Two different health care systems, Japan and USA. Can we learn from each other?

Teikyo University  School of Medicine
Akito Ohmura, M.D.

28-29/03/2011

Thank you very much for your kind words and generous helps for the unprecedented difficulties we are facing in Japan!
The speaker’s background

Akito Ohmura, Prof. Emeritus, Teikyo U School of Med

▪ Born in 1942
▪ Graduated from U of Tokyo Faculty of Medicine in 1967
▪ Used to be a student rebel at U of Tokyo!
▪ Trained as an anesthesiologist and an intensive care physician at U of Washington and Utah
▪ Did teaching in Dept. of Anesthesiology at U of Utah as a faculty member in 70s
▪ Served as Dean of Teikyo U School of Medicine from 2003 to 2007
▪ Currently Dean, Teikyo U School of Medical Technology
▪ Has keen interest both in American & Japanese health care systems and published five books on the subject
Health Care Meltdowns both in USA and Japan!

- Public health disaster down the road in USA!
- Acute care is deteriorating rapidly in Japan!
Top three killers in USA & Japan

<table>
<thead>
<tr>
<th>USA</th>
<th>Japan</th>
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<tbody>
<tr>
<td>1 Heart disease</td>
<td>1 Cancer</td>
</tr>
<tr>
<td>2 Cancer</td>
<td>2 Heart disease</td>
</tr>
<tr>
<td>3 Stroke</td>
<td>3 Stroke</td>
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</table>

Metabolic Syndrome (diabetes, hypertension, dyslipidemia & obesity) plays an important role in top three killers.

Boy! I am so full!
Percent of Obese (BMI ≥ 30) in U.S. Adults

In 1991, no state had an adult obesity rate above 20%, and in 1980 the national average for adult obesity was 15%. It rose to 34.3% in 2009!

(only 3.4%, Japan) BMI is defined as body weight/height^2 (kg/m^2)
Low grade inflammation will haunt you later
（TIME 2004, March）

An apparently healthy person with a slight increase in CRP in the blood (an inflammation marker) has higher risk of hypertension, diabetes and cancer many years later.
Diabetes invites all sorts of severe diseases including cancer, heart attack and stroke!

1. Age 20 years or older: 23.5 million, or 10.7 %, of all people in this age group have diabetes in US (8.9 million in Japan)

2. At least one fourth of U.S. adults (41 million) are known to have prediabetes (13.2 million in Japan), a condition defined as having impaired fasting glucose

3. Estimated Diabetes Costs in the United States in 2007 Total—direct and indirect: $174 billion ($ 24 billion in Japan)
You must change your lifestyle!

So, it’s a very serious matter. What’s holding you from acting?
Numbers of death during swine flu pandemics

USA 12,000 (Population 301 millions)

Japan 198 (Population 127 millions)
US spend 2.1 trillion dollars (16% of GDP) annually for health care.
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<tbody>
<tr>
<td>Canada</td>
<td>3867 (80.7)</td>
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<tr>
<td>France</td>
<td>3593 (81.0)</td>
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<tr>
<td>Germany</td>
<td>3619 (80.1)</td>
</tr>
<tr>
<td>Cuba</td>
<td>400 (78)</td>
</tr>
<tr>
<td>Japan</td>
<td>2729 (82.6)</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3844 (80.3)</td>
</tr>
<tr>
<td>Switzerland</td>
<td>4469 (81.9)</td>
</tr>
<tr>
<td>UK</td>
<td>2990 (79.5)</td>
</tr>
<tr>
<td>USA</td>
<td>7285 (78)</td>
</tr>
<tr>
<td>OECD mean</td>
<td>2984 (79.1)</td>
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</tbody>
</table>
What America needs is a robust public health policy!

- Health status of American population has been deteriorating significantly. Very worrisome trend!
- Universal Health Care will be the only way to turn the tide!
- Needs to deal with the serious shortage of primary care physician

The role of robust primary care is essential to improve health status of population in US!

- The difference of a life-time income between the specialists and the primary care physician is **two million dollars**.
- Average medical students owe **200,000 dollars** in student (education) loan when they graduate. So, the income disparity will influence when they choose their specialty.

