SUSTAINABILITY AND THE CHANGING NATIONAL LANDSCAPE FOR HEALTHCARE

Scott Ramsey MD, PhD | FRED HUTCHINSON CANCER RESEARCH CENTER
A Changing National Landscape

Creates New Opportunities

- National landscape of healthcare delivery is changing fundamentally
- Cost control pressures driving force behind system reform
  - Federal and state governments, by necessity, will lead
  - Commercial insurers are somewhat freer to innovate and focus on costs specifically
- Urgent need to identify and support high-value interventions to reduce health care costs while maintaining or improving quality
Changes in Life Expectancy at Birth and Health Expenditure as % of GDP: 1995-2009

<table>
<thead>
<tr>
<th>Country</th>
<th>1995</th>
<th>2009</th>
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<tbody>
<tr>
<td>United States</td>
<td>0.859</td>
<td>1.116</td>
</tr>
<tr>
<td>Brazil</td>
<td>1.704</td>
<td>1.711</td>
</tr>
<tr>
<td>China</td>
<td>3.227</td>
<td>3.700</td>
</tr>
<tr>
<td>Australia</td>
<td>1.116</td>
<td>1.711</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.904</td>
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Sources: WHO, CIA world facts, Gapminder
HEALTH EXPENDITURE AND HEALTH RETURN WORLDWIDE

Changes in Life Expectancy at Birth and Health Expenditure as % of GDP: 1995 - 2009

Sources: WHO, Gapminder
In reducing “discretionary” programs such as infrastructure, research and development and education (to pay for health care)...we are eating our seed corn.*

*SRattner. NYT December 31, 2012
## Tax Rate Implications: Untenable

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<tr>
<th>SCENARIOS</th>
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<td>Effect on Economy</td>
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<td>Tax code is indexed for inflation and growth in real income.</td>
<td>1% Gap</td>
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<td>Real GDP reduced by 3% to 16%.</td>
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“If we solve our health care spending, practically all of our fiscal problems go away”

And if we don’t? “Then almost anything else we do will not solve our fiscal problems.”

Victor Fuchs, Health Economist
Stanford University
Inconvenient Truth

We are using technology more -- and using it more intensively.
A Tipping Point

• We have reached a tipping point in terms of the proportion of GDP that can go to health care.

• Tremendous pressure will be placed on reducing the cost burden chronic diseases, particularly cancer.

• Pivotal issue determining success in slowing cost growth - using tools of *economics and large data* vs. traditional medical model.
ILLUSTRATION: CANCER
The Landscape of Cancer in the United States is Changing

- More cancers
  - 75% increase in incidence projected by 2030
    - Population growth
    - Aging population
- Risk factor profiles are changing
  - Increase in cancers linked to diet, physical activity and weight
  - Fewer cancers due to smoking
- Expenditures for each cancer are rising
  - More intensive and expensive initial treatment
  - Longer survival turning cancer into a “chronic disease”
Problems

• Near exponential cost growth
  – Value for expenditure may be falling

• Financial pressures on patients
  – Cost shifting and rising out of pocket costs

• Wide variation in care
  – Variability unsupported by evidence
Monthly and Median Costs of Cancer Drugs at the Time of FDA Approval
1965 - 2013

Year of FDA Approval

Monthly Price of Treatment (U.S. Dollars)
0 10000 20000 30000 40000 50000

Individual Drugs
Median Monthly Price (per 5 year period)
NCCN Guidelines: Chemotherapy for Metastatic Gastric Cancer

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<tr>
<th>Initial Regimen</th>
<th>Median OS (Months)</th>
<th>Medicare Reimbursement 6 months*</th>
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## Treatment-Related Financial Hardship

38% reported at least 1 treatment-related financial hardship

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<tr>
<td>Respondents</td>
<td>N=284</td>
</tr>
<tr>
<td>Currently in debt</td>
<td>21.8%</td>
</tr>
<tr>
<td>(Mean $ debt = $26,860)</td>
<td></td>
</tr>
<tr>
<td>&lt; 12 months since diagnosis</td>
<td>17.1%</td>
</tr>
<tr>
<td>≥ 12 months since diagnosis</td>
<td>22.7%</td>
</tr>
<tr>
<td>Borrowed money from family/friends</td>
<td>16.5%</td>
</tr>
<tr>
<td>(Mean $ borrowed = $14,144)</td>
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</tr>
<tr>
<td>Sold home</td>
<td>1.1%</td>
</tr>
<tr>
<td>Refinanced / 2nd mortgage on home</td>
<td>4.2%</td>
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<tr>
<td>Decline in income</td>
<td>42%</td>
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CANCER PATIENTS ARE MUCH MORE LIKELY TO FILE FOR BANKRUPTCY

- **Cancer Patients**
- **Controls**

Over the years from 1995 to 2009, the bankruptcy rates for cancer patients consistently surpass those of controls, indicating a higher likelihood of bankruptcy among cancer patients.
Early Stage Breast Cancer, Age <65, no comorbidity
Average 1 year patient cost by quartile:

- Quartile 1: $0
- Quartile 2: $20,000
- Quartile 3: $40,000
- Quartile 4: $60,000

Average of Chemotherapy Cost
Average of Hormone Cost
Average of Radiation Cost
Average of Surgical Cost
Average of Imaging Cost
Average of Unexplained Costs

2005-2009
Trends that Will Influence Use of New Drugs and Technologies in Cancer

• Emerging Focus on Value
  – Increased use of health technology assessment
  – Attention to cost-effectiveness and economic value

