

HealthTech: The Real Revolution



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Xealth Technologies

InsurTech₂₀₂₀

History of Medicine

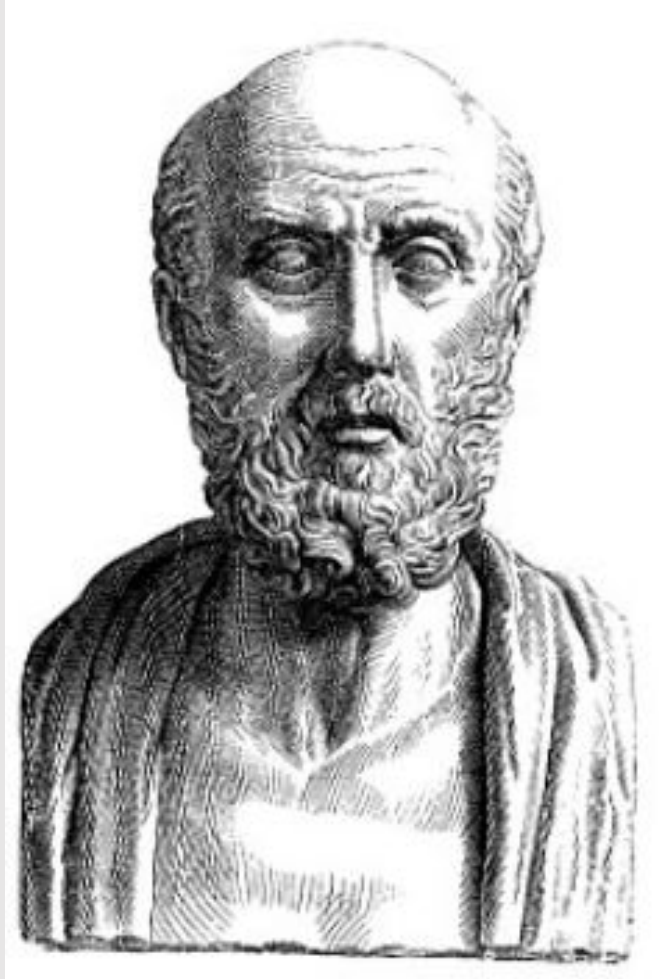


Babylonian
Mesopotamia

Magic & Demons

Cures were Herbal
Often Fatal





Egypt
India
China

Greek Empire

Hypothesis Disease
Natural
Hippocratic Oath
"First do no
harm"





Renaissance to 16th Century





Guy's Hospital in 1820



Medical Ethics; or a Code of Institutes and Precepts adapted to the Professional Conduct of Physicians and Surgeons



19th Century Rise of Modern Medicine

Anaesthesia
Bacteria & Viruses

Hygiene & Antiseptics

Nursing Profession



Florence Nightingale
triggered the
professionalization of nursing.
Photograph c. 1860



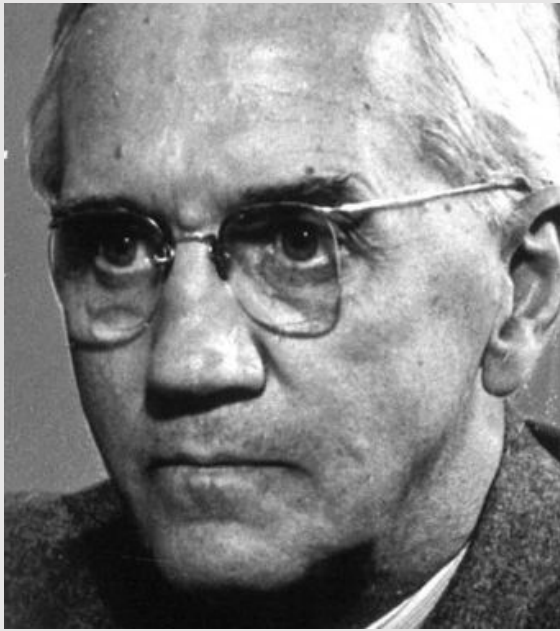
Louis Pasteur experimenting on
bacteria, c. 1870

