From William Lloyd to Mick Jagger:
You Can't Always Get What You Want [from a Health System], but if You Try Sometime…

Adam Elshaug, MPH, PhD

Associate Professor of Health Care Policy

HCF Research Foundation Principal Research Fellow

NHMRC Sidney Sax Public Health Fellow

Menzies Centre for Health Policy

Sydney School of Public Health, Sydney Medical School

The University of Sydney

Menzies Centre for Health Policy

ANU THE AUSTRALIAN NATIONAL UNIVERSITY

THE UNIVERSITY OF SYDNEY

Disclosures – 1
Research Funding and Advisory Roles

Research Support:

- NHMRC
- HCF Health and Medical Research Foundation
- The Commonwealth Fund (USA)

Committee / Advisory Roles:

- Medical Benefits Division, Commonwealth Dept. of Health
- Cancer Australia
- NPS MedicineWise
- Health Quality Ontario (Ministry of Health)
- Choosing Wisely International (Planning Committee Member)
- HSRAANZ Executive Committee (Member)
- Capital Markets Cooperative Research Centre – Health Division

Presentation Outline

- Health System Sustainability
  - Opportunity Cost
- Waste in the form of low-value health care
  - Defined
  - Examples
  - Remedial Initiatives (Policy and Practice Innovations)
- Choosing Wisely
- Alternative Models of Care and Payment
- MaRS_EXCITE

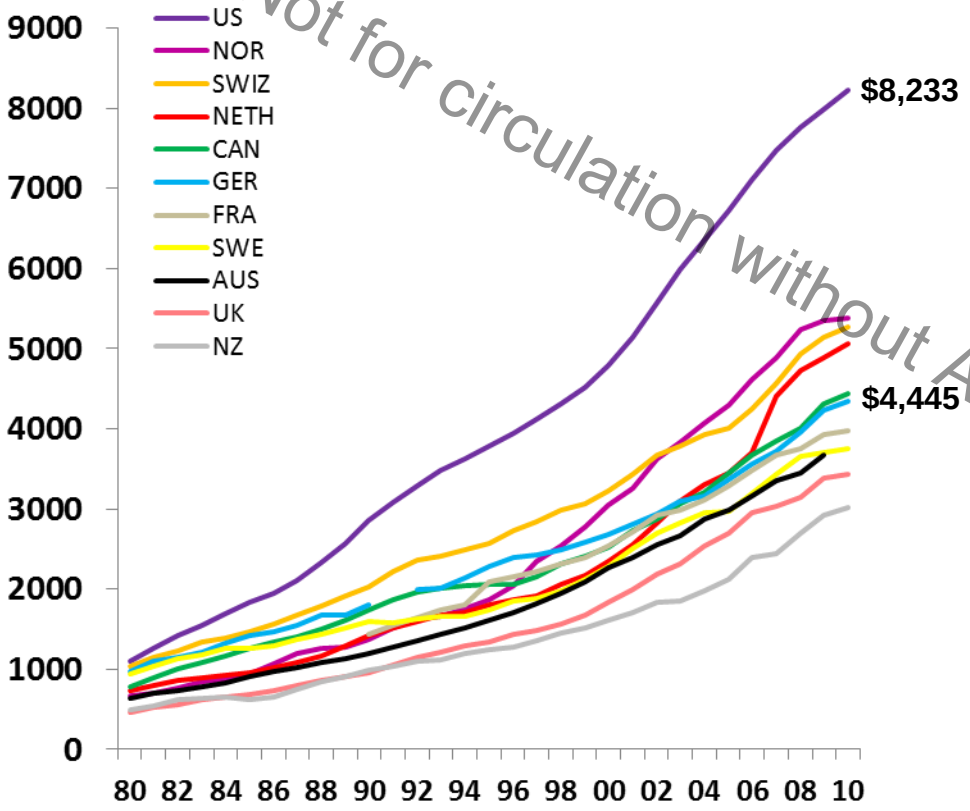
The Tragedy of the Commons

…individuals, acting independently and rationally according to each one's self-interest, behave contrary to the whole group's long-term best interests by depleting some common resource…

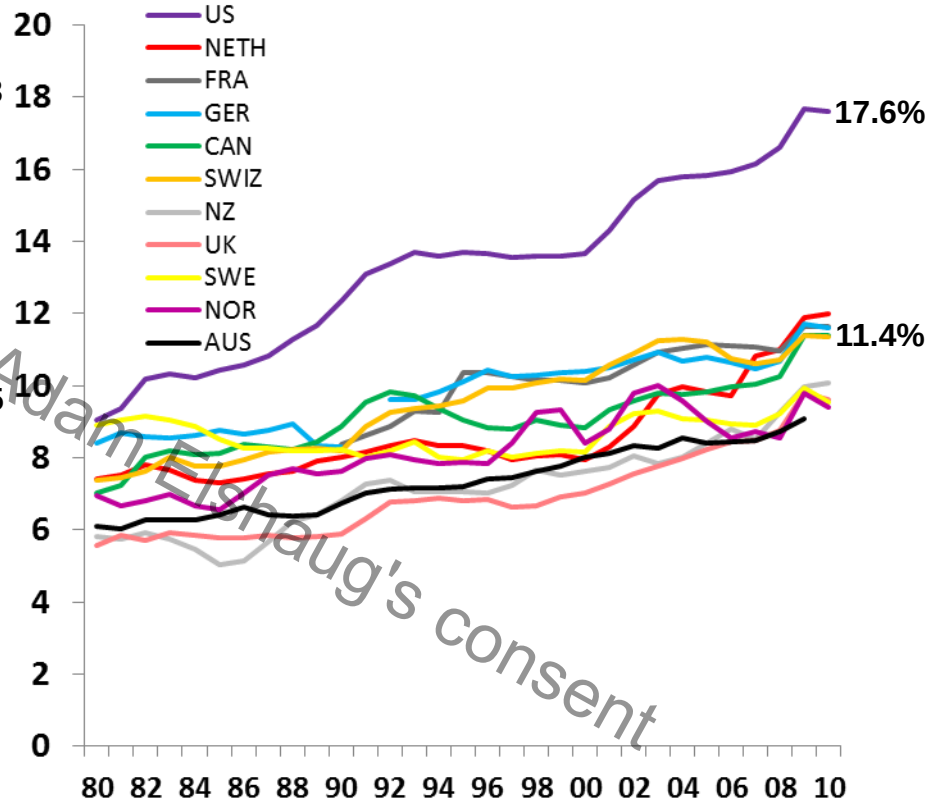
~ Health care sustainability

International Comparison of Spending on Health, 1980–2010

Average spending on health per capita ($US PPP)



Total expenditures on health as percent of GDP



Menzies Centre for Health Policy ANU SYDNEY

Note: $US PPP = purchasing power parity.
Source: *OECD Health Data, 2012* (Paris: OECD, Nov. 2012).

