International Comparisons

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Remember this slide?
Notes: Data from Australia and Japan are 2007 data. Figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates.
• We will try and summarize the differences for a few of those countries nearer the normalized line of regression
• Who is covered
• What is covered
• How financed
• How organized
• Quality Control
• Efficiency
• Cost Control
• **Note-if in bold,** we are talking about some oddity seen almost exclusively in that country.
U.K. – coverage, services

• Covered: Universal, for all “ordinarily resident”

• Provides: in and out patient, G.P. & specialist care, preventive, drugs, dental, mental health, learning disabilities and rehabilitation- essentially everything offered
U.K. – Cost Sharing

- Very limited cost-sharing
- Mostly for MD visits
- 11.90/Rx co-pay, but 89% of Rx exempt; up to about $327/treatment for dental
- Total out of pocket expenses account for 10% of all expenditures
Safety Net

- Children, elderly, pregnant or newly delivered, low income and some with certain medical conditions exempt from Rx co-pays
- Discounts for others using lots of Rx
- Travel to care covered for low income people
Finance: Source of Funds

- HC = 10% GDP NHS is 84% of all HC costs
- Money comes from taxes (76%) NHI contributions (19%) and user charges (5%) (fees charged to hospitals and private patients)
- Private Health Insurance-mix of NFP and FP insurers, provide supplementary private insurance
- Private=choice of Dr, avoidance of lines, greater comfort and privacy.
- Private=12% of population, 1% of costs
- People also pay directly for some services=90% of all private expenditures
Organization of System

- GPs are first point of contact, act as gatekeepers to care, 1567 pts per GP limit
- Paid (by government) through combo of salary, capitation, & FFS (fee for service)
- Incentives for performance
- Some private GPs, charge what they want, but not paid by NHS.
- Hospitals owned by NHS. Small # of private hospitals
U.K. Quality Control

- Regular assessment of all providers at all levels
- Investigation of problems
- Bonus points and higher pay for better performers
U.K. Efficiency

- Focus is “benchmark” driven
- Every kind and type of provider is compared to peers.
- Outliers are either rewarded or “encouraged to improve”
U.K. Costs

- Use of three year, HARD budgets (no more money, no more care)
- Systematic appraisal of new technologies (including Rx) at National Institute for Health and Clinical Excellence (NICE)
Canada HC Coverage & Services (according to Michael Moore = heaven)

- HC=11.4% of GNP, Government funded insurance, pays for all hospital & MD care. Also significant federal support of preventive services and immunization.

- No coverage for illegal residents.

- Levels of public spending differ greatly across provinces and territories-

- Such as Rx (46% of drug spend is public), (limited) dental & vision, home care, ambulance; etc.
Cost-Sharing

• No OOP cost for hospital/MD services
• OOP does apply to supplementary services, “extras”, almost anything except doctors and hospital stay/procedures
• Total OOP equal to 15% of national HC spend
Safety Net

- provide more subsidy to children, seniors, poor.
- Coverage for native peoples – Inuit, Eskimo
- Individuals with expenses exceeding 3% of personal income receive tax credits, or if disabled or severe chronic disease
Finance

- Public insurance funded by taxation. Equal to 71% of HC expenditures.
- Private accounts for other 30%, through insurance (12%), OOP spending.
- 2/3rds of Canadians have private supplementary insurance coverage, mainly though employer, are tax deductible, to cover “extras” like vision/dental/Rx/rehab & private rooms.
- Only 20% of private insurance providers NFP.
Organization

- Almost all control is at the territory/Province level: education/licensure/accreditation of providers (individuals & institutions) with notable differences between states
- **Providers licensed by the educational institutions**
- Hospitals mix of FP and NFP, most acute-care hospitals are NFP, owned by mix similar to US, with religious, government, university, cities, & provinces
- MDs and most types of providers are private, fees negotiated between provincial ministry and local professional associations.
- Mostly (75%) fee-for-service, growing use of capitation, pay for performance, salary, hybrid pay
- Walk-in, urgent, and after-hour clinics mostly private, FP.
Quality Control

• Because of decentralized nature, each province approaches differently; accountability a growing trend

• National level Councils, Institutes, etc. work with professional orgs (CMA) and colleges (who regulate and license as well as train)

• Quality initiatives including Patient Wait Times Guarantee, Patient Safety Institute, Institute for Health Information.
Efficiency

- Wait Time Alliance focuses on wait times (benchmark is 2-29 weeks for bypass, depending on risk)
- Public reporting on provider performance is sparse, with no central registries of info. Hospital info is available.
- Hospitals are accredited, MDs requirements vary
- National Pharmaceutical Strategy works to limit drug prices, especially generics
Costs

