

HITC2014 Keynote

The Future of Health Information Systems

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Cited as one of the 20 selected people
“who make US healthcare better”
(HealthLeader magazine)





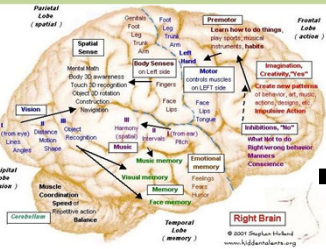
How Telemedicine was envisioned 100 years ago

Forecasting the Future in HITC:

The vision may be
right but the
technologies change.

Will it take another
100 years to realize
how healthcare must
change in the digital
society?

We live through an historic intersection: The Emerging Digital Society



Knowledge is not brain-centric anymore. Knowledge is system-centric.

This means that no doctor can rely on what (s)he learned decades ago. The quality of care depends how your doctor manages the information system.

What Does This Mean For Healthcare?

Internet

- New digital devices and apps will improve decision making
- Patients will be researching health issues the same way as consumers research product/service information

Communication

- Digital Communication with patients and colleagues

New Software

- New apps will replace the doctor's intuition
- Physician' skills will depend increasingly on their way to research/manage information/communicate
- Quality of care will be more closely monitored

Automation Will Reach Healthcare



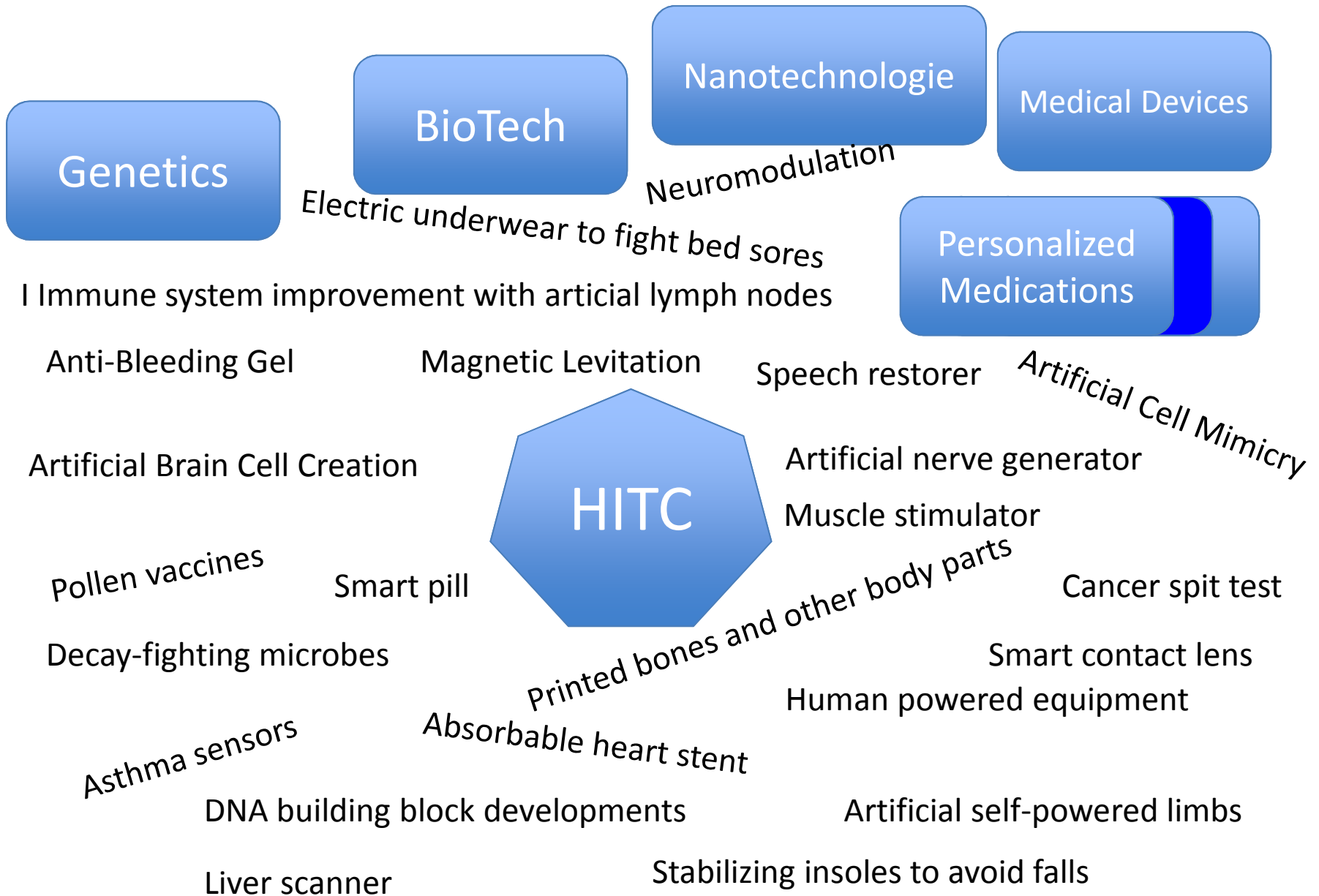
- Factories will be run by machines
- Very few people will be needed in offices

