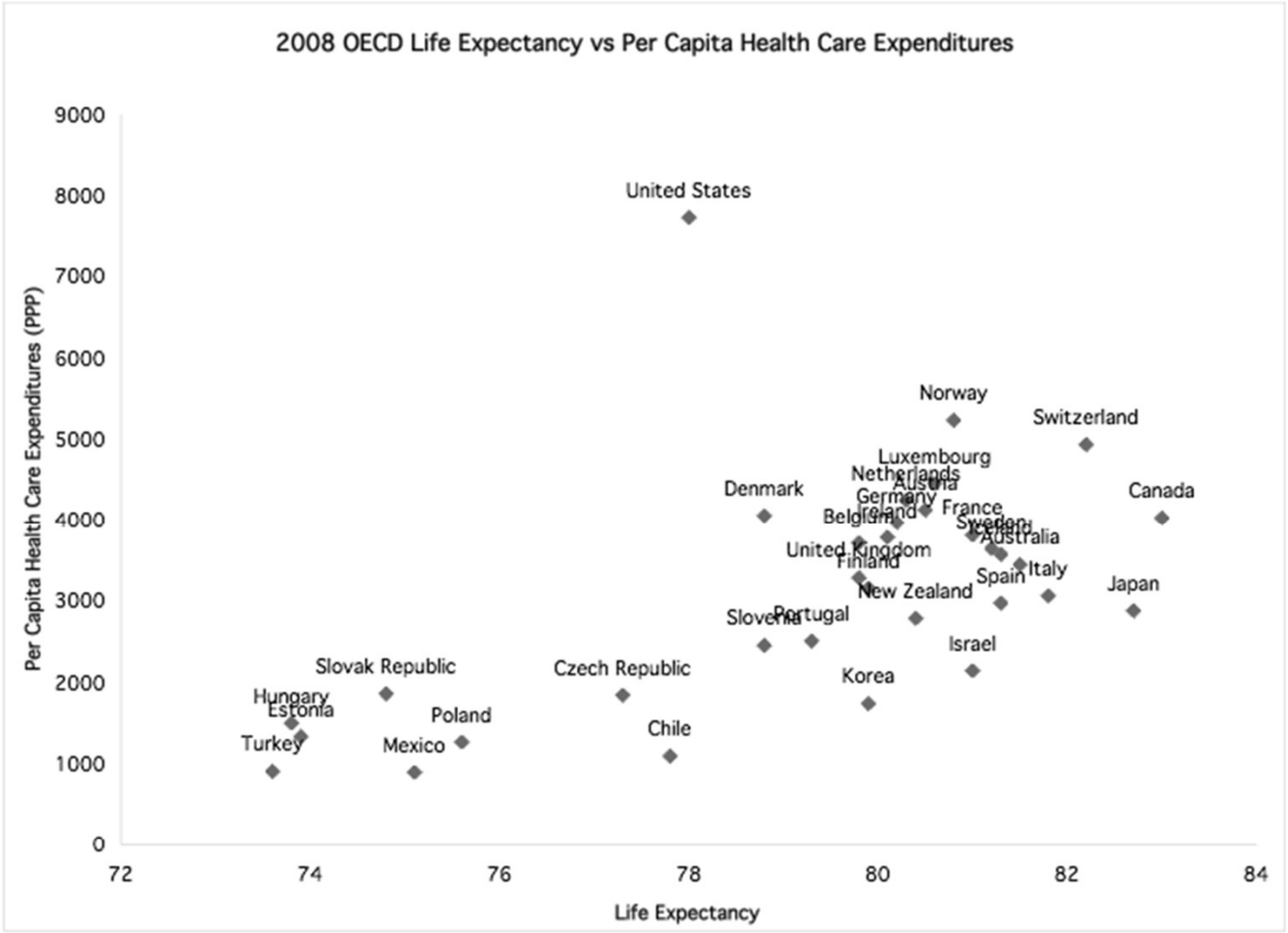
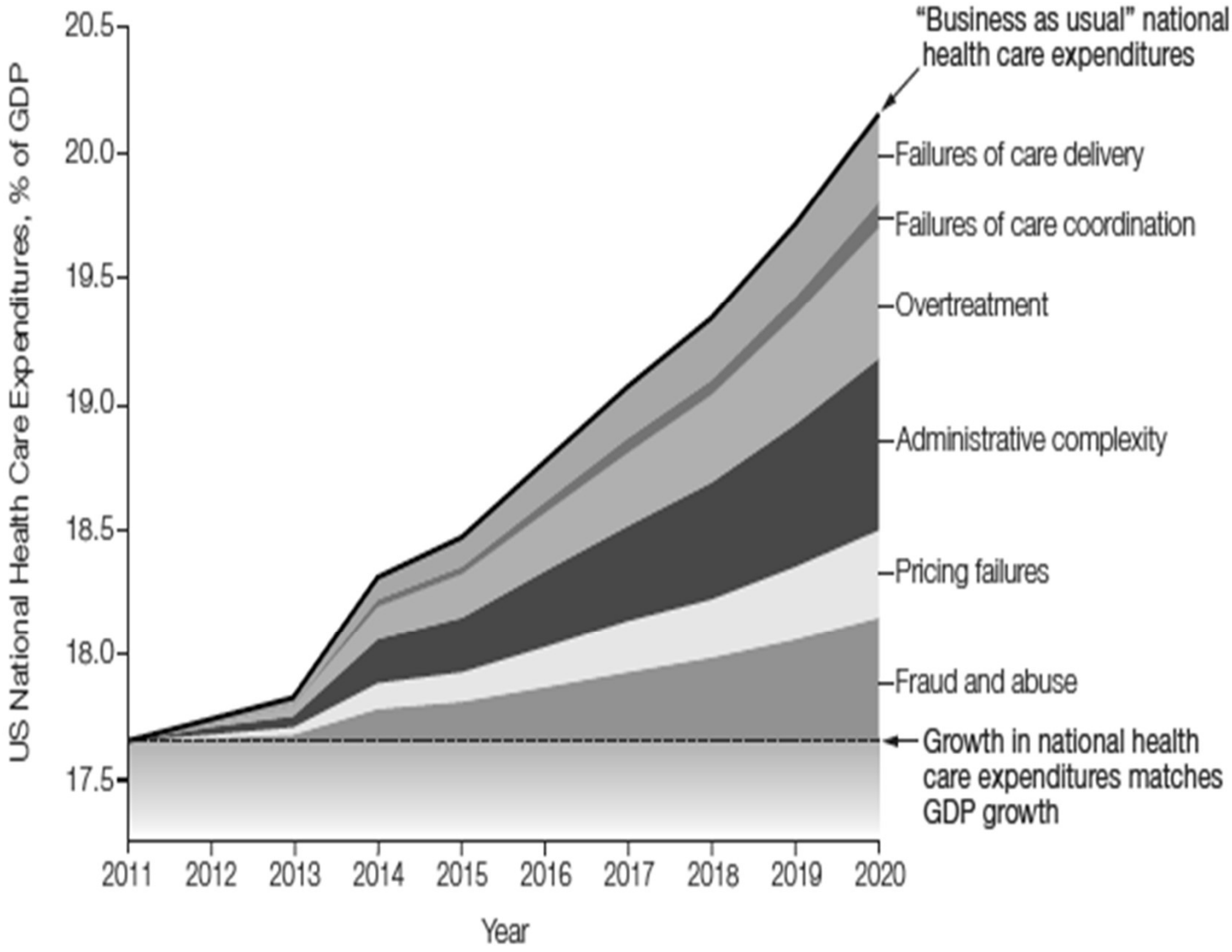
The Challenge of Defining the Right Care:
A systematic framework

Conflict of Interest Disclosures

- Board Member and equity holder, G6 Capital Management, an algorithm-driven stock trading company.

Life Expectancy vs. Per Capita Health Expenditures





SOURCE: Berwick DM, Hackbarth AD. JAMA. 2012 Apr 11;307(14):1513-6.

Research

Over 150 potentially low-value health care practices: an Australian study

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Internationally, there is a groundswell of activity seeking to identify and reduce the use of health care interventions that deliver marginal benefit, be it through overuse, misuse or waste. England's National Institute for Health and Clinical Excellence (NICE) began this work in 2005,[1] and most recently, the Choosing Wisely campaign led by physician groups in the United States is attracting worldwide attention.[2] Other countries, and individual jurisdictions within countries, are also considering the best approaches to reducing the use of low-value health care practices. One

Abstract

Objective: To develop and apply a novel method for scanning a range of sources to identify existing health care services (excluding pharmaceuticals) that have questionable benefit, and produce a list of services that warrant further investigation.

Design and setting: A multiplatform approach to identifying services listed on the Australian Medicare Benefits Schedule (MBS; fee-for-service) that comprised: (i) a broad search of peer-reviewed literature on the PubMed search platform; (ii) a targeted analysis of databases such as the Cochrane Library and National Institute for Health and Clinical Excellence (NICE) "do not do" recommendations; and (iii) opportunistic sampling, drawing on our previous and ongoing work in this area, and including nominations from clinical and non-clinical stakeholder groups.

Main outcome measures: Non-pharmaceutical, MBS-listed health care services that were flagged as potentially unsafe, ineffective or otherwise inappropriately applied.

Elshaug, AG, Watt, AM, L, Willis, CD. Med J Aust. 2012 Nov 19;197(10):556-60 Mundy,

Overuse that violates autonomy

- ***Futile rescue care***
  - *CPR, ventilation, TPN or feeding tube for an elderly patient suffering multiple organ failure, advanced dementia, inoperable terminal condition*

- ***End-of-life care that prolongs dying or increases suffering, or contravenes patient's stated preferences (or would have, if patient and family understood the options)***

The Wages of Overuse

- Physical harm, financial harm, lost opportunity
- Moral distress for clinicians and caregivers

Vacation or PCI?

"Kids, your mother and I have spent so much money on health insurance this year that instead of vacation we're all going to go in for elective PCI ."

Why is there unnecessary care?

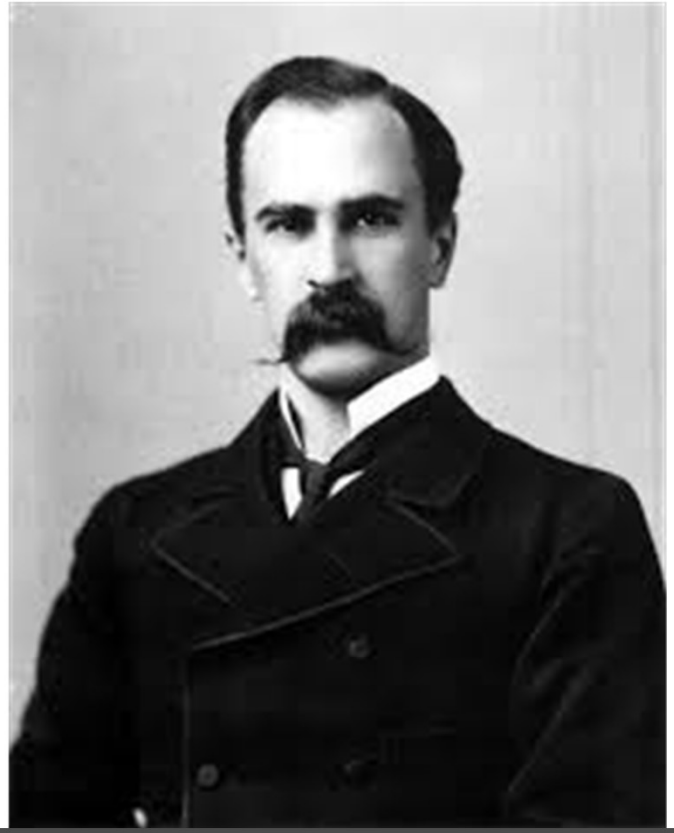
Siberian Shaman


I
THE MAGICIAN.

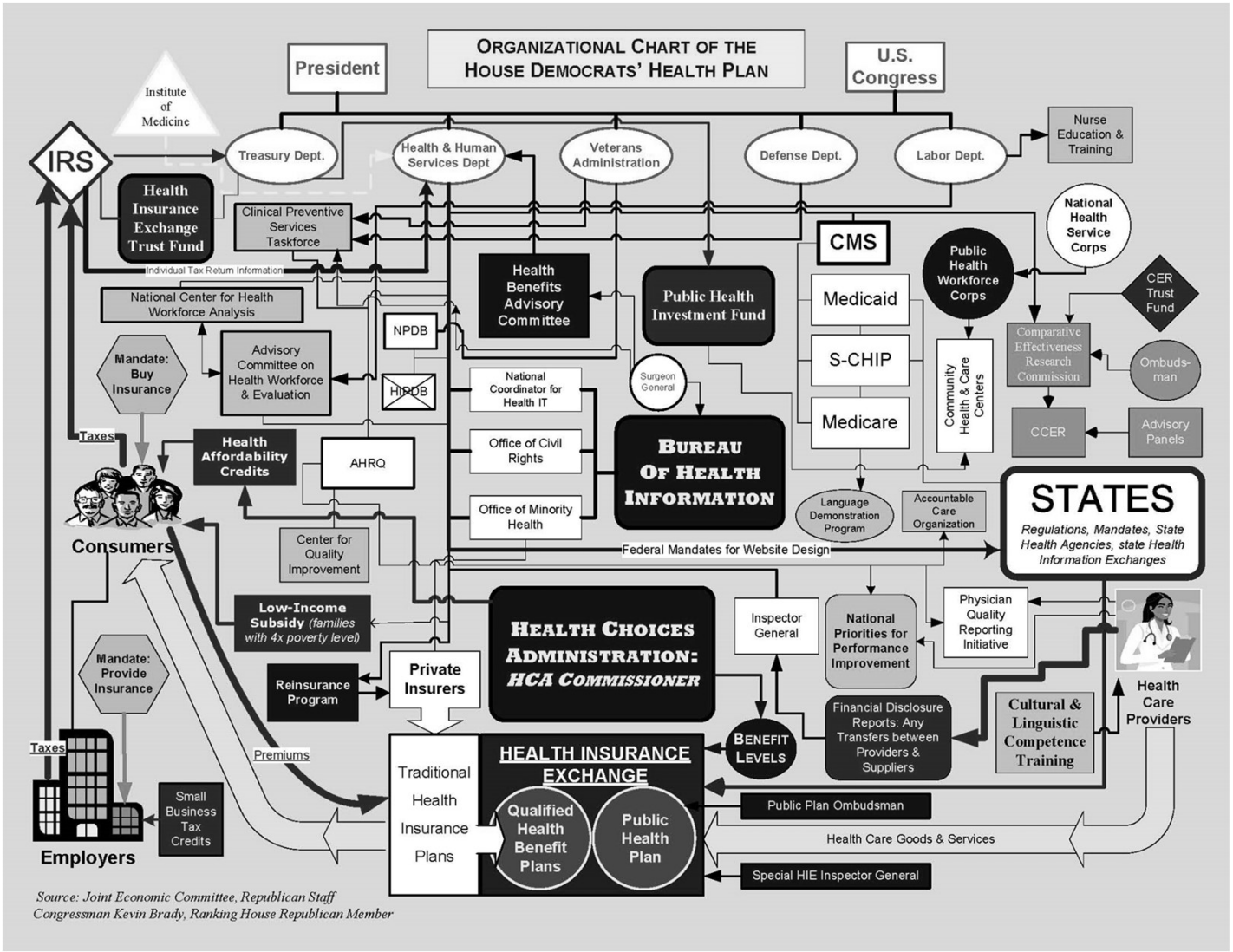
The midwives of modern medicine

Abraham Flexner

William Osler



The American Health Care System



Lown Conference

Avoiding Avoidable Care

April 2012

Cambridge, Mass

Avoiding Avoidable Care Conference 2012

- 50% practicing clinicians
- 85% of respondents said the meeting "reminded me of my calling to medicine."