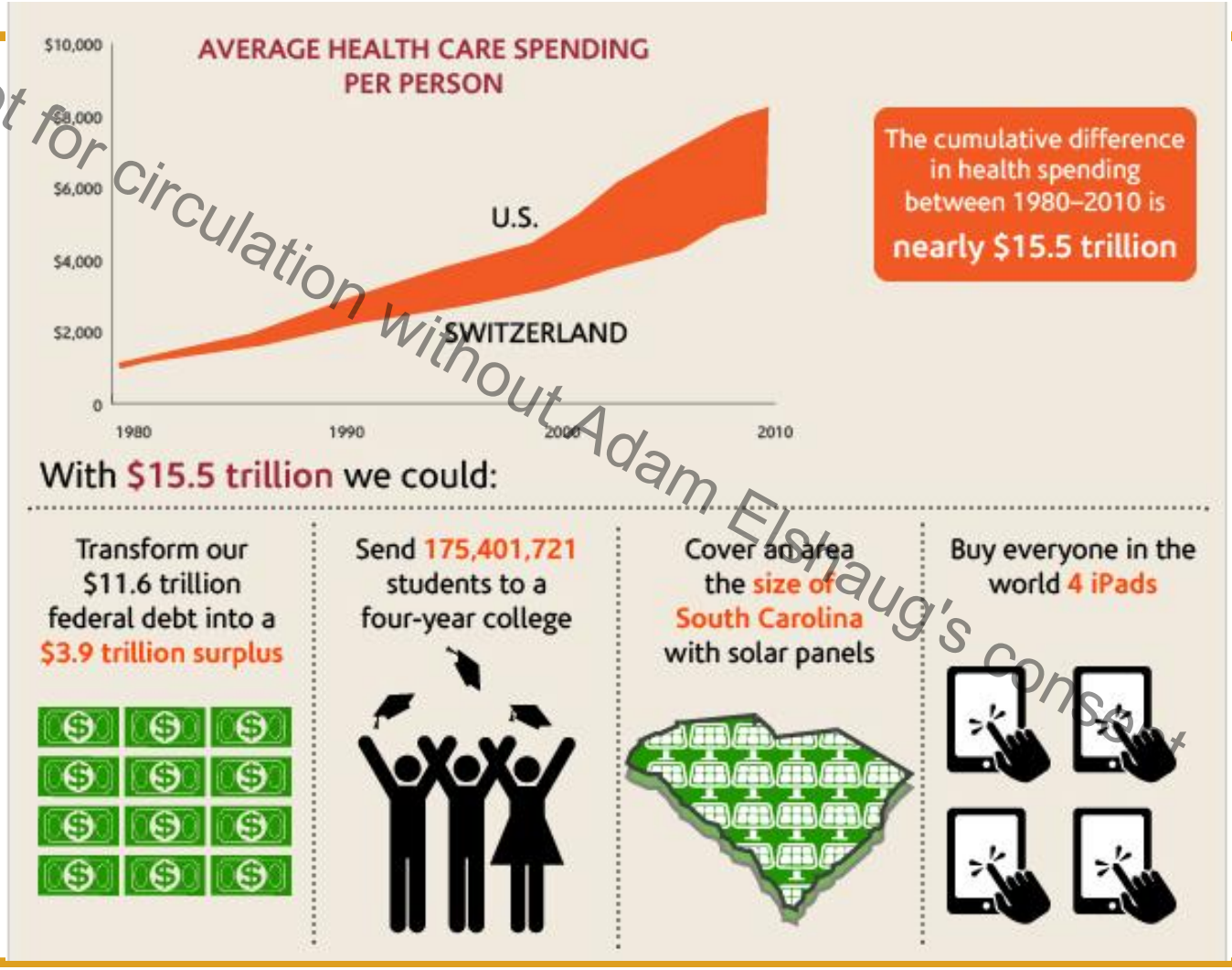
Conversations about sustainability…

- …ignore the US experience which reveals very high GDP spending (double Australia's) can be absorbed (no obvious tipping point - elasticity)

- …focuses overly on outlays and not enough on quality (value)

- …distracts from big picture questions about micro, meso and macro-level resource allocations that would foster the sort of country we all want to live in.

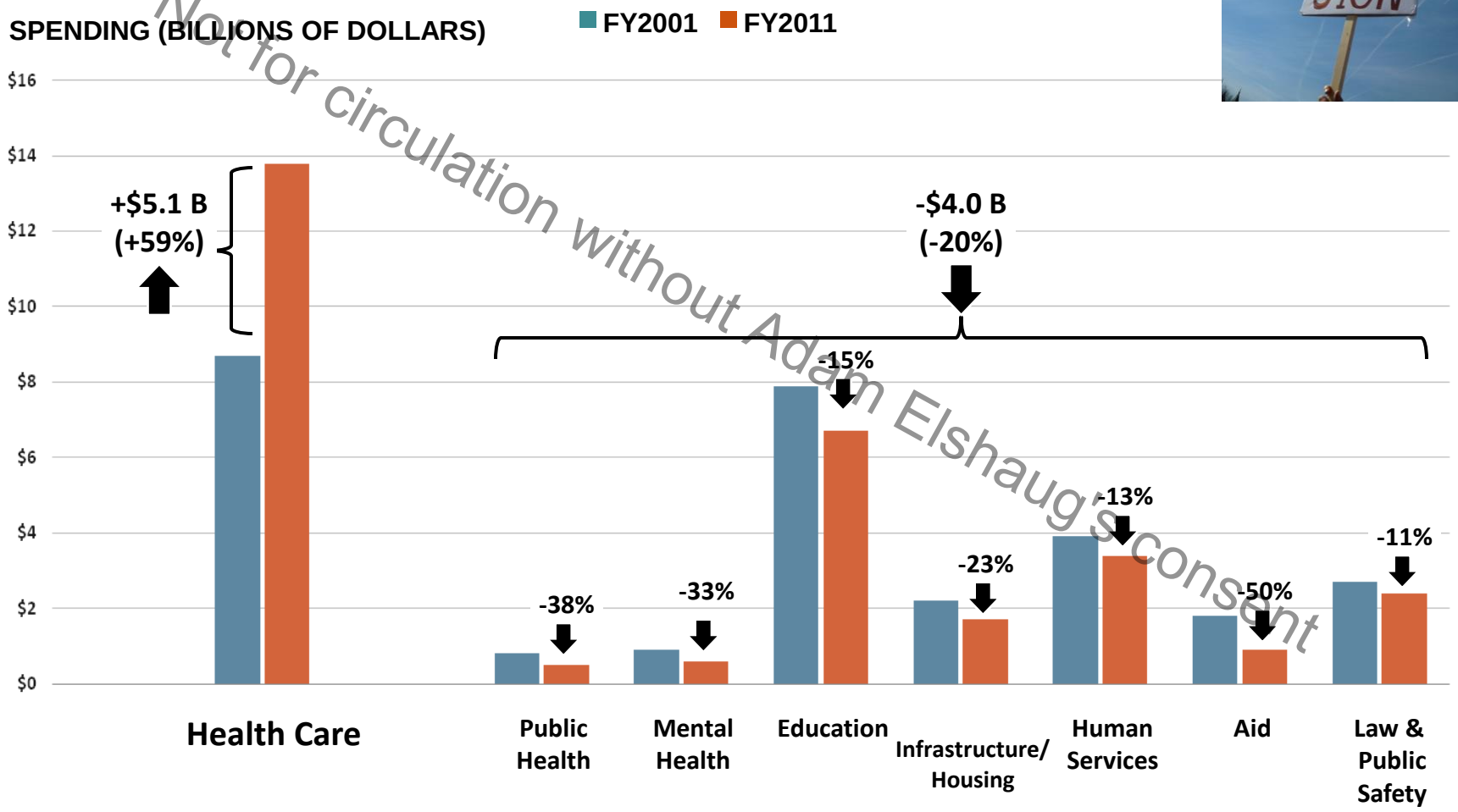
~ Opportunity Cost ~
What the US Could Have Saved if They Had Matched the Next Highest Country (Switz.) in Health Spending



Menzies Centre for Health Policy ANU SYDNEY

Note: Per capita spending amounts adjusted for differences in cost of living, total U.S. savings adjusted for inflation.
Thanks to David Squires, The Commonwealth Fund

Opportunity cost…
Pop quiz: which country, state, region…?
(hint, >5 but <8 million population)

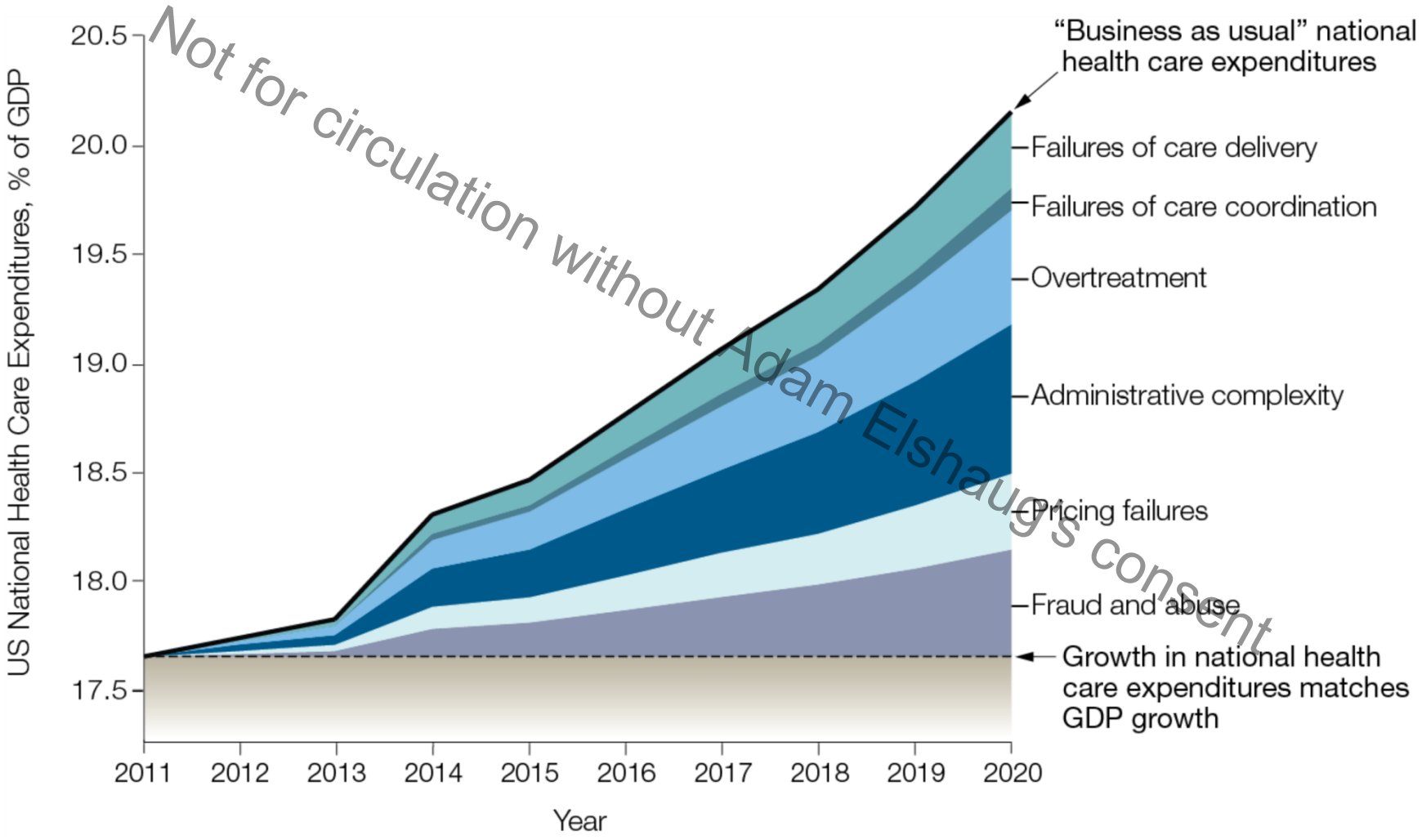


There is good, and bad, expenditure

WASTE is bad and adds insult to the injury within the debate over 'unsustainable' expenditure