In Healthcare:

- Patients will check themselves from home into hospitals
- Robots do more and more surgery
- Apps will guide the care process
- Many healthcare tasks will be automated
- Patient identification, interoperability, and privacy will finally be solved

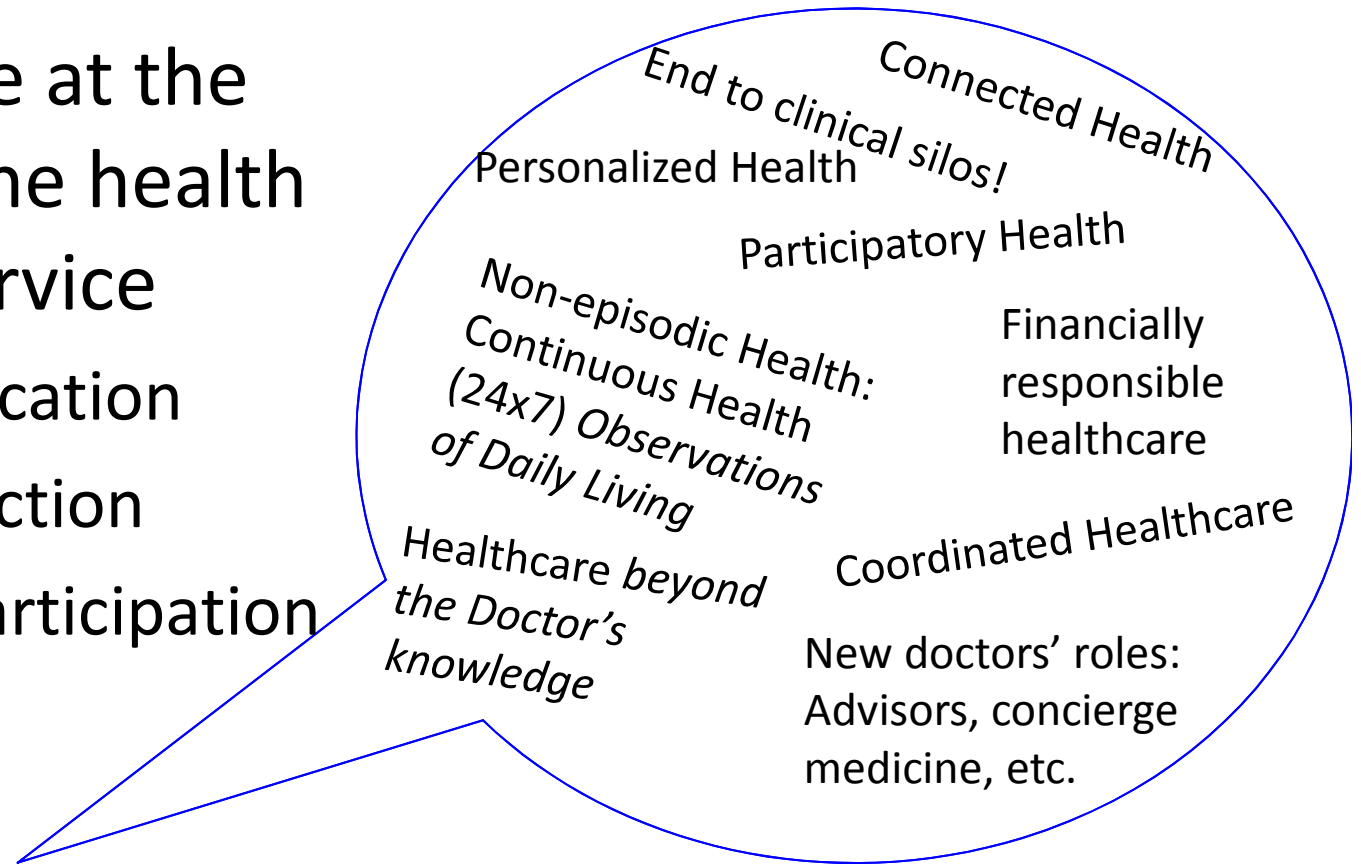


21st Century Medicine



The Promise of HITC

- HITC will be at the center of the health delivery service
 - Communication
 - Cost reduction
 - Patient participation



All these concepts have been in the works for some time. It is time to include all of them in a new approach.

Healthcare Systems Changes

- Patients must become active participants in the healthcare process through digital technologies
- Clinical and Financial Transparency: Transparent clinical processes and reduction of costs
- The examination and care process are moving to the “virtual care space” between patient’s home, doctors’ offices, hospitals and clinics, as well as other fitness and health providers
