My Month in Japan

Comparing health care and medical education systems
Objectives

• Overview of my experience in Japan
• Brief introduction to the health care and medical education systems in Japan
• Contrast some of the differences between the Japanese and US systems
# Introduction

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Japan</th>
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</thead>
<tbody>
<tr>
<td><strong>Area</strong></td>
<td>3,717,813</td>
<td>142,000</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>312,237,000</td>
<td>127,950,000</td>
</tr>
<tr>
<td><strong>GDP</strong></td>
<td>14,657,800</td>
<td>5,458,872</td>
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</tbody>
</table>
Japanese Medical System

• Universal coverage mandated in 1961
• Provided by combination of employee based and community based plans
• Services covered and fees are uniform and regulated nationally since 1959. The regulation of price has been a key mechanism of equity and containment of costs.
QuickTime™ and a decompressor are needed to see this picture.
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$3700  $1650  $11200

$1100  $840

$39.6 billion  $3.84 billion  $31.4 million  $13.7 billion  $48.8 billion
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Shimane University

- Public university - Prefecture university
- 600 medical students (100 per year)
- Also nursing, pharmacy, dentistry schools
- University Hospital - 600 beds, clinics, pharmacy,
Shimane University Schedule

<table>
<thead>
<tr>
<th>Mon 5/9</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 AM</td>
<td>9:30-11:00</td>
<td>11:00-12:00</td>
<td>9:00-11:00</td>
<td>11:00-12:30</td>
</tr>
<tr>
<td>Introduction Set up room #205</td>
<td>Dr Yano Endocrinology Cases</td>
<td>Evaluation of Chest Pain (residents - small group)</td>
<td>Dr Onigata Pediatrics Case based lectures (3)</td>
<td>Dr Oguro Neurology Neck Pain and rounds</td>
</tr>
<tr>
<td>13:00-16:00</td>
<td>14:00-15:00</td>
<td>14:00-14:10</td>
<td>13:00-15:00</td>
<td></td>
</tr>
<tr>
<td>Dr Karino Nurses - teaching BP technique and using stethoscope with simulator</td>
<td>Dentist / Oral surgery Dr Sekine rounds</td>
<td>Introduction at faculty meeting Dr Kobayashi</td>
<td>Dr Hanada Nephrology Pulmonary Embolism</td>
<td></td>
</tr>
<tr>
<td>14:00-16:00</td>
<td></td>
<td>15:00-17:00</td>
<td>16:30-18:00</td>
<td></td>
</tr>
<tr>
<td>Gastroenterology Approach to abdominal pain</td>
<td>Meeting with Dr Ishibashi (schedule)</td>
<td>GIM at U of Colorado</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Medical Education in Japan

- 80 Medical schools
- 6 years, students enter after HS
- Major criteria is book knowledge, tests
- Years 1-4 pre-clinical and organ based, didactic
- Year 4 - intro to clinical medicine
- Years 5-6 clinical years
Medical Education in Japan

- Curriculum reform mandated since 2001, 1218 specific educational objectives
- Almost 90% have adopted an integrated curriculum.
- Problem-based learning is used in about 2/3 by 2004
Medical Education in Japan

• Common Achievement Test - required to begin clinical education. Computer based testing (CBT) and an objective structured clinical examination (OSCE).

• Clinical clerkships - until 1991 medical students were not allowed to participate in clinical care
Clinical Clerkships in Japan

- 2005 clinical clerkships were offered in 84% of medical schools
- Medical students on clinical clerkships observe rather than actively participate in clinical care. Bedside teaching is part of that experience but literature reviews, writing reports and attending lectures is emphasized.
Medical School in Japan

• The 6th year some clinical clerkships but much to the year is spent taking examinations covering each specialty in medicine. Some schools also include an advanced OSCE. Successfully passing the exams the student is awarded an MD degree.
National Examination for Physicians

- This is a required examination for all medical graduates
- Paper based test with 500 multiple choice questions
- Successfully completing the examination allows the physician to enter residency
Medical Residency

• This is a new requirement since 2004
• The purpose was to provide a solid grounding and effective training in primary care and general medicine, regardless of the possible future specialty choice.
• Work hour restriction (40 hours per wk)
Specialty Training

• The majority of physicians go on to sub-specialty training
• 95% of physicians in Japan were classified as organ or disease based specialists
• In Japan there is no clinically certified primary care discipline
## Shimane University Schedule