- Inappropriate tests or treatments
- Excessive service intensity/sophistication relative to expected benefit
- Excessive frequency of service relative to expected benefit

Compelling Need to Eliminate Waste in Health Care



Source: Berwick DM, Hackbarth AD. Eliminating Waste in US Health Care. JAMA. 2012;307(14):1513-1516.

An international groundswell to reduce waste

- The community is noticing:

"In the last 2 years, doctors recommended treatment you thought had little or no benefit?'

Country	Aust	Can	Ger	Neth	NZ	UK	US
Sample (N)	1009	3003	1407	1557	1000	1434	2500
Response	17%	12%	20%	13%	15%	10%	20%

Schoen et al. Health Affairs. 2007, 26(6); 717-734.

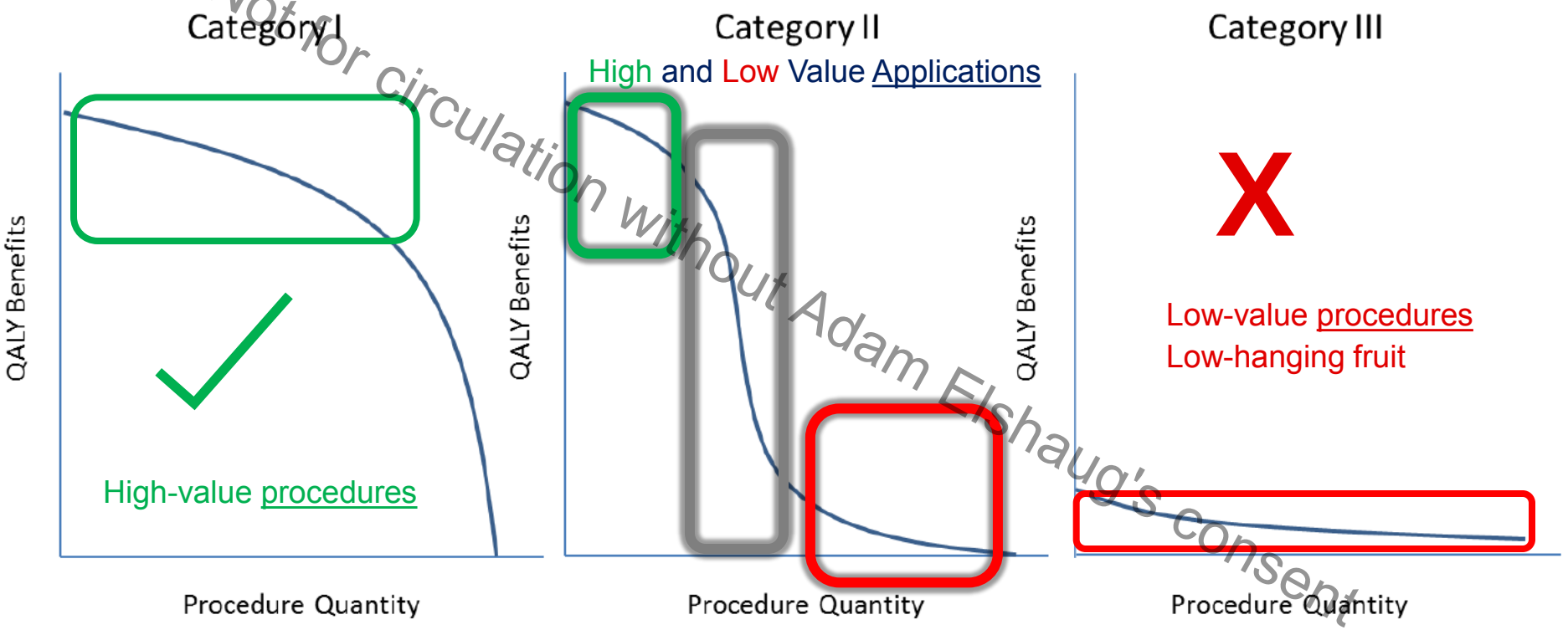
Australian Medicare System (Federal)

- Currently, 5,703 items are listed on the MBS
- The majority of these items are longstanding (including the bases for their item fee)
- Only a very small proportion (around 3%) of items (accounting for around 1% of total MBS expenditure), having been formally assessed against contemporary evidence of safety, effectiveness and cost-effectiveness.

What do we mean by low-value?

- No evidence for effectiveness
- Evidence of in-effectiveness
  - In toto or (more often) for patient sub-groups
- Relative ineffectiveness over comparator
- Inappropriate frequency or intensity of care
- etc

Defining and measuring 'low-value' – for whom, when, with what confidence?



Skinner and Chandra typology of medical technologies with heterogeneous benefits. Costs of treatment are assumed to be constant across and within categories.

Australian Medicare System

Medical Journal of Australia, December 2012; 197 (10): 556-560.

Measuring individual practices with no clinical heterogeneity (ie universally low-value)

EJMp1101475

NHMRC Research G... | Home - PubMed - ... | 2013 Lown Conferen... | Medicare Coverage ... | Richard Lehman's w... | My Google Drive | timeanddate.com

The NEW ENGLAND JOURNAL of MEDICINE

HOME | ARTICLES & MULTIMEDIA | ISSUES | SPECIALTIES & TOPICS | FOR AUTHORS | CME | Keyword, Title, Author, or Citation | Advanced Search

Perspective

How CER Could Pay for Itself — Insights from Vertebral Fracture Treatments

Adam G. Elshaug, M.P.H., Ph.D., and Alan M. Garber, M.D., Ph.D.

N Engl J Med 2011; 364:1390-1393 | April 14, 2011 | DOI: 10.1056/NEJMp1101475

Share:

Article | References | Citing Articles (7)

The pain and disability caused by osteoporotic vertebral fractures have long motivated the search for effective therapy. Two procedures designed to restore vertebral body height and function have been widely adopted: percutaneous vertebroplasty, in which cement is injected into the vertebral body to support the fractured bone; and kyphoplasty, a variant of vertebroplasty in which a balloon is inserted and inflated in a collapsed vertebral body, restoring the bone's height before the cement injection. Initial studies suggested that these procedures were superior to conventional symptomatic treatment. But when later studies cast doubt on those favorable findings, health care funding agencies sought to curb their use. The story of these procedures offers a glimpse of the ways in which comparative-effectiveness research (CER) may influence medical practice and health care expenditures.

Early studies of these procedures were neither randomized nor blinded, and because the symptoms of compression fractures often abated over time, the lack of adequate controls made it impossible to know whether improvements that followed treatment would have occurred even without surgery. Furthermore, neither procedure was risk-free; reported complications included compression fractures, cement leakage, pulmonary complications, paraplegia, and death.[1] In a scenario that's likely to be repeated frequently as CER gains greater acceptance and support, randomized trials eventually followed the observational studies that had fostered the initial enthusiasm.[2] If the full consequences of that research are not yet fully apparent, their potential importance is. Were the results of better-designed studies translated into practice, the reduction in U.S. health care expenditures would be considerable.

CER treats effectiveness as a balance of benefits and harms; when the risks associated with a procedure outweigh its clinical benefits, it is appropriate and ethical to limit its use. Both the clinical need and the desire to avoid wasteful expenditures were part of the rationale for subjecting these procedures to comparative studies. Furthermore, consensus that these procedures were promising but unproven led several countries to make them available on an interim-coverage basis. These arrangements, in effect from 2006 through 2010, allowed the procedures to be performed in everyday practice while further evidence was generated.

