

Annual Conference Budapest, September 23, 2024 SESSION 2 - Sustainable Healthcare Management: Technical Needs and Engineering solutions

Introduction

Towards Health&Care 5.0 Eugenio Guglielmelli

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From Medicine 1.0....

1.0 Symptom-based *Intuition medicine*



...Symptom(s) corresponding to the disease itself... (Galenus, II century AD)



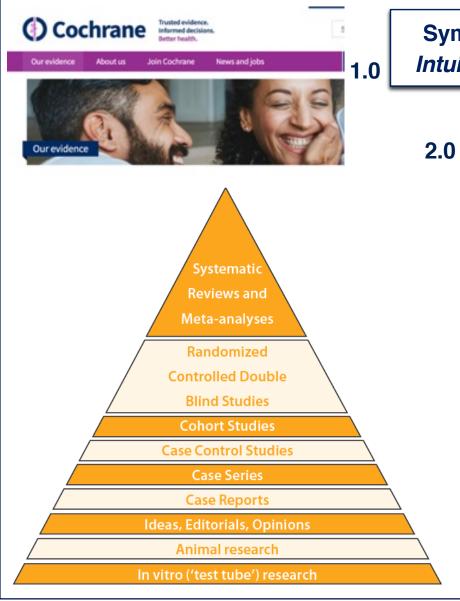
1.0 Symptom-based *Intuition medicine*

2.0 Interaction-based *Measure medicine*



Theophile Hyacinthe Laennec (1816)



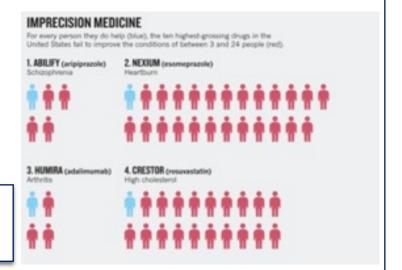


Symptom-based *Intuition Medicine*

Interaction-based *Measure Medicine*

3.0

Pattern-based Evidence Medicine



Personalized medicine: Time for one-person trials

Nicholas J. Schork

29 April 2015

Precision medicine requires a different type of clinical trial that focuses on individual, not average, responses to therapy, says Nicholas J. Schork.

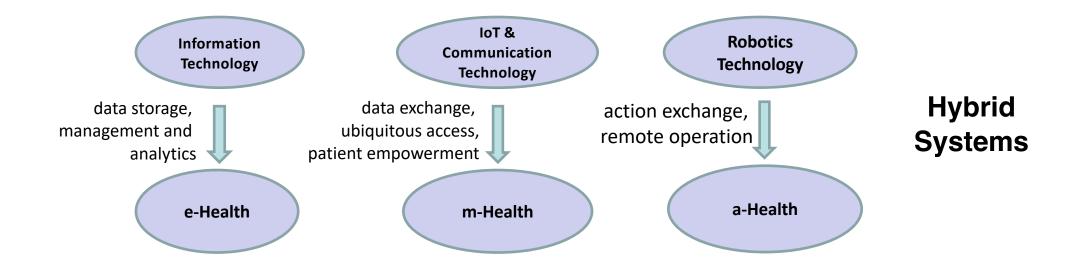








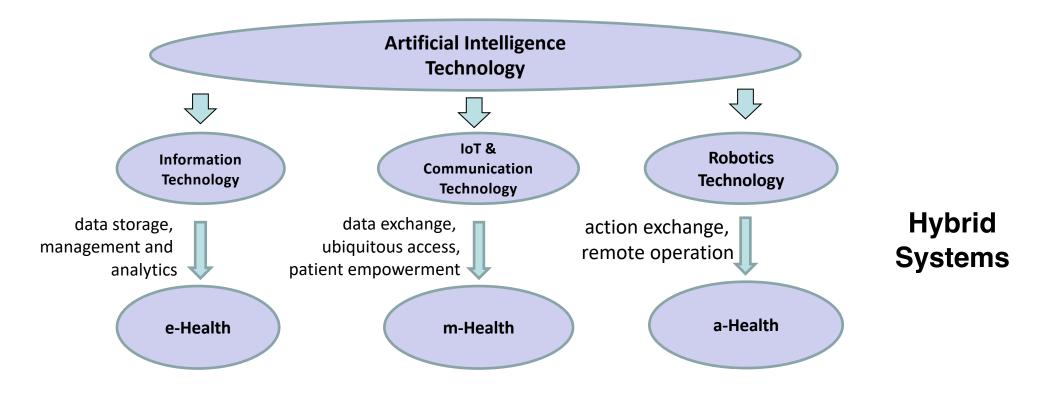
Big Data, IoT and Robotics for the Future of Medicine



