The future of health systems

Kenji Shibuya, MD, DrPH
Director, University Institute for Population Health
Who is Kenji?

Dropped out from med school
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“Indifference”

Source: Missionaries of Charity
Who is Kenji?

Dropped out from med school

MD

PhD in health economics
Who is Kenji?

Dropped out from med school

MD

PhD in health economics

WHO policy chief
Who is Kenji?

Dropped out from med school

MD

PhD in health economics

WHO policy chief

Think-tank director

Advisor to Health Minister
Who is Kenji?

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MD
PhD in health economics

WHO policy chief
Think-tank director
Advisor to Health Minister

Start-ups
Venture capital
A rapidly changing world
“Uno dei libri più importanti che abbia mai letto. Una guida indispensabile per riflettere con chiarezza sul mondo.” — BILL GATES

Hans Rosling con Ola Rosling e Anna Rosling Rönnlund

FACTFULNESS

“DIECI RAGIONI PER CUI NON CAPIAMO IL MONDO. E PERCHÉ LE COSE VANO MEGlio DI COME PENSIAMO”
What % of adults in the world can read and write?

1. 45 %

2. 65 %

3. 85 %
What is the average life expectancy of the world’s population?

1. 55 years
2. 65 years
3. 75 years
What % of 1-year old in the world are vaccinated against measles?

1. 25 %
2. 55 %
3. 85 %
How many children does the UN estimate there will be globally by the year 2100?

(Source: UN Population Division)
What % of adults in the world can read and write?

1. 45 %
2. 65 %
3. 85 %
What is the average life expectancy of the world’s population?

1. 55 years
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3. 75 years
What % of 1-year old in the world are vaccinated against measles?

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How many children does the UN estimate there will be globally by the year 2100?

(Source: UN Population Division)
Outline

1. From health care to social system
2. Local–global interactions
3. Towards the future of health systems
Japanese health system as No 1

Source: WHO 2000

Annex Table 9  Overall health system attainment in all Member States, WHO index, estimates for 1997

<table>
<thead>
<tr>
<th>Rank</th>
<th>Uncertainty interval</th>
<th>Member State</th>
<th>Index</th>
<th>Uncertainty interval</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Japan</td>
<td>93.4</td>
<td>92.6 – 94.3</td>
</tr>
<tr>
<td>2</td>
<td>2 – 8</td>
<td>Switzerland</td>
<td>92.2</td>
<td>91.2 – 93.3</td>
</tr>
<tr>
<td>3</td>
<td>2 – 6</td>
<td>Norway</td>
<td>92.2</td>
<td>91.4 – 93.1</td>
</tr>
<tr>
<td>4</td>
<td>2 – 11</td>
<td>Sweden</td>
<td>92.0</td>
<td>91.1 – 93.0</td>
</tr>
<tr>
<td>5</td>
<td>2 – 11</td>
<td>Luxembourg</td>
<td>92.0</td>
<td>91.0 – 93.0</td>
</tr>
<tr>
<td>6</td>
<td>3 – 11</td>
<td>France</td>
<td>91.9</td>
<td>91.0 – 92.9</td>
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<td>7</td>
<td>4 – 14</td>
<td>Canada</td>
<td>91.7</td>
<td>90.8 – 92.6</td>
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<tr>
<td>8</td>
<td>4 – 15</td>
<td>Netherlands</td>
<td>91.6</td>
<td>90.7 – 92.5</td>
</tr>
<tr>
<td>9</td>
<td>6 – 13</td>
<td>United Kingdom</td>
<td>91.6</td>
<td>90.9 – 92.3</td>
</tr>
<tr>
<td>10</td>
<td>6 – 18</td>
<td>Austria</td>
<td>91.5</td>
<td>90.5 – 92.4</td>
</tr>
<tr>
<td>11</td>
<td>7 – 21</td>
<td>Italy</td>
<td>91.4</td>
<td>90.5 – 92.2</td>
</tr>
<tr>
<td>12</td>
<td>7 – 19</td>
<td>Australia</td>
<td>91.3</td>
<td>90.4 – 92.2</td>
</tr>
<tr>
<td>13</td>
<td>7 – 18</td>
<td>Belgium</td>
<td>91.3</td>
<td>90.2 – 92.3</td>
</tr>
<tr>
<td>14</td>
<td>8 – 20</td>
<td>Germany</td>
<td>91.3</td>
<td>90.4 – 92.2</td>
</tr>
<tr>
<td>15</td>
<td>7 – 24</td>
<td>United States of America</td>
<td>91.1</td>
<td>89.9 – 92.3</td>
</tr>
<tr>
<td>16</td>
<td>10 – 23</td>
<td>Iceland</td>
<td>91.0</td>
<td>90.0 – 92.1</td>
</tr>
<tr>
<td>17</td>
<td>9 – 23</td>
<td>Andorra</td>
<td>91.0</td>
<td>90.1 – 92.0</td>
</tr>
<tr>
<td>18</td>
<td>9 – 23</td>
<td>Monaco</td>
<td>91.0</td>
<td>90.0 – 92.0</td>
</tr>
<tr>
<td>19</td>
<td>12 – 23</td>
<td>Spain</td>
<td>91.0</td>
<td>90.1 – 91.8</td>
</tr>
<tr>
<td>20</td>
<td>13 – 24</td>
<td>Denmark</td>
<td>90.9</td>
<td>90.0 – 91.8</td>
</tr>
</tbody>
</table>
“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.” – Richard Horton
Four tsunamis in health systems