TOOLS
PDF | E-Mail | Print | Save | Download Citation | Article Alert | Supplementary Material | Reprints | Permissions | Share/Bookmark

TOPICS
Neurology/Neurosurgery | Orthopedics | Comparative Effectiveness | Surgery | Osteoporosis/Bone Disease

MORE IN
Perspective | April 14, 2011

TRENDS
Most Viewed (Last Week)

IMAGES IN CLINICAL MEDICINE
Tinea Faciei [31,988 views]
May 15, 2014 | P. Nenoff and C. Schetschorke

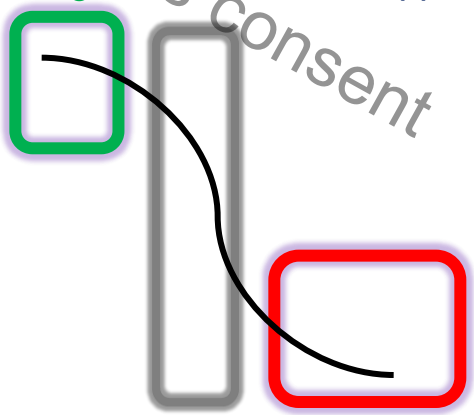
IMAGES IN CLINICAL MEDICINE
Pachydermoperiostosis [29,330 views]
May 15, 2014 | C. Liu and Y. Zhang

PERSPECTIVE
The Economics of Graduate Medical Education [19,002 views]
May 14, 2014 | A. Chandra and Others

More Trends

NEJM CareerCenter

High and Low Value Applications

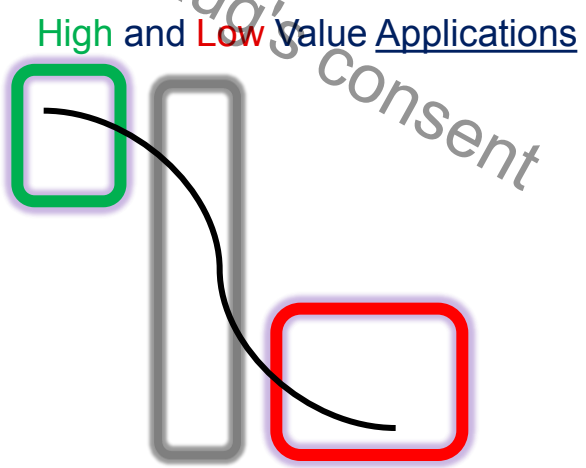


Measuring Individual Practices with Clinical Heterogeneity

- Al-Khatib et al (*JAMA* 2011): insertion of automatic implantable cardiac defibrillator:

  22.5% were non-evidence-based (inappropriate)

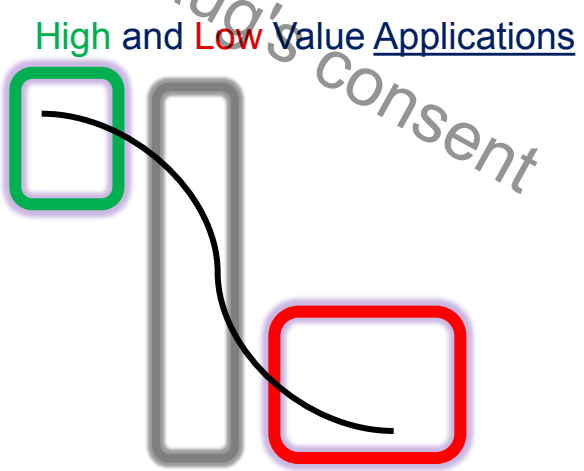
- Hannan et al (*Circ Cardiovasc Interv* 2014): New York State's Cardiac Diagnostic Catheterization Database; 8986 patient procedures rated for appropriateness:
  - 35.3% appropriate,
  - 39.8% uncertain,
  - **24.9%** inappropriate



Measuring Individual Practices with Clinical Heterogeneity

- American Academy of Orthopaedic Surgeons (AAOS) Board of Directors: appropriate use criteria on optimizing the management of full-thickness rotator cuff (RC) tears.

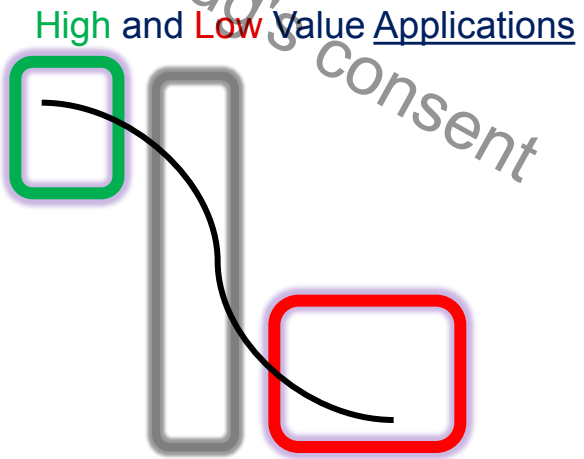
- 16% "Appropriate"
- 31% "May Be Appropriate"
- **53%** "Rarely Appropriate"



Measuring Individual Practices with Clinical Heterogeneity

Total knee arthroplasty (TKA)

- 44% "Appropriate"
- 21.7% "Inconclusive"
- **34.3%** "Inappropriate"

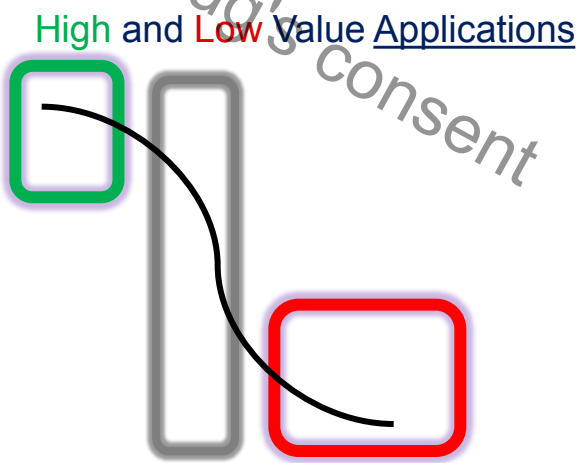


Riddle *et al*. Arthritis Rheumatol. 2014 Jun 30. doi: 10.1002/art.38685.

Measuring Individual Practices with Clinical Heterogeneity

Total knee arthroplasty (TKA)

- 44% "Appropriate"
- 21.7% "Inconclusive" – Power of the Grey Zone!
- **34.3%** "Inappropriate"



Riddle *et al*. Arthritis Rheumatol.
2014 Jun 30. doi: 10.1002/art.38685.

Measuring Multiple Low-Value Services with Variable Levels of Clinical Heterogeneity

article.aspx?articleid=1868536

Scholar | NHMRC Research G... | Home - PubMed - ... | 2013 Lown Conferen... | Medicare Coverage ... | Richard Lehman's w... | My Google Drive | timeanddate.com

UNIVERSITY OF SYDNEY LIBRARY | Sign In | Create an Account

The JAMA Network | Journals | Specialties & Topics | Store | Physician Jobs | About Mobile | Search The JAMA Network

JAMA Internal Medicine

Formerly Archives of Internal Medicine

Search Internal Medicine | Advanced Search

Home | Current Issue | All Issues | Online First | Topics | CME | Multimedia | For Authors | Subscribe

Online First >

Original Investigation | May 12, 2014

LESS IS MORE

Measuring Low-Value Care in Medicare

ONLINE FIRST

Aaron L. Schwartz, BA[1]; Bruce E. Landon, MD, MBA[1,2]; Adam G. Elshaug, PhD, MPH[1,3,4,5]; Michael E. Chernew, PhD[1]; J. Michael McWilliams, MD, PhD[1,6]

[+] Author Affiliations

JAMA Intern Med. Published online May 12, 2014. doi:10.1001/jamainternmed.2014.1541 Text Size: A A A

Article | Figures | Tables | References | Comments

ABSTRACT

ABSTRACT | METHODS | RESULTS | DISCUSSION | CONCLUSIONS | ARTICLE INFORMATION | REFERENCES

Importance Despite the importance of identifying and reducing wasteful health care use, few direct measures of overuse have been developed. Direct measures are appealing because they identify specific services to limit and can characterize low-value care even among the most efficient providers.

Objectives To develop claims-based measures of low-value services, examine service use (and associated spending) detected by these measures in Medicare, and determine whether patterns of use are related across different types of low-value services.

Design, Setting, and Participants Drawing from evidence-based lists of services that provide minimal clinical benefit, we developed 26 claims-based measures of low-value services. Using 2009 claims for 1 360 908 Medicare beneficiaries, we assessed the proportion of beneficiaries receiving these services, mean per-beneficiary service use, and the proportion of total spending devoted to these services. We compared the amount of use and spending detected by versions of these measures with different sensitivity and specificity. We also estimated correlations between use of

Read the current issue for FREE

The JAMA Network Reader

Some tools below are only available to our subscribers or users with an online account.

Print | PDF | Email | Get Citation | Get Permissions | Get Alerts | Submit a Letter | Submit a Comment | Slideset (.ppt) | Supplemental Content

Altmetric 183

Related Content

Customize your page view by dragging & repositioning the boxes below.