- The collective expertise of care and wellness providers must be brought to the care process
- A system based on episodic or periodic evaluation must migrate to one that provides continuous assessment

HITC-driven Healthcare

Approx. 90% of
treatment activity
takes place during
the encounter



Approx. 10% of
treatment activities
takes place during
the encounter

Provider-centric
activities



Orchestrated healthcare:
Every professional involved
in a person's health is
playing a part just like
every musician in an
orchestra

Medical Knowledge



**“I already diagnosed myself on the Internet.
I’m only here for a second opinion.”**

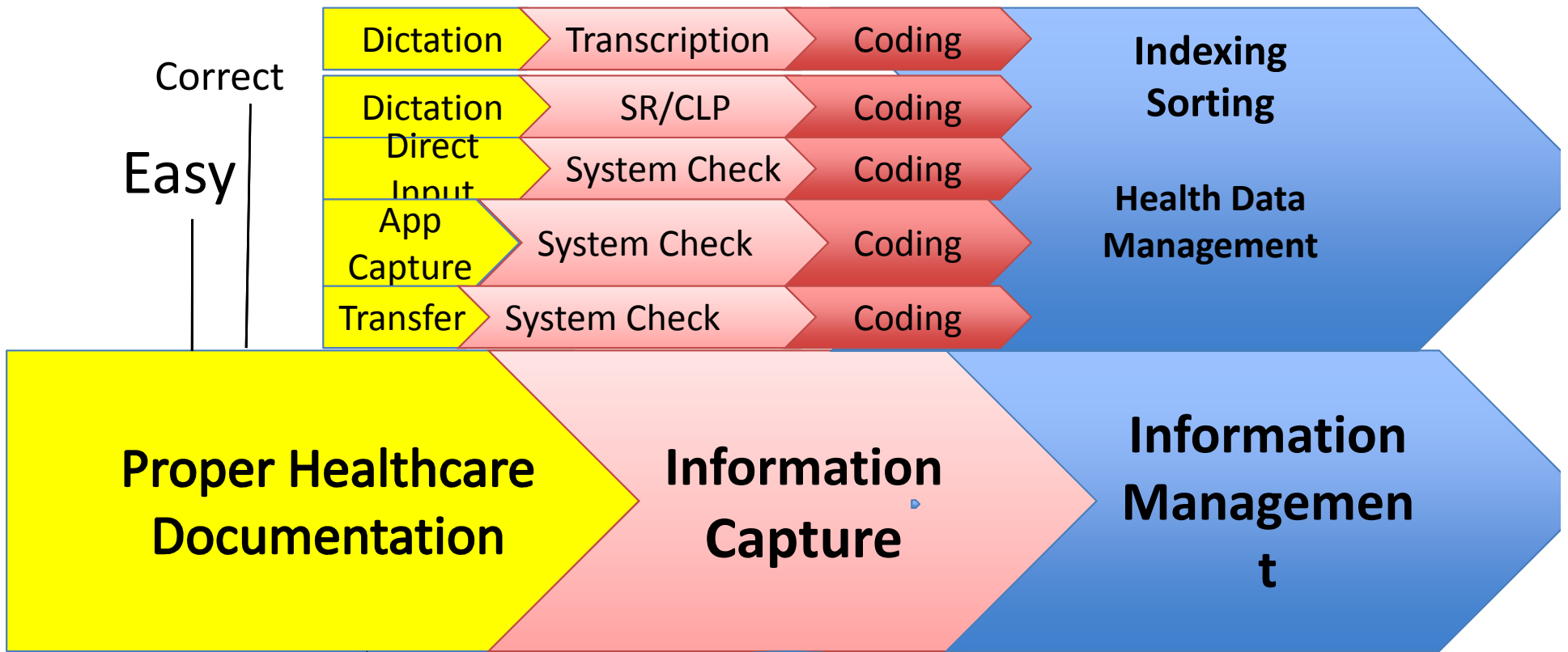
- Over 70% of patients are getting clinical advice from the Internet
- But the system should tell the provider what the patient learned on the Internet and from whom
- The concept of patients advising each other has been very helpful and has great promise.
- Shouldn't the patient be able to ask the doctor by email or text message? **Or better: in a secure app?**