1. Population ageing
2. Chronic diseases
3. Explosion of health technologies
4. Globalization

Source: Tedros Adhanom/Suwit Wibulpolprasert
% population 65+ : 1950–2100

“The incredible shrinking country”

Source: The Economist. March 25, 2014
Stagnated healthy life expectancy and widening gaps in Japanese population


Summary

Background Japan has entered the era of super-ageing and advanced health transition, which is increasingly putting pressure on the sustainability of its health system. The level and pace of this health transition might vary across
No correlation between inputs and health outcomes

Source: Nomura et al. 2017
Japan 2035
Leading the World through Health

The Japan Vision: Health Care 2035
Report Summary

http://www.mhlw.go.jp/healthcare2035
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Japan Vision: Health Care 2035

Key issues: redefining health care as a “social system”

- Break away from the patchwork style of health policy making and embrace comprehensive reform, building upon a forward-looking and long-term vision.
- Transform health care into a social system that engages all sectors through shared vision and values.

VISION

Key concepts for health care in 2035

1. LEAN HEALTHCARE
   Implement value-based health care

2. LIFE DESIGN
   Empower society and support personal choice

3. GLOBAL HEALTH LEADER
   Lead and contribute to global health
Grand convergence in population health policy, research and practice

Improving the Health of the Public by 2040

The current health care system must be rebuilt as a new sort of “social system.”

A paradigm shift is needed from public health to health of the public.

Health Care 2035: Japan Vision

Japan 2035
Leading the World through Health

...improved health policy, research and practice...new sort of “social system.”...paradigm shift...health of the public.

Health Care 2035
Implement value-based health care
LIFE DESIGN
Empower society and support personal choice
GLOBAL HEALTH LEADER
Lead and contribute to global health

The UK has developed resilience to potential health crises and is a major contributor to global health security.
Outline

1. From health care to social system
2. Local–global interactions
3. Towards the future of health systems
Harvard College admits 2,037 to Class of 2020

Since launching Harvard Financial Aid Initiative in 2005, nearly $1.5 billion in financial aid awarded
“Global health is the future of medicine.”

Dr. Tachi Yamada

Source: www.seattle.us.emb-japan.go.jp/itpr_en/00_000563.html
Integrating global health into domestic health policy

Prime Minister Abe’s commentary in The Lancet

Japan’s vision for a peaceful and healthier world

Health is fundamentally a global issue. Recent outbreaks of Ebola virus disease and Middle East respiratory syndrome have reminded us that global health issues require collective action. The world must unite and countries must establish resilient and sustainable health systems, ensuring that each individual is secure and receives the highest attainable standard of health. Japan has been a longstanding advocate of human security and has taken concrete action on the ground in support of this principle. Human security protects the vital core of all human lives in a way that enhances freedom, fulfillment, and capabilities and underlies Japan’s policy of Proactive Contribution to Peace. Japan regards health as an indispensable element of human security.

In September, 2015, the United Nations General Assembly adopted the 2030 agenda for sustainable development, which includes universal health coverage. First, in preparation for the G7 Summit, we will discuss how to address the challenges of public health emergencies. The existing global health architecture must be restructured to ensure prompt and effective responses to public health emergencies. Public and private partners, government, and civil society—at global, regional, country, and community levels—should reach agreement on their respective roles in advance of emergencies. Japan expects WHO to have the lead role in prompt detection and containment, especially in the early stages of a public health emergency, while acknowledging WHO’s need for further reform and capacity strengthening. Japan is ready to support this reform process, including the launch of the Contingency Fund for Emergencies. Japan also fully supports the efforts of the World Bank’s Pandemic Emergency Facility and calls for coordination between WHO and the World Health Organization (WHO).

