

Health Innovation:

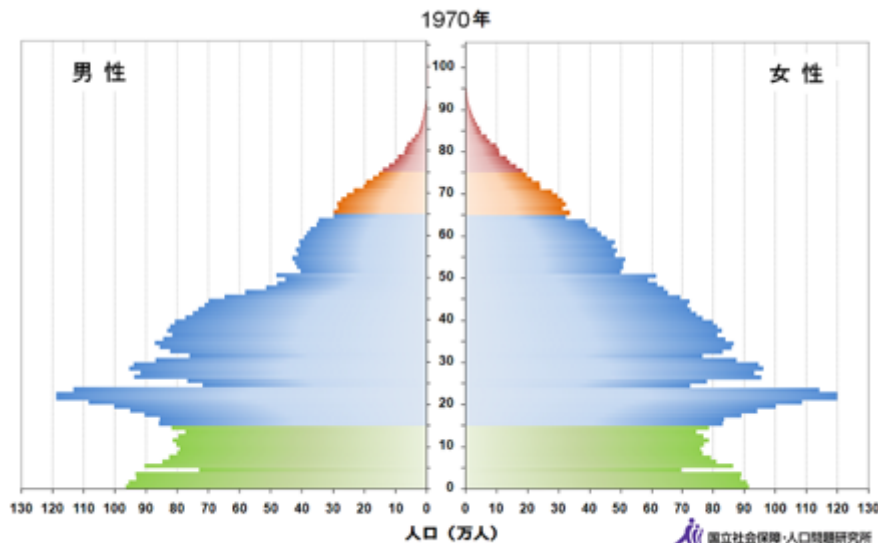
Reinvent our lives and our futures

Professor of Health Policy and Management, **Keio University**
Professor of Healthcare Quality Assessment, **The University of Tokyo**
Director of Global Health Systems and Innovation, **National Center for Global Health and Medicine**

