Repairing Health Insurance:

The Modern Broker's Role

Gary Fradin
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The Author

Gary Fradin teaches healthcare economics to hundreds of health insurance brokers annually.

He has written 6 books about healthcare:

- Moral Hazard in American Healthcare
- Healthcare Problems and Solutions
- Understanding Health Insurance
- Transparency Metrics
- Uninformed: The Plight of America's Patients
- Consumerism and Value Creation in American Healthcare

He also developed **TheMedicalGuide**, an online consumer education company, to teach patients how to make wiser medical care decisions. Many of the tools discussed in this text are available at www.TheMedicalGuide.net.

Gary holds Master's Degrees from University College London and Harvard.

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Preface

This is an expanded version of my 2015 book Consumerism and Value Creation in American Healthcare. ‘Value creation’ means improving American’s health for less money.

That book was based on lectures I gave to health insurance brokers between 2012 and 2014. It described factors that destroy value or are value neutral:

- Employer based financing (value destructive)
- Misguided food, transportation and housing subsidies (value destructive)
- Poor levels of patient knowledge (value destructive)
- Price transparency programs (value neutral, contains both creating and destructive aspects)
- The Affordable Care Act (value neutral)

It then introduced a consumer literacy program that, if widely implemented, could create substantial value.

This book expands on those themes. It includes new material from lectures I gave in 2015 and 2016. I’ve retained many of the original chapters from Consumerism and Value Creation and have added 3 new ones:

- Why we need to repair health insurance
- Poorly understood risks and risk metrics
- The stop and start evolution of healthcare reform

I decided to call it Repairing Health Insurance since it explains both why we need to repair our system and how to do it.

As with the previous version, I kept the original lecture format so each chapter focuses on a single, independent issue. That means there’s substantial information overlap since, for example, discussions of both price transparency and systemic waste require an understanding of treatment variation. I also used similar examples / case studies in different chapters to illuminate different points and sometimes even the same point.

Since each chapter is a self contained discussion of a specific issue, readers can jump from chapter to chapter in no particular order, but based on their own interests. There’s

less content development from one chapter to the next than exposition of different topics.

I hope the overlap and redundancy reinforces key ideas and doesn't simply bore readers.

I take the issues discussed here personally and seriously. As a child of the 1960s who, among other things, tried to create value in Chad, Africa by building primary schools and planting orchards - the latter in a leaper colony outside N'Djamena - I have a great passion for activities that improve people's lots in life. I have an equal passion for opposing value destructive activities, with unnecessary medical care being a prime example.

I hope you find reading this book a stimulating and worthwhile experience.

Gary Fradin

Introduction

Our healthcare system falls somewhere between a 'mess' [1] and 'insane' [2] costing $10,000 per person per year but putting us about 40th internationally in life expectancy and infant mortality.

That the system works badly is clear. *Why* it works so poorly and *what* we can do to fix it remain hotly debated topics, with the same basic positions restated consistently for almost a century.[3]

Some say we have *too much* government influence thus destroying the market's ability to deliver high quality services at reasonable costs. Others argue that we have *insufficient* government influence, allowing private companies and healthcare providers arbitrarily to provide too much or too little care thus raising costs without improving outcomes.

Hundreds, even thousands of commentators wax poetic about the problems (OK, generally not so poetically) and their own favored solution.

As I've read dozens of books and hundreds of articles, I've become impressed with a similarity among proposed solutions: 'If only we can get the payment and regulatory incentives right,' they seem to say, 'the system will work.' Virtually everyone in the healthcare commentary business focuses on the ***supply*** of medical services, how we distribute medical care in this country, and proposes a fix that fits his or her own orientation.

I disagree with the entire supply side orientation. If we could have gotten the incentives right, we would have gotten the incentives right, given that we've worked on this for decades with ineffective reforms regularly emanating from both the federal and state governments, and carrier plans increasing in complexity to reduce costs. I don't think we can do much that's terribly useful by focusing on the supply side of healthcare.

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[1] See Richmond and Fein, The Healthcare Mess, 2005. Both gentlemen were Harvard Medical School professors, with Richmond the US Surgeon General under President Carter.

[2] Regina Herzlinger of Harvard Business School, speaking at the Massachusetts Association of Health Plans convention in Boston, December 2014. My notes are unclear if she said 'crazy' or 'insane'. Apologies for any error here.

[3] See Thomas Miller's article 'Health Reform: Only a Cease Fire in a Political Hundred Year's War, Health Affairs June 2010 for the gory details

Instead, I think the demand side offers greater opportunities to rein in costs, reduce waste and improve outcomes.

Let me state my position clearly: **we will never get the payment and regulatory systems right.**

In fact, **I don't think we can even improve them.** I don't see payment reforms, organizational changes or plan design modifications making our healthcare distribution system more efficient, effective or valuable, with 'value' defined as better outcomes at lower costs.

I don't think focusing on the supply side gets us anywhere.

No healthcare reform in the past 50 years has simultaneously improved access, reduced cost and improved outcomes, i.e. created more value, though some reforms have improved access. Value creation – when it occurs - seems to come primarily from the private sector, though I'm not sure how frequently even this happens. We sometimes get better outcomes at higher costs, sometimes similar outcomes at higher costs, perhaps sometimes better outcomes at lower costs *per unit* but providers tend to make up the income loss per unit by doing more units so I'm not sure about the overall systemic gain.

We lack a value creation paradigm in healthcare. That's what I propose in this book.

Why we have the healthcare mess we have

It's as important to understand why we'll never get the supply side right – why all incentive-oriented, regulatory-based reform efforts always fail - as to understand why the demand side offers such promise.

Our healthcare system exists, I would argue, for two main reasons, the less important of which is to get people healthy.

The prima facie case here: we're not terribly healthy. We don't live as long as other populations, we have higher infant mortality rates than most developed countries and higher disease morbidity rates, unconscionably high hospital readmission rates (about 20% within 30 days), tragically high hospital infection and error rates and a utilization waste factor north of 30%, probably closer to 40 or 45% and maybe even **half of all medical care.** [4]

[4] I'll explain in detail in the chapter on Price Transparency

These situations simply would not exist if our system was primarily designed to get people healthy. We have too many smart and caring people working in healthcare. A country that can put a man on the moon, as they say, can fix these problems….if it wants to.

That we haven't fixed them, and maybe haven't even improved on them over the past decades, results from the primary reason our healthcare system exists: to pay participants. American healthcare is more a jobs program than a medical improvement one and it actually performs this function remarkably well.

Doctors get paid to perform their tasks, as do hospitals, X-ray technicians and MRI operators, orthopedists and chiropractors, psychiatrists and podiatrists, nutritionists and pharmacists, acupuncturists, art therapists and even lowly Continuing Education teachers, all extremely busy, most fighting with carriers and Medicare over codes and payments, none tying patient range-of-motion increases or pain reduction to their incomes.

Financiers loan money for medical equipment and hospital construction, lawyers draw up financing and leasing contracts and sue when doctors screw up and sometimes even if they don't. Insurance carriers provide confusing policies that average 15% gross profit on their $800 billion in annual premiums. Brokers shop for policies and benefits administrators explain them to employees who generally don't understand them, patient advocates help people navigate our nonsensical system that promotes quantity over quality while aiming to reduce utilization.

Pharmaceutical companies earn money making the drugs that lawyers sue over and advertising companies develop ads for those drugs that underwrite network TV news and sports but no one knows how well those drugs actually work or even if they work at all.

Compliance experts comply with mind-numbing paperwork and regulations designed to avoid the moral hazard related systemic abuse that runs rampant throughout our system. Software engineers write the codes that track all this stuff, administrators administer, managers manage, practitioners practice, consultants consult and so on and so forth for about $3 trillion annually, double or triple what other countries pay for better results, about half of which, I suspect, leads to ineffective or harmful care when tested. [5]

'Necessary' care in American healthcare *always* means that someone can bill for it and only *sometimes* that patients benefit from it.

[5] See Vinay Prasad's insightful study A Decade of Reversal, Mayo Clinic Proceedings, 2013

As evidence of the 'jobs program' nature of our healthcare system, consider these statistics provided by Jonathan Bush, founder and CEO of athenahealth, a $4 billion publicly traded health information company: [6]

- In 1990 there were 10 hospital employees per physician
- Twenty five years later, after a hospital consolidation boom justified by greater hospital efficiency AND after the computer revolution increased office efficiency throughout the developed world AND after outsourcing took millions of jobs overseas, there were 16 hospital employees per physician, half administrators.

All these people working in our healthcare jobs program share one common perception: we need more of them for the system to work efficiently and create value.

If you don't believe me, just ask anyone in the industry. You'll get the same answer from brokers and lawyers, chiropractors and psychologists, primary care physicians and specialists, hospital bookkeepers and patient advocates: 'I provide really great services that save the system a ton of money. We need more people like me, doing what I do' which is another way of saving 'pay other people less because they provide less value than I do' unless, of course, we want to hire more of *everyone* which is probably the real goal of healthcare anyway.

How can *everyone* save the system money, given that healthcare inflation already outpaces gdp growth every year and we pay twice as much as other countries for poorer outcomes?

The answer is that healthcare exists to hire and pay people and all these various groups jockey and lobby for compensation to perform more of their tasks rather than competing over patient outcomes. A reasonable, rational healthcare system would compensate participants for getting patients healthier less expensively. Our system compensates people for lobbying better.

We consequently have really good lobbyers and really lousy value.

Three structural bases of our healthcare system

Think of our healthcare system as a 3-legged stool, supported by

- Employer centric financing and its related constraints, the core of our payment system

[6] Bush, Where Does It Hurt, page 91. Jonathan is a 'Bush': his uncle and first cousin were presidents of the US.

- Subsidy and tax programs that incent poorer nutrition and less exercise, thus driving higher medical utilization rates and treatment costs

- Poorly informed patients who base their medical decisions on questionably designed studies and confusingly presented results, and who ultimately get both *more* and *poorer* care than they want or need from a clinical system designed to provide the most invasive and most expensive care whenever possible.

I contend that a system based on these 3 legs is designed to become a high cost / low quality jobs program, which is exactly what we have.

I'll develop each of these points in the first 3 chapters of this book, but as a quick overview here:

Leg #1: Employer based financing requires short term / 1 year long health insurance policies. This is the 'insane' bit that Regina Herzlinger described above. Though employer based financing only covers about half our population, the effects permeate far more widely. Medicare, for example, allows annual plan changes for its 50 or so million subscribers, tagging onto the employer timing model, though I know of few medical conditions, especially in the elderly, that fit neatly into 12 month treatment chunks.

- Some 70% of medical costs go to chronic conditions that require a long term focus to optimize outcomes, but we finance long term diseases with short term policies. This incents carriers and providers to focus on short term cost control, exactly the opposite of what patients need.

- Systems that focus instead on the long term generate better outcomes at lower costs. [7]

- Employer based financing also, almost by its very nature, requires a split between healthcare financing and service delivery. Yes, Kaiser Permanente and a couple other companies operate vertically integrated systems. But they developed in the 1930s and no one has been able to reproduce and maintain this structure since.

- This split pits carriers against providers and leads to competition over costs and payments rather than over outcomes. Atul Gawande calls carrier-provider relations 'war, every step of the way' which strikes me as a pretty poor way to

[7] See, for example, Phillip Longman's insightful analysis of the Veteran's Administration Healthcare system in his book Best Care Anywhere.

structure a system designed to get people healthy but a pretty good way to design a jobs program.

Leg #2: Various Federal subsidy and tax programs incent Americans to consume huge quantities of carbohydrates and fat while exercising less and less leading directly to obesity, diabetes and coronary disease.

- The corn subsidy, a jobs program for mid-western farmers and Presidential-wannabes, leads directly to an obese, diabetic population. Our land use patterns and related tax programs mitigate against daily exercise. I'll show how this all works in great detail. These subsidies and tax breaks, of course, financially benefit certain industries and result from their lobbying power.

- Our population, responding rationally to the economic incentives presented by zoning regulations, food costs and tax incentives, seeks medical solutions to the related health problems. Our healthcare jobs program obliges with expensive labor, technology and pharmacologic-intensive programs. 'Obese? Take a pill and join our 12 week nutrition and exercise program. But let's run a stress test first. Don't worry – it's all covered by insurance.'

Leg #3: American patients are remarkably poorly informed about their treatment alternatives and likely outcomes and almost universally lack the skills to speak wisely with their physicians.

- We have no national data base of treatment effectiveness and lack even a standard measurement methodology. In fact, the Affordable Care Act kills meaningful comparative effectiveness research, a condition required by PhARMA for its support [8] thus leaving Americans only vaguely aware of how well various medications, tests and treatments actually work.

- Even when the data exist, consumers typically lack the tools to understand medical studies and claims. Does a pill that reduces your heart attack risk by 36% work better than one that prevents 1 heart attack in 100 people who take it? (The answer, according to Lipitor's ad in the Wall Street Journal, December 4, 2007: they're both the same.)

- Researchers, mainly from the Dartmouth Institute of Healthcare, suggest that patients have treatment alternatives 85% of the time or more. But other studies

[8] See Steven Brill's analysis of the ACA as summarized in the New York Times book review http://www.nytimes.com/2015/01/11/books/review/americas-bitter-pill-by-steven-brill.html?_r=0

suggest that only about 10% of patients know this and explore the alternatives rigorously with their physicians. [9]

Given the lobbying, economic and political power of various groups supporting our healthcare jobs bill, I'm pessimistic about our ability to regulate or incentivize our way out of this mess. It's simply too lucrative for doctors, hospitals, pharmaceuticals, equipment manufacturers, carriers and all the others to maintain business as usual. Plus each individual component of our healthcare system believes that it produces such incredible value that compromising would harm patients, making compromise both economically and morally repugnant.

I don't see us ever getting the regulatory and incentive structures right, or even fixing them a little. The political power of entrenched interests simply won't let it happen.

The way out

There's only one group in our society with *potentially* enough power to overwhelm these various healthcare special interests: consumers. If consumers ***demand*** better care meaning better outcomes, they may provide the catalyst necessary to increase healthcare systemic value.

I'm being intentionally optimistic here because (a) I'm optimistic by nature and (b) I don't see any other reasonable path forward.

Imagine that a patient says 'Doc, I won't take this medicine until you tell me how many people benefit from it, out of 100 people who take it, over 5 years.' I assume the first time a doctor hears this question, he'll be surprised.

- The second time, she'll begin to wonder
- The third time, he might try to look up the answer
- And by the fourth or 15th time, she'll expect the question and know the answer, or perhaps even tell the patient before he or she asks.

Or if a patient asks 'what's the Number Needed to Treat for this procedure?'

- Or the Number Needed to Harm for this test?

[9] Information presented at the Dartmouth Summer Institute for Informed Patient Choice, 2014

- Imagine if a patient says ‘I won’t take a medication with a Number Needed to Treat higher than 8 or a Number Needed to Harm lower than 5’. Now that’s what I call a well informed patient!

Or if a patient asks ‘what does ChoosingWisely say about this treatment?’

- I’ll suggest that part of the definition of a being a ‘well informed patient’ is *knowing* that ChoosingWisely exists and what it recommends about your particular medical situation.

- Another part is *using* ChoosingWisely in discussions with your doctor

Or imagine if a patient says ‘I won’t have a test or take a pill that the US Preventive Services Task Force grades lower than A’

Or if a patient shows an Option Grid™ or Drug Facts Box™ to the doctor and says ‘I’d like to discuss the benefits, risks and alternatives.’ [10]

Various research groups are already developing medical measurement tools. I’ll introduce them in this book. Though still at an early stage, there is sufficient content *today* to help patients make wiser medical care quality decisions, with their doctor’s help of course. **I *always* advise patients to make decisions with their doctor’s help and *never* based only on what they read in this or any other text.**

The standard objections

‘Here’s why consumerism won’t work’, people tell me, followed by some set of reasons like ‘healthcare is too complicated’ or ‘consumers aren’t that interested’ or ‘this is too time consuming’.

Some focus on price transparency – I’ll deal with that in detail later – arguing that you need to know how much a medical intervention costs to shop wisely. My response: who wants the cheapest unnecessary or poor quality care? Remember, that’s perhaps 40 – 50% of all medical care.

I’ve never heard anyone say ‘I need to save some money so want the 2nd or 3rd best care for my kid.’ I only hear ‘I don’t care what it costs. I want the best care for my child.’ Price transparency is of secondary or tertiary importance. I actually place it 4th on my list of 4 factors to consider in medical care decisions. See the chapters on transparency and decision aids. Focus on the bigger issues, care necessity and quality first.

[10] Both of these are being developed by researchers affiliated with Dartmouth’s Geisel School of Medicine in New Hampshire.

Others favor wellness programs – I'll deal with those later too – arguing that we can cut medical care utilization by becoming thinner, with lower blood pressure and blood sugar levels. I don't buy this, though I understand that people with lower blood pressure are less likely to have heart attacks.

I haven't read any studies showing that people with low cholesterol make wiser back MRI utilization decisions after hurting their backs while raking leaves. Lower back pain is the 5th most common reason for physician visits and many physician organizations recommend waiting 4 – 6 weeks before having a back MRI. [11] How does your cholesterol level possibly improve your MRI decision making?

Nor have I read that thinner people choose antibiotics more wisely when they suffer from sinusitis. TheNNT analysis shows that 1 in 18 people who took antibiotics were helped by having a faster reduction in their sinusitis symptoms while 1 in 8 was harmed, mainly by gastrointestinal side effects. Diarrhea alone affected about 1 in 18, meaning your chance of benefiting from antibiotics and being harmed by diarrhea are about equal. [12]

Being fat or thin doesn't help you evaluate antibiotic tradeoffs at all, but being well informed does.

Well informed patients know these data then consider whether their sinusitis is painful enough to risk diarrhea. Some may decide to take the drugs, others may not. Either decision is right for the right person, i.e. someone who understands the treatment benefits, risks and alternatives.

But neither is influenced by your cholesterol or blood sugar levels.

Well informed vs. poorly informed patients

Many studies show that poorly informed people utilize medical care more, and consequently cost more, than well informed folks. Poorly informed patients typically assume that medical care works better than, in fact, it does. Poorly informed patients also typically think that higher technology and more invasive treatments are better than alternatives.

I'll suggest these definitions of well and poorly informed patients:

[11] See ChoosingWisely. Among the reasons: patients who have a back MRI within 6 weeks of initially feeling the pain are 8x more likely to have surgery.

[12] http://www.thennt.com/nnt/antibiotics-for-clinically-diagnosed-acute-sinusitis/

- Well informed patients focus on outcomes meaning benefit and risk likelihoods from more than 1 treatment alternative.
- Poorly informed patients focus on anatomy, physiology and biology and try to become mini-MDs in their attempts to understand their medical problem and determine how to proceed.

Patients who focus on outcomes tend to get better outcomes.

Patients who focus on bodily functions tend to get more care.

Two tasks ahead

I see two primary tasks ahead for real medical care value creation.

- First expand on the current decision aids under development like ChoosingWisely and TheNNT.
- Second, teach consumers how to apply these tools. That's the purpose of the last section of this text and of my consumer education website www.TheMedicalGuide.net.

I see brokers, carriers, hospitals, doctors, government agencies and independent information companies joining in this consumer education / value creation effort. There's a vast opportunity and market for the most creative and forward thinking to participate and prosper in this endeavor.

Chapter 1: Why We Need to Repair Health Insurance

an overview

Understanding the Intersection of Health Insurance, Healthcare, Employer Based Coverage and Consumerism

Introduction

For years, healthcare reformers have equated ‘healthcare financing reform’ with ‘healthcare reform’ and have generally failed to reduce costs or waste.

I’ll show how focusing instead on avoiding waste and answering 3 key questions can simultaneously reduce costs and improve outcomes:

- Out of 100 people like me, how many benefit / are harmed by this intervention?
- Would most clinicians make the same treatment recommendation or might some suggest something different?
- How many patients like me do you treat annually?

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Good, proper and appropriate medical care fits the Goldilocks principle: not too little, not too much, not too cold, not too hot, but just right.

- Too little medical care leads to undertreated patients and poorer-than-optimal outcomes.
- Too much medical care leads to overtreated patients, higher-than-necessary costs and medical risks. (Remember that all medical care contains some element of risk.)
- Inappropriate medical care leads to suboptimal outcomes, excessive costs, patient dissatisfaction and sometimes lawsuits.

This chapter will focus on overtreated and inappropriately treated patients, those receiving more medical care than optimal or the wrong care. We’ll quantify the size of these problems and identify 4 key care categories that ultimately harm patients both medically and financially.

We’ll then introduce some very simple ways to avoid these problems as an overview. I’ll go into solutions in much more detail in the last section of this book.

We’ll call this over- and inappropriate care phenomenon ‘slippage’: stuff that shouldn’t happen but does. I got this term from David Cordiani, CEO of Cigna who introduced it in his keynote talk at Yale’s annual Healthcare Conference in April, 2015. ‘Slippage’ is to healthcare what ‘breakage’ is to shipping and ‘spoilage’ is to food service – inevitable problems at afflict a specific industry. Healthy industries keep their slippage factor under control.

Healthcare slippage, though, is way out of control. Cordani pegged the slippage amount at ‘at least 25%’ of all US healthcare spending but he added that the real figure is probably much more. I and others think he’s right about the second bit ‘probably much more’.

Aetna for example, another huge national for-profit health insurer, suggests its website that

Wasteful spending likely accounts for between one-third and one-half of all US healthcare spending.[13]

Pricewaterhouse Coopers, quoted on that Aetna site, calculates that up to half of all US healthcare spending is the result of waste. That was $750 billion according to the Institute of Medicine in 2009 or, inflated to 2017 medical spending, around $1.2 trillion.

For comparison, our $1.2 trillion healthcare waste factor about equals the *entire* gdp of Russia [14]

Aetna claims that the biggest area of excess is defensive medicine including redundant, inappropriate or unnecessary tests and procedures. I’d add redundant, inappropriate, unnecessary or ineffective medications to Aetna’s list.

And the Dartmouth Atlas, generally considered the bible of healthcare utilization analytics, uses a widely quoted estimate of ‘up to about 1/3’ of all US healthcare spending but added ‘we view this as an underestimate given the potential savings even in low cost regions’.[15]

I think they’re right, especially about the ‘underestimate’ bit.

Waste, at about 40% of spending (I use a more conservative estimate than Price Waterhouse or Aetna), is the largest single expenditure category in our entire healthcare system. Compare it to

- Coronary care, about 10% of spending
- Diabetes and cancer, about 5% each

When searching for ways to reduce healthcare spending, start with --- and end with --- reducing unnecessary expenditures. **Any other path to spending reduction is a waste of time and effort.**

The Slippage Culprit

[13] http://www.aetna.com/health-reform-connection/aetnas-vision/facts-about-costs.html

[14] http://statisticstimes.com/economy/projected-world-gdp-ranking.php

[15] http://www.dartmouthatlas.org/keyissues/issue.aspx?con=1338

Uwe Reinhardt, economics professor at Princeton, has suggested the culprit behind high US healthcare spending: employers! [16] Some 160 million Americans get health insurance through their employer while about 50 million get Medicare, another 50 million get Medicaid and a few others get financing from various smaller programs like the Veteran's Administration.

Employer funded health insurance costs, on average, about $10,000 per policy (combination of individual, dual and family plans) split between employer and employee contributions. About $4,000 of that $10,000 is wasted on unnecessary, inappropriate or redundant tests, medications and procedures according to Aetna, Price Waterhouse, Cigna, the Dartmouth Atlas and others.

Reinhardt calls employers 'the sloppiest purchases of healthcare anywhere in the world' claiming that

For more than half a century, employers have passively paid just about every healthcare bill that has been put before them, with few questions asked

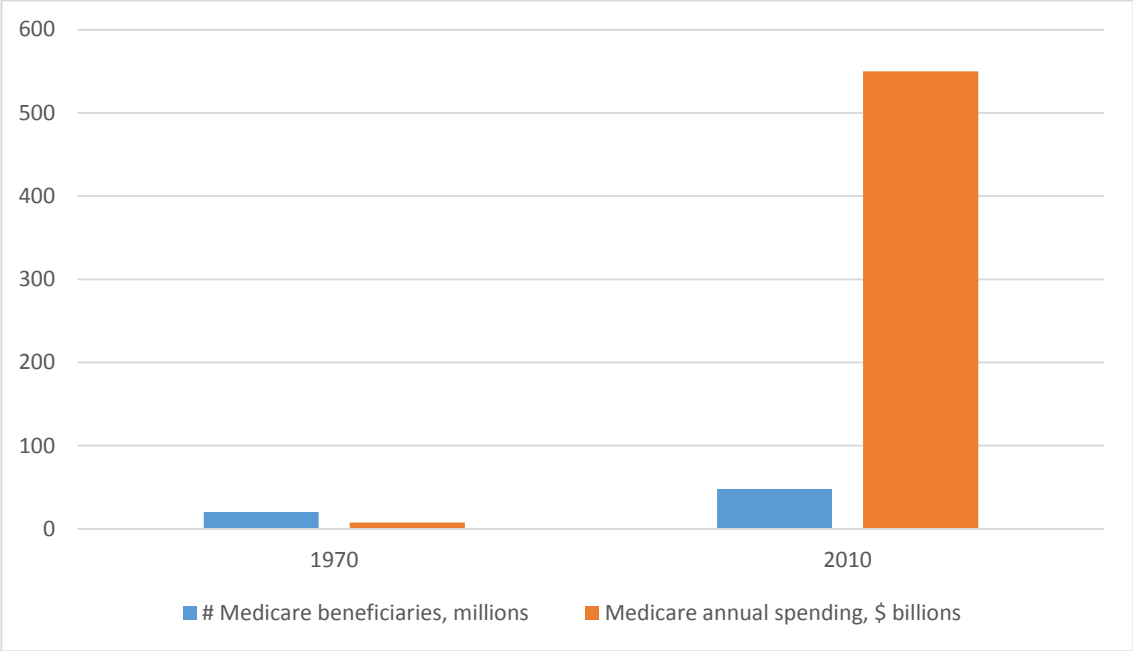
I'll follow up on the 'passively paid with few questions asked' theme in detail..

Medicare follows the employer's 'passively paid with few questions asked' lead, more or less. Consider these data points:

- In 1970 there were about 20 million Medicare beneficiaries at a total annual program cost of about $7.5 billion
- In 2010, there were 48 million Medicare beneficiaries at a total annual program cost of $550 billion.

Medicare beneficiaries and spending, 1970 and 2010

[16] Reinhardt, The Culprit Behind High US Healthcare Spending, New York Times, June 7, 2013



'Passively paid'? 'Few questions asked'? What does Reinhardt mean?

Four kinds of slippage

Let's identify four kinds of slippage that run rampant in our healthcare system. Employers and Medicare 'passively pay' for all these. This practice costs them, their employees, their beneficiaries and our entire system, dearly.

Here are the four kinds of slippage in no particular order:

- Care that doesn't work
- Care that works on some people but is overused so doesn't work on everyone, and quite possibly, not on *you*
- Care that patients don't want when they learn of their alternatives
- Care from low quality providers (clinicians and hospitals) when higher quality providers are available

I'll suggest that these four kinds of slippage account for the 40 or so percent waste factor in American healthcare.

Slippage Type 1: Care that doesn't work

Let's start with a couple specific examples of care that *should* work according to some medical theory and set of parameters, but in fact don't actually benefit patients. After presenting these examples, we'll consider the underlying issues raised to understand how patients can protect themselves from receiving useless medical interventions.

Extended release niacin. Niacin, a B vitamin, has been shown in tests to raise good (HDL) cholesterol. More 'good' cholesterol is associated with a lower heart attack risk.

Niacin doesn't lower cholesterol like commonly prescribed statin drugs. Instead it alters the ratio of good to bad cholesterol. The higher that ratio, the lower the heart attack risk, or so goes the theory.

Cardiologists have prescribed various niacin products for years. One such product, Niaspin manufactured by Abbott Labs, generated about $900 million in total 2009 sales. Overall some 6 million prescriptions were written annually in this country for niacin to raise good cholesterol.[17]

In 2011 the AIM-High trial of niacin effectiveness on patients published its results. While extended release niacin *is* associated with higher HDL levels and lower triglyceride levels, the AIM-High trial found, this *does not* translate to a reduction in cardiovascular events like heart attacks and strokes. [18] The heart attack and stroke rates of people taking and not taking niacin were the same.

In 2013, a second study, this time of Merck's niacin drug Tredaptive, then available in 40 countries though not in the US, found the same thing: no difference in coronary event rates between people taking Tredaptive and a statin, and those just taking the statin. [19] Dr. Steven Nissen, Chief of Cardiology at the Cleveland Clinic, summarized the Tredaptive study findings:[20]

It raised the good cholesterol. It lowered the bad cholesterol. It didn't improve clinical outcomes.

That is a stunning finding.

Two studies on two different niacin based drugs arrived at the same conclusion: niacin doesn't reduce rates of heart attacks or strokes. Patients taking niacin had the same coronary event rates as patients not taking it.

What do we call those 6 million niacin prescriptions and $900 million in Niaspin sales in the early 2000s? Error? Waste? Slippage?

Call it what you want…but employers and Medicare 'passively paid' for it 'with few questions asked'.

I think Reinhardt's on to something.

Zetia. Let's stick with cholesterol drugs in our second example. Zetia (ezetimibe), again manufactured by Merck, lowers cholesterol by blocking its absorption in the intestines. This differs from statins that block absorption in the liver.

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[17] CBS News estimate, Study: Heart Drug Tredaptive is Ineffective, Jonathan Lapook, July 29, 2013

[18] This sentence paraphrases the New England Journal of Medicine discussion of the AIM High study http://www.nejm.org/doi/full/10.1056/NEJMoa1107579#t=article

[19] http://www.reuters.com/article/merck-cholesterol-idUSL1N0BREGB20130227

[20] CBS News, op cit

Lowering cholesterol has been shown to reduce the risk of heart attacks, strokes and heart disease. People can lower their cholesterol through diet, exercise, medications or a combination of these three, with statins often the first choice of medication.

Some patients, however, can't tolerate statins due to side effects including liver problems. For these patients, Zetia appears an attractive alternative.

Thus Zetia offers benefits to two types of patients: those who can't tolerate statins and those who don't achieve their cholesterol goals from diet, exercise and statins alone. As Zetia's website, zetia.com, says

Adding Zetia to a statin is proven to help reduce cholesterol more than a statin alone.

Merck creatively packaged Zetia with Zocor, a statin they manufacture, into a product called Vytorin, thus appealing to both groups of patients:

- Zetia alone for patient who couldn't tolerate statins and
- Vytorin for patients who didn't achieve their cholesterol goals from statins alone.

Zetia's annual sales have hovered around $4 billion since 2008. That's for both Zetia and Vytorin.

Unfortunately for Zetia users, Vytorin users and employers who pay for this stuff, we should also point out the next sentence on zetia.com, the one following 'Adding Zetia to a statin in proven to help reduce cholesterol more than a statin alone', this one written in bold

Unlike some statins, Zetia has not been shown to prevent heart disease or heart attacks.

Somehow Merck designed a product that reduced cholesterol without reducing patient events!

Here are excerpts from the New York Times summary of Zetia's 2008 clinical trial:[21]

…failed to show that the drug had any benefits…

… no trial has ever shown that it can reduce heart attacks and strokes — or even that it reduces the growth of the fatty plaques in arteries that can cause heart problems….

… patients taking Vytorin actually had more growth in fatty plaques in their carotid arteries than those on Zocor (Merck's statin)…

Our old friend Steve Nissen from the Cleveland Clinic called these results 'shocking'. [22]

Harlan Krumloz, cardiologist at Yale Medical School went even further

How can a drug have $4 billion in sales without any evidence of benefit?[23]

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[21] Drug Has No Benefit In Trial, Makers Say, Berenson, NY Times, January 14, 2008

[22] Ibid.

[23] Another Vytorin Mess for Merck, Herper, Forbes, Nov 15, 2009

And ‘why’, Uwe Reinhardt, the Princeton economist who started this article would presumably have asked, ‘would any employer pay for it?’

Atenolol. Let’s switch from cholesterol lowering to blood pressure lowering drugs this time.

High blood pressure is a common condition in which the long-term force of the blood against your artery walls is high enough that it may eventually cause health problems, such as heart disease. High blood pressure can damage the heart and coronary arteries and lead to heart attacks, strokes and death, among other events.[24]

Lowering blood pressure, therefore, should reduce the number of heart attacks, strokes and deaths. So strongly do physicians subscribe to this theory that they write millions of blood pressure lowering medication prescriptions annually, worth billions of dollars, including 36 million prescriptions for atenolol in 2010. Atenolol recorded $100 million in 2007 sales.

Unfortunately, again, the evidence does not support the theory. Start in 2003 with publication of the LIFE study on two of the most commonly prescribed blood pressure lowering medications - also called beta blockers - losartan and atenolol. [25] The study compared atenolol (an older drug) to losartan, a newer one, and found that people who took losartan had fewer strokes and lived longer than those who took atenolol. Conclusion #1: physicians should switch to prescribing losartan.

Not quite. Neither outperformed the placebo. In an editorial published in the European Heart Journal, Dr. Franz Messerli, writing for the European Society of Cardiology concluded

the LIFE study should be considered as the final straw that will break the camel’s back and hopefully motivate physicians to no longer expose their elderly hypertensive patients to the cost, inconvenience, adverse effects, and most importantly, to the inefficacy of beta-blockers.

Conclusion #2: physicians should stop prescribing atenolol to patients with high blood pressure.

The was followed up by a 2004 meta review in the Lancet entitled ‘Atenolol in hypertension: is it a wise choice?’ [26] Those reviewers found that

there were no outcome differences between atenolol and placebo in the four studies, comprising 6825 patients, who were followed up for a mean of 4.6 years on all-cause mortality, cardiovascular mortality, or myocardial infarction [heart attacks].

