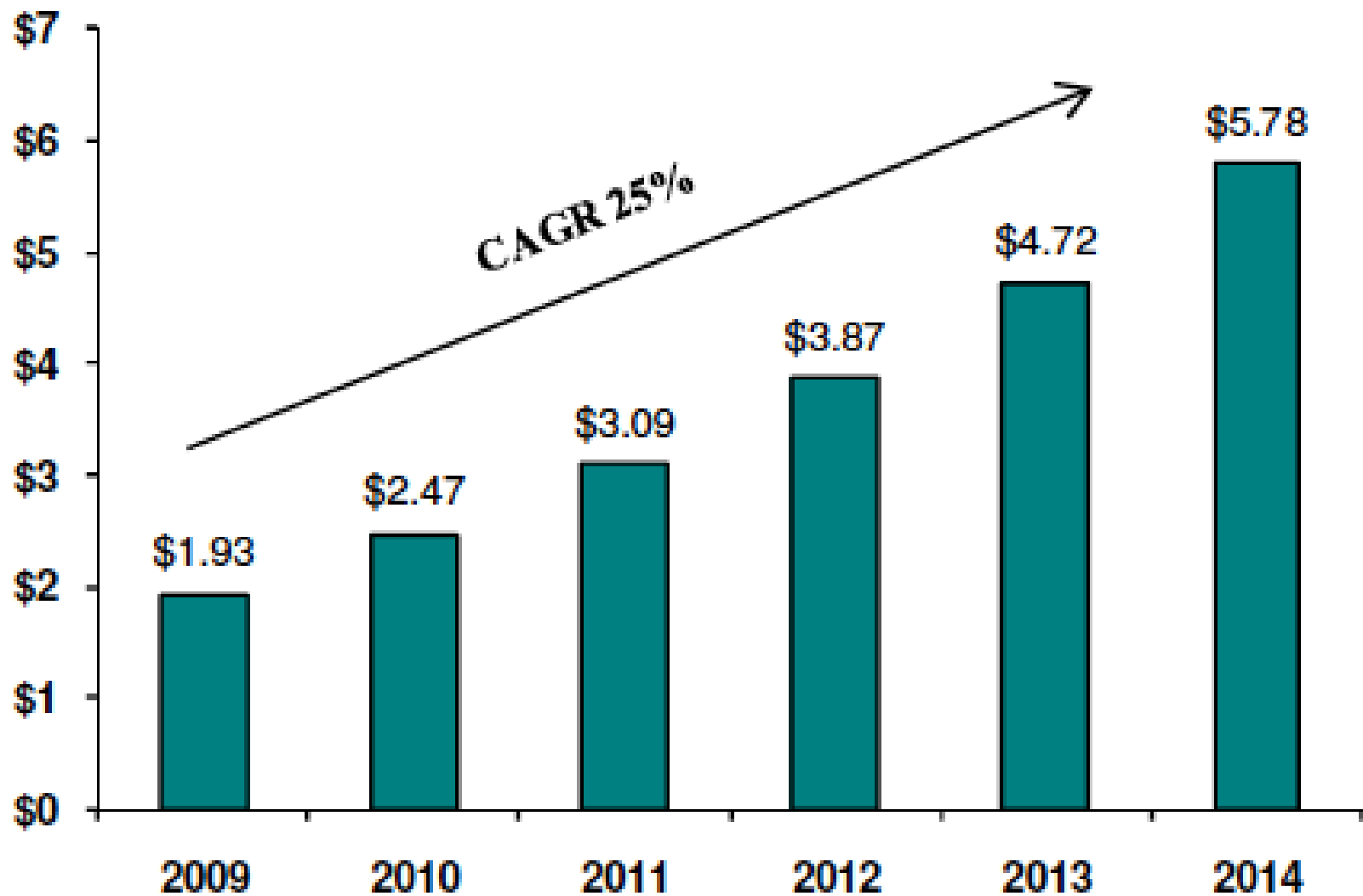


**HMT**

Health Measuring Tools



**Figure 5: European Mobile Healthcare Revenues (\$B)**



Source: CSMG analysis

**quali opportunità  
per professionisti sanitari  
e cittadini ?**

Figure 4: Mobile Healthcare Value Chain in the UK



la tecnologia è pronta

come utilizzarla bene ?