See Also...

Editor's Note

Developing Methods for Less Is More

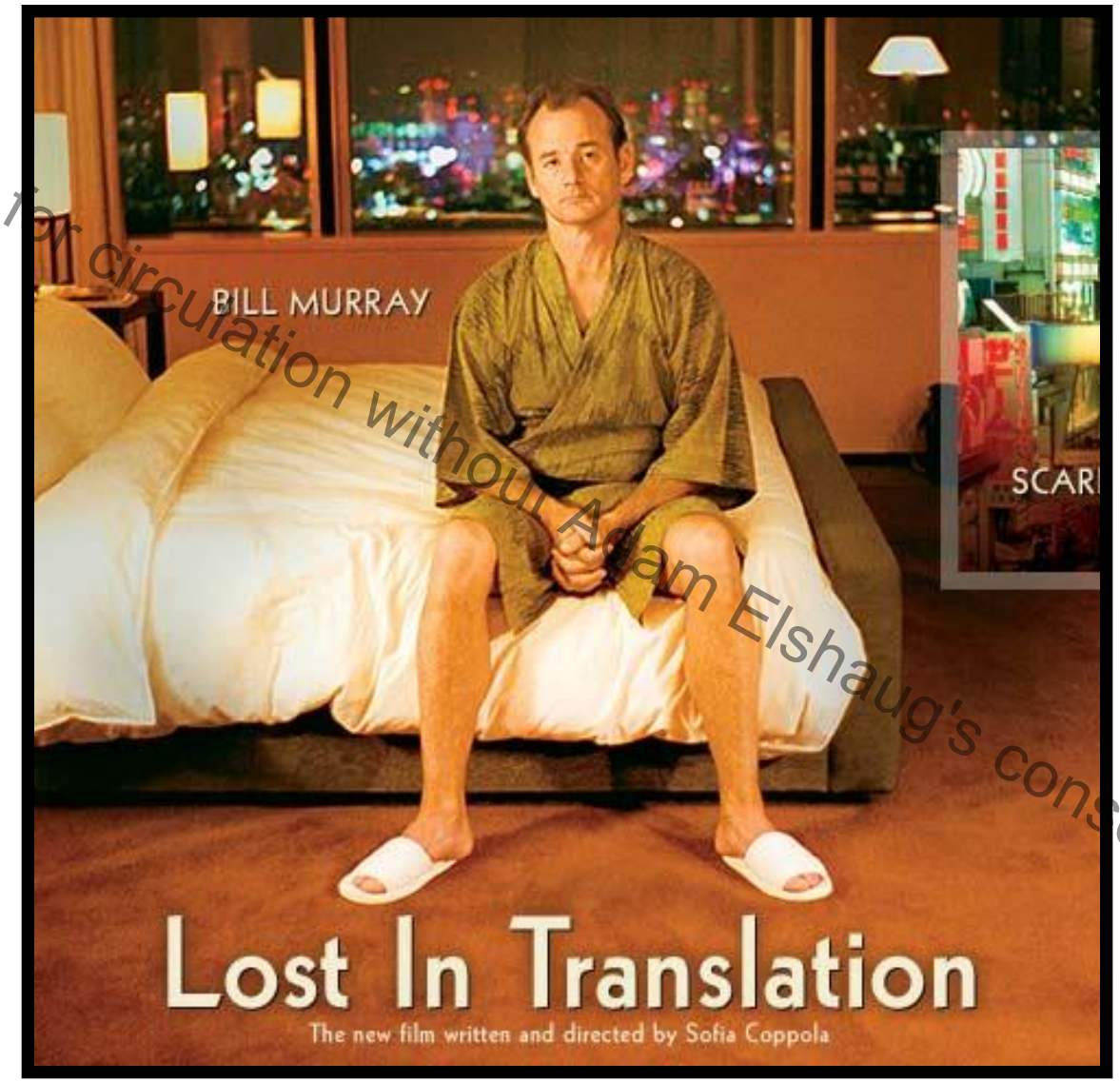
JAMA Intern Med. Published online May 12, 2014.;():. doi:10.1001/jamainternmed.2014.1101.

Articles Related By Topic

Filter By Topic >

26 low-value services

- 42% of Medicare beneficiaries received at least 1 LVS in 1 year
- Up to $8.5Billion per annum



Innovations in policy

The Hill Times (Canada), Monday Oct 20, 2014

http://www.hilltimes.com/

THE HILL TIMES, MONDAY, OCTOBER 20, 2014 19

CANADA & 21ST CENTURY ECONOMY

To achieve stronger growth, consumers need to be confident about future

Joe Oliver should think hard about what he really plans is best for Canada in the 2015 budget.

By David Crane

TORONTO—Finance Minister Joe Oliver should take a second look at plans for the 2015 budget and promises for an election year array of goodies designed to attract voters to the Conservative cause, particularly if the world drifts into permanent slow growth, or secular stagnation, or faces growing risks of deflation.

The sharp drop in oil prices and volatility in stock and bond markets are danger signs that something is not right with the global economy. As the International Monetary Fund's managing director, Christine Lagarde, has put it, the world is stuck in "a brittle, mediocre recovery," with global growth forecasts lowered once again for this year and next. Fears over the Ebola pandemic and continuing instability in North Africa and the Middle East are adding to uncertainty.

For Canada, this translates into weaker prospects for job creation and economic growth. Both Finance Canada and the Bank of Canada have been counting on a sharp pickup in exports and increased business investment to drive the next round of economic growth, as the housing market and the growth in consumer debt level off. But if that pickup does not occur—and monetary policy has largely done all it can for growth—then we will be in serious trouble.

To be sure, the fall in world oil prices is an overall benefit to the global economy—worth about U.S.$600 a year to an average American household and also important for oil importing economies such as Japan, South Korea, Taiwan and China, giving their households and businesses a boost as well.

The decline in the Canadian dollar exchange rate to about 88 U.S. cents, as prices tumble, could make our manufacturing, business services and tourism industries more competitive. But weak manufacturing investment in recent years may well mean our manufacturers are not in a strong position to take advantage of a somewhat stronger dollar.

As TD Securities argues, "Stronger exports as a sign of a more rebalanced economy is a prerequisite for building a foundation to provide a sustained contribution to Canadians growth." TD Securities is hopeful that the lower dollar and the benefit to U.S. consumers from lower oil prices will lead to a pickup in Canadian exports. Whether it will or not remains to be seen, but there are other headwinds in the U.S. economy that could challenge this somewhat optimistic expectation.

The sharp swings in stock market prices and the slowdown in the housing market will also have what is known as a wealth effect. Consumers will feel poorer and hence more reluctant to spend or take on new debt. And if they are not confident about the future, they will also be reluctant to consume and invest. That too could slow job creation and economic growth.

The federal government's tightened fiscal policy in recent years has been a drag on the economy, making a weak recovery weaker. And its excessive reliance on cheap money through the Bank of Canada's monetary policy to boost growth through housing and other forms of consumer debt, while keeping growth alive, has also created what we now see to be a false sense of security.

One impact of monetary policy, with ultra-low interest rates, has been to help drive up the value of housing, stock market and other asset prices, which have soared in value. The greatest beneficiaries were the so-called one per cent who saw big increases in personal wealth. Now we are beginning to see what might be called a correction.

Some experts have argued that the Conservative government withdrew its Great Recession economic stimulus too soon and too fast, hurting the economy's prospects. Rather than aiming to balance the budget this coming year, a political decision in order to deliver election-year goodies, a more responsible fiscal policy would have delayed balancing the budget by investing more in public infrastructure, where there is great need, helping the transition to a low-carbon economy, focussing on innovation, and doing more to reduce poverty in Canada.

These, rather than tax cuts, should be the main goals in the next federal budget. They would do much more to raise confidence in the future growth potential. To the extent that there are tax benefits they should be focused on lower-income Canadians.

In the view of the chair of the IMF's policy steering body, the International Monetary and Financial Committee, "we are only halfway through this journey of recovering from the crisis" and we run the risk of "financial Ebolas."

Tharman Shanmugaratnam, who is also Singapore's finance minister, contends that "our real problem today is a lack of confidence in the medium to long term This lack of confidence inhibits today's activity and today's growth."

The challenge, which applies as much to Canada as it does to other countries, is to "avert the prospect of a prolonged period of subpar growth. It is a real risk," he warns. "If we have low growth sustained over a long period, we will always be vulnerable, vulnerable to geopolitical risks."

In other words, to achieve stronger growth and job creation today, we have to make consumers and businesses more confident about the future. "To solve today's growth problems we have to lift potential growth, and that means reforms that don't pay off immediately, but reforms that build confidence over the medium to longer term path of the global economy and our respective economies," Tharman says. In Canada, the Bank of Canada has lowered our potential growth rate several times over the past decade, implying weaker, longer term growth prospects.