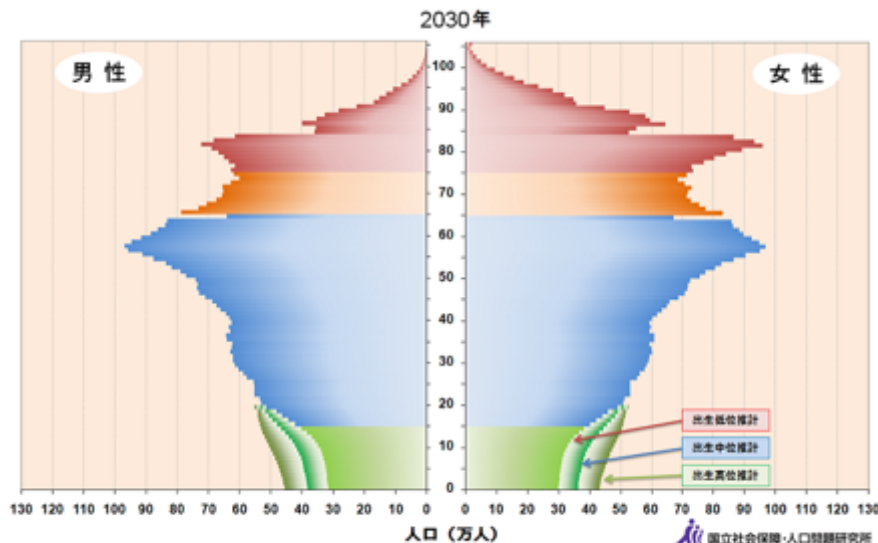
Hiroaki MIYATA



Hyper-aging, falling birth rate, slow economic growth, and depopulation



資料：1970～2010年：国勢調査、推計人口、2011年以降：『日本の将来推計人口（平成24年1月推計）』。



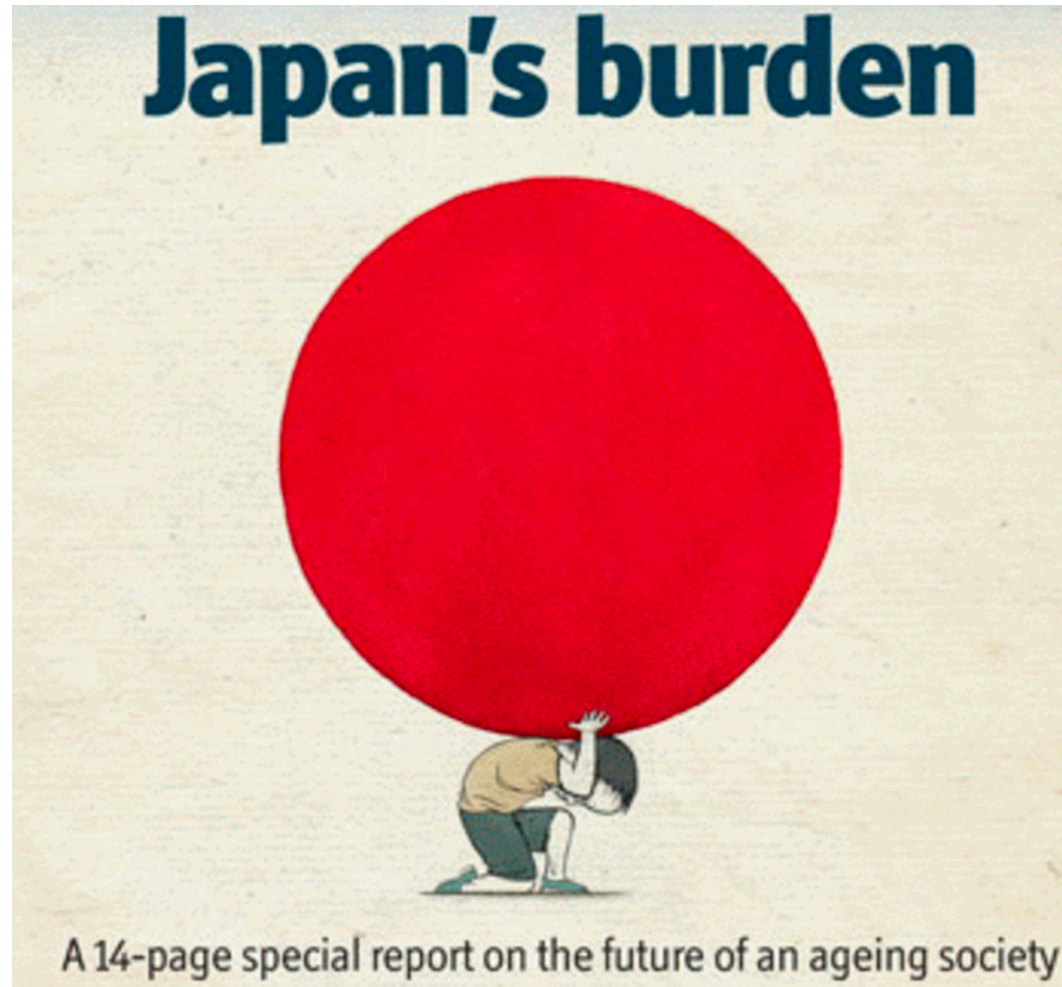
資料：1970～2010年：国勢調査、推計人口、2011年以降：『日本の将来推計人口（平成24年1月推計）』。

In Japan, senior citizens - age over 65 years- has hold almost all household assets (15 trillion USD of 16 trillion USD).

Health care bubble has come...

However, healthcare demands will falling soon

A turning point in a history



**The
Economist**

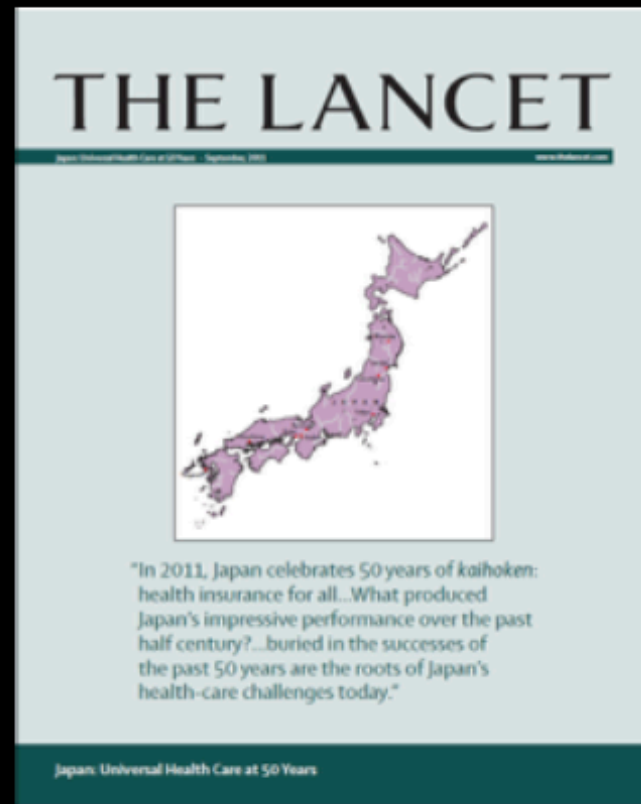
Nov2010

"Japan: a mirror for our future"

"The success of Japan's health system matters not only because of its importance to Japanese citizens, but also because Japan is a barometer of western health..."

"The country now seeks to marshal its considerable resources to claim its rightful place globally, as well as to improve its policy making domestically."