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[24] http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/WhyBloodPressureMatters/Why-Blood-Pressure-Matters_UCM_002051_Article.jsp

[25] See ‘The LIFE Study: The straw that should break the camel’s back’ by Franz Messerli for a brief summary in the European Heart Journal, March 2, 2003.

[26] http://www.ncbi.nlm.nih.gov/pubmed/15530629

The theme was then picked up in the March 15, 2005 issue of The American Family Physician, a publication of the American Association of Family Physicians, in an article entitled 'Should Atenolol Be Used for Hypertension?' by Dr. Henry Barry who concluded that, though atenolol *did* lower blood pressure

It does not appear to reduce the rates of cardiovascular mortality or morbidity.

Let's summarize:

- One major, high quality comparative study in 2003 concluded 'no benefit'
- A large meta study (that's a study-of-studies that reviews and compares results of several different comparative studies) in 2004 concluded 'no benefit'
- Physicians writing in various highly regarded journals – who reviewed the underlying study data – between 2003 and 2005 recommended *against* prescribing these drugs
- Atenolol went on to 2007 sales of $100 million and 36 million prescriptions in 2010.

'Passively paid with few questions asked'. I think so.

Vertebroplasty Let's switch focus now from medications to procedures. Consider vertebroplasty, a procedure to inject medical grade cement into fractured vertebra (back bones). This is a minimally invasive procedure that has a low complication rate, about 1 – 3%.[27] Complications include soft tissue damage, nerve root pain and compression, pulmonary embolism, respiratory and cardiac failure and death.

In 2008, the US market for vertebroplasty hit $245 million.

Then in 2009 the New England Journal of Medicine published results of two studies comparing vertebroplasty to a control group that received lidocaine (a skin numbing agent), massage and aromatherapy.

- The Australian study found 'no beneficial effect' of vertebroplasty compared to the control
- The Mayo study concluded that patient improvements were similar in the two groups.[28]

In other words, vertebroplasty worked as well as, but no better than, the safer and far cheaper placebo. Dr. David Kallmes, lead author of the Mayo study, summarized his findings this way. Patients who reported improvements, he said,

did not respond to simple local anesthesia---they responded to local anesthesia *that they thought was a vertebroplasty*.[29]

Results no better than the placebo but at higher costs and risks.

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[27] Estimate from Johns Hopkins Health Library

[28] For a good summary of those studies, with expanded comments, see Sham-Wow by Walter Eisner in Orthopedics This Week, August 11, 2009, https://ryortho.com/2009/08/sham-wow/

[29] Ibid. Emphasis in the original text.

Dr. Rachelle Buchbinder, lead author of the Australian study, doesn't think vertebroplasty should be performed anymore outside of research settings. There are some risks, she reasoned, without any demonstrated patient benefits.

The market for vertebroplasty then grew to about $1 billion in 2012.[30]

Read that last sentence again. Even though 2 high quality studies showed in 2009 that vertebroplasty works no better than a placebo, employers and Medicare paid hundreds of millions *more* for it 3 years later!

And that market, according to the research I've done, continues to grow.

'Passively paid with few questions asked'. A billion dollars here, a few hundred million there – after a while, this turns into real money.

Surgery for Knee Arthritis Let's stay with orthopedics for the final slippage example in this chapter. I could go on and on, but want to discuss the 3 other types of slippage introduced in the introduction. And I don't want to bore readers!

Knee osteoarthritis is a degenerative disease that causes pain, stiffness and decreased knee function. Arthroscopic surgery, including lavage (a procedure that removes particulate material such as cartilage fragments and calcium crystals) and debridement (surgical smoothing of articular surfaces and osteophytes) was the widely used treatment in the early 2000s despite the fact that, according to the New England Journal of Medicine 'scientific evidence to support its efficacy is lacking'. [31]

Estimates of the number of knee arthroscopies performed annually in the US vary.

- A 2002 New England Journal of Medicine study estimated 650,000 procedures at $5,000 each, creating a $3.25 billion market [32]
- A 2014 NEJM study estimated the market at 500,000 knee arthroscopies at about $20,000, generating a $10 billion market. [33]

How poorly does the scientific evidence support the efficacy of arthroscopic surgery to treat knee osteoarthritis?

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[30] http://www.slideshare.net/AnnaGrahm1/minimally-invasive-vertebral-compression-fracture-repair-market-in-2013-2019-transparency-market-research. I was unable to determine how much of this market is vertebroplasty to guessed at $1 billion. For our purposes, it doesn't matter much if the market is $800 million or $1.2 billion: THE PROCEDURE DOESN'T WORK ANY BETTER THAN A PLACEBO!

[31] Kirkley et al, A Randomized Trial of Arthroscopic Surgery for Osteoarthritis of the Knee, NEJM, September 11, 2008

[32] Moseley et al, A Controlled Trial of Arthroscopic Surgery for Osteoarthritis of the Knee, NEJM, July 11, 2002

[33] These estimates from Cram, et al, Total Knee Arthroscopy Volume, New England Journal of Medicine, Sept 19, 2014. I was unable to develop a specific number of procedures by year, nor estimate the annual growth rate of knee arthroscopies.

- A 2008 New England Journal of Medicine published study concluded that they 'failed to show a benefit of arthroscopic surgery for the treatment of osteoarthritis of the knee' [34]
- That built on the 2002 study that concluded 'At no point did [the] arthroscopic-intervention group have greater pain relief than the placebo group' and
    - 'This study provides strong evidence that arthroscopic lavage with or without debridement is not better than and appears to be equivalent to a placebo procedure in improving knee pain and self-reported function.
    - Indeed, at some points during follow-up, objective function was significantly worse in the debridement group than in the placebo group.' [35]

Those disagreeing with these studies present the usual 'weak study methodology' case, primarily, I would suggest, to protect their incomes. Even at our lower market estimate - $3 billion – that's certainly a big incentive for lots of people to protect their turfs.

But back to Reinhardt's employer-as-payer, passively paying with few questions asked:

- Why, after the 2002 paper, did employers continue to pay for arthroscopic knee surgery '*with few questions asked*'?
- Why after the 2008 study did employers continue their silence?
- How, in the face of these studies, did corporate benefits administrators alter plan designs or payment features to protect their employees from receiving unnecessary care? (Short answer: they didn't)
- What, when faced with evidence like I presented above, did brokers and carriers do to reduce employer payment exposure to ineffective treatments? (Ditto)

Employers, carriers, benefits administrators and brokers apparently decided to raise plan deductibles, post some prices, introduce wellness programs (what possible impact could those have on slippage?), narrow some networks and then let the market work its magic, rather than ask the tough questions raised by these 5 examples.

Not, it seems, such a wise decision because it cost employers and employees billions:

- $900 million for Niaspin that did not reduce cardiovascular events or disease
- $4 billion for Zetia that, according to its own website, failed to prevent cardiovascular disease or events
- $100 million for Atenolol that was no better than a placebo in preventing all-cause mortality, cardiovascular mortality or heart attacks
- $1 billion for vertebroplasty that worked no better than lidocaine, massage and aroma therapy
- $3 billion or more for knee arthroscopy that worked no better than and maybe even worse than placebos to treat osteoarthritis

Such is the size and scope of Slippage Type 1, treatments that don't work. Remember that these are but 5 examples of the *dozens* or *hundreds* (thousands?) of ineffective

[34] Kirkley, op cit

[35] Moseley, op cit

medications and treatments that Americans get annually. This list could go on and on. In fact Dr. Vinay Prasad, a brilliant researcher, has published a list of 150+ ineffective interventions using just 1 source and 1 methodology.[36]

Rather than bore readers with more examples or treatments that don't work, let's now turn to Slippage Type 2: treatments that work but are overused so may not work *on you*.

Slippage Type 2: Care that is overused so may not work *on you*

The Dartmouth Atlas of Healthcare tracks treatment utilization rates for dozens of common medical procedures like angioplasty, back surgery and mastectomy by region using Medicare data. Medicare is our national single payer system for elderly people and has an extensive publicly available data base for researchers to use.

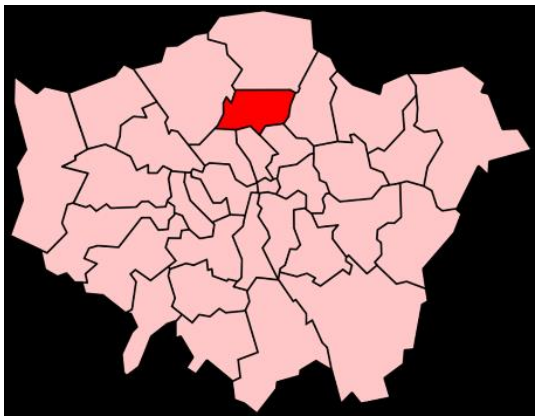
Dartmouth researchers have coined the phrase 'treatment variation' to show how different physicians and hospitals treat similar patients differently. Their general conclusions, after studying this phenomenon for years:

- Treatment variation accounts for about 1/3 of all medical spending
- Utilization rate differences come primarily from physician treatment orientation differences, not patient health differences
- Patients receiving more care, or care above the minimum available in any US region, do not enjoy better outcomes or longevity, only more cost and risk

I'll introduce the notion of treatment variation historically. That seems to help people understand it most easily. I'll then provide current examples and again ask a version of Reinhardt's 'passively paid with few questions asked' question: *what are benefits professionals doing to mitigate this kind of slippage*?

The Hornsey experience

Let's start in Hornsey, England in the late 1920s, site of one of the earliest studies of treatment variation. Hornsey is one of 32 London boroughs. I've inserted a map showing the various London boroughs with Horney highlighted.



[36] See Prasad, Ending Medical Reversal

In the 1920s and ‘30s, each London borough had its own school and, more importantly for our purposes, its own school physician. This person was responsible for providing medical care to the local school children.

- In 1928, the Hornsey school physician performed 186 tonsillectomies on Hornsey school kids. He then moved away or retired – the history books don’t tell us.
- In 1929 a new physician named Gower took over. He performed 12 tonsillectomies on Hornsey kids.

Hornsey’s population hadn’t changed numerically, financially or epidemiologically. Only the physician changed.

- The old Hornsey school doc averaged 169 tonsillectomies annually from 1921 – 1928
- Gower averaged 13 from 1929 – 1933

Researchers have not identified any medical decline in Hornsey kids following Gower’s lower rate of tonsillectomies. They cannot attribute the rate decrease to anything except the change of physician.

How many of these tonsillectomies were unnecessary? At least 156 during the old physician’s reign. The data clearly indicate that Hornsey kids didn’t benefit from them but faced all the associated risks. In this case, some 92% of tonsillectomies were waste.

Could that waste percentage be even higher? In other words, were all of Gower’s 13 annual tonsillectomies really necessary? Might the real number of medically necessary tonsillectomies be 9 each year … or 6 …. or 3? We simply don’t know.

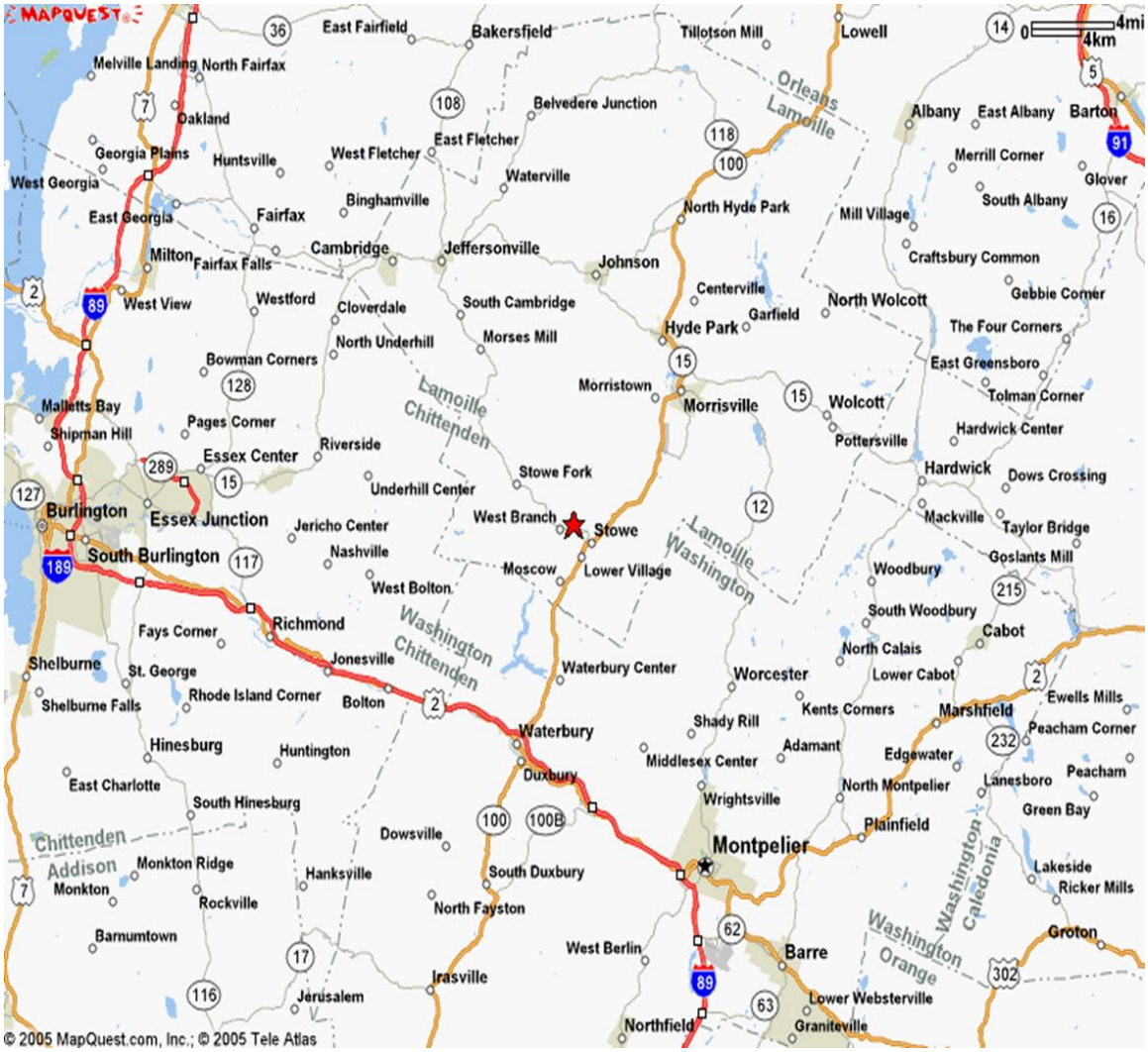
And, somewhat surprisingly perhaps, this same tonsillectomy waste factor appears in different geographic areas over the next several decades.

Waterbury Vermont, 40 years later

Jack Wennberg, founder of the Dartmouth Atlas among other things, knew of the Hornsey experience and studied tonsillectomy rates in Vermont towns in the 1970s to see if the same treatment variations existed there. Instead of studying rate differences in the same town over time, he studied rate differences among similar Vermont towns at the same time.

He found significant variation in tonsillectomy rates across Vermont, including dramatic differences between Stowe & Morrisville on the one hand, and Waterbury on the other.

I’ve attached a map of central Vermont to show the geographic proximity, and marked Stowe with a red star. Morrisville is just north on Route 100, Waterbury just south.



About 60% of the kids in Stowe and Morrisville had tonsillectomies by age 16 while less than 20% of Waterbury kids did. Why? The three towns shared similar demographics.

Wennberg learned that kids in Stowe and Morrisville used a pediatric practice located in the Morrisville hospital catchment area while kids in Waterbury tended to use a different physician group, affiliated with a different hospital.[37] Stowe families generally went to Morrisville for medical care because it was closer. As Wennberg, who owned a farm in Waterbury, said 'had our home been located 1000 years further north, we would have been in the Stowe school district, where by age 15, more than 60% of children had lost their tonsils.'

- The Morrisville pediatricians apparently preferred to remove tonsils upon early indications of serious inflammation

[37] John Wennberg, Tracking Medicine, page 18

- The Waterbury group apparently preferred to wait and see if the inflammation would go away on its own … more or less Gower's approach in Hornsey, 40 years earlier.
- Both groups, Wennberg learned, were unaware of the other's (different) approach
- Kids using both groups appeared to enjoy similar long term health status's

But the kids using Morrisville pediatricians faced more surgical risks than the Waterbury kids. And, the US using a different healthcare financing system than Hornsey, parents of Stowe and Morrisville kids faced higher tonsillectomy treatment costs than Waterbury parents.

Again, as in Hornsey, physician treatment orientation differences, not patient epidemiological differences, drove intervention rate differences. Those getting more care did not enjoy better outcomes, only higher risks and costs.

Consider the consumer engagement aspect. (Yes, I know that 'consumer engagement' didn't become a popular term in healthcare for years to come, but go with the concept here.)

- A concerned parent might ask 'do tonsillectomies work on kids like mine?' Both the Morrisville and Waterbury pediatricians would have answered similarly: yes

- Second standard question: 'Do you generate good results from your treatment of kids like mine?' Both pediatrician groups would have answered similarly: yes

- Third question: 'if this was your child, would you recommend the same treatment as you recommend for my child?' Again, similar pediatrician answers: yes

- Fourth question, this time from an exceptionally well-informed parent: 'how many children like mine do you treat annually?' This parent obviously understood that physician experience is a key factor predicting patient outcomes. Both the Stowe/Morrisville and Waterbury pediatricians would probably have answered similarly, since both appeared to have sufficient tonsillectomy experience to generate good outcomes.

But nowhere in this question paradigm does the question of excessive and wasteful care arise! Parents untrained to ask *all* the questions, or the *right* questions, would, at best, have asked if the proposed treatment works. I've already discussed some problems with that approach. In these examples – with more to follow – we introduce a different kind of unnecessary care: things that work sometimes but are overused so may not benefit *your child* or *you*.

An interesting footnote: once Wennberg showed these data to both pediatrician groups, the Middlebury folks reduced their tonsillectomy rates to mirror Waterbury. With, as expected, no reduction in Stowe/Morrisville children's health.

Massachusetts and Connecticut 40 years later

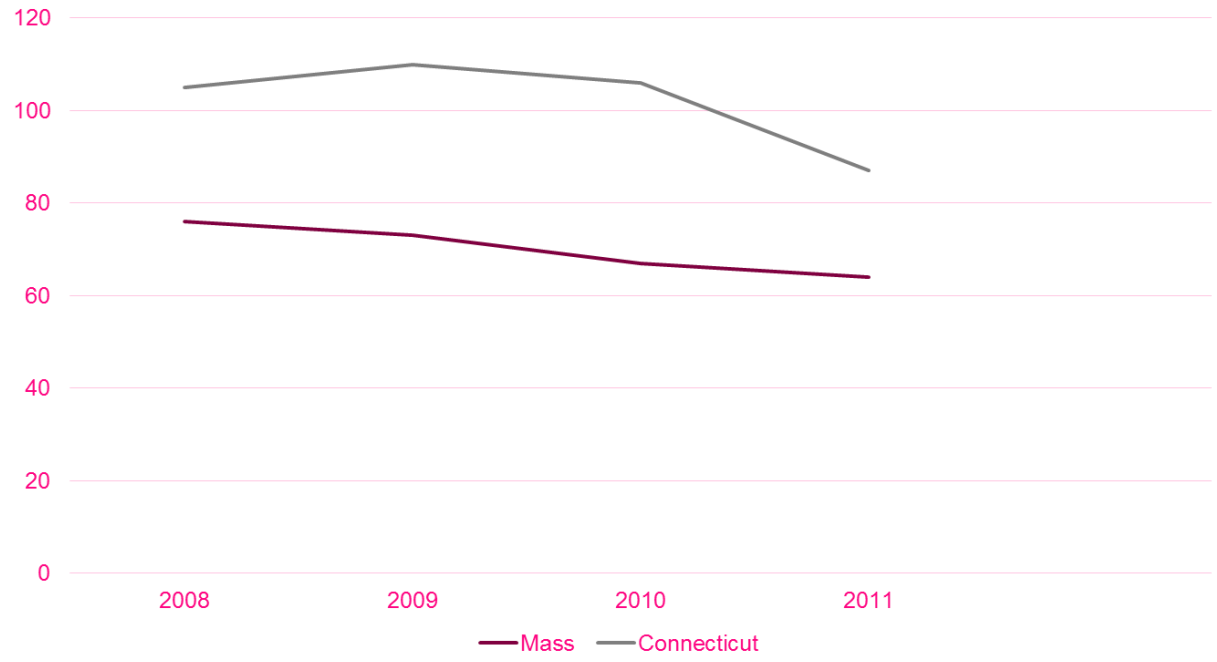
Let's summarize:

- Physician treatment orientation differences led to dramatic tonsillectomy rate differences in Hornsey and Vermont
- In neither case did patient health differences lead to intervention rate differences
- In neither case did patients receiving more care enjoy better outcomes
- In both cases, patients receiving more care subjected themselves to more risk and cost

Now let's jump another 40 years to review mastectomy rates in Massachusetts and Connecticut, again from the Dartmouth Atlas.

Female Medicare beneficiaries in Connecticut, using Connecticut hospitals, get about 50% more mastectomies per 100,000 than do similar women in Massachusetts. This rate has been roughly constant since 2008.

Here's a chart showing the mastectomy rates each year from 2008 – 2011. The Connecticut rate is the top line, Massachusetts the bottom. [38]



Are these surgical rate differences driven by patient health differences or physician treatment orientation differences?

[38] Data from the Dartmouth Atlas

- In Hornsey, tonsillectomy rate differences were driven by physician orientation differences
- In Stowe – Waterbury, tonsillectomy rate differences were driven by physician orientation differences
- How can we determine what's driving the mastectomy rate differences in Massachusetts and Connecticut?

One useful data source comes from the American Cancer Society. The ACS tracks cancer incidence rates by state, as well as cancer mortality rates. Let's hypothesize that if the breast cancer incidence rates are similar in Massachusetts and Connecticut, then the rate differences are driven by physician orientation.

Here are the breast cancer incidence rates for 2011 per 100,000 women: [39]

	Non Hispanic White	African American	Hispanic
Connecticut	139	113	127
Massachusetts	137	109	104

There appears very little cancer incidence rate difference between the two states. Note that Hispanics are about 10% of each state's population so that incidence difference would play a minor role in the overall statistics.

Again, treatment variation is driven by physician orientation, not patient. Women asking the standard treatment questions – is this a good treatment? Do you get good results? Would you recommend this treatment for your wife or sister? – would get the same answers in Massachusetts and Connecticut.

Just like the parents in Stowe and Waterbury.

Or Hornsey.

But the Connecticut women wouldn't avoid those 50% unnecessary mastectomies.

Now remember the outcome experiences in Hornsey and Vermont. In both cases, kids receiving more tonsillectomies did not enjoy better long term health. Is this the case in Connecticut also? How can we tell?

The American Cancer Society also tracks breast cancer mortality rates. Here's a test. If the higher rate of mastectomies in Connecticut from 2008 – 2011 generated patient benefit, we would expect to see lower Connecticut breast cancer mortality rates in 2011-2012 than in Massachusetts. The rate difference would quantify the additional mastectomy benefit.

Unfortunately, we do not see this. Here are the breast cancer mortality rates for 2011-2012: [40]

[39] American Cancer Society, Cancer Facts and Figures, 2011 - 2012

	Non-Hispanic White	African American	Hispanic
Connecticut	24.0	27.4	12.1
Massachusetts	23.5	27.3	12.1

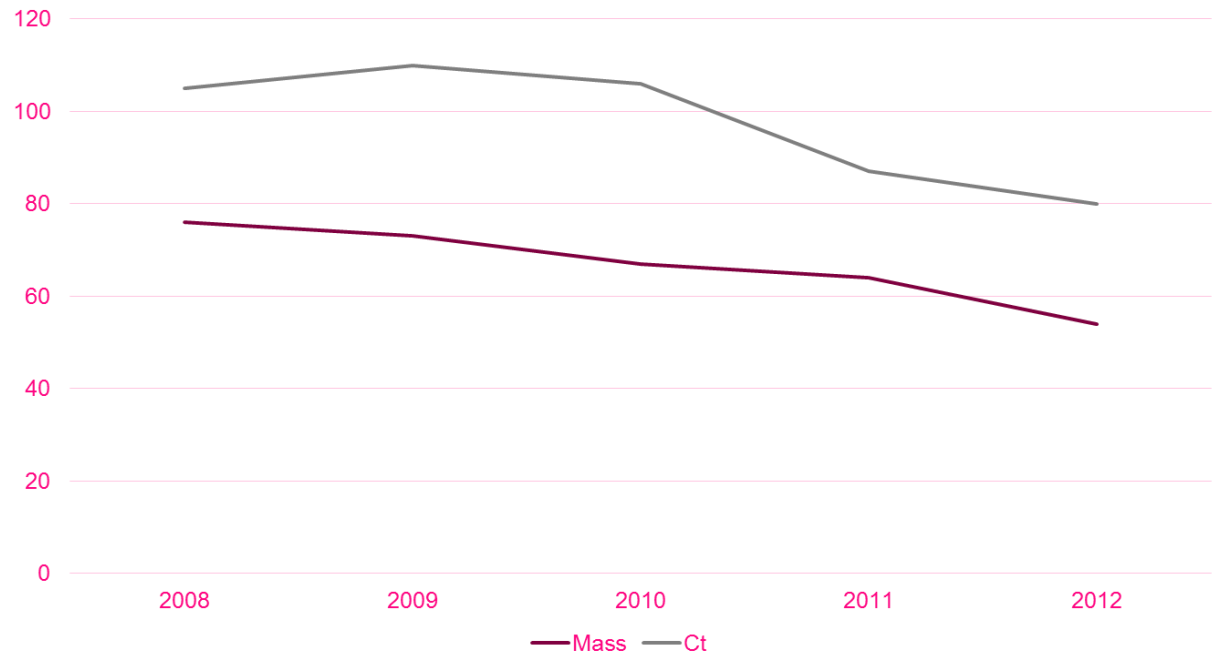
Again, exactly as in Hornsey and Vermont, the additional treatments did not benefit patients.

One additional thought here: Wennberg claims that the best predictor of your chance of surgery is the rate trend of similar surgeries in your region over the previous several years. He bases that on, among others, the Hornsey and Vermont tonsillectomy experiences.

If Wennberg is right, we would expect that in 2012, Connecticut would perform about 50% more mastectomies than Massachusetts. You can see the 2008 – 2011 data in the chart above.

In other words, Wennberg predicts that physician orientation carries more weight than patient epidemiology when predicting future surgery rates. Is he right?

Here are the 2012 rates, exactly as Wennberg predicted.



[40] http://www.cancer.org/acs/groups/content/@epidemiologysurveilance/documents/document/acspc-030975.pdf

We don't, as of the time of writing, have the 2013 data. But I predict that Connecticut will perform about 70 or so mastectomies per 100,000 Medicare women and Massachusetts about 50. Would anyone care to disagree?

I suspect, but don't know for sure, that mastectomy rates in the non-Medicare population mirror the Medicare rates in these two states. That means Connecticut employers pay for about 50% unnecessary mastectomies and Connecticut employees face 50% more related risks and costs.

This Connecticut - Massachusetts mastectomy variation gets replayed for dozens of procedures throughout our country. The Dartmouth folks estimate that if you add all the excesses above the minimum, for all these procedures, you'll arrive at that 1/3 waste amount. I'd recommend that anyone interested in this topic visit the Dartmouth Atlas website. It's not particularly user friendly but it's packed with fascinating information.

One final comment on treatment variation using the spending – outcome scale. If more medical spending led to better outcomes, we would expect states in which residents receive more medical care, per capita, to exhibit longer lives, as living is the most profound medical outcome. But we don't see that.

Here's a chart of 2012 Medicare spending per capita compared to 2013 longevity at birth estimates. No correlations!

- See how Minnesotans, spending $7,788 each lived almost 6 years longer than Mississippians, spending $3,000 more.
- Or West Virginians, spending $9,942 each lived 4.5 years less long than Washingtonians spending $2,000 each less.

States	$/capita 2012 (Dartmouth Atlas)	Longevity at birth (Measure of America, 2013)
Massachusetts	$9,407	80.5
Minnesota	$7,788	80.9
Washington state	$7,959	79.9
Utah	$8,774	80.2
Mississippi	$10,747	75.0
Oklahoma	$10,243	75.9
West Virginia	$9,942	75.4

Medicare pays roughly the same for all treatments nationally, with some minor cost of living adjustments. Assume, for our current purposes, that all Medicare treatments were

actually effective in 2012 – no niacin, Zetia, vertebroplasty etc. This chart then shows that many treatments *that work*, don't actually work *on you*. It's the definition of excessive care.

According to our Dartmouth friends, that comes to about 1/3 of all spending or, in 2017, around $1 trillion!

Plus, of course, all the treatments that don't work at all in the low cost states like Minnesota.

I think it's time for employers and Medicare to begin asking tough questions and stop 'passively paying' with few questions asked!

A second kind of overuse
Defining 'average risk' in a time of income inequality

There's a second, completely unrelated but equally important definition of 'overuse' based on some fascinating British longitudinal research called the Whitehall studies. These tracked disease and death rates among British civil servants over a 40+ year period.

The Whitehall studies showed that disease and morality rates correlate closely with socio-economic status: the higher the status, the lower the mortality rates and vice versa.

In fact the studies concluded that low status / low income folks are about twice as likely to die from heart disease as high income, high status folks *even if their biological risk factors like cholesterol levels, blood pressure and smoking status are the same.*

This is, of course, startling. Here's the background.

Whitehall is to Britain what Capitol Hill is to America, the office location of national civil servants. Whitehall was an excellent petri dish in which to study disease rates and social status for two primary reasons:

First, Whitehall was, and largely still is, a highly stratified work environment. Top echelon civil servants attended Oxford or Cambridge (generally – they're the folks who speak so beautifully), earned the highest salaries and enjoyed the highest job status. Slightly lower echelon civil servants attended less well-known universities, earned less and enjoyed somewhat lower status. The lowest echelon folks were high school dropouts, earned far less and enjoyed much lower job status.

As a general rule, the echelon in which you joined the civil service was the echelon from which you retired: movement up was rare and unlikely.

This allowed researchers to identify long term impacts of status and income – or lack thereof - on people's health.

Second, British privacy laws allowed researchers to identify specific individuals and their specific medical risk factors like cholesterol levels and smoking rates during much of the Whitehall study period. Thus they could learn that Joe, a hypothetical 48 year old high school dropout, had a total cholesterol of 245, smoked 1 ½ packs of cigarettes daily and exercised rarely during a specific year or years.

They could then track Joe's health over time.

This allowed researchers to isolate medical / biological disease risk factors from economic / status ones.

Here are Whitehall's conclusions, courtesy of Sir Michael Marmot, a study leader: [41]

Firstly, just looking at heart disease, it was not the case that people in high stress jobs had a higher risk of heart attack, rather it went exactly the other way: people at the bottom of the hierarchy had a higher risk of heart attacks.

Secondly, it was a social gradient. The lower you were in the hierarchy, the higher the risk. So it wasn't top versus bottom, but it was graded.

And, thirdly, the social gradient applied to all the major causes of death, to cardiovascular disease, to gastrointestinal disease, to renal disease, to stroke, to accidental and violent deaths, to cancers that were not related to smoking as well as cancers that were related to smoking

Marmot found that those at the bottom of the status hierarchy were 3x more likely to die of heart disease than those at the top but not for the reasons you might expect, like poorer diets, less exercise, higher smoking rates etc.

We looked at the usual risk factors that one believes that are related to lifestyle -- smoking prime among them, but plasma cholesterol, related in part to fatty diet and an overweight, sedentary lifestyle.

*We asked **how much** of the social gradient in coronary disease could be accounted for by smoking, blood pressure, cholesterol, overweight, and being sedentary.*

The answer was somewhere between a quarter and a third, no more.

After controlling for these risk factors, the lowest grade workers were still about twice as likely to die of heart disease as the highest grade.

Thus, according to Whitehall, if your 'average' 10 year heart attack risk, based on age, cholesterol, BMI, smoking etc, is 8%, your 'actual' risk may be much higher or lower depending on your status and income.

And, equally importantly, medical interventions designed to reduce that risk may impact people quite differently based on their status and income.

The American healthcare system has largely ignored these findings and lessons and assumes that 'average' risk applies equally to everyone. Largely ignored, but not entirely.

In 2004, the New England Journal of Medicine published a commentary entitled Class: The Ignored Determinant of the Nation's Health which closely echoed Whitehall's findings, saying [42]

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[41] http://globetrotter.berkeley.edu/people2/Marmot/marmot-con3.html

[42] New England Journal of Medicine, September 9, 2004

- Differences in rates of premature death, illness and disability are closely tied to socio-economic status
- Unhealthy behavior and lifestyle ***alone*** do not explain the poor health of those in lower classes
- **There is something about lower socioeconomic status *itself* that increases the risk of premature death**

In 2006, the International Journal of Cancer published a study of breast cancer survival rates that concluded (direct quotes) [43]

Breast cancer patients of low Socio-Economic Status have an increased risk of dying as a result of breast cancer compared to the risk in patients of high SES.

Low SES patients were diagnosed at a later stage, had different tumor characteristics and more often received suboptimal treatment [but]

Even after adjusting for all these factors, the risk of dying of breast cancer remained 70% higher among patients of low SES than that among patients of high SES.

Perhaps the best summary of all this - the impact of income / status / social class - comes from a Harvard Magazine article on two Harvard Public Health researchers who study disease rates differences among social groups [44]

an individual's health can't be torn from context and history. We are both social and biological beings….**and the social is every bit as real as the biological**

As our incomes and related social status / sense of control over our lives increasingly bifurcate, the notion of 'average risk' takes on less meaning. I suspect, but don't have data to prove this, that high status, well insured people tend to overestimate disease risks and overmedicate themselves as a result.

This exposes them to all the medication risks without the desired benefits.

I can't guess either the financial or population level side effect impacts.

Slippage Type 3: Care that patients don't want once they learn the alternatives

Let's summarize again. Slippage or 'stuff that doesn't work the way it should' represents about 40% of medical spending or some $1.2 trillion annually. So far we've identified 2 types of slippage.