- Mostly achieved through single payer market power
- Mandatory annual budgets, formularies, negotiated fee schedule for providers, including human resource restrictions (nurses and MDs)
- Federal Patented Medicine Review Board regulates introduction of new molecules, prices based on reference prices from 7 other countries
- Generic pricing varies by province, with 25 to 65% of brand name common
Japan Coverage & Services

- HC = 8.5% of GNP; Universal Social Health System
- Everyone enrolls through their employer, (including dependents) or through government if self or unemployed or elderly.
- No choice of insurer from the 3,500 different insurers is allowed
- All plans cover the exact same benefits package
- **If you evade enrollment, you must pay two years in premiums**
- Covers hospital, out-pt, drugs, dental, mental; nursing home under separate insurance system, preventives provided by government
Cost-Sharing

- 30% co-insurance for all services
- All fees for all services determined by governmental agencies
- Total OOP costs = 15.8% of HC costs
- Those 2 %’s don’t seem to add up- but consider 30% co-pay on Rx in US
Safety Net

- Limited co-insurance for children, elderly (except wealthy), limited OOP monthly ceiling, which varies by income
- High yearly medical costs are tax deductible
Finance

- Large employers require employees to contribute between 3-10% of income to insurance premium (company has own insurance company)
- Small & mid-size employers charge a standard 9.5% contributed to a single insurer “oversight organization”, the National Health Insurance Association, which also receives a subsidy from the government.
- Small specialized insurers as well for government employees, doctors, etc.
- **Majority of adult population has private indemnity insurance, set amount of benefit per day of hospitalization**
More finance

• **All insurance carriers pay same amount for same services, as set by gov.**
• 1/3rd HC spend from taxes (central and local)
• Used to cover the 40% of population not in employer insurance system
• Senior Elderly (75+) covered by insurance purchased by cities, paid by taxes, money from other insurers, and small premiums
Organization

- G.P. & specialist difference not as distinct as here
- Specialists may be in clinic and provide GP services, can be accessed without referral
- **Few scheduled appts, pts wait to be seen**
- Visits are short, but very often, 13.9 visits per pt per yr ave
- Few ERs, provided by on-call MDs, hospital MDs salaried
- 55% of beds are private NFP, rest public
- Hospitals provide acute care and LTC for elderly
Quality Control

- Very little regulation of quality
- Accreditation is voluntary
- Benchmarking is seen as means of improvement, not penalty
- MDs can proclaim whatever specialty they wish, without accreditation
Efficiency

- Dominated by fee for service
- Recent voluntary adoption of DPC (like DRGs) is seen as first move away from FFS
- New incentives for taking difficult patients introduced
- (DRG’s- reimbursement mechanism used in U.S. Medicare program. Diagnostic Related Groups. $ payment set for each DRG- cost higher, provider looses money, lower, makes a profit)
Costs

• Most elderly population in the developed world, yet HC % of GNP low.
• Due largely to strict regulation of prices. High co-insurance.
• Also, cultural factors (respect for elderly)
• Fee schedule attempts to keep profit margins equal across hospitals and providers
• Limit on inflationary procedures like joint replacement, expensive drugs, etc.
Germany Coverage & Services

• HC= 11.6% of GDP; Statutory public HC insurance covers 85%, 10% have private (self-employed, civil servants), soldiers, police have special In.

• All must have insurance, but poor paid by state. Everyone covered, including immigrants

• Just about everything covered, but LTC is separate, and citizens encouraged to buy supplemental LTC insurance
Cost-Sharing

- Mostly co-pays- @14$ per MD visit or Rx (unless drug is cheap, then free), or day in hospital
- Total OOP is 13.5% of HC spend
- Public insurance may refund money to people who seek no care for a year
Safety Net

• Cost-sharing limited to 2% of household income

• Chronically ill may have cost-sharing limited to 1% of income

• However, chronically ill may have to prove attendance at preventative counseling sessions prior to diagnosis to qualify for cost-sharing limitation!
Finance

- 154 competing, public NFP insurers operate the SHI. They are funded by compulsory contributions as a % of wages (8.2%) up to a ceiling (62K) matched by employer at 7.3%
- Public funds account for 77% of HC spend
- Taxes used to provide some coverage (children, poor)
- Private insurance accounts for 9.3% of HC spend - **private policies are for life, with fixed premiums**
- Think about that - life long, fixed premium cost - consider how our insurance treats pre-existing disease.
Organization

- Government has little role in direct provision of care, but owns more than half of hospital beds, through universities and city hospitals.
- MDs (GP & specialist) are either solo (60%) or dual (25%) practices. They MUST be members of regional associations, which negotiate prices.
- No gatekeeper requirement, but there are incentives for registering with an MD.
- MDs limited to how many patients they see or are responsible for, like the U.K.
- Hospitals are mainly NFP, public (50%) and private (33%) with remainder private FP. Hospital MDs are salaried; they may not treat out-pts, and fees are DRG based.
Quality Control

- Quality management system required for all providers, hospitals and individuals
- Mandatory CE for MDs
- Systematic assessment of drugs and technology before adoption
- Hospital indicators of performance are publicly available by law
Efficiency

• Adoption of integrated care contracts, similar in concept to the medical home here in US.