Source: Horton R. Lancet 2010



ICT revolution/ Turning Point of Civilization

To develop high value and sustainable social security system, we have to establish well-being platform using ICT, which including

1. Value Initiative

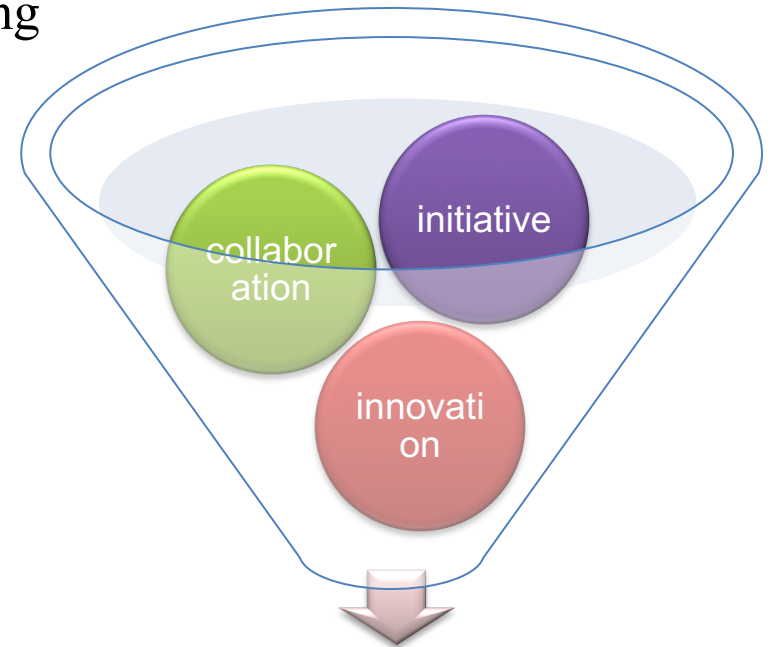
To empower Japanese culture of craftsmanship
“shokunin bunka”

2. Value Innovation

Strategic approach to enhance Japanese style of manufacturing “monozukuri”

3. Value Collaboration

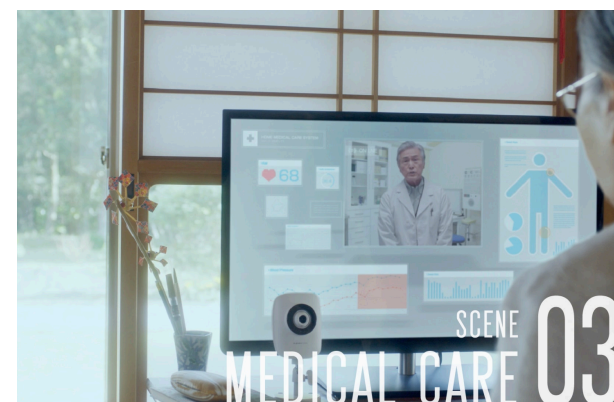
To promote mutual aid and social ties both in the community and occupational setting



Information revolution

Industry 4.0

Society 5.0

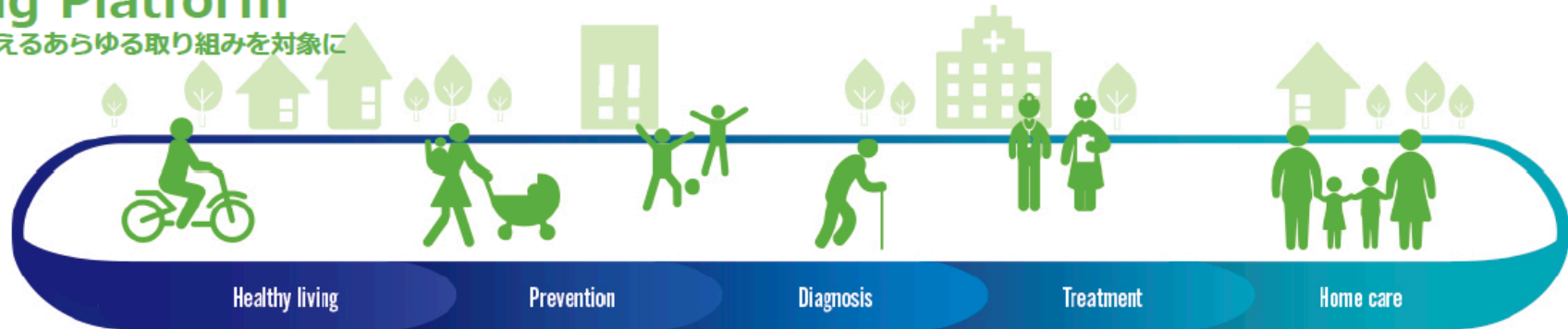


LIFE as VALUE

Not only disease management, but also wellbeing empowerment

Wellbeing Platform

人々のwellbeingを支えるあらゆる取り組みを対象に



Empower everyone

Pursue an active way of living and which lead to healthy life.

Inequity or illness does not always mean a burden on life

Community support

Possible to receive appropriate support based on scientific basis under a familiar environment