- Care that doesn't provide any patient benefits.

[43] Bouchardy et al, Social class is an important and independent prognostic factor of breast cancer mortality, International Journal of Cancer, Vol 119, Issue 5, March 2006

[44] Drexler, The People's Epidemiologists, Harvard Magazine, March-April, 2006

- Care that provides patient benefits but is overused so may not benefit a specific patient.

Now let's introduce a new concept to serve as the basis for understanding the third type of slippage – care that patients don't want once they learn of the alternatives - again courtesy of Dartmouth's John Wennberg: *preference-sensitive care*.

Wennberg estimates that patients have treatment choices about 85% of the time – surgery or physical therapy for rotator cuff tears, mastectomy, lumpectomy or watchful waiting for early stage breast cancer, etc. Outcomes as measured by mortality, range of motion or pain reduction are often similar but the processes, lifestyle impacts and costs can vary dramatically.

Here's a quick case study to highlight these points: I've recently interviewed two men in their mid-60s who had rotator cuff tears. One, a home remodeling contractor, opted for surgery, ultimately regained almost full range of motion but was out of work for several months during his recovery. When I spoke with him, he had regained his strength and was, once again, loading ladders on his truck and remodeling bathrooms and kitchens.

But he wasn't terribly happy with the process.

The other, an insurance broker and avid sailor, opted for physical therapy, regained about 95% range of motion, and missed no work and little sailing. He was beaming when he described his treatment.

Different decisions based on different treatment preferences and knowledge bases for different people.

But both men, according to Wennberg's preference-sensitive theory, made the right decision for them at the time.

Wennberg's other point: for the 85% of medical care that allows for treatment choices, wise and well informed patients can reasonably prefer a form of treatment that differs from the one their physician prescribes or that their friends and colleagues may prefer.

Unfortunately, since patients today often delegate decision making to doctors, physician preference rather than patient preference often determines which treatment patients ultimately receive.[45] This is not always such a good thing.

Preference-sensitive decision making
among patients with access to good information

Various studies have assessed the impact of patient education on preference-sensitive decision making and have generally arrived at the same conclusion: patients tend to prefer lower risk, less invasive and often less expensive treatment options. The general trend is about a 20 – 25% shift from more invasive, higher risk procedures to less invasive, lower risk and typically lower cost options.

[45] See Wennberg's book Tracking Medicine for a more detailed discussion. These comments come from pages 4 and 9.

One 2012 study in Washington State found that patients who went through a thorough treatment comparison process had 26% fewer hip replacement surgeries, 38% fewer knee replacements and cost about 15% less than patients who did not go through the same process.[46]

Other studies have indicated

- 20% fewer stent insertions
- 40% fewer prostate removal surgeries
- 40% fewer spinal fusion surgeries for herniated disks [47]

These studies and others suggest that physicians need to diagnose both the *medical condition* and the *patient* to prescribe the appropriate intervention. A classic analysis, Patient Preferences Matter, written by two medical school, professors and one business school prof, highlights the impact. [48] Some summary quotes:

Health care may be the only industry in which giving customers what they really want would save money.

Well-informed patients consume less medicine – and not just a little bit less, but much less.

When doctors accurately diagnose patient preferences, an enormous source of waste – the delivery of unwanted services – is eliminated.

It is particularly notable that when doctors accurately diagnose the preferences of patients struggling with long-term conditions, those patients are far more likely to keep their conditions under control, leading to fewer hospitalizations and emergency department visits.

In other words, when doctors assume they know which treatment process a patient wants, they substitute their own preferences for the patient's. This is a classic situation highlighting the difference between advice *giving* and advice *receiving*. The advice recipient may or may not buy into the thought process of the advice giver.

Here's a list of some potential preference-sensitive considerations that affect physician 'advice givers' differently from patient 'advice receivers'. This is not an exhaustive list.

[46] Arterburn, Introducing Decision Aids, Health Affairs, September 2012

[47] These conclusions were discussed at the 2014 Dartmouth Summer Institute for Informed Patient Choice, Hanover, NH

[48] Mulley, et al, Patient Preferences Matter, Kings Fund, 2012. These quotes come from page 9.

Physician Issues and Concerns	Patient Issues and Concerns
Success	Success
Fear of lawsuit	Pain
Local / regional / hospital norms	Recovery period
Income	Family impact
Time constraints	Personal preferences (e.g. religious)
Avoid feeling guilty	Cost

The question 'what would you do if you were me, doc?' becomes unfair. The physician advice giver can't remove him or herself entirely from the constraints imposed on that role.

Financial impact estimates

How much could our healthcare system save if all patients were well informed about their treatment options and received the appropriate preference-sensitive care? The Patient Preferences Matter scholars suggest that a 16% or so systemic savings is possible under maximum patient engagement assumptions. But I think this estimate is low!

The Patient Preferences folks use British National Health Service costs and practices as a basis for their savings projections. A Dartmouth Press Release suggested potential savings of $50 billion to the NHS annually under optimal conditions.[49] The total NHS budget runs about $250 billion annually, indicating a potential 20% savings.

But the British only spend about $3200 per capita, while we spend about $10,000 per capita reflecting not only higher American prices but higher American healthcare utilization.

I suspect that the 20% potential NHS savings translates to a higher potential savings in the US though I can't guess how much.

Uwe Reinhardt's question – remember him? – becomes even more pointed. How can American business, the world center for innovation and cost cutting, ignore this 15%+ potential savings on healthcare costs? How can our business community not demand data from our medical community indicating likely outcomes from alternative treatment processes? How can business 'passively pay with few questions asked' for the rotator cuff surgeries, knee replacements, mastectomies and prostate removals that patients clearly prefer *not* to have in significant numbers when given the data and options?

[49] http://www.dartmouth.edu/press-releases/misdiagnoses110812.html

Slippage Type 4: Care from low quality providers (specialists, surgeons and hospitals)

Let's return to Reinhardt's original claim that employers 'passively pay with few questions asked' for lots of their employees' medical care and that this is a primary cause of high healthcare costs in the US. While neither employers nor employees want the employer to be intimately involved in making medical decisions for employees, employers can play a huge role in helping employees choose high quality providers.

What is a high quality medical provider? I'll propose a simple definition: high quality providers generate good patient outcomes with few redos and errors. High quality providers more often than low quality providers get it right the first time. Patients using high quality providers enjoy lower operating mortality rates and shorter hospital stays than patients using low quality providers.

As such, high quality providers almost always cost less. Each 'redo' from a low quality provider adds additional days in the hospital and additional treatment costs. Ditto for each error from a low quality provider.

Clearly, wise patients want to use high quality specialists and hospitals whenever possible and employers generally save money when patients do this.

Identifying high quality medical providers

Numerous websites today purport to help patients differentiate between high and low quality care. I don't care for any of them, don't think they convey particularly useful information and don't think they help physicians or patients make wise decisions very often.

I'll provide a quick and simple provider selection method below, but first want to provide some sites that are often discussed in blogs and articles. [50] Again, I think visiting these is a waste of time.

- Medicare's Hospital Compare website identifies hospitals with higher and lower than average mortality rates and readmission rates for a small handful of procedures. I don't think this is very helpful since 80 or 90% of hospitals fall within the 'average' range and the 'above' or 'below' average hospitals sometimes change year-to-year. This suggests, to me at least, problems with the reporting statistics. I'm not a fan.

[50] I got this list from Austin Frakt's article in the New York Times, August 22, 2016 'The Life Changing Magic of Choosing the Right Hospital'.

- HospitalInspections.org, run by the Association of Health Care Journalists, lists defects identified at hospitals during inspections. I didn't find much decision making value here.

One hospital that I selected at random, for example, had a 2011 violation for 'failure to ensure that clinical information regarding observational status was documented in the medical record'. [51] I have no idea what this means about the hospital's orthopedic surgical quality in 2016.

- State websites tend simply to list the services provided by various hospitals. I checked the New York State hospital website profiles.health.ny.gov about Westfield Memorial Hospital – mainly because I used to spend summers near there – and saw only a list of services, bed types, extension clinics, administrative services and financial aid.

I have no idea how well or badly various patients are treated.

Again, a fairly useless website.

And that's the current state-of-the-art.

I'll propose a much simpler and more useful method of choosing a high quality surgeon or hospital:

- Determine the annual volume of patients with your condition treated annually by each surgeon and hospital. The higher the volume, the better your chances. Simple!

Though not a guarantee of better outcomes, the higher volume providers increase the patient's chance of enjoying good outcomes. At this time, that's the best we can do.

Here are some studies indicating that higher volume hospitals generate better patient outcomes. I'll discuss surgeons second and then explain third, why all this is the case.

One classic study of the impact of **hospital volume** on mortality rates was published by Dr. John Birkmeyer of the Dartmouth-Hitchcock Health System and his colleagues. [52] They analyzed the impact of hospital volume on mortality rates for 2.5 million patients who underwent 14 different medical procedures over a 5 year period.

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[51] This was a defect at Baystate Franklin Medical Center in Greenfield, Massachusetts noted June 24, 2011. I read it in August, 2016.

[52] Birkmeyer et al, Hospital Volume and Surgical Mortality in the United States, NEJM, April 11, 2002

Patients, they concluded, can significantly reduce their operative mortality risk by choosing a high volume hospital. Though the specific mortality rate reduction varied by procedure, Birkmeyer and his colleagues identified a surgical quality gap between high and low volume hospitals.

They concluded three things about this gap:

First, it is **large** enough to concern patients.

Second, it is **consistent** across different medical specialties and research studies, and

Third, it **makes sense**. High volume hospitals, they reason, tend to have more consistent processes for postoperative care, better-staffed intensive care units, and greater resources for dealing with postoperative complications.

- For example, a 2011 study of heart failure patients estimated that 20,000 lives could be saved annually if patients at low volume hospitals switched to high volume hospitals.[53]

- A study of bariatric surgery found that hospitals treating more than 100 patients annually had shorter lengths of stay, lower mortality rates and decreased costs. [54] Mortality rates at low volume hospitals was up to 3x higher than at high volume hospitals for patients over 55 years old.

- A 2013 study of high risk patients found those undergoing aortic valve replacement at high volume hospitals enjoyed better outcomes. [55]

- Studies of breast cancer treatment, knee surgery and other medical care finds pretty much the same things. [56]

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[53] Hospitals treating high number of heart failure patients see better outcomes than low volume hospitals, Harvard School of Public Health News https://www.hsph.harvard.edu/news/hsph-in-the-news/hospitals-heart-failure/

[54] Nguyen et al, The relationship between hospital volume and outcome in bariatric surgery, Annals of Surgery, October 2004 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1356460/

[55] Hospital volume linked to outcomes for aortic valve replacement in high risk patients, The Society of Thoracic Surgeons October 31, 2013 http://www.sts.org/news/hospital-volume-linked-outcomes-aortic-valve-replacement-high-risk-patients

[56] http://www.ncbi.nlm.nih.gov/pubmed/15988622, http://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/1471-2474-13-250

By contrast, studies comparing patient outcomes from newer vs. older technologies, or from academic medical centers vs. other hospitals, do not always find such a gap.

- One such new vs. older technology study found that physicians need to perform 1600 robotic assisted prostate removal surgeries to achieve excellence. [57] *Experience* with the technology, often more than the technology itself, correlates with quality outcomes.

We find the same thing for surgeons – the higher their volume of a particular type of surgery, the better their outcomes. Dr. Paul Ruggieri summarizes the literature on this topic in Chapter 5 of his book The Cost of Cutting:

The message is becoming clearer with each published study. High volume surgeons, surgeons with experience, operating out of high-volume hospitals with experience give patients the best chance for quality outcomes…

Based on the data, the high volume-surgeon part of the equation seems to be the most important factor. [58]

Birkmeyer, the Dartmouth scholar introduced above, agrees with Ruggieri's assessment, concluding that patients can improve their chances of survival substantially, *even at high volume hospitals*, by choosing high volume surgeons. [59]

The interesting question now becomes why is this the case? Why is volume so critical to obtaining optimal medical outcomes?

The common sense answer that 'practice makes perfect' is only part of the reason, and the least important part in my opinion. Physicians learn the process of cutting, suturing, etc relatively quickly. Though these mechanical skills may improve slightly over time, this doesn't address the significant mortality reduction evidenced by high volume surgeons and hospitals. Few patients, it seems, die from poor cutting or suturing techniques.

Instead, I suggest that the true benefit of dealing with high volume surgeons and hospitals comes from their ability to identify patients who are 'out of bounds' more quickly and address their problems more appropriately. With volume a surgeon can

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[57] Cortez, Doctors Need 1600 Robotic Prostate Surgeries for Skill, Bloomberg, Feb 11, 2011 http://www.bloomberg.com/news/articles/2011-02-16/doctors-need-1-600-robot-aided-prostate-surgeries-for-skills-study-finds

[58] Ruggieri, The Cost of Cutting, page 137

[59] High volume surgeon, better chance of patient survival, Vox of Dartmouth http://www.dartmouth.edu/~vox/0304/1201/surgeons.html

sense, almost even without testing a patient, that something is wrong. Without the experience that volume brings, the surgeon is unsure if the patient's blood loss or reactions are within the normal range. This applies at a systemic level to hospitals also: nurses and technicians can develop the same sense from experience.

Atul Gawande wrote insightfully about this process in his article 'The computer and the hernia factory', a study of Shouldice Hernia Hospital in Canada. [60] Shouldice only performs hernia surgeries. Each Shouldice surgeon performs about 700 annually or, over their medical career, perhaps 20,000 similar surgeries. Gawande estimated, in 2002, that Shouldice's hernia surgery failure rate was 'an astonishing 1 percent'. He revised that figure in a live lecture that I attended in Brookline, Massachusetts in about 2007, to 'closer to .1%'. [61]

With repetition, Gawande found, 'a lot of mental functioning becomes automatic and effortless, as when you drive a car'. This allows experienced practitioners to focus on novel or abnormal situations and essentially ignore all that is normal and routine. A surgeon, he writes, for which most activities become automatic has a significant advantage.

He described a Shouldice operation: [62]

The surgeon performed each step 'almost absently'

The assistant knew 'precisely which issues to retract'

The nurse handed over 'exactly the right instruments; instructions were completely unnecessary'

The doctor slowed down only once, to check 'meticulously' for another hernia. He found one that 'if it had been missed, would almost certainly have caused a recurrence'

This 'almost absent attention to routine features' but intense focus on potential abnormalities comes only from experience. That's why higher volumes identify better quality surgeons and hospitals.

'with no questions asked'

[60] Gawande, The Computer and the Hernia Factory, Complications. These quotes from pages 38 and 39

[61] I remember that lecture, given in the Coolidge Corner Theatre, but I don't remember the exact date.

[62] Ibis, page 40

How has the benefits community reacted to this evidence, now going back 20+ years that that higher hospital and surgeon volumes tend to predict better patient outcomes? 'Non-reacted' is more the case.

What have self insured employers done to educate their employees about this research? Raised deductibles and limited networks based on price, not patient outcomes and not patient volumes.

How have public authorities disseminated the relevant volume information? Again, 'non-disseminated' defines the official public response. I once ask folks at a Massachusetts government health agency – I forget which one – why they don't simply publish lists of procedure volume by surgeon and hospital? Their answer: we lack the technology platform to accumulate these data. Different hospitals apparently report similar data differently.

So patients face unnecessary risks, employers face unnecessary expenses, employees miss work unnecessarily and, again, we find that Reinhardt's insightful 'passively paid with few questions asked' comment rings true.

How asking the right questions can change the game

Let's review again. Some 40% of medical spending is wasted on unnecessary medical interventions according to Aetna, PriceWaterhouse and Dartmouth, among others. That slippage falls largely into 4 different categories:

- Care that doesn't benefit patients
- Care that benefits patients but is overused so may not benefit a specific patient
- Care that patients don't want once they learn of their options
- Care from low quality providers

Professor Reinhardt claims employers passively pay for this waste 'with few questions asked'. Let's address, in this closing section, some of the questions that well informed patients should ask, that enlightened employers would teach their employees to ask and that insightful benefits advisors would advise their clients to ask.

Care that doesn't benefit patients

I'd propose simply asking 'out of 100 people like me, how many benefit from this medical care?'

This is a non-threatening question that helps patients and doctors focus on care outcomes. Why would a patient not ask?

Asking this, in these words, accomplishes two goals. **First,** the patient can learn how well the treatment actually works. He or she may learn that the treatment *works*, but not *well enough* to have. That's a preference-sensitive decision. The 'out of 100 people like me, how many benefit?' question generates facts as an answer. The interpretation is up to the physician and patient.

Let's say that a treatment benefits 16 out of 100 people who have it over 2 years. One patient may say 'good enough', another 'only 16?'

Learning that 16 out of 100 benefit conveys far more information than learning that 'some', 'many', 'a few' or 'very few' benefit, since these words mean different things to different people and may confuse as much as they illuminate. '16 out of 100 benefit' also conveys more information than 'the guidelines say this is the correct treatment' or 'most of my patients tolerate this treatment quite well'. Neither of those statements helps a patient estimate his or her likelihood of benefit.

Note that many treatments offer multiple benefits. Asking 'out of 100 people like me, how many benefit?' opens the door to a doctor-patient discussion about the various ways you can benefit from this care. In the Zetia case we discussed above, for example, the doctor might answer

Zetia lowers cholesterol levels in almost all patients but does not prevent any heart attacks or heart disease

Some researchers call this difference 'indicator benefits' versus 'patient benefits'. [63]

- Indicators like cholesterol, blood pressure and bone density levels, only suggest a rough likelihood of having a patient event like a heart attack, stroke or hip fracture.

- Wise patients who learn of indicator benefits might follow up with 'how closely do the indicator benefits correlate with patient benefits?' Correlations are almost never 1 for 1. That's a more advanced question for a separate article.

Consider benefits over time: at treatment, in the short term and in the long term. A surgical procedure, for example, may present short term risks – infection, miss work, pain etc – but long term benefits. I'll show how to compare treatments later in this chapter.

Second, asking the 'out of 100 people like me, how many benefit?' question implicitly tells you whether the treatment in question has actually been studied. Learning this has surprising and hugely impactful implications.

[63] Steven Woloshin's book Know Your Chances articulates this extremely well

Researchers have learned that treatments that make biological, anatomical and physiological sense are shown to be ineffective about half the time when ultimately tested.[64]

Read that sentence again. It means that, despite the best reasoning and analysis by the best medical minds, absent testing treatments are wrong about half the time.

Here's Dr. Vinay Prasad describing his huge study on this topic to the New York Times [65]

Treatments all sound good if you talk about the mechanisms, what does it do, how does it work

But the real question is 'does it work?' What evidence is there that it does what you say it does? What trials show that it actually works?

You shouldn't ask how does it work but whether it works at all

Prasad included a video in the references / appendices to his Mayo Clinic published study. Here's the relevant point: Medical interventions are ineffective or harmful about half the time, even if they make biological and physiological sense.

Why is this the case? Why is an explanation of *how* it works insufficient?

The short answer: our bodies are so complex, with so many variables interacting with each other, that we can't reason 'if A leads to B, and B leads to C, then A leads to C'. Logic fails in the face of this huge complexity.

Here's an image to help explain.[66] Let's assume our bodies are managed by a Wizard of Oz like fellow, the guy behind the curtain. Assume that he controls a bank of knobs, one of which increases blood oxidation, another that decreases cholesterol, a third that manages heart rate etc. How large must the panel be to control our bodies, assuming each knob is 1 inch in diameter and 1 inch away from each other?

The answer: 6 ½ feet high and 7 football fields long!

We generally don't know how a knob 2 feet high on the 30 yard line of field #2 interacts with the knob 3 feet high on the 40 yard line of field #4.

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[64] See Vinay Prasad, A Decade of Reversal, Mayo Clinic Proceedings, July 22, 2013

[65] NY Times 'Medical Procedures May Be Useless or Worse' Bakalar, 7/26/13

[66] This example comes from David Newman, Hippocrates's Shadow, page 202

Nor how the just-affected knob on field #4 then affects the value of knob 1 foot high on field #1.

And so on, and so on.

That's why we must test for outcomes and not simply reason from A to B and to C.

Once you learn 'out of 100 people like me, how many benefit' from this care, then follow up with 'out of 100 people like me, how many are harmed by it?' Again, these data come from comparative studies, not theory.

When you have answers to the 'out of 100 people like me, how many benefit and are harmed' questions - ***and only then*** - will you have sufficient information to decide if the treatment works well enough, and is safe enough, for you. Different people can make different decisions using the same data.

One final comment. Try to get comparative study outcome data about 'people like me' rather than 'a random sample of people'. A similar treatment may affect a 28 year old male triathlete quite differently from 83 year old female diabetic smoker, or a high income / high status person differently from a low status guy. Good luck on this point as these population specific data rarely exist.

Care that is overused and/or
that patients don't want once they learn their options.

Again, I propose asking a simple question: *Would most doctors make the same recommendation or might some suggest something different?* This requests a second opinion from a doctor with a different treatment orientation. Asking this way acknowledges differences among physicians without questioning your doctor's competence.

Research shows that about a third of patients report that the second opinion changed their treatment.[67] One study of breast cancer patients put the number at half.[68]

I far prefer this question to the standard, frequently asked ones like

- Is this a good treatment?
- Has this treatment been thoroughly tested?
- Do the guidelines recommend this treatment for my condition?

And the least useful question

[67] http://www.nytimes.com/2008/02/12/health/views/12essa.html?_r=0

[68] http://www.uofmhealth.org/news/788second-opinion-yields-treatment-changes

- Would you have this treatment yourself?

That question ignores the preference-sensitive discussion above. Remember how John Wennberg found that well informed patients often choose a form of treatment different from the one preferred by their physician. Asking this question negates your own treatment preferences and simply substitutes your doctor's. It may well not lead in a positive direction.

Once you've had a second (or even third!) physician make treatment recommendations, use this chart to compare benefits and harms. Try to fill in as many boxes as possible. Include Treatment C (or even D) as appropriate.

	Treatment A	Treatment B
Benefits and harms at intervention		
Benefits and harms over the short term		
Benefits and harms over the long term		

Each patient can define benefits and harms as those most important to him or her, as well as the short and long term. Typically short term means the first few months and long term 3 – 5 years, though you can modify these definitions as you see fit.

I've filled in some boxes with made up numbers comparing a hypothetical surgical treatment to physical therapy. **This is for illustration purposes only** and is not based on any specific interventions. **Do not base any medical decisions on this example.**

My goal is simply to show *how* a patient can integrate information gleaned from 2 different physician recommendations. You may have different concerns and fill in boxes for your own treatment alternatives quite differently.

	Treatment A (surgery)	Treatment B (physical therapy)
Benefits and harms at intervention	- Postoperative pain - Miss 5 days of work - Burden to family members for 2 – 3 weeks - 5% of patients experience surgical complications	- Pain during PT visits and the day after - 3 visits per week plus drive time = 12 hours/week of treatments - Minor impact on family members, mainly time away from dinner
Benefits and harms over the short term	- 85% of patients regained 'most' or 'all' strength at 3 months - 75% of patients regain 'full' or 'almost full' range of motion at 3 months	- No reported loss of strength at 3 months - 60% of patients regain 'full' or 'almost full' range of motion at 3 months
Benefits and harms over the long term	- 10% of patients need a second surgery within 4 years - 75% of patients 'very satisfied' or 'satisfied' at 4 years	- 25% of patients need surgery within 4 years - 60% of patients 'very satisfied' or 'satisfied' at 4 years

I strongly suggest that patients actually write information into the blank boxes. By all means, have your doctor(s) help you fill all this in.

Care from low quality medical providers

Again, I propose a simple, quick and dirty question to differentiate high from low quality doctors and hospitals: How many patients like me do you treat annually? As a general rule of thumb, the greater the volume, the better your chances.

Volume is not a guarantee of good outcomes, only an indicator of the likelihood of you enjoying good outcomes.

We've already discussed why this is the case. Here I suggest patients simply ask the obvious volume question.

I'd like to introduce one small caveat or additional concept for wise patients to consider here: threshold volumes. Sometimes researchers have identified a specific volume of procedures that a surgeon or hospital needs to perform annually to achieve excellence. Below that threshold, mortality rates increase but above it rates do not decrease.

The Leapfroggroup, for example, lists hospital thresholds required for optimal patient outcomes for a handful of procedures including heart surgery. You can see their data at www.leapfroggroup.org.

Conclusion

We've identified 4 categories of medical care slippage and 3 deceptively simple questions for patients to ask. Here's how these questions address the slippage categories:

	'Out of 100 people like me' questions	Second opinion question	Volume question
Care that doesn't benefit patients	X		
Care that benefits patients but is overused, so may not benefit you	X	X	
Care that patients don't want when they learn of the alternatives	X	X	
Care from low quality providers			X

I hope readers understand that most medical care – 60% is my best guess – benefits patients. In no way do I want to dissuade patients from accessing good, beneficial and appropriate care.

But some care – 40% or so – does not benefit patients or is inappropriate (poor quality provider, not preferred by patients). That's slippage, the care we want to avoid.

I hope the rest of this book helps your better identify the slippage problem and available solutions..

Review Questions

Answers on next page

1. What is healthcare ‘slippage’?

    a. The thing that happens when a surgeon’s hand isn’t steady during surgery
    b. The thing that happens, generally to elderly people, when their shoes don’t grip icy sidewalks well
    c. An academic term for insurance fraud
    d. Things that happen in our healthcare system but that are not supposed to happen. Slippage raises costs without increasing benefits and may even result in increased patient harms.

2. About how much slippage exists in our healthcare system?

    a. About 40% of all healthcare spending
    b. Very little, about 1 – 2% annually
    c. Almost all spending, well in excess of 90%
    d. This chapter doesn’t address that issue

3. Should patients always have care that has been shown in comparative tests to generate patient benefit?

    a. Yes, wise patients should always get all the beneficial care available
    b. Patients should only get beneficial orthopedic care but should beware of benefit claims about psychiatric care
    c. No, wise patients understand that some beneficial care is overused so may not benefit them. One example is mastectomy to treat early stage breast cancer. It is far more widely used in Connecticut than in Massachusetts, even though the breast cancer incidence and mortality rates are the same in both states.
    d. That depends on the definition of ‘benefit’

4. Which indicator below will most likely identify a high quality surgeon?

    a. The number of similar procedures he/she performs annually
    b. The surgeon’s age. Younger surgeons typically get better outcomes than older ones
    c. Where the surgeon went to medical school. Ivy League graduates get better outcomes than either PAC 10 or SEC graduates
    d. The technology used. Newer technologies almost always generate better outcomes than older

5. How well do medical treatments that have not been subjected to comparative testing actually work?

a. Most commonly accepted medical treatments work very well.
b. Treatments that become accepted by the medical community before they have been rigorously tested, and are then subsequently subjected to comparative tests, are ineffective or harmful about half the time
c. Very few medical treatments actually benefit patients
d. Surgeries rarely benefit patients but high doses of pharmaceutical products generally do

6. What does ‘preference-sensitive’ mean?

a. Equally well informed patients can make different medical care decisions and can even disagree with the recommendations of their physicians
b. More emotionally sensitive patients have different preferences than do less emotionally sensitive patients, especially about medications
c. Patients need to learn that their doctor is always right. The patient’s role is to agree with the physician and follow the treatment recommendations to the letter
d. Patients should always disagree with their physician’s recommendations, at least initially, to show the physician ‘who’s the boss’

Review Questions

Correct answers in bold

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Chapter 2: Employer Based Health Insurance
Exquisite inefficiency

Part 1: Overview

The US is the only advanced industrialized country to finance medical care primarily through employment. Most other countries use employer based financing either to supplement a national healthcare system (e.g. the United Kingdom) or ban it from competing with the national system (Canada).

Over time our employer based health coverage has slipped from a peak of 168 million people in 2000 [69] to about 140 million in 2010 [70] with a confluence of factors affecting the decline.

The US Census Bureau estimates that the percentage of *employed* people receiving employer sponsored health insurance has slipped from 76% in 1997 to 70% in 2010, while the percentage of uninsured employees increased from 14.7% in 1997 to 18% in 2010. [71]

These coverage rates generate a different focus of healthcare system concerns here and abroad

- We worry about *coverage* and costs
- They worry about *outcomes* and costs

Three structural problems with employer based healthcare financing
#1: Moral hazard

Our employer based system finances all medical care with **insurance** rather than **payment plans** probably for historical reasons that we'll discuss shortly.

This confuses *insurance* (protection against financial harm caused by random events) with financing normal, routine and expected medical events like flu shots and knee replacements.

Compare health insurance to auto insurance. Auto insurance pays for ***un***expected events, like crashes; it doesn't pay for expected events like oil changes, tire rotations or

[69] EBRI Issue Brief # 321, September 2008

[70] Employment based health insurance 2010, Janicki, US Census Dept, February 2013

[71] Ibid.

transmission rebuilds. Yet we expect health insurance to cover all medical events, from the most routine and predictable to the most random and unpredictable. This leads to enormous inefficiencies because, many argue, insurance is the wrong financing mechanism for routine medical events.

- Insurance pools risk inefficiently based on timing; those *not having* medical events this year pay for those having.
- This suppresses any market mechanisms from pooling more efficiently and developing better, more targeted, more actuarially based medical financing products - orthopedic payment plans for example, or pediatric immunization payment plans.

  We can imagine lots of medical payment programs, underwritten and priced for individuals or banded for groups. Middle aged men might buy 5 or 10 year orthopedic and urologic plans but not birthing; younger women the opposite.

  This pools need more efficiently than blanket insurance plans that cover every possible medical situation, for all people, that might occur this year. 'Insurance' then provides a safety net for the unexpected or random events not covered by specific payment plans.[72]

A fundamental problem using insurance to finance all medical activities is **moral hazard**. Insurance programs *always* face concerns about moral hazard. Moral hazard is the phenomenon in which people get more care than they need because it appears 'free' to them. Insurance financing that includes this moral hazard component is a great foundation for a healthcare jobs program but lousy for a well functioning medical care system.

The moral hazard concept originated when home fire insurance was developed centuries ago. Underwriters were concerned that people with 'poor moral character' would burn their houses to collect the insurance proceeds then rebuild a less expensive house and pocket the difference. This translates in the health insurance arena to people having tests and treatments because –why not? It's free to me and may offer some benefits.

Medical care providers understand this issue and can generate income from it: 'let's send you for another test just to rule something out. Don't worry – it's covered by insurance' and medical testing and treatment industries develop. Dr. Sandeep Jauhar,

[72] Regina Herzlinger has written extensively and creatively about this type of program. See especially her book Who Killed Healthcare.

Director of the Heart Failure Program at Long Island Jewish Medical Center, has written eloquently and painfully about this. Consider these various quotes from his 2014 book Doctored:

> Bob and Joe and Dave have an unwritten agreement to call one another when patient issues arise outside their scope of expertise. If Bob, the nephrologist, sees a patient, he finds a cardiac and a gastrointestinal issue and consults the other two specialists and vice versa…a mutual scratching of backs…**Insurance companies can restrict medications, tests and payments. But they still cannot tell us whom or when we can ask for help.** (page 97, emphasis added)

> A large percentage of healthcare cost is a consequence of induced demand – that is, physicians persuading patients to consume services that they would not have chosen if they were better educated. (page 107)

> [Describing one particular physician] …he was doing a plethora of tests – eye exams, audiometry, pulmonary function tests, even Holter monitoring – to generate revenue … he avoided the high-risk cases… 'Those we would send to a cardiologist' …[and, quoting a gastroenterologist] 'If a doctor doesn't do excess testing, forget it, he isn't going to be able to live.' (page 167)

Dr. Jauhar's unsettling conclusion about the impact of moral hazard:

> In our healthcare system, if you have a slew of physicians and a willing patient, almost any sort of terrible excess can occur. (page 94)

Others have, of course, also written expansively about the impact of moral hazard on our healthcare system.[73] My point in this discussion: by relying on insurance to finance all aspects of healthcare, the employer based model exacerbates, rather than ameliorates, this problem. By basing our entire healthcare financing system on and around the employer model, the moral hazard problems permeate all aspects of American healthcare financing, creating more healthcare jobs and less healthcare value.

While we can't calculate an exact cost of moral hazard in our healthcare system, credible research suggests that 30% + of all medical spending is wasted on unnecessary care. That's generally estimated at about $700 billion annually or roughly $2500 per employer based policy. The Dartmouth researchers primarily responsible for that estimate, though, are quick to note that we 'view these as an underestimate given

[73] My first book 'Moral Hazard in American Healthcare' describes some of this though using currently out-of-date examples.

the potential savings even in low cost regions' [74] meaning that even they have no real solid idea how much moral hazard exists in our system.

But they and others admit that it's a lot.

A very lot.

Structural problem #2: Disconnecting payers from users

Payers in the employer based model are employers, often acting through their benefits department. Payers decide what network size employees want, what deductible levels, what drugs to include in the formulary and what copayments to have. This is particularly true in small companies, covering the bulk of American workers, that may offer only 1 policy to all employees.

Consider the impact of payer's decisions. A company opting for a wide provider network decides that each employee would prefer *paying more for health insurance* to *having more disposable income available* (and using a smaller network).

Or a company opting for a smaller network decides that employees prefer *more disposable income* to *having the most expensive doctors and hospitals available in-network.*

Employees, though, are the consumers and each may seek different things from our healthcare financing system. One may want higher deductibles or lower, wider networks or smaller, bigger drug formularies or not. Each facing his or her own specific medical issues, can reasonably have his or her own set of preferences.

We call this 'consumer sovereignty' meaning that the most efficient economic distribution system is one in which consumers express their desires through purchases. We have seen this work quite effectively in other markets for hundreds of years.

Take the grocery market for example. A typical supermarket has thousands of products available because some people like expensive cuts of meat while others are vegetarians. Some people like ice cream while others are lactose intolerant. Some people like rye bread, others white bread and still others prefer bagels. And so on, for canned foods, soups, fruit and many other food products.

