

Soins de santé en 2030: Comment gérer l'innovation?

Michel Goldman

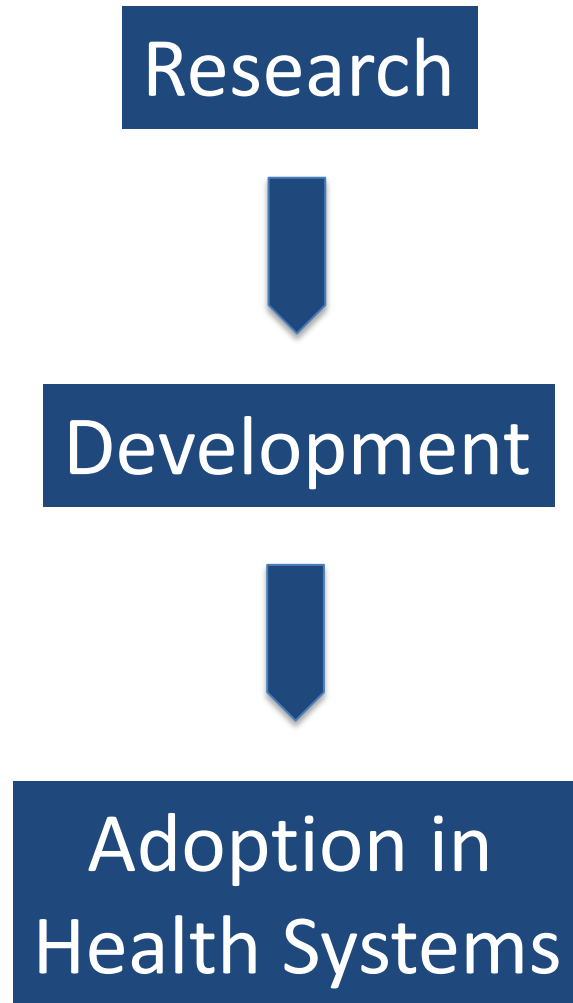
*Institute for Interdisciplinary Innovation
in healthcare*

Université libre de Bruxelles



- **Health innovation** is to develop and deliver **new or improved** health **products and technologies, policies, system** and **services** that improve **people's health**
- Health innovation can be in **preventive, therapeutic, rehabilitative** and/or **assistive** care
- Health innovation adds value in the form of improved **efficiency, effectiveness, quality, safety** and/or **affordability**.

From discovery to patient care: The complex path to therapeutic innovation



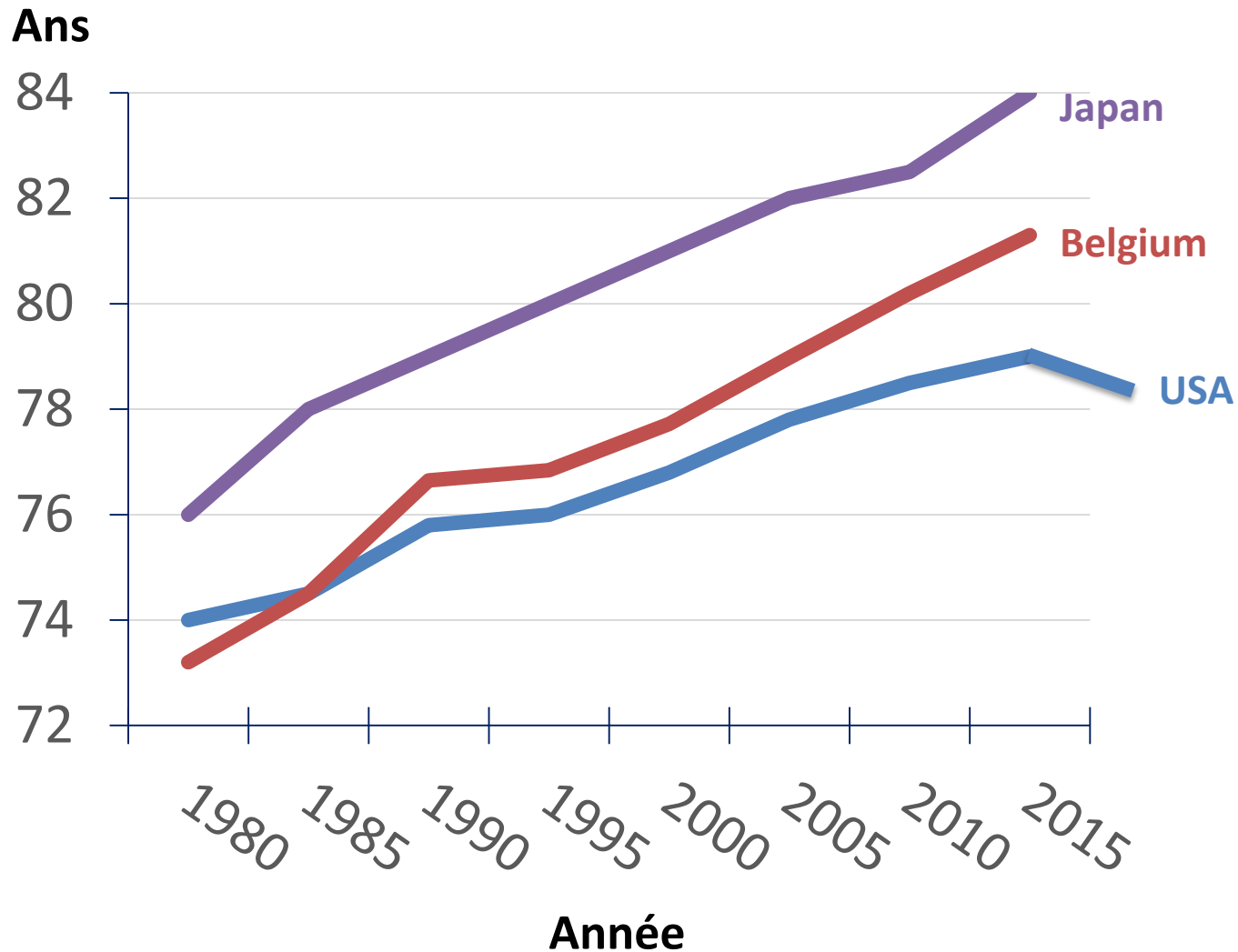
DRUG DISCOVERY

Fundamental science behind today's important medicines

Jonathan M. Spector,¹ Rosemary S. Harrison,¹ Mark C. Fishman^{2*}

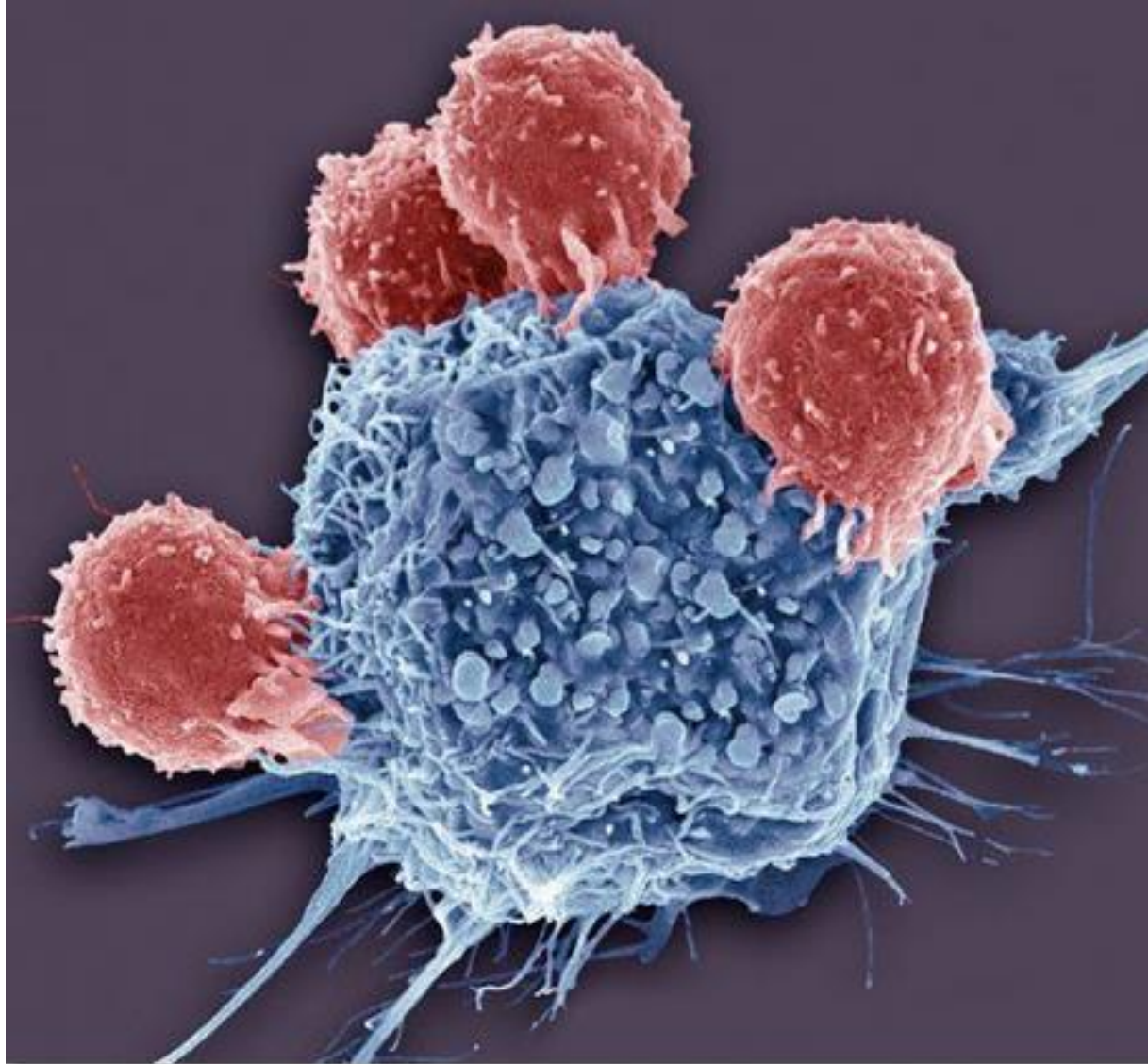
Today' most transformative medicines exist because of fundamental discoveries that were made without regard to practical outcome and with their relevance to therapeutics only appearing decades later

L'espérance de vie diminue aux USA depuis 2015



Sources: OECD, CDC

Les CAR T Cells: Avancée de l'année 2018 en oncologie



Les CAR T Cells:

Avancée de l'année 2018 en oncologie

- ◆ 80% rémission complète dans la leucémie de l'enfant réfractaire (B-ALL)
- ◆ Traitement approuvé depuis août 2017 aux Etats-Unis par l'autorité réglementaire FDA

Prix du traitement aux USA (Novartis) : 387 000 €



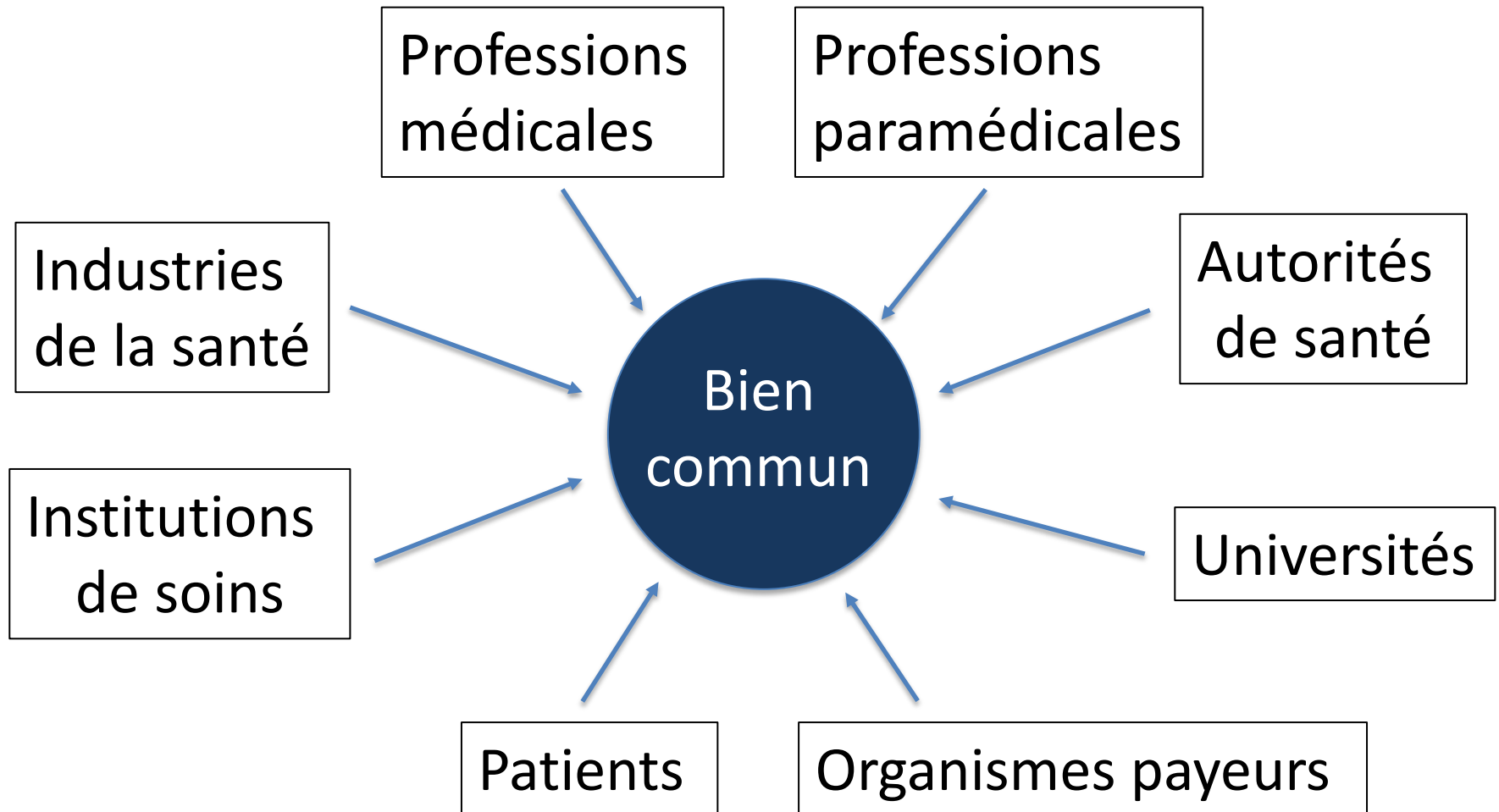
La médecine de précision au-delà du cancer

- Diabète
- Maladies inflammatoires du tube digestif (maladie de Crohn)
- Arthrite rhumatoïde
- Asthme bronchique
-

Thérapies de précision au-delà des médicaments chimiques

Produits	Indications
Biopharmaceutiques (anticorps monoclonaux)	Cancer, maladies inflammatoires
Radiothérapie ciblée (protonthérapie..)	Tumeurs solides
Thérapies cellulaires	Leucémies, lymphomes.....
Thérapies géniques	Maladies génétiques, rétinopathies
Phages	Infections résistantes aux antibiotiques
Biomatériaux dégradables	Prothèses cardiaques.....
Robotique	Chirurgie, membres artificiels,.....

Les économistes au secours de la médecine ?



Health Care Innovation Policies

Define fair pricing

Foster collaboration

Incentivize prevention

Prioritize education

EDITORIAL

DRUG DISCOVERY

Turning the Titanic

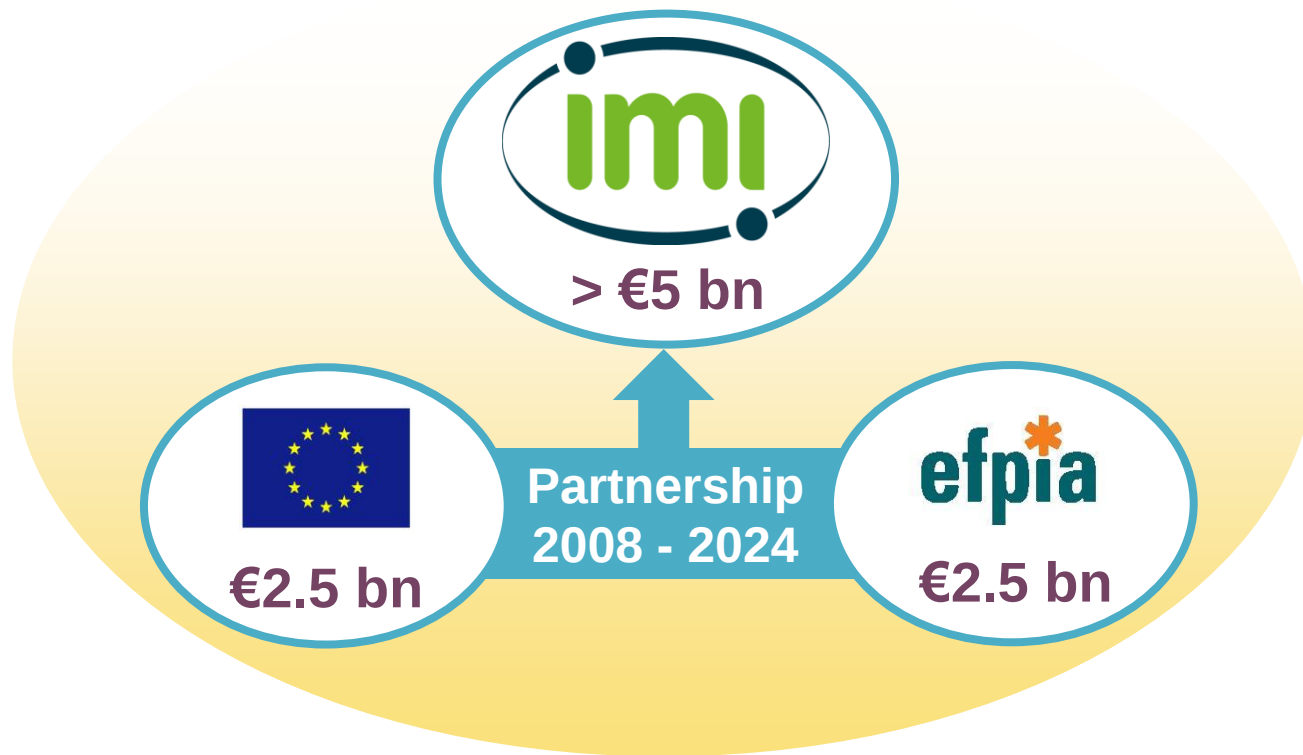
Elias A. Zerhouni



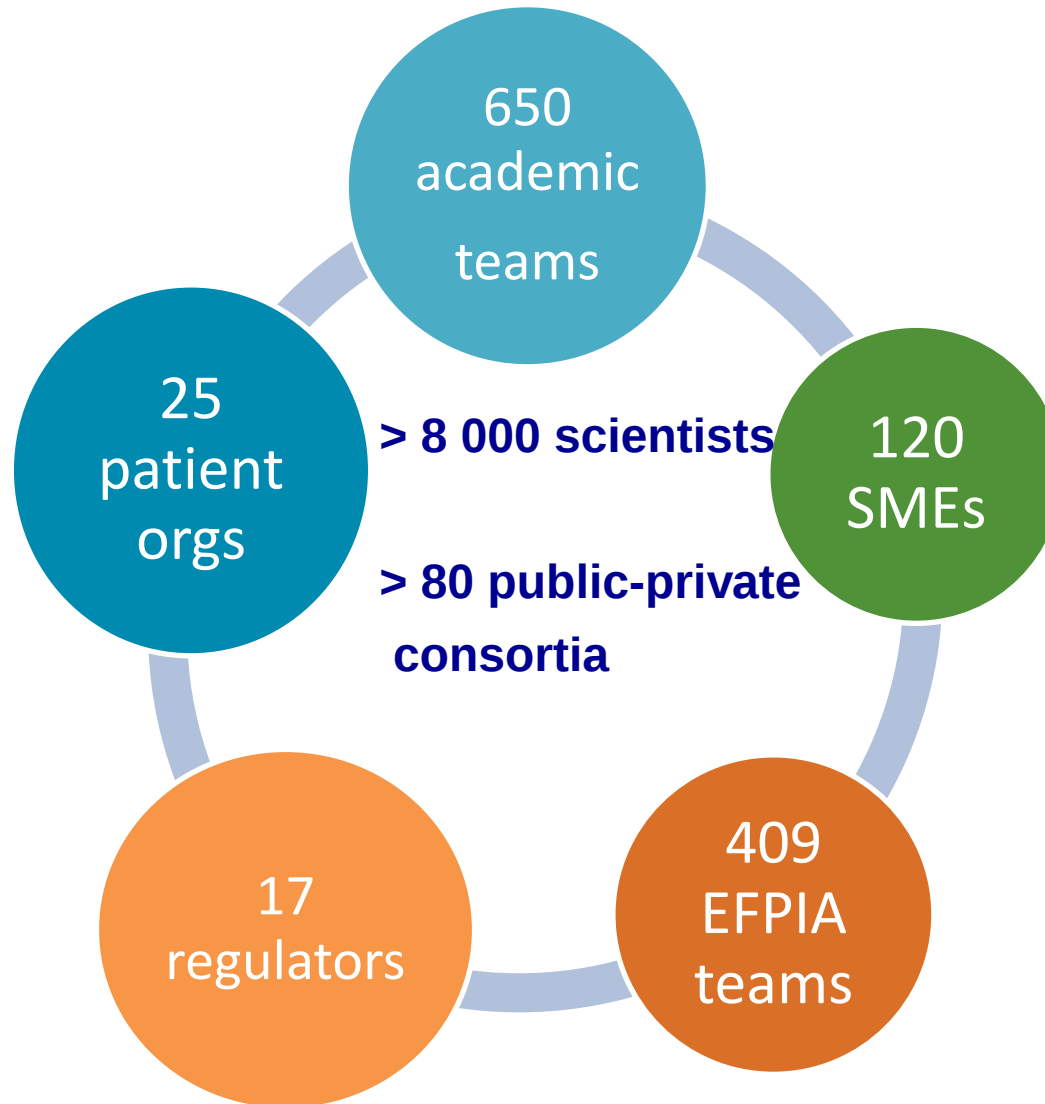
“We must acknowledge that no single institution, company, university, country, or government has a monopoly on innovation.”

“Finding safe, cost-effective solutions requires collaboration across scientific and medical communities throughout the health care ecosystem.”

The Innovative Medicines Initiative: Europe's partnership for health



The Innovative Medicines Initiative: Europe's partnership for health



A New Role for Leading Hospitals in Europe

J Ribeira, G Antoja, M Rosenmöller & P Borrás

RESEARCH AND EDUCATION AS KEY MISSIONS

Leading hospitals should develop
multi-stakeholder **collaboration** for
translational research and education

Health Care Innovation Policies

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Deployment of Preventive Interventions - Time for a Paradigm Shift -



Katherine Pryor, M.D., and Kevin Volpp, M.D., Ph.D

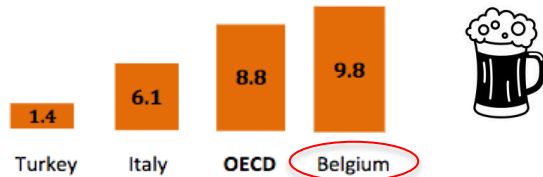
May 10, 2018

“For **health care’s transformation** from a volume- to a **value-based framework** to be successful, putting **coverage of preventive services** and treatments on more even footing will deliver great value”

e.g. behavioral intervention to prevent diabetes

Médecine préventive: la Belgique peut mieux faire !

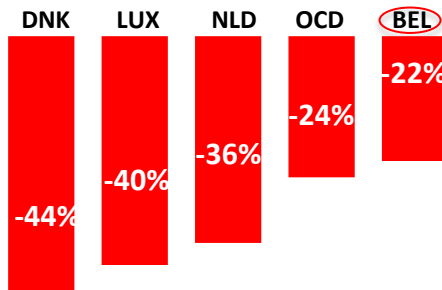
Consommation d'alcool (l/hab/an)



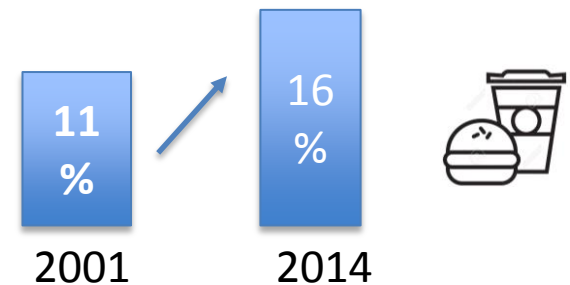
Consommation d'antibiotiques (ddd/1000h)



Réduction de la consommation de tabac (2010-2013)



Adolescents en surpoids ou obèses



Health Care Innovation Policies

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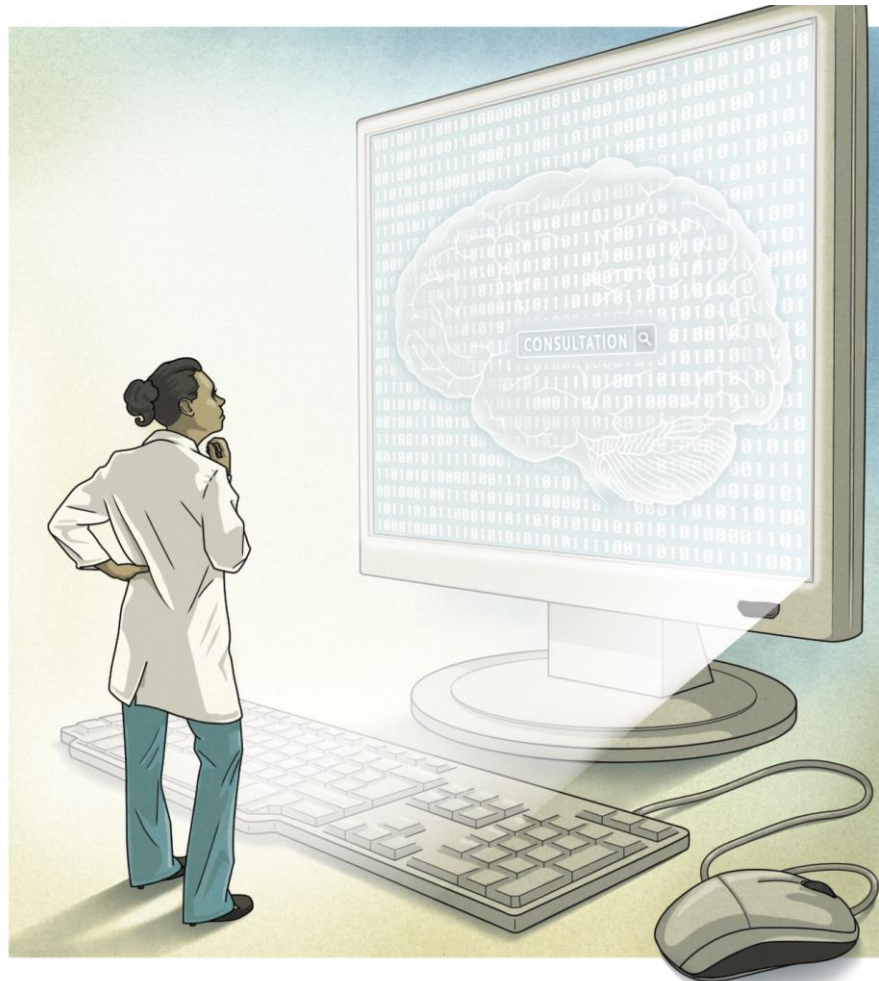
Incentivize prevention

Prioritize education

Lost in Thought — The Limits of the Human Mind and the Future of Medicine

Ziad Obermeyer, M.D., and Thomas H. Lee, M.D.

N Engl J Med 2017; 377:1209-1211 | [September 28, 2017](#) | DOI: 10.1056/NEJMp1705348



Obermeyer Z, Lee TH. N Engl J Med 2017;377:1209-1211

Your virtual doctor will see you now: AI app as accurate as doctors in 80% of primary care diseases

By **Gary Finnegan**, sciencebusiness.net

février 19, 2018

[Afficher l'original](#)

Redéfinir le rôle du médecin face au patient



The Economist June 2012

Satoshi Kambayashi

The I3h Education Program in Healthcare Innovation



FIELD GRAND CHALLENGE ARTICLE

Front. Med., 08 April 2016 | <http://dx.doi.org/10.3389/fmed.2016.00015>

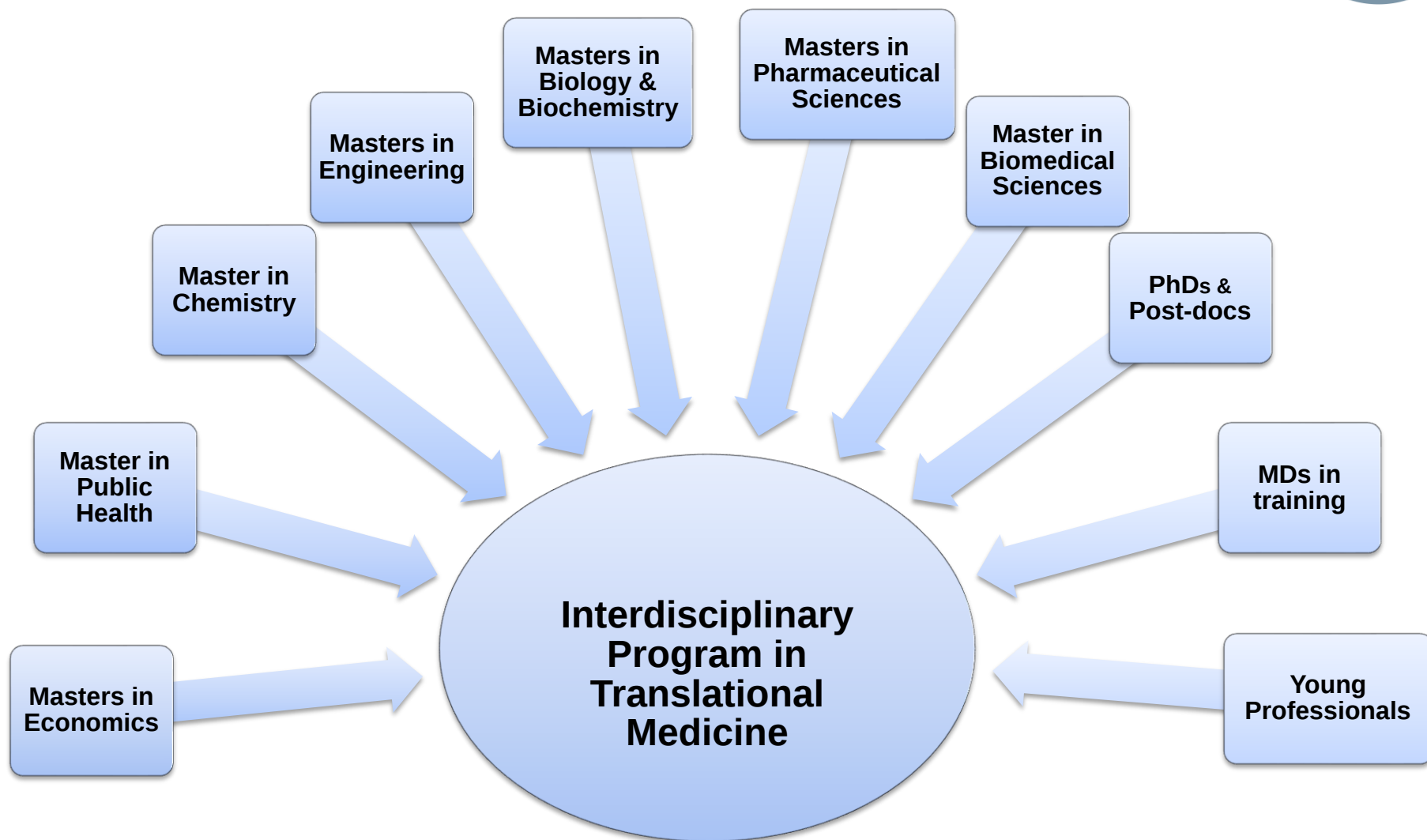
Education in Medicine: Moving the Boundaries to Foster Interdisciplinarity



Michel Goldman*

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The I3h Education Program



“Medicine is a science of uncertainty
and an art of probability.”

Sir William Osler
1849-1919