Overuse is an Ethical Issue

- About the relationship with the patient
- About balancing science with patient's preference

Defining Value

Value = **health** outcomes achieved per dollar spent

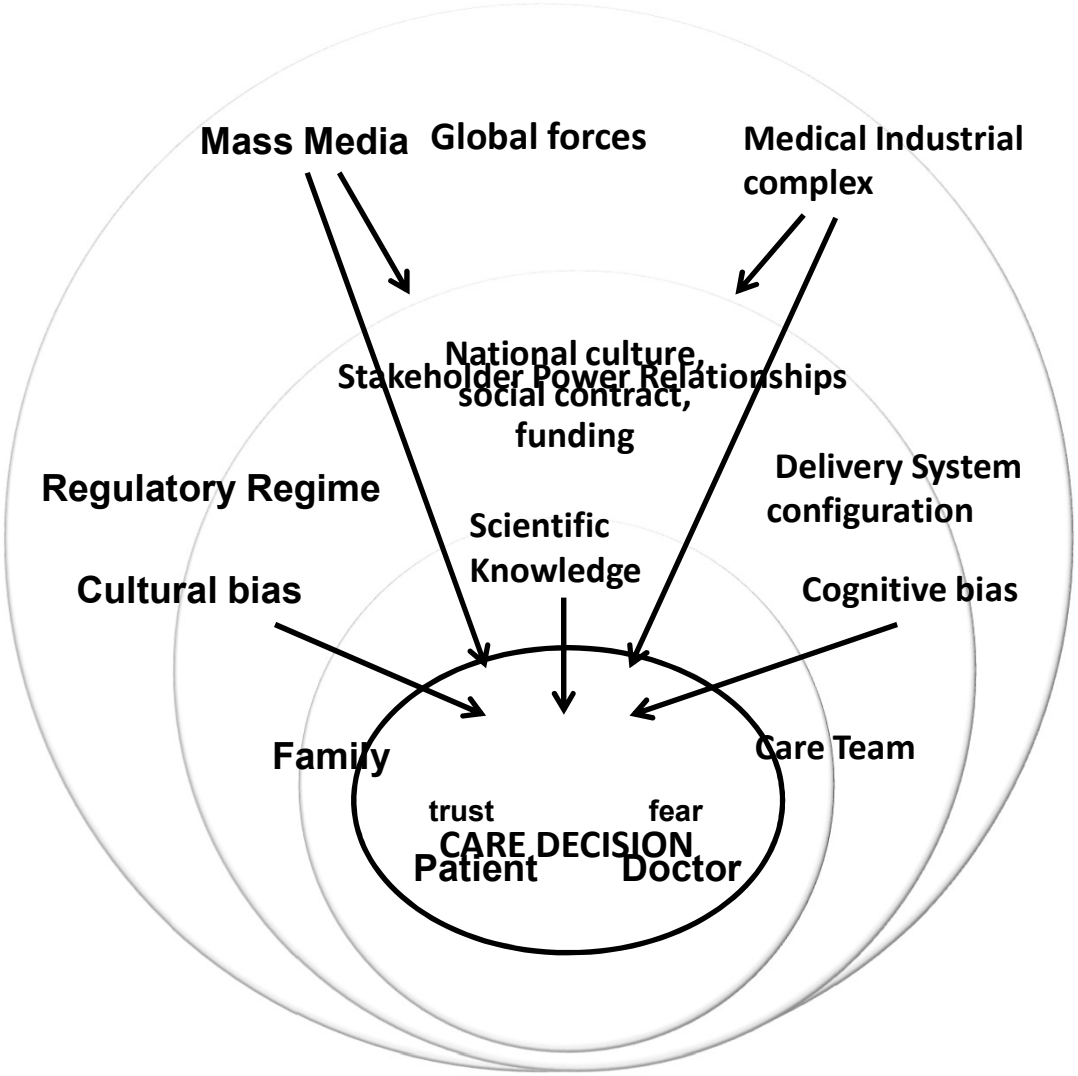
(Porter, NEJM 2010; 363:2477-2481)

V= outcomes ÷ cost

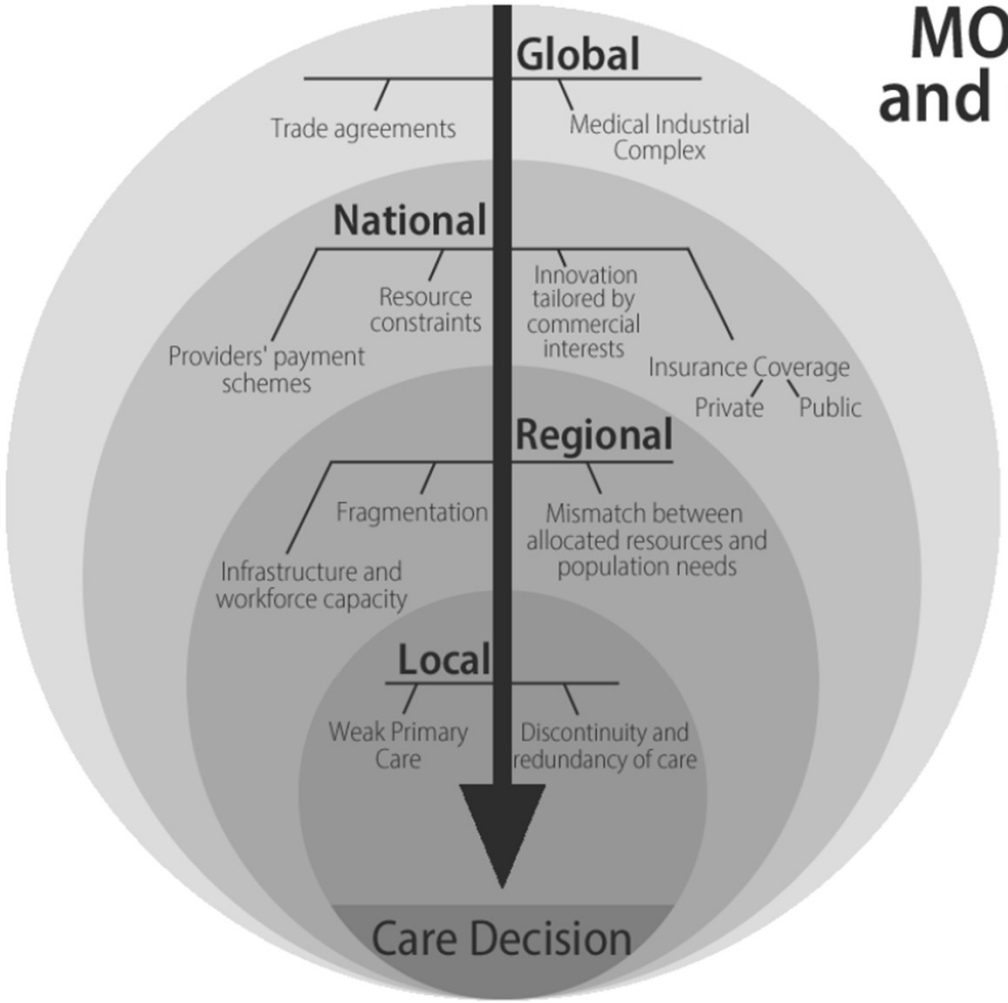
Drivers of Overuse

- Complex system
  - Money
  - Knowledge
  - Power

Drivers of Care: A Complex System



MONEY, FINANCE, and ORGANIZATION

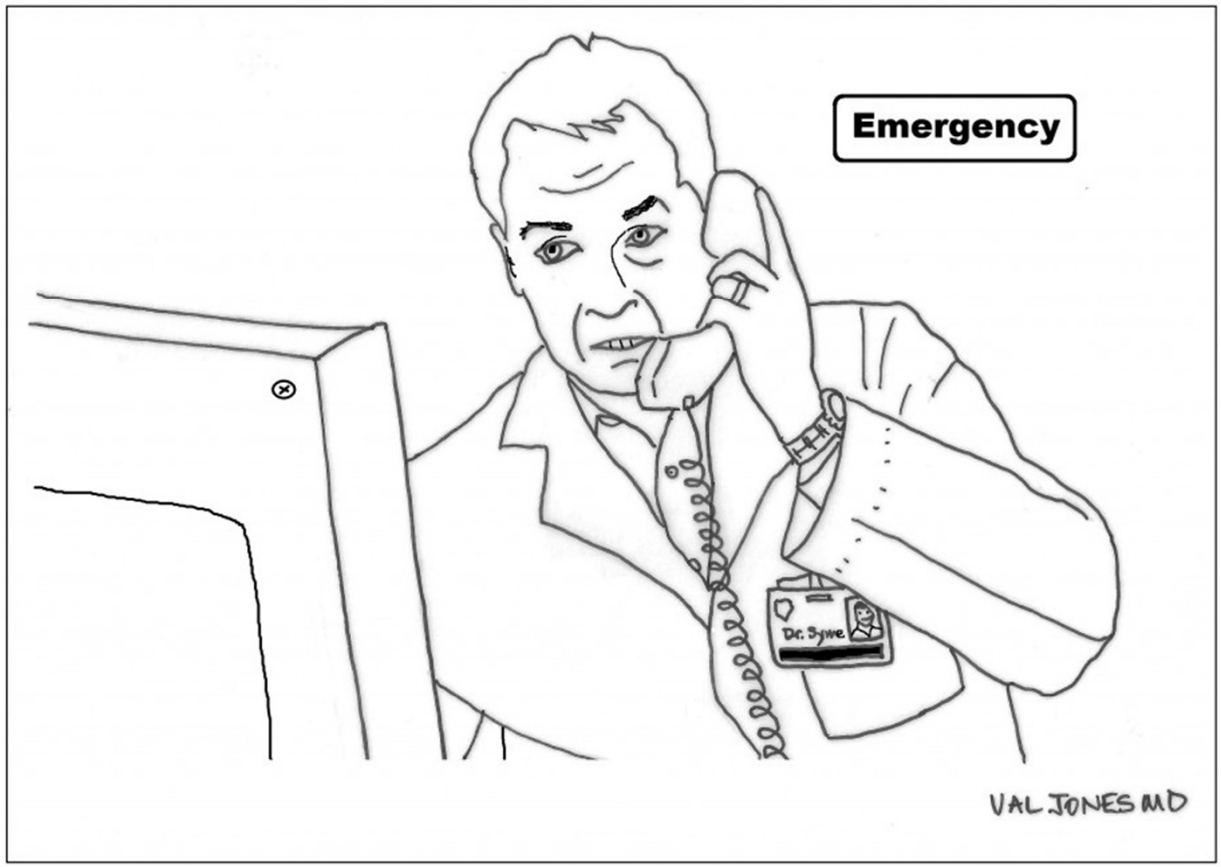


Economics can drive poor care

- *Economic incentives influence clinicians' behaviour .*
- *Economic incentives influence hospital behaviour.*
- *Patients' behaviour also responds to economic factors.*
- *Commercial interests shape the availability of care through the use of new therapies.*

The System Matters

- **Health coverage, resource allocation and the organisation of care delivery**
  - *Health coverage and benefits*
  - *Capacity: infrastructure, equipment, manpower*
  - *The financing and configuration of health systems vary widely and are key drivers of care.*
  - *The level of integration across levels of care is a key system feature influencing the quality of care.*



"The admitting diagnosis is: 'We'll need you to take this one for the team.'"

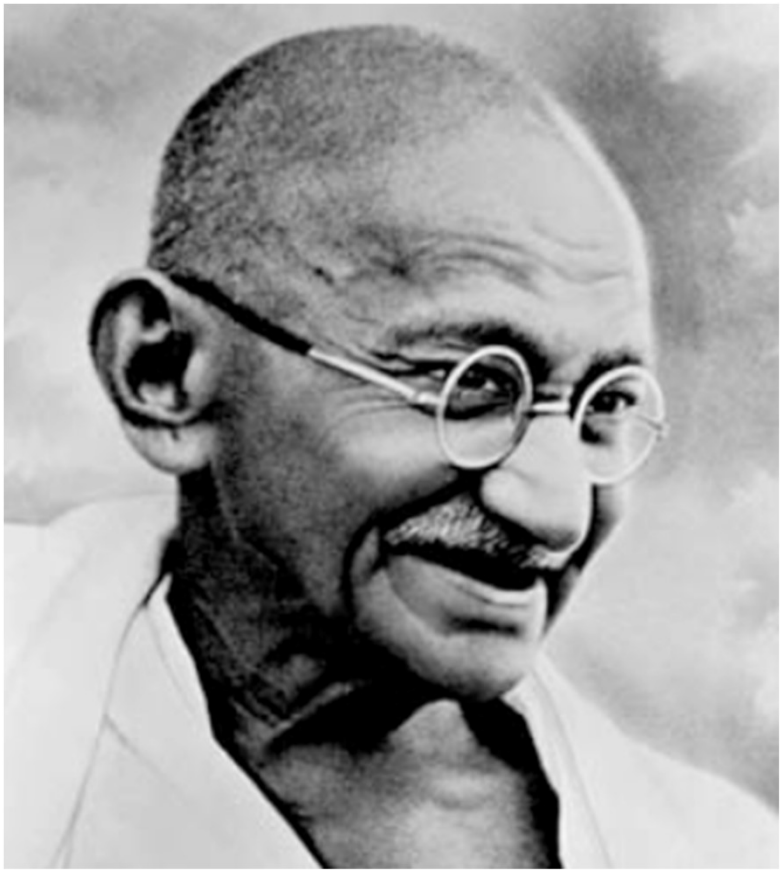
KNOWLEDGE


Global
Absence of evidence
Universal cognitive biases
Mass media amplification & distortion
Corrupted medical research
National
Clinical Training Paradigms
Flawed diffusion adoption curves
Public research funding
Medical Education Curricula
Regional
Cultural bias
Local
Flawed norms of decision making
Attitudes towards risks & preferences
Care Decision

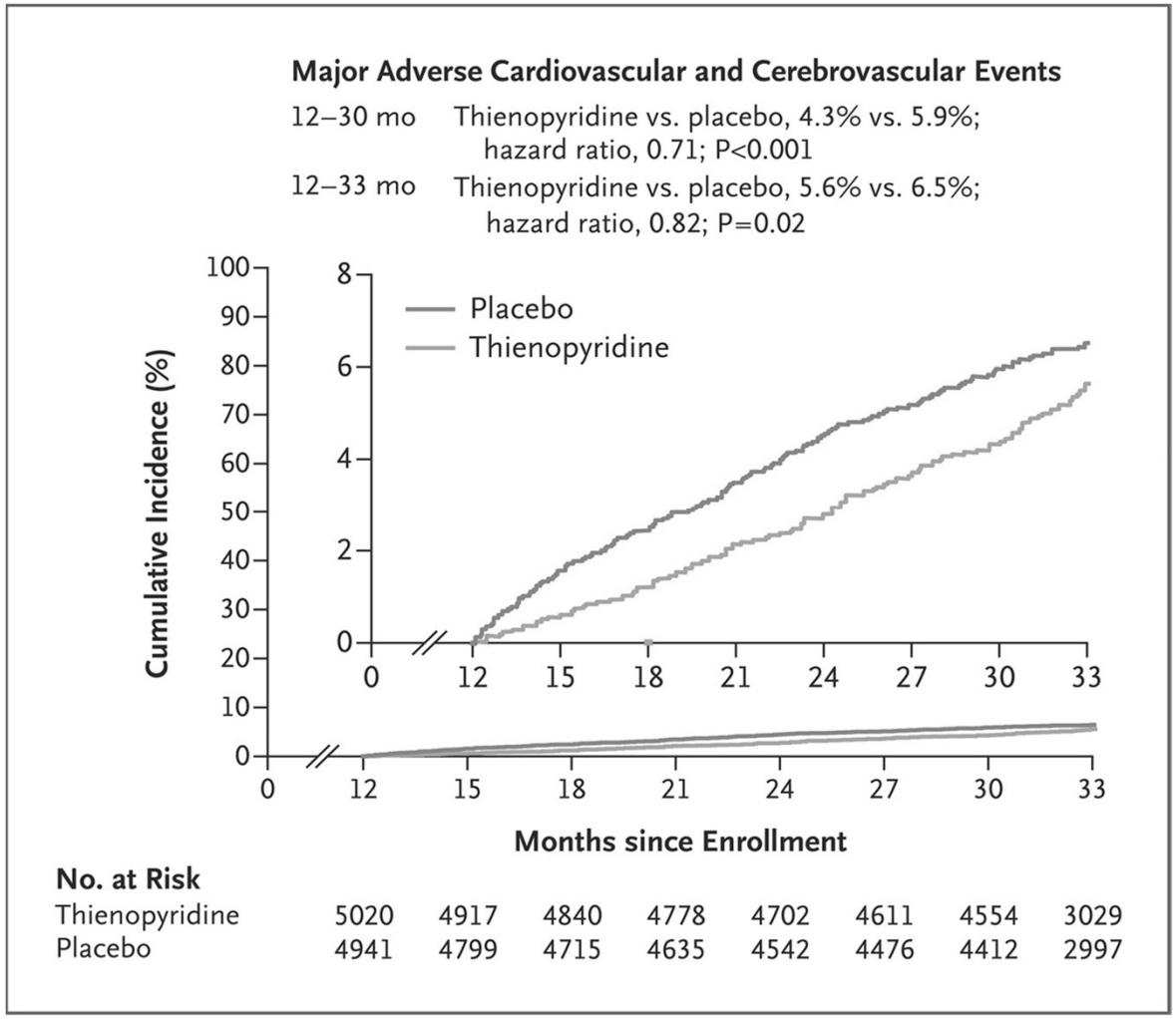
Evidence-Based Medicine

Journalist: “Mr Gandhi, What do you think of Western Civilization?”

Gandhi:“I think it would be a good idea”



Cumulative Incidence of Major Adverse Cardiovascular and Cerebrovascular Events, According to Study Group.



Mauri L et al. N Engl J Med 2014;371:2155-2166.

MEETING COVERAGE 11.16.2014 1 COMMENT

AHA: Longer DAPT Better After Stenting

— 30 months beat 12 in the Dual Antiplatelet Therapy trial.

Discussant: Bram Zuckerman, MDClick here for more On the Scene video coverage.

POPULAR IN YOUR SPECIALTY

10.16.15 MEETING COVERAGE
TCT: Sapien Valve-in-Valve Approved by FDA

10.16.15 MEETING COVERAGE
TCT: Anticoagulants Equal in Aortic

Stent Thrombosis and Major Adverse Cardiovascular and Cerebrovascular Events.