From electronic-Health and mobile-Health to...... automated-Health



Big Data, IoT, Al and Robotics for the Future of Medicine



From electronic-Health and mobile-Health to...... automated-Health



1.0 Symptom-based *Intuition Medicine*

2.0 Interaction-based *Measure Medicine*

3.0

Pattern-based Evidence Medicine





INDUSTRY HORIZONS // SPRING 2017

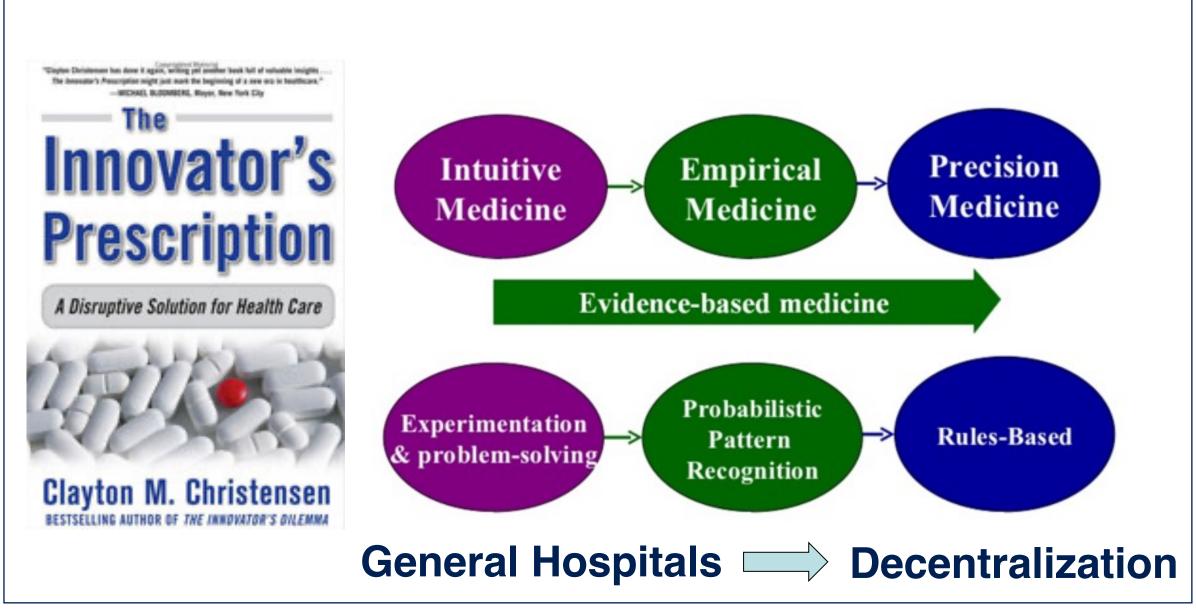
How Disruptive Innovation Can Finally Revolutionize Healthcare

A plan for incumbents and startups to build a future of better health and lower costs

By Clayton Christensen, Andrew Waldeck and Rebecca Fogg

4.0 Algorithm-based *Precision Medicine*







From Medicine 4.0...to P4.0 Medicine...



3.0

Pattern-based Evidence Medicine



Algorithm-based Precision (4P) Medicine





HORIZON EUROPE STRATEGIC VISION...