You can’t keep kicking the can down the road! Act now to prevent health care disaster in the future!
You need a strategy of intentional failure in order to get reelected!

THE WHITE HOUSE
Washington, D.C.

SECRET TASK FORCE ON THE REELECTION
OF THE PFLOTUS (STFRPF)

TOP SECRET

TO: Hicky
FROM: Cajun
SUBJECT: Reelection of the PFLOTUS in ’96
DATE: January 21, 1993

At its first meeting on January 20, 1993, the STFRPF concluded that the President and First Lady of the United States (PFLOTUS) are unlikely to be reelected in November 1996 if, in the meantime, the Administration succeeds at major health-reform. The reasons for this prognosis are straightforward. First, to do the right thing in American health care will require constraints on the future growth of health spending, which is to say constraints on the growth of the incomes of the very peo-
Health care budget cut & market economy fundamentalism may not be the right answers for health care reform

- Reagan left 47 million people uninsured by lifting regulation on HMO and narrowed access to health care (now over 50 millions uninsured)
- Obama’s health care reform may be an only hope to turn the tide

Moore
- Thatcher almost destroyed the UK health care system by cutting health care cost and placed great emphasis on cost effectiveness and competitiveness
UK Health Care System (1)

- NHS (National Health Service) controls health care, 88% of which was paid by tax.
- Per GDP cost exceeds that of Japan
- Patients must register for a general practitioner (Ca. 1800 patients per one GP and need reservation for visit)
- The average waiting time for hospital admission exceeded one year following the enactment of Thatcher’s new policy. (The lucky iron lady benefited from North Sea Oil and the victorious Falkland war)
- Government had to send patients to France to have them operated (the Government picked up the tab of course!).
- Old patients died home being unable to be hospitalized during influenza epidemic.
UK health care system (2)

- More than 50% of new nurses hired every year are from outside of UK. 40% of MDs are foreign medical graduates (India, Middle East, etc).

“Blair’s health care reform of 2000”

- Increase in health care budget by 50% in 10 years, introduction of PFI, reduction of hospital admission waiting time by 50%, NHS choice program, patient’s right to choose a hospital and increase in number of medical graduates by 50%

has been slowly reversing the tide but still long way to go!
Short-sighted health care budget cut and emphasis on market economy may disrupt health care system.

Rebuilding of collapsed health care system will consume huge resources and time.

Introduction of private health insurance to compete with existing public system may deteriorate the financial base of the latter and consequently increase health care cost (100 % private insurance may work better: Switzerland and Holland)

Health care and social security are important infrastructures of a nation and should be managed with utmost care by the Government.
Lessons learned from the Winston Churchill’s comments when he lost the general election big in October of 1947.

“Democracy is the worst form of government, except for all those other forms that have been tried from time to time.”

Now, we may substitute some of his words;

“Capitalism is the worst form of economic system, except for all those other forms that have been tried from time to time.”

CONCLUSIONS:
1) Overreliance on Laissez-faire could be problematic!
2) We need to be humble about what we do!

The intrinsic problems of capitalism visible at its birth (instability, rising inequality, a lumpen proletariat) are still waiting to be solved (Lester Thurow).
Impossible to satisfy three simultaneously! The conclusion from Oregon Health Plan based on prioritized Medicaid service experiments

Through a process of community meetings, public opinion surveys on quality of life preferences, cost–benefits analyses and medical outcomes research, OHP ranked these condition/treatment pairs according to their net benefit. It failed to expand coverage and reduce cost.

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<tr>
<th></th>
<th>Japan</th>
<th>UK</th>
<th>USA</th>
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<tr>
<td>Access</td>
<td>⬤</td>
<td>▲</td>
<td>▲</td>
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<tr>
<td>Cost</td>
<td>⬤</td>
<td>⬤</td>
<td>×</td>
</tr>
<tr>
<td>Quality</td>
<td>▲</td>
<td>▲</td>
<td>⬤</td>
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</table>
The Merits of Japanese Health Care System

1) **Universal Access**
2) **Low Cost** (Per GDP based expenditure: 22nd among 30 OECD countries)
3) **Reasonable Quality or High Quality** if you know where to go
   - lowest newborn or infant mortality
   - longest life expectancy
   - health status achievement rated No. 1 by WHO assessment

Unfortunately acute care service is deteriorating fast!
A special report on Japan Into the unknown
The Economist Nov 18th 2010

Japan is ageing faster than any country in history, with vast consequences for its economy and society. So why, asks Henry Tricks, is it doing so little to adapt?