Table 2. Stent Thrombosis and Major Adverse Cardiovascular and Cerebrovascular Events.*

Outcome	Continued Thienopyridine (N=5020)	Placebo (N=4941)	Hazard Ratio, Thienopyridine vs. Placebo (95% CI)†	P Value†
	no. of patients (%)			
Stent thrombosis‡	19 (0.4)	65 (1.4)	0.29 (0.17–0.48)	<0.001
Definite	15 (0.3)	58 (1.2)	0.26 (0.14–0.45)	<0.001
Probable	5 (0.1)	7 (0.1)	0.71 (0.22–2.23)	0.55
Major adverse cardiovascular and cerebrovascular events§	211 (4.3)	285 (5.9)	0.71 (0.59–0.85)	<0.001
Death	98 (2.0)	74 (1.5)	1.36 (1.00–1.85)	0.05
Cardiac	45 (0.9)	47 (1.0)	1.00 (0.66–1.52)	0.98
Vascular	5 (0.1)	5 (0.1)	0.98 (0.28–3.39)	0.98
Noncardiovascular	48 (1.0)	22 (0.5)	2.23 (1.32–3.78)	0.002
Myocardial infarction	99 (2.1)	198 (4.1)	0.47 (0.37–0.61)	<0.001
Stroke	37 (0.8)	43 (0.9)	0.80 (0.51–1.25)	0.32
Ischemic	24 (0.5)	34 (0.7)	0.68 (0.40–1.17)	0.16
Hemorrhagic	13 (0.3)	9 (0.2)	1.20 (0.50–2.91)	0.68
Type uncertain	0	1 (<0.1)	—	0.32

* At 12 months after placement of a drug-eluting stent, patients were randomly assigned to receive either continued thienopyridine therapy plus aspirin or placebo plus aspirin for 18 months. Data are presented for the intention-to-treat population. The primary analysis was performed on data from the period of 12 to 30 months after enrollment, and the study coprimary efficacy end points were stent thrombosis and major adverse cardiovascular and cerebrovascular events. Percentages are Kaplan–Meier estimates.

† The hazard ratios and P values were stratified according to geographic region (North America, Europe, or Australia and New Zealand), thienopyridine drug received at the time of randomization, and presence or absence of risk factors for stent thrombosis. P values were calculated with the use of a log-rank test.

‡ Definite and probable stent thrombosis were determined according to the criteria of the Academic Research Consortium.

§ The end point of major adverse cardiovascular and cerebrovascular events was a composite of death, myocardial infarction, or stroke.

Mauri L et al. N Engl J Med 2014;371:2155-2166

The NEW ENGLAND JOURNAL of MEDICINE

Conclusions

- Dual antiplatelet therapy beyond 1 year after placement of a drug-eluting stent, as compared with aspirin therapy alone, significantly reduced the risks of stent thrombosis and major adverse cardiovascular and cerebrovascular events but was associated with an increased risk of bleeding.

The NEW ENGLAND JOURNAL of MEDICINE

1990

- Ex cathedra pronouncements “Eminence-based medicine”
- Non-systematic reviews
- Professional society guidelines for the glory of the profession
- Office pamphlets from drug reps
- Marketing materials at “scientific” meetings

2016

- Practice guidelines based on seemingly rigorous processes
- Systematic reviews and meta-analyses
- Randomized trials
- Observational studies and risk factor epidemiology

Wildly Uneven Volume of Evidence

- Spongiform encephalopathies: > 2000 publications per 1000 pts

- Severe varicose veins: 0.5 publications per 1000 pts

Frankel and West 1993

Our evidence is still weak!

- Rigorous studies are consistently behind practice.
- Extremely poor quality
- Not useful: 96% of the biomedical literature finds significant results
- Poor reporting and wild extrapolations.
- Embedded bias

A Decade of Reversal: An Analysis of 146 Contradicted Medical Practices

Vinay Prasad, MD, Andrae Vandross, MD, Caitlin Toomey, MD, Michael Cheung, MD, Jason Rho, MD, Steven Quinn, MD, Satish Jacob Chacko, MD, Durga Borkar, MD, Victor Gall, MD, Senthil Selvaraj, MD, Nancy Ho, MD, Adam Cifu, MD

Mayo Clinic Proceedings

Volume 88, Issue 8 , Pages 790-798, August 2013

Most medical innovations don't work

an analysis of 136 trials in myeloma

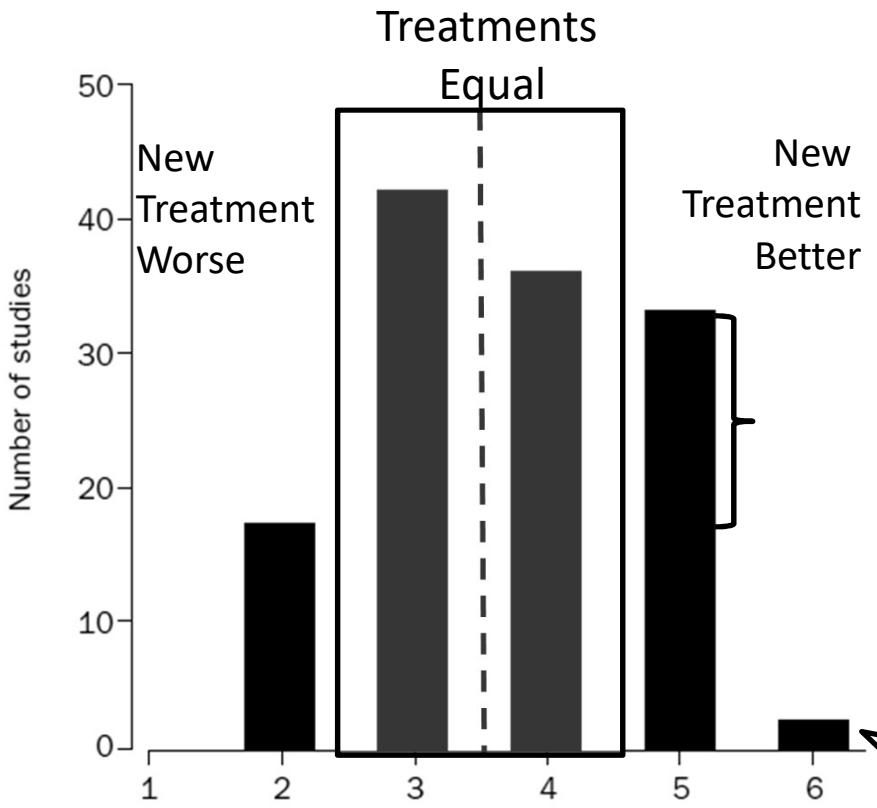


Figure 1: **Distribution of scores evaluating success of innovative therapies over standard ones in 136 randomised trials in multiple myeloma**

Scores from 4–6 denote that innovative treatments were better, while scores 1 to 3 indicate that standard treatments were preferred.

THE LANCET • Vol 356 • August 19, 2000

"These studies as well as our empirically confirm investigators often do not know in advance what they will discover"

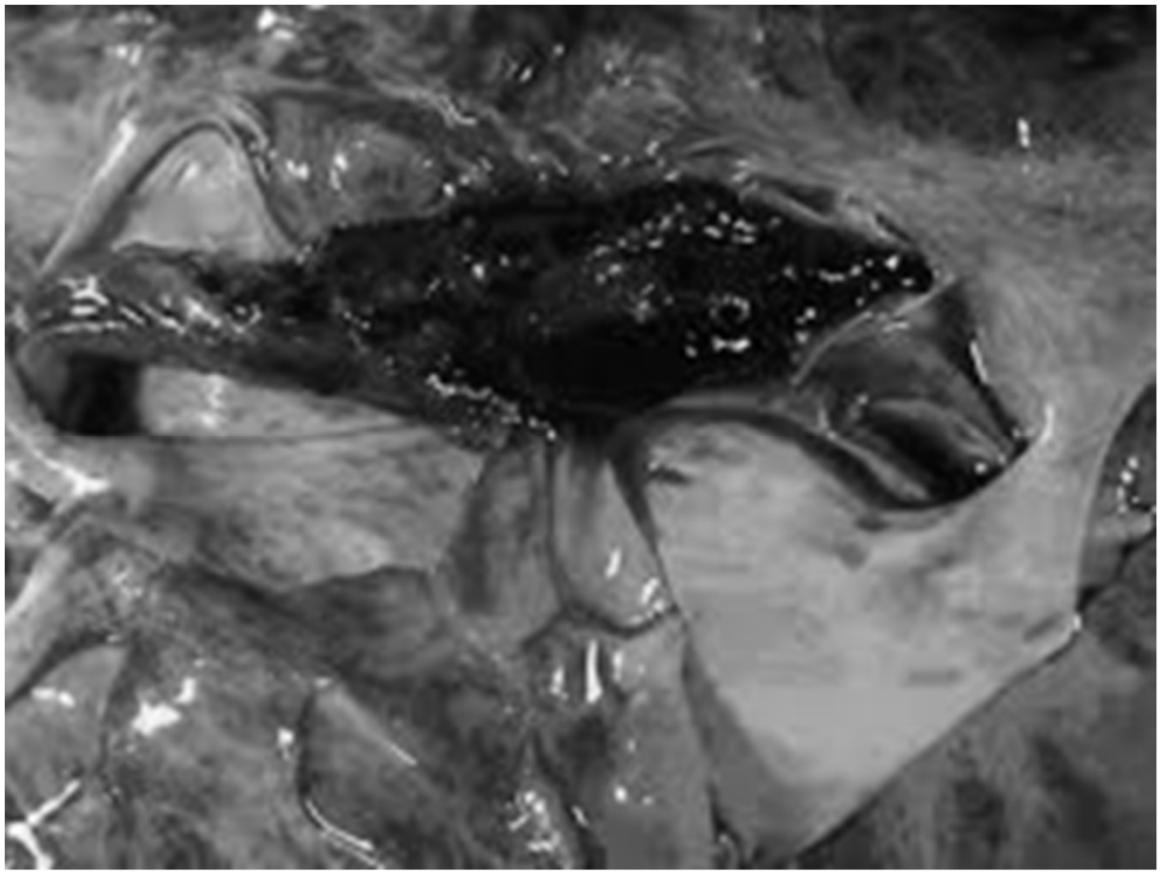
Djulbegovic et al

Rare, dramatic breakthrough

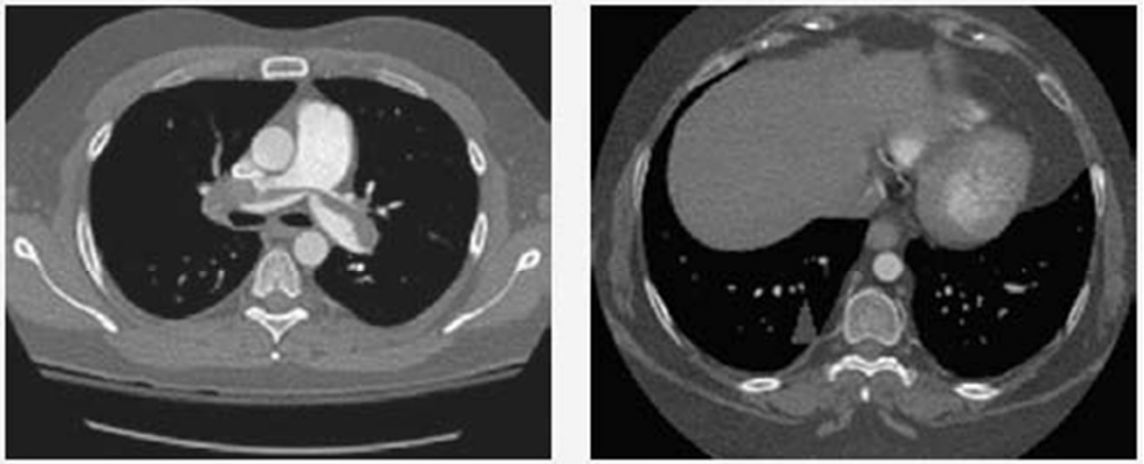
Overdiagnosis

The diagnosis of "disease" that will never cause symptoms or death during a patient's ordinarily expected lifetime (Welch)

Trapped in a reductionist, Gaussian paradigm



Saddle Pulmonary Embolus



Left: Saddle PE. Right: Small PE. One study says they should not be treated the same way. (Provided by J. Cronan)

Same Disease?

Diagnosing Pulmonary Embolus

- Increased diagnosis of PE
- case fatality rate in pulmonary embolism (PE) has diminished markedly over time
- absolute number of deaths from PE is essentially unchanged
- “Low-risk” PE

Overdiagnosis of Disease, *A Modern Epidemic*. *Hoffman and Cooper Archives of Int Med 2012*

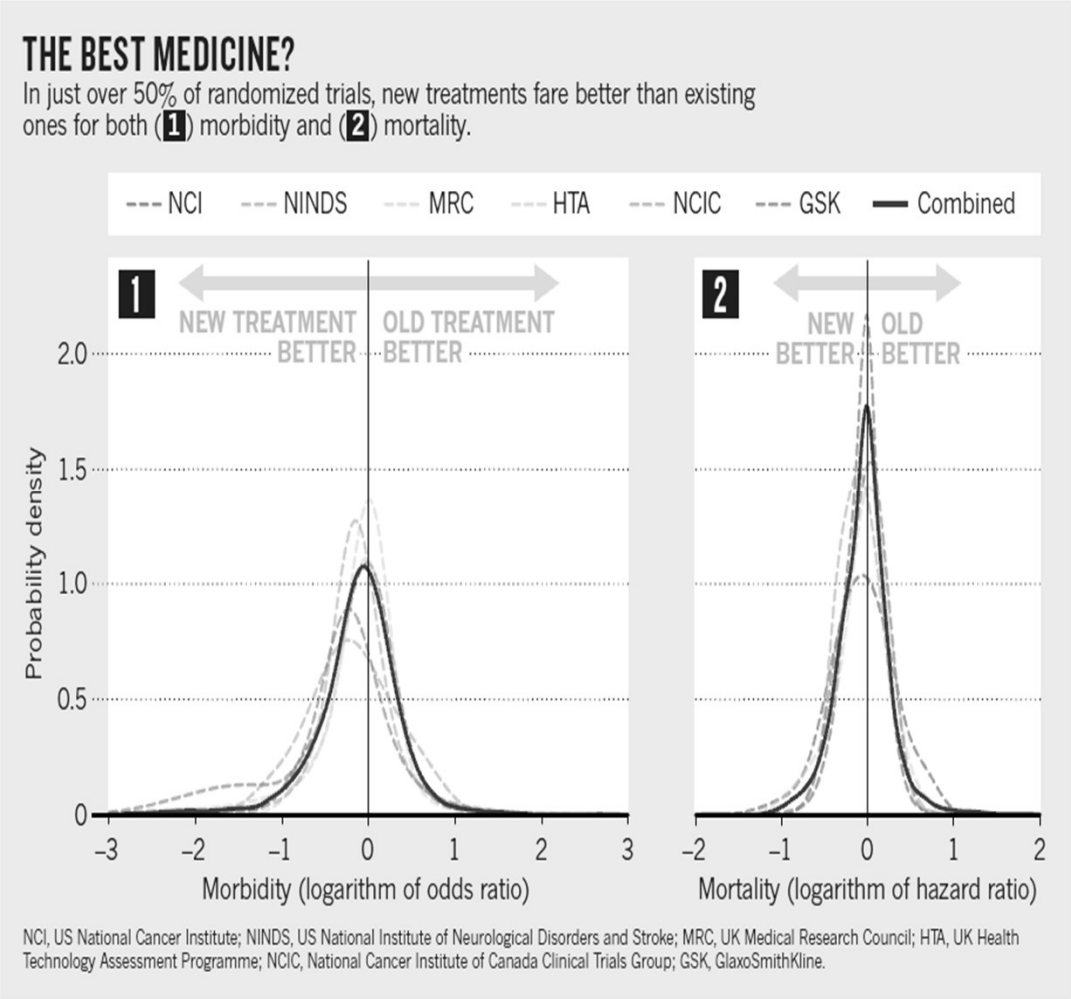
Table 3. Comparison of the reasons for ordering diagnostic tests to patients with and without pulmonary embolism

Characteristics	PE (+) n= 53 (%)	PE (-) n= 55 (%)	p
High D-dimer level	45 (85)	37 (67)	**0.027**
Arterial blood gas analysis (hypoxia and hypocapnia)	43 (81)	35 (64)	**0.034**
Symptoms	45 (85)	39 (71)	0.064
ECG findings	3 (6)	9 (16)	0.070
Chest X-ray findings	18 (34)	14 (26)	0.243
High Wells score	23 (43)	12 (22)	**0.014**


CUL
DE
SAC

Most medical innovations don’t work

an analysis of 6 study cohorts



Djulbegovic B, Kumar A, Glasziou P, Miladinovic B, Chalmers I. Nature. 2013

ORIGINAL ARTICLE

MAYO CLINIC

A Decade of Reversal: An Analysis of 146 Contradicted Medical Practices

Vinay Prasad, MD; Andrae Vandross, MD; Caitlin Toomey, MD; Michael Cheung, MD; Jason Rho, MD; Steven Quinn, MD; Satish Jacob Chacko, MD; Durga Borkar, MD; Victor Gall, MD; Senthil Selvaraj, MD; Nancy Ho, MD; and Adam Cifu, MD

Abstract

Objective: To identify medical practices that offer no net benefits.

Methods: We reviewed all original articles published in 10 years (2001-2010) in one high-impact journal. Articles were classified on the basis of whether they addressed a medical practice, whether they tested a new or existing therapy, and whether results were positive or negative. Articles were then classified as 1 of 4 types: replacement, when a new practice surpasses standard of care; back to the drawing board, when a new practice is no better than current practice; reaffirmation, when an existing practice is found to be better than a lesser standard; and reversal, when an existing practice is found to be no better than a lesser therapy. This study was conducted from August 1, 2011, through October 31, 2012.