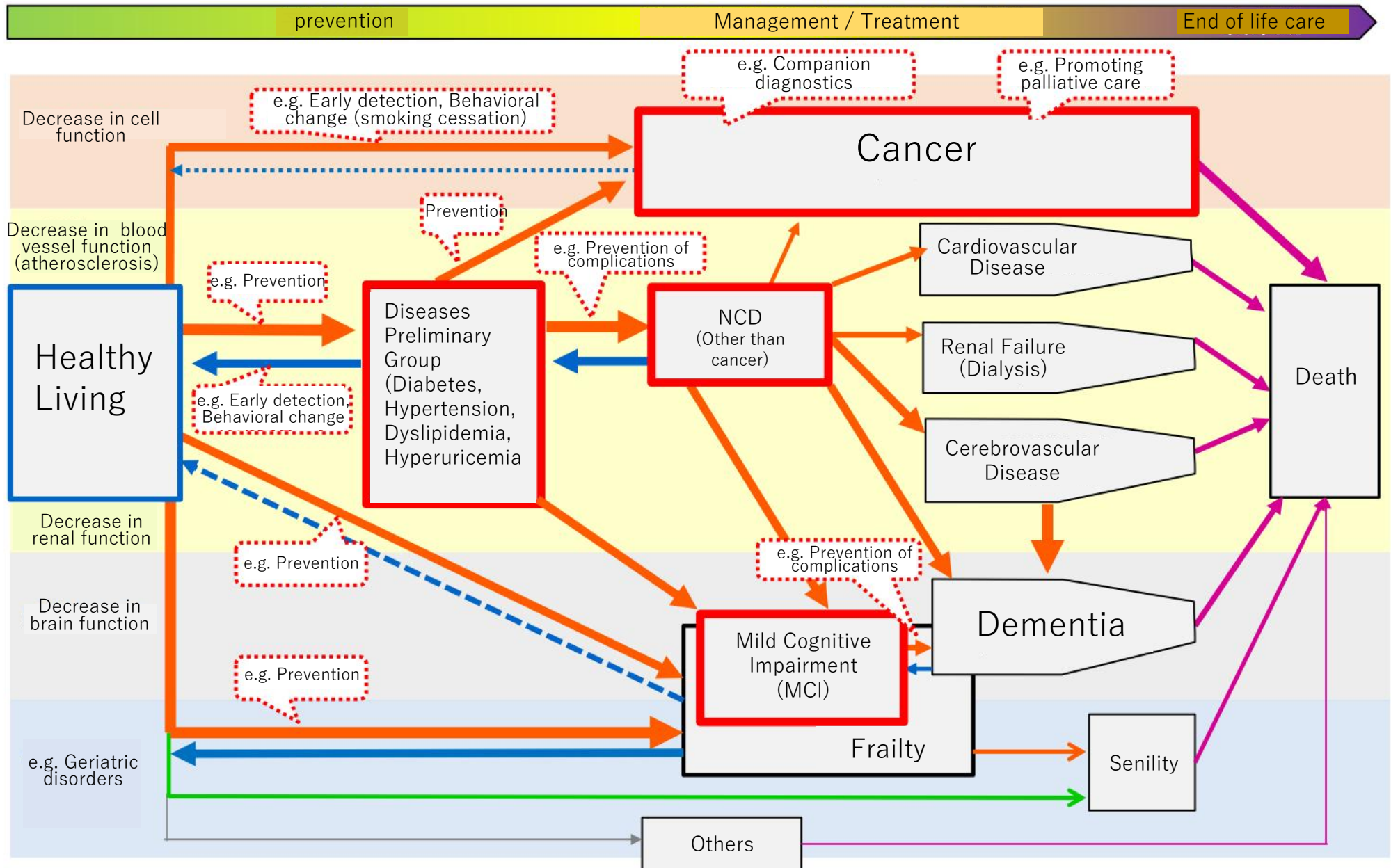
Rapidly cooperate to the best organization when a difficult judgment and advanced response is required

Value-based care

To provide the world's best treatment/diagnosis and care by having good cooperation among organizations

To provide customized treatment and care to individuals by combining global evidence and local real world data

Course of Disease



COPD early detection/appropriate treatment

Pop-up表示項目
・COPDスクリーニング票スコア結果
・スパイロ検査結果（該当時）
・COPD診断等に関する説明

(1) Health Check (screening)



COPDスクリーニング票による一次検査
通常の健康診断の実施
COPD疑い対象者に対する二次健診の推奨

(2) Primary care (diagnosis)