<table>
<thead>
<tr>
<th>Mon 5/16</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30-12:00 Dr Hashigushi ED cases</td>
<td>10:15-11:45 2nd Year English class Introduction, medical school in US and GIM U of Colorado</td>
<td>11:00-12:00 Evaluation of Dyspnea (residents small group)</td>
<td>10:14-11:45 2nd Year English class Introduction, medical school in US and GIM U of Colorado</td>
<td>10:30-12:00 Dr Yamauchi ED cases</td>
</tr>
<tr>
<td>14:00-15:00 Dr Sekine Dentistry / Oral Surgery - rounds 18:00-20:00 Dr Morita Dermatology - presentations</td>
<td>14:00-18:00 Hamada MC Dr Amiaski Low Back Pain and Cardiac and Pulmonary examination</td>
<td>12:45-14:15 2nd Year English class Introduction, medical school in US and GIM U of Colorado 16:30-18:00 DVT / PE</td>
<td>Drive to Katoh Hospital Kawamoto town Tour of hospital, travel to Hiroshima, ferry to Miyajima island</td>
<td></td>
</tr>
</tbody>
</table>
Comparison Japanese and US Health

- Life expectancy
  - Japan #1  82.6 yrs  men 79.0  women 86.1
  - US  #36   78.3 yrs  men 75.6  women 80.8

What is responsible? Decrease in communicable diseases, followed by decrease in stroke and continued decrease in infant and childhood mortality.
# Death rate and causes

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Japan</th>
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</thead>
<tbody>
<tr>
<td>Crude death rate</td>
<td>8.04</td>
<td>8.98</td>
</tr>
<tr>
<td>Ischemic heart</td>
<td>25.4%</td>
<td>10%</td>
</tr>
<tr>
<td>Cerebral vasc</td>
<td>5.6%</td>
<td>14%</td>
</tr>
<tr>
<td>Lower resp chronic</td>
<td>5.3%</td>
<td>9%</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>6.4%</td>
<td>6%</td>
</tr>
<tr>
<td>Stomach cancer</td>
<td>&lt;1%</td>
<td>5%</td>
</tr>
<tr>
<td>Accidents</td>
<td>5.1%</td>
<td>3%</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Pancreatic cancer</td>
<td>1.6%</td>
<td>2%</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>1.6%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Prostate cancer</td>
<td>1.4%</td>
<td>0.7%</td>
</tr>
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QuickTime™ and a decompressor are needed to see this picture.
Top 10 Cancer Sites: 2007, Male and Female, United States—All Races

- Lung and Bronchus: 50.7 rates per 100,000
- Prostate: 23.5 rates per 100,000
- Female Breast: 22.8 rates per 100,000
- Colon and Rectum: 16.7 rates per 100,000
- Pancreas: 10.8 rates per 100,000
- Ovary: 8.2 rates per 100,000
- Leukemias: 7.0 rates per 100,000
- Non-Hodgkin Lymphoma: 6.5 rates per 100,000
- Liver and Intrahepatic Bile Duct: 5.4 rates per 100,000
- Urinary Bladder: 4.4 rates per 100,000
Japanese Health

- Homogeneous and egalitarian (education)
- Universal access to health care
- Favorable diet (decrease in salt intake)
- Lack of obesity (4% of population)
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QuickTime® and a decompressor are needed to see this picture.
Japanese Health

• Smoking rates are much higher (>50% of young men smoke)
• Typical salaried worker - 6 days a week from early morning to late at night
• Decades of economic stagnation, more part-time workers, increasing unemployment, political unrest
• Aging population
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<tbody>
<tr>
<td>11:00-15:00 Dr Isobe Pulmonary GIM at U of Colorado and rounds</td>
<td>11:00-12:00 Evaluation of chest pain (residents - small group)</td>
<td>10:15-11:45 4th Grade English Medical History</td>
<td>Katoh Hospital Tour of hospital Long term care hospital Alzheimer’s home</td>
<td>Katoh Hospital Lecture on Insomnia (translated into Japanese)</td>
</tr>
<tr>
<td>17:00-18:30 Dr Karino Simulator - heart and lung auscultation with nurses</td>
<td>14:30-15:30 1st Grade English Primary Care - communication with patients</td>
<td>12:45-14:15 5th Grade English Physical examination - Cardiac and Pulmonary 15-16 Dyspnea 16:30-18:00 Cardiac exam using simulator</td>
<td></td>
<td>Matsue City Hospital 14:00-16:00 Chronic cough</td>
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Rounds

• Rounds are once a week and lead by the Division Chief
• Each patient’s case is presented by the resident taking care of that case.
• The presentations emphasize lab and xray findings
• There is brief discussion of case usually lead by resident or the Division chief
Rounds

• After the case presentations, the Division chief leads the team (20-30 attendings, residents and students) around to see all the patients.