Mayo Clinic Proceedings
Volume 88, Issue 8 , Pages 790-798, August 2013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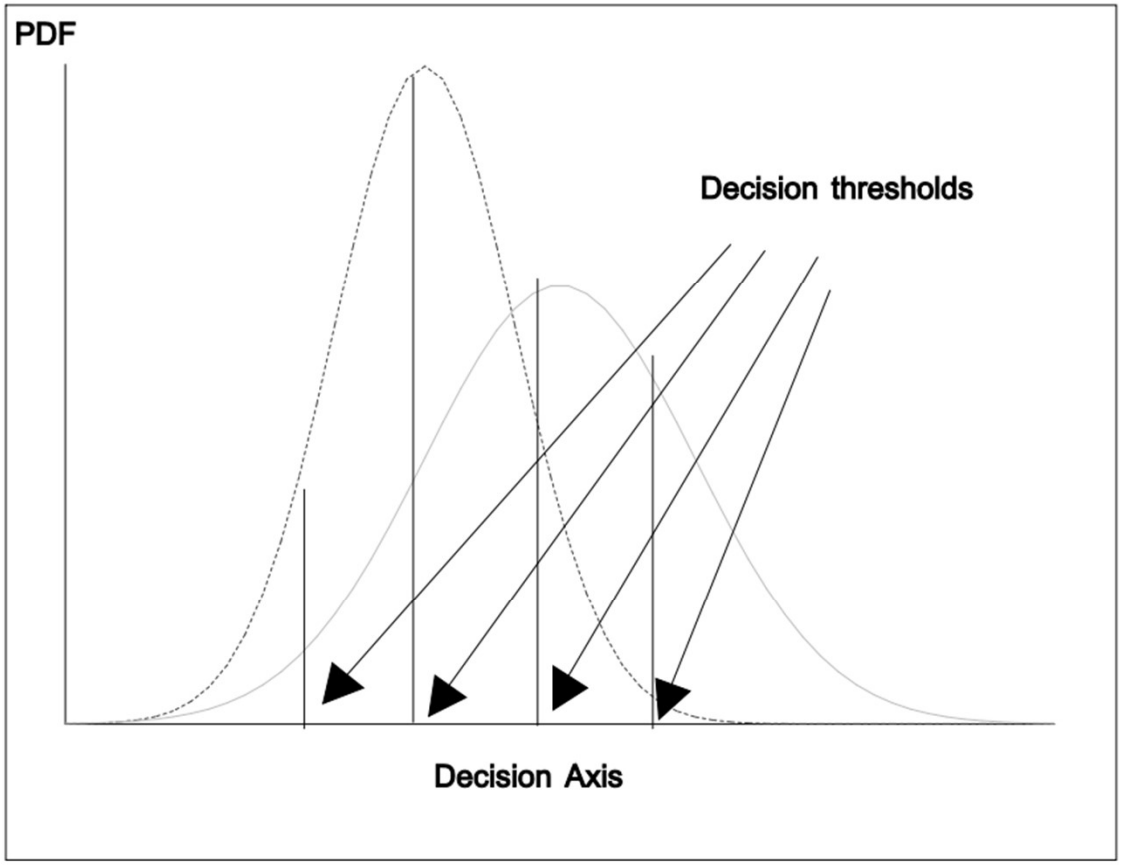
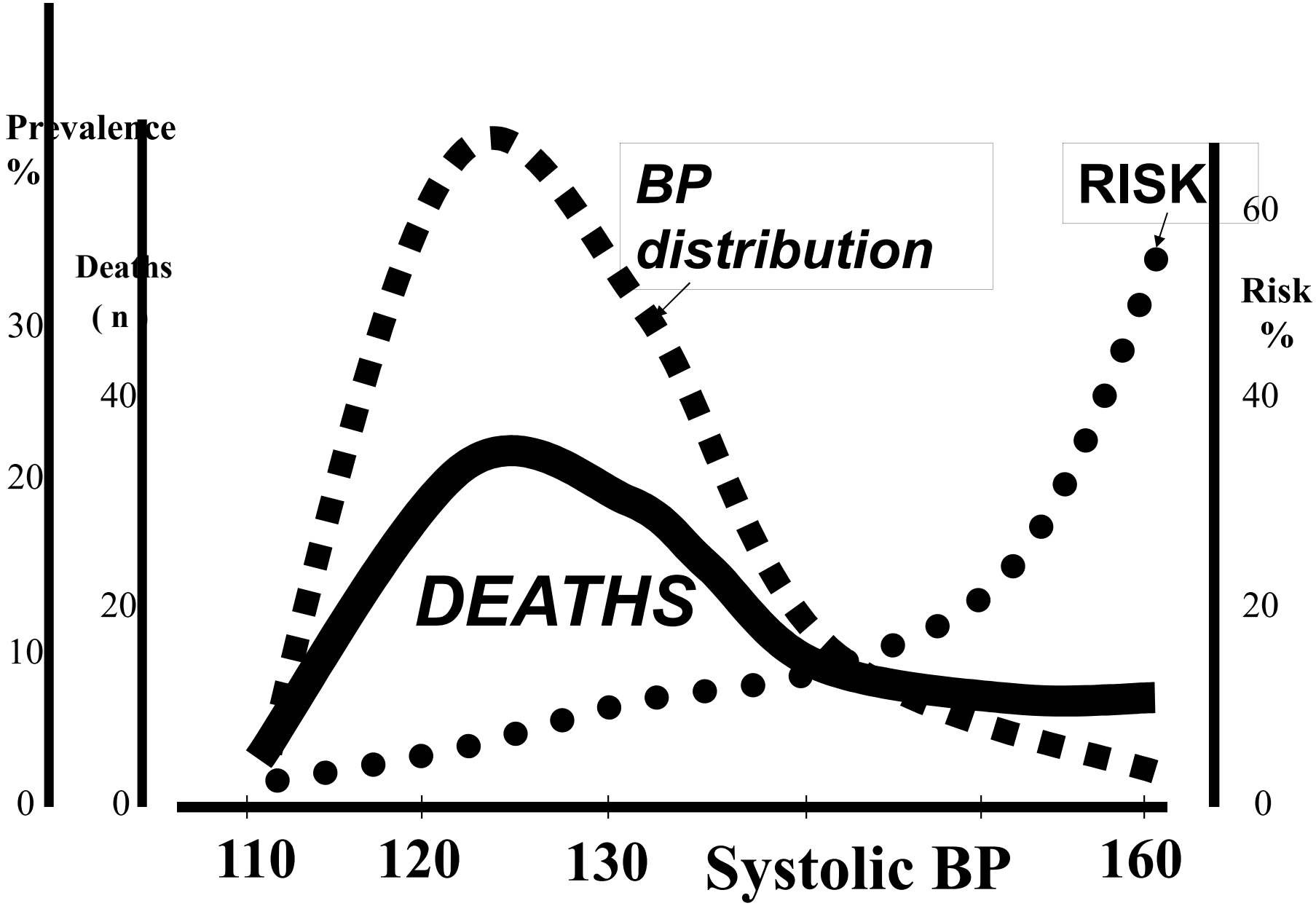
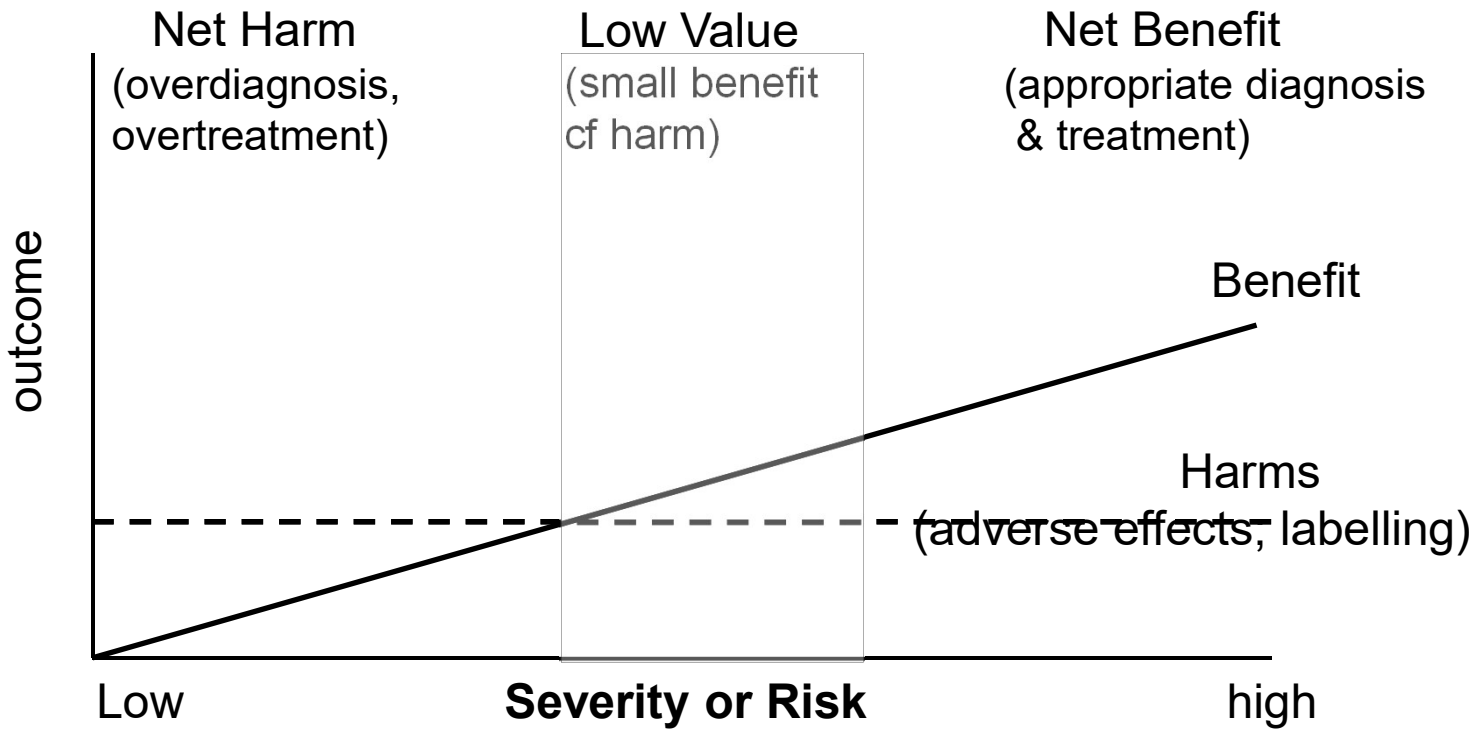


Caspian J Intern Med 2013; 4(2): 627-635

Blood Pressure, risk, and deaths



Slide Courtesy: Simon Capewell


Net Harm
(overdiagnosis,
overtreatment)
Low Value
(small benefit
cf harm)
Net Benefit
(appropriate diagnosis
& treatment)
outcome
Benefit
Harms
(adverse effects, labelling)
Low
Severity or Risk
high

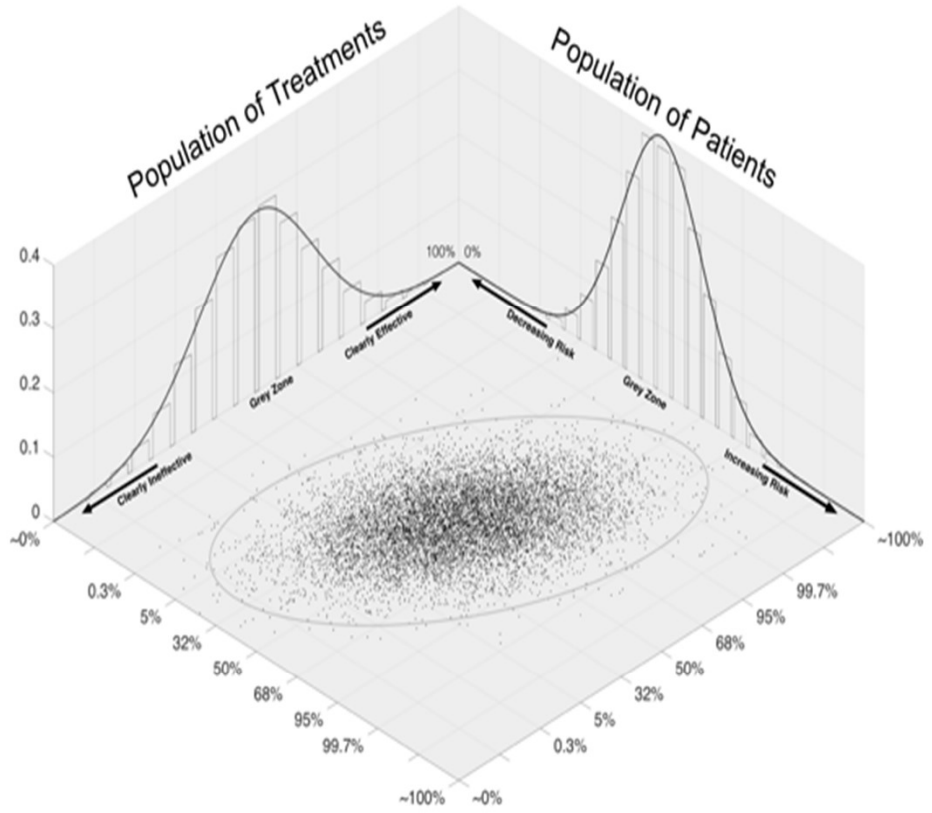

CUL
DE
SAC

Scientific Reductionism

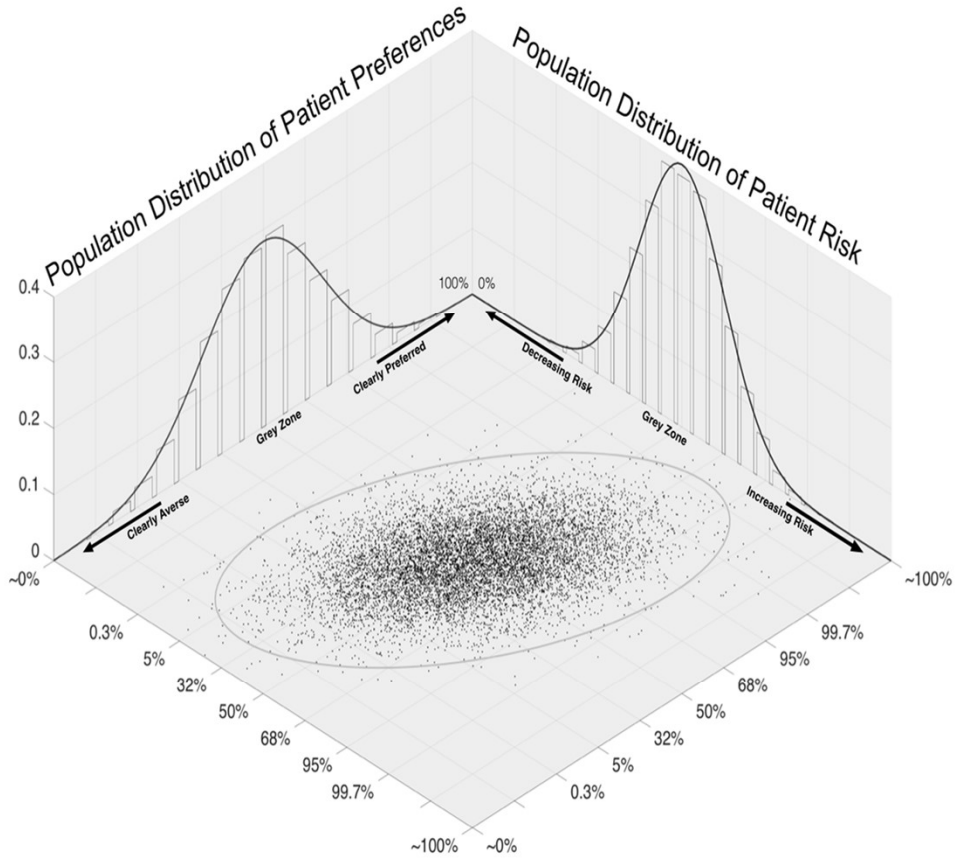
“Nature shows us only the tail of the lion.”