Early 20th Century

ABO Blood Groups – 1901
X-Ray Machine

1918 Spanish Flu
Killed 2.5% - 5.5%
World's Population
45 – 100 million

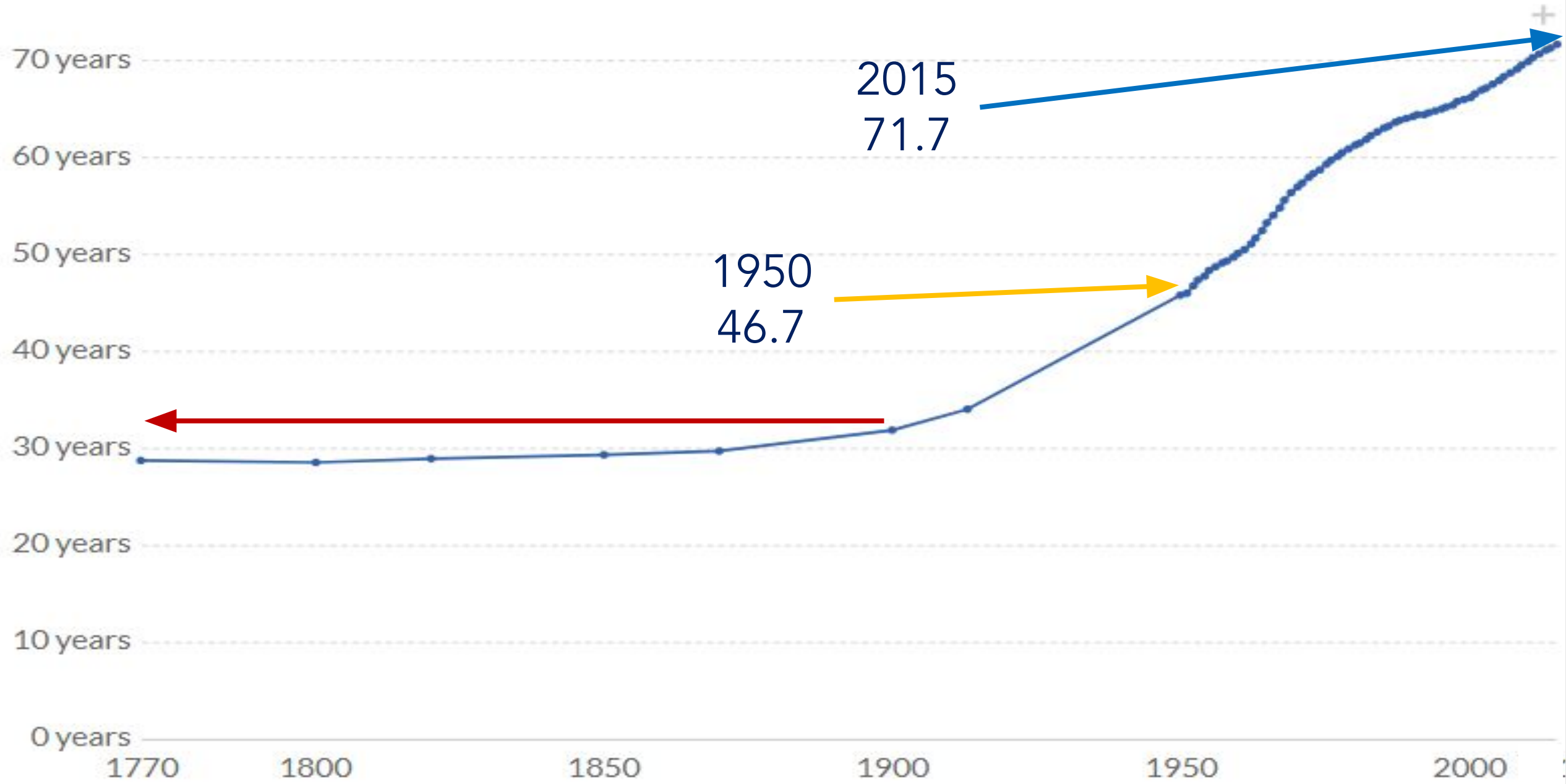