[74] Dartmouth Atlas of Healthcare, Reflections on Variation, answer to the question 'The Atlas is often cited as a source for the estimate that 30% of the nation's spending is unnecessary --- what is the evidence? http://www.dartmouthatlas.org/keyissues/issue.aspx?con=1338

Our food distribution system is ‘efficient’, or so goes the argument, because individual consumers, casting their own dollar-votes, decide which products should be available and how much shelf space stores should allocate to each product. As consumers demand more soup, the store supplies more soup. Ditto for apples, mangoes and bread.

Imagine the impact on our food choices if these decisions were made by your employer! ‘Apples are good for my employees, so stock a lot. Cut down on cookies and fatty meats. And, since more and more people are lactose intolerant, switch to carrying more skim milk.’ (As if your employer had any interest in making those decisions. Your employer wants to make and sell widgets, not decide what you should eat. Hmmm, sounds like healthcare, doesn’t it?)

Restrictions on consumer sovereignty lead to higher prices, less choice and sometimes poorer quality. Would apple producers focus as much energy on their product quality if they knew that all stores had to buy more apples from them? Maybe – or maybe they’d focus more on quantity.

In the employer based health insurance model, consumers have far less sovereignty than many would like, since many of the key consumption decisions are made by benefits administrators, not patients.

Structural Problem #3: One year long policies

Some 70% of healthcare expenditures go toward chronic, long term and on-going medical care as opposed to episodic, acute care. A chronic condition is, for example diabetes and an on-going care example might be post-operative cancer treatment. Dozens more examples exist. The best outcomes result from continuity of treatment from the same provider. Medically, thus, *long term financing programs* tend to generate the best outcomes, generally at the lowest costs since care discontinuities can lead to errors, which add (unnecessary) treatment costs.

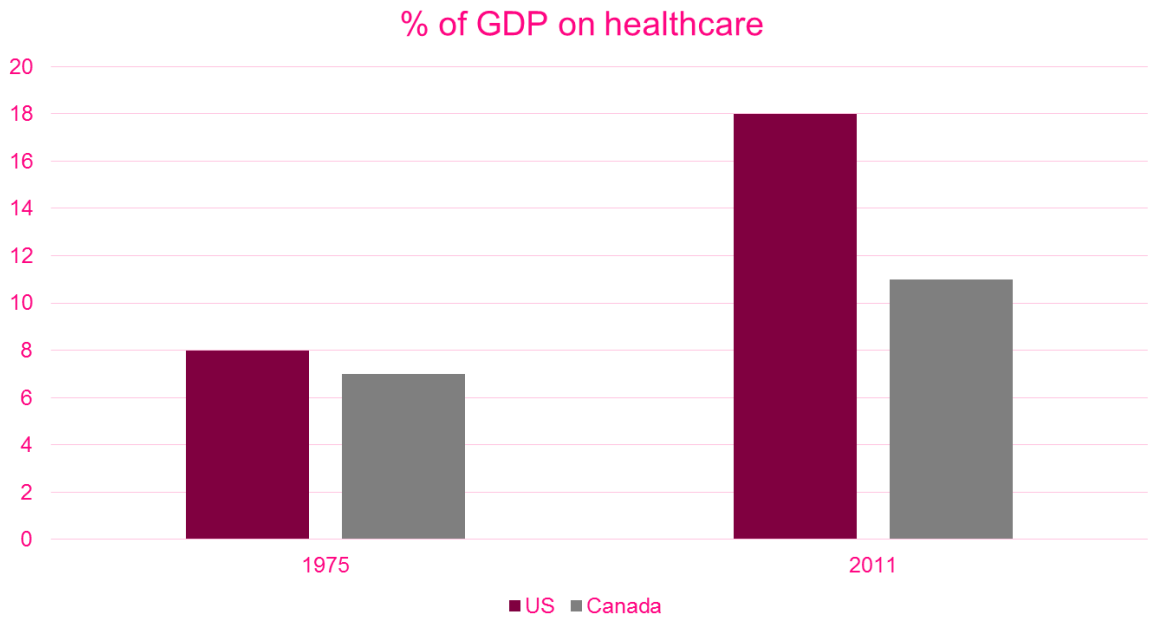
Employers, however, oppose funding multi-year health insurance policies. Business conditions may change they reason, their employee census may change, prices may fall – why encumber themselves with long term liabilities? Employers like 1 year long policies so they can change the program if business conditions warrant.

This creates a conflict between *employee medical needs* and the *employer’s business considerations*. We have, nationally, adopted the employer’s position as the basis of our healthcare financing system, not the medical need position. Financing medicine based on anything other than medical concerns adds inefficiencies (costs) to the system without any related benefits or value increases.

Our historical attempts to rationalize this medically irrational financing system have consistently failed to generate better patient outcomes at lower costs. As we switched from one financing form to another – always with great fanfare that the new program has finally solved our healthcare financing problems – we have always seen healthcare inflation exceed overall gdp by about 3%, and have never seen American medical outcomes (e.g. longevity, infant mortality) surpass other developed countries.

Major medical gave way to managed care which in turn gave way to high deductible plans, then to exchanges.

Consider our experience post-Richard Nixon's decision to introduce HMOs nationally in the early 1970s, and compare our healthcare expenditures to Canadas. Every healthcare reform since the 1970s has failed to control costs. I attribute that largely to the employer based platform on which we operate.



The employer financing model forces health insurance carriers to compete on short term medical cost controls rather than long term patient outcomes. I'll explain how all this works and some impacts later in this chapter.

These three structural problems – financing routine medical care through insurance, disconnecting payers from users and embracing 1 year health insurance plans - lead to an inefficient system with skewed incentives. Good for healthcare jobs growth but bad for system value creation.

But that's what we get with employer based financing as the core of our national healthcare financing system.

Three consequences of employer based health insurance

Uwe Reinhardt, professor of healthcare economics at Princeton, suggests 3 consequences of placing employer based health insurance at the center of healthcare financing. [75]

First, it is tremendously expensive. In 2013, for example, a typical family health insurance plan cost $22,000, up $10,000 over the previous 10 years. This compares to the average family income in 2013 of about $55,000. Under what definition of 'affordable' does this make any sense?

Reinhardt wonders how any employer who finances employee healthcare, carrier that designs plans or broker who implements benefit programs can take pride in his/her work product over the past decade. So do I.

Second, having employment at the center of our healthcare financing system requires lots of 'fill in' programs for people unable to obtain employer based insurance. Each of those programs – Medicare and Medicaid, for example, or SCHIP – develop their own regulations, licensure requirement, codes and prices resulting in overlapping and confusing payment categories.

We have, as a result:

- One healthcare system for fulltime, employed people. This system has its own access rules, reporting rules, prices and payment rules.
- A second healthcare system for elderly people, with its own (different) access rules, reporting rules, prices and payment rules.
- A third healthcare system for very poor, unemployed people who (for lots of bureaucratic and political reasons but no medical ones) must *also* be either i children, ii blind or disabled, iii elderly, iv mentally ill, v pregnant or vi mothers. [76]This system, as the two previously mentioned, also has its own access rules, reporting rules, prices and payment rules

[75] This section based on Reinhardt's lecture at the Pioneer Institute in Boston, 2014

[76] Ezekiel Emanuel makes this point in Redefining American Healthcare, page 47

- A fourth healthcare system for slightly poor, partly employed people (we sometimes call this ‘non-group’, a financial distinction but not a medical one)
- A fifth system for children (not otherwise accounted for)
- A sixth system for military veterans, but only if they’re also either old or accessing medical care as a result of combat injuries, or both, and finally
- A seventh system for people with kidney disease, provided end-stage.[77]

Inefficient and irrational are two polite ways to summarize this chaos: nuts might be more appropriate. Having all these overlapping, irrational categories creates confusion and complexity that makes our system far less efficient and effective than we would like or hope for, leading to more jobs, higher costs and, unfortunately, poorer outcomes than patients would hope for.

These different categories exist, again, because of the employer basis of healthcare financing. We needed to develop all these programs to address groups left out of the employer coverage model.

And **third**, having all these different categories has led to different prices for the same service. [78]

- The **List Price** exists though is rarely paid. It’s reserved for rich foreigners and uninsured Americans. It’s the highest price hospitals charge.
- The **Medicare rate**, completely transparent, is stipulated by Medicare. It’s generally about 80% of hospital costs, meaning hospitals must overbill some other category of patients to remain financially solvent.
- The **Commercial Insurance rate**, higher than Medicare and lower than List Price, varies by carrier based on their market clout and negotiating skills. It tends to run about $135% of hospital costs though this can vary significantly.

[77] We also have the Indian Healthcare System which, you’ll be pleased to read, is funded under the Indian Healthcare Improvement Act, signed by President Obama in 2010 and which is included in the Affordable Care Act. Probably others too, but that falls outside my area of expertise.

[78] This section comes from Ezekiel Emanuel’s book Reinventing American Healthcare, pages 72 -76. It follows from Reinhardt’s analysis.

One reason for the high price and variation: market clout. A carrier with 8% of the market generally negotiates relatively ineffectively with a hospital network that controls 60% of the beds.

- The **Usual and Customary rate** is the rate hospitals charge carriers with which they don't have a contract – a Colorado hospital that treats Florida insureds who injures themselves while skiing for example.
- The **Medicaid rate** is typically the hospital's lowest rate, often quoted as a percentage of Medicare's rate.
- The **Actual Cost** of providing the service which is generally unknown. Many medical professionals interact with each patient, requiring detailed time-and-motion studies which are expensive to produce.

Note that in other – efficient – parts of our economy, the service provider determines his/her price for the service and then sells it to anyone who will buy with, perhaps, some quantity discounts to account for scale. But in medical care, the same service varies in price by patient and the same patient can switch from category to category, thus inducing different prices from the same providers for the same care. See why I suggested this is nuts?

This huge, complex, irrational and inefficient system exists, again, because of the employer centric structure of our healthcare financing system.

Two problems that employer based health insurance fails to address
#1: Unnecessary Care

Unnecessary care, defined as care that does not improve patient health, is the largest single category of medical spending in this country. Credible estimates, as from the Dartmouth Atlas of Healthcare and Dartmouth Institute for Health Policy, suggest that up to about 1/3 of all healthcare spending or some $700 billion annually is unnecessary. I think this a low estimate, but at 30% of medical spending, it trumps

- Heart disease, about 10% of medical spending
- Diabetes and cancer, about 5% of medical spending each.

In fact, according to Jonathan Bush, founder and CEO of Athenahealth, 'unnecessary care is part of the hospital business model'. [79]

[79] Jonathan Bush, Where Does It Hurt?

The interesting question for this section: who, in the employer financing model, tackles unnecessary care as a function of his/her job?

- **Does the benefits administrator care?**

  Probably not. The benefits administrator generally wants to keep premium inflation around 'trend', the industry definition of healthcare inflation.

  If his/her company's premiums inflate at trend, then he or she can take a CYA approach: 'I did my job. Our premiums reflect trend.'

  If his/her company's premiums inflate faster than trend, then alter plan designs, generally by increasing deductibles and copayments and shrinking the provider network.

  Engaging with carriers and providers to reduce unnecessary care is time consuming, a task for which the benefits administrator probably doesn't get paid and is probably ill-equipped. It will likely be an unsuccessful effort anyway. That's why most benefits people tend to take the CYA approach and settle for the 'we're at trend' justification for mediocrity.

- **Does the CFO care?**

  Again, probably not. The CFO is busy, responsible for the company's financial health and less interested in the internal operations of a hospital. As long as premiums inflate at an 'appropriate' rate, then the CFO will focus on his/her company's core business, making widgets for example, and generate profit on those.

  CFO's lacks both the time and expertise to work with doctors and hospitals on reducing unnecessary care. A huge company CFO might have the time and interest to work with a select group of providers on this issue. But hospitals that engage with this particular large company may well then turn around and bill other, smaller companies more to make up the difference.

- **Does the employer care, especially the small and mid-sized ones?**

  Again, probably not. Most economists argue that employers simply reduce wage increases to fund health premiums. (See below). If premiums rise quickly, wages rise more slowly.

  The employer corporation doesn't care – economically – if it pays employees wages or premiums. It's only concerned with the total employee costs.

#2: Underfunded Social Programs

Among developed countries, the US has the highest rates of diabetes, sexually transmitted diseases, teen pregnancy and auto mortality. We also have the second highest rates of heart and lung disease and lose more years of life before age 50 to drug and alcohol abuse. [80]

Are sexually transmitted disease and teen pregnancy the *employer's* problem? The patients typically don't work for the employer but the employer pays for treatments through 'trend'.

We know that social and behavioral factors affect more than

- 70% of colon cancer and strokes.
- 80% of coronary heart disease
- 90% of adult on-set diabetes, and
- Probably most leg amputations (we lead the developed world)

But the underlying social and behavioral factors exacerbating these problems are not addressed by employer based health insurance. These are 'social' problems, appropriate for some government agency or non-profit to address – or so believe many employers and benefits administrators.

Perhaps as a result, we spend far less on social determinants of health (housing and rent subsidies, training programs for poorly educated or unemployed folks, disability cash benefits and social services in general) and far more on medical treatments after someone gets sick than do most other developed countries.

In fact, though we're #1 in medical spending per capita in the world, we're #13 in 'medical and social spending' combined. We have the ratios reversed from most others. The OECD average is about 2/3 of combined 'medical and social spending' going to social and about 1/3 going to medical; we're the opposite, joining only Korea and Japan as spending the majority of 'medical and social' on medical. [81]

[80] For Americans Under 50, Stark Findings on Health, Tavernise, NY Times, Jan 9, 2013

[81] See The American Healthcare Paradox by Bradley and Taylor for more on this. I only summarized their research here.

This situation developed largely because employers lobbied more successfully for health insurance premium tax breaks than did social service agencies for funding. (More on this below when we discuss the history of employer based health insurance.)

How well do employers negotiate for their employees?

In 1964, the average wage in this country was $2.53/hour and the average health $197 per year, requiring the average person to work about 78 hours (2 weeks) to pay for healthcare. [82] Divide $197 by $2.53 to see this.

In 2014, the average wage had risen to $24/hour, healthcare cost about $8800 per person, requiring the average person to work 366 hours (9 weeks) to pay for healthcare.[83]

This strikes many as a pretty poor track record. One wonders if individuals, negotiating for their own policies, might have done better than employers and brokers working together. [84]

'But my employer pays 75% of my premiums'

This misconception pervades the employer based health insurance model. Let me explain what most people believe first, and then show the real costs. [85]

Consider Mary, a single woman who earns $35,000 a year. In this hypothetical example, the company's single premium is $649/month ($7791 annually) of which Mary pays 27% or $2112 per year. She also pays a $250 annual deductible and has 4 office visits at $25 each.

Mary thinks her healthcare costs about $2462, or roughly 7% of salary. Not too bad.

There's only one problem with this analysis: it's completely wrong. Not even close to correct.

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[82] This example comes from Philip Longman's excellent book on the Veteran's Administration Healthcare system, Best Care Anywhere

[83] Wage estimates from the Bureau of Labor Statistics for Dec 2013

[84] See in particular David Goldhill's Catastrophic Care. Philip Longman compares cost inflation in the Veteran's Healthcare Administration system to the employer based system in his book Best Care Anywhere. The VHA did a better job controlling costs while, according to Longman, generating better outcomes.

[85] This analysis comes from David Goldhill's 'Catastrophic Care', chapter 2 'The Hidden Beast'. I've adjusted the numbers slightly and changed the woman's name to Mary, though unclear exactly why.

Here's what Mary actually pays:

- The entire **$7791** premium in foregone wages. Remember that her employer doesn't care if Mary receives compensation as salary or benefits. The employer only cares about the total annual cost of employing Mary.
- $1276 in state taxes at a 3.6% state tax rate. Since states average spending about 10% of their budgets on healthcare costs for employees and Medicaid, Mary pays about **$128** in healthcare costs to the state.
- $3827 in Federal taxes, about 11% of her income. Since 20% of the federal budget goes to healthcare, Mary pays another **$765** here.
- Medicare taxes (1.45%) plus the employer match (foregone wages again), another **$1015**.

Mary actually spends about **$10,000** on healthcare annually, not $2462. See why all the healthcare system inefficiencies we've been discussing really matter?

Part 2: How did Employer Based Health Insurance Develop?

Let's consider two historical themes to understand both why we have an employer-centric healthcare financing model and why it works so poorly.

First, remember that healthcare and social services evolved independently and differently. Healthcare was a profitable industry, supported by powerful special interests; social services were not but, but rather were disorganized, politically weak and stigmatized for helping the 'undeserving'. [86]

Consider this story from Bradley and Taylor's book The American Healthcare Paradox about Joe, a 28 year old, very low income diabetic: [87]

- His poor diet, including very little fresh food, exacerbates his condition
- He wears old, holey shoes that keep his feet constantly damp.
- His doctor admonishes him to eat better, take his insulin and keep his feet dry, but he can't afford to do these things often enough

[86] See Bradley and Taylor, The American Healthcare Paradox for a longer explanation of this point.

[87] Ibid. page 1

- Last year he had 2 toes removed costing $7000 and next year likely two more for $14,000

- His doctor discussed the possibility of a foot amputation ($18,000) plus rehab (total medical costs about $30,000), plus a wheelchair ($1000). This would make finding a job far more difficult, reducing Joe's chance of earning much income and consequently paying taxes (more or less paying for the social welfare of others). A leg amputation might permanently relegate him to surviving on government benefits, not a job.

Perhaps the most ironic or depressing part of this story: new shoes cost $75 and an apple costs $1 per day. Our (underfunded, disorganized) social services can't manage these minimal costs while our (well funded, powerful) medical system racks up tens of thousands in fees by implementing medical solutions to social problems.

Second, our healthcare financing system evolved inefficiently, from a vertically integrated 'financing + care provision' system to a non-vertically integrated one.

- Vertical integration means medical care and medical financing are the same entity with salaried physicians. Both the financing arm and medical care arm work together to generate the best patient outcomes at the lowest cost, at least in theory.

  'Managed competition' is competition among vertically integrated healthcare providers. Those generating the best outcomes at the lowest costs will gain customers; those operating at higher costs and generating poorer outcomes will lose. [88]

  Vertically integrated healthcare entities compete with each other on ***value***: outcomes per dollar spent, since they control their own income (i.e. the premiums they charge customers.)

- A 'non-vertically integrated system' has separate companies handling financing and medical care. Today we call financing companies 'insurance carriers' and

[88] Alain Enthoven of Stanford University, perhaps our greatest managed care theorists and proponent, has written widely about this which is somewhat outside the scope of this particular chapter. See his seminal article The History and Principles of Managed Competition for more. http://elsa.berkeley.edu/pub/users/webfac/held/157_VC2.pdf

medical care provision companies 'providers', generally hospitals and physician groups.

In this system, financiers always want to pay service providers less and service providers always want to bill more. The relationship between the two is 'war' - according to Atul Gawande, professor at Harvard Medical School and staff writer for the New Yorker – 'every step of the way'. [89]

In a non-vertically integrated system, carriers and hospitals argue over payment formulas since hospitals do not control premiums. A very different focus from the vertically integrated model above.

How Employer Based Healthcare Started

(This section comes from an edited transcript of my lecture on Employer Based Health Insurance delivered at the Health Services Administrators in Braintree, Massachusetts on September 29, 2008. A version of this appeared in my book Understanding Health Insurance published in 2010. GF)

The myth – or perhaps truth - is that it started in Dallas around 1929 as a reaction to the stock market crash and financial meltdown. [90] The business problem for Baylor University Hospital in Dallas was that it didn't have enough money to pay its bills.

Prior to the stock market cash, hospitals raised funds in two ways. First they had paying customers who were billed for services rendered - a fairly modest percentage of the population because most people didn't have a lot of money. Second, the community chest, the charitable organizations - the wealthy would donate to the hospital because it was a good place to donate your extra money. Charity made you feel good and was good for the community.

But with the stock market crash, the wealthy didn't have as much money to donate, unemployment increased (reducing the number of patients able to pay), and the hospital faced a difficult financial landscape. So Baylor University Hospital made a deal with the Dallas School System. They said, "School system, you raise money from taxes. You always have money. Pay us $.50 every other week, $.25 a week, for each of your employees and when they get sick, they come to us and we'll take care of them." Employer based health insurance arrives.

A few comments about this.

[89] See Gawande's second book 'Better', chapter entitled Piecework

[90] This suggestion comes from Richmond and Fein, The Healthcare Mess, page 30.

First, it's a nice deal. It's a nice deal for the hospital because they stay in business. They don't have to worry about going out of business. They don't have to worry about turning people away as long as they get the numbers right (which apparently they did), $.50 per employee every other week. That was the true cost. The school system payments protected the hospital's cash flow, so the hospital stayed in business.

Second, this was very efficient. The hospital signs one contract with one employer group and received back enough money to stay in business. Sweet. That's a pretty good incentive to look for more large employer groups.

Third, there was no prevention or provider choice, but theoretically the teachers and other employees of the school system were happy because they got medical care essentially for free.

Fourth, this was for hospitalization only. There was no outpatient doctor's coverage.

Fifth, community rating. The Dallas School System paid $.50 per person every other week, regardless of individual medical status. There was no medical underwriting.

Sixth, there were no quality controls, no outcome based incentives, no holdbacks for poor hospital performance. Health insurance began simply to save the financial health of the hospital.

This was a vertically integrated system, almost textbook variety. And it exhibited the classic flaw of vertically integrated healthcare system: lack of consumer choice. As developed initially with Baylor University Hospital, the Dallas school system employees could only go to one hospital. This has advantages and disadvantages.

Advantages:

1. Lower Costs

2. Reasonable medical care from a small number of 'in-network' providers

Disadvantage:

1. Little provider choice as few hospitals 'in-network'

The Baylor Hospital / Dallas School System deal worked so well that other hospitals soon copied it. Different hospitals looked for different large employers, offering the same kind of deal. Large manufacturers, the Dallas Morning News, and others. What problem begins to arise?

The Choice Problem

Consumers (school system employees or manufacturing workers, for example) wanted to chose among various hospitals. 'What do I know about Baylor University Hospital? I only know one thing. I know someone who went there and didn't get good treatment, so I want to go somewhere else.' Someone always knows of someone else who had a negative experience there. So you want to go somewhere else - consumers want choice.

Remember vertical integration, where finance and service provision are the same company? Once you introduce choice, then you have one group handling finance and another handling service provision. You have a split and you lost vertical integration. (More on this coming up soon.)

Back to Dallas. The hospitals are cranking along with the employer based financing model. They're very happy. They're making money. And then one of the Blues brothers comes along – Cross or Shield, I don't remember which – and offers to provide financing for lots of Dallas hospitals. 'Dallas teachers' they might have said, 'you can sign up with Baylor University Hospital only, or, for just a little more money, sign up with us and we'll give you the choice of many hospitals in Dallas. We contract with lots of hospitals. We have a large network.' Sounds pretty appealing, right?

Doctors looked at this and said, "Hey, we want in on this too." They organized a second Blues brother so doctors could get paid because the same depression was affecting all medical providers, both hospitals and physicians. Blue Cross for your doctor's bills and Blue Shield for your hospital bills (or maybe the other way around. Wikipedia didn't say when I looked it up.) Both organized to protect provider incomes.

And both – conceptually, if not in real life – competed with vertically integrated hospitals, like Baylor University Hospital was at the beginning with the Dallas School System.

The Blues developed a couple of very clever ideas in the 1930s. First, from a marketing point of view, they offered this very attractive provider choice option. Very appealing to many consumers.

Second, they began searching for the healthiest subscribers. An interesting business idea: if they could find the healthiest people, they could offer lower priced policies and gain a competitive edge vs. their vertically integrated competitors signing up large employers at a fixed price per person.

Underwriting vs. Community Rating

The Blues figured that they would underwrite better than the competition so people would join them because their premiums would be a little bit lower. The community rating folks faced higher premiums because they took all employees.

Underwriting serves the economic interests of the carriers. It doesn't improve healthcare outcomes. It doesn't improve the healthcare system. It doesn't differentiate medical quality. It doesn't create patient value. It only makes one carrier lower cost than another carrier by having sick people pay more. The healthy pay less, the sick pay more but there's no value created: the total medical costs remain the same. But some people win and others lose.

This financing system has little to do with getting people healthy, or creating value. That was not its intention. It was designed to protect physician and hospital income. That was the original Baylor idea. Then carriers came along to make a profit on consumer demand for choice. The demand for choice leads to the Split.

The Split and the Provider Payment Problem

Once you split finance from service provision, you have a wider consumer choice and you have to figure out how to pay doctors and hospitals. We're still, today, trying to get this one right.

The original and still most popular payment mechanism is fee-for-service. The doctor gets paid $100 for treating each broken arm and $350 for each rotator cuff surgery.

As soon as you split finance and service provision there's an incentive on me, the doctor, to do more treatments. You're paying me by treatments, so I will do more treatments. 'That guy's got a sore shoulder that's probably due to a rotator cuff tear, so I'll operate on his rotator cuff.' Fee for service provides an incentive for doctors to do more procedures and hospitals to admit more people.

You, on the other hand, the carrier, want to limit the number of treatments. You want to ask if I have to do that procedure. We fight all the time. My clinical judgment (influenced, perhaps – at least psychologically – by the fee-for-service payment formula) vs. your financial judgment (influenced, perhaps – at least psychologically – by the same fee-for-service formula. You don't really trust my clinical judgment.) That's the conflict between healthcare payers and medical service providers.

Let's remember where we are. We're still in the 1930's and we're talking about the growth of the employer based system. Little cost control. We've developed the split between finance and service provision. Finance people will say, "You really don't need to do that procedure," and the service provider says, "Yes I do. Yes I do."

The Problem of Measurement in Fee for Service Medicine

There's a related problem in fee-for-service medicine – the problem of measurement. How well does a particular physician treat his/her patients? How well does a particular hospital perform certain surgical procedures? How well does a particular treatment work?

These are enormously difficult questions to answer. We do not even today have good measurement criteria or good data – and we had even poorer criteria and data in the 1930s. The data that we can measure might not be the most important. Remember that our healthcare goal is to extend life or improve life quality. We do not yet fully understand which treatments today will lead to longer lives in 30 or 40 years. Nor do we fully understand which treatment qualities will lead to long term life quality improvements.

We can only measure some aspects of medical treatments – surgical mortality rates, hospital infection rates, 30-day hospital readmission rates, for example. These may not always be the most significant outcome data, though they may be useful for some patients.

Whose interests are served by measuring or publicizing this information? Not the providers. They get paid fee-for-service for the *quantity* of medical care, not the *quality*. Publicizing outcome data may harm them economically. Thirty day hospital readmission rates may show that Hospital A provides poorer patient treatments than Hospital B. Or that Surgeon Z has a higher mortality rate than Surgeon X.

The risks of either inappropriate or unflattering outcome data becoming public were so great during the inception of our employer based system that providers fought against its release. The fee-for-service system suited their interests far better than any outcome based payment mechanism.

he fee-for-service / component payment structure suited their interests in a different way also. Absent good data collection, each physician – responsible only for his/her specific tasks – can argue 'I did my job correctly. The fault lies elsewhere.' Physicians act as subcontractors, narrowly defining their individual tasks, rather than as general contractors responsible for the life of the patient. This follows directly from payment systems that developed from the Split between finance and service delivery.

Fee-for-service / component financing serves provider interests, is inflationary and expensive, and is not designed to improve patient health. It's only designed to reward providers, which it did quite well historically. We, in the US, have traditionally performed more procedures / 1000 of population than similar developed countries around the

world. Things today like spinal fusion surgery, hip replacements, knee replacements, coronary bypass surgeries. The Split between finance and service provision led us down this road.

The Impact of World War II

Let's continue with our historical / conceptual history of employer based health insurance.

During World War II, or perhaps as a function of it, more and more people got insured, most notably people in the military. They continued with insurance coverage after the war. In the relatively short post-war period we get lots more Americans covered for hospitalization insurance.

1942: 10 million hospital insurance / health insurance subscribers

1946: 32 million

1951: 77 million [91]

World War II plays an important role in our story for three main reasons.

First, the soldiers who received health coverage while in the military wanted to continue with it afterward. They saw the advantages of having health coverage. They married and wanted their families to receive coverage also. This created demand for health insurance.

Second, our wartime economy devoted significant resources to medical technology improvements. Perhaps most significant was the introduction of sulfa drugs to combat infections. These helped turn hospitals from infection breeding institutions into patient treatment and improvement centers. Other technological innovations followed. These improved the quality of medical care, or the supply.

Third, the Federal wartime wage and price freezes fostered the development of 'fringe benefits' such as health insurance. These reduced the cost of insurance to the individual consumer and further helped stimulate demand. It's a pretty interesting story just how these developed.

The government decided during the War to freeze wages and prices - to avoid domestic economic difficulties and help focus our economy on war production. Employers could

[91] Richmond and Fein, The Health Care Mess pages 30 - 38

not raise wages to attract new workers or to reward their best employees. The government controlled this aspect of employee compensation very tightly.

But the government allowed employers to offer fringe benefits such as health insurance. This was how employers could attract new talent and retain their current employees. The concept of 'fringe' meant 'outside the normal compensation' and 'benefits' meant 'advantages of working here'. Employers couldn't simply raise wages – the traditional way of attracting labor – as that was illegal during the war. Fringe benefits were simply a mechanism to get around the wartime wage freeze.

As we grew in 9 years from having 10 million to 77 million insurance subscribers in this country, the health insurance industry developed and gained political power. It lobbied Congress for favorable legislation. It applied political pressure. It acted, in short, just like all other powerful industrial groups.

The Hill Burton Act and IRS decisions strengthen hospitals

Congress, just after World War II, passed the Hill Burton Act to fund hospital expansion. This increased the number of hospital beds in this country by about 40%, from 3.2 per 1000 people to 4.5. It also made hospitals the centerpiece of our medical care system; the travelling doctor who made house calls started to disappear.

Shortly thereafter, in 1953, the IRS decided that fringe benefits were exempt from federal income tax: those became *tax deductible to the employer* but *not income taxable to the employee.* **This was essentially a government subsidy for hospital care,** since that's what health insurance ultimately financed. The government stimulated sales of employer based health insurance by subsidizing the price through the tax exemption.

To understand how this is a subsidy, let's look at both the employer and employee tax situations. The employer buys a $100 insurance policy for an employee, and, prior to the IRS regs, pays corporate income tax on the $100 ---- let's say that was 50%. So the employer's total cost was $150: $100 for the policy and $50 for the income tax on that $100.

By making the payment tax deductible to the employer – that means by foregoing the corporate income tax on that $100 - the government reduced the cost. Health insurance now only costs the employer $50; the employer takes a 50% tax deduction on the $100 payment. That's a big savings compared to the previous $150 expense.

The employee received this $100 employment benefit. Prior to the IRS regulatory change, he/she would have paid their marginal tax rate on this income --- let's say 30%. By making this tax free to the employee – that means by foregoing the personal income

tax on the $100 – the government contributed $30. In other words, the government subsidized the employee who received health insurance by $30.

An interesting note from the employee point of view. $100 in benefits is more valuable than $100 in salary. The $100 in salary is taxable, so nets only $70. Remember our discussion above that 'My employer pays 75% of my premium.' I suggested that the employer doesn't care if he/she pays salary or benefits – the employer only cares about the total cost.

But the employee, according to many economists, does care. The employee prefers benefits since they're not taxed. The employee's foregone salary, according to this argument, is more valuable than benefits since it's not taxed. (I'm not sure I buy this argument completely but it does give me pause to consider.)

This subsidy for health insurance was so effective that the rate of Americans with hospital coverage skyrocketed. In the mid-1950s, about 45% of Americans had hospital insurance. By 1963, 77% had hospital coverage, and an additional 50% had some form of physician coverage.[92]

The favorable tax treatment of fringe benefits led to healthcare inflation from higher *hospital* prices – because more people could afford to use hospitals.

Over this time period two strange incentives evolved in our healthcare marketplace: an *excessive hospitalization* incentive and an incentive to *cover the unemployed*. These two conditions merged in the late 1960s and 1970s. Their combined effect became clear by the 1980s as our health insurance costs skyrocketed and our employer based financing model became even more firmly entrenched.

Excessive Hospitalization Incentives

By the mid-1960s over three quarters of Americans had hospitalization insurance, paid for by employers and subsidized by the government. Hospitalizations became essentially free to patients, creating, in the words of Harvard Professors Richmond and Fein a 'not-so-subtle perverse incentive to hospitalize individuals.'

This was the case even for diagnostic tests that could have been performed on a less costly outpatient basis, they say. Over time the hospital became all the more important and central to the delivery of healthcare services.

This increased the need for health insurance:

[92] Enthoven and Fuchs, 'Employment Based Health Insurance: Past, Present and Future' Health Affairs, Nov/Dec 2006

Since medical care became more costly, insurance became more useful (indeed, necessary). In turn, the presence of insurance helped underwrite a buildup of resources and an upgrading of technology that added to costs and made insurance even more valuable. [93]

Remember the incentives here.

- Employees liked the system because it appeared free to them;
- Carriers liked the system because the government subsidized their product (health insurance policies);
- Hospitals loved the system because they received patients and insurance payments – a wonderful recipe for making money.
- Employers objected somewhat to this system, but not terribly strenuously. After all, the government was subsidizing their health insurance payments, so they felt the pain only partially.

Our healthcare system was hospital based – not really interested in preventive care (hospitals couldn't charge much for that); not really interested in public health (the field was only just developing); not really interested in outpatient or chronic care. Providers focused on hospital care because that's where the money was.

Hospital insurance stimulated the excess use of hospitals, which created more need for hospital insurance. Three byproducts:

- First, we used hospitals for almost all medical care, even if less expensive setting existed;
- Second, we developed fewer outpatient, home based, preventive or non-hospital types of medical care;
- Third, we continued to underfund social program. All this hospital growth and funding (largely from government programs and tax subsidies) crowded out social service investments.