Tax cuts are likely to do little to raise our potential growth rate. But investing in skills, infrastructure, innovation and the low-carbon economy would likely do much more. This is why Oliver should think hard about what he really plans is best for Canada in the 2015 budget.

David Crane can be reached at crane@interlog.com.

news@hilltimes.com

Current reviews

www.msac.gov.au/internet/msac/publishing.nsf/Content/reviews-lp

The University of Sy... MCHP Google Scholar NHMRC Research G... Home - PubMed - ... 2013 Lown Conferen... Medicare Coverage ... Richard Lehman's w... My Google Drive

Current MBS Reviews

These review topics were selected against current evidence, quality and safety concerns identified in national and international literature, MBS claiming data, and on advice from medical craft groups.

-	Review	Status
1.	Botulinum toxin injections	2014 MSAC meeting consideration
2.	Folate testing	2014 MSAC meeting consideration
3.	Inguinal hernia surgery	2014 MSAC meeting consideration
4.	Lipectomy services	2014 MSAC meeting consideration
5.	Perfusion services	2014 MSAC meeting consideration
6.	Rhinoplasty surgery	2014 MSAC meeting consideration
7.	Vitamin B12 testing	2014 MSAC meeting consideration
8.	Vitamin D testing	2014 MSAC meeting consideration
9.	Vulvoplasty surgery	2014 MSAC meeting consideration
10.	Cardiac Services for Implantable Cardiac Defibrillators	In Progress
11.	Ear, nose and throat	In progress
12.	Paediatric surgery	In progress
13.	Skin services	In progress
14.	Radiation oncology	Under consideration

New Reviews

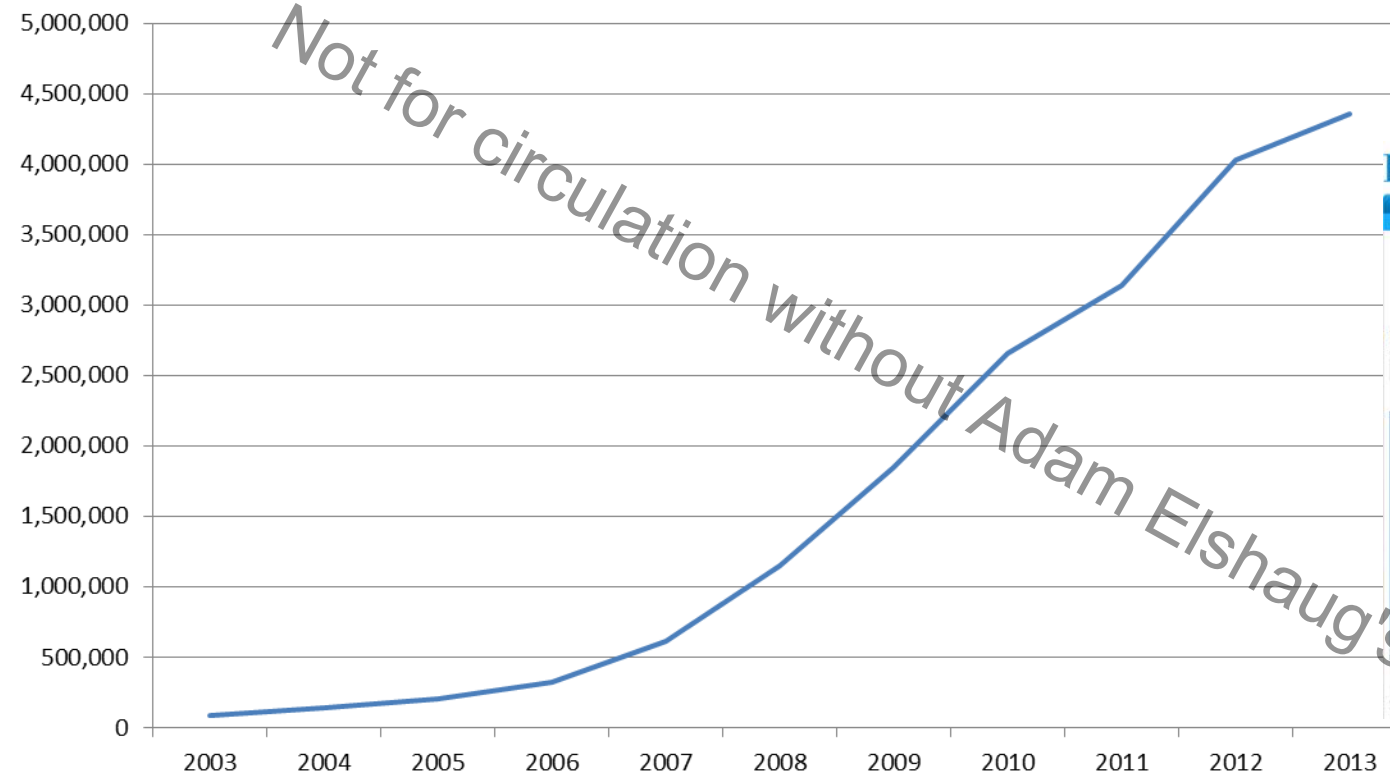
-	Review	Status
15.	Ambulatory electrocardiogram for arrhythmias	Draft Scope under development
16.	Arthroscopic hip procedures	Draft Scope under development
17.	Imaging for back pain	Draft Scope under development
18.	Percutaneous coronary artery interventions	Draft Scope under development

Completed MBS Reviews

-	Review	Status
19.	Ophthalmology	Considered at MSAC meeting in 2013
20.	Surgical management of extracranial carotid stenosis	Considered at MSAC meeting in 2013

Australian Medical Services Advisory Committee (MSAC)
Current evidence reviews of *existing* Medicare Benefits (fee-for-service) items

Vitamin D Blood Tests - Australia

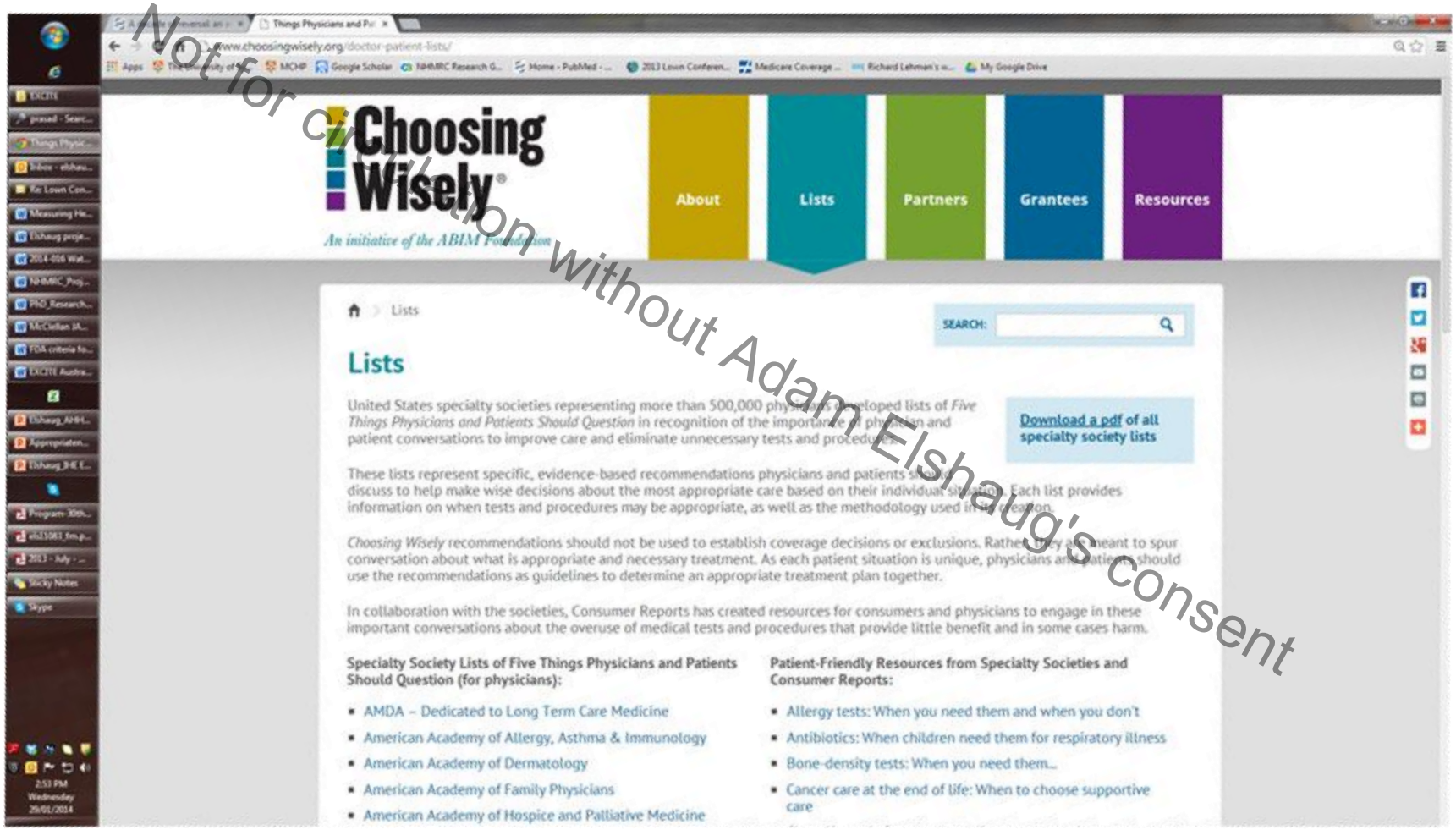


- A 4800% increase over the past decade
- Annual costs soared from $3 million to $145 million

Menzies Centre for Health Policy ANU SYDNEY

Source: Medicare Australia Statistics: Item number 66608

Choosing Wisely - USA



Choosing Wisely USA

"*spark discussion about the need - or lack thereof - for many frequently ordered tests and treatments*."