TIME August 2, 2010: Dynamo to Dinosaur?

People over 65 is 22.5% of population in 2010 (13% in US)

Source: National Institute of Population and Social Security Research
All the mistakes in health care policy have begun in 1983!

『医療費亡国論: Soaring health care cost will bankrupt Japan』

Main Arguments

① Bankruptcy of Japanese economy if the increasing trend of tax and social security burden continues

② Needs more emphasis on preventive health care than treatment

③ MDs will be in excess by 2000. An increasing number of health care providers will inevitably invite higher health care cost
Major flaws in the Mr. Yoshimura’s arguments

- Based on unreliable health care cost prediction. MHLW prediction of 2025 health care cost was $1.2 trillion (140 trillion yen) in 1994 which was repeatedly revised down to $55 billion (65 trillion yen) in 2007.

- The health care cost /GDP rank among 30 OECD countries is backpedaling from 18th in ‘00 to 22nd in ’05.

- On the contrary to the excess number of MDs, more than 100,000 MDs are in shortage.

- Although preventive medicine is always a right policy, it will take years of investment and implementation before you see any reduction in health care cost.

- Investment in health care will boost the national economy and enrich a nation (Lessons from examples of EU countries, especially the Nordic countries).
Although public health policy has brought many successful results in Japan. Japan has many problems.

- Universal health care system has been very successful but insurance unions are so subdivided and the size is too small to cope with financial difficulty.

- Health care in Japan is facing paradigm changes that are aging population, increasing demand for highly advanced treatments and severe man power shortage in acute care hospitals.

- Education of medical student is less than adequate and Japan has no training program for primary care.

- No objective outcome data are available for patients.

- Bureaucratic red tapes hampers changes in health care policy that is urgently needed.

- Because of the above situations, acute care is deteriorating rapidly. For example the mortality rate of children in emergency care is highest among 14 OECD countries which have available statistics.
Bureaucratic redundancy prevents any drastic reform from being implemented in Japan

Four ministries oversee health care related matters!

- **Education and training of health care workers**
  M of Health, Labor and Welfare (MHLW, for post graduate training) + M of Education, Culture, Science, Sports & Technology (for medical school education)

- **Emergency care**
  MHLW + M of Internal Affairs & Communications (The latter for public ambulance service)

- **Health care industry**
  MHLW + M of Economy, Trade & Industry

- **Administration of Municipal Hospitals (932 in 2010)**
  MHLW + MIAC + Municipal Governments
Redundancy in health care in Japan is pervasive

The numbers of acute care hospitals in USA & Japan

<table>
<thead>
<tr>
<th></th>
<th>No. of Hospitals</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>5,213 (2005)</td>
<td>300 millions</td>
</tr>
<tr>
<td>Japan</td>
<td>7,870 (2006)</td>
<td>127 millions</td>
</tr>
</tbody>
</table>

The number of CT and MRI per a million population by countries

<table>
<thead>
<tr>
<th></th>
<th>Japan</th>
<th>Germany</th>
<th>Sweden</th>
<th>USA</th>
<th>France</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>84.4</td>
<td>17.1</td>
<td>13.8</td>
<td>13.2</td>
<td>9.7</td>
<td>5.8</td>
</tr>
<tr>
<td>MRI</td>
<td>23.2</td>
<td>6.2</td>
<td>6.8</td>
<td>7.6</td>
<td>2.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>
Precious resources are wasted due to lack of organized emergency service in Japan.

The number of ambulance dispatches a year are over 5 millions and the average cost for a single dispatch is estimated approximately $1,500.

More than 50 % of the dispatches are considered unnecessary and occur due to limited access for the patients to information they need. Because of the overstretched system the average time from dispatch to arrival at a hospital is 47.2 minutes in Tokyo!