• Drug companies must produce a dossier proving cost-effectiveness of new drugs
Costs

- All drugs subject to reference pricing (price based on prices charged in other countries) and assessment of cost-effectiveness prior to adoption
- DRG reimbursement for all hospital services
- Budgets adjusted for population morbidity
- MDs have a “prescription cap”, and are financially responsible for excess# of rxes.
## Summary Page – Who is covered

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>Universal- all “ordinarily resident”(includes non-citizens)</td>
</tr>
<tr>
<td>Canada</td>
<td>Residents, no one else</td>
</tr>
<tr>
<td>Japan</td>
<td>All insured through different mechanisms</td>
</tr>
<tr>
<td>Germany</td>
<td>All insured, through public or private NFP insurers</td>
</tr>
</tbody>
</table>
# Services Covered

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>All services offered</td>
</tr>
<tr>
<td>Canada</td>
<td>Hospital, MD. Rest varies, dependent on what is deemed medically necessary, defined by each locality</td>
</tr>
<tr>
<td>Japan</td>
<td>Benefits identical for all- hospital, out-pt, drugs, mental health &amp; dental.</td>
</tr>
<tr>
<td>Germany</td>
<td>Almost everything imaginable is covered, but long term care is handled under a different insurance system</td>
</tr>
</tbody>
</table>
## Finance

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>84% public, through taxes and national health insurance premiums</td>
</tr>
<tr>
<td>Canada</td>
<td>71% public, through insurance premiums</td>
</tr>
<tr>
<td>Japan</td>
<td>33% public, through taxes, rest private but mandatory insurance</td>
</tr>
<tr>
<td>Germany</td>
<td>Wage earner contributes to social insurance system, with % from employer; 77% of HC public, Private = 9.3%, balance taxes for poor or disabled.</td>
</tr>
</tbody>
</table>
## Out of pocket % of total HC costs

<table>
<thead>
<tr>
<th>Country</th>
<th>% of total HC bill</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>10.0%</td>
</tr>
<tr>
<td>Canada</td>
<td>15.0%</td>
</tr>
<tr>
<td>Japan</td>
<td>15.8%</td>
</tr>
<tr>
<td>Germany</td>
<td>13.5%</td>
</tr>
</tbody>
</table>
## Organization

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>G.P.s are gatekeepers, funnel pts into care</td>
</tr>
<tr>
<td>Canada</td>
<td>Highly decentralized-Each “state” unique. Overall similar to U.S. “system” of primary/specialist funneling, but details vary a great deal</td>
</tr>
<tr>
<td>Japan</td>
<td>Pts seek out care w/o referral; specialists provide range of care, hospitals provide acute care and LTC, but not ER services</td>
</tr>
<tr>
<td>Germany</td>
<td>GPs &amp; specialists independent, mostly solo or dual practice, paid by insurers according to fees negotiated by regional associations they belong to. Hospitals mainly NFP, ½ owned by government, their MDs salaried. Gatekeeper encouraged, but not required. MDs limited in # of pts seen.</td>
</tr>
</tbody>
</table>
## Quality

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>Wide-spread accountability, incentives</td>
</tr>
<tr>
<td>Canada</td>
<td>Some National Boards/Institutes, varied local standards</td>
</tr>
<tr>
<td>Japan</td>
<td>Little formal requirement; quality improvement is voluntary</td>
</tr>
<tr>
<td>Germany</td>
<td>Broad and sophisticated, required systems of QA and CE, with substantial assessment of all drugs, services, and technology prior to adoption to assess cost-effectiveness</td>
</tr>
</tbody>
</table>
## Efficiency

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>Benchmark Standards for ALL</td>
</tr>
<tr>
<td>Canada</td>
<td>Very limited, mostly institutional, not providers, and varies regionally.</td>
</tr>
<tr>
<td>Japan</td>
<td>Recent intro of DRG-like DPC payments and incentive-based payment</td>
</tr>
<tr>
<td>Germany</td>
<td>Moving towards integrated care model for incentive reimbursement</td>
</tr>
</tbody>
</table>
## Lower Costs