"*The main objective is one of improved safety and quality via a reduction in practices that are at best of little to no clinical utility and at worst harmful*."

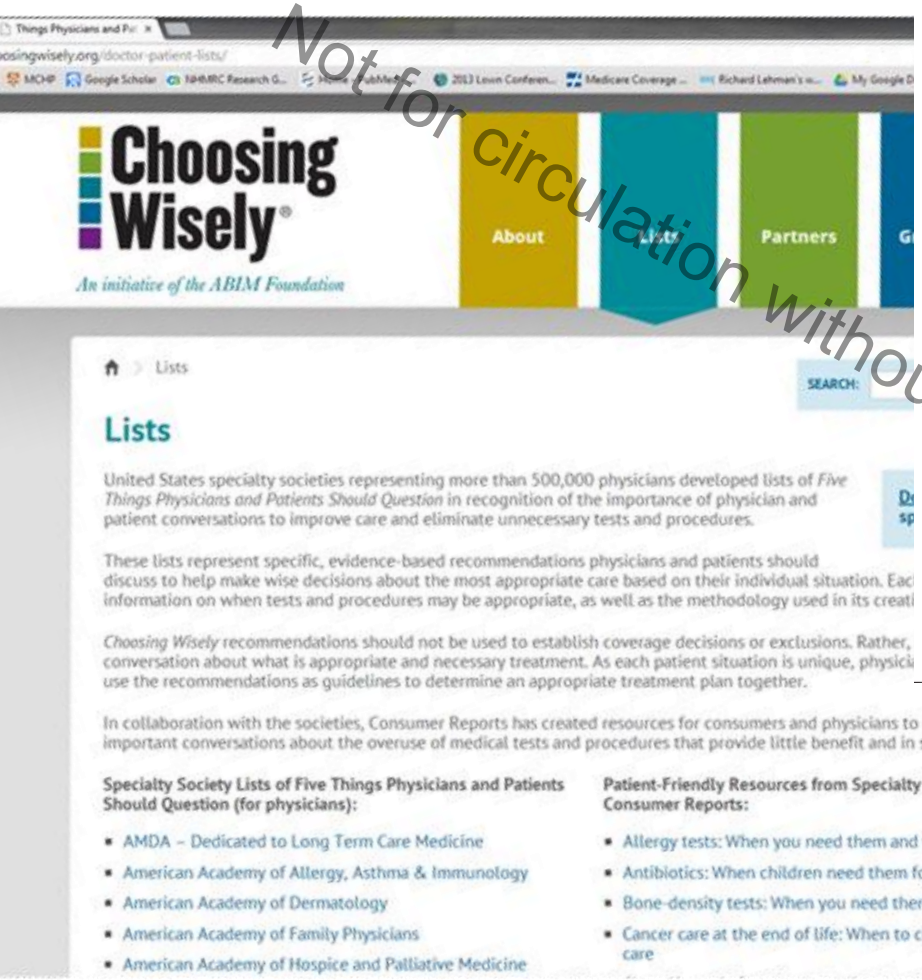
Choosing Wisely USA

- 2009: 3 specialties volunteered to develop "Top Five" lists; specialty-specific practice changes that would:
  - improve patient outcomes through better treatment choices and,
  - reduce risks
- Costs not explicitly considered.
- In 2012, Choosing Wisely campaign formally launched –> 9 specialty societies

Choosing Wisely USA

- 2012: patient-education component led by Consumer Reports.
- By 2014 approximately 50 additional specialty societies and consumer groups have joined the effort
- Over 200 hundred health care practices now put forward as 'top-five' candidates

Choosing Wisely



Developing and trialling new care delivery models, and payment models

- Despite the visibly hyper-partisan health care environment in the United States, a long-lasting legacy is quietly being built, away from the spotlight:

- Alternative care and payment models
  - Bundled payments
  - Medical home or Accountable Care models

Developing and trialling new payment models

- Alternative payment models
  - Multi-stakeholder development panels
  - Heavily linked to quality of care/outcome/s
  - A critical eye on measures of 'quality' – patient-important
  - Multi-site trials with strong evaluation component
  - Stretch targets: Eye on 2017-2022 horizon
  - Reward doctors for quality and efficiency
  - Upfront acknowledgement that some:
    - will succeed; might fail; will almost certainly need tweaking

Examples of Cost and Quality Outcomes from Primary Care Medical Home Interventions

Geisinger Health System (Pennsylvania)

- 18% reduction in all-cause hospital admissions; 36% lower readmissions
- 7% total medical cost savings

Group Health Cooperative of Puget Sound (Seattle, Washington)

- 29% reduction in ER visits; 11% reduction ambulatory sensitive admissions

Mass General High-Cost Medicare Chronic Care Demo (Massachusetts)

- 20% lower hospital admissions; 25% lower ED uses
- Mortality decline: 16% compared to 20% in control group
- 7% net savings annual

Guided Care - Geriatric Patients (Baltimore, Maryland)

- 24% reduction in total hospital inpatient days; 15% fewer ER visits
- 37% decrease in skilled nursing facility days
- Annual net Medicare savings of $1,364 per patient

Illinois Medicaid Medical Home

- 18% reduction in hospitalizations; 9% reduction in ER visits; $569 million cost savings in 2010

Intermountain Healthcare (Utah)

- Lower mortality; 10% relative reduction in hospitalization; *Highest $ savings for high-risk patients*

Health Partners (Minnesota)

- 39% decrease ED visits; 24% decrease hospital admissions

A good read…

A framework for engaging physicians in quality and safety.

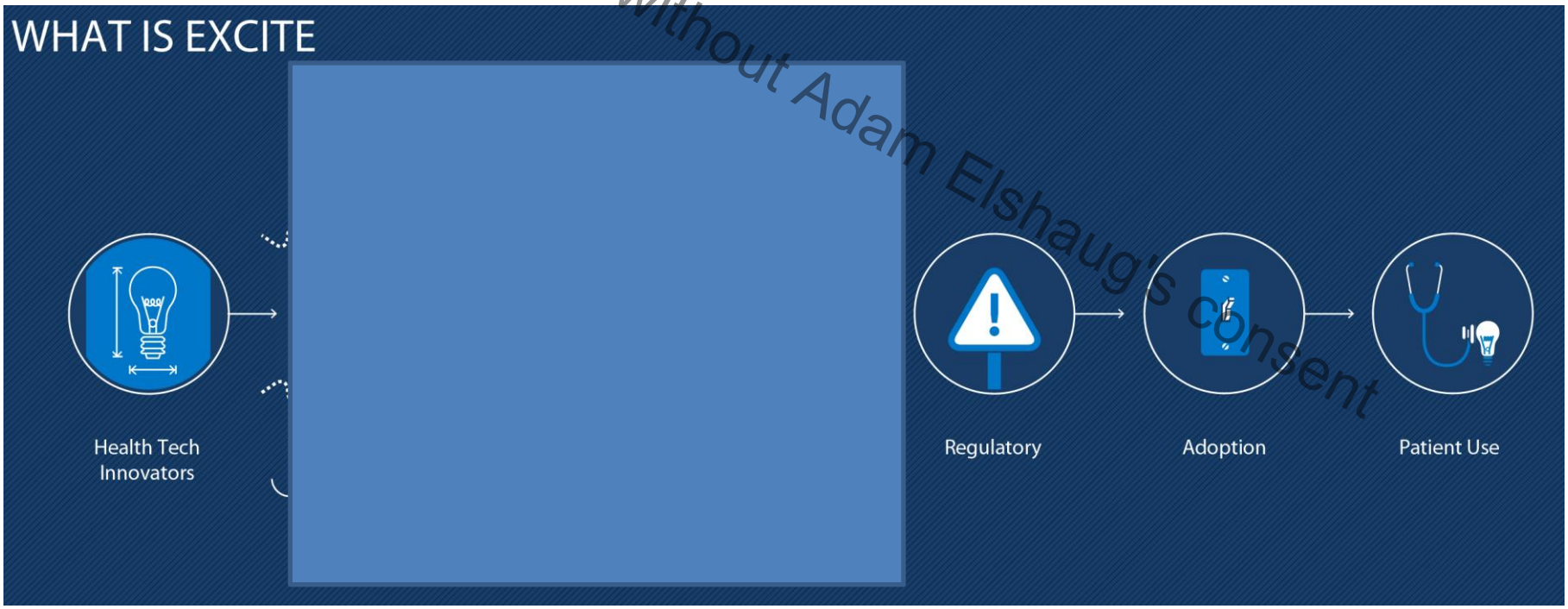
Taitz JM, Lee TH, Sequist TD.