As a result, 5 billions dollars or more are wasted annually not to mention loss of life!
Hospitals in Japan are severely understaffed! (1)
M.D. Anderson Cancer Center (512 beds & 16000 health care staff) vs. Aichi Prefectural Cancer Center (500 beds and 950 staff)

Total HCS /100 beds  Nurses/100 beds
Hospitals in Japan are severely understaffed! (2)

Health Care Man Power in USA and Japan

Numbers of health care workers at university hospitals
- U of Iowa (830 beds) 7,200
- U of Kobe (980 beds) 1,200

The average number of teaching staff at Japanese medical schools is one third to one fifth of that of USA. This seriously hampers education of medical students.

Numbers of emergency physicians
- U of Maryland 75 faculty and 50 residents
- U of Teikyo 20 faculty and a few residents
The number of MDs in Japan: 2/3 of OECD mean

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of beds/1000</th>
<th>Length of stay</th>
<th>No. of MDs/100 beds</th>
<th>No. of nurses/100 beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>13.8</td>
<td>19.2</td>
<td>15.6</td>
<td>69.1</td>
</tr>
<tr>
<td>Germany</td>
<td>8.2</td>
<td>7.9</td>
<td>43.4</td>
<td>130.2</td>
</tr>
<tr>
<td>France</td>
<td>6.9</td>
<td>5.4</td>
<td>48.4</td>
<td>114.9</td>
</tr>
<tr>
<td>UK</td>
<td>3.4</td>
<td>7.5</td>
<td>76.8</td>
<td>280.0</td>
</tr>
<tr>
<td>America</td>
<td>3.1</td>
<td>5.6</td>
<td>78.4</td>
<td>346.8</td>
</tr>
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</table>
Health care workers are tired and burned out (important source of mishaps): Weekly work hours of hospital MDs in Japan

- Part-Time MDs: 60.9 hours
- Full-Time MDs: 70.6 hours
Weekly work hours of European MDs
The numbers of hospital doctors are decreasing rapidly especially in **OBGYN**, **pediatrics**, and **emergency medicine**.
Number of pediatricians per 1,000 children population in Japan

At least one pediatrician is needed for satisfactory care but 81.6% of regions have less than one (Yumiko Maeda: JMA research center report August 20, 2008). The mortality of children over 1 y/o is highest among OECD countries.
Number of OBGYN doctors per 1,000 female population between age 20 & 44

Many OBGYN doctors refuse to deliver babies due to high risk of malpractice lawsuit in Japan.

(Yumiko Maeda: JMA research center report August 20, 2008)
Clinical skill of Japanese medical students is less than adequate!
(Observation by Dr. Gordon Noel, Vice Director for Student Education at Oregon Health Science University)

In comparison with western senior medical students, Japanese medical students have much less clinical experience

1) less understanding of pathophysiology
2) less experience with clinical reasoning
3) more limited differential diagnosis
4) almost no experience with direct patient management
5) limited independent history-taking experience
6) limited experience performing physical examination of major systems (heart, abdomen, breast, rectal, neurological)
Government’s wrong policy can easily disrupt health care system. Lesson from Japan!

MHLW introduced mandatory two-year postgraduate rotation and residency matching program to compensate poor clinical skill of medical students in 2004 (copied the US system superficially)

Problems with the policy

1) This level of training is completed in medical schools in other countries (M of Education should have acted).

2) It has destroyed the ability of university hospitals to provide municipal hospitals with MD manpower and resulted in an acute shortage of MDs. This led to drastic curtailment of acute care service by hospitals.
Medical Practitioners’ Act, Article 17 (医師法 17条):

“ No person other than MD is allowed to practice medicine ”

Ridiculously rigid Interpretation of the law by MHLW and JMA

Individual medical procedures e.g. IV catheter placing, drawing blood from the artery or tracheal intubation etc. come under Article 17; thus any of these activities, if performed by non-MDs, violate the law.

To author’s knowledge no other OECD countries apply the similar rigid interpretation.

- The interpretation prevents any co-medical staff from performing necessary procedures under doctor’s supervision.
- It also prohibits medical students from learning basic clinical skills even under supervision of the teaching staff.
Gender Gap in Japan is a serious problem and keeping many capable women from participating in the society.

