Εξατομικευμένα Συστήματα Υπηρεσιών και Εφαρμογών Διαχείρισης και Φροντίδας Ασθενών, με Σκοπό τη Βελτίωση Δεικτών Υγείας και την Αποφυγή ή τον Περιορισμό της Διάρκειας Νοσηλείας

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Foundation for Research and Technology – HELLAS

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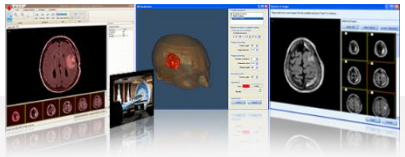
Computational BioMedicine Laboratory



The **mission** of the Computational Medicine Laboratory (**CBML**) is to develop novel ICT technologies in the wider context of **predictive**, **personalized**, **preventive** and **participatory** (the P4) medicine aiming at the:

- **Research and development of personal e/m-health systems and pervasive mobile monitoring**
- **Biomedical knowledge discovery & interoperability of data and models**
- **Optimal management of chronic diseases**
- **Optimization of diagnosis and treatment**
- **Development of novel predictive models, medical imaging analysis and clinical decision support tools**
- **Medical clinical research implementation of well-established in silico methods and tools**

CBML laboratory is coupled with the "*Center for eHealth and Applications and Services*" for evolving R&D results into commercial products focused on Integrated Care Solutions

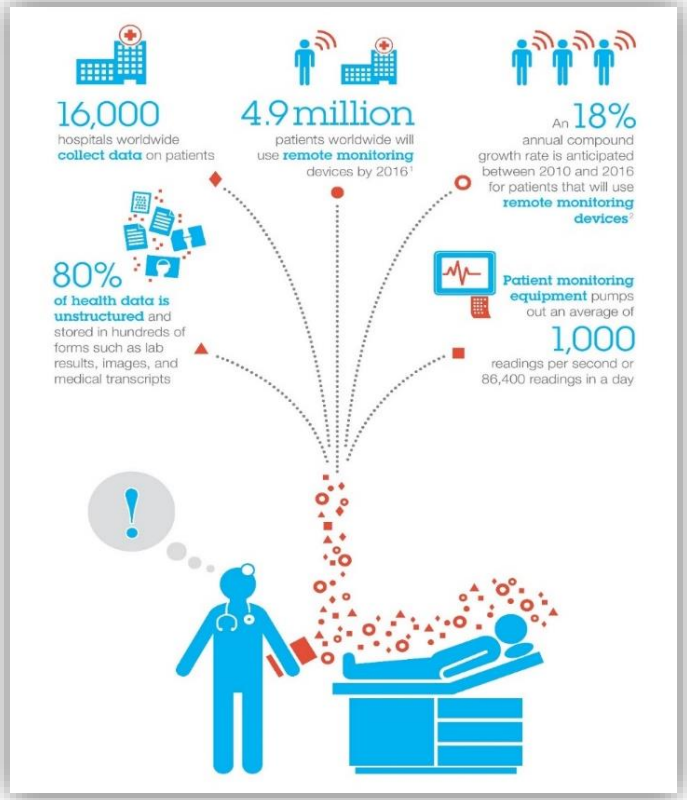
ACGT
GEN2PHEN
VPH NoE
CONTRACANCRUM
EUROCANCEROMS
POSEIDON
REMOTE
ΗΡΑΚΛΗΣ
iCARDEA
REACTION
TUMOUR
ENCCA
ΣΥΝΕΡΓΑΣΙΑ
p-Medicine
INTEGRATE

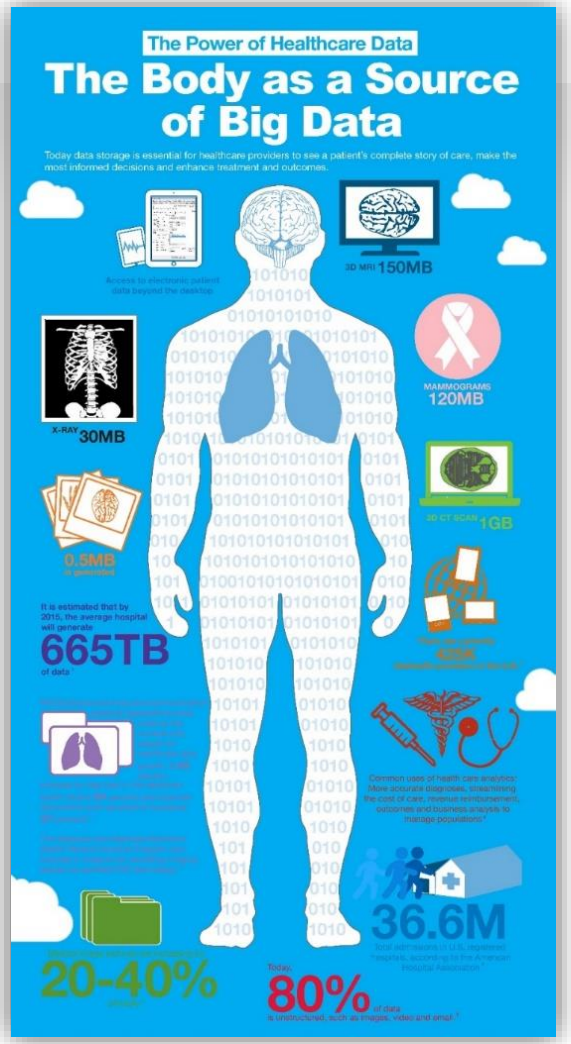
MyHealthAvatar
RASimAs
iManageCancer
SPEECHXRays