# le funzionalità

- contatto con professionisti e familiari  
(trasmissione di testi, voce)
- accesso a internet (informazioni, fascicolo)
- elaborazioni in locale  
(allarmi, avvisi, educazione, esercizi, ...)
- gestione apparecchiature  
(sensori, segnali, immagini)

# Mobile key to solving health challenges



# mHealth: The promise of a better life

A retired widower with a recent onset of dementia is empowered to live independent

Falling  
down

Remembering  
medication

Concerned  
family  
members

Getting  
lost  
outdoors

Cannot get  
up, and  
unable to  
notify  
anyone

Frequently  
forgets  
which pills to  
take when

Constant  
worry, but  
long drive to  
physically  
check on him

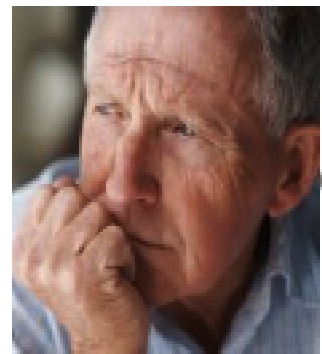
Wanders for  
hours  
  
Police help  
required

Automatic  
alarm to HC  
professional

Timely and  
easy to  
understand  
reminders

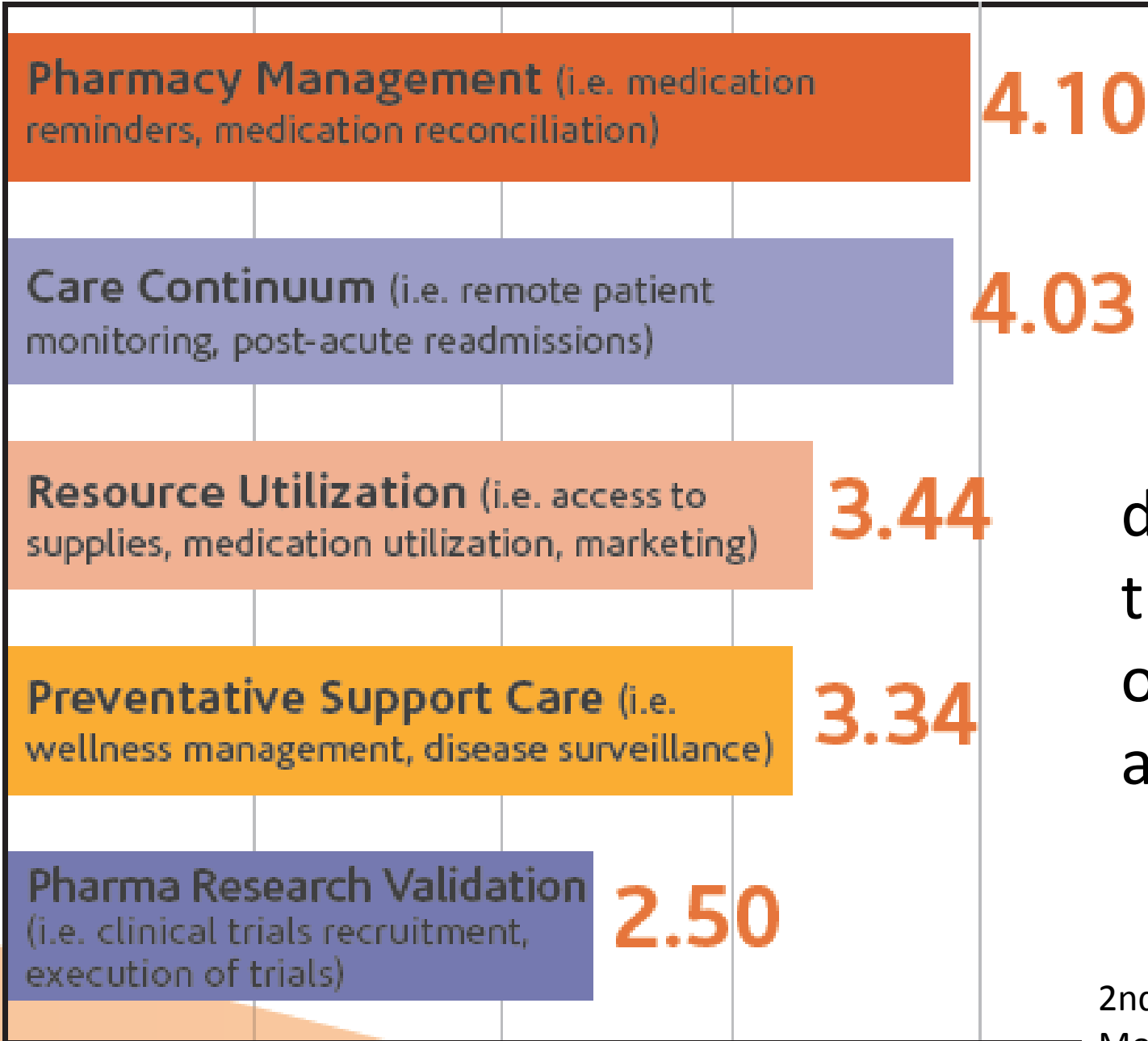
Able to check  
status and  
communicate  
wirelessly