• Novel Financing Models
  – Focused on reducing variation, improving use of high value, evidence based products and services

• Use of Big Data
  – Aggressive adoption of technologies that stratify patients based on clinical and genomic markers
Performance-based Reimbursement Schemes

Non Outcomes Based
- Population level
  - Market share
  - Price volume
- Patient level
  - Utilization/Cost caps
  - Manufacturer funded treatment initiation
  - Value Based Formulary

Health outcomes-based
- Conditional coverage
  - Coverage with evidence development
  - Conditional treatment continuation
- Performance-linked reimbursement
  - Only in research
  - Outcomes guarantee
  - Only with research
  - Pattern or process of care
Trying Something New: Episode Payments for Cancer Therapy

By Lee N. Newcomer, MD, MHA

My recent personal experiences illustrate the current issues for healthcare delivery. Last spring, a driver behind me was blinded by the early morning sun, and she did not see that I had stopped at a stop sign. It only took 4 hours after the rear-end collision for me to develop the aches and pains of a minor whiplash injury. My internist was booked, so I accepted an alternative appointment...
Example of Risk-Sharing from the United Kingdom
Velcade (bortezomib) for Multiple Myeloma

• NICE technology appraisal: ‘outcome guarantee’ scheme was suggested by the manufacturer

• The NHS will ensure that ‘all suitable patients’ will have access to the drug

• In return, the manufacturer will refund treatment costs for patients who fail to respond

NICE = National Institute for Health & Clinical Excellence; NHS = National Health Service
In Cancer Care, Cost Matters

By PETER B. BACH, LEONARD B. SALTZ and ROBERT E. WITTES
Published: October 14, 2012

At Memorial Sloan-Kettering Cancer Center, we recently made a decision that should have been a no-brainer: we are not going to give a phenomenally expensive new cancer drug to our patients.

The reasons are simple: The drug, Zaltrap, has proved to be no better than a similar medicine we already have for advanced colorectal cancer, while its price — at $11,063 on average for a month of treatment — is more than twice as high.
Monthly and Median Costs of Cancer Drugs at the Time of FDA Approval
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Year of FDA Approval

Monthly Price of Treatment (U.S. Dollars)
0
10000
20000
30000
40000
50000

Individual Drugs
Median Monthly Price (per 5 year period)

Zaltrap (original)
Zaltrap (after price reduction)
MANAGED CARE
MANAGED CARE INFORMATION
Cancer Care Informatics: The Information Silos

Electronic Medical Records:
- Detailed record of patient health, clinical problems and clinical decision making
- Provider-specific
- Limited information on outcomes
- No cost information

Health Insurance Claims:
- Detailed record of diagnoses, events, procedures, costs
- Comprehensive across provider groups
- Limited information on the patient or the clinical problem
- Limited information about outcomes

Cancer Registry:
- Detailed record of diagnosis, pathology
- Detail on outcomes (survival)
- Limited information on treatment
- No information on comorbid conditions

Missing:
Patient-reported outcomes
Episode of Care Payment Models will be Enabled by New Databases

• “To reach that goal (episode of care payment model), we needed a performance measurement system with data.”

• “So, we asked physicians...to give us a single sheet of clinical information, including histology, stage, relevant genetics, and current status...to differentiate between an adjuvant patient and one who is relapsed with metastatic disease”

L Newcomer, ASCO Post Jan 15, 2013
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To be replaced by big data!

L Newcomer, ASCO Post Jan 15, 2013
A Hopeful Trend...

Real Per Capita Growth in National Health Expenditures

Growth Rate (Percent)

Notes: Figures for 2012 and 2013 are projections.
Sources: Centers for Medicare and Medicaid Services and Bureau of Economic Analysis.
Conversations We Need to Have (But Haven’t Yet Had the Will to Tackle!)

- **Sustainability**: What is a sustainable level of national health expenditure?

- **Tradeoffs**: how will we judge relative value when evaluating health technology?

- **Addressing market failure**: who will influence decisions regarding resource allocation?
Thank You
BACKUP SLIDES
Measures Address Cost Growth in the Affordable Care Act

• Payment innovations
• Independent Payment Advisory Board for Medicare
• Innovation Center with CMS
• Measures to inform patients and payers about quality of medical care providers
• Funding for comparative effectiveness research
Improvement in mCRC Survival Over Time

Incremental Analysis of Drug Regimens for Colorectal Cancer (1996-2011)

Incremental Survival Gain vs. Prior Regimen (Months)

Incremental Cost vs. Prior Regimen (2011 USD)
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Incremental Survival Gain vs. Prior Regimen (Months)

Incremental Cost vs. Prior Regimen (2011 USD)

1996-2000
2001-2005
2006-2011
Risk Sharing Agreements

• Sometimes referred to as “performance-based” reimbursement

• Contractual agreement between a payer and a healthcare supplier/manufacturer

• Identifies a ‘guaranteed’ outcome resulting from treatment:
  – Clinical outcome
  – Humanistic/QOL outcome
  – Resource outcome – impact on healthcare resource use
  – Financial outcome – impact on healthcare budgets
  – Economic outcome – a cost effectiveness threshold
Outcomes of risk sharing agreements

**Technology less effective than predicted**

- Manufacturer reduces price
- Payer discontinues or reduces coverage

**Technology more effective than predicted**

- Manufacturer increases price
- Payer continues to provide coverage
Example of Risk-Sharing from the United Kingdom

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