Italian Delegate: Eugenio Guglielmelli



Strategic Plan 2025 – 2027 - Cluster 1 – Health

- Healthcare systems more inclusive, accessible, sustainable and resilient
- Impacts of climate change and environmental stressors on people's health and well-being
- New technologies and digital solutions to improve healthcare and safe health systems
- Reducing the burden of illnesses and disabilities on individuals and communities
- To prevent, detect and rapidly respond to crossborder health emergencies
- To increase the resilience and long-term sustainability of EU Member States' and Associated Countries' healthcare systems

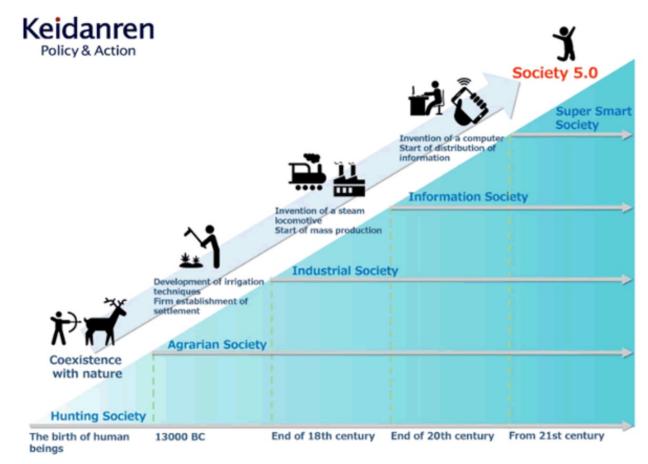


Towards Society 5.0...

The challenge of governing new technologies for a more and more inclusive Society



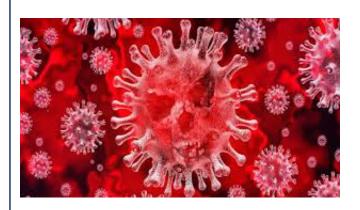




The evolutionary aspect of the Society 5.0 concept as introduced in the 5th Science and Technology Basic Plan of Japan – source Keidanren paper (PDF opens)



The death valley







Butler, Nature 2008



BEREADY

European Partnership for Pandemic Preparedness



EXSCALATE

ACOV

News

Contacts

E4C is the public-private consortium backed by the European Commission's H2020 program. It currently represents the most advanced center of competence aimed at fighting the coronavirus by combining the best supercomputing resources and artificial intelligence with state of the art experimental facilities up through clinical validation.



9/19/24 13

European Health Data Space

Better
diagnosis and
treatment,
improved
patient safety,
continuity
of care and
improved
healthcare
efficiency

Empower individuals to have control over their health data

Enable **health**

professionals

to have access to

relevant health

data

Health data from apps and medical devices

Electronic health records



Health data in registries



Assist policy
makers and
regulators in
accessing relevant
non-identifiable
health data

Facilitate access to non-identifiable health data for

researchers and innovators



Better health policy, greater opportunities for research and innovation



5.5 billion €

In savings for the EU over ten years from better access and exchange of health data in **healthcare**



20-30%

Additional growth of the digital health market



5.4 billion €

In savings for the EU over ten years from better use of health data for research, innovation and policy making



My health @ EU

eHealth Digital Service Infrastructure
A service provided by the European Union



EU Partnership Transforming Health&Care Systsems

Enabling health and care systems transformation through research and innovation

- Increase funding opportunities and strengthen the research and innovation community
- Fill knowledge gaps
- Increase the ability to implement innovation
- Intensify cooperation among countries and regions and beyond health and care sectors
- Increase stakeholders' involvement and capacity building

PILLAR 0 Programme management

WP1 – Governance and Annual Work Plan WP2 – Coordination and Management

WP3 – Strategic relationship and Impact maximisation

PILLAR 1

Science & Innovation into Policy and Practice

WP4 – Methodological and Assessment Framework

WP5 - Bridging evidence to policy

PILLAR 2

Research and Innovation funding

WP6 – Call texts definitions of research and innovation topics

WP7 – Joint Transnational Calls Secretariat

WP8 – Project Monitoring and Assessment of Projects' results and impacts

PILLAR 3

Support transferability & strengthening ecosystems

WP9 - Strengthening ecosystems

WP10 – Knowledge hub to support the transferability of good practices



Towards Society & Industry 5.0...