---- Albert Einstein

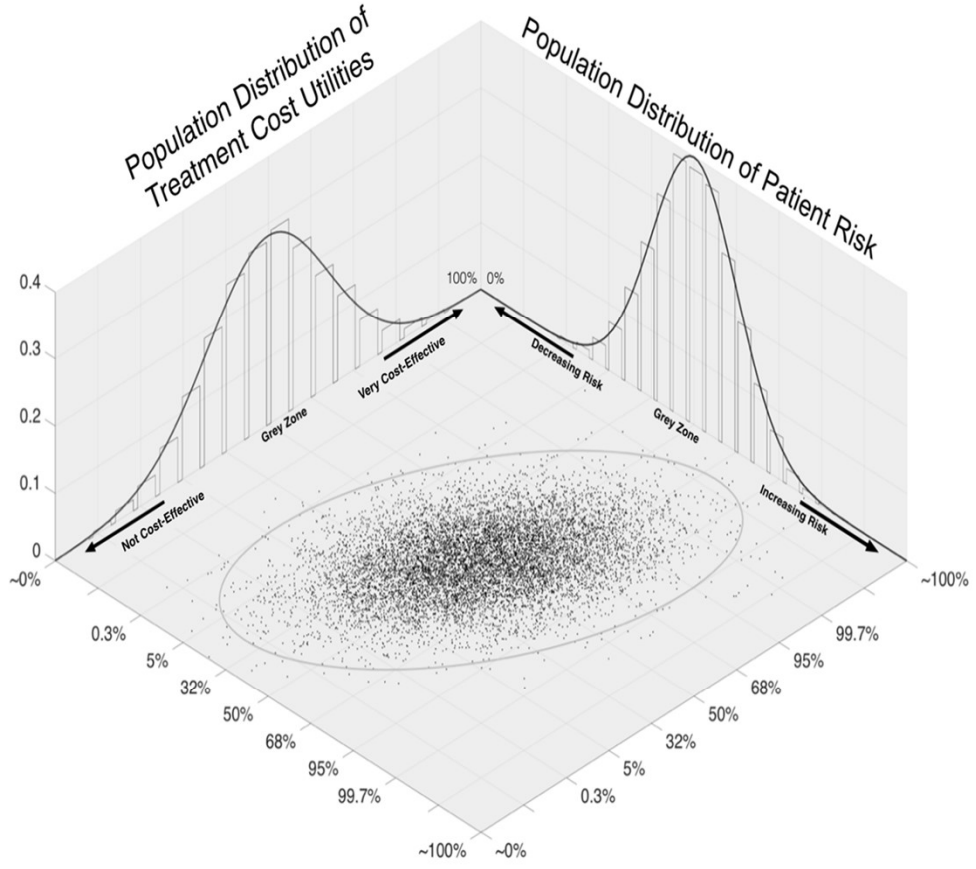
The Right Care is Multidimensional:
Risk vs. Confidence of Clinical Effectiveness



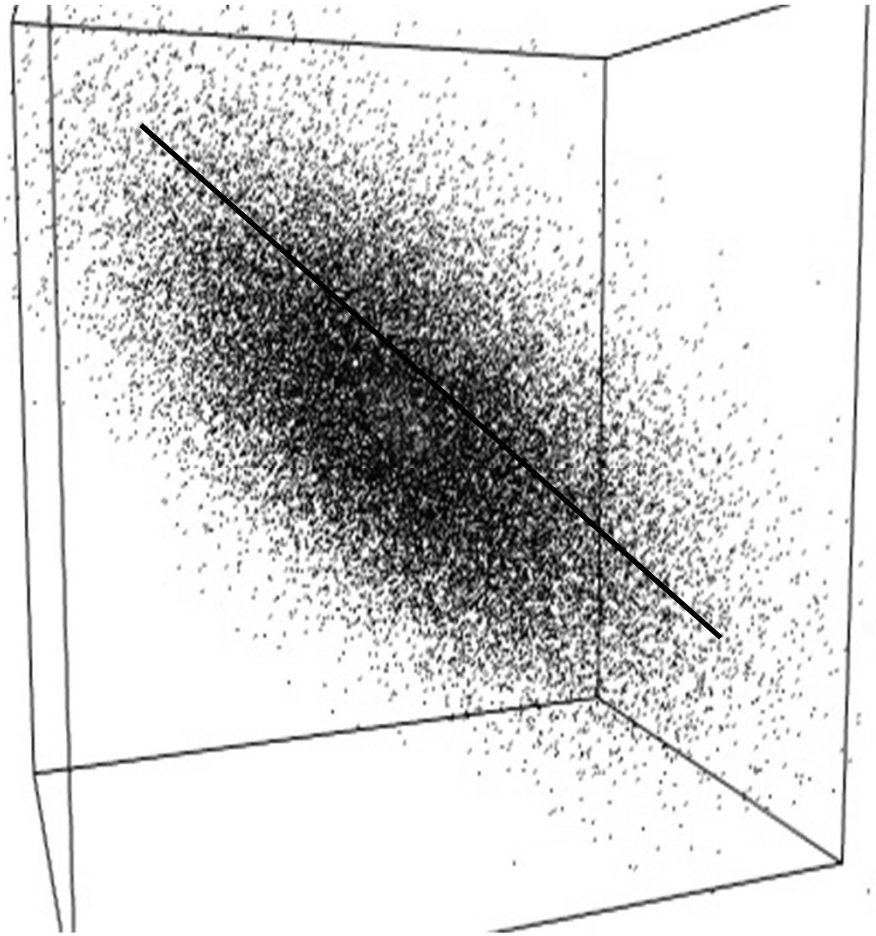
The Right Care is Multidimensional: Risk vs. Patient Preference



The Right Care is Multidimensional
Patient risk vs. Cost-effectiveness



The Right Care is Multidimensional:



Knowledge, Beliefs, Assumptions, Bias, and Uncertainty

- Thinking frameworks influence decision-making
- Heuristics shape thinking frameworks

Common Assumptions of Modern Medical Culture

- Health care is the main determinant of health
- The biomedical model is sufficient
- The isolated clinical relationship assumed to be the sole driver of care, or “the system doesn’t matter”
- Flawed Production and dissemination of knowledge: the price of innovation

Widespread Attitudes

- **Patients**
  - Medicine is based strictly on science
  - Testing, especially high tech testing, must be accurate
  - “My neighbour/niece/co-worker had this done” and she had a good outcome
  - More care means more caring
  - Anxiety about uncertainty

- **Clinicians**
  - Evidence clashes with training or practice experience
  - Physician innumeracy
  - Over-reliance on pathophysiological and anatomical reasoning
  - Faith in surrogate outcomes
  - A “Better to know” bias
  - Therapeutic or technologic enthusiasm

Bayesian Statistics: "Just To Be Sure"

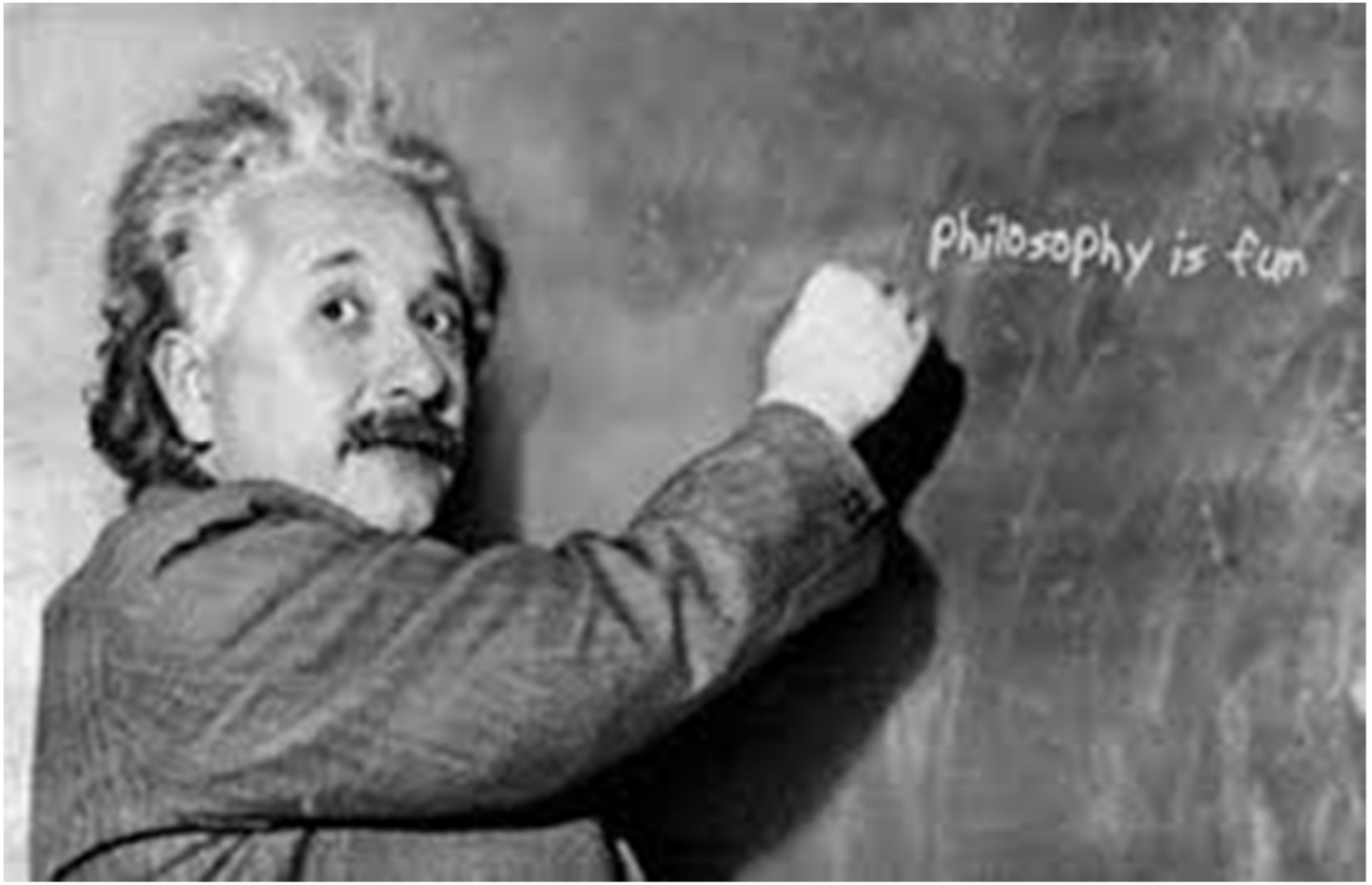
Heuristics and Biases in Medicine

- ***Availability heuristic*** relates to judgment on the basis of the ease with which information – such as a diagnosis – come to mind, rather than the validity or relevance of the information

- ***Representativeness heuristic*** is the judgment of a clinical situation on the basis of the similarity to a category

- ***Confirmation bias*** is giving more weight to information that confirms one's expectations

- **Affect heuristic** the "rear view mirror" impact on the next patient


Philosophy is fun

Complex Systems

Zipf's Law


the
of
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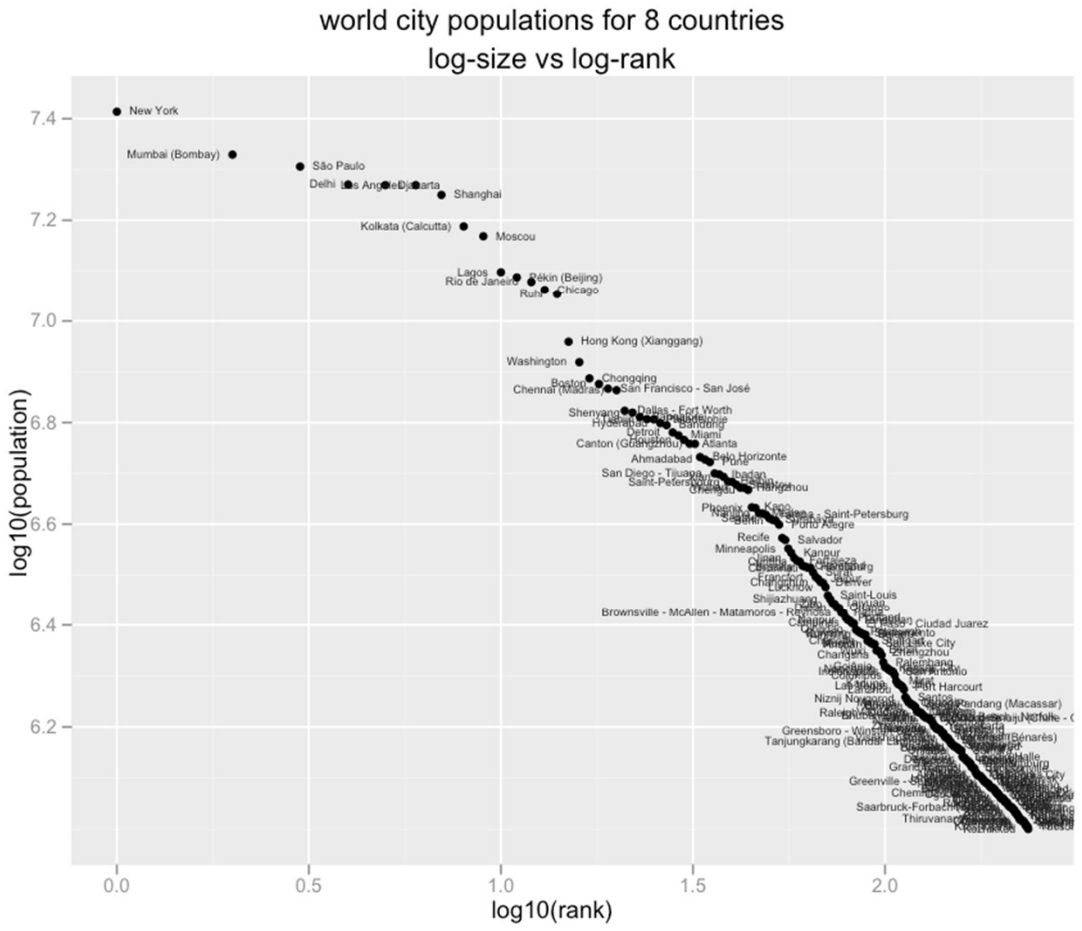
constant
omnipresence
Borodin
technology

Zipf's Law and World City Populations



Outlines of the new paradigm are coming into focus

- Complexity
- Nonlinear dynamics aka “Chaos Theory”
- Network topology
- Power law distributions

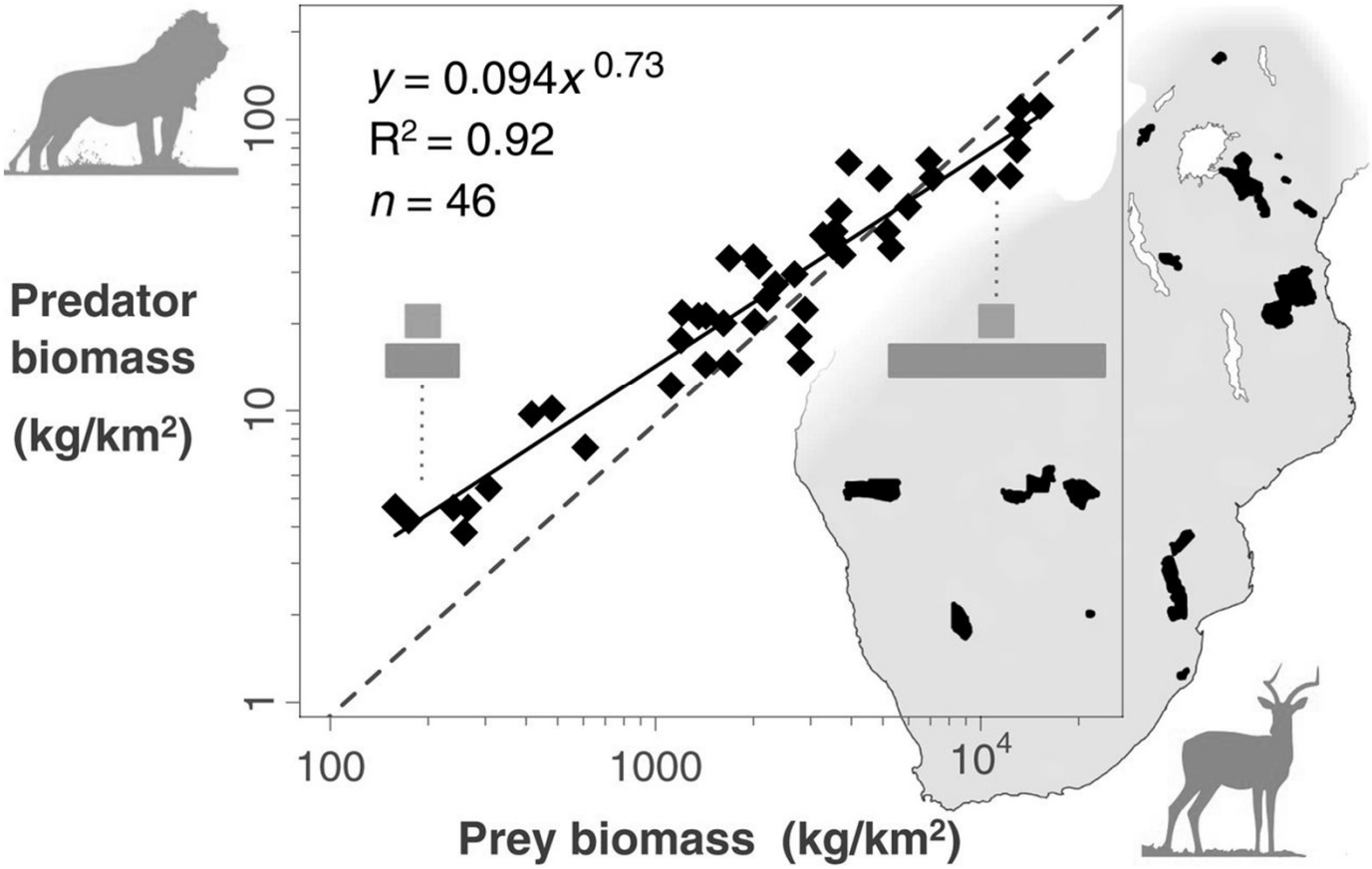
New Insights

- Biological systems are networks with complex topology
- Many large networks follow a scale-free power-law distributions.
- Modeling indicates that large networks are governed by things beyond the individual elements

Predator Prey Relationships

Science
AAAS

Fig. 1 African predator-prey communities exhibit systematic changes in ecosystem structure.



Ian A. Hatton et al. Science 2015;349:aac6284

Published by AAAS

Fig. 5 Similar scaling links trophic structure and production.