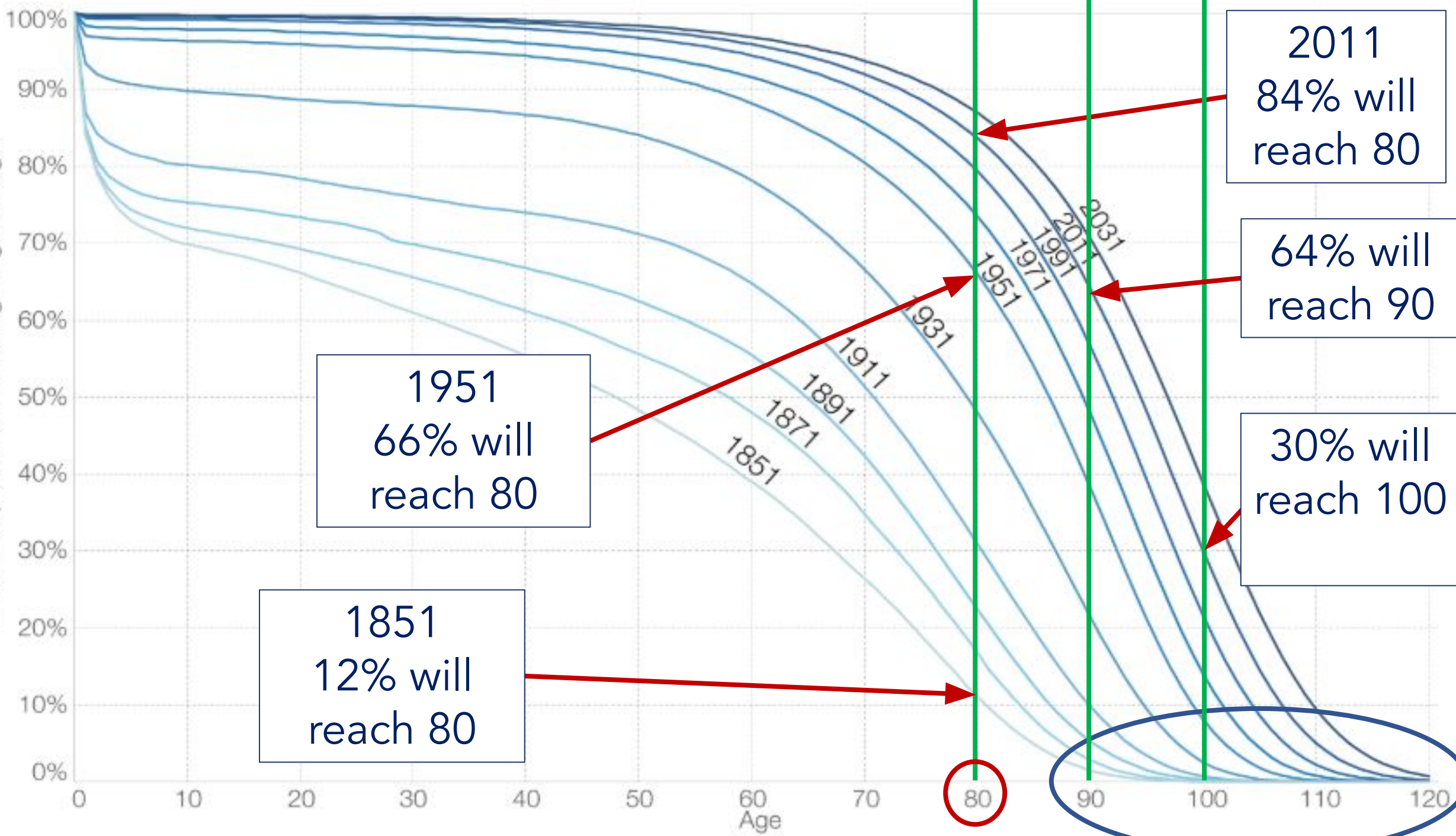
"When I woke up just after dawn...I certainly didn't plan to revolutionise all medicine by discovering the world's first antibiotic, or bacteria killer." - Fleming