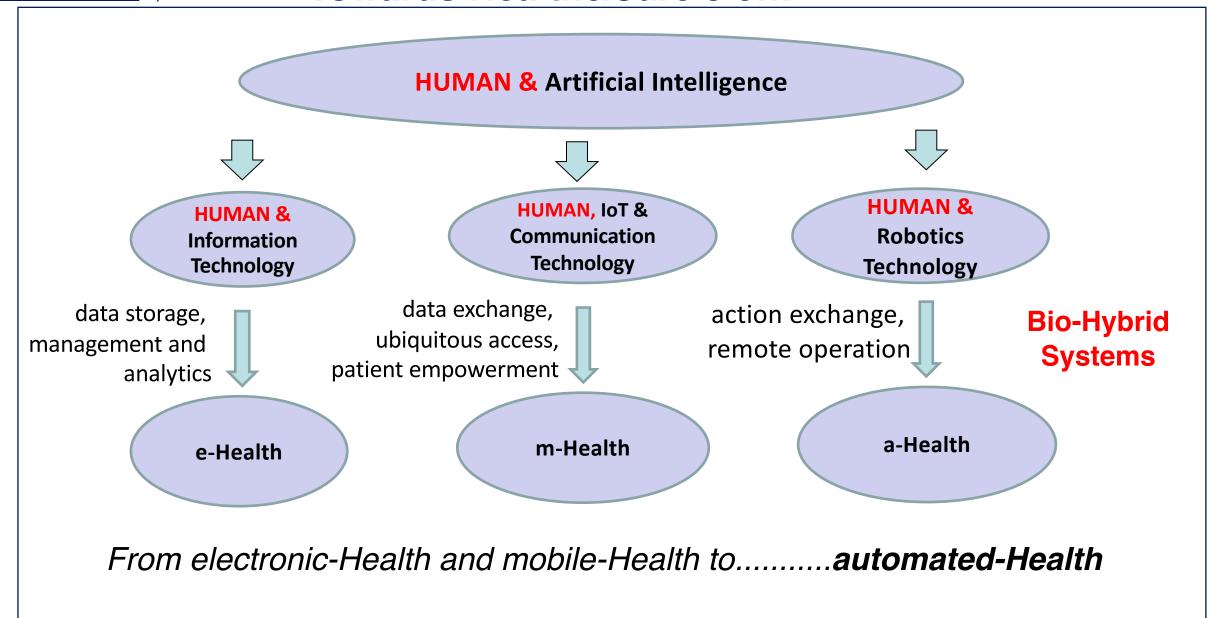






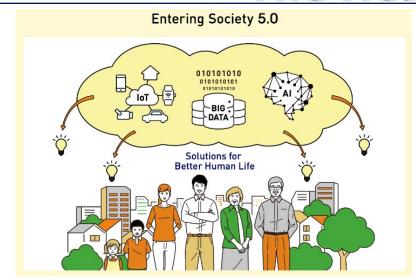
https://ec.europa.eu/info/news/industry-50-towards-more-sustainable-resilient-and-human-centricindustry-2021-jan-07_en

Towards Health&Care 5.0...





The Health&Care 5.0 Pathway



5.0

Human-Centred
Sustainable, Resilient
(One) Health&Care*

4.0

Algorithm-based P4 Health&Care

3.0

Pattern-based

Evidence Health&Care

2.0 Interaction-based
Measure Health&Care

Symptom-based
1.0
Intuition Health&Care





Towards Health&Care 5.0...

From Bio-Safety&Security...



...and Bio-Cooperative Health...

...to Bio-Synergy...



...and up to Bio-Symbiosis







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THANK YOU

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