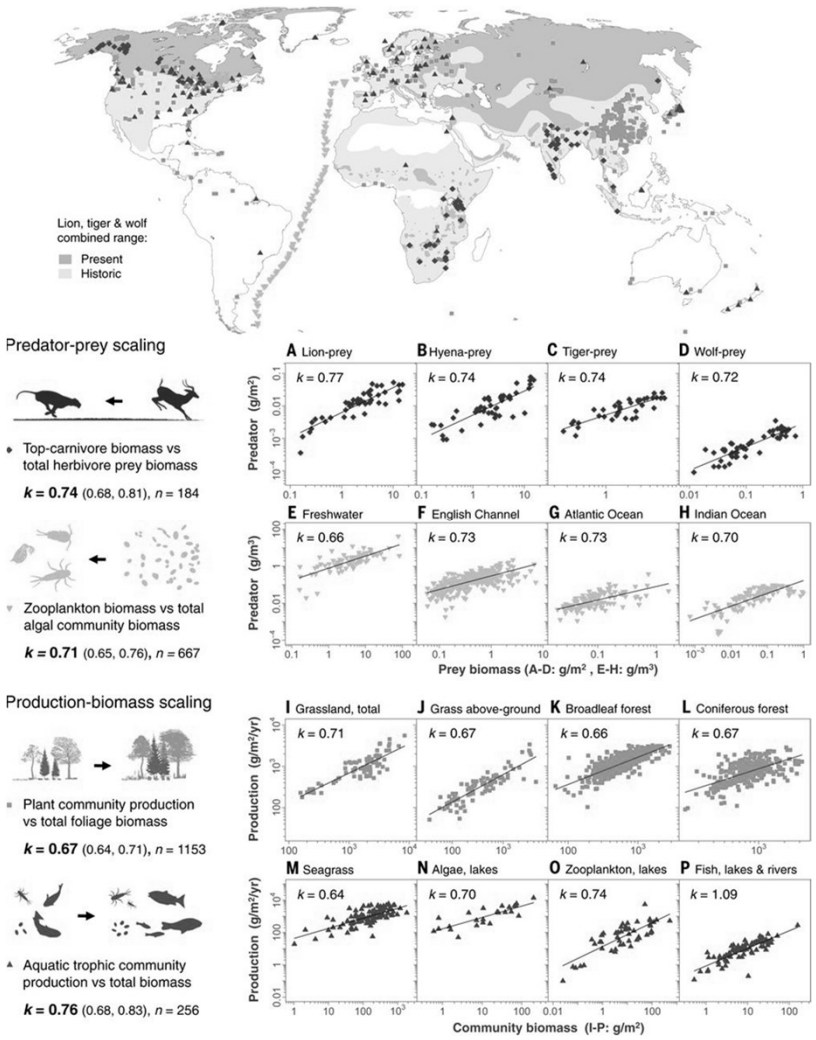


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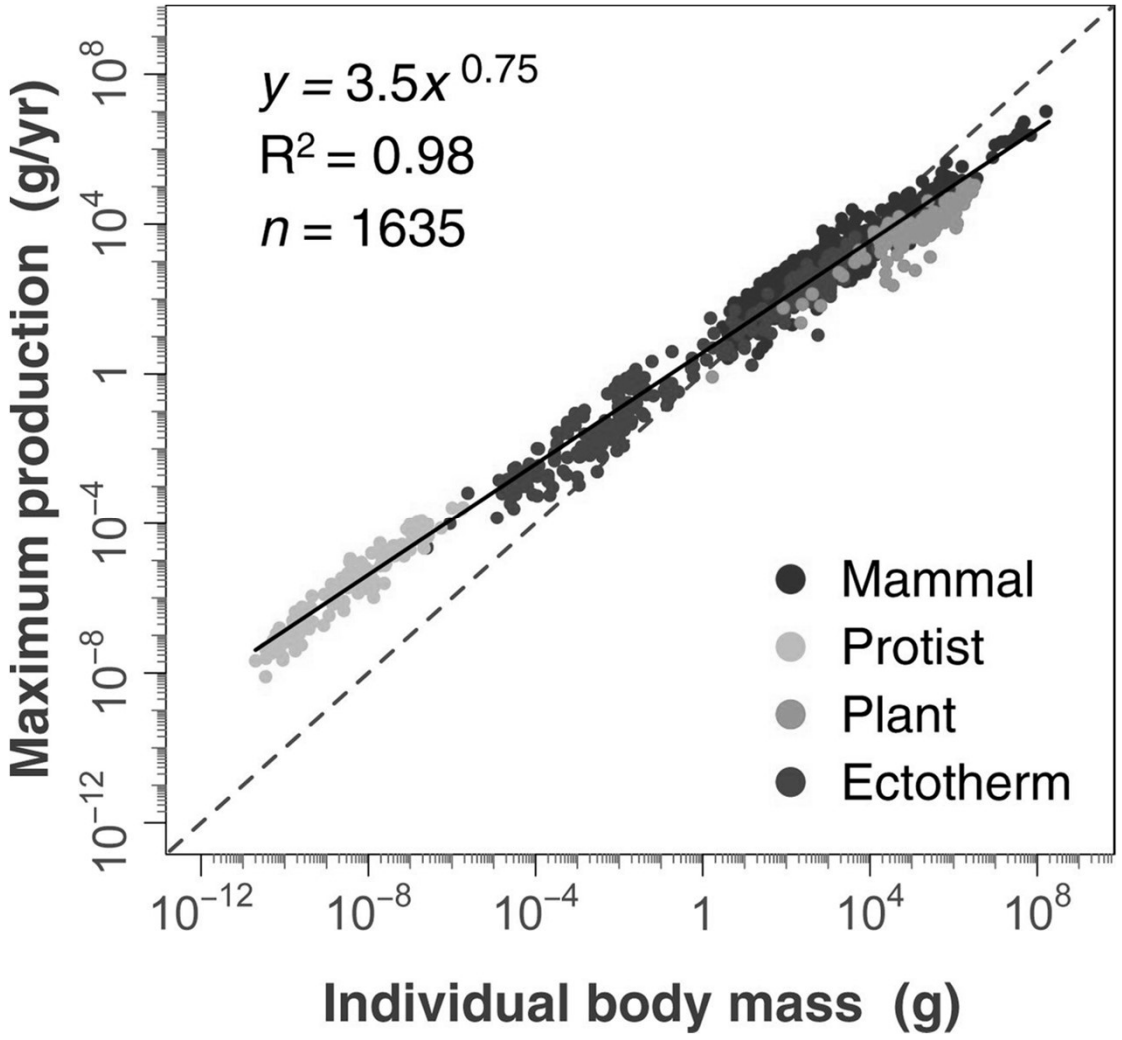
Fig. 6 Individual production to body mass exhibits near ¾ scaling across taxa.



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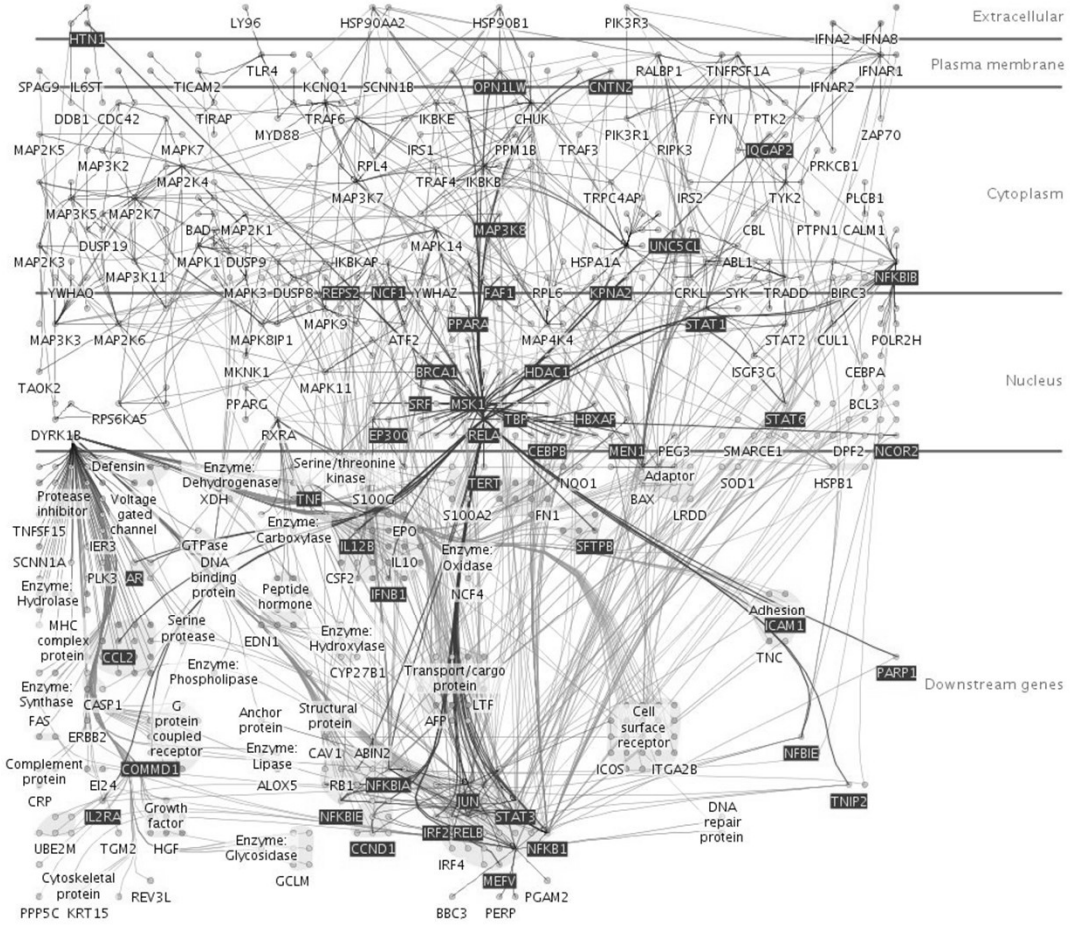
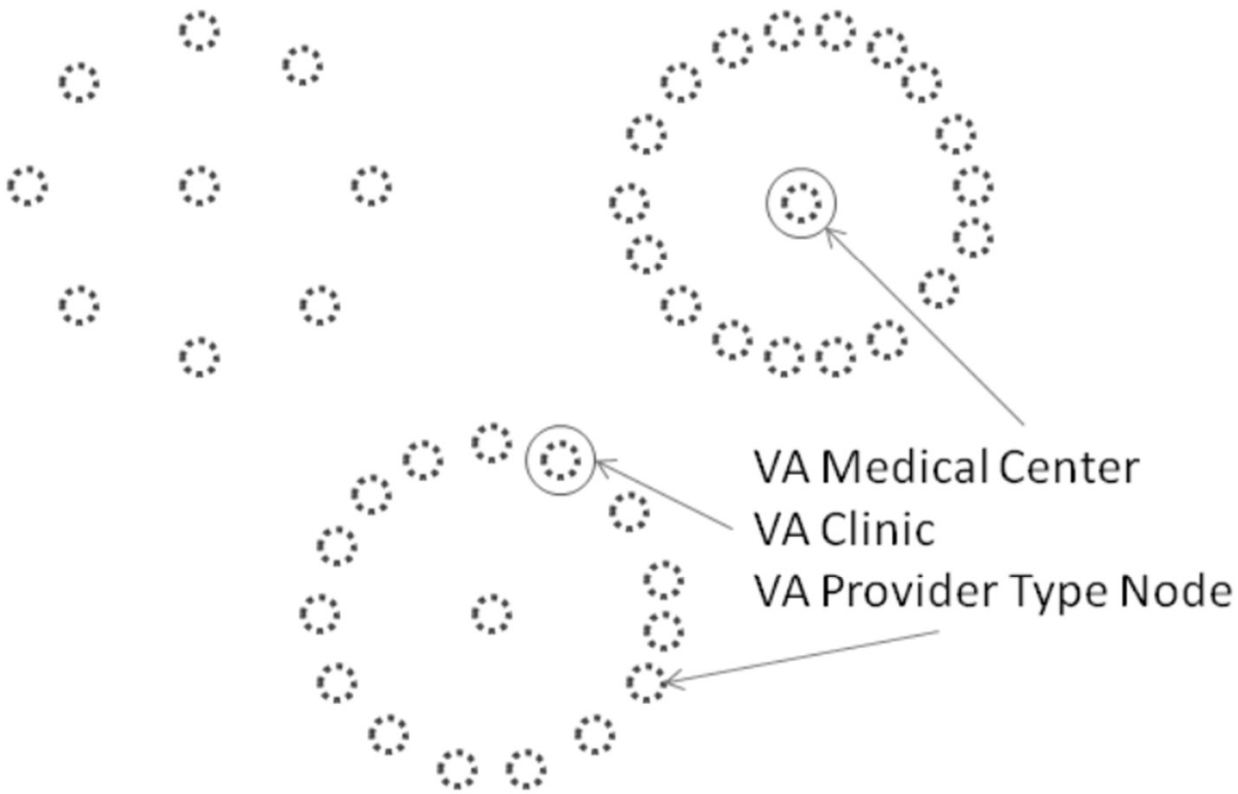
Cellular Networks



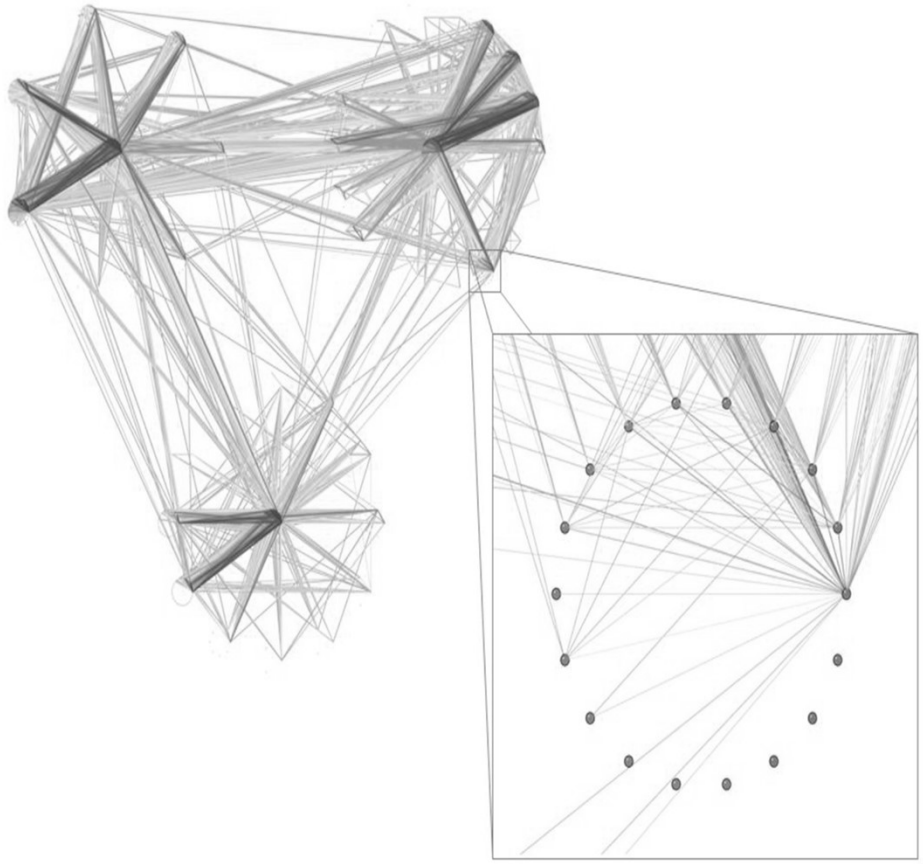
Protein Network

Scale-free Network Topology

Human Networks, Simple and Complex



Each circle is comprised of smaller circles representing individual VA outpatient clinics, and within each clinic, each purple node in the circle of nodes (see enlarged inset on right) represents a physician ‘type’ such as primary care, general surgery, or cardiology within each clinic location.



VA Medical Centers are at the ‘hubs’ of the three circles or wheels above.

Parchman et al. Implementation Science 2011, 6:14
http://www.implementationscience.com/content/6/1/14

IMPLEMENTATION SCIENCE

RESEARCH Open Access

Understanding the implementation of evidence-based care: A structural network approach

Michael L Parchman[1,2*], Caterina M Scoglio[3], Phillip Schumm[3]

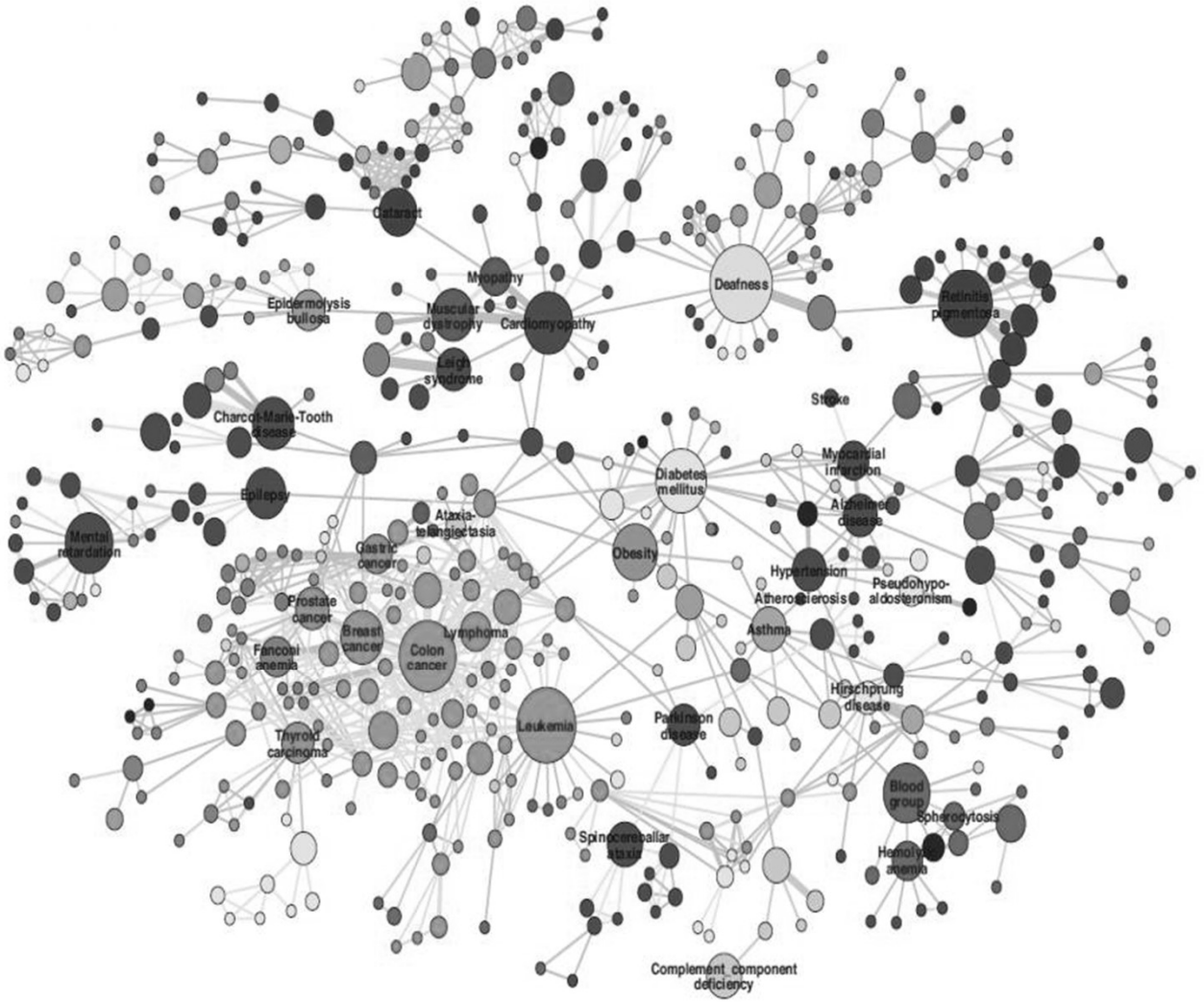
Abstract

Background: Recent study of complex networks has yielded many new insights into phenomenon such as social networks, the internet, and sexually transmitted infections. The purpose of this analysis is to examine the properties of a network created by the 'co-care' of patients within one region of the Veterans Health Affairs.