Yet this third issue was tremendously important. Let me quote Professors Richmond and Fein on the relative importance of hospital investment and public health investments. [94] And remember: these were two highly respected Harvard Medical

[93] Richmond and Fein, op. cit., pages 38 - 39

[94] Richmond and Fein, op cit, pages 92 and 94

School professors. Richmond, in fact, was US Surgeon General in the Carter administration.

- ‘A growing professional consensus holds that the health gains since WWII were largely **the consequence of applying our knowledge of health promotion and disease prevention rather than improved clinical care…’ (**i.e. public health investments**)**
- ‘The revolution in biology subsequent to World War II, a revolution that had brought many advances to clinical care, as yet **had only marginal effects on improving our vital statistics’**

Social spending had a bigger impact on our national health gains than did hospital investments! We invested the wrong way (assuming our healthcare investments were aimed at promoting health).

How Could Employers Afford Health Insurance Premiums after World War II?

What set of circumstances allowed this system to develop? Why was the employer based system healthy and growing until the late 1900’s, then in decline?

It turns out that for a number of years, this 40 year period more or less, many countries were (a) recovering from World War II or (b) gaining independence and expanding their educational systems. They were not economic threats to the United States – countries like Japan, India, Korea, China, or Western Europe. We dominated economically.

Our big firms in particular were very profitable. They didn’t have much foreign competition. They could afford to pay for employee healthcare. They could raise prices because nobody was competing with them to keep prices low. That’s the trend that you see from World War II to about the 1980s or so. Big firms could set the standard and then small businesses filled in the holes. All competed for labor based on offering attractive ‘salary + benefits packages’ and all could because the big firms were managing the world economy.

This allowed the U.S. to have an extra cushion of money available for healthcare benefits. Even though people complained, the economy could support the excess premiums. Regulated industries - for political and various other reasons - were able to pass on the cost because our economy was stronger than any other. Unions were strong. They could demand health insurance and the big firms could afford it.

The key factors that fostered employer based health insurance post World War II all changed in the 1980s and 1990s:

World Economy, 1945 – 2000 +/-

Little foreign competition for American manufacturers;

Japan and Western Europe needed time to rebuild;

US manufacturers could keep prices high and afford health benefits

Importance of Large Firms, Regulated Industries and Unions

GM, US Steel, ALCOA, etc – profitable with little foreign competition. Able to share profits with employees as benefits;

Regulated industries (AT&T) – regulated monopolies were able to pass health insurance costs to consumers; they had little or no competition;

Unions were relatively strong, could bargain effectively for benefits

All these conditions changed in the 1980s and 1990s. Our ability to generate excess profits, if you will, to afford for the employers to pay for healthcare starts to disintegrate as foreign competition gets going. From World War II until about 1980 or 1990 we could afford employer based health insurance and there was no significant political group that was lobbying or arguing against it.

Medicare and Medicaid Remove Potential Political Threats to Employer Based Insurance

One major potential political threat to our employer based health insurance system could have come from the unemployed – that significant percent of the population that is too old to work or unable to find full time work with benefits. This is potentially a very potent political force that could have lobbied in favor of single payer healthcare, universal coverage or something like that – like in other countries.

By introducing Medicare and Medicaid in the 1960s, this political force goes away. People are happy. They're not under pressure. They're not demanding universal coverage because they've got coverage. Where are politicians going to find a block of supporters who are going to argue for single payer systems, universal healthcare? They don't exist because Medicare and Medicaid took the potential block off the table.

Here is an estimate of the population size that these two entitlement programs satisfied. I'll use Medicare, because this covers the elderly who vote in particularly high numbers and in particularly important electoral states like Florida. This large voting bloc could have become a potent political force for universal coverage. Instead it became satisfied with Medicare.

Medicare Enrollment 1970 – 2000

Year	Number Medicare Enrollees	% of US population
1970	20 million	10%
1980	28 million	12%
1990	34 million	13.5%
2000	39 million	13.8%
2010	48 million	15.5%

Medicaid covers about the same population size.

The argument is that Medicare and Medicaid are key supporters of our employer based health insurance system. They allowed the system to grow and become entrenched nationally in the second half of the last century.

The employer based system reaches its peak of 165 million people in 2000 and then it starts to decline. Why did it decline? Because the international economic conditions changed. American firms could no longer pass on benefit costs to their customers.

At the same time, the hospital lobbies and related groups had done such a good job of protecting their constituencies that healthcare became hugely expensive. Healthcare grew from about 4% of US GDP in 1950 to 14% in 2000 to about 19% today.

Lower cost alternatives to large general hospitals – freestanding outpatient clinics, for example – never took hold, presumably due to hospital lobbying efforts. Similarly, specialty hospitals – local diabetes clinics, for example – also failed to establish themselves, again presumably, for the same reasons. The Affordable Care Act, for example, didn't actually prohibit establishment of physician-owned specialty hospitals, but placed such burdensome requirements on their establishment as to destroy this as a potential market force.

By the early 2000s we had developed a perfect storm for healthcare system financial catastrophe. Our healthcare costs – primarily hospitalizations due to the government subsidies of fringe benefits – rose far faster than GDP. Meanwhile, American businesses' abilities to pay for their employee's health coverage diminished in the face of foreign economic competition.

Mandates

As healthcare became increasingly costly, carriers (reflecting employer's interests) tried denying services to patients. This spurred a political reaction, pitting patients and medical provider interests against employers. Perhaps the most impressive display of patient and special interest power presented itself by the growth of healthcare mandates.

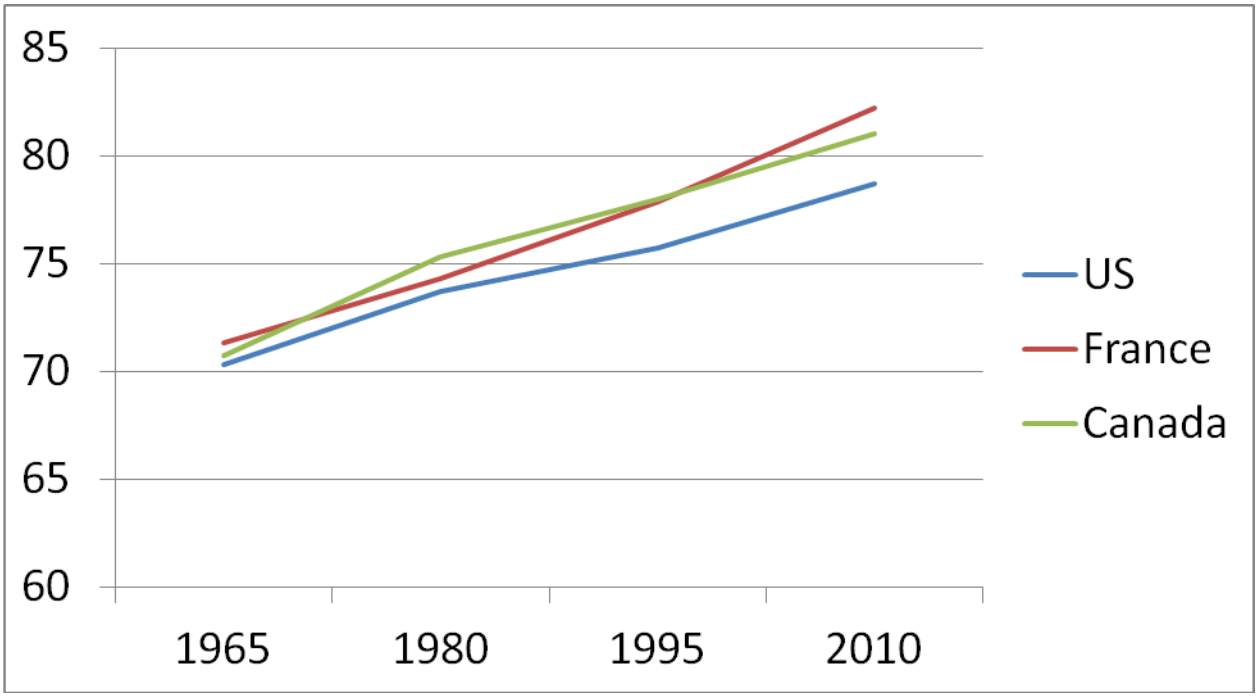
The number of state mandated services grew from 7 in 1965 to 1961 in 2008. These reflected the political power of special interests to protect the incomes of their members. Chiropractors lobbied for chiropractic to be included as a benefit in insurance policies. Nurses lobbied for minimum nurse-to-patient ratios. Voters generally supported mandates as protection against insurance carrier abuses.

Mandates raise prices. This increases the need for insurance but makes insurance less affordable, which increases the need for government subsidies (tax breaks and, in some states like Massachusetts, premium supports), which reduces the amount of money available for social programs and 'health promotion and disease prevention' activities (in the words of Richmond and Fein [95]) which in turn medicalizes social problems and raises costs.

But perhaps most disappointing of all, mandates don't improve patient health much. Consider this graph comparing American life expectancies to French and Canadian as we increased the number of healthcare mandates between 1965 and 2010. You can see how our life expectancy rates fell slightly below the trend line of the French and Canadians even as we required more healthcare services for our patients.

Instead, healthcare mandates are political reflections of the economic power of various healthcare groups. They have, apparently, little impact on health. But they insure that the various medical interest groups get paid.

[95] Richmond and Fein, The Healthcare Mess, page 92



Consumer Driven Healthcare to the rescue (or not)

The first major attempt to adapt employer based healthcare to these new economic realities was CDHC or Consumer Driven Health Care. The term 'consumer driven health care' arose primarily from the Medicare Modernization Act of 2003 which established Health Savings Accounts.

'Consumer driven products' are to high deductible health insurance policies with certain tax benefits. Each consumer spends the deductible as he/she sees fit – for physician visits, medications, tests, therapies etc – more or less employing the consumer sovereignty idea we discussed earlier in this chapter. Only after satisfying the deductible does insurance pay. Then, depending on the specific plan design, insurance pays all or part of additional medical expenses.

Problems equating high deductibles with consumerism in healthcare

Unfortunately, CDHC policies as 'consumer sovereignty light' fail in healthcare for two main reasons.

First, an annual $1000 deductible (or even $2500) is too small to act as a real medical spending brake. Once satisfied, and depending on the specific plan design, all other medical care is free.

A patient might satisfy that deductible hurdle in January and then enjoy lots of excessive and unnecessary medical care for free during the next 12 months.

Or the deductible has little impact on a patient facing an expensive procedure. What's the difference to this patient if the procedure costs $45,000 …. $50,000….$60,000 or $100,000? Once the deductible is satisfied, the rest is free. 'Consumerism' fails to affect patient behavior in these expensive cases.

This fundamental flaw in the 'high deductible = consumer driven healthcare' thesis exists because the vast majority of healthcare spending goes to a very small group of high cost patients. Here's spending by percentage of the population. These numbers have remained remarkably constant for the past several years.

Healthcare Consumption by % of Our Population [96]

1% of our population accounts for about 24% of medical spending

5% of our population accounts for about 49% of medical spending

10% of our population accounts for about 64% of medical spending

50% of our population accounts for about 97% of medical spending

So the healthiest 50% of our population accounts for only about 3% of medical spending. These are typically the folks who purchase CDHC products and who often spend less than $1000 annually. Cutting their spending by 20 or 30% would have *virtually no impact* on *overall* medical spending or trend.

Here's the same chart using 2010 spending data. In 2010, total US healthcare costs reached about $2.7 trillion for the approximately 310 million of us. Though the 2010 average annual healthcare spending per person was about $8,700,

The 1% heaviest users (3.1 million people) averaged about $209,000 each;

The 5% heaviest users (15.5 million people) averaged about $85,000 each;

The 10% heaviest users (33 million people) averaged about $52,000 each;

The 50% lightest users (155 million people) averaged about $500 each

Very few of the 10% of users who account for about 2/3 of all medical spending will change their medical choices based on a $1000 (or even $2500 or $5000) deductible. *Whatever* the deductible, their medical care needs far exceed it.

[96] Yu, et al, 'Medical Expenditure Panel Survey Statistical Brief #81', May 2005, Agency for Healthcare Research and Quality

Second, medical consumers have little meaningful quality information, and even if they have it, they rarely know how to use it. This makes medical decisions different from, say, car purchasing decisions. The car buyer can compare the quality of various cars before deciding which to purchase. Large or small, good gas mileage or poor, lots of luxuries or few, high resale value or low, etc.

But the medical purchaser generally has very little similar information. Which doctor has the best outcomes? Which hospital? How effective is this medication compared to that one? We generally lack detailed answers to these questions.

For these two reasons – unequal healthcare spending and lack of medical quality information / well educated medical consumers - so-called Consumer Driven Health Care had only a small impact on medical trend which had run at our gdp growth rate plus 3 – 5% annually for years.

Consider these data points:

- The US overall inflation rate averaged about 3% per year from 2002 – 2012. [97]
- US healthcare premium increases averaged about 6.2% between 2002 and 2009 – right in the historical range of gdp + 3 – 5%. [98]
- The World Bank's US 2015 gdp growth estimate (I'm writing this section in February of 2015) is 3%. The various Massachusetts carriers estimated 2015 trend at the last meeting of the Massachusetts Association of Health Underwriter board of directors meeting in 2014 (I'm on that board) at about 6 - 8%. Again, right in our historical range.[99]

Americans continue to spend about twice as much on healthcare as other developed countries without getting any value for the excess spending, just as we did prior to CDHC policy introduction. Here are the estimates for 2012 and 2013, the latest years available from the OECD's Health Statistics spreadsheet. [100] I also included estimates from China and India for comparative purposes, though these numbers are pretty squishy.

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[97] http://www.usinflationcalculator.com/inflation/current-inflation-rates/

[98] OECD Healthdata 2014.

[99] The main 2015 cost drivers are specialty pharmaceuticals, not inpatient utilization or cost rates. I suppose that indicates some progress on the hospitalization front, but I wonder how happy employers will be learning that their health insurance renewals will, again, outpace inflation by a fairly wide margin.

[100] OECD, op cit.

Spending

US	$8,745
France	$4,288
Canada	$4,602
Germany	$4,884
Italy	$3,183
Netherlands	$5,178
Spain	$2,987
UK	$3,287
China	$309
India	$132

Life Expectancy at Birth

US	78.7 years
France	82.1 years
Canada	81.5
Germany	81
Italy	82.3
Netherlands	81.2
Spain	82.5
UK	81
China	74
India	64.5

Here are some 2013 Rx consumption rates per capita.[101]

US	$1010
Canada	$771
France	$651
Germany	$668
Netherlands	$450
Italy	$514
Spain	$492
UK	$367

[101] Ibid.

Unfortunately, ‘consumerism as deductibles’ falls short of real healthcare consumerism as these charts and analysis suggest.

Healthcare Exchanges – a new twist from ObamaCare?

I’ll spare you a lengthy description of Exchanges as envisioned by the Affordable Care Act, as these are in development and unfolding as I write this chapter. I have nothing useful to say about them at this time. They may just be another shiny new object or may be a paradigm shift. I don’t know. We’ll need a few years to understand their impact.

My chapter on the Affordable Care Act describes healthcare reform in some detail so I’ll refer readers to that.

Three additional problems with having employer based health insurance as the centerpiece of our healthcare financing system

Price structure: Today’s health insurance policies are priced at ‘employer contribution + employee contribution’. Losing your job may lead to a quadrupling of your health insurance premiums, assuming that your employer pays 75% of the premium.

Labor market distortions: Some employees either choose jobs or remain on their jobs for the health insurance. Two main reasons for this are

- cost – employer contributions reduce employee costs, and
- access – pre-existing conditions traditionally made health insurance unavailable to some people if they changed from their current jobs, though the Affordable Care Act has changed much of this.

One research paper estimated that employer based insurance reduced job mobility by 25 – 40% [102] at least until the ACA impacts work their way through our healthcare system.

Impact on the Federal budget: Tax breaks for employer based health insurance (not income taxable to the employer or employee) constitute the biggest tax break / loophole

[102] Gruber & Madrian, ‘Health Insurance, Labor Supply and Job Mobility’ Workng Paper 8817, NBER, March 2002

in the federal budget, an estimated $260 billion annually. [103] This is roughly 3x the mortgage interest tax deduction.

This tax break is regressive: higher income people with expensive policies are subsidized by lower income people with less expensive policies.

Many on Capitol Hill seek to reduce this tax break. Here, for example, is Representative Paul Ryan who ran for Vice President in 2012 with Mitt Romney. The tax deductibility of employer based health premiums

> tilts the compensation scale toward ever-greater (tax free) benefits and away from higher (taxable) wages. This isn't just a big driver of runaway healthcare costs, as more dollars chase the same amount of services. It's also a big reason why too many Americans haven't seen a raise in a long time. [104]

Ryan, among other things, echoes my suggestion that employers pay premiums by withholding wage increases from employees. $1 of benefits is worth more to the employee than $1 of wages since the wages are taxed.

Paul Starr, Princeton Professor of Sociology who normally sits far to the left of Ryan, agrees with him on this point, saying the employer based premium tax exclusion has

> long been the target of criticism on both distributive and allocative grounds: it provides the biggest subsidies to higher income employees with the most generous insurance, and it contributes to America's inflated health spending by obscuring the true costs. Nixon and Clinton considered limiting the exclusion, but each rejected the idea because of political opposition.[105]

Summary: Employer Based Health Insurance

Employer based insurance provides some 160 million Americans with health coverage. But it does so remarkably poorly.

- By setting powerful employer business interest groups against far weaker population health interest groups, it's a key cause of underfunding our various (health related) social services

[103] Health Affairs *Health Policy Brief*, August 1, 2013 'Premium Tax Credits', http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=97

[104] Turner, Capretta, Miller and Moffit, Why ObamaCare is Wrong for America, Forward

[105] Paul Starr, Remedy and Reaction, page 258

- The employer based structure harms **employers** by putting an unnecessary (for widget production) economic and administrative burden on them.
- It harms **employees** by reducing their medical care options
- It harms **patients** by locking our system into one focused on short term cost control rather than long term outcome improvement, or, in economic terms, value creation
- It harms **carriers** by reducing their ability to develop high value products and by forcing them to satisfy employer needs rather than patient, and
- It harms **providers** – doctors and hospitals – by reducing their ability to focus on long term outcomes and treatment excellence, but rather on short term costs, carrier and network referral requirements and associated administrative tasks aimed at reducing moral hazard.
- It provides a **poor basis** for developing a rational healthcare financing system, with 'rational' meaning disease, treatment or patient need based.

Where will this take our healthcare system? Alain Enthoven, the Stanford Business School professor summarizes in prophetic terms. Our employer based model, he suggests, will unfold 'like a Shakespearean tragedy: known, tragic flaws taking their inexorable toll' [106] … as we've just seen in this chapter.

[106] Health Affairs, Forum on Employer Sponsored Health Insurance, 2006 http://content.healthaffairs.org/content/25/6/1537.full

Review Questions

Answers on next page

1. This chapter suggested that Moral Hazard is endemic to health insurance. What is moral hazard?

a. People get more care than they need because it appears free to them
b. People with poor moral standards get more care than appropriate because they are greedy
c. There is a close correlation between high morals and low healthcare costs
d. 'Moral hazard' addresses the mind-body relationship. Basically moral people sleep better so remain healthier than lose moral people who more typically suffer from sleep disorders

2. This chapter suggested that disconnecting health insurance payers from healthcare users leads to inefficiencies. What does 'disconnecting health insurance payers from users' mean?

a. Payers are employers but users are employees
b. Payers are generally government entities that pass rules and legislation but users – who must implement those rules – are employers
c. Payers are, in reality, tax payers who fund most healthcare in this country even though employers are the biggest cohort of users
d. Payers are carriers who actually pay doctors and hospitals for their services while 'users' are all the entities that make up the bills, like pharmaceuticals, device manufacturers etc

3. This chapter suggested that having 1 year long health insurance policies leads to systemic inefficiencies. Why?

a. Carriers and providers try to control short term spending to keep renewal increases low, while some 70% of spending goes to patients with chronic diseases that require a long term focus.
b. Renewing annually creates far more paperwork, and therefore costs, than a more efficient system would have
c. Most employers would prefer longer term policies – 10 or even 20 year long policies – so they could plan and cut overhead
d. One year long policies opens the door to expanded lobbying on Capitol Hill from groups that offer the 'newest and greatest' short term health insurance fixes

4. This chapter suggested that having employment as the core of our healthcare financing system leads to an underfunding of social programs (that often have a major impact on health). Why is that?

a. Many of the social causes of medical problems – poor nutrition or poor housing, for example – are not the employer's financial responsibility. As such, they are often left out of our health insurance discussion, since carriers and employers focus so intently on the next year's policy renewal price.
b. Social programs, as many studies have shown, have little to no impact on medical care or spending
c. Employers lobby aggressively to cut social spending programs which might, if they worked well, increase the employer's premium costs
d. Employers, brokers and carriers combine to develop fully comprehensive insurance plans. Anything not included in those plans, virtually by definition, is not relevant to promoting good health.

5. Who pays health insurance premiums?

a. The employee by foregoing wages
b. The employer by foregoing profits
c. The government by crediting the premiums equally to the employer and employee
d. Hospitals by undercharging for their service

6. Why do we have healthcare mandates in this country?

a. To improve care quality. Since the introduction of mandates our 30 day readmission rates have fallen almost to zero
b. To improve care outcomes. Since the introduction of mandates, our average longevity at birth has increased by almost 100 years
c. To reduce infant mortality. Since the introduction of mandates, our infant mortality rates have fallen to the lowest in the world
d. To reward lobbying by influential groups like nurses (who lobby for nursing mandates), chiropractors (who lobby for chiropractic mandates), pharmaceuticals (who lobby for pharmaceutical mandates) and similar.

Review Questions

Correct answers in bold

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a. Carriers and providers try to control short term spending to keep renewal increases low, while some 70% of spending goes to patients with chronic diseases that require a long term focus.
b. Renewing annually creates far more paperwork, and therefore costs, than a more efficient system would have
c. Most employers would prefer longer term policies – 10 or even 20 year long policies – so they could plan and cut overhead
d. One year long policies opens the door to expanded lobbying on Capitol Hill from groups that offer the 'newest and greatest' short term health insurance fixes

4. This chapter suggested that having employment as the core of our healthcare financing system leads to an underfunding of social programs (that often have a major impact on health). Why is that?

a. Many of the social causes of medical problems – poor nutrition or poor housing, for example – are not the employer's financial responsibility. As such, they are often left out of our health insurance discussion, since carriers and employers focus so intently on the next year's policy renewal price.

b. Social programs, as many studies have shown, have little to no impact on medical care or spending

c. Employers lobby aggressively to cut social spending programs which might, if they worked well, increase the employer's premium costs

d. Employers, brokers and carriers combine to develop fully comprehensive insurance plans. Anything not included in those plans, virtually by definition, is not relevant to promoting good health.

5. Who pays health insurance premiums?

a. The employee by foregoing wages

b. The employer by foregoing profits

c. The government by crediting the premiums equally to the employer and employee

d. Hospitals by undercharging for their service

6. Why do we have healthcare mandates in this country?

a. To improve care quality. Since the introduction of mandates our 30 day readmission rates have fallen almost to zero

b. To improve care outcomes. Since the introduction of mandates, our average longevity at birth has increased by almost 100 years

c. To reduce infant mortality. Since the introduction of mandates, our infant mortality rates have fallen to the lowest in the world

d. To reward lobbying by influential groups like nurses (who lobby for nursing mandates), chiropractors (who lobby for chiropractic mandates), pharmaceuticals (who lobby for pharmaceutical mandates) and similar.

Chapter 3: Poorly Targeted Government Incentives and Tax Benefits

that make wellness programs necessary and ineffective

How much impact can medical care have on a population's health? In other words, does an extra $100 billion spent on medical care make us healthier than

- $10 billion for cleaner air
- $20 billion for better housing
- $30 billion for nicer public parks and
- $40 billion for better public transportation systems?

Probably not. In fact Bill Frist, former Republican US Senate Majority Leader and a cardiac surgeon claimed

> Health is not health services. Health is behavior, it's genetics, it's socio-economic status, it's disparity, it's environment.
>
> Health services has about a 15 – 20% impact. [107]

Frist's in a good position to know as he addresses the issue from both a public policy and medical professional point of view.

The Massachusetts Health Policy Commission's 2013 Cost Trends Report – consider this just one of dozens of government reports that study the same issues and arrive at the same conclusions – agrees with Frist's assessment, stating

> Research shows that [medical] outcomes are driven largely by social and behavioral factors, along with public health policies, while **health care services delivered account for only 10 percent** of general variation in health status. [108]

Academic researchers agree too. Consider the observations by of Harvard Medical School Professors Jules Richmond and Rashi Fein that our phenomenal health gains since World War II

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[107] CNBC Meeting of the Minds: The Future of Healthcare, broadcast July, 2009

[108] 2013 Cost Trends Report, Massachusetts Health Policy Commission, p 22, direct quote with emphasis added

> were largely the consequence of applying our knowledge of health promotion and disease prevention rather than improved clinical care**…**the revolution in biology subsequent to World War II, a revolution that had brought many advances to clinical care, as yet had only marginal effects on improving our vital statistics. [109]

Let's not quibble about medical care's actual percentage impact, but agree that it's probably somewhere between Frist's and the Massachusetts Health Policy Commission estimates, probably around 15%. This means other issues – behavior, genetics, socio-economic status, disparity and environment – account for 85% or so of a population's health status.

The question for this chapter: how have government programs impacted our behavior, socio-economic status, disparity and environment…and consequently healthcare costs and outcomes? My point of departure: government programs that improve our behavior and environment will reduce our demand for health services. Government programs that make us less healthy will increase our demands for medical services. [110]

Understanding *Demand* for Healthcare

In broad terms, demand for medical services comes from two sources: population age and population health. Let's look at population aging briefly first, then focus on the far more interesting issue of population health.

The US population median age has increased annually from 28 in 1970 [111] to 37.6 in 2014.[112] As we age, we cost more medically. One estimate broke this down by age group using 2004 data. [113] Consider the spending ratios in the chart below rather than exact costs: people in the 65 – 74 age bracket cost about 3x more than those in the 19 – 44 range. These ratios remain approximately the same over time even as healthcare costs rise per capita.

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[109] Richmond and Fein, The Healthcare Mess, pages 94 and 92

[110] Some researchers argue that there is an insatiable and always increasing demand for medical services, that as we get richer and our basic needs are less expensively met, we will devote increasing resources to medical care. I don't necessarily disagree with this reasoning but suggest that a less healthy, more obese population will need more medical services than a less obese one. I think the two theories are compatible.

[111] http://scholar.lib.vt.edu/theses/available/etd-12098-13236/unrestricted/CHAP2-3.PDF

[112] CIA Factbook estimate https://www.cia.gov/library/publications/the-world-factbook/fields/2177.html

[113] "U.S. Health Spending By Age, Selected Years Through 2004." By Micah Hartman and others. *Health Affairs*, November 2007.

Annual Healthcare Spending by Age Group, 2004 [114]

Age group (years)	Annual personal healthcare spending per person
0-18	$2,650
19-44	$3,370
45-54	$5,210
55-64	$7,787
65-74	$10,778
75-84	$16,389
85+	$25,691
Average per person	$5,276

Though demographers can extend this analysis in several interesting ways, I propose simply to accept that we, as an aging population, will spend more money on healthcare over time annually simply because our population ages, though we can discuss the efficiency and effectiveness of that medical spending, which I do elsewhere in this book.

I want to focus instead on our population's health, primarily obesity and physical fitness and discuss some government programs affecting these. While we can't do much to affect aging (except extend it) but we can do quite a bit to affect population health.

Consider these data:

- Average daily caloric consumption per American grew from 2200 in the 1970s to about 2700 in the early 2000s [115] - a 23% increase.

[114] This chart comes from justfacts.com http://www.justfacts.com/healthcare.asp and uses data from the 2007 Health Affairs article cited above.

[115] See the USDA's Agriculture Fact Book, Chapter 2 'Profiling Food Consumption in America' for example http://www.usda.gov/factbook/chapter2.pdf. See also the USDA's Dietary Guidelines for Americans, published and updated about every 5 years

- The greatest caloric gains came from fats, oils, milk and milk byproducts and sweeteners. [116]

- Some 130 million Americans are overweight (about 40% of us) and 60 million obese

- Only about 48% of American adults meet the 2008 Physical Activity Guidelines of 150 minutes of moderate exercise per week. Inactive adults have a higher risk for early death, heart disease, stroke, type 2 diabetes, depression, and some cancers. [117]

- Adults with more education are more likely to meet the 2008 Physical Activity Guideline for aerobic activity than adults with less education. [118]

- Adults whose family income is above the poverty level are more likely to meet the 2008 Physical Activity Guideline for aerobic activity than adults whose family income is at or near the poverty level. [119]

Obesity, caused largely by dietary and exercise behaviors, increases healthcare costs. Here are some examples courtesy of US government researchers: [120]

- 81 million Americans suffer from cardiovascular disease. Major risk factors include high levels of blood cholesterol and other lipids, type 2 diabetes, hypertension (high blood pressure), metabolic syndrome, **overweight and obesity, physical inactivity,** and tobacco use.

  Cardiovascular disease treatment costs about $300 billion annually or 10% of all healthcare spending.

- 74.5 million Americans—34 percent of U.S adults—have hypertension. Hypertension is a major risk factor for heart disease, stroke, congestive heart

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[116] Dietary Guidelines for Americans 2010, US Department of Agriculture and US Department of Health and Human Services, page 11
http://www.health.gov/dietaryguidelines/dga2010/DietaryGuidelines2010.pdf

[117] See the CDC's webpage Facts about Physical Activity
http://www.cdc.gov/physicalactivity/data/facts.html . The 2008 Physical Activity Guidelines for Americans articulates the types of physical activities recommended along with suggested weekly time for each.
http://www.health.gov/paguidelines/pdf/paguide.pdf

[118] http://www.cdc.gov/physicalactivity/data/facts.html

[119] http://www.cdc.gov/physicalactivity/data/facts.html

[120] Dietary Guidelines for Americans, op cit. page 3

failure, and kidney disease. Dietary factors that increase blood pressure include excessive sodium and insufficient potassium intake, **overweight and obesity**, and excess alcohol consumption.

- Nearly 24 million people—almost 11 percent of the population—ages 20 years and older have diabetes. The vast majority of cases are type 2 diabetes which is heavily influenced by **diet and physical activity.**

  Diabetes costs about $150 billion annually or 5% of our healthcare spending.

Let's state this differently: obesity raises healthcare costs about as much as does 20 years of aging. [121] An obese 40 year old costs medically about the same as a healthy weight 60 year old. Remember that as we age, we require more medical care. Here the aging and obesity trends converge: we have both an aging population and an increasingly obese one.

The OECD expands on obesity's impact:

> The lifespan of an obese person is up to 8-10 years shorter (for a BMI of 40-45) than that of a normal-weight person, mirroring the loss of life expectancy suffered by smokers. [122]

Obesity, some studies suggest, is contagious with its spread patterns mimicking infectious diseases. In one particular study researchers found that

> a person's risk of becoming obese was 2% per year, **but the risk rose another 2% for every five obese social contacts they had**. [123]

Bill Walczak, Executive Director of Boston's Codman Square Health Center put this in lay terms:

> In lower-income communities, there is an expectation that when you get older, your hair gets gray and you get diabetes, because it's so common. [124]

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[121] Strum 'The Effects of Obesity, Smoking and Drinking' Health Affairs, March 2002

[122] Obesity and the Economics of Prevention, Fit not Fat, © OECD 2010
From Executive Summary

[123] Hill, et al, Infectious disease modeling, PLOS Computational Biology, November 4, 2010, emphasis added

[124] Quoted in Boston Globe, November 8, 2010, page G6

Kenneth Thorpe, former Assistant Secretary of Health and Human Services, estimated that obesity related healthcare spending between 1987 and 2001 accounted for more than a quarter of all healthcare cost increases during that period. [125] Today Thorpe estimates, obesity adds about $700 to the cost of healthcare per American adult per year. [126]

Why are we so obese? Why does it affect low income people disproportionally? What happened since the 1970s to cause all this?

The Corn Story

Our domestic corn productivity grew dramatically, from about 72 bushels per acre in 1970 to 155 bushels in 2013 with the acreage up slightly over time. [127] This expansion is stimulated, many suggest, by the $5 billion in annual corn production subsidies.

Our total corn production grew from 2010 to 2014 by about 11%, to 14 billion bushels. [128]

About 55% of this corn becomes animal feed and 5% sweetener, sometimes called high fructose corn sweetener, sometimes corn sweetener, sometimes corn sugar and even sometimes just ‘sugar’.

Corn, as Michael Pollan has eloquently written, is

> what feeds the steer that becomes the steak. Corn feeds the chicken and the pig, the turkey and the lamb, the catfish and the tilapia and, increasingly, even the salmon, a carnivore by nature that the fish farmers are reengineering to tolerate corn. The eggs are made of corn. The milk and cheese and yogurt, which once came from dairy cows that grazed on grass, now typically come from Holsteins that spend their working lives indoors tethered to machines, eating corn.
>
> To wash down your chicken nuggets with any soft drink in the supermarket is to have some corn with your corn…after water, corn syrup is the principle ingredient. Grab a beer for your beverage and you’d still be drinking corn in the form of alcohol-fermented glucose refined from corn.