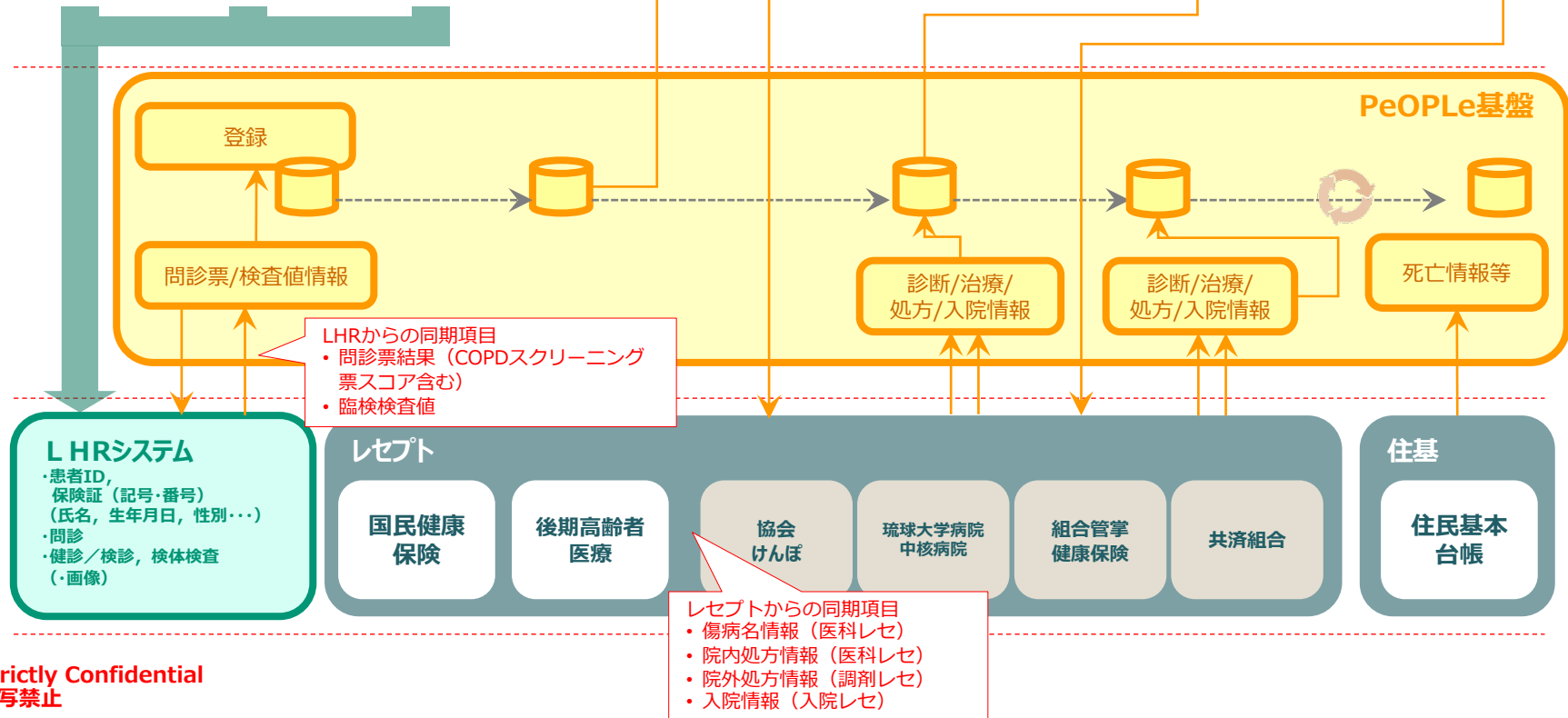


COPD疑い対象者の特定
二次検査の実施
診断/治療

(3) Primary care (prevention of serious)