• These are mainly social type rounds but occasionally treatment decisions are discussed with patients and residents.
Shimane University

- Differences
- No General Internal Medicine or Family Medicine (do not exist in Japan)
- No Medical Oncology Division
- No Infectious Disease Division
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<tr>
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<th>Tues</th>
<th>Wed</th>
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<tr>
<td></td>
<td>11:00-15:00&lt;br&gt;Dr Isobe&lt;br&gt;Pulmonary COPD rounds</td>
<td>9:00-10:00&lt;br&gt;Dr Onishi&lt;br&gt;Hematology cancer treatment in Japan&lt;br&gt;11-12 evaluation of chest pain</td>
</tr>
<tr>
<td>Matsue Red Cross Hospital&lt;br&gt;17:00-20:00&lt;br&gt;GIM at U of Colorado</td>
<td>14:00-15:00&lt;br&gt;Dr Sekine&lt;br&gt;Dentistry and oral surgery - rounds&lt;br&gt;15-17:00&lt;br&gt;Dr Oguro&lt;br&gt;Neurology Low Back Pain</td>
<td>Hamada MC&lt;br&gt;Dr Amisaki&lt;br&gt;14:00-18:00&lt;br&gt;VTE and Gout</td>
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Primary Care in Japan

• No recognized primary care specialists
• 2004 National physician census - active medical doctors working for clinics with less than 20 beds were designated “PCP’s in Japan”
• Compared to Britain there were 73.4 / 100,000 in Japan vs 63.9 / 100,000 or 34.4% were PCP in Japan vs 27.1% in Britain
Primary Care in Japan

- Many specialists in mid career leave hospital medicine to practice in clinics and become primary care physicians.
- There is no difference in income between hospital employed specialists.
- The average income of self-employed (clinic physicians) is almost twice that of hospital physicians.
Dr Shiraishi’s clinic

• Family Practice - graduate of Jichi Medical school, private school educates all physicians for community medicine.
• Physician head of hospital / clinic on island with 4,000 people
• Friday AM clinic - almost all scheduled that morning, about 40 patients, 1st come first served
Dr Shiraishi’s clinic

• 2-3 nurses, 3-4 exam areas, computerized medical records
• Each patient was appropriated gowned for complaint and history was documented
• Many injections - shoulder, carpal tunnel, knees, SI joint, aspiration of hematoma using US
Dr Shiraishi’s clinic

• Rash and burn follow up - used digital photos to compare
• 1 elderly woman with unexplained symptoms - exam and labs normal, anxiety / mild dementia - reassurance
• New diagnosis of stomach cancer
Clinic and hospital visits

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<tr>
<th></th>
<th>phys/1000</th>
<th>visits</th>
<th>dc/1,000</th>
<th>ave length</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>2.1</td>
<td>13.7</td>
<td>106</td>
<td>19.2</td>
<td>11,181</td>
</tr>
<tr>
<td>US</td>
<td>2.4</td>
<td>4.0</td>
<td>119</td>
<td>5.6</td>
<td>17132</td>
</tr>
</tbody>
</table>

Common Wealth Fund 2006 data
Primary Care in Japan

• “A 3 hour wait for 3 minute consultation”
• Comparative study of family medicine in US vs clinic visit in Japan. US 668.7 sec vs 505 sec in Japan
• US physicians spent more time on treatment and f/u talk (31%) and social talk (12%) vs phys exam (28%) and diagnosis (15%) in Japan
My impressions

• Medical education - the students are equally talented / motivated
• The US students have a much better clinical education experience that I think better prepares them for residency / clinical care.
• The current Japanese system stresses book knowledge over clinical care.
My impression

• Hospital care in Japan is compromised by having 1 resident be in charge of all care, lack of senior resident or attending oversight, ? Long hospital stays

• The care and outcomes appear to be excellent despite a very elderly population
My impressions

• Universal health care is amazing to witness in practice

• The Japanese system has been able to control costs by centralized coverage and fee schedule. The system has generated its own inequities.
Challenges for the future

• Improve the education system - improve clinical teaching
• The health care system will require significant adjustments to accommodate the growing elderly population
• The primary care system, while functioning is not an optimal way to provide for complex elderly population
Figure 6. Age-adjusted death rates for leading causes of death: United States, 1999–2007 and preliminary 2008 and 2009

NOTES: Rates are plotted on a logarithmic scale. Leading causes of death from 1999 through 2007 were, in order: heart disease, cancer, stroke, and chronic lower respiratory diseases. Leading causes of death for 2008 and 2009 were, in order: heart disease, cancer, chronic lower respiratory diseases, and stroke.