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>Hard budgets, appraisal of new tech, price must reflect impact, review of provider performance</td>
</tr>
<tr>
<td>Canada</td>
<td>Single payer power, appraisal of new drugs, price controls</td>
</tr>
<tr>
<td>Japan</td>
<td>Rigid fee structure, <strong>profit-margin regulation</strong>, can LOWER prices</td>
</tr>
<tr>
<td>Germany</td>
<td>Reference pricing of drugs, requirement of proof of cost-effectiveness for most services and products, prescription cap for MDs, use of DRGs for hospitals.</td>
</tr>
</tbody>
</table>
## “ELITE” question

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>Private insurance or direct payment to “private” providers = better, quicker care and comfort</td>
</tr>
<tr>
<td>Canada</td>
<td>Supplementary insurance allows access to coverage for non-covered services (vision, dental, rehab, home care, drugs &amp; private rooms) while private MDs can charge as they wish. Many wealthy Canadians come to U.S. to purchase first tier drugs, and generics (which are cheaper in U.S.) sought by all</td>
</tr>
<tr>
<td>Japan</td>
<td>Not a major issue. Bigger companies take better care of employees</td>
</tr>
<tr>
<td>Germany</td>
<td>Some private insurance, access to better comfort, private care.</td>
</tr>
</tbody>
</table>
“DOWNSIDES”

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>Limited access to dental care, wait for treatment (by law, wait limited to 90 days), no private rooms</td>
</tr>
<tr>
<td>Canada</td>
<td>See elite- without supplemental insurance, dental, vision, etc. not to be had; many drugs deemed not cost-effective unavailable, generics very expensive, and wait times an obvious problem</td>
</tr>
<tr>
<td>Japan</td>
<td>Limited access to ER care, no choice in insurer, quality of providers?</td>
</tr>
<tr>
<td>Germany</td>
<td>Little choice in insurer, requirement to prove qualification for disabled status, or financial need, MDs de-incentivized to go the extra mile</td>
</tr>
</tbody>
</table>
Some definitions/clarifications

• HC Spending at the national level is described according to some different names
• Public, Public-private-social insurance, OOP, all mean somewhat different things in each country-each has its own, unique approach
• Some overall similarities have led to definitions that can help us better understand what’s going on.
HC costs money. Where’s it come from?

- Countries finance health care expenditures from some mix of four sources:
  - general taxation
  - social insurance contributions
  - private insurance premiums
  - out-of-pocket payments.
- Substantial variation how revenue for each is raised and the relative importance of each
General Taxation

- Just what it sounds like- Taxes
- May be income tax, sales tax (only collected once on a given item), value added tax (VAT-collected on each step of the journey from raw material to final sale), property tax or other diverse variants
- Usually are NOT HC specific (That is, earmarked for payment of HC costs)
- Government allocates some % of taxes collected to meet cost of HC.
Social Insurance

- Revenue IS earmarked for HC costs exclusively
- Social –run by government, may come out of pay
- Insurance-Payment IN results in eventual reception of benefits paid OUT
- Contribution compulsory for almost everyone
- Usually proportional to earnings, increasing until a ceiling is reached
- Frequently includes contribution from employer
- Does the US have SI?
Social Insurance HERE?

• Of course.

• The U.S. version of social insurance is Medicare, where funds are collected via a payroll tax (part of social security)

• Some nation’s systems require payments to a “sickness fund” or other entity by the citizen instead of a payroll tax; still compulsory
Private Insurance

• Role varies across nations
• Some, like U.S., have PI for those not covered by SI, or who prefer PI. (US, Netherlands)
• Others use PI to supplement SI (U.K., Spain, Italy)
• And some use PI to provide cover for SI cost-sharing provisions (Denmark, France)
• In one country (Ireland) PI serves all three functions
Out of Pocket Costs

• Function also varies across nations
• May be predominately cost-sharing, with a third party covering majority of cost (US, Denmark, France, UK,)
• In some nations, (Italy, Portugal, Spain) OOP is used for direct payment of total fee for certain services to private sector providers- insurance may reimburse patient.
HC financing triangle (CH= switzerland)
Public/Private, SI/Taxes mixes

• The closer to the lower left hand corner in the prior figure, the more private the country’s HC system financing is (US, CH)

• Closer to the hypotenuse, the more public the funding

• And, the left end of the HT is more tax-driven, the right end more SI driven
Fundamental Questions

• So- is HC a right? Or a privilege?
• If a right, is it a moral right, or a legal one?
• So- should we have people pay for it based on how sick they are? Why? Or why not?
• If everyone pays, sick or not, should they all pay the same amount? Or should the rich pay more?
• If you pay more, should you get more?
Fundamental Questions