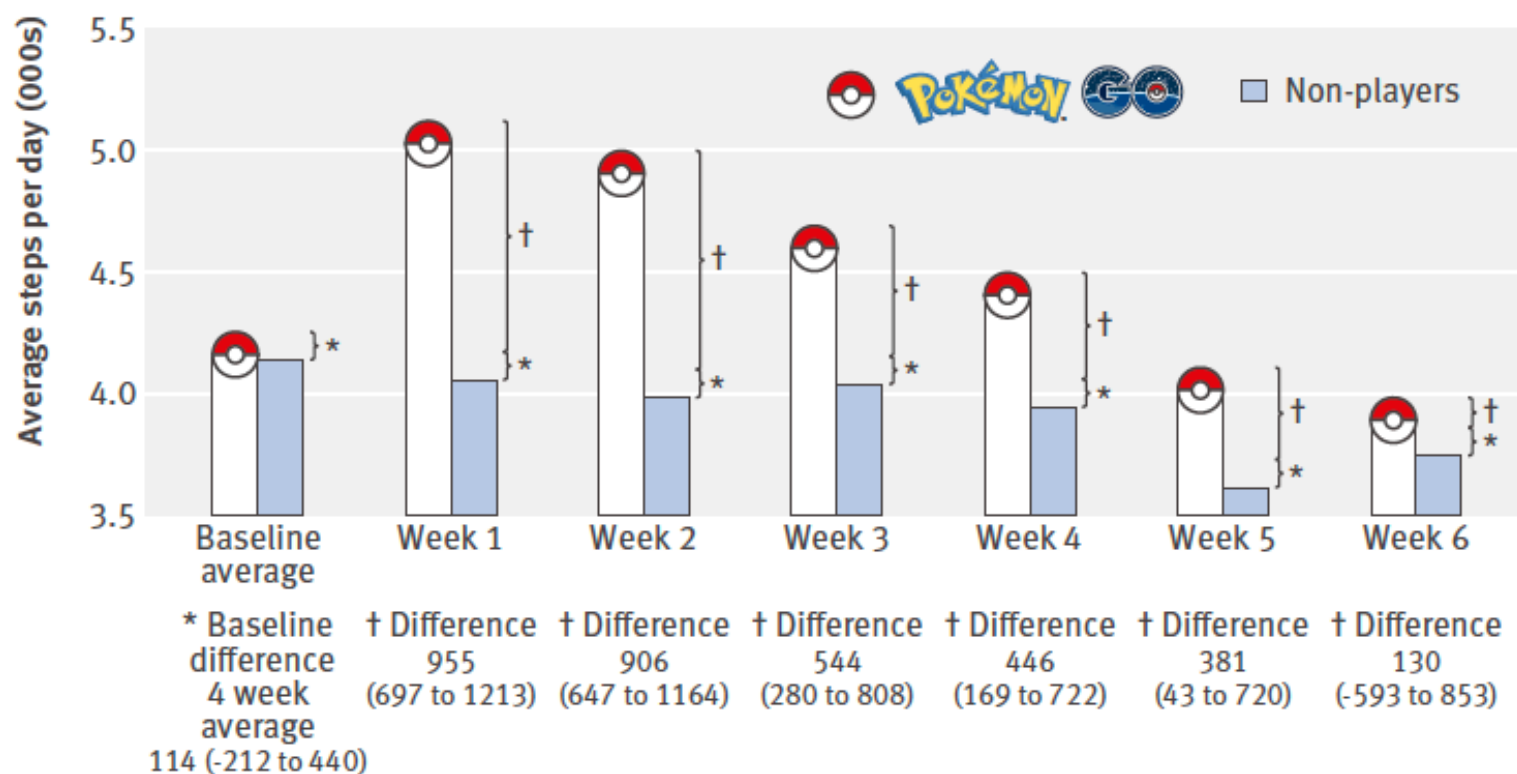


問診票による症状の確認
増悪有無・進行度合いの確認
治療方針維持・変更



Gotta catch'em all! Pokémon GO and physical activity among young adults: difference in differences study

Katherine B Howe,^{1,2} Christian Suharlim,³ Peter Ueda,^{4,5} Daniel Howe, Ichiro Kawachi,² Eric B Rimm^{1,6,7}



Transportation Service + IoT → Wellbeing Platform



Delivery drivers not only change a battery of home medicine dispenser, but also look after (and some time provide support for) each users by IoT data and central system assistances.



Based on big data analysis each drivers can know what is appropriate communication for each customers to confirm potential side effects, status of prescription, other risk symptoms... and so on.



When such kinds of face to face communication network meets IoT and big data analysis, it could be transformed into

wellbeing platform with high value service.

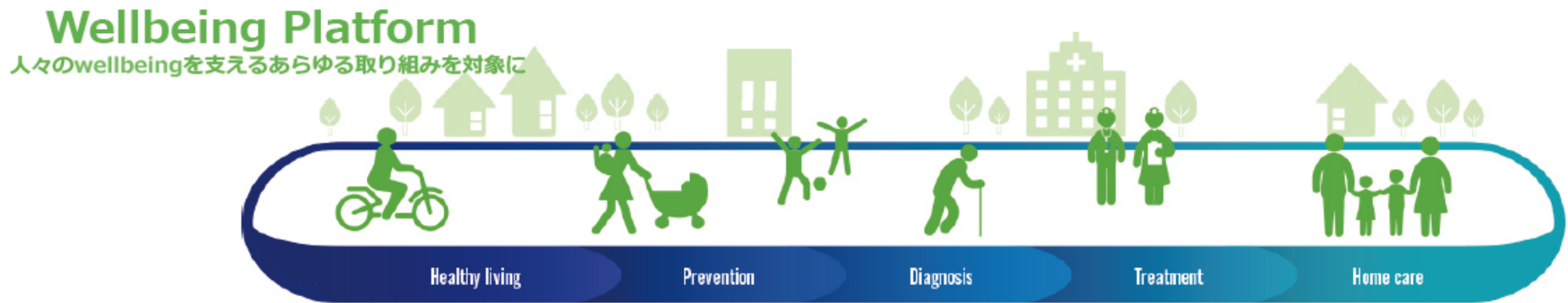
Tim Cook teases new Apple services to come in 2019

PUBLISHED TUE, JAN 8 2019 • 6:35 PM EST | UPDATED THU, JAN 10 2019 • 12:15 PM EST



“If you zoom out into the future, and you look back, and you ask the question, ‘What was Apple’s greatest contribution to mankind?’ It will be about health,” Cook tells the “Mad Money” host.