Personal Health Systems innovation areas

- **Wearable Ubiquitous devices**, which acquire, monitor and communicate physiological and other health-related data
- **Intelligent processing** of the acquired information and matching with expert biomedical knowledge to derive new insight about citizen's health status
- **Personalized feedback to the citizens** to allow better self-management from diagnosis, treatment and rehabilitation to disease prevention and well-being

The landscape today!





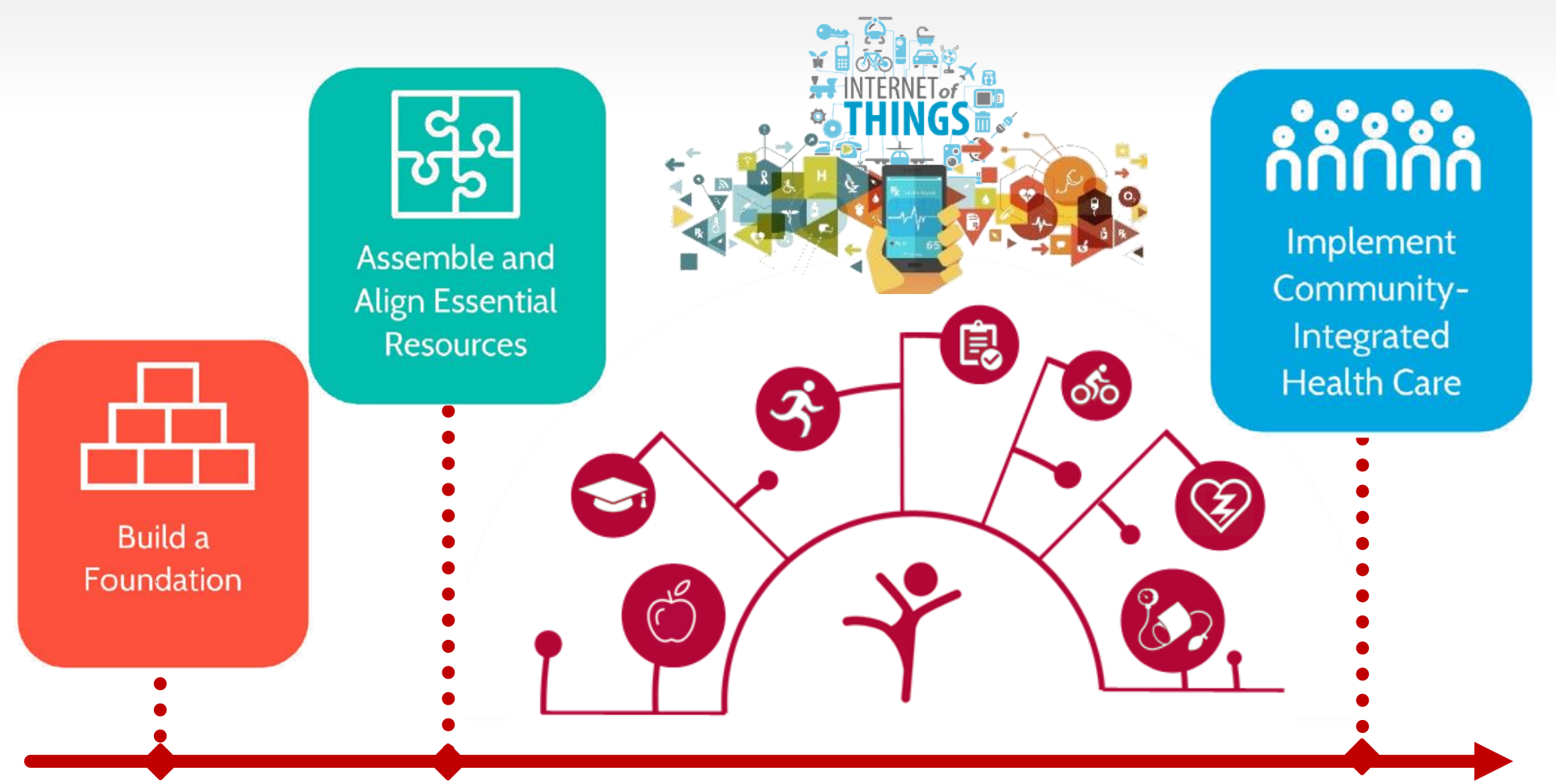
Personal Health Systems to Change Healthcare

Touch Points
"Moments of Truth" associated with individual encounter interactions between patients and their healthcare provider.