Automatic  
SMS to family  
when leaves  
home—easy  
to track  
location



**cosa vorrebbero  
professionisti e cittadini**





demand for the concept of care anywhere

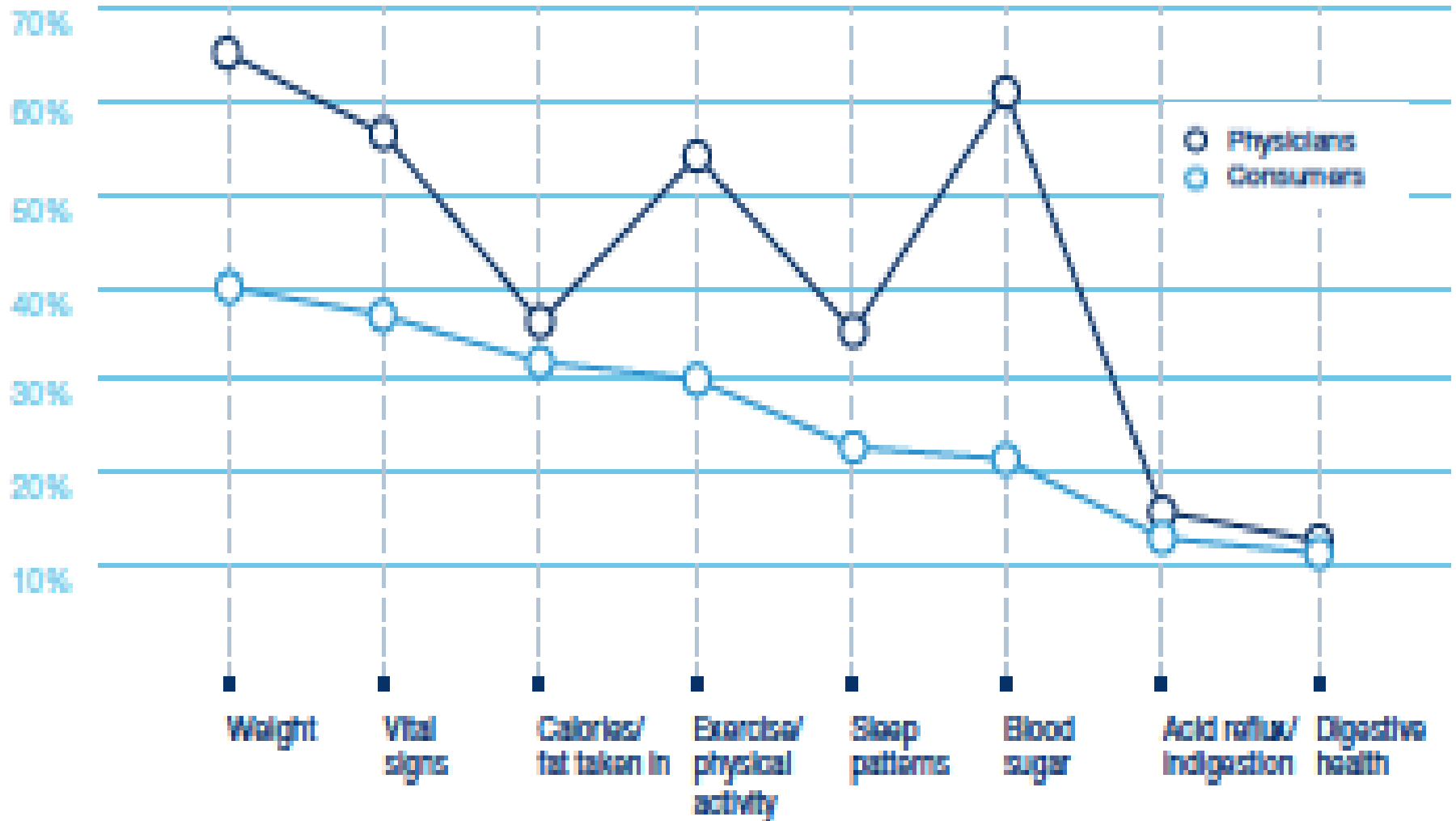
### Chart 3: Patients expect mHealth to change their healthcare experience

*% of respondents who say that, in the next three years, mHealth will significantly change:*



Source: Economist Intelligence Unit, 2012

# what consumers and physicians want to track regarding health



**vantaggi**  
**per il professionista sanitario**

UK Department of Health - NHS  
**National Mobile Health Worker Project**  
*Final Report*

- £ 978 savings from No Access visits saved
- £ 1,031 savings from avoidance of unnecessary referrals
- £ 16,707 savings from avoidance of unnecessary admissions
- £ 889 savings from avoidance of unnecessary mileage