Society 5.0: Next Universal Health Coverage



Past

Present

Next generation

Younger population

Older population

**Leaving no one behind
(Vulnerable and marginalized
populations)**

Communicable disease

Non communicable disease

**Including pre-diagnosis phase
and healthy life**

Hospital-enclosed

Community-based

**Person-centered
(Anytime, anywhere through
global alliance)**

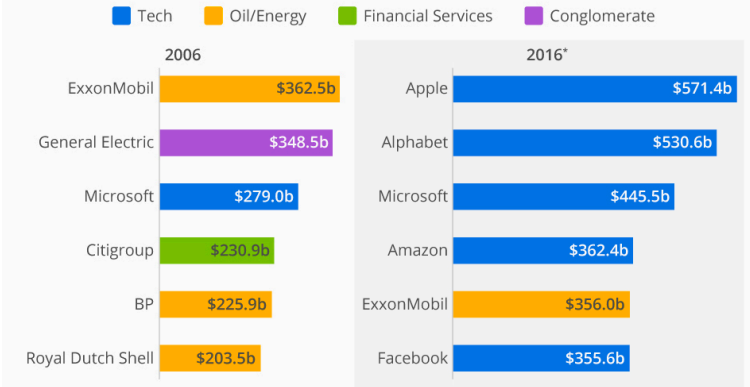
Era of Data-Driven Society



用诚信点亮民族品牌 用影像记录信用中国
 昵图网 www.nipic.com By:新印象广告 No:20180122165800277365

The Age of Tech

Market capitalization of the world's most valuable public companies



* as of August 1, 2016
 @StatistaCharts Sources: Yahoo! Finance, Forbes

statista



The EU General Data Protection Regulation (GDPR) is the most important change in data privacy regulation in 20 years - we're here to make sure you're prepared.

2018 reform of EU data protection rules

Stronger rules on data protection mean people have more control over their personal data and businesses benefit from a level playing field.

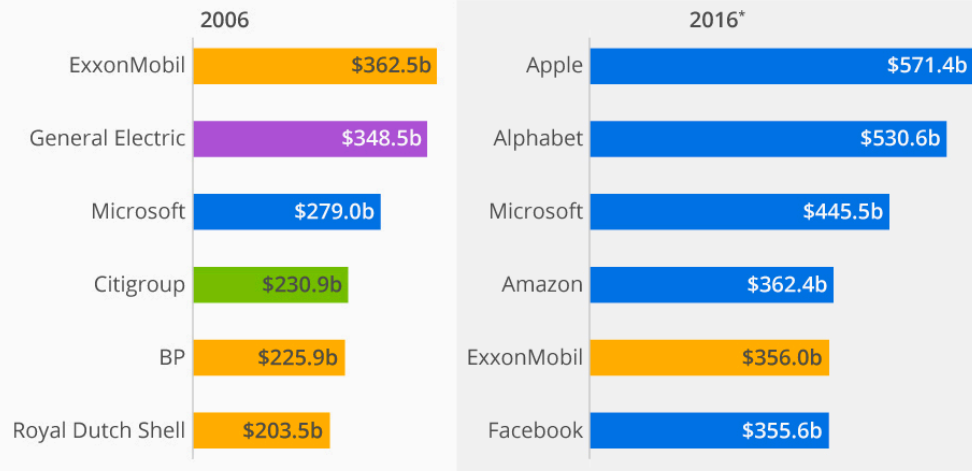
From OIL to DATA



The Age of Tech

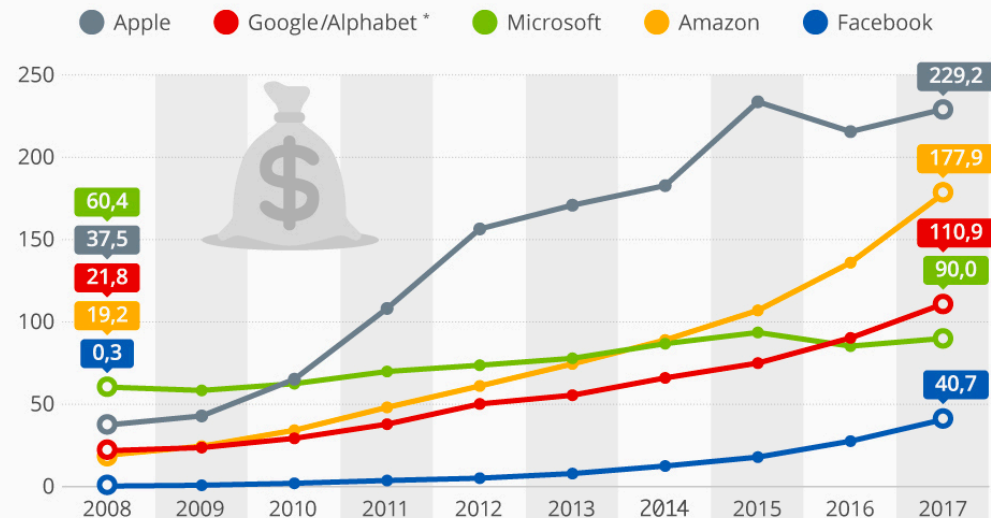
Market capitalization of the world's most valuable public companies

■ Tech ■ Oil/Energy ■ Financial Services ■ Conglomerate



Les revenus mirobolants des GAFAM

Revenus d'Apple, Alphabet, Microsoft, Amazon et Facebook, en milliards de dollars