What is needed for E-care Systems?

20	AI-based Diagnostic Support	Algorithm Apps for diagnostic decision support: <i>Holographic Input-home diagnostics-augmented reality-personal genomics-concept-based digital diagnostics</i>
15	Electronic Streamlined Financial Functionalities	Automatic financial systems: Real-time financial transactions-cost estimates for providers and patients –"all-digital communication"
5	mHealth: Medical Knowledge Apps	Increased use of medical apps – optimized app management
5	Digital Communication with Patients	Laws-Data Protection-Financial- Professional
?	Health and Fitness Cooperation	Interdisciplinary care -professional Issues
10	Better Systems Documentation	Solving the current documentation riddle
10	Electronic Streamlined Administrative Functionalities	Online: appointments – registration - referrals and orders – administrative management tasks

00 = expected number of years until mainstream use may be achieved

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Goal: Change from storytelling to future automatic functional documentation

Automatic fact checking

Documentation is the bottleneck of the healthcare process costing billions of dollars and causing many errors. Solving this problem will be the key to future HITC.

Sorting, assembling, indexing, fact checking, dispersing data and solving discrepancies (particularly in coding). VERY DIFFERENT FROM CURRENT HIM

Hurdles

Professional and Legal

Telemedicine Laws
Privacy Laws
Financial Changes

Customs and Habits

Financial Crisis

Documentation Issues

Patients

Patient Motivation and
Education

Gamification of Health

User friendliness

Interoperability

Technologies/Systems

New systems for providers
with better functionalities
and easier use

From EHR systems and
MU to e-care
functionalities

Open Digital Systems

Patient's complete health history

Appointment management and home check-in