"The sum of interactions"—
institution-specific—shaped by the organizations culture that influence patient perceptions along the continuum in *one network*.

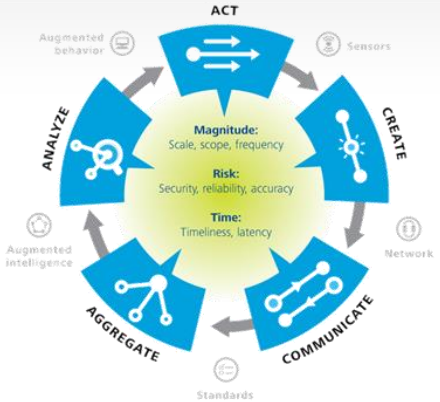
Expands concept of patients' experience to include all interactions across the broader ecosystem of care, thus influencing patient perceptions and capability.

PHS to reduce hospitalization reassembling Healthcare

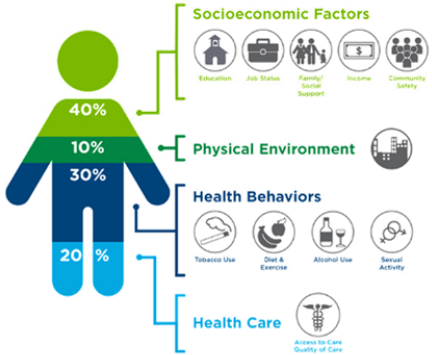


Technology trends

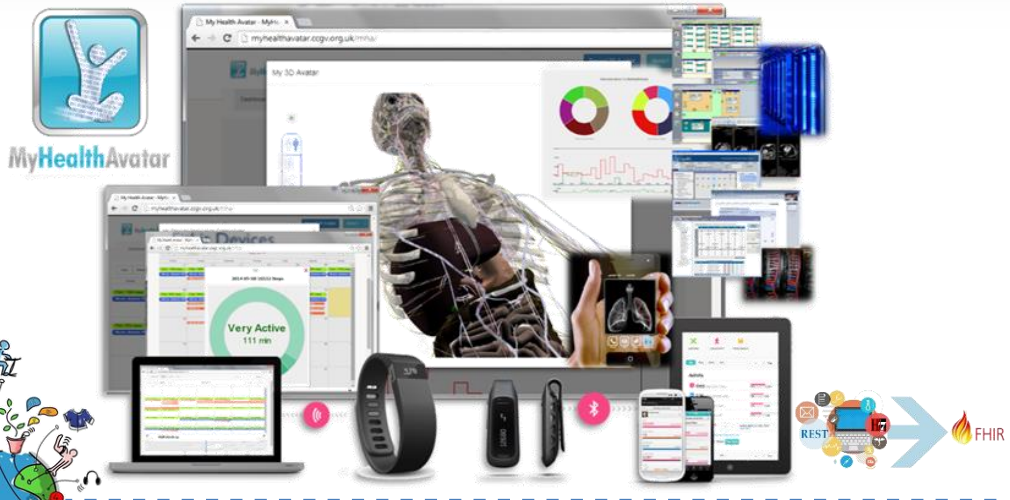
- **Wireless networking environment**
  - Patient Bio-telemetry, monitoring and coaching
  - Location tracking, notifications, alarms
  - Support mobile medical record
  - Communication of anything with anything
  - Interoperability and standards



- **Pervasive communications / computation**
  - Mobility and continuity in medical monitoring and treatment
  - Ubiquitous computation into the environment available at any time, anywhere
  - Computer–mediated computation for risk assessment
  - remote access provisioning to medical facilities and specialists