[125] Thorpe, The Impact of Obesity on Medical Spending, Health Affairs, October, 2004

[126] http://www.wsbtv.com/news/news/local/obesity-related-healthcare-can-be-costly/nYy4k/

[127] cornandsoybeandigest.com, Sept 2013 USDA Crop Production summary

[128] Projection by Kansas State University, May 15, 2014

> Corn is in the coffee whitener and Cheez Whiz, the frozen yogurt and TV dinner, the canned fruit and ketchup and candies, the soups and snacks and cake mixes, the frosting and gravy and frozen waffles, the syrups and hot sauces, the mayonnaise and mustard, the hot dogs and bologna, the margarine and shortening, the salad dressing and relishes and even the vitamins. [129]

Each American, on average, consumes over **half a ton** of food that uses corn as an ingredient. Here's the breakdown: [130]

- Total average annual food consumption average: 1994 lbs / person consisting of
    - **630** lbs of milk, yogurt, cheese, ice cream **(corn based as cow feed)**
    - **415** lbs of vegetables, mainly potatoes and **corn**
    - **264** lbs of meat and poultry [131] **(corn based as animal feed)**
    - 197 lbs of grains
    - 273 lbs of fruit, mainly water weight
    - 141 lbs of sweetener, including **42** lbs of **corn syrup**
    - **85** lbs of fat, butter & oil **(fat & butter from corn + corn oil)**

"When you look at the isotope ratios," in American's hair and skin according to Todd Dawson, a Berkeley biologist who's done this sort of research, "we North Americans look like corn chips with legs." [132]

One result of the corn subsidies / cheap and easy availability of corn for livestock feed, is that we eat about 40% more meat, on average per person per year, than western

[129] Michael Pollan, The Omnivores Dilemma, page 18

[130] From National Public Radio's report on food consumption by correspondent Allison Aubrey, December 31, 2011

[131] Estimate from Chartbins.com

[132] Paraphrased from Pollan, Ominvores Dilemma, page 18

Europeans [133] - about ¾ pound of meat per person per day. That's about 2.5 times the government recommendation of 1/3 pound of meat *and beans*. [134]

The US government actually recommends against eating that much meat. Here are recommendations from the US Department of Agriculture's Dietary Guidelines for Americans: [135]

Food Groups to Encourage

- Fruit
- Vegetables
- Whole Grains

Food Groups Discouraged in Large Quantities

- Meat
- Sugar

Note the advice / subsidy discrepancy. We encourage but don't subsidize fruit and vegetables. We subsidize but don't encourage meat and sugar. Money in the form of subsidies, seems to speak louder than words in the form of recommendations.

How subsidized corn affects food prices in supermarkets

I did some detective work in 2010 and 2012 at my local Shaw's grocery store in Easton, Massachusetts. Shaw's is a typical mid-market American supermarket with some 135 stores throughout New England. It's not upscale like Whole Foods nor a budget operation like PriceRite. Shaw's prices are roughly comparable to other large chain grocery stores I've visited in my travels.

In both 2010 and 2012, I determined prices per calorie of various foods by dividing the package cost by number of servings, then by calories per serving. For fruits and vegetables, I found average calories per piece or per pound online then determined the

[133] The raw data comes from Chartbins.com. France, Italy, Germany, Britain and Switzerland average about 187 pounds of meat per person per year. We consume about 264.

[134] See the USDA Dietary Guidelines for Americans, 2005 edition.

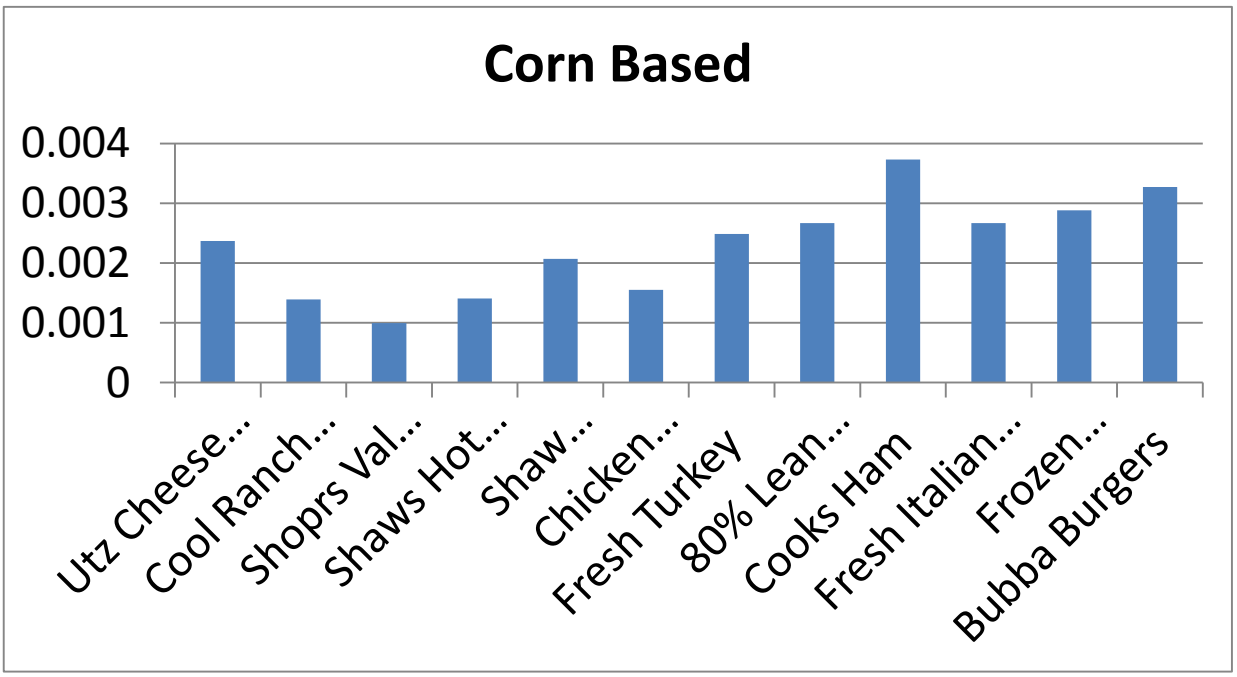
[135] I refer specifically to the 2005 recommendations because they're so clearly stated. Recommendations from other years say pretty much the same things.

price per piece or pound at Shaw's. (I'm not sure the local branch manager was pleased with my detective work but, as I recall, I forgot to ask permission.)

The graphs I plotted for food costs/calorie were very similar both years. I'll reproduce the October 21, 2012 results below.

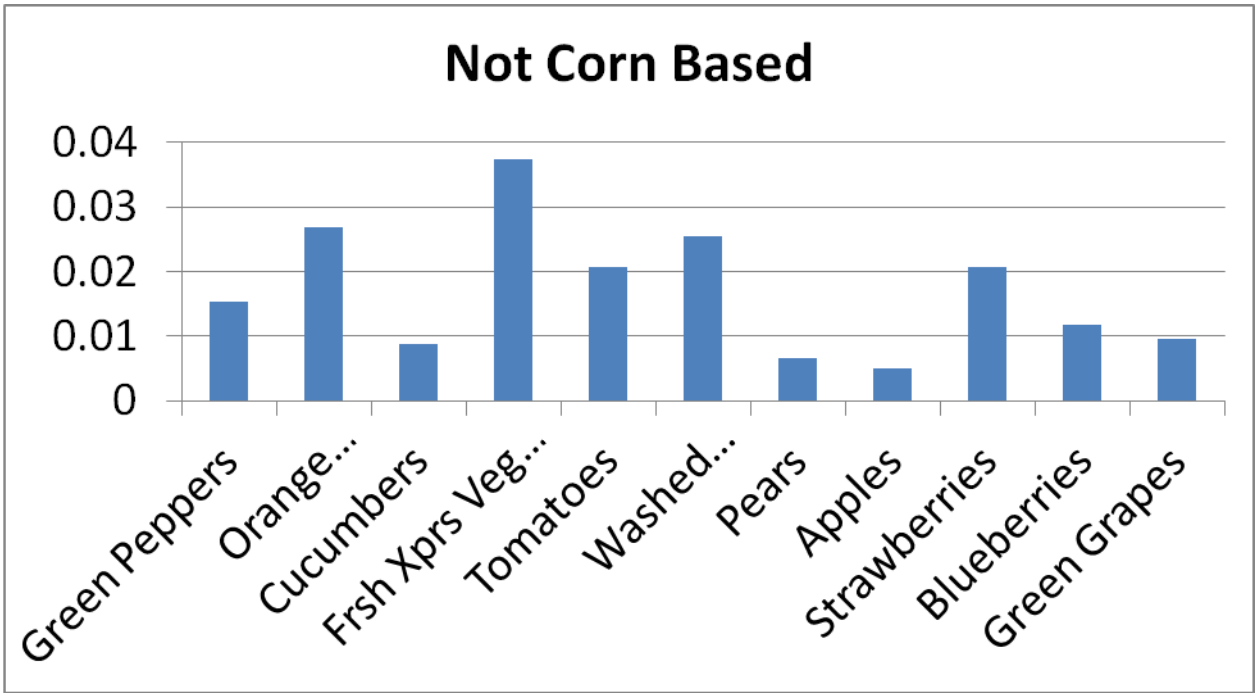
My goal in all this: determine how much it costs to purchase 2700 calories of corn-based products and compare that to 2700 calories of non-corn based. I wanted to see the impact of the corn subsidy on actual daily, monthly and annual food costs for an average American.

The first chart shows the cost/calorie of corn based foods like cheese doodles, Shoppers Value Corn Chips, Shaw's brand hot dogs and chicken legs, 80% lean ground beef, fresh Italian sausages and frozen meatballs.



As you can see, these foods cost about 2 tenths of 1 cent per calorie.

The second chart shows costs of some non-corn based foods like green and orange peppers, Fresh Express salad bags, washed green beans, tomatoes and apples – the foods encouraged by the US Department of Agriculture.



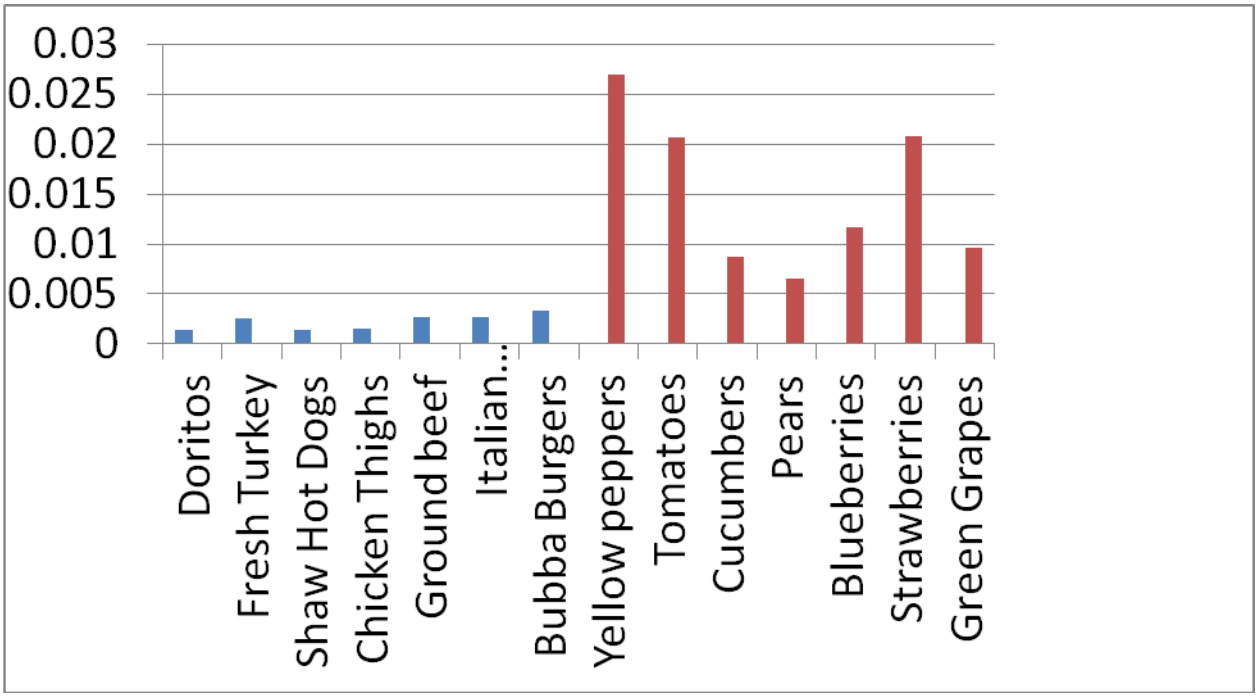
These foods average about 1 cent per calorie.

Let's assume you're a cash-strapped, low income person, trying to feed your family. You need to purchase 2700 calories of food per day to satisfy them, so when you buy the non-corn based 'healthier' foods, you choose the cheapest like apples and pears, costing about half a cent per calorie. Orange peppers, Fresh Express salad bags and strawberries become luxuries.

The difference between the *average* cost of corn-based foods and the *lowest* cost non-corn based is about 1/3 of a cent. (I'm intentionally underpricing the healthier foods to minimize the food cost differences people face; I want to understate the case here, not overstate it.)

Multiply that 1/3 of a cent times 2700 calories and you'll see that the cost of eating better runs about $9/person/day. That's not the cost of *eating*, but of eating *better*. People who eat orange peppers, bags of salad, tomatoes and strawberries see a bigger cost difference.

Here's a comparison chart showing corn based (subsidized through the corn subsidy) foods on the left in blue, and non-corn based / non-subsidized on the right in red.



At the $9 per day premium for eating better, our average American needs to spend $3000 annually to eat better.

The average household of 2.5 people spends about $7500 annually and a family of 4 about $12,000.

Remember, again, that's not the cost of *eating* but of *eating better* due to the corn subsidy, centrality of corn in our food production system and lack of subsidies for many fruits and vegetables.

Let's correlate this to saturated fat and cholesterol, both discouraged by the US Department of Agriculture's Dietary Guidelines:

- All animal based foods – low cost these days, thanks in part to the corn subsidy - contain fat and cholesterol
- Cheese consumption – high in fat and cholesterol – has tripled since the 1970s.

  Perhaps as a result, Americans combine cheese and meat far more frequently than do people in other countries. See the popularity of Philly Cheese Steak sandwiches, cheese burgers, ham and cheese sandwiches and Egg McMuffins (a delicious combination of corn based eggs, ham and cheese).

> One BBC TV show, Top Gear, aired an amusing Q & A (sorry, I don't remember which episode. I normally watch it late at night) asking How to be an American: 'wear cowboy boots and put cheese on everything'. I guess that's how we're perceived internationally. Perhaps with good reason.

- No plants contain animal fat or cholesterol. This led Deepek Chopra and 3 other academic physicians to write in the Wall Street Journal [136]

  > *The disease that accounts for more premature deaths and costs Americans more than any other illness is almost completely preventable simply by changing diet and lifestyle.*

But changing diet and lifestyle may be cost prohibitive for a large section of our population. Indeed, the Economist analyzed American food prices and concluded

> Americans, increasingly, cannot afford to eat a balanced diet [because] … Over the last four years, the price of the healthiest foods has increased at around twice the rate of energy-dense junk food. [137]

Let's switch now from discussing the 55% of corn that becomes animal feed to the 5% that becomes sweetener.

High Fructose Corn Sweetener and other corn byproducts

As our corn productivity increased in the 1980s and 90s, corn byproducts replaced sugar in breads, cereals, yogurts, soups, lunch meats and other products since corn was so cheap.

- HFCS consumption 1970s was about 26 pounds per person per year
- HFCS consumption 2000: 85 pounds per person [138]

Corn subsidies leading to less expensive corn sweeteners saved Coke and Pepsi about $100 million annually over the past 20 years according to studies from Tufts University

[136] Chopra et al, Alternative Medicine is Mainstream, Wall Street Journal, January 9, 2009

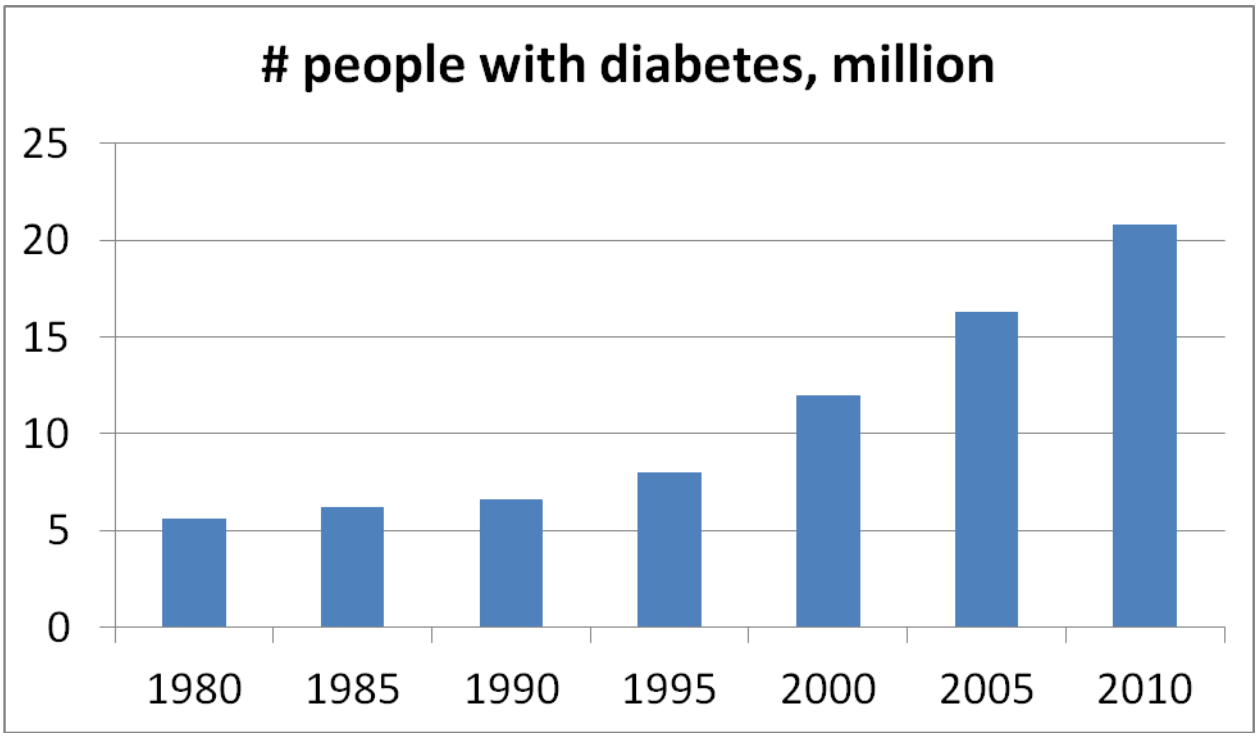
[137] *Economist* 7/9/11, If you build it, they may not come

[138] USDA agricultural fact book

researchers. [139] Soda consumption has doubled since the 1970s to about 50 gallons per person per year. [140]

Michael Pollan summarized this nicely in the New York Times: [141]

> Nearly 10% of all the calories Americans consume now come from corn sweeteners; the figure is 20% for many children [because sweeteners are in *everything*]…
>
> Sweetness became so cheap that soft drink makers, rather than lower their prices, super-sized their serving portions and marketing budgets.
>
> It's probably no coincidence that the wholesale switch to corn sweeteners in the 1980s marked the beginning of the epidemic of obesity and Type 2 diabetes in this country.



[139] Harvie and Wise, Sweetening the Pot: Implicit subsidies to corn sweeteners and the US obesity epidemic, http://www.ase.tufts.edu/gdae/Pubs/rp/PB09-01SweeteningPotFeb09.pdf

[140] Duffrey, Food Price and Diet, Archives of Internal Medicine, March 2010

[141] Pollan, When a crop becomes king, NY Times, July 19, 2002

The rational response?
Eat fast food!

Economically, if you had just $5 to maximize your calories, that's certainly a way to do it, according to Dr. Lauren Smith, Medical Director of the Massachusetts Department of Public Health. [142]

Consider these data points about Massachusetts as one sample state:

- Average Massachusetts household income: about $67,000
- Average Massachusetts household size: about 2.5 people

At 20% of income for food (my estimate) the average person has about $15 to spend on food daily. What meal can you buy for $5?

The KFC $5 Fill Up, 3 Piece Tenders! You get a whopping 1120 calories, 95 grams of sugar and 18 grams of saturated fat. Here's the nutritional information, downloaded from the KFS website in December of 2014 with notes about the corn bases:

	Sugars (grams)	Calories	Saturated Fat (grams)	Sodium (mg)
3 Chicken Tenders (corn fed)	0	380	2.5	940
Mashed potatoes & gravy (corn sugar)	3	120	6	530
Flaky biscuit (corn butter)	2	180	6	530
20 oz Mountain Dew (corn sugar)	75	280	0	130
Choc Chip Cookie (corn sugar, butter)	15	160	3.5	90
Totals:	**95**	**1120**	**18**	**2220**
US Daily Recommendation	**25**	**2000**	**11 – 13**	**2300**

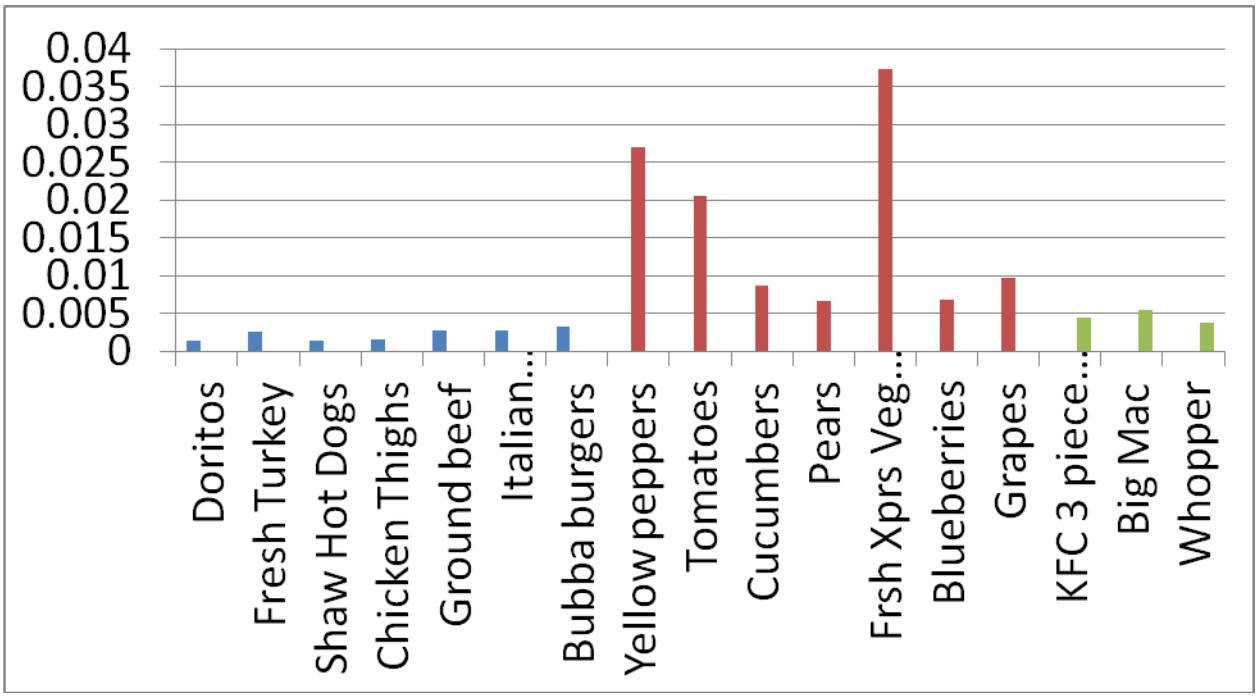
[142] Boston Globe on September 9, 2010.

Or perhaps you prefer Taco Bell. Their $2 Beefy 5-Layer Burrito Value Meal with Mountain Dew and Nacho Cheese Doritos consists of

- chips (corn, subsidized)
- beef (corn based, subsidized)
- cheese (corn based, subsidized)
- tortilla (corn, subsidized)
- soda (HFCS, subsidized)

For $2, you get 1020 calories, 35 grams of fat, 66 grams of sugar and 2000 grams of sodium.[143]

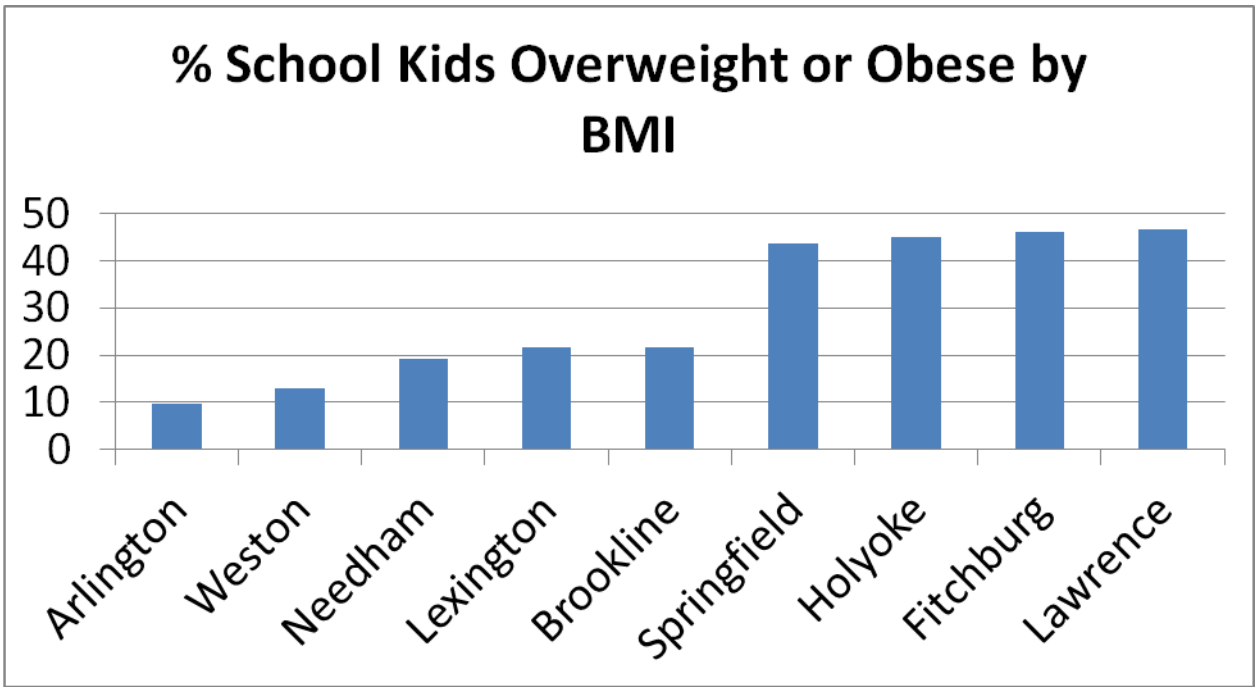
Let's see how fast food compares on a cost/calorie basis to food at Shaw's supermarket.



I think we're beginning to see where the obesity epidemic comes from and why it affects lower income people the most. But the proof, as they say, is in the pudding.

[143] Information downloaded from Taco Bell's website in 2010 or 2011 according to my notes. It was apparently not offered in 2015 when I wrote this chapter.

The Boston Globe reported, in September of 2010, rates of overweight or obese school children by town. This dramatically demonstrates the problem: Springfield, Holyoke, Fitchburg and Lawrence are among the poorest towns in Massachusetts while Needham, Lexington and Weston are among the richest.



Dietary Guidelines for Americans, 2015

Scientific Report published February 19, 2015

The US Dietary Guidelines Advisory Committee, established jointly by the US Departments of Agriculture and Health and Human Services, publishes nutritional guidelines every 5 years. Their 2015 Scientific Report summarizes our national nutritional, obesity and related medical problems.

- About half of American adults have one or more chronic diseases and
- About 2/3 of American adults are overweight or obese.

Both of these situations are preventable with ‘poor dietary patterns, overconsumption of calories, and physical inactivity directly contributing to these disorders’.

I'll summarize some key points below, generally as direct quotes with minor grammatical modifications: [144]

- the majority of the U.S. population has low intakes of key food groups that are important sources of nutrients, including vegetables, fruits, whole grains, and dairy. Furthermore, population intake is too high for refined grains and added sugars.

- no matter where food is obtained, the diet quality of the U.S. population does not meet recommendations for vegetables, fruit, dairy, or whole grains, and exceeds recommendations, leading to overconsumption, for the nutrients sodium and saturated fat and the food components refined grains, solid fats, and added sugars.

- a healthy dietary pattern is higher in vegetables, fruits, whole grains, low- or non-fat dairy, seafood, legumes, and nuts; moderate in alcohol (among adults); lower in red and processed meat; and low in sugar- sweetened foods and drinks and refined grains.

- individual nutrition and physical activity behaviors and other health-related lifestyle behaviors are strongly influenced by personal, social, organizational, and environmental contexts and systems [like socio-economic status, geographic proximity to fresh food and access to safe exercise areas. See below, the discussion of the Whitehall studies, for more on this.]

The Committee wrote in their cover letter to the Secretaries of Health and Human Services and of Agriculture:

> The dietary patterns of the American public are suboptimal and are causally related to poor individual and population health and higher chronic disease rates. Unfortunately, few improvements in consumer food choices have occurred in recent decades. On average, the US diet is low in vegetables, fruit and whole grains and too high in calories, saturated fat, sodium, refined grains and added sugars….
>
> More than two-thirds of adults and nearly one-third of children and youth are overweight or obese. These devastating health problems have persisted for

[144] From the Executive Summary of http://www.health.gov/dietaryguidelines/2015-scientific-report/PDFs/Scientific-Report-of-the-2015-Dietary-Guidelines-Advisory-Committee.pdf

decades, strained US healthcare costs, and focused the attention of our healthcare system on disease treatments rather than prevention. They call for bold action and sound, innovative solutions.

Since our public programs are obviously failing us, can the private sector step up and provide the innovative solutions the Committee seeks?

Implications for broker services i
Wellness programs as an attempt to add value

Many corporations and agencies have introduced wellness programs, attempting to educate people to eat better with inducements for lowering their cholesterol, blood pressure, blood sugar and the like. The apparent theory: people make bad food consumption decisions because they don't know better. Wellness programs typically provide both nutritional education and a financial incentive to change behavior.

We have some academic evidence about the impact of education on food consumption. A study published in the Archives of Internal Medicine in 2010 compared soda consumption among groups that received advice about the nutritional impacts of drinking soda *without* any financial inducement to change behavior, to a group that received similar advice *with* a financial incentive to change. The result:

- Those receiving advice *without* an economic incentive had no decrease in soda consumption
- Those receiving advice *with* an economic incentive did have a soda consumption decrease. [145]

How much of an incentive?

We can estimate the required incentive size by comparing costs for unhealthy / high calorie / high fat / high cholesterol food to costs of healthier choices. As we've already seen, the difference is about $3000 per person per year. I suggest that wellness programs need to incent people at least this much to generate the desired behavioral change….but probably more.

- Healthier foods aren't as convenient as KFC or a Big Mac. Consider convenience – ease of access and preparation - when you calculate the appropriate wellness incentive. (I, for example, hate cutting fruits and vegetables. I sometimes go without simply because I find cutting so unpleasant.)

[145] Duffrey, op cit

- Healthier foods don't taste as good, especially to someone habituated to high sugar, high salt, high fat foods. You'll probably need an additional incentive to get people to change their taste preferences.

  New York Times reporter Michael Moss explored this idea in some detail in his 2014 book 'Salt, Sugar, Fat'. He writes that the giant food companies aim for the taste 'bliss point' – a combination of sugar, salt and fat – that satisfies people's taste buds and gets them to want more, to keep eating as in the famous potato chip ad 'Bet you can't eat one'. The critical factor, Moss explains, is that you need *all three* tastes – salt, sugar and fat - to reach bliss: having only 2 of the 3 doesn't work.

  Foods outside that bliss point - fruits and vegetables for example – are less tasty and satisfying for most people. Moss presents tons of research to back his analysis, including detailed discussions with food scientists working for the largest food production companies.

  That's why I suggest you need additional financial incentives to get people to eat foods outside the bliss point.

My guess, somewhat educated but really only a guess: corporations would need to budget around $4000 per person per year (i.e. $16,000 for a family of 4) to effectuate real dietary change. Compare this to a 2013 wellness average of about $450 per employee (not per member of the employee's family). [146] Way short.

That's the wellness bind. The amount *necessary* to generate behavioral change far exceeds the amount *available* for the task.

These are, of course, averages. High income employees would probably need less of a financial incentive; low income folks probably more. (I'll address the issue of income disparity and effects on disease rates later in this chapter.)

We're starting in a $3000+ hole per person. Those private sector wellness programs may not offer much help despite their noble attempts to create systemic value.

Let's continue but change gears. Diet is only part of the 'diet and exercise' behavior change program. Let's discuss the exercise bit next.

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[146] Ladika, Well, Well: Employers Tie Health Care Financial Incentives to Specific Outcomes, Workforce Magazine, September 29, 2012

Exercise

Americans don't exercise enough. We know that from many studies, including compliance with the 2008 Physical Activity Guidelines quoted at the beginning of this chapter.

Why don't Americans exercise enough? We all know that exercise is good for us. We all want to exercise more. I've never heard anyone say they want to exercise less (well, maybe a few landscapers). But too few of us do.

I'd like to focus on 3 reasons we exercise too little: the home interest deduction, our relatively low federal gas taxes and single acre zoning, and suggest that they explain much about our lack of daily exercise.

American population densities are much lower than European or Canadian. This allows Europeans and Canadians to develop more sophisticated and efficient urban public transportation systems. An exercise impact of this, according to Alain Desroches of the Public Health Agency of Canada in a personal email:

> The denser, mixed use development in Canada makes average trip distances only half as long as in America, so more walkable than the longer trips Americans make. Canada also has higher transit user rates per capita accounting for more walking between trips.

This was at least partly due to these country's reactions to oil price hikes in the 1970s. Most Western European countries dramatically shifted their urban transportation policies in the 1970s to curb car travel and promote public transportation and walking according to John Pucher, writing in Transportation Policy magazine. [147] They walk to work, shopping and social events; we drive.

Our suburban physical environment, dominated by single family houses, exacerbates this problem. Over time, Americans have purchased bigger and bigger houses, generally on larger and larger lot sizes.