BMJ Qual Saf. 2012 Sep;21(9):722-8.

MaRS_EXCITE

MaRS: Incubator of 300 high-potential health start-ups

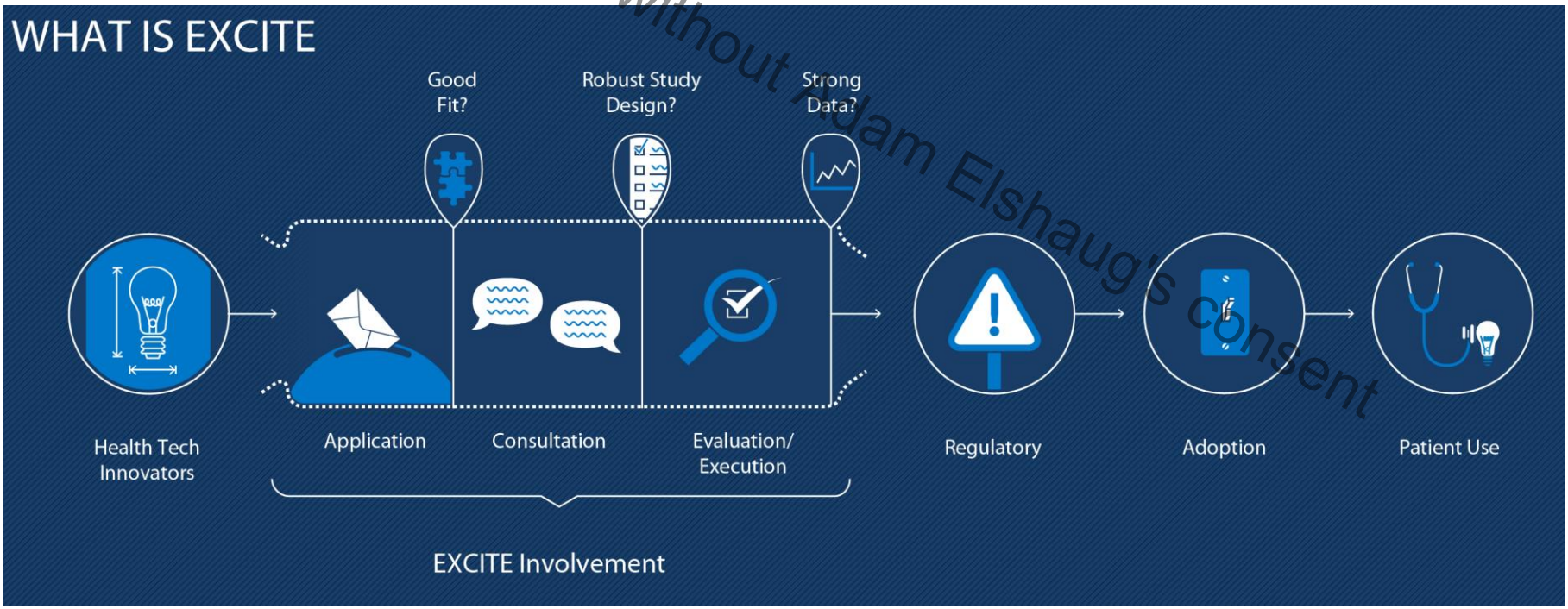
- **health monitoring**
- **information storage & sharing**
- **disease treatment**



MaRS_EXCITE

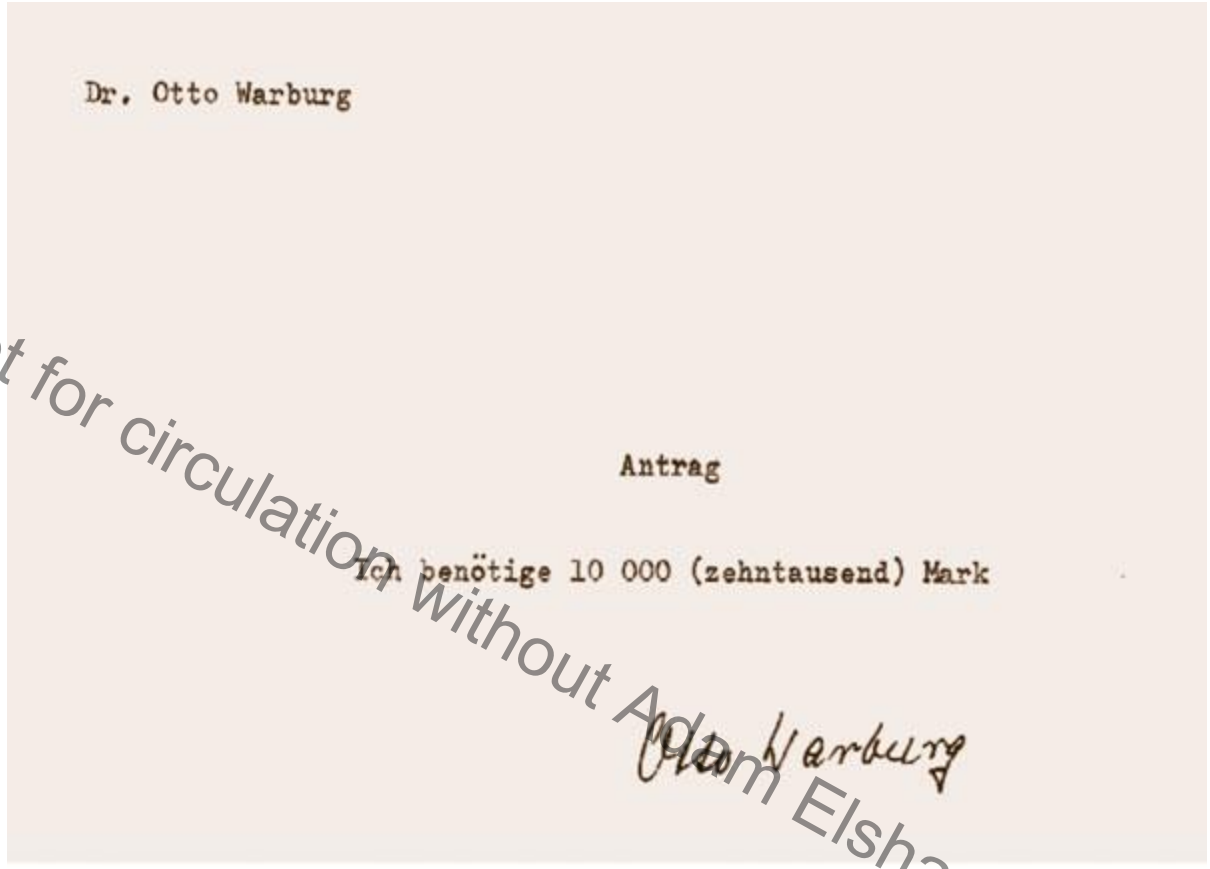
EXCITE: Excellence in Clinical Innovation Technology Evaluation program

- industry, government, health care providers, academic researchers and hospitals (as trial sites)



Ask the right questions, early, to generate high quality data to satisfy evidentiary standards as laid down by health agencies (regulatory and payer):

- **Relevance** to the needs of the healthcare system;
- **Breakthrough/disruptive potential** (i.e. the promise of substantially **better clinical outcomes** and/or **substantially lower system cost** than incumbent approaches);
- Extent to which the new technology will **improve patient outcomes** including safety relative to existing alternatives;
- Extent to which the new technology will **create opportunities to identify obsolescence** for existing alternative technologies;
- Extent to which the new technology might **provide system efficiencies**, such as reduced costs relative to existing alternatives;
- **Magnitude of effect** estimated by the prevalent population that will benefit;
- Desired scope and timing of evaluation, and
- **Stage of readiness of the technology**



Dr. Otto Warburg

Antrag

Ich benötige 10 000 (zehntausend) Mark

Otto Warburg

Nature Reviews | Cancer

Facsimile of a research proposal submitted by Otto Warburg to the Notgemeinschaft der Deutschen Wissenschaft (Emergency Association of German Science), c.1921.

“I require 10,000 marks”
~~ funded in full ~~

Source: *Nature Reviews Cancer* 11, 325-337 (May 2011)

Thank you

elshaug@sydney.edu.au

Glacier National Park, Montana