### Ranking of Percent Female Members of Parliament by Countries

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Total Numbers</th>
<th>Female Members</th>
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<tbody>
<tr>
<td>1</td>
<td>Sweden</td>
<td>349</td>
<td>165</td>
<td>47.3%</td>
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<tr>
<td>3</td>
<td>Finland</td>
<td>200</td>
<td>84</td>
<td>42.0%</td>
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<tr>
<td>5</td>
<td>Norway</td>
<td>169</td>
<td>64</td>
<td>37.9%</td>
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<tr>
<td>6</td>
<td>Denmark</td>
<td>179</td>
<td>66</td>
<td>36.9%</td>
</tr>
<tr>
<td>14</td>
<td>Germany</td>
<td>683</td>
<td>209</td>
<td>30.6%</td>
</tr>
<tr>
<td>53</td>
<td>UK</td>
<td>1397</td>
<td>269</td>
<td>19.3%</td>
</tr>
<tr>
<td>58</td>
<td>France</td>
<td>908</td>
<td>163</td>
<td>18.0%</td>
</tr>
<tr>
<td>68</td>
<td>USA</td>
<td>535</td>
<td>87</td>
<td>16.3%</td>
</tr>
<tr>
<td>99</td>
<td>Japan</td>
<td>722</td>
<td>87</td>
<td>12.0%</td>
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IPU Data
Gender gap ranking by countries (2007) in the fields of politics, economy, health care service & education
(Data from World Economic Forum)

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<td>10</td>
<td>Spain</td>
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<td>37</td>
<td>USA</td>
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<tr>
<td>91</td>
<td>Japan</td>
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</table>
Serious shortage of nursery schools in Japan keeps women from the labor market. 46,000: official account (1 million: unofficial estimate) on the waiting list
Government spending for education in Japan is lowest among OECD countries.
Investment in health care has a ripple effect on economy (experiences of EU countries)

- Health system produced 7% of GDP in EU-15 countries exceeding 5% of the financial sector.
- The trade balance of the pharmaceutical sector in EU is +320 billion € ($450 billion) exceeding +125 billion € ($175 billion) of the financial sector.
- EU, especially Nordic countries invest large resources on social security, health care, education, gender equality policy and job training which in turn increase labour productivity.
- Redistribution of income and minimization of income gap also have contributed to the improved labour productivity.
Nordic countries are doing pretty well despite their high tax and large social security spending.
Comparative Energy Efficiency by Countries
Energy required to produce the same amount of GDP relative to that of Japan (IEA data)
Japanese government has long been ignorant of and impediment to medical industries by inefficient evaluation and approval system

- Medical industries in Japan are going limp.
- The drug and device lag due to bureaucratic red tape (unjustifiably long evaluation & approval time, twice those of other OECD countries) needs to be rectified.
- Rebuilding the collapsing health care system & robust investment in health care are the best way to enhance economy in Japan!
Volumes of Exports (red) and Imports (blue) for Medical Devices in Japan (almost all the advanced medical devices are imported despite available technologies)
Many of the innovative drugs are biologics. Japan falls far behind USA & EU in the area.

**Biologics**: a wide range of medicinal products such as vaccines, blood & blood components, allergenics, somatic cells, gene therapy, tissues, & recombinant therapeutic proteins created by biological processes (as distinguished from chemistry).

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**Figure 3-2**: Therapeutic fields of biopharmaceuticals in the market by originator country of inventing company in 2005

Source: Fraunhofer ISI analysis based on PHARMAPROJECTS
Key Words: reshuffle and integrate **three**!
Small size **Insurance Unions**, too many **Hospitals** and **Four Ministries** overseeing health care matters
Government debts are skyrocketing!
USA $14 trillions (30%), Japan $12 trillions (5%)
Bracket: % foreign lenders
From left to right: Denmark, Sweden, Luxembourg, Finland, Belgium, Austria, France, Italy, Norway, Iceland and so on. Japan shown as blue column is 22nd from the top, US, the second from the bottom.
Conclusions

**US** needs to intensify public health policy to improve health status of population, including implementation of universal health care and robust primary care.

**Japan** needs to rebuild acute care by rectifying redundancy in government administration (oversight by four ministries), integrating small and financially weak insurance unions and reorganizing excess number of hospitals.

These are urgent matters. Unfortunately, however, both governments are limp and too slow to act!