“Japan’s global health priorities are to construct a global health architecture that can respond to public health crises.”

“Japan is pioneering the response to the challenge of ageing by extending healthy life expectancy while maintaining a sustainable health system. Japan will contribute further to UHC.”

“Japan is all the more responsible for addressing the threat of antimicrobial resistance as countries develop their own national action plans.”

Source: Abe S. Lancet 2015;386:2367–69
G7 Ise-Shima Summit, May 2016

Source: Cabinet Office
Beyond UHC: systems, local–global, multi-disciplinary, human security,...
Outline

1. From health care to social system
2. Local–global interactions
3. Towards the future of health systems
A system transformation
Transforming life sciences

Transformative education for health care professionals (2011)

<table>
<thead>
<tr>
<th>Instructional</th>
<th>1900</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Science-based</td>
<td>Problem-based</td>
</tr>
</tbody>
</table>
|               | Scientific curriculum | Problem-based learning | • Competency-driven  
|               |                  |                  | • Local-global |
| Institutional  | Universities | Academic centers | Health systems |

Source: Frenk, Chen et al. Lancet 2011
Joint Ministerial Committee on Future Health organized by the Ministry of Health, Labour and Welfare and the Ministry of International Trade and Industry

Redefining health
Mind
Self-achievement
Person-centric data use
No one left behind
Mutual support
Personal
Visulize
Well-being
Empowerment
Inclusiveness
Smart house
Investing in health
Accessibility
1961

UHC (Japan)

Source: www.thelancet.com/series/japan

Apollo program (USA)

Source: www.apollo-13.com/moonshot.html

2018

Amazon-Berkshire-JPM health (USA)


Space X (USA)

System innovations across the globe

India: Home-based care x Uber

United States:
Integrated community care x task shifting

Source: www.portea.com

Source: www.iorahealth.com
AMPATH (Kenya)

Source: https://www.ampathkenya.org/care-programs

Our process

1. FIND A NEED
Figure out what communities need, both immediately and in the long term.

2. LINK PEOPLE WITH CARE
Connect people with the healthcare systems they need and start patients on a path of sustainable health.

3. GO BEYOND CARE
Help communities sustain their own success, connect them with universal health insurance, train next generation medical professionals, and research new breakthroughs and best practices.
## Beyond UHC: data needs for health/social system strengthening

<table>
<thead>
<tr>
<th></th>
<th>Past</th>
<th>Present</th>
<th>Next</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young population</td>
<td>Aging population</td>
<td>Leaving no one behind (e.g., vulnerable and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>marginalized population</em>)</td>
<td></td>
</tr>
<tr>
<td>Communicable</td>
<td>Non-communicable disease</td>
<td>Including pre-diagnosis phase (biomarkers),</td>
<td></td>
</tr>
<tr>
<td>disease</td>
<td></td>
<td>mind, healthy life style (social determinants),</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>etc.</td>
<td></td>
</tr>
<tr>
<td>Hospital-enclosed</td>
<td>Community-based</td>
<td>People-centric</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(anytime, anywhere through global alliance)</td>
<td></td>
</tr>
</tbody>
</table>
Our Institute will establish the “Person-Centered Open Platform for Wellbeing (PeOPLe)”

LEAN HEALTHCARE 1
IMPLEMENT VALUE-BASED HEALTH CARE

LIFE DESIGN 2
EMPOWER SOCIETY AND SUPPORT PERSONAL CHOICE

GLOBAL HEALTH LEADER 3
LEAD AND CONTRIBUTE TO GLOBAL HEALTH

VISION
KEY CONCEPTS FOR HEALTH CARE IN 2035

• Blockchain
• IoT
• Data ownership/use/ethics/rewards; and
• Cross-border data flows

Go beyond UHC: A future health system in the era of “precision health” and “no one left behind”
Why King’s?
“Triangles that move the mountain”

Dr. Suwit Wibulpolprasert

Source: www.who.int/workforcealliance/about/governance/board/wibulpolprasert/en/
Academic institutions

Body
Individual
Local
Disease

Mind
Society
Global
System
Why population health at King’s?

King’s asset = South London, a mirror for the world’s future

Four “tsunamis” in health systems:
1. Population ageing
2. Chronic diseases
3. Health technologies
4. Globalization
Appointed as a Special Advisor to the WHO Director-General
Summary

1. From health care to social system
2. Local–global interactions
3. Towards the future of health systems
“We do not need magic to change the world, we carry all the power we need inside ourselves already: we have the power to imagine better.”

J K Rowling, Harvard Commencement address, 2008