UK Department of Health - NHS  
**National Mobile Health Worker Project**

- Significant increases in **productivity**, as demonstrated by huge increases in contact activity (up to 142%)
- Significant increases in **time spent with patients** (up to 104%)
- **Journeys** can be reduced, even where clinical activity is increased (up to 11%)
- **Time spent travelling** can be reduced (up to 33%)
- **Data duplication** can be reduced significantly, freeing up clinical time (up to 92%)
- **No Access visits** can be reduced significantly (up to 50%)
- Significant savings in **referrals** (up to 34%)
- Significant savings in **admissions** (up to 91%)

# il coordinamento europeo

l'Unione Europea sta finanziando  
due ampi studi clinici multicentrici caso-controllo  
per verificare l'impatto clinico ed economico  
della telemedicina:

- Renewing Health
- United for Health

più un coordinamento tra le Regioni  
sulle iniziative per Active and Healthy Ageing

**consumatore e mercato**  
*oppure*  
**iniziative strutturali**  
**del sistema sanitario e sociale ?**



May 2011

# Pharma VOICE

THE FORUM FOR THE INDUSTRY EXECUTIVE



## The *mHealth* Revolution

**“In just a few years,  
the pharmaceutical industry  
will be able to reach  
one in every five citizens  
on Earth  
on their smartphone”**



# mHealth: Pharma's Next BLOCKBUSTER

In just a few years, the pharmaceutical industry will be able to reach one  
in every five citizens on Earth on their smartphone.

- Centralize oversight and responsibility
- Establish mHealth policies/guidelines
- Provide stable infrastructure regulations

- Establish personal ID regulations
- Clarify health data privacy/security laws
- Commit to common technical standards



- Establish appropriate reimbursement regimes
- Clarify medical liability potential
- Specify medical device regulations
- Establish personal ID regulations
- Clarify health data privacy/security laws
- Commit to common technical standards

**quando  
gli usi dei dispositivi mobili  
diventano “medical devices”  
da regolamentare ?**

# Federal Communications Commission (FCC, USA) - mHealth Task Force

## FINDINGS AND RECOMMENDATIONS

### Improving care delivery through enhanced communications among providers, patients, and payers

September 24, 2012

- FCC should continue to play a leadership role in advancing mobile health adoption.
- Federal agencies should increase collaboration to promote innovation, protect patient safety, and avoid regulatory duplication.
- FCC should build on existing programs and link programs when possible in order to expand broadband access for healthcare.
- FCC should continue efforts to increase capacity, reliability, interoperability, and RF safety of mHealth technologies.
- Industry should support continued investment, innovation, and job creation in the growing mobile health sector.

Medicines and Healthcare products Regulatory Agency  
(MHRA, UK)

# **Regulation of health apps: a practical guide**

## *Chapter 3:*

- Regulatory frameworks applicable to health apps
- The role of the MHRA
- The Medical Device Directive
- Pharmaceutical industry perspective
- Further regulatory considerations in Europe
- Evidence of conformity in Europe
- Regulation of health applications in the USA

**spunti di discussione**

# gli attori

- professionista: diagnosi, terapia, prevenzione (medico, altre professioni sanitarie e sociali)
  - accesso a informazioni sul paziente (fascicolo)
  - accesso a conoscenze
  - contatti più frequenti con i cittadini
- paziente-caregiver (autonomo, interattivo, passivo)
  - maggiore indipendenza nella cura
  - gestione dei rischi e degli stili di vita
- ruolo dei centri servizi

# le applicazioni

- applicazioni stand-alone vs rete (browser o trasmissione dati)
- testo vs segnali (devices) vs immagini (video)
- allarmi, avvisi, memo, calcoli, interazione
- benessere vs. salute
- informazioni generali vs. dati personali
- prenotazioni, pratiche, modulistica
- pagamenti on line



# ruolo del sistema (singoli servizi)

- cittadini come consumatori
  - certificazione oppure “trip advisor”
  - aiuto nella scelta delle soluzioni più appropriate
- servizi offerti dalla ASL
  - acquista i dispositivi e ricorre a proprio personale
  - acquista servizi chiavi in mano, inclusi:
    - personale sociale e sanitario
    - manutenzione delle apparecchiature

# ruolo del sistema (aspetti generali)

- coordinamento e quadro d'insieme
  - catalogo delle soluzioni tecnologiche
  - sviluppo dei modelli organizzativi
  - raccolta delle iniziative locali
  - indicatori di qualità e appropriatezza
- regolamentazione
  - definizione delle responsabilità
  - privacy e sicurezza
- disponibilità di infrastrutture di base, standard ICT
- criteri per le tariffe (ticket)

**grazie per l'attenzione**

*la documentazione originale  
è disponibile a richiesta:*

*[arossimori@gmail.com](mailto:arossimori@gmail.com)*