- In 1970 the average new house contained about 1400 square feet of living space
- In 2012 new houses averaged almost 2600 square feet

'The home mortgage interest deduction subsidizes Americans to buy bigger homes…**Americans, even poor Americans, have *almost twice as much living***

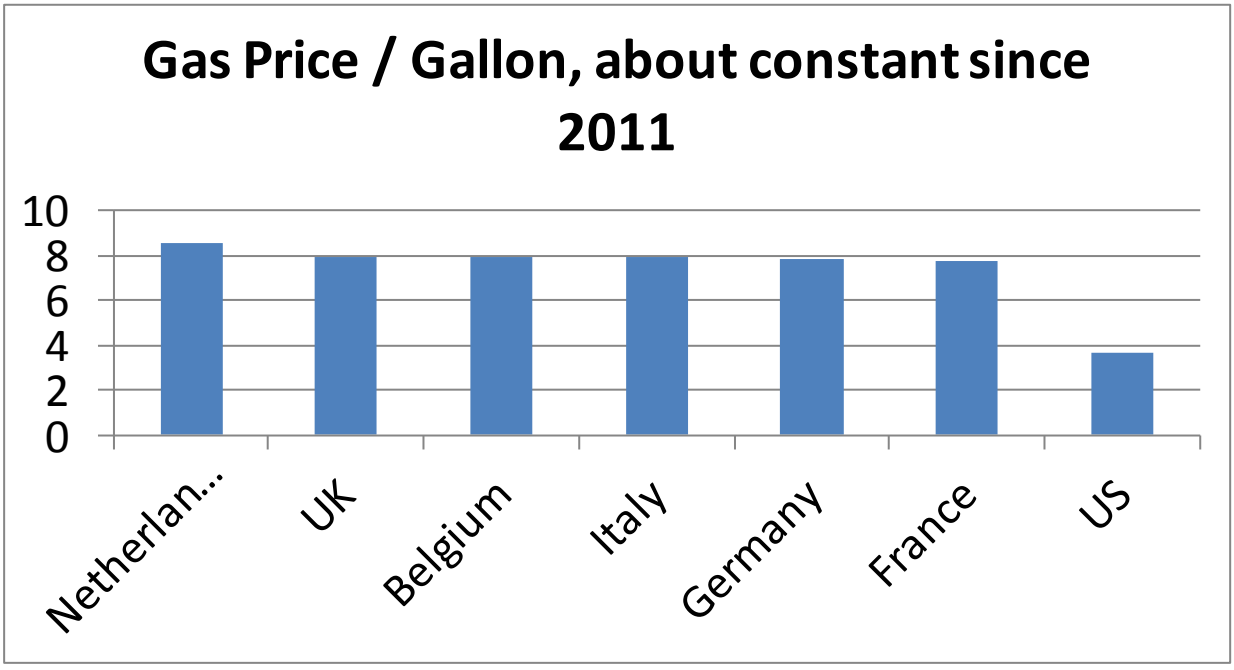
[147] Pucher, Why Canadians cycle more than Americans, Transportation Policy, 2006 http://vtpi.org/pucher_canbike.pdf

***space* as the average resident of France or Germany'** claims Harvard economics professor Edward Glaser. [148] Our government tax policy incents us to place these homes on larger lots by making local property taxes deductible on our annual Federal income tax. Local property tax deductibility acts as a subsidy to buy larger lots: the bigger the lot, the higher the property tax deduction.

Commuting from these larger homes on larger lots requires a car. Consider the person who passes 100 dwelling units while going from home to work:

- Pass 100 homes on single acre lots = go 100 linear acres (about **4 miles** if square acres). Too far to walk. And too difficult to locate a public transportation hub nearby.
- Pass 100 homes in cluster = perhaps 5 linear acres (about **1/5 of a mile**). Easily walkable and, with high population density, much easier to locate a public transportation hub nearby.

As gas prices rose over time, our government responded by keeping gas prices low through below-world-market gas taxes. Consider this chart comparing prices per gallon of gas in various countries in February 2011:



[148] Boston, Globe 5/7/10, page A19

Americans paid about $3.75 per gallon compared to western Europeans who paid about $8. (Though prices have fluctuated since, the relative ratios remain roughly constant.)

Exercise summary

The three government subsidies – or behavior incentives, if you will - significantly impact American's daily exercise:

- Home mortgages are income tax deductible, incenting people to buy bigger houses
- Property taxes are income tax deductible, incenting people to buy bigger lots
- Gas taxes are below the world market, incenting people to drive, not walk or take public transportation

Let's do a quick calculation to assess the impact:

- Assume someone walks 5 minutes from their home to and from the local public transportation stop to get to work, total 10 minutes daily, at the *home end* of each journey
- Then assume he/she also walks 5 minutes from public transportation to work each day, total 10 minutes daily at the *work end* of each journey
- The 5 day commute to and from work on public transportation accounts for **100 minutes** per week of walking
- Now assume 5 more journeys per week, to shopping (because of the local availability of stores) and socializing (restaurants, cafes, bars and walks to and from public transportation) = 100 more minutes of walking per week for a **grand total of 200 minutes** or about 166 hours of walking exercise per year that typical suburban Americans don't get.

At 3 miles per hour – a comfortable walking pace – our typical European or Canadian walks about 500 miles more annually than a typical American, burning perhaps an extra 50,000 calories per year.

Compare this exercise pattern --- about 200 minutes of public transportation related walking per week – with the 2008 Physical Activity Guidelines for Americans. Among the statements in the Summary: [149]

[149] http://www.health.gov/paguidelines/guidelines/summary.aspx

Most health benefits occur with at least 150 minutes a week of moderate intensity physical activity, such as brisk walking.

The physical environment in western Europe and Canada helps residents meet this standard; the physical environment in the US mitigates against it. That, in and of itself, can explain some of the obesity rate differences between us and them.

Implications for broker services and wellness programs ii

We've already discussed the cost difference between eating healthier and less healthy food and implications for wellness program incentives. I suggested that incentives in the $4000 range, per person per year, would probably be necessary to generate the desired food consumption behavior change, though that's a guess on my part: the actual number may be lower *or higher*.

Now let's add an exercise incentive.

Americans walk, according to the analysis above, about 166 hours/year less then Europeans and Canadians due to the differences in land use and availability of public transportation. How much do we need to incentivize people so they spend 166 hours of their leisure time walking?

Consider these factors:

- People generally value their leisure time at about 1/3 of their hourly income, or at least that's the rule of thumb I learned at Harvard so many years ago.
- The 2014 hourly wage, as reported by the US Bureau of Labor Statistics, was $24.63. [150] Estimate 1/3 of that at $10/hour for budgeting purposes.

The conclusion: Wellness programs would need to pay about $1600 per person per year to incent people to spend 166 hours of their leisure time in corporation-sponsored exercise endeavors. That's the amount necessary to match our western European and Canadian counterparts.

Of course, some exercise programs burn calories more quickly than walking so an appropriately incented program would offer a range of options, time commitments and payments.

Our wellness program, therefore, would need to budget more than $5000/person/year to generate the desired nutritional and exercise changes. Remember that this may be a

[150] http://www.bls.gov/news.release/empsit.t19.htm

low estimate: I only calculated the cost difference between eating poorly and well, and not exercising at all and getting 166 hours/year. I left out any behavior change premium: some people may enjoy their current lifestyles and need some additional payment to get out of that comfort zone. I have no idea how much that might be.

Targeting behavior change

Now for the wrench in the works.

All the analysis above describes ‘average’ people and ‘average’ disease rates. But studies indicate a very wide population divergence from ‘average’ with some groups exhibiting far higher disease rates and others lower. Targeting programs at those with highest risk is more expensive than the ‘averages’ above, perhaps much more so.

One outstanding group of studies called the Whitehall studies aimed to identify groups at highest risk. Unlike most medical studies, the Whitehall folks didn’t focus on *what causes* disease but rather *who gets sick*. Incorporating their information into wellness programs will help managers target interventions.

Some background: ‘Whitehall’ in Britain is the same as ‘Capitol Hill’ in the US, the seat of national government power and offices of many national civil servants. The Whitehall studies have tracked disease rates among British bureaucrats since the late-1960s.

Whitehall researchers choose the British civil service as their Petri dish for several reasons:

- British public administrators tended to remain on their jobs for many years, often their entire career. This gave researchers longitudinal information.
- British privacy laws, at least during the initial period of these studies, allowed researchers to identify specific individuals rather than just groups of people. This gave researchers the ability to follow up on specific disease and behavior details at an individual level.
- The British civil service was very hierarchical and status oriented, consisting of several different grades. Oxford and Cambridge graduates entered the service at the highest grades, made the most money and enjoyed the highest status; high school dropouts exactly the opposite.

  Given the status-based nature of hiring and promotions, it was highly unlikely that someone entering the civil service at grade 4 would be promoted to grade 2 or even grade 3: the grade at which you entered was generally the grade from which you retired.

This gave researchers the ability to track disease rates by income and status.

I'll let Professor Michael Marmot, Director of the Whitehall studies, summarize what they found: [151]

- *Firstly, just looking at heart disease, it was not the case that people in high stress jobs had a higher risk of heart attack, rather it went exactly the other way: people at the bottom of the hierarchy had a higher risk of heart attacks.*
- *Secondly, it was a social gradient. The lower you were in the hierarchy, the higher the risk. So it wasn't top versus bottom, but it was graded.*
- *And, thirdly, the social gradient applied to all the major causes of death.*

Those at the bottom of the hierarch were 3x more likely to die of heart disease than those at the top.

Today's corporate benefits advisors and wellness program managers – at least, those who have read this far in this chapter - could have predicted this, largely based on the food cost analysis above. People at the bottom of the hierarchy earned less money so ate a less healthy diet. They had, consequently, higher cholesterol rates, higher blood pressure, were more frequently overweight and consequently less healthy.

Unfortunately that conclusion is absolutely wrong! Here's Professor Marmot again

- *we looked at the usual risk factors that one believes that are related to lifestyle -- smoking prime among them, but plasma cholesterol, related in part to fatty diet and an overweight, sedentary lifestyle.*
- *We asked how much of the social gradient in coronary disease could be accounted for by smoking, blood pressure, cholesterol, overweight, and being sedentary.*
- *The answer was somewhere between a quarter and a third, no more.*

After controlling for risk factors like cholesterol and smoking, people in the lowest grades were twice as likely to die of coronary disease as those in the highest grades.

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[151] These quotes come from an interview at UC Berkley in March 2002, http://globetrotter.berkeley.edu/people2/Marmot/marmot-con3.html

- *The social gradient applied to all the major causes of death -- to cardiovascular disease, to gastrointestinal disease, to renal disease, to stroke, to accidental and violent deaths, to cancers that were not related to smoking as well as cancers that were related to smoking -- all the major causes of death…*
- *2/3 at least of this gradient is unexplained*

Was Whitehall unique? Does it apply to America? Or, stated differently, is Senator Frist right (from the first page of this chapter) when he claims 'health is socio-economic status and disparity'?

The answer is yes to the second two questions above. These patterns exist not only in Britain but also here in the US. Here's the New England Journal of Medicine discussing Class: The Ignored Determinant of the Nation's Health [152]

- Differences in rates of premature death, illness and disability are closely tied to socio-economic status
- Unhealthy behavior and lifestyle *alone* do not explain the poor health of those in lower classes
- There is something about lower socioeconomic status *itself* that increases the risk of premature death

Sounds like Whitehall's conclusion.

The International Journal of Cancer considered the impact of socio-economic class on breast cancer survival rates. Their rather startling conclusion [153]

- breast cancer patients of low Socio-Economic Status have a significantly increased risk of dying as a result of breast cancer compared to the risk in patients of high SES.
- Low SES patients were diagnosed at a later stage, had different tumor characteristics and more often received suboptimal treatment.

However…

[152] September 9, 2004

[153] Bouchardy et al, Social class is an important and independent prognostic factor of breast cancer mortality, International Journal of Cancer, Vol 119, Issue 5, March 2006

- Even after adjusting for all these factors, the risk of dying of breast cancer remained 70% higher among patients of low SES than among patients of high SES.

Madeline Drexler of Harvard's School of Public Health summarized the issue here succinctly

> 'an individual's health can't be torn from context and history. We are both social and biological beings…and the social is every bit as real as the biological …' [154]

The 2015 Dietary Guidelines Advisory Committee report echoes this, saying (in typical governmental bureaucratese)

- Health and optimal nutrition and weight management cannot be achieved without a focus on the synergistic linkages and interactions between individuals and their environments [155]

That's the same conclusion Professor Stuart Wolf reached in his study of disease rates and social patterns in very poor but very egalitarian Roseto, Pennsylvania [156]

> the characteristics of a tight-knit community are better predictors of healthy hearts than are low levels of serum cholesterol or tobacco use.

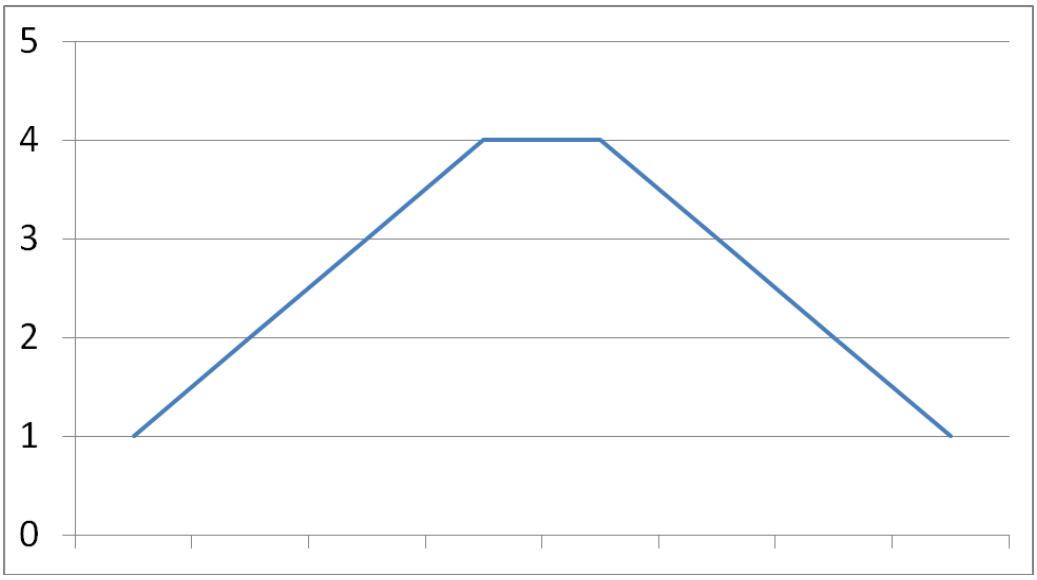
Whitehall and wellness programs

Let's apply this information to a typical corporate wellness program. Screening for cholesterol, blood pressure and other disease indicators assumes a bell curve model.

[154] Drexler, The People's Epidemiologists, Harvard Magazine, March 2006

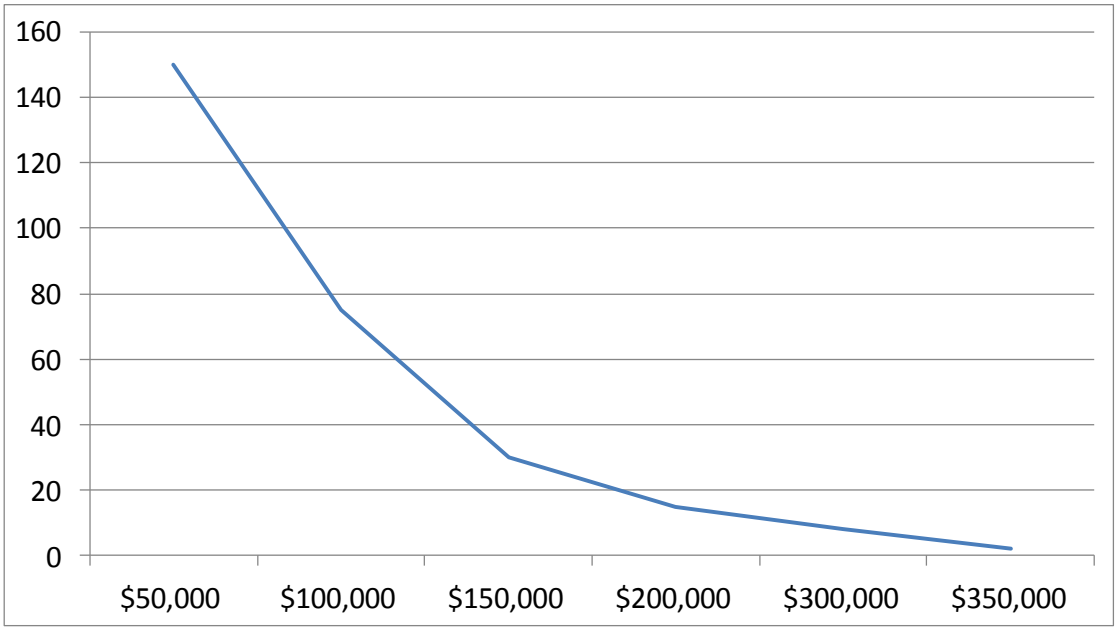
[155] 2015 Dietary Guidelines Advisory Committee report issued February 19, 2015, Part D, Chapter 4

[156] Wolf and Bruhn, The Power of the Clan: Influence of Human Relationships on Heart Disease



A few people at the far left have low cholesterol, blood pressure or blood sugar and are unlikely to get sick, while people at the far right have high levels and are therefore at risk. Most people fall in the middle. The appropriate wellness program focus using this model is the group at the far right.

But Whitehall, the New England Journal of Medicine, Madeline Drexler and Stuart Wolf suggest a different disease risk model:



Here, a lot of people earn $50,000 or less per year while a few earn $250,000 or more. Whitehall suggests that disease rates among the $50,000 earners will run about 3x the

rate of the $250,000 folks, making the low income folks and equally appropriate wellness program target.

Let's assign some numbers to a hypothetical risk scenario. The company above has 10 employees earning $250,000 or more annually (high income, high status) and 150 employees earning $50,000 or less (low income, low status). For every heart attack in the high income, high status group, how many heart attacks can we expect among the low income people?

Take a second to think this through.

The correct answer is 45. Three times the risk and 15 times the number of people. (While it's unlikely that these numbers would play out in a company as small as this, the ratios may well hold over very large numbers of companies and employees.)

Whitehall and the 2015 Dietary Guidelines Advisory Committee report

The 2015 DGAC report specifically acknowledged that low income groups face greater impediments to healthy lifestyle behavior than do others in our society, saying, for example 'household food insecurity hinders the access to healthy diets for millions of Americans'. [157] More than 49 million people in the United States, including nearly 9 million children, live in food insecure households. [158] For these people, the issue is not 'what should I eat' but rather 'will I eat anything at all'. Food access, rather than nutritional quality, becomes a primary concern. As does food price.

Related to this, the Committee found that closer proximity and greater access to convenience stores (as in lower income, inner city food deserts) is associated with significantly greater Body Mass Index scores in the community and/or increased odds of being overweight or obese. [159] Access, not quality, often rules nutrition decision making.

The Committee bluntly stated that

> nutrition services *that take into account the social determinants of health are largely unavailable in the U.S. health system* to systematically address nutrition-

[157] From the Executive Summary of http://www.health.gov/dietaryguidelines/2015-scientific-report/PDFs/Scientific-Report-of-the-2015-Dietary-Guidelines-Advisory-Committee.pdf

[158] Part B of the 2015 DGAC report

[159] DGAC report, Part D, Chapter 4, Question 2

related health problems, including overweight and obesity, cardiovascular disease, type 2 diabetes, and other health outcomes. [160]

Can employer-based wellness programs address this disparity?

Implications for broker services and wellness programs iii

We've previously discussed how corporate wellness programs need to budget some $4000 annually per person to affect nutritional behavior change, and $1600 to affect exercise change, totaling over $5000 per person per year if they hope to accomplish their goals.

Now we see that targeting these programs to the most at risk – and medically most expensive - can raise those amounts. The lowest income, lowest status employees are probably the least interested in the program – they worry about doing their jobs, losing their jobs and may even need to rush to a second job just to pay their rent.

- They're probably suspicious of people telling them to eat or behave differently.
- They may face food insecurity issues.
- They probably lack any financial cushion or discretionary income, so the wellness incentive may go to other basic needs like rent, car payments, clothes or children's education rather than their own behavior change.

These people - the corporate medical cost drivers - are the most expensive to reach and impact.

Interestingly, I once described all this socio-economic risk stuff to a health insurance company medical director. His response: that fits our experience. Almost all the largest claims come from lower income employees.

Your highly compensated, well educated, higher status employees will probably gladly participate in wellness programs. They'll take your wellness bonus money and possibly even spend it appropriately. But that won't impact your claims experience much because they're typically not the cost drivers.

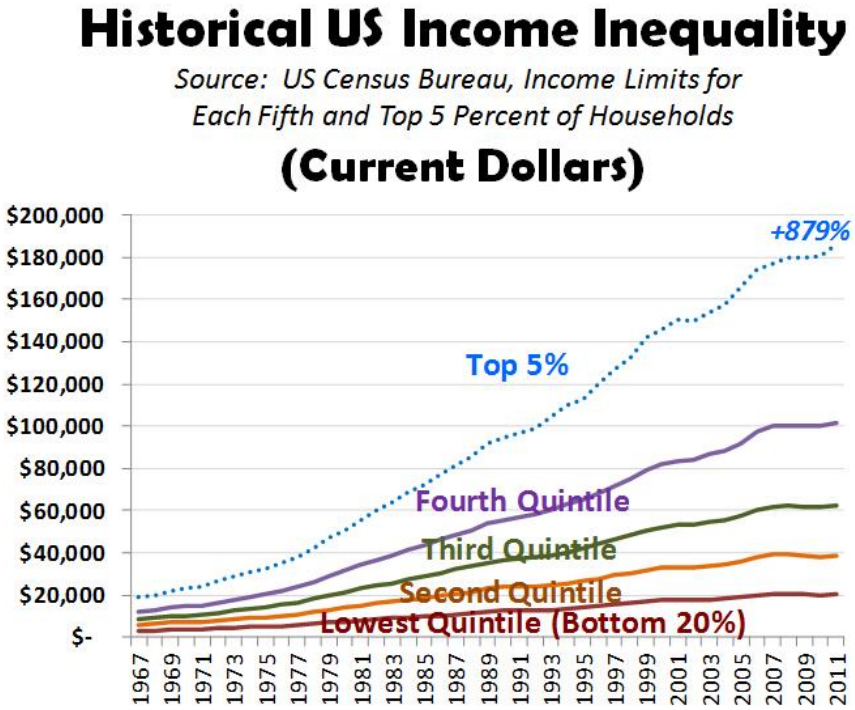
Corporate wellness programs seem particularly ill suited to address the socio-economic lifestyle disparity problems in this country.

[160] From the Executive Summary of the 2015 DGAC report, emphasis added

The gap between high and low income groups in the US: income trends over time

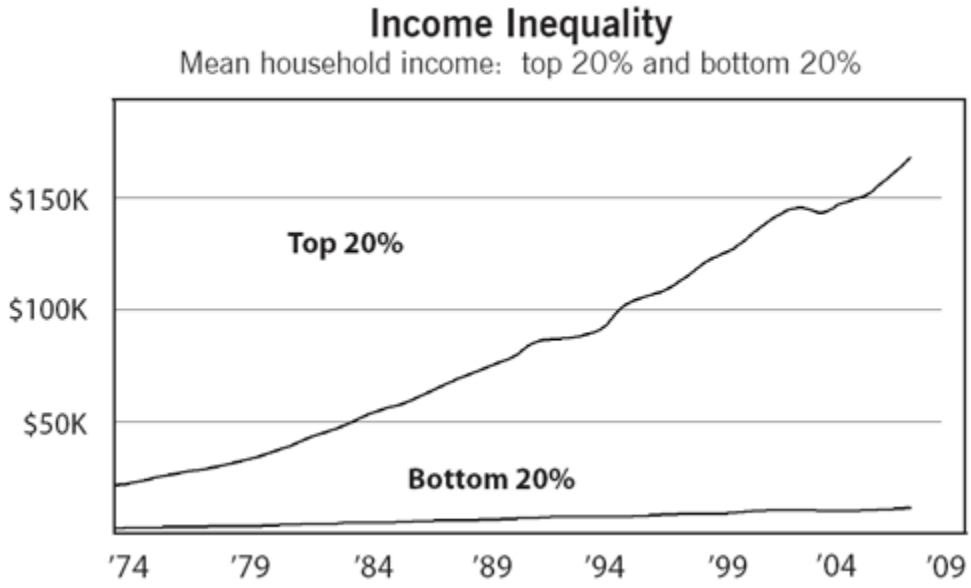
Whitehall and related studies indicate that lower socio-economic groups have higher disease rate than higher socio-economic groups. Whitehall and the others also found a gradient: the greater the socio-economic and status differences, the greater the disease rate differences too, even after controlling for risk factors like cholesterol and smoking.

Over time, US income differences between high and low socio-economic groups have expanded. Consider this chart based on US Census data showing an increasing gap between higher status / socio-economic groups and lower.



Or this one, more starkly showing income differences between the top and bottom 20% of households. [161]

[161] This comes from theeconomiccollapseblog.com, apparently a doomsday commentary that I don't necessarily endorse. I use their graph here only because it is so cleanly presented



The gap between high and low socio-economic status groups has increased over time. Some questions that follow, with their unsettling answers below:

- Do the highest American income groups enjoy 'really great' health while the lowest still enjoy 'pretty good'? In other words, do the wealthiest 'drag up' the poorest so we all enjoy better health over time? or
- Do the poorest groups have 'really lousy' health while the wealthiest enjoy 'pretty good'? In other words, do the poorest 'drag down' the healthiest so our overall health improves, but very slowly (especially given our medical spending levels)?

While some evidence exists that we all, on average, enjoy better health over time (e.g. longer life expectancies than previously) the stronger evidence appears to indicate that increased income discrepancies over time 'drag down' the wealthiest rather than 'drag up' the poorest.

Consider Harvard Magazine's analysis, 'Unequal America' by Elizabeth Gudrais published in its July-August 2008 issue. Here are some of the observations and data points as direct quotes.

- Between 1983 and 1999, men's life expectancy decreased in more than 50 U.S. counties
- For women … life expectancy decreased in more than 900 counties—more than a quarter of the total.

- 4 percent of American men and 19 percent of American women can expect their lives to be shorter than or, at best, the same length as those of people in their home counties two decades ago.

- People at the top of the U.S. income spectrum "live a very long time," says Cabot professor of public policy and epidemiology Lisa Berkman, "but people at the top in some other countries live a lot longer."

Harvard Magazine's observation:

> *There is … evidence that living in a society with wide disparities—in health, in wealth, in education—is worse for all the society's members, even the well off….*

echoing Stuart Wolf's decades old research into disease patterns in Roseto Pennsylvania. *More* income inequality seems to 'drag down' the wealthiest rather than 'drag up' the poorest. Relative deprivation seems more impactful than absolute.

Some conclusions

The three quotes with which I started this chapter – Senator Frist, the Massachusetts Health Policy Commission and Harvard's Richmond and Fein – are all probably spot on. Here they are again as a reminder:

From Frist

> Health is not health services. Health is behavior, it's genetics, it's socio-economic status, it's disparity, it's environment.
>
> Health services has about a 15 – 20% impact.

From the Mass Health Policy Commission

> Research shows that [medical] outcomes are driven largely by social and behavioral factors, along with public health policies, while health care services delivered account for only 10 percent of general variation in health status.

From Richmond and Fein. Our health gains since World War II

> were largely the consequence of applying our knowledge of health promotion and disease prevention rather than improved clinical care**…**the revolution in biology subsequent to World War II, a revolution that had brought many advances to clinical care, as yet had only marginal effects on improving our vital statistics.

Lots of others echo these sentiments too.

We've seen how government subsidies and tax policy make some foods very inexpensive and others relatively more expensive. Admonitions to eat healthy food in the face of these cost differences generate little behavioral change. Our national health, as measured by obesity or average cholesterol rates for example, has declined over time.

Similarly, we've seen how zoning and tax policies affect our physical environment, impacting exercise rates among Americans. Again, admonitions to exercise more tend to generate little behavioral change.

And we've estimated the financial incentive necessary to change employee behavior. My guess – between $5000 and $6000 per person annually – falls way outside any corporate wellness budget.

We've seen how the lowest paid employees tend to be the highest risk, most expensive medically. I suggested some problems attracting this group to wellness programs. Perhaps most significantly, I think wellness programs that fail to attract this higher-risk group can't possibly succeed.

Wellness programs are, I suspect, necessary given the incentives that make healthy living so expensive. But they're also probably ineffective for exactly the same reasons.

No company has the financial power to overcome all the government incentives, subsidies and tax breaks that make wellness programs necessary.

The real tragedy in all this

We face a 'triple whammy' in healthcare costs today.

- Our population is aging and older people always cost more medically.
- Our government programs make healthy eating and exercising increasingly unaffordable to more and more Americans. Obese people cost the same as people 20 years older, which compounds our aging problem.
- Our increasing socio-economic inequality drags down the overall health of our society on average, including the wealthiest, leading us all to demand more medical care, not less than we might otherwise need.

In the face of these trends, our healthcare system wastes $700 billion or more annually on unnecessary care: our inefficiently organized *supply* of medical services exacerbates the problems of our unnecessarily high *demand* for those services.

Corporate wellness programs won't ameliorate these trends and, even if they do, probably won't reduce the number of unnecessary cardiac stress tests or the false positive rate from those tests.

- Probably won't reduce the number of back MRIs and unnecessary spinal fusion surgeries that result [162]
- Probably won't reduce the number of head CT scans related to sinusitis, advised against by the American College of Emergency Physicians and the American Academy of Pediatricians [163]
- Probably won't reduce the number of pediatric antibiotic prescriptions for ear aches, unnecessary 95% of the time and harmful about 15% [164]
- Probably won't reduce the amount of ineffective medical care like postnatal dexamethasone therapy for lung disease of prematurity, use of laparoscopic mesh for inguinal hernia repair or any of the 144 other ineffective interventions listed in Vinay Prasad's seminal article in the Mayo Clinic Proceedings [165]
- Probably won't reduce geographic treatment variation rates for cancer treatments, orthopedic treatments, cardiovascular treatments and others that alone represent about 1/3 of medical spending, at least according to tons of research published by scholars at the Dartmouth Institute, among other places.

In all these senses, government subsidies and tax policies fail to create healthcare system value and seem, at least according to my analysis, to destroy it. This public sector failure has led to the private sector development of wellness programs, aimed mainly at undoing the harms caused by these various subsidies and tax programs.

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[162] See ChoosingWisely, position statements by the American Academy of Family Physicians and others http://www.choosingwisely.org/doctor-patient-lists/imaging-tests-for-lower-back-pain/ . Some research suggests that people who have back MRIs shortly after they feel back pain are 8x more likely to have back surgery but don't recover faster.

[163] See ChoosingWisely, http://www.choosingwisely.org/?s=ct+scans+sinusitis&submit=

[164] See Antibiotics for Otitis Media on the NNT website, http://www.thennt.com/nnt/antibiotics-for-otitis-media/

[165] See Prasad et al, A Decade of Reversal, Mayo Clinic Proceedings, August, 2013 http://www.mayoclinicproceedings.org/cms/attachment/2007391767/2029532464/mmc2.pdf

I worry that these programs are ill targeted. I fear that even if wellness programs worked well, we would still waste the same $700 + billion annually. Being thinner doesn't lead to making wiser medical treatment choices.

Instead, consumer education about treatment options and outcomes does. But that's a different topic, unrelated to the corn subsidy and corporate wellness programs and perhaps more complicated and subtle than the market wants right now.

That said, it's probably still a good idea to eat more fruits and vegetables…

If you can afford them.

Review Questions

Answers on next page

1. About how much more does it cost, per calorie, to eat healthier foods?

a. About 1/3 of a cent
b. About $1
c. About $10
d. About $100

2. Americans each eat about 2700 calories of food daily. About how much more does a typical family of 4 need to spend in order to eat healthier - rather than less healthy - food per year?

a. About $1.96
b. About $100
c. About $125
d. About $12,000

3. The US government encourages us to eat certain foods and discourages us from eating large quantities of other foods. Which food groups does the government subsidize?

a. Both
b. Neither
c. The food groups we are encouraged to eat
d. The food groups we are discouraged from eating in large quantities

4. This text suggested a ball park annual amount of money necessary to incentivize people to change their diets and choose healthier foods rather than less healthy. What is that annual amount of money?

a. $150
b. $200
c. $4000
d. $100,000

5. What impact do our zoning laws have on the amount of daily exercise most Americans get?

a. Single acre zoning generally puts more distance between someone’s house and work, requiring driving to work, rather than walking to a public transportation stop. This lowers the daily amount of walking most Americans do, as compared

to Europeans or Canadians.
b. Single acre zoning makes our neighborhoods more beautiful and less crowded, thus making evening / after dinner walks more attractive
c. Single acre zoning makes the distance to the nearest gym too long to drive, especially in the winter when it's typically cold and snowy outside
d. There is no relationship between zoning laws and daily exercise

6. This course suggested that the 'average' European or Canadian walks about 166 hours per year more than a similar American. Studies show that people value their free time at about 1/3 of their average hourly wages. The average American wages in 2014 were about $24. Roughly how much would an employer have to pay an employee to incent that employee to walk 166 hours in his or her spare time?

a. $1600
b. $200
c. $150
d. $200,000

7. Former Senator William Frist, a cardiologist, suggested roughly the impact that 'health services' have on 'health'. What is Frist's estimate?

a. 98%
b. 96%
c. 15%
d. Less than 1%

8. About what impact will wellness programs have on our rate of ineffective or harmful medical services, like using head CT scans to diagnose sinusitis, or using laparoscopic mesh for inguinal hernia repair?

a. No impact at all
b. A major impact. Wellness programs will reduce the rate of these and similar ineffective medical services by well over half
c. Wellness programs are expected to eliminate the amount of ineffective and unnecessary medical care within 8 – 10 years
d. Recent studies suggest a decrease of 5 – 10% of all ineffective services by 2025.