- Different countries have different ideas about how HC should be financed and how it should be distributed. This is actually a deeply philosophical question.
- Never the less, a rough consensus has emerged:
  - ACCESS to care should be according to need
  - Payment for care should be according to the ability to pay.
  - It’s the details that get difficult- for instance, if the rich should pay more, how much more? How progressive should taxes/SI/OOP be? Do the 1%+ get better care? How do you balance needs? What about life-style diseases and genomics?
“The American Problem”

• We’ve just examined several examples of the different ways nations have chosen to answer these inescapable questions.
• Some will argue we need to learn from them, and adopt some of the solutions they use.
• We pay more for HC than any other nation, measured any way you want to look at it.
• How does that happen?
## Data from 2002 - nothing obvious here

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>Canada</th>
<th>France</th>
<th>Germany</th>
<th>Japan a</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmaceuticals</td>
<td>14.0%</td>
<td>16.9%</td>
<td>20.9%</td>
<td>14.6%</td>
<td>18.4%</td>
<td>12.9%</td>
</tr>
<tr>
<td>Physician Services</td>
<td>16.5%</td>
<td>9.6%</td>
<td>12.5%</td>
<td>10.1%</td>
<td>25.9%</td>
<td>22.6%</td>
</tr>
<tr>
<td>Hospitals¹</td>
<td>33.4%</td>
<td>28.1%</td>
<td>41.2%</td>
<td>35.8%</td>
<td>40.0%</td>
<td>27.1%</td>
</tr>
<tr>
<td>Home Health Care</td>
<td>0.1%</td>
<td>1.8%</td>
<td>0.4%</td>
<td>4.3%</td>
<td>0.5%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Other²</td>
<td>36.0%</td>
<td>43.6%</td>
<td>25.0%</td>
<td>35.2%</td>
<td>15.2%</td>
<td>35.0%</td>
</tr>
</tbody>
</table>

a. Hospital spending includes some long-term institutional care and cannot be separated.

b. Other includes some long-term institutional care, dental, clinical laboratory, diagnostic imaging, patient transport and emergency rescue, administration, and R&D.
Pharmaceutical Spending per Capita in 2003
Adjusted for Differences in Cost of Living

Source: OECD Health Data 2005.
Magnetic Resonance Imaging (MRI) Units per Million Population in 2003

Source: OECD Health Data 2005.
Computer Tomography (CT) Scanners per Million Population in 2003

- Japan: 92.6
- Germany: 14.2
- OECD Median: 13.1
- United States: 13.1
- New Zealand: 11.5
- Canada: 10.3
- France: 8.4
- United Kingdom: 5.8

Source: OECD Health Data 2005.
Number of Patients Undergoing Dialysis Treatment per 100,000 Population in 2003

Source: OECD Health Data 2005.

What happens w/o dialysis?

Source: OECD Health Data 2005.
Cardiac Catheterization Procedures per 100,000 Population in 2003

- Germany: 794
- United States: 425
- France: 386
- Australia: 303
- OECD Median: 302
- Canada: 231
- Netherlands: 189
- United Kingdom: 14

Think of cathing as a preventative procedure.

Source: OECD Health Data 2005.
Percutaneous Transluminal Coronary Angioplasty (PTCA) Interventions per 100,000 Population in 2003

426
270
156
140
130
130
99
93
92

United States, Germany, France, Canada, Australia, OECD, United Kingdom, Netherlands, New Zealand

This is a “fixing” procedure

Source: OECD Health Data 2005.
Coronary Bypass Procedures per 100,000 Population in 2003

Source: OECD Health Data 2005.
Number of Knee Replacements per 100,000 Population in 2003

- United States: 155
- Australia: 144
- United Kingdom: 111
- Netherlands: 107
- Canada: 92
- OECD Median: 92
- France: 85
- New Zealand: 54

### Exhibit 6. Drug Prices and Physician Fees in Select OECD Countries

<table>
<thead>
<tr>
<th></th>
<th>Prices for 30 most commonly prescribed drugs, 2006–07 (U.S. set at 1.00)</th>
<th>Primary care physician fee for office visits, 2008&lt;sup&gt;b,c&lt;/sup&gt;</th>
<th>Orthopedic physician fee for hip replacements, 2008&lt;sup&gt;b,c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Brand name</td>
<td>Generic</td>
<td>Overall</td>
</tr>
<tr>
<td>Australia</td>
<td>0.40</td>
<td>2.57</td>
<td>0.49</td>
</tr>
<tr>
<td>Canada</td>
<td>0.64</td>
<td>1.78</td>
<td>0.77</td>
</tr>
<tr>
<td>France</td>
<td>0.32</td>
<td>2.85</td>
<td>0.44</td>
</tr>
<tr>
<td>Germany</td>
<td>0.43</td>
<td>3.99</td>
<td>0.76</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.39</td>
<td>1.96</td>
<td>0.45</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0.33</td>
<td>0.90</td>
<td>0.34</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.51</td>
<td>3.11</td>
<td>0.63</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.46</td>
<td>1.75</td>
<td>0.51</td>
</tr>
<tr>
<td>United States</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Median (countries shown)</strong></td>
<td><strong>0.43</strong></td>
<td><strong>1.96</strong></td>
<td><strong>0.51</strong></td>
</tr>
</tbody>
</table>