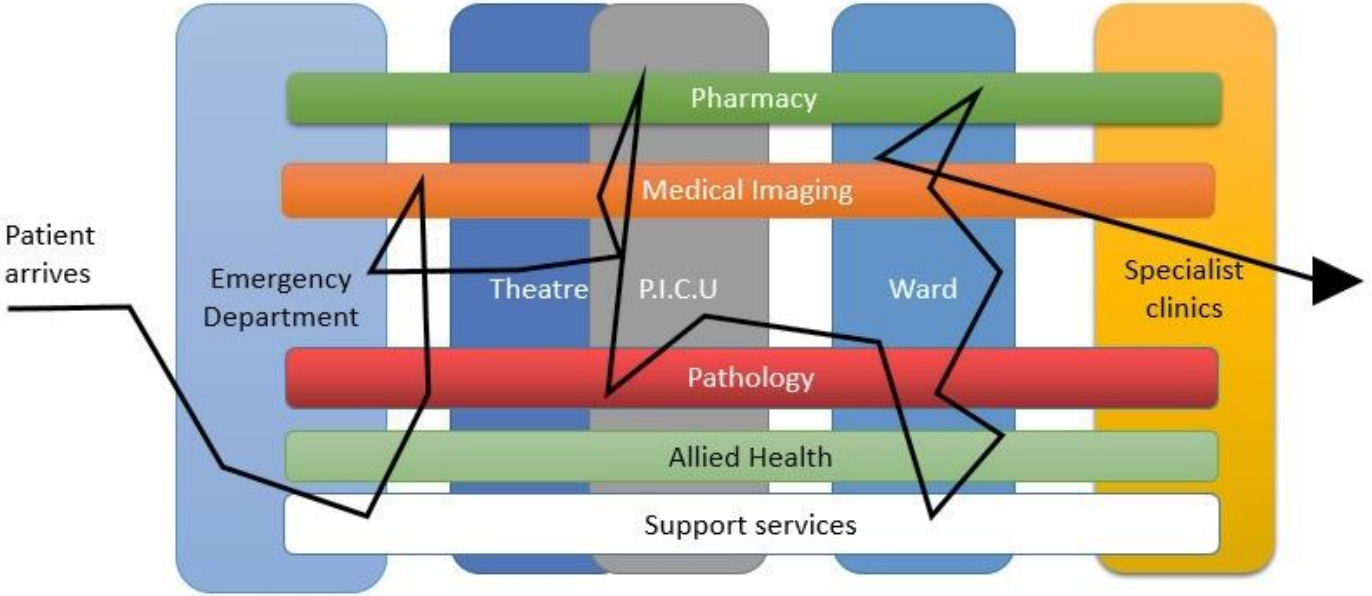


Personal Health/Medical Data



- Personal (gender, age, ethnics)
- Health indicators (blood pressure, heart rate, body temperature)
- Life style (drink, smoke, activities)
- Medical conditions and treatments
- Medical data (images, biological data, etc.)
- Others

“Patient Journey” through a hospital



The patient experience is a direct result of how the different hospital systems interact and the way staff work within these systems to provide patient care.

Please note: The purpose of this diagram is to demonstrate the large number of systems that a patient could pass through on their healthcare journey.

The patient journey… revisited

People
(Patients and all staff, as well as vendor, payer, and regulatory roles where appropriate.)

Processes
(The sum of all sequential and parallel tasks comprising the operation.)

Tools
(e.g., files, forms, supplies, phones, computers, fax, manuals, medical devices, etc.)

Information
(Input, assessment, transformation, decisions, and output.)

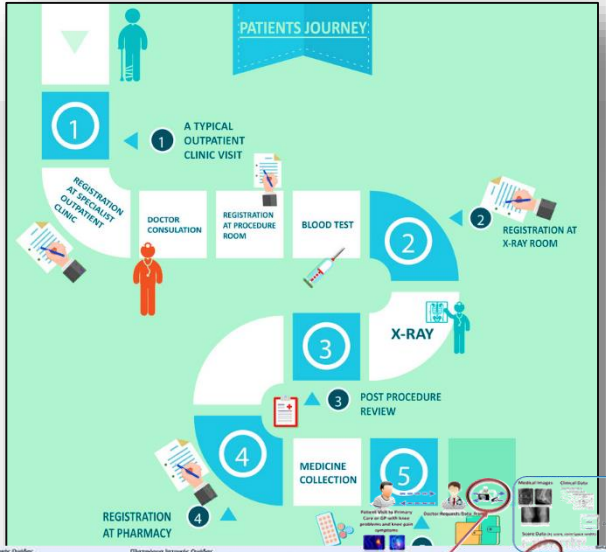
Workflow elements for analysis and re-design

Clinical workflow

(Ideally, consistently efficient coordination of people, processes, tools, and information, aimed at achieving the highest quality results in the shortest time at the lowest cost.)

Results

(Patient care dx and effective treatment plans, prompt claims reimbursement, profitable operation.)



PRE-ADMISSION
- Patient Class for ED Admissions
- In-patient Only Procedures

ADMISSION
- Early Discharge Planning
- Admission Reviews to Payers

CONCURRENT
- Utilization Review for ALL Patients
- Timely Payer Reviews

DISCHARGE
- Ensure All Days Authorized
- Execution of Discharge Plan

POST-DISCHARGE
- Denial Appeals Process
- Patient Follow-up

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Thank you