Life Expectancy - Global Average



Share of persons surviving to given age



2011
84% will
reach 80

64% will
reach 90

30% will
reach 100

1951
66% will
reach 80

1851
12% will
reach 80

Later 20th Century

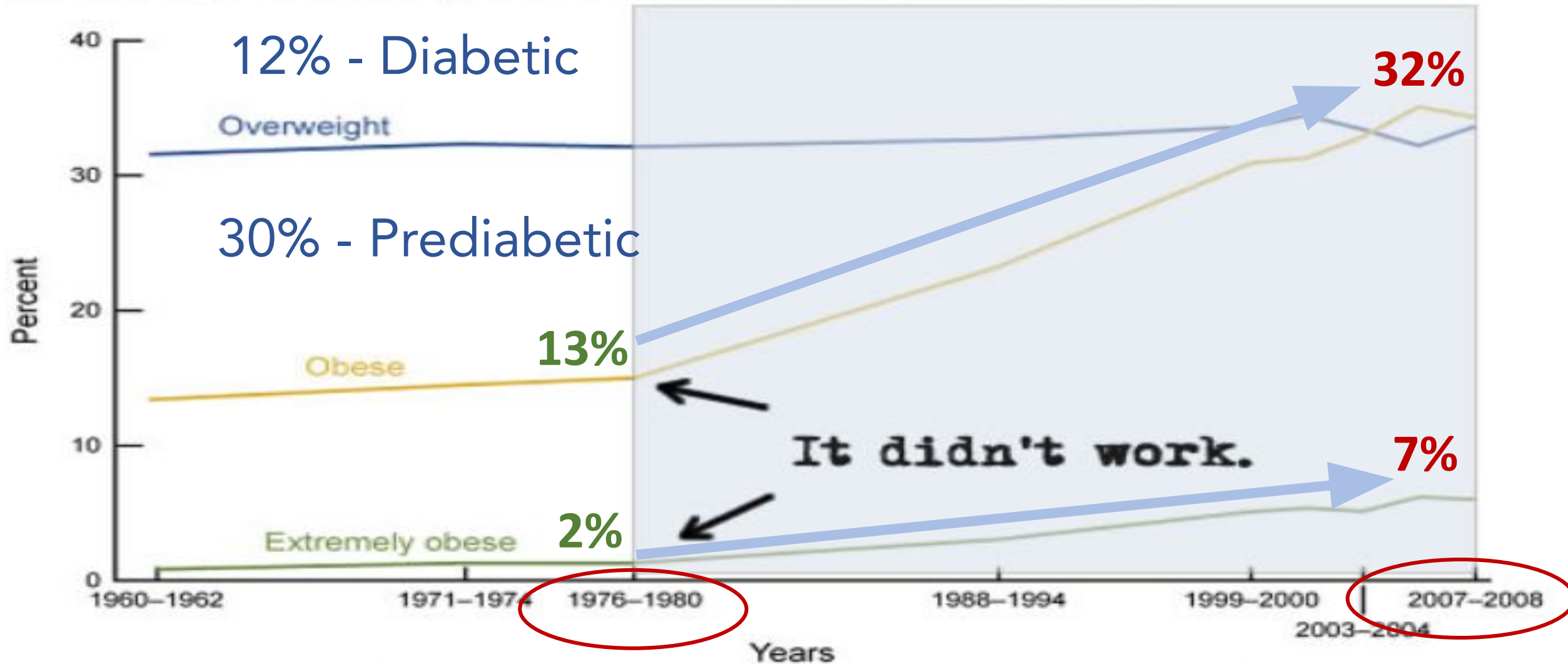
Pharmaceutical Industry
Wellness & Longevity
Evolution of Health
Insurance

MRI/CT Diagnostic Scanners
Biological Drugs
Mapping - Human Genome



In 1977, the US Government issued its first dietary recommendations:
"Eat less fat and cholesterol, eat more carbohydrates."

Figure 2. Trends in overweight, obesity, and extreme obesity among adults aged 20–74 years: United States, 1960–2008