Review Questions

Correct answers in bold

1. About how much more does it cost, per calorie, to eat healthier foods?

a. About 1/3 of a cent
b. About $1
c. About $10
d. About $100

2. Americans each eat about 2700 calories of food daily. About how much more about a typical family of 4 need to spend in order to eat healthier - rather than less healthy - food per year?

a. About $1.96
b. About $100
c. About $125
d. About $12,000

3. The US government encourages us to eat certain foods and discourages us from eating large quantities of other foods. Which food groups does the government subsidize?

a. Both
b. Neither
c. The food groups we are encouraged to eat
d. The food groups we are discouraged from eating in large quantities

4. This text suggested a ball park annual amount of money necessary to incentivize people to change their diets and choose healthier foods rather than less healthy. What is that annual amount of money?

a. $150
b. $200
c. $4000
d. $100,000

5. What impact do our zoning laws have on the amount of daily exercise most Americans get?

a. Single acre zoning generally puts more distance between someone's house and work, requiring driving to work, rather than walking to a public transportation stop. This lowers the daily amount of walking most

Americans do, as compared to Europeans or Canadians.
b. Single acre zoning makes our neighborhoods more beautiful and less crowded, thus making evening / after dinner walks more attractive
c. Single acre zoning makes the distance to the nearest gym too long to drive, especially in the winter when it's typically cold and snowy outside
d. There is no relationship between zoning laws and daily exercise

6. This course suggested that the 'average' European or Canadian walks about 166 hours per year more than a similar American. Studies show that people value their free time at about 1/3 of their average hourly wages. The average American wages in 2014 were about $24. Roughly how much would an employer have to pay an employee to incent that employee to walk 166 hours in his or her spare time?

a. $1600
b. $200
c. $150
d. $200,000

7. Former Senator William Frist, a cardiologist, suggested roughly the impact that 'health services' have on 'health'. What is Frist's estimate?

a. 98%
b. 96%
c. 15%
d. Less than 1%

8. About what impact will wellness programs have on our rate of ineffective or harmful medical services, like using head CT scans to diagnose sinusitis, or using laparoscopic mesh for inguinal hernia repair?

a. **No impact at all**
b. A major impact. Wellness programs will reduce the rate of these and similar ineffective medical services by well over half
c. Wellness programs are expected to eliminate the amount of ineffective and unnecessary medical care within 8 – 10 years
d. Recent studies suggest a decrease of 5 – 10% of all ineffective services by 2025.

Chapter 4: Low Levels of Consumer Education and Knowledge

Patients base decisions on faulty assumptions

Let's start with an analogy.

Clayton Christensen, a professor at Harvard Business School best known for studying business innovation - and particularly disruptive innovation - wrote an insightful article about the US educational system in the May 11, 2014 Boston Globe.[166] As you read some highlights of that article, consider the analogy to our healthcare system.

- *Tuition costs have been ballooning faster than general inflation…and what do we get in return?*
- *Nearly half of all bachelor's degree holders do not find employment or are underemployed upon graduation. At the same time, employers have not been satisfied with degree candidates.*
- *Two recent Gallup polls showed that although 96% of chief academic officers believe they're doing a good job of preparing students for employment, only 11 percent of business leaders agree that graduates have the requisite skills for success in the workforce.*
- *And this is all occurring while higher education leaders were convinced that they were innovating all along.*

Now let's substitute 'healthcare' for 'education' and rewrite:

- *Premiums have been ballooning faster than general inflation…and what do we get in return?*
- *Lower life expectancies, higher infant mortality and poorer access than other countries.*
- *At the same time, employers have not been satisfied with broker services.*
- *A recent poll showed that although most brokers believe they're doing a good job of developing benefit strategies and communications, only about half of business leaders agree that brokers do a good job implementing and executing desired programs.*

[166] Clayton Christensen et al, Thank You MOOCS, Boston Glove, May 11, 2014

- *And this is all occurring while brokers are convinced that they were innovating all along.*

The poll in question was Zywave's 2013 study of customer satisfaction with broker services that received 5500 responses. Some highlights: [167]

- Creates strategic plan that aligns with company goals: **43% unsatisfied**
- Offers employee benefits and consumerism communication / education: **41% unsatisfied**
- Assists with creating or maintaining a workplace wellness program: **66% unsatisfied**

Part of the problem comes from our employer based health insurance distribution system. We are the only major advanced, industrialized country that uses employer based health insurance as the primary mechanism of financing healthcare. Other countries use employer based coverage – if they allow it at all – to supplement the national health insurance system.

We, in the US, use public programs like Medicaid and Medicare to supplement employer based coverage, exactly the reverse of everyone else. If you can get health coverage through your employer, you (generally) cannot get public coverage. How does employer based primacy impact our overall healthcare system?

Princeton economic professor Uwe Reinhardt answered that question in his New York Times piece 'The Culprit Behind High US Health Costs' in 2013. [168] Here are some direct quotes:

- *Most health-policy analysts I know regret that employers appointed themselves their employees' agents in the markets for health insurance and health care*
- [Employers are] *the sloppiest purchasers of health care anywhere in the world. For more than half a century, employers have passively paid just about every health care bill that has been put before them, with few questions asked.*

[167] This study was summarized at the Massachusetts Association of Health Underwriters annual 'Benefest' in a presentation by Sarah Lucas of Marshberry entitled 'Trends and Best Practices in Employee Benefits Agencies'.

[168] Uwe Reinhardt, The Culprit Behind High US Health Costs, NY Times, June 7, 2013

- *One reason for the employers' passivity in paying health care bills may be that they know, or should know, that the fringe benefits they purchase for their employees ultimately come out of the employees' total pay package.*
- *In a sense, employers behave like pickpockets who take from their employees' wallets and with the money lifted purchase goodies for their employees*
- *[Carriers] are merely the conduits for the employers' wishes.*
- *When agents perform poorly, one should look first for the root cause at the principals' instructions.*
- *a decade of health care cost growth under employment-based health insurance has wiped out the real income gains for an average family with employment-based health insurance.*

Reinhardt then provided his data. In 2013, for an average family of 4, employer based health insurance cost $22,000, up $10,000 since 2003, compared to median family income of $55,000. He then suggests

- *One must wonder how any employer as agent for employees can take pride in that outcome*

I would extend that query to brokers, echoing the Christensen and Zywave points above.

Over time we developed more and more 'fill in' programs to cover people excluded from the employer based system – old people, unemployed people, veterans, children and others. Combining and coordinating these various programs leads to confusion, inefficiencies and costs.

One confusing consequence of employer based primacy and myriad fill in / supplementary programs, for example, is that our system treats people differently based on non-health factors, like who they are or where they work. Unlike other advanced countries, we have different systems and rules for

- Full time employed people
- Part time or low income people
- Very poor people, provided they are also either **i** children, **ii** blind or disabled, **iii** elderly, **iv** mentally ill, **v** pregnant women or **vi** mothers (if they don't fit into one of these six categories, they are treated like 'part time or low income people'. Understand?)

- People over 65 years old
- Young people who don't otherwise qualify for health insurance
- Military veterans provided their medical problems are 'combat related' and
- People with kidney disease, among others.

As you move from group to group – in other words, as your economic conditions change (generally) - you face different medical access rules, different financing rules and tons of paperwork. This does nothing to improve health and adds no efficiencies to our system.

We, in other words, base our healthcare financing and access systems on non-health related categories of people. Since the groupings are arbitrary, much more a function of interest group lobbying than healthcare distribution efficiency, compliance becomes extraordinarily difficult: compliance experts can't apply logic or reason to regulations. Instead, they must memorize or continuously consult the regs. This makes absolutely no medical or economic sense (except, perhaps, to the favored business interest groups).

It only adds overhead, inefficiencies and costs to the system.

Complexity and confusion add costs more in the US than in other countries

Consider the relative inflation rates in the US and some other advanced countries. (Inflation, of course, is driven by many factors, only one of which is systemic complexity. But it's difficult to design rational, cost-cutting, efficiency-promoting reform on top of an inefficient, irrational structure.)

I use 2003 as my comparison basis because that was the year we introduced tax advantaged deductibles, designed to reduce unnecessary utilization and costs. Policy makers in the W. Bush administration figured that if patients pay with their own money they'll be more frugal and less wasteful. That was a big change from the traditional first-dollar-coverage in managed care that many saw as promoting unnecessary care.

	2003 healthcare spending	
US	$3788 per capita	
Canada	$2054 per capita	US spends 1.84x as much
United Kingdom	$1344 per capita	US spends 2.82x as much

France	$2093 per capita	US spends 1.81x as much
Germany	$2943 per capita	US spends 1.29x as much

	2011healthcare spending	
US	$8508 per capita	
Canada	$4522 per capita	US spends 1.88x as much
United Kingdom	$3405 per capita	US spends 2.50x as much
France	$4118 per capita	US spends 2.07x as much
Germany	$4495 per capita	US spends 1.89x as much

Since the Medicare Modernization Act of 2003, our relative healthcare spending position has worsened. We not only spend *more* than these countries but, on average over time, we spend *more* more.

An underlying problem, at least from the broker or 'benefits advisor' perspective is that the enormous complexity of our healthcare system leads brokers to become expert at compliance, not at healthcare or healthcare systemic efficiency. In fact, 'health' insurance brokers today need understand nothing about 'health', only about compliance, to have successful, financially lucrative careers.

But compliance, as I suggested above in the discussion of Christensen and Reinhardt, does nothing to control costs or improve systemic value. Benefits advisors who *only* advise about compliance provide far less value to their clients than they could.

This was made poignantly clear to me one day in a lecture. I asked an experienced broker why she attended, as her agency normally didn't contract with me. Her response:

> *I sell CDH plans, understand HSAs, HRAs, deductibles, FSAs, networks and all the rest.*
>
> *But I recently switched employer, and I now have a high deductible plan…*
>
> *And **I** don't know how to use it!*

Consumer engagement to the rescue … or not

My somewhat depressing response to her comment: if the pros don't know how to navigate our healthcare system for themselves – don't know which services to use, which are wasteful and harmful – how much can they help their clients? Too often, their compliance advice only helps their clients access unnecessary, inappropriate or wasteful services, with up to some 40 or 50% of all healthcare spending going to services that do nothing to promote health.[169] The compliance focus only promotes easier access to care, much of which is unnecessary.

Brokers, and far too often also their clients, lack the tools to differentiate necessary from unnecessary interventions. That's the real impact of the broker comments quoted above.

Indeed, today's 'consumer engagement' emphasis falls into the same quagmire as the rest of our system. 'Consumer engagement' to health insurance brokers means knowing deductibles, plan design details, tax implications and the like. Knowing these things does not decrease costs, waste, unnecessary care or improve patient outcomes.

But better outcomes are (almost) always cheaper than poorer outcomes!

Healthier people cost our healthcare system less, and the more efficiently our system turns people from *un*healthy to healthy, the less we spend on them. Poorer outcomes – infections, returns to operating tables, ineffective medications, high false positive test rates etc – always cost more. (Yes, I know that MRI costs vary significantly. But no one wants the cheapest unnecessary MRI.)

That's why the medical community, as opposed to the brokerage community, defines consumer engagement as knowing ***how well*** medical care works, not how to access it financially or where to get the cheapest. The well informed consumer, to the medical community, knows about the 'health' part of health insurance.

Note the discrepancy between the insurance and medical definitions. The insurance definition does nothing to improve outcomes or reduce waste and thus can't have much cost control impact.

But the medical definition directly attacks waste and improves outcomes so ***can*** significantly reduce costs. In fact scholars like Dr. Michael Barry of the Informed Medical Decisions Foundation and Dr. Albert Mulley of Dartmouth Medical School, suggest that

[169] Several scholars at Dartmouth Medical School, notably Elliott Fisher and John Wennberg, have written extensively about this. Shannon Brownlee's excellent Overtreated provides plenty of detail. I'll belabor this point myself later in this book. The 'up to 50%' estimate is mine, not theirs.

well informed (medical definition) patients cost roughly 20% less than poorly informed patients. Much more on this coming up.

Unfortunately, our medical consumer engagement process falls trap to yet *another* definitional problem. Here's Dr. Suzanne Koven, summarizing it in the Boston Globe: [170]

- I appreciate patients informing and advocating for themselves
- I don't appreciate patients arguing with me about anatomy and physiology

In the 15 or so minutes patients typically spend with doctors, they can either question their doctor's competence ('arguing about anatomy and physiology') or discuss treatment options. They probably don't have time to do both.

And they'll probably lose the anatomy and physiology argument. Doctors know much more about medical care and technology than the typical patient ever will. Four years of medical school really do provide a solid technical foundation. Your doctor can out-fact you many times over. (Yes, your doctor may have misdiagnosed your problem. But that's best remedied by a second opinion, not an argument about physiology.)

You, however, know much more about your own treatment preferences than your doctor does. That's the real goal of consumer engagement: aligning treatment processes with patient preferences. That process – having doctors and patients explore treatment options to choose the best for each patient – can have a huge impact on utilization and costs. [171]

We have not, in this country, developed a standard definition of 'consumer engagement' or 'well informed patient' because, I suggest, of the 'mess' [172] that our system has become, largely due to the irrational employer based financing model upon which it rests. Compliance issues have become so overwhelming that brokers, and often their clients, simply don't have the time or energy to discuss more impactful issues.

As brokers struggle with compliance and plan designs, physicians with appropriate consumer information and advocacy, and the internet explodes with medical factoids and information, consumers get overwhelmed. Who gives them direction for their own

[170] Suzanne Koven MD, Is physician burnout really a problem? Boston Globe, May 26, 2014

[171] We'll discuss preference sensitive decision making in detail later in this book

[172] "Mess' comes from the title of Dr. Julius Richmond and Rashi Fein's 2005 book 'The Healthcare Mess'. Both authors were professors at Harvard Medical School.

research? What do they need to know? Which information is correct? Which is valid and appropriate?

Six faulty assumptions

Too often patients make assumptions and medical decisions that are, simply, wrong. I'll give some examples. How many of these resonate with you?

Faulty assumption #1: Good medical care leads to good health

Many people believe that good medical care leads to good health. As one thoughtful and articulate broker once said to me over an informal lunch, describing his young family, 'I have great healthcare for my kids. They're doing really well.'

Nonsense, I responded. 'Your kids are doing well because they have a mother and father who love them, live in a safe neighborhood, get plenty of good food and fresh air, have friends, and are warm in the winter and cool in the summer. The quality of their physicians and hospitals has virtually nothing to do with their health.'

Indeed, overwhelming evidence shows that good health comes from, in no particular order, good nutrition, exercise, emotional security, environment, public safety, socio-economic status *and* medical care, but that medical care is a relatively small component of good health.

How small a component? About 10%, according to the Massachusetts Health Policy Commission's 2013 cost trends report. Here are direct quotes from page 22:

- Massachusetts residents have better overall health than the United States average, with an additional 1.6 years of life expectancy and 0.9 fewer physically or mentally unhealthy days per month.

but

- Research shows that such outcomes are driven largely by social and behavioral factors, along with public health policies, while health care services delivered account for only 10 percent of general variation in health status.

Richmond and Fein, the two highly respected Harvard Medical School professors, echoed this in their 2005 book The Healthcare Mess: [173]

[173] Richmond and Fein, The Health Care Mess, pages 92 and 94

> Health gains since World War II were largely the consequence of progress in applying our knowledge of health promotion and disease prevention rather than improved clinical care.

Dr. William Frist, cardiologist and former US Senate Majority Leader, estimates medical care's impact slightly higher than the Massachusetts Health Policy folks, at 15 – 20%, saying

> Health is not health services. Health is behavior, it's genetics, it's socio-economic status, it's disparity, it's environment. Health services has about a 15 – 20% impact. [174]

We all know this but we forget it when we, ourselves, get sick or frightened. One reason, I submit, is that we have not been taught how best to use our medical care system. (Now *that's* an interesting value added role for brokers. Don't worry – I'll go into it in detail later.)

Here are some numbers to bolster my argument that 'more medical care isn't better for you'. Compare average medical spending per capita in various states with average longevity in those states. The assumption, of course: if more medical spending had a big impact, people who live in high spending states would live longer than people in low spending. That is not nearly the case.[175]

State	**$/capita 2009**	**Longevity at birth** 2013
Massachusetts	$9,278	80.5
Minnesota	$7,409	80.9
Washington state	$6,782	79.9
Utah	$5,031	80.2
Mississippi	$6,571	75.0
Oklahoma	$6,532	75.9
West Virginia	$7,667	75.4

Good medical care doesn't necessarily lead to good health. Lots of other things are far more important.

[174] CNBC Meeting of the Minds: The Future of Healthcare, broadcast in July 2009.

[175] Spending data from Kaiser Family Foundation. Longevity data from Measure of Americans. I used longevity data 4 years in the future to account for any potential health benefits of high 2009 spending.

By the way, based on the state data presented above, should a broker provide the same benefits advice in Minnesota and West Virginia? Or Massachusetts and Utah?

Faulty assumption #2: Lower deductibles and wider networks = better health insurance

Brokers and consumers too often equate better health insurance policies with lower deductibles and wider provider networks. Poorer policies have the opposite.

Unfortunately, there's no evidence - none that I've seen, at least, and I've looked - that lower deductibles or wider networks lead to better patient outcomes.

One reason for the faulty equation of wider networks with better policies: we have very poor outcome data by provider in this country. Lacking such data, consumers apparently prefer easier access to lots of (potentially mediocre) physicians and hospitals, figuring that one of them should be good in a crisis I guess.

Though we lack evidence that lower deductibles and wider networks lead to better patient outcomes, we have some evidence that lower deductibles and generous benefits can lead to patient harm. Here's Bernard Rosof, Chairman of Huntington Hospital in New York:

> Often people with generous insurance plans can run up large bills and face life threatening complications from unnecessary care. [176]

We also have extensive evidence that *better decision making* leads to better outcomes.

Faulty assumption #3: Newer technologies and medications are better

This is almost a mantra in this country: newer technologies / newer meds / robotic surgeons etc are better, so, when in doubt, get the newest.

This overlooks the fact that 'newer' is a very poor proxy for 'better'. Extensive evidence shows that *outcome based decision making*, not the newest shinny object, leads to better outcomes.

Consider Pradaxa, a newer blood thinner than warfarin, heavily advertised on TV and designed to overcome warfarin patient's need for excessive testing. Pradaxa's annual sales hover around $800 million. Its TV ads claim

> *In a clinical trial, Pradaxa was proven superior to warfarin at reducing the risk of stroke in patients with Afib not caused by a heart valve problem*

[176] More care is not necessarily better care, Connolly, Washington Post, 9/29/09

suggesting to the poorly informed, who don't know the right questions to ask or how to make outcome based decisions, that the newer drug was better. However…

In their legal settlement announced in May of 2014, Pradaxa paid **$650 million** to settle **4,000 claims** that company didn't adequately warn of risks including severe or fatal bleeding. (If death is a side effect, what's the main effect?) Unlike warfarin, there is no known reversal agent or antidote for Pradaxa.

Or consider robotic surgeries for hysterectomy patients. The da Vinci robot, approved by the FDA in 2005, is designed to generate better results and an easier recovery that traditional laparoscopic surgery, meaning less pain and fewer complications [177] all of which sounds great to the uninformed.

But a massive study of 264,000 women who had either laparoscopic or robotically assisted hysterectomies at 441 hospitals between 2007 and 2010 showed no benefits from robotic surgery when benefits are measured as complication rates or blood transfusion rates. The robotic procedures, however, cost about $2000 more. That's roughly 1/3 more.

Again an interest group, the robot manufacturers, benefited by making more money, while patients did not, at least in terms of enjoying better outcomes. Just higher costs.

The morale of these stories, and there are many more: *newer* isn't necessarily better in medicine. *More heavily advertised* isn't necessarily better. Instead *better* is better, based on outcomes from comparative studies. Well informed patients learn the right questions to ask and types of information to consider when evaluating their treatment options.

Faulty assumption #4: Publishing price lists will save money

Today, almost as an article of faith, brokers, carriers and healthcare consumers claim that knowing prices will save money. This is commonly called 'transparency' and the theory runs rampant among health insurance thinkers.

While I agree that a wise consumer should compare prices of similar quality products, then choose the least expensive to get the best value, I ***don't agree*** that simply publishing price lists will lead to any benefit, either systemic or individual. Remember:

- You don't want the cheapest *unnecessary* care
- You also don't want the cheapest *poor quality* care

[177] Rabin, Questions about Robotic Hysterectomy, New York Times, Feb 25, 2013

- You don't want cheap *inappropriate* care when slightly more expensive care might be preferable.

Let's consider tonsillectomies in northern New England. Here are tonsillectomy rates per 1000 children in various pediatric service areas during the period 2007 – 2010.[178]

Middlebury, Vt	5.6	Burlington, Vt	2.9
Berlin, NH	10.4	Lewiston, Maine	5.2
York, Maine	7.3	Portland, Maine	4.0
Presque Isle, Maine	5.8	Bangor, Maine	2.7
Dover, NH	8.1	Waterville, Maine	3.6
Manchester, NH	8.1	Ellsworth, Maine	3.8
Exeter, NH	8.4		

We know from these data that having about 3 tonsillectomies per 1000 children is appropriate, since there are no reports of kids in Burlington Vermont, Bangor Maine, Waterville Maine or Ellsworth Maine suffering poor health due to an insufficient number of tonsillectomies.

We also know that about 2/3 of tonsillectomies in Berlin New Hampshire, and half the tonsillectomies in York Maine are unnecessary since their tonsillectomy rates are so high.

Shopping for the least expensive tonsillectomy in Berlin or York leads to a bad medical care decision over half the time: people doing that get the cheapest unnecessary care. Imagine that your child has a bad reaction or needs a surgical re-do from an unnecessary tonsillectomy!

A far better approach is to learn the service quality and necessity first, and then, for two equally necessary services of similar quality, choose the least expensive. Don't put the cart before the proverbial horse.

Perhaps a better way to understand transparency is to consider the many types necessary to enhance good medical decisions. A wise patient would want access to transparency data addressing:

[178] These data come from the Dartmouth Atlas of Healthcare, Tonsillectomies per 1000 Children by Pediatric Surgery Area, 2007 – 2010. 'Pediatric service areas' are the geographical regions served by a specific pediatrician office. Kids in Burlington Vermont, for example, typically use Burlington pediatricians, not Berlin New Hampshire docs.

- Prices
- Treatment intensity as, for example, our tonsillectomy example above, or C-section rates by hospital, mastectomy rates by region or similar
- Clinical quality/ infection rates by provider and by treatment
- Treatment benefits
- Provider conflicts of interest

Providing only 1 may distort the message and lead patients away from making wise decisions rather than toward systemic efficiencies.

Another way to express this: homeowners who choose the cheapest plumber, framer, roofer, electrician and painter end up with the most expensive house that leaks. We tend to forget this when we consider healthcare prices.

Faulty assumption #5: Getting the least expensive care saves money

This variation on 'publishing price lists will save money' ignores a key factor in physician compensation: that doctors want to maintain their incomes and that time is their main inventory. When they receive less money per patient, they respond by seeing more patients.

This has negative, foreseeable but generally unforeseen consequences.

Dr. Sandeep Jauhar MD, PhD, and director of the heart failure program at Long Island Jewish Hospital, claims that 'there is no more wasteful entity in medicine than a rushed doctor'. [179] Because we're so rushed, he says, 'we order tests, prescribe drugs, hospitalize patients and — one of the costliest decisions a doctor can make today — call specialists for help' rather than explain to patients why some tests are unnecessary and specialist referrals inappropriate. 'Specialists in turn,' he says, 'order more tests, scans and the like.'

Cutting payments to physicians becomes a self defeating strategy.

Faulty assumption #6: Raising deductibles saves money

Deductibles, generally running about $1000 per year, are designed to act as a speed bump when patients consider medical care. Patients will spend their own money more

[179] Sandeep Jauhar, Busy Doctors, Wasteful Spending, New York Times, July 20, 2014

wisely and frugally than they would spend the insurance carrier's money, according to the theory, thus avoiding unnecessary care and saving money.

Deductibles, unfortunately, act as a blunt instrument, perhaps doing more harm than good by failing to differentiate necessary from unnecessary medical care. Reducing *unnecessary* care can, indeed, save money. But reducing *necessary* care can lead to poorer outcomes and higher costs.

Consider, by contrast, the French approach to deductibles. The French modify or exempt from cost sharing by **person** (disabled, elderly or sick), **treatment** (expensive, effective or necessary) and **medical condition**. The deductible is waived for people suffering from one of 30 'long and costly diseases' like cancer, severe chronic disease or long term psychiatric illness *for medical care is related to that condition*. But these people are still responsible for unrelated medical deductibles, say a broken leg or sprained ankle.

Our 'one size fits all' deductibles, by not differentiating among people, treatments or medical conditions sometimes actually add to costs rather than reducing them. One Medicare study showed that adding a modest copayment reduced the number of outpatient visits by about 20% per year.

But that came at the cost of 2 additional hospitalizations per 100 patients per year. The study conclusion, published in the New England Journal of Medicine:

> uniform increases in cost sharing for prescription drugs can have deleterious effects on health [180]

without reducing costs at all.

These faulty assumptions – and the system developed from them – lead to these types of conclusions by eminent scholars:

- American health outcomes among insured populations lag substantially behind those of other countries.[181]
- Americans at top income levels live longer than people at bottom income levels, *but less long than people at top income levels of other countries* [182] and

[180] Trivedi 'Increased Ambulatory Care Copayments and Hospitalizations Among the Elderly, NEJM Jan 28, 2010

[181] Bradley and Taylor, The American Healthcare Paradox, page 9

- Even the people most likely to be healthy, like college-educated Americans and those with high incomes, fare worse on many health indicators …[183]

Despite us paying more for medical care than any other country in the world!

The Fundamental Problem: Old School Thinking

Our systemic confusion and complexity has led to remarkable levels of specialization, not only in medical care but even in the brokerage community. Some brokers focus on Medicare, others on large group benefits, others on small group, some operate only in 1 state, others in many. Some agencies have wellness specialists, tax specialists and CDH specialists, others contract these functions out.

But few advise their clients about medical care issues, leaving that arena to physicians, often harried, often leading time compressed lives.

Our healthcare distribution system looks like is:

Healthcare Financing (insurance)	Medical Care (physicians)

Two equally important but completely unrelated boxes. In the Old School, brokers provide financing programs while physicians provide medical care, but never the twain shall meet.

Brokers typically explain that they can't give medical advice because they're not trained or licensed to do this, which is, of course, true. **But I think they've conceptualized the problem incorrectly, relying more on superficial thinking than serious analysis.** Read on…

In the Old School 'nonintegrated' model, we expect physicians to address the following issues during an average 15 minute meeting with each patient:

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[182] Gudrais 'Unequal America' Harvard Magazine July 2008 referring to research by Harvard Prof Majid Ezzati

[183] For Americans Under 50, Stark Findings on Health, Tavernise, NY Times, Jan 9, 2013

- Patient's personal health status
- Disease diagnosis
- Treatment recommendations and alternatives
- Lifestyle issues and impacts on health
- Medication options, benefits and risks of each
- Individual risk factors and likelihood of future medical events
- Specific tests including benefits and risks of each
- Trends in medical care and new information since the patient's last visit
- Risks of having / not having specific tests or treatments
- Referral options *and more*

It's obviously very difficult to address all these issues satisfactorily in 2 hours, let along 15 minutes.

Five concerns about leaving all medical education to doctors

First, doctors respond to uninformed patient demand.

Studies show that about 1/3 of physicians would order a clinically unwarranted MRI if the patient demanded it, which raises patient risks without benefits since the MRIs in question are 'clinically unwarranted'. [184]

Many patients assume, as discussed above, that more medical care is better medical care, so a physician who doesn't prescribe a medication, test or treatment is a poorer physician.

Increasingly, physicians are compensated based on patient satisfaction survey results. Patients who believe 'more care is better care' penalize doctors who withhold painkillers, fail to prescribe a requested drug or test or skimp on referrals. This decreases the physicians' ability to counter the 'more is better' argument, even if they want to.

Studies show that, perhaps as a result of these factors, when faced with a potential screening test option, 95% of physicians recommended the screening test to their patients, and when faced with the option to prescribe medications, over 90% of physicians prescribed. [185]

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[184] O'Reilly, Patient satisfaction: when a doctor's judgment risks a poor rating, AMED News, November 26, 2012

[185] Data from presentation by Benjamin Moulton at Dartmouth's 2014 Summer Institute for Informed Patient Choice

Second, doctors respond to our legal / tort system, in which fear of malpractice lawsuits leads to excessive testing, Rx prescribing, excessive diagnoses and treatments. In one Gallup survey physicians attributed 34 percent of overall healthcare costs to defensive medicine and 21 percent of their practice to be defensive in nature. Specifically, they estimated that 35 percent of diagnostic tests, 29 percent of lab tests, 19 percent of hospitalizations, 14 percent of prescriptions, and 8 percent of surgeries were performed to avoid lawsuits. [186]

Third, doctors get burned out so sometimes order tests, medications or treatments because it's easier than not ordering. One doctor described his interaction with a patient this way:

> *I could tell she wasn't happy. I decided that discussing the evidence would have been futile and I was too tired anyway*

Fourth, doctors pathologize or medicalize normal human behavior. Consider the patient who tells his doc 'I sometimes forget people's names in social settings.' Early stage dementia? (There's a drug for that). Social anxiety (There's a drug for that too.) Or a normal human reaction to noise and social stimulation? (There may even be a drug for that but it's probably not necessary.)

Or the patient who went to the beach last weekend and tells his doc 'I love watching the women parade around in their bikinis.' Diagnosis: hyper-sexual disorder.

But the next patient, who went to the same beach, reports that 'I completely ignored all the women parading around in their bikinis.' (Low-T)

Pathologizing, of course, ties closely to malpractice issues described above as well as the problem of uninformed demand.

Fifth, physicians favor interventions. This is sometimes called 'supply sensitive care' which simply means that if medical technologies or interventions are available, physicians will use them.

This is also sometimes called Roemer's Law after Professor Milton Roemer who first discovered the relationship between medical supply and utilization in the 1950s. Roemer found that as more hospital beds are built in a community, more hospital beds are used. His law: a hospital room built is a hospital room occupied because physicians, whether consciously or not, tend to use all the medical resources at hand.

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[186] Hettrich, The Costs of Defensive Medicine, AAOS Now, December, 2010. AAOS Now is the Journal of the American Association of Orthopedic Surgeons

Let's apply Roemer's Law to radiologic scanners. Consider the growth of scans since the mid 1990s as more and more machines became available.

Scans per 1000 people/year [187]

	MRI	CT
1996	52	17
2010	149	65

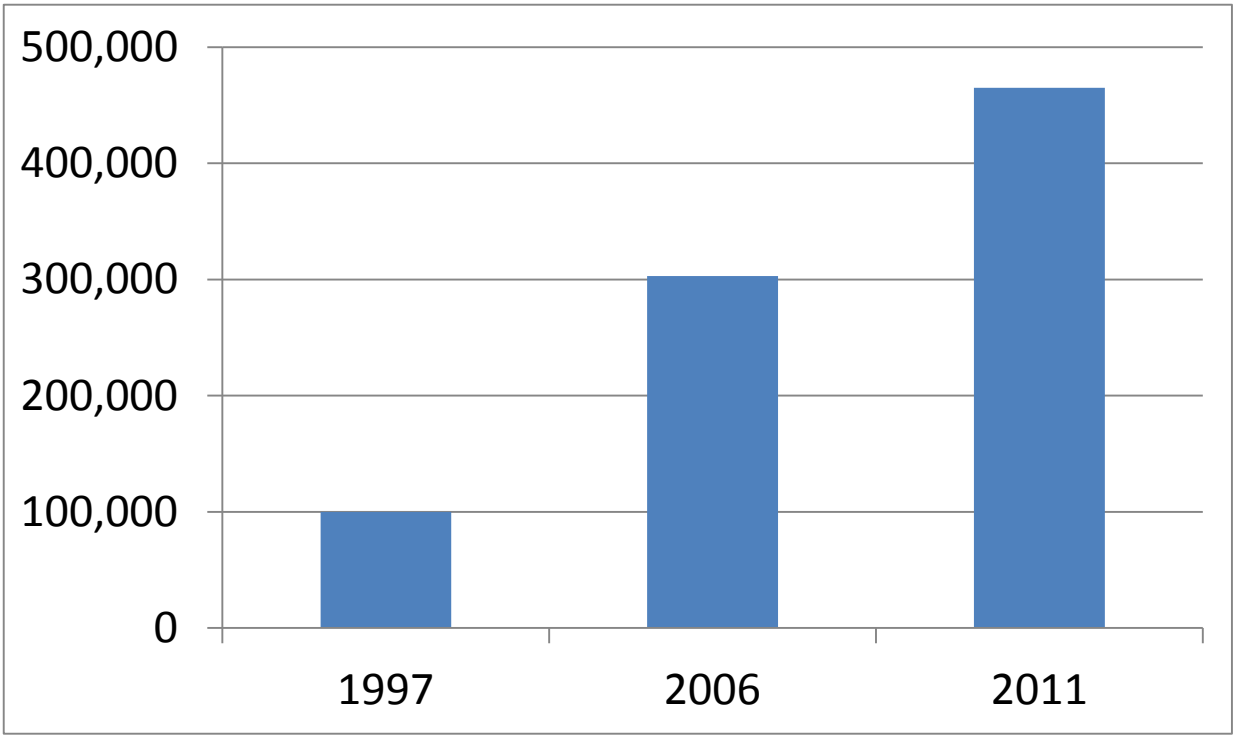
Note in passing the (non) impact of the internet on reducing medical care intensity. Google doesn't have much impact on reducing excessive or unnecessary care, despite most patients today claiming that they're 'well informed' since they do online research before engaging in medical care. Sorry, I don't buy it.

Now look at the impact of graduating more orthopedic specialists from medical schools:

Number of Spinal Fusion Surgeries