Medication history and communication with several pharmacy options

Communication with hospitals and clinics



Hospital/Clinic

*All communication in secure app mode:
No X12, HL7 or other outdated standards*



Payer/Insurance

Preferred Health Info Resources

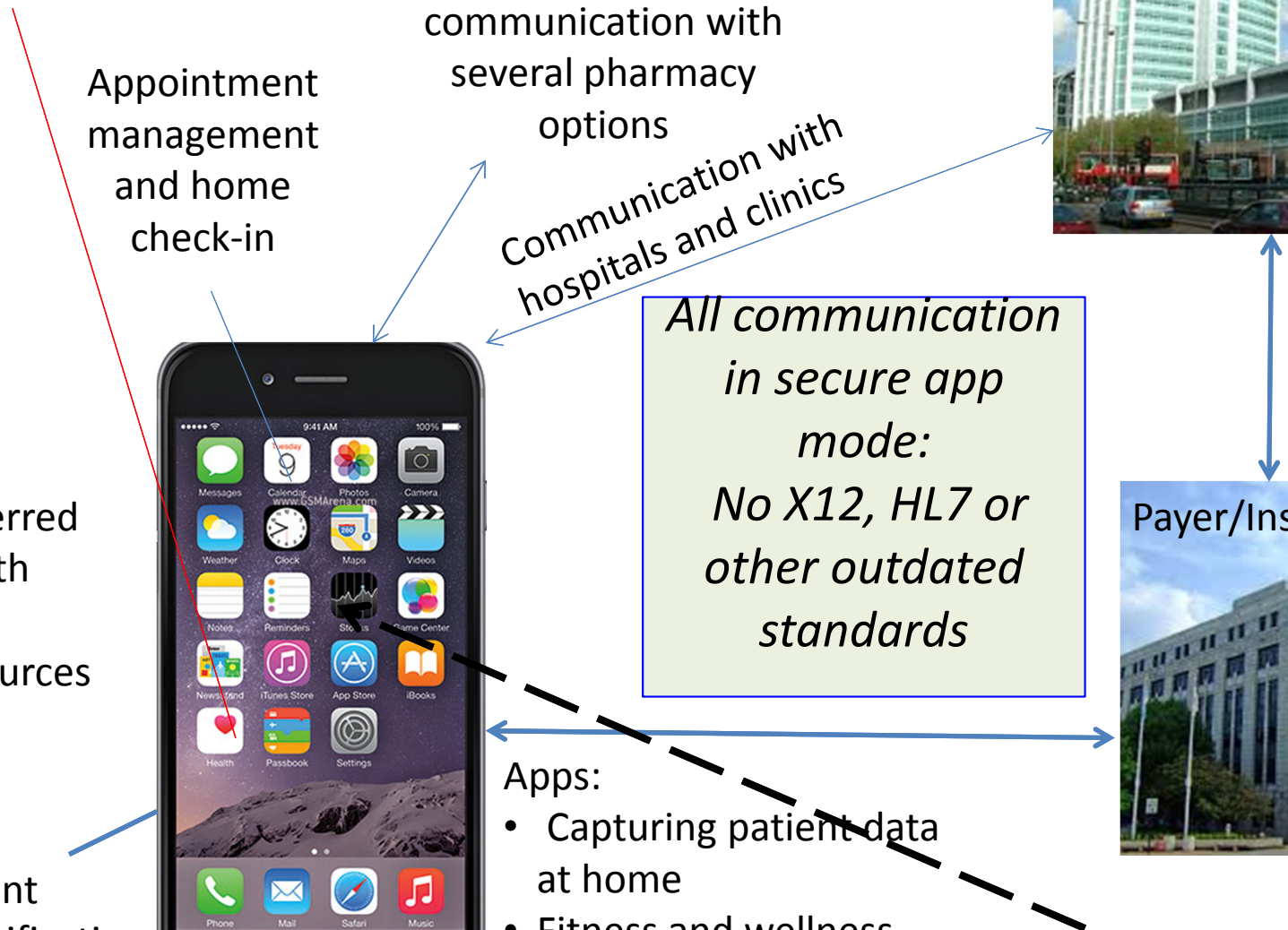


Patient Identification, complete PHR and many other applications

Apps:

- Capturing patient data at home
- Fitness and wellness (integrated)
- Provider Management

Virtual visit app



This means:

Communication

New strategy: Reduction of outdated messaging standards.



(less centralized communication hubs such as RHIOs, etc.)

ID

No standards work on patient ID systems

as the device will be the ID with biometric Identification

EHR

New EHR strategies should replace Existing EHRs

MU goals must be adjusted to the new infrastructure of discrete data and the new data ecosystem

PHR

The PHR must be integrated into the data ecosystem of a patient's information base – note: a turn from previous efforts

The revolution of HITC

- HIS/Hospital and legacy systems have to be adjusted or replaced
- Existing standards organizations from the 20th century do not fit well into this picture
- Small companies and developers have to be integrated (think of 12 million Apple developers, for instance)
- When this infrastructure is in place, there is lots of room for additional functionalities (apps)

In summary

- Such a system could be implemented today
- But in the US, legislation and stakeholder interests will make the transition difficult
- It is likely that other countries will first reap the benefits of the HIT system of the future



“I predicted such systems 15 years ago. It is good to see the emergence of some systems. I have great hope for the next couple of years!”

Thank You!

I can be reached at pwaegemann@gmail.com

My latest book is available from Amazon as paper book or eBook