US Health Spend

17% GDP – US\$3.5tr

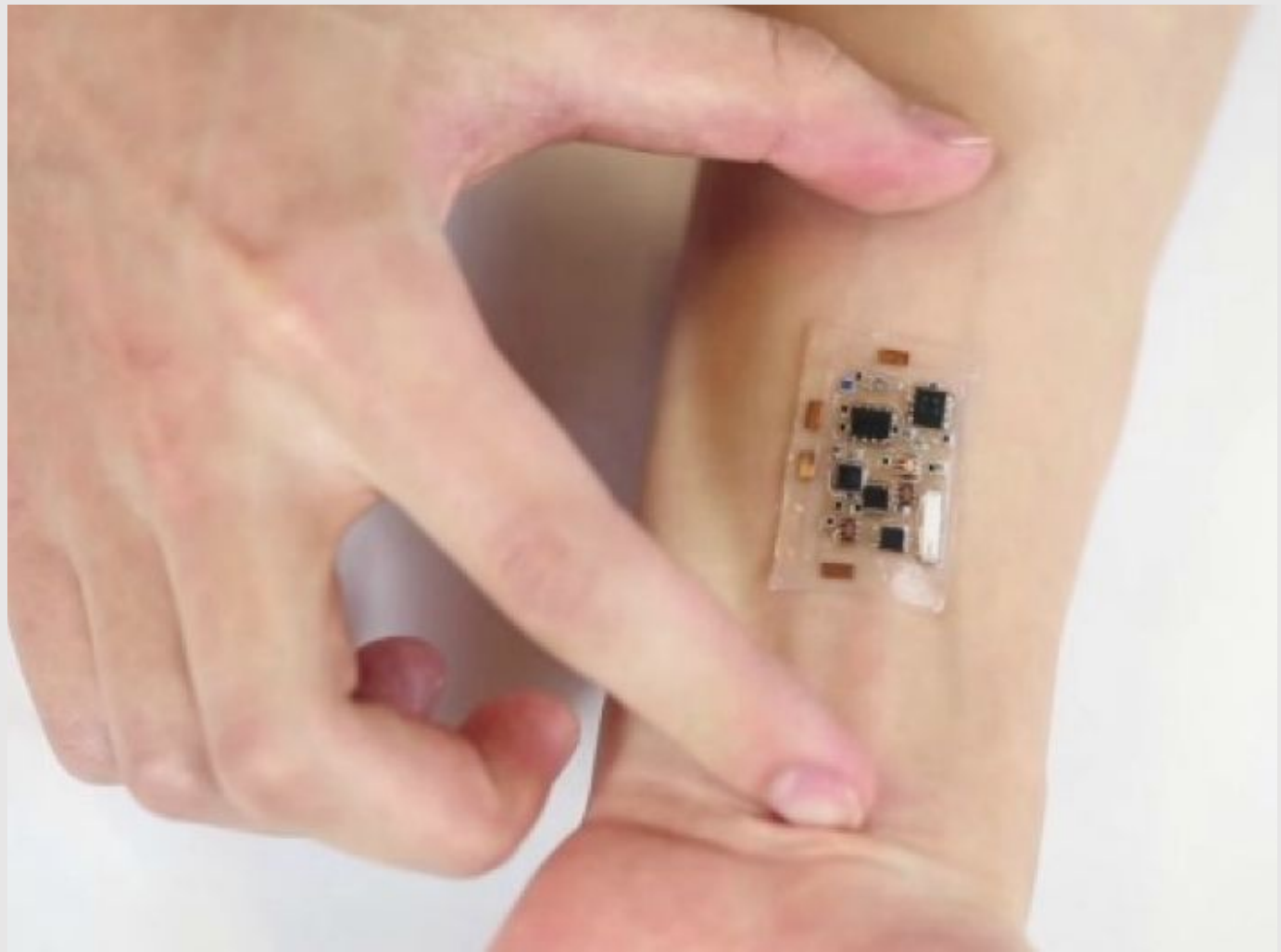
World's 5th Largest
Economy

21st Century

Understanding Patients
24/7/365

Connectivity - Patient,
Provider and Funder

Telecommunications,
Wearables & Mobile
Diagnostics



Individually
Priced
Insurance

Electronic Health
Record

Treatment

Lifestyle





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Countries are measuring
ICHOM Standard Sets