<sup>a</sup> Source: Analysis by G. Anderson of IMS Health data.
<sup>b</sup> Adjusted for differences in cost of living.

So we pay way more for brands, far less for generics, our MDs are better paid.
### Exhibit 4. Supply and Utilization of Doctors and Hospitals in Select OECD Countries, 2009

<table>
<thead>
<tr>
<th></th>
<th>Practicing physicians per 1,000 population</th>
<th>Doctor consultations per capita</th>
<th>Acute care hospital beds per 1,000 population</th>
<th>Average length of stay for acute care (days)</th>
<th>Hospital discharges per 1,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Australia</strong></td>
<td>3.0*</td>
<td>6.5</td>
<td>—</td>
<td>5.9*</td>
<td>162*</td>
</tr>
<tr>
<td><strong>Canada</strong></td>
<td>—</td>
<td>5.5*</td>
<td>1.8*</td>
<td>7.7*</td>
<td>84*</td>
</tr>
<tr>
<td><strong>Denmark</strong></td>
<td>3.4*</td>
<td>4.6</td>
<td>2.9</td>
<td>—</td>
<td>170</td>
</tr>
<tr>
<td><strong>France</strong></td>
<td>—</td>
<td>6.9</td>
<td>3.5</td>
<td>5.2</td>
<td>263</td>
</tr>
<tr>
<td><strong>Germany</strong></td>
<td>3.6</td>
<td>8.2</td>
<td>5.7</td>
<td>7.5</td>
<td>237</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td>2.2*</td>
<td>13.2*</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Netherlands</strong></td>
<td>—</td>
<td>5.7</td>
<td>3.1</td>
<td>5.6</td>
<td>117</td>
</tr>
<tr>
<td><strong>New Zealand</strong></td>
<td>2.6</td>
<td>4.3*</td>
<td>—</td>
<td>5.9*</td>
<td>142*</td>
</tr>
<tr>
<td><strong>Norway</strong></td>
<td>4.0</td>
<td>—</td>
<td>2.4</td>
<td>4.6</td>
<td>177</td>
</tr>
<tr>
<td><strong>Sweden</strong></td>
<td>3.7*</td>
<td>2.9</td>
<td>2.0</td>
<td>4.5</td>
<td>166</td>
</tr>
<tr>
<td><strong>Switzerland</strong></td>
<td>3.8</td>
<td>4.0*</td>
<td>3.3</td>
<td>7.5</td>
<td>168</td>
</tr>
<tr>
<td><strong>United Kingdom</strong></td>
<td>2.7</td>
<td>5.0</td>
<td>2.7</td>
<td>6.8</td>
<td>138</td>
</tr>
<tr>
<td><strong>United States</strong></td>
<td>2.4</td>
<td>3.9*</td>
<td>2.7*</td>
<td>5.4</td>
<td>131*</td>
</tr>
<tr>
<td><strong>OECD Median</strong></td>
<td>3.0</td>
<td>6.3</td>
<td>3.2</td>
<td>5.9</td>
<td>160</td>
</tr>
</tbody>
</table>

* 2008.
* 2007.
* Adjusted for differences in cost of living.
* A significant amount of hospital care is dedicated to long-term care in Japan, making cross-national comparison difficult.

Source: OECD Health Data 2011 (Nov. 2011).

Our MDs don’t seem to work as hard.
Hospital Spending per Discharge, 2009
Adjusted for Differences in Cost of Living

Dollars

<table>
<thead>
<tr>
<th>Country</th>
<th>Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>US*</td>
<td>18,142</td>
</tr>
<tr>
<td>CAN*</td>
<td>13,483</td>
</tr>
<tr>
<td>NETH</td>
<td>13,244</td>
</tr>
<tr>
<td>DEN</td>
<td>11,112</td>
</tr>
<tr>
<td>SWIZ</td>
<td>10,875</td>
</tr>
<tr>
<td>NOR**</td>
<td>10,441</td>
</tr>
<tr>
<td>SWE</td>
<td>9,870</td>
</tr>
<tr>
<td>AUS*</td>
<td>8,350</td>
</tr>
<tr>
<td>NZ*</td>
<td>7,160</td>
</tr>
<tr>
<td>OECD Median</td>
<td>6,222</td>
</tr>
<tr>
<td>FR</td>
<td>5,204</td>
</tr>
<tr>
<td>GER</td>
<td>5,072</td>
</tr>
</tbody>
</table>