Methods: Data were obtained for all outpatient visits from 1 October 2006 to 30 September 2008 within one large Veterans Integrated Service Network. Types of physician within each clinic were nodes connected by shared patients, with a weighted link representing the number of shared patients between each connected pair. Network metrics calculated included edge weights, node degree, node strength, node coreness, and node betweenness. Log-log plots were used to examine the distribution of these metrics. Sizes of k-core networks were also computed under multiple conditions of node removal.

Results: There were 4,310,465 encounters by 266,710 shared patients between 722 provider types (nodes) across 41 stations or clinics resulting in 34,390 edges. The number of other nodes to which primary care provider nodes have a connection (172.7) is 42% greater than that of general surgeons and two and one-half times as high as cardiology. The log-log plot of the edge weight distribution appears to be linear in nature, revealing a 'scale-free'

Human disease network



Barabási AL, Gulbahce N, Loscalzo J. **Network medicine: a network-based approach to human disease.** Nat Rev Genet. 2011 January; 12(1): 56–68. doi: 10.1038/nrg2918

A emerging new paradigm

- Network theory
- New definitions of disease based on complex interactions
- Network perturbation IS the disease
- The nonlinear dynamics may explain unexpected outcomes, expose higher order, deeper patterns
- With the right lens, we may see accurately

“When you change the way you look at things the things you look at change.”

----- Max Planck

The Prize:

A Scale-free Gnosology of Illness and Disease

Spanning the nano, the micro, the cellular, the organ, the whole person, the family, the community, the society, the ecology.

POWER


Global
Medical Industrial Complex
Mass Media
National
Corruption of ethics
Fear of litigation
Professional bodies
Regulatory Regime
Delivery System configuration
Regional
Excessive or inadequate political mobilization of demand
Varying stakeholder power relationships
Local culture & socioeconomics
Local
Patient
Doctor
Public Participation
Trust
Fear
Information Asymmetry
Care Decision

Getting to the Right Care: It's about relationship

Vikas Saini, M.D.
President, Lown Institute

Power and Human Relationships

- Strength or weakness of the therapeutic relationship
- Local and national politics

Strength or weakness of the therapeutic relationship

- *Flawed Decision Making*
- *Fear of litigation*

The quality of interaction and quality of care

- Power imbalance which can prevent shared decision making
- Lack of time for providers to convey complex information
- Social barriers and social distance: race, caste, class
- Cultural barriers including education and language

Overuse and underuse (in the same patient)

What happened

- Decision to transport from local hospital
- Pre-op stress test (St Vincent)
- Hospitalist re palliative care consult: “We’re not there yet.”
- TPN
- Great discharge planning

What didn’t

- Palliative care consult or discussion of patient preferences at local hospital
- Immediate surgery consult
- Palliative care consult initiated on admission to transfer hospital
- Follow through after discharge

How Not to Die

"I can only liken his experience to an alien abduction."

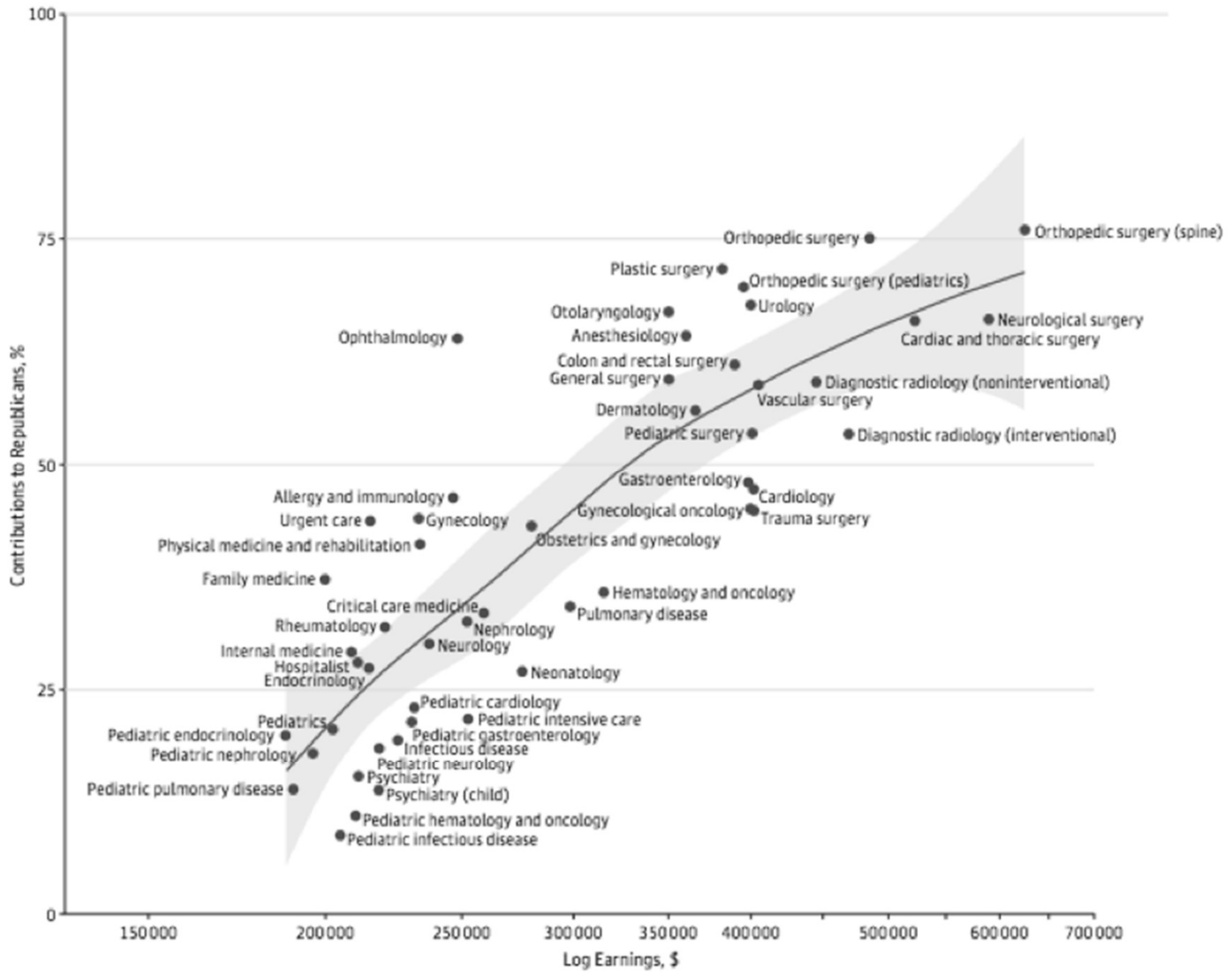
-- Jonathan Rauch

The Atlantic April 2013

Power: *Health care as contested arena for political control*

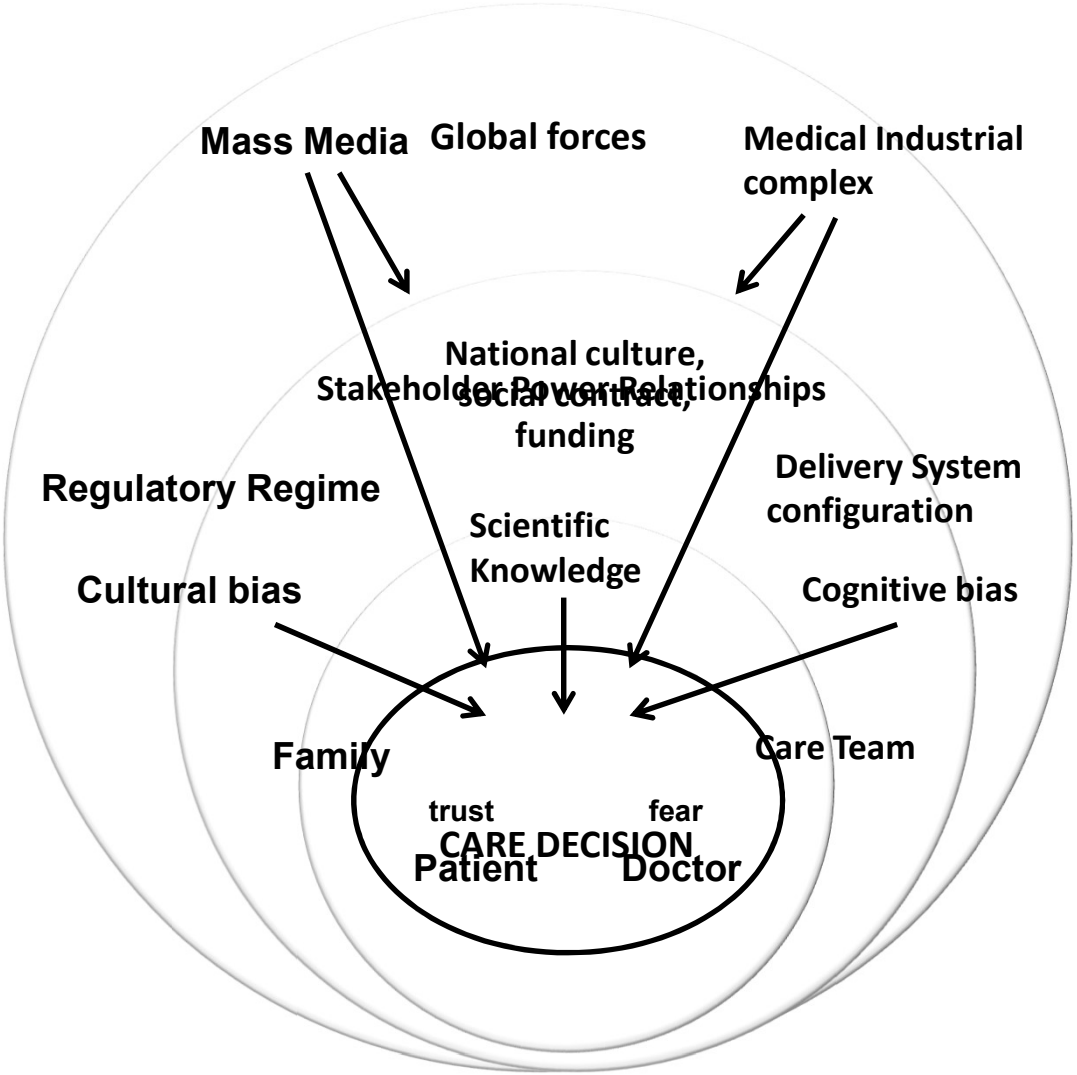
- *Excessive or inadequate political mobilization*
- *Professional Societies and other mediators*

Figure 4. Percentage of Physician Campaign Contributions to Republicans vs Log Annual Earnings by Medical Specialty



Earnings data are a 6-year average. The curve shown was fit with a LOESS smoother.

Drivers of Care: A Complex System



Some Core Truths

- Overuse and underuse are ubiquitous
- Every decision has multiple alternate pathways
- Data is sparse relative to the decision tree
- At every point, deciding the right care is never algorithmic
- Evidence is always imperfect
- Not all decisions are about science

Drivers of Overuse

- The biomedical model
- Omissions of patients' psychosocial needs and informed preferences
- Health system organization and financing, resource allocation, facilities and workforce
- Failures of professional ethics to protect the therapeutic relationship from financial concerns
- Cognitive frameworks, and cultural influences regarding health, health care, science and technology

Drivers of Overuse

- Flawed knowledge and information
- Fascination with innovation reinforced by vested interests.
- Disempowerment of communities and citizens
- A political aversion to priority setting
- Greed

Technical Efforts to Address Overuse

1. Choosing Wisely (Patients and Clinicians)
2. New payment models -- bundled, global, ACO, VBP, AQC (Payers)
3. Decision Aids (Patients and Clinicians)
4. PCORI (Researchers)

Defining Value

Value = outcomes÷cost

Health outcomes achieved per dollar spent

VIEWPOINT

Value-Based Payments Require Valuing What Matters to Patients

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Aaron McKethan, PhD
Gillings School of Global Public Health, University of North Carolina at Chapel Hill.

Ashish K. Jha, MD, MPH
Department of Health Policy and Management, Harvard T. H. Chan School of Public Health, Boston, Massachusetts.

Sylvia Burwell, Secretary of Health and Human Services, recently announced the department's intention to tie most Medicare fee-for-service payments to value by 2018.[1] Most commercial insurers already incentivize quality to some degree and encourage beneficiaries to consider quality and cost.[2,3] Having payers aim for value should improve health system performance, certainly when compared with traditional incentives for the volume of services, which have failed to deliver the kind of care that is possible.[4]

Paying for value, though, requires measuring what actually matters to patients. Yet almost all current quality metrics reflect professional standards: eg, medications after myocardial infarctions, cancer screening according to guidelines, or glycated hemoglobin A_{1c} levels being under control for patients with diabetes.[5] These metrics are relatively straightforward to calculate with available data, and patients' interests usually align with professional standards—people want medical services to help them live longer, prevent or cure illnesses, limit the likelihood of and morbidity from disease and injury, and avoid or effectively and intensely personal conversations resulting in identification of patients' goals—goals that the current approach to measuring quality undervalues and therefore fails to integrate. Although professional standards are important, they can fail to capture what matters most to each individual.

A century ago, these aspects of care would have been of little importance. Historically, people died within hours or days, or maybe a few weeks following becoming ill, after appearing to be fairly healthy. Now most people accumulate chronic conditions in old age. The typical 70-year-old person will need daily help from another person for an average of 2.7 years before dying, and this just to accomplish activities of daily living, including eating, dressing, and toileting.[7] Service delivery arrangements have neither adjusted to this new demographic reality, nor have measures of quality. People known to be dying soon are often included in the denominator for metrics like cancer screening, diabetes management, or hypertension control. Only a few of the hundreds of quality measures that Medicare now uses are particularly relevant to people living with frailty or advanced illnesses, measures such as screening for depression and prevention and treatment of pressure ulcers. Even fewer may be meaningful to younger disabled persons.

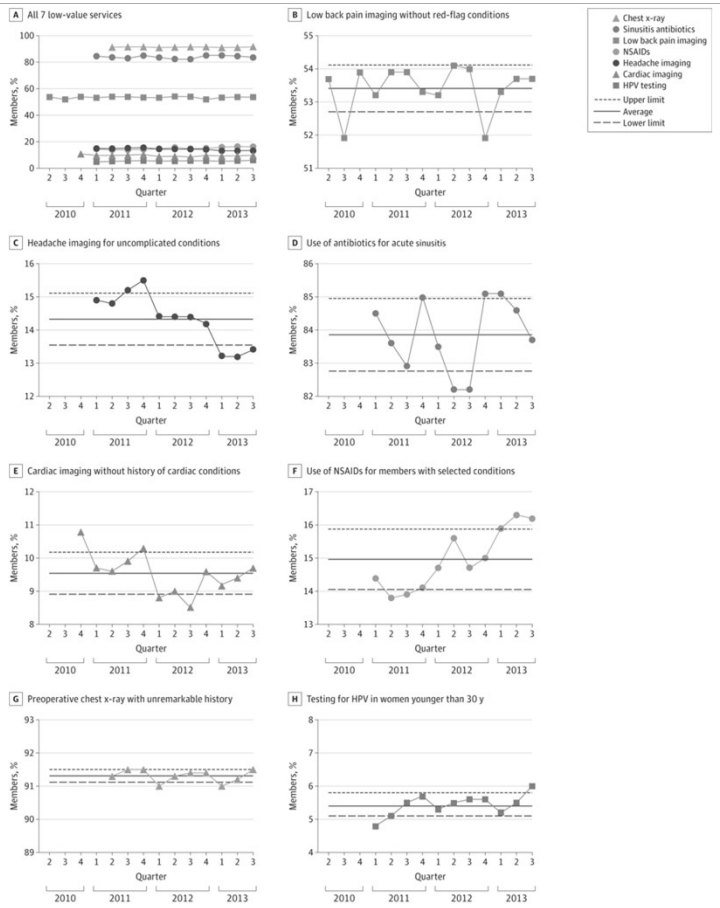
So when it comes to older or disabled people, what should be measured? Two categories are important:

> If the United States intends to pay on the basis of value, it is essential to ask patients what they value, and then deliver on those priorities.