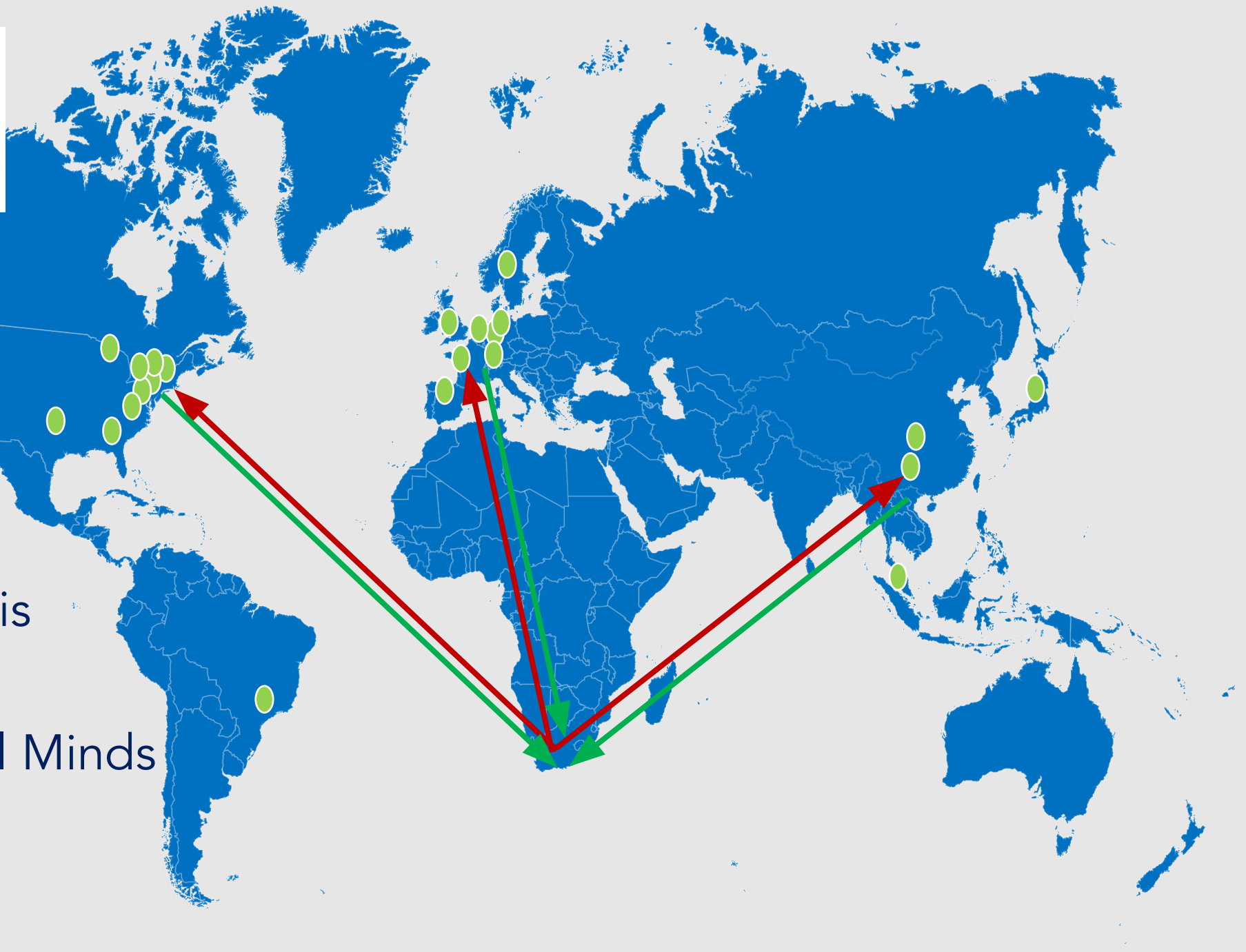
International
Consortium of
Health Outcomes
Measurement

Outcomes with
Treatment Protocols
Diagnostic Methods
Rare Diseases



±100 Leading
Research
Facilities

Upload Diagnosis
Access World's
Leading Medical Minds



Aortic
Valve

Transcatheter Aortic Valve Replacement (TAVR)

The balloon catheter inflates to
expand the replacement valve
into the aortic valve's space.

TAVR

Traditional = Invasive
R500,000 | 4-6 weeks
↑ Mortality

TAVR = Non-Invasive
R180,000 | 3 days
↓ Mortality

Detection and Computational Analysis of Psychological Signals (DCAPS)



Ellie – Virtual Therapist



University of S California

Human Genome - 2003

Predictive Genomics

Individualised Healthcare

Disease Probability

Individual Diet Plans

Dosage Accuracy

Training Regimes - Elite Athletes



High Levels of LDL Cholesterol
Causes Heart Disease!

Right??

Wrong!!

Ohio University 2019

75% of heart attack patients
had normal LDL levels

Sub-Class of LDL

Far Better Predictor



NANOTECHNOLOGY

Better detection and treatment of cancer, including improved tumor imaging, drug delivery and specialized, targeted chemotherapy

Healthcare innovations like more precise targeting of cancer tumors, microscopic surgeries and nanorobots that doctors may one day use inside the body to aid disease diagnosis and treatment