Source: OECD Health Data 2011 (Nov. 2011).
Spending on Physician Services per Capita in 2003
Adjusted for Differences in Cost of Living

- United States: $1,271
- Japan: $553
- Australia: $480
- OECD Median: $428
- France: $363
- Germany: $304
- Canada: $287
Annual Average Income of Physicians
1996**

* Data in US dollars converted with purchasing power parity.
Physician Incomes, 2008 Adjusted for Differences in Cost of Living

Dollars

<table>
<thead>
<tr>
<th>Country</th>
<th>Primary care doctors</th>
<th>Orthopedic physicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>186,582</td>
<td>442,450</td>
</tr>
<tr>
<td>UK</td>
<td>159,532</td>
<td>324,138</td>
</tr>
<tr>
<td>GER</td>
<td>131,809</td>
<td>208,634</td>
</tr>
<tr>
<td>CAN</td>
<td>125,104</td>
<td>202,771</td>
</tr>
<tr>
<td>FR</td>
<td>95,585</td>
<td>187,609</td>
</tr>
<tr>
<td>AUS</td>
<td>92,844</td>
<td>154,380</td>
</tr>
</tbody>
</table>

### Exhibit 9. Diagnostic Imaging in Select OECD Countries

<table>
<thead>
<tr>
<th>MR</th>
<th>machines</th>
<th>CT scanners</th>
<th>PET scanners</th>
<th>Mammographs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Devices per million pop., 2009&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Exams per 1,000 pop., 2009&lt;sup&gt;c&lt;/sup&gt;</td>
<td>MRI scan fees, 2011&lt;sup&gt;d&lt;/sup&gt;</td>
<td>Devices per million pop., 2009&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Australia</td>
<td>5.9</td>
<td>23.3</td>
<td>—</td>
<td>38.7</td>
</tr>
<tr>
<td>Canada</td>
<td>8.0</td>
<td>43.0</td>
<td>—</td>
<td>13.9</td>
</tr>
<tr>
<td>Denmark</td>
<td>15.4</td>
<td>37.8&lt;sup&gt;a&lt;/sup&gt;</td>
<td>—</td>
<td>23.7</td>
</tr>
<tr>
<td>France</td>
<td>6.5</td>
<td>55.2</td>
<td>$281</td>
<td>11.1</td>
</tr>
<tr>
<td>Germany</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Japan</td>
<td>43.1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>—</td>
<td>—</td>
<td>97.3&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Netherlands</td>
<td>11.0</td>
<td>43.9</td>
<td>—</td>
<td>11.3</td>
</tr>
<tr>
<td>New Zealand</td>
<td>9.7</td>
<td>—</td>
<td>—</td>
<td>14.6</td>
</tr>
<tr>
<td>Switzerland</td>
<td>—</td>
<td>—</td>
<td>$903</td>
<td>32.8</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>5.6&lt;sup&gt;a&lt;/sup&gt;</td>
<td>—</td>
<td>—</td>
<td>7.4a</td>
</tr>
<tr>
<td>United States</td>
<td>25.9&lt;sup&gt;b&lt;/sup&gt;</td>
<td>91.2&lt;sup&gt;b&lt;/sup&gt;</td>
<td>$1,080&lt;sup&gt;f&lt;/sup&gt;</td>
<td>34.3&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Median</strong> (countries shown)</td>
<td><strong>8.9</strong></td>
<td><strong>43.0</strong></td>
<td>—</td>
<td><strong>15.1</strong></td>
</tr>
</tbody>
</table>

---

<sup>a</sup> 2008.
<sup>b</sup> 2007.
<sup>c</sup> Source: OECD Health Data 2011 (Nov. 2011).
<sup>e</sup> Nova Scotia only.
<sup>f</sup> U.S. commercial average.