Joanne Lynn; Aaron McKethan; Ashish K. Jha
JAMA. 2015;314(14):1445-1446. doi:10.1001/jama.2015.8909.

From: **Early Trends Among Seven Recommendations From the Choosing Wisely Campaign**

JAMA Intern Med. Published online October 12, 2015.1-9 doi:10.1001/jamainternmed.2015.5441



CONCLUSIONS AND RELEVANCE For this population-level analysis of 7 low-value services analyzed, changes were modest but showed a desirable decrease for 2 recommendations (imaging for headache, cardiac imaging for low-risk patients). The effect sizes were marginal, however […] the clinical significance is uncertain. These results suggest that additional interventions are necessary for wider implementation of Choosing Wisely recommendations.

Figure Legend:
Trends for Selected Low-Value ServicesHPV indicates human papillomavirus; NSAID, nonsteroidal anti-inflammatory drug.

thebmj

BMJ 2015;350:h454 doi: 10.1136/bmj.h454 (Published 19 February 2015)

RESEARCH

Improving diabetes prevention with benefit based tailored treatment: risk based reanalysis of Diabetes Prevention Program

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Abstract

Objective To determine whether some participants in the Diabetes Prevention Program were more or less likely to benefit from metformin or a structured lifestyle modification program.

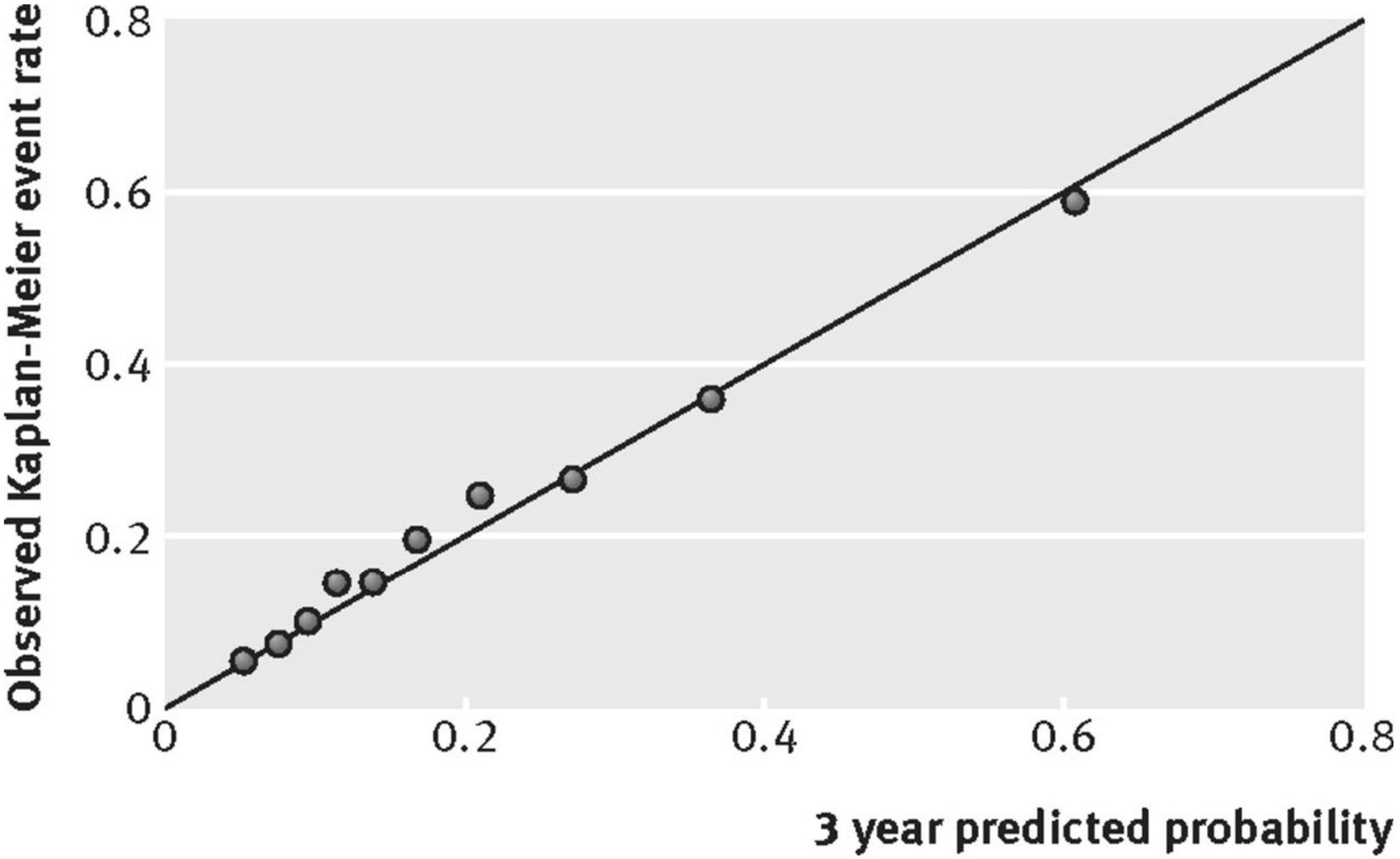
Design Post hoc analysis of the Diabetes Prevention Program, a randomized controlled trial.

Using this knowledge could decrease overtreatment and make prevention of diabetes far more efficient, effective, and patient centered, provided that decision making is based on an accurate risk prediction tool.

Introduction

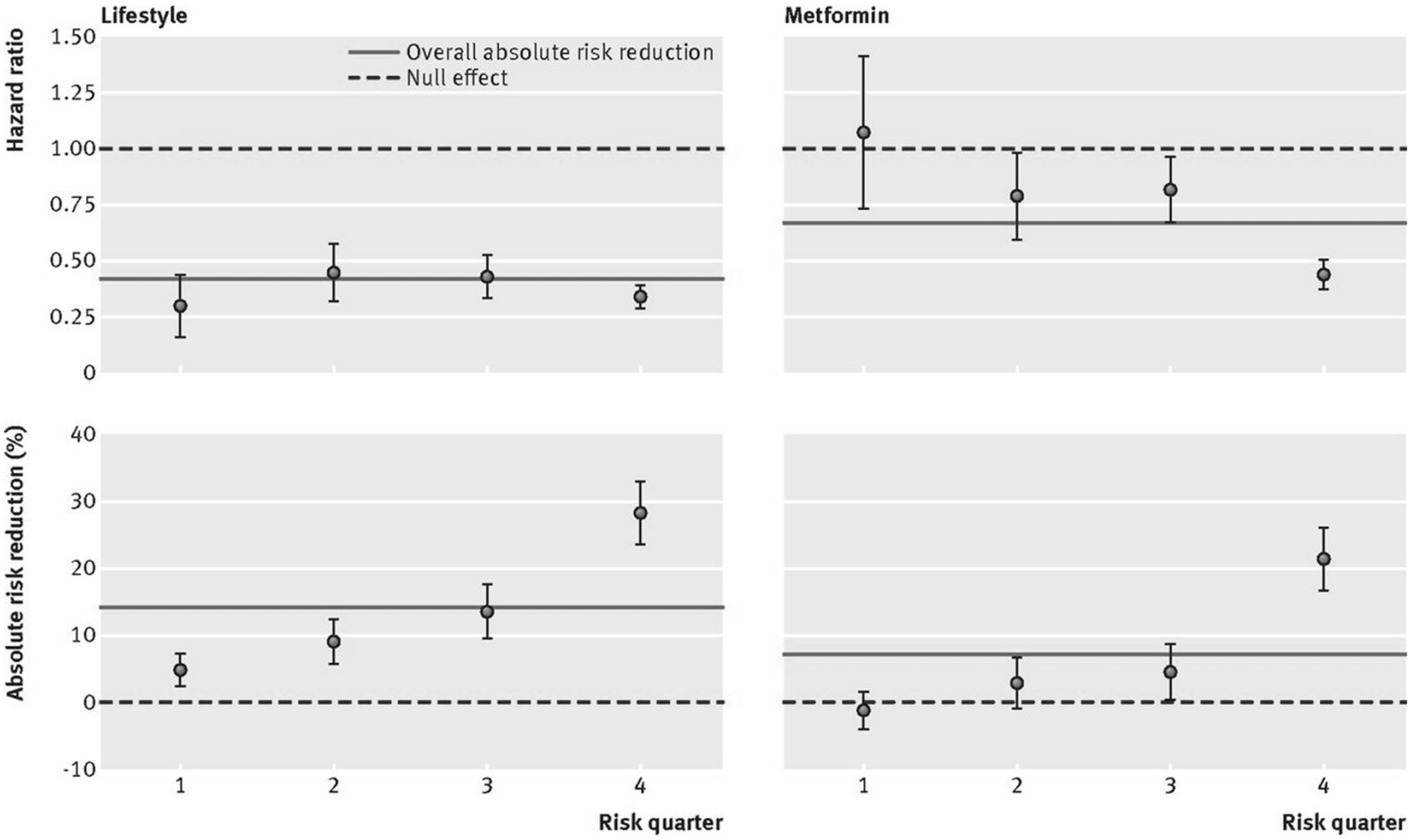
The Diabetes Prevention Program was a groundbreaking randomized controlled trial in which the incidence of diabetes

Fig 1 Calibration plot: black dots represent deciles of risk.



Jeremy B Sussman et al. BMJ 2015;350:bmj.h454

Fig 2 Efficacy plots.



Jeremy B Sussman et al. BMJ 2015;350:bmj.h454

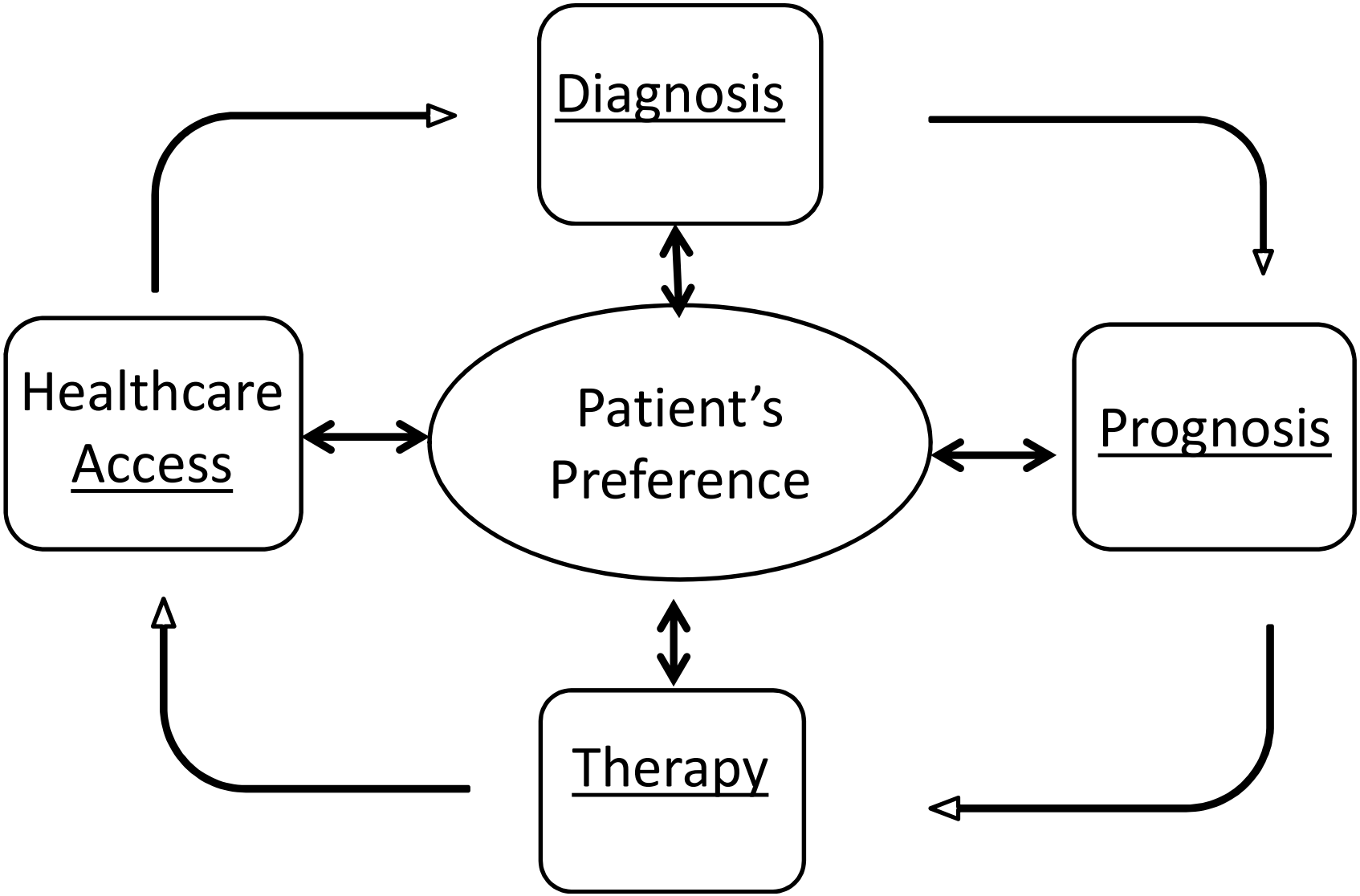
Adaptive Change to Address Overuse

1. Join other clinicians (Right Care Alliance)
2. Implement Right Care Rounds (Right Care Educators Network)
3. Implement Do No Harm Project (Univ Colorado) --→ "Teachable Moments")
4. Sign the Right Care Declaration of Principles www.rightcaredeclaration.org

Right Care Rounds

- Analyze a case based on:
  - Clinical decision-making
  - Process of care
  - Social factors pre-hosp or post-discharge
  - Patient-centeredness
  - Potential cost savings
- Develop simple actions to change habits
- Measure change in behavior and outcomes

RCR: Biopsy the process of medical care



Some Conundrums

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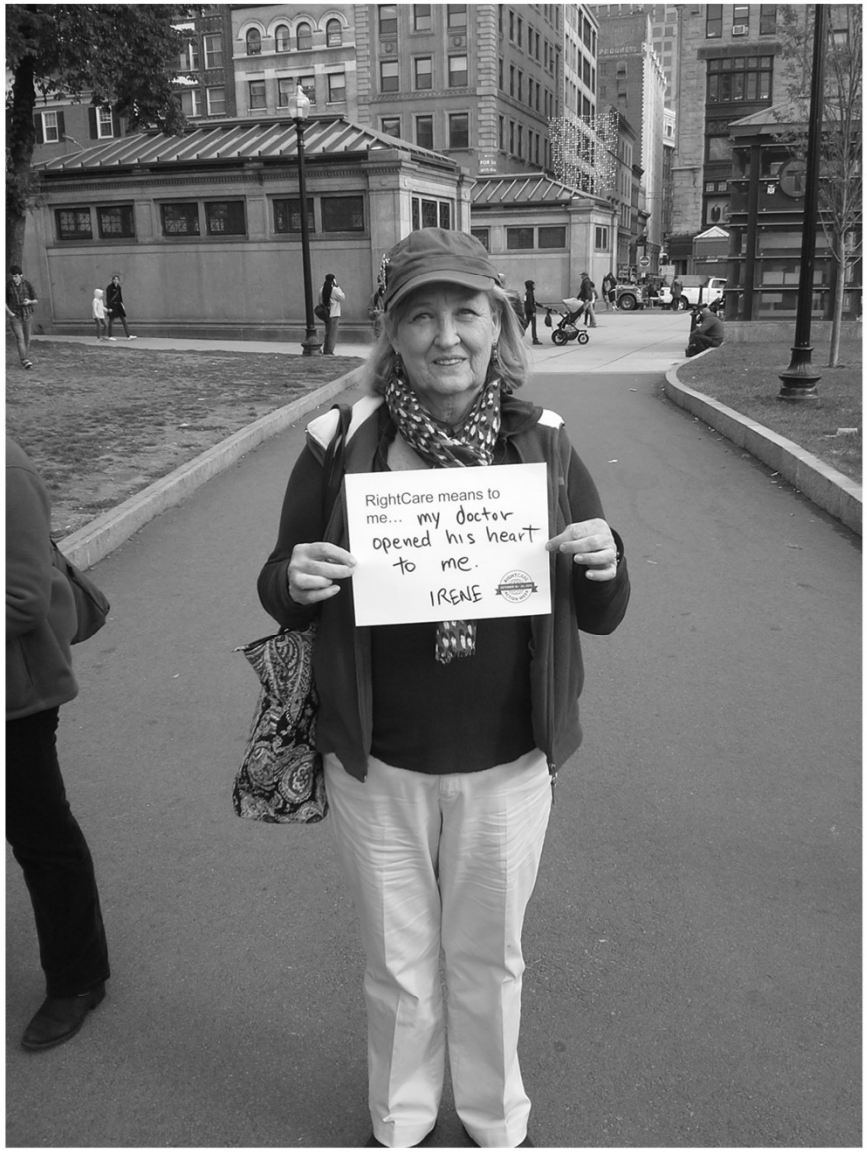
Tell me about healthcare.
I'm Listening.
RIGHTCARE
OCTOBER 18 - 24, 2015
ACTION WEEK


RightCare means to me... Having A Thorough relationship/ Genuine Connection!!!


RightCare means to
me... MY DOCTOR
NEVER LOOKS
AT THE COMPUTER
DOESN'T SEEM TO HAVE
A TIME
LIMIT


RightCare means to me... my doctor opened his heart to me.
IRENE