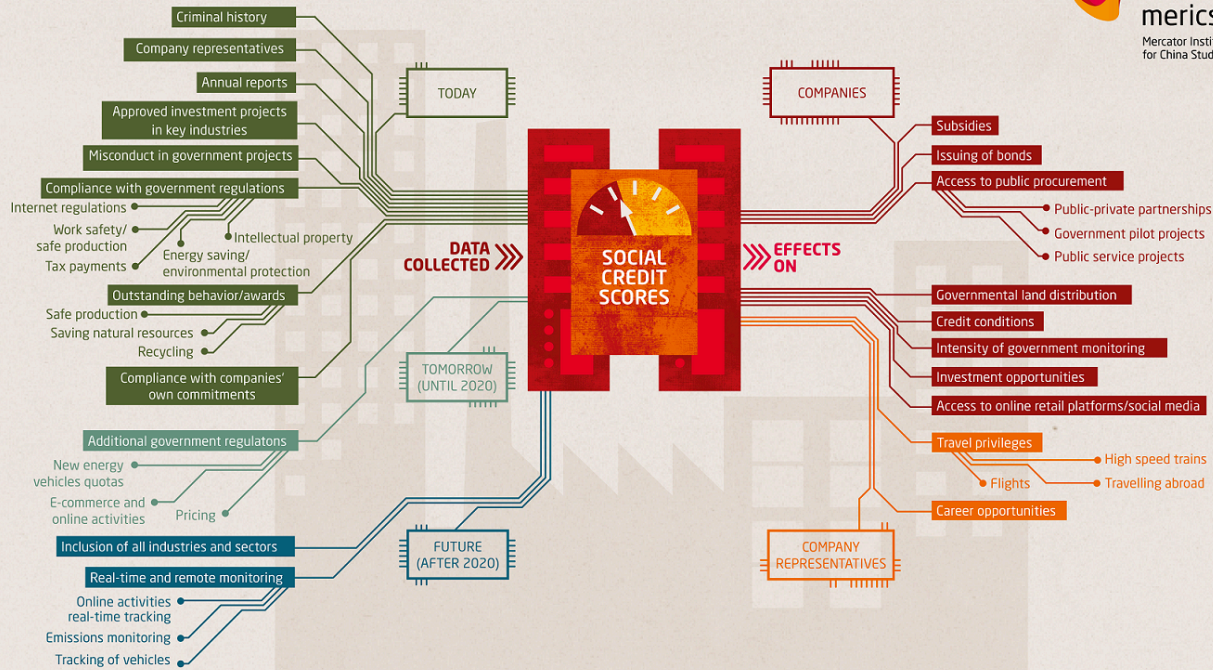
SOCIAL CREDIT SYSTEM in CHINA



国家发展改革委办公厅 国家市场监督管理总局办公厅
关于更新调整行政许可和行政处罚等信用信息
数据归集公示标准的通知



China's tight grip on enterprises
Influencing business decisions via Social Credit Scores*



*Selection of data collected and exemplary effects of Social Credit Scores.
Source: Policy documents and regulations released by the Chinese central government since 2014.

General Data Protection Regulation (2018.5-)

The EU General Data Protection Regulation (GDPR) is the most important change in data privacy regulation in 20 years - we're here to make sure you're prepared.



After four years of preparation and debate the GDPR was finally approved by the EU Parliament on **14 April 2016**. Enforcement date: **25 May 2018** - at which time those organizations in non-compliance may face heavy fines.

Data Portability

GDPR introduces data portability - the right for a data subject to receive the personal data concerning them, which they have previously provided in a '*commonly use and machine readable format*' and have the right to transmit that data to another controller.

Background of Transition to VALUE CO-CREATION SOCIETY

It will be data, not oil, that fuels Society 5.0
and Data-Driven Society.

There are three possible types of social system with
both its pros and cons: USA, EU and China.

USA

Rational business activities
trigger innovation after innova-
tion while GAFA prevails



The danger of data hegemony
looms ahead

EU

GDPR and the right to data por-
tability allow citizens to control
their personal data, even after
providing to govts or companies



Too much emphasis on data as
property goods results in dis-
proportionately strong individual
rights

CHINA

Social Credit System 'Credit
China' shares and spreads the
value as it is



The top-down and uniform
management and a surveillance
society

The principles of Japanese **VALUE CO-CREATION SOCIETY**

Maneuvering the strengths of American, EU, and Chinese models, CO-CREATION SOCIETY underlies the basis on which diversity and plurality of values can be accomplished with everyone.

**Economy-driven
innovation**



**Data as an extension
of property goods
(GDPR and Data Portability)**



**Top-down and uniform
management of
Social Credit System**



**Value-driven
innovation**



**Data as common goods
through active choice
(Going beyond GDPR)**



**Bottom-up decision,
diversity, and pluralism
in value sharing and
social credit system**



Speeches and Statements by the Prime Minister

Toward a New Era of “Hope-Driven Economy”: the Prime Minister's Keynote Speech at the World Economic Forum Annual Meeting

January 23, 2019



The regime we must build is one for D.F.F.T., Data Free Flow with Trust -- non-personal data, needless to say. It is not the big, capital intensive industries, but rather we individuals who will benefit from both the fourth industrial revolution and what we call “Society 5.0,” which this fourth industrial revolution will bring about.

In Society 5.0, it is no longer capital but data that connects and drives everything, helping to fill the gap between the rich and the less privileged. Services of medicine and education, from elementary to tertiary, will reach small villages in the Sub Saharan region. Girls who have given up going to school will see, beyond their own village, a wider horizon where the sky is the limit.