Other than Japan, for some unknown reason, we have this covered
### Exhibit 3. Determinants of Health in Select OECD Countries, 2009

<table>
<thead>
<tr>
<th>Percent of population over age 65</th>
<th>Tobacco consumption (% population age 15+ who are daily smokers)</th>
<th>Obesity (% population with BMI ≥ 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>12.3%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Canada</td>
<td>12.5%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Denmark</td>
<td>14.9%</td>
<td>16.1%</td>
</tr>
<tr>
<td>France</td>
<td>15.9%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Germany</td>
<td>16.1%</td>
<td>20.5%</td>
</tr>
<tr>
<td>Japan</td>
<td>16.7%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>13.5%</td>
<td>15.2%</td>
</tr>
<tr>
<td>New Zealand</td>
<td>11.7%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Norway</td>
<td>15.4%</td>
<td>14.8%</td>
</tr>
<tr>
<td>Sweden</td>
<td>17.3%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>15.2%</td>
<td>17.2%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>15.8%</td>
<td>15.8%</td>
</tr>
<tr>
<td>United States</td>
<td>12.5%</td>
<td>13.0%</td>
</tr>
<tr>
<td><strong>OECD Median</strong></td>
<td>14.5%</td>
<td>15.8%</td>
</tr>
</tbody>
</table>

Note: BMI = body mass index.

$^a$ 2008.
$^b$ 2007.
$^c$ Self-reported data as opposed to directly measured; tends to underestimate.
$^d$ 1998.
$^e$ 1997.
$^f$ 2000.

Not the oldest, don’t smoke the most, but we EAT A LOT around here. Some blame this on “empty calories”.

Department of Pharmacy Practice
Purdue University School of Pharmacy
Data 2011 (Nov. 2011).
## Exhibit 11. Quality Indicators in Select OECD Countries, 2009

<table>
<thead>
<tr>
<th>Country</th>
<th>Asthma mortality among ages 5 to 39 per 100,000 population</th>
<th>Diabetes lower extremity amputations per 100,000 population</th>
<th>In-hospital fatality rate within 30 days of admission per 100 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0.13</td>
<td>11.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Canada</td>
<td>0.17&lt;sup&gt;b&lt;/sup&gt;</td>
<td>9.5</td>
<td>3.9</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.08</td>
<td>18.1</td>
<td>2.3</td>
</tr>
<tr>
<td>France</td>
<td>—</td>
<td>12.6&lt;sup&gt;b&lt;/sup&gt;</td>
<td>—</td>
</tr>
<tr>
<td>Germany</td>
<td>0.17&lt;sup&gt;b&lt;/sup&gt;</td>
<td>33.7</td>
<td>6.8</td>
</tr>
<tr>
<td>Japan</td>
<td>—</td>
<td>—</td>
<td>9.7&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.09&lt;sup&gt;a&lt;/sup&gt;</td>
<td>12.0&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.3&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0.43&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Norway</td>
<td>0.27</td>
<td>9.9</td>
<td>2.6</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.01&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.7</td>
<td>2.9&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Switzerland</td>
<td>—</td>
<td>7.4&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.5&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.27</td>
<td>4.8</td>
<td>5.2</td>
</tr>
<tr>
<td>United States</td>
<td>0.40&lt;sup&gt;b&lt;/sup&gt;</td>
<td>32.9&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.3&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>OECD Median</strong></td>
<td><strong>0.09</strong></td>
<td><strong>9.9</strong></td>
<td><strong>4.6</strong></td>
</tr>
</tbody>
</table>

Note: Rates are age–sex standardized.

<sup>a</sup> 2008.

<sup>b</sup> 2007.

In-hospital fatality rate within 30 days of admission includes deaths that occur outside of the hospital, possibly influencing figures for countries such as the U.S. that have shorter lengths of stay.

Source: OECD Health Data 2011 (Nov. 2011).
Administrative Costs as a Percentage of Health Spending

Germany: 7.5% Public, 6.9% Private
United States: 3.1% Public, 8.3% Private
Australia: 3.6% Public, 3.7% Private
Canada: 0.8% Public, 5.9% Private
France: 0.2% Public, 7.8% Private

* 1994 for Australia, Canada, Switzerland, 1995 for Germany and 1996 for France and United States.
Source: 1998 OECD Health Data
Purdue University ©2019
Our Issues

• Lots of procedures, that require specialized providers- so MDs do very well, financially
• High intensity care- lots of high cost tests and scans
• We are fat. And all the health issues that come with it
• And our administrative costs, especially for private HC spend, are absurdly high
Structural issues

- Much of our insurance is for profit, and those profits add to costs
- HC benefits are tax deductible- desensitizing those lucky enough to have benefits to the costs of care
- Lack of central payor means there’s little incentive for prevention in fee for service
- And, finally- we don’t like dealing with death
Why does Pharmacy care?

- If we can replace MD services at lower cost, there will be opportunity
- If we can help patients change lifestyles and lose weight, there will be opportunity
- If we can effectively screen and identify pts with problems early, there will be opportunity
- If we become a source of pre-chronic disease counseling as with Germany, there will be opportunity.
- And if we can prevent, we already have opportunity in immunization/vaccination
- And there is no way in creation that there will be enough G.P.s to provide primary care- we have a BIG opportunity
Questions?