CRISPR-Cas9

Gene Editing Tool

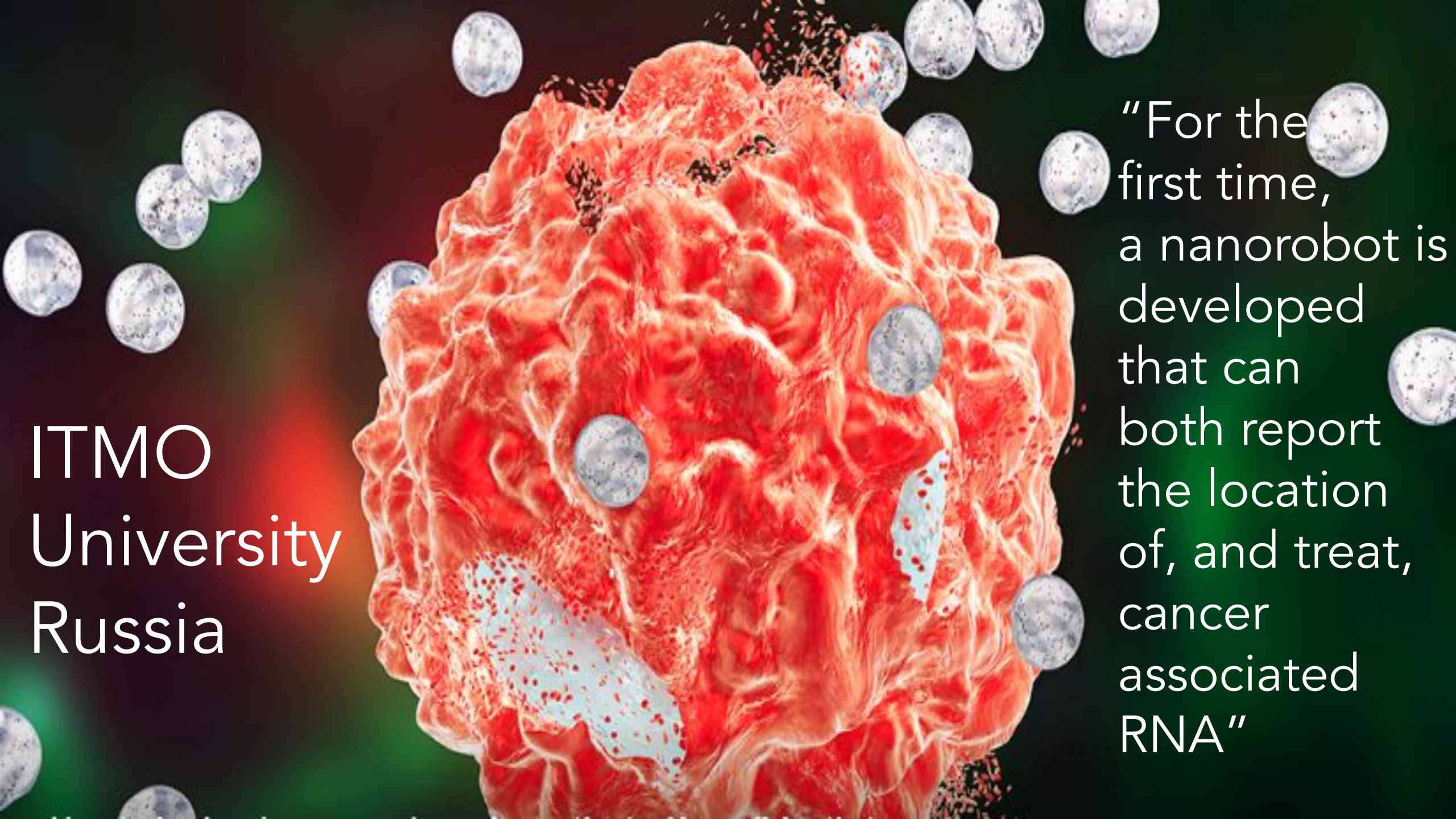
Alter Gene Structures

Correction of Genetic Defects

Curing Diseases

University of Pennsylvania

Apr 2019 – Trials on Cancer Cure



ITMO
University
Russia

"For the first time, a nanorobot is developed that can both report the location of, and treat, cancer associated RNA"



"A person with a genetic condition that causes blindness has become the first to receive a CRISPR–Cas9 gene therapy administered directly into their body"

Oregon University, USA

Speed of HealthTech Progress is Unprecedented

HealthTech will Revolutionise Insurance

- Multiple Underwriting Metrics
- Adapt to Changing Business Requirements
- Better Understanding HealthTech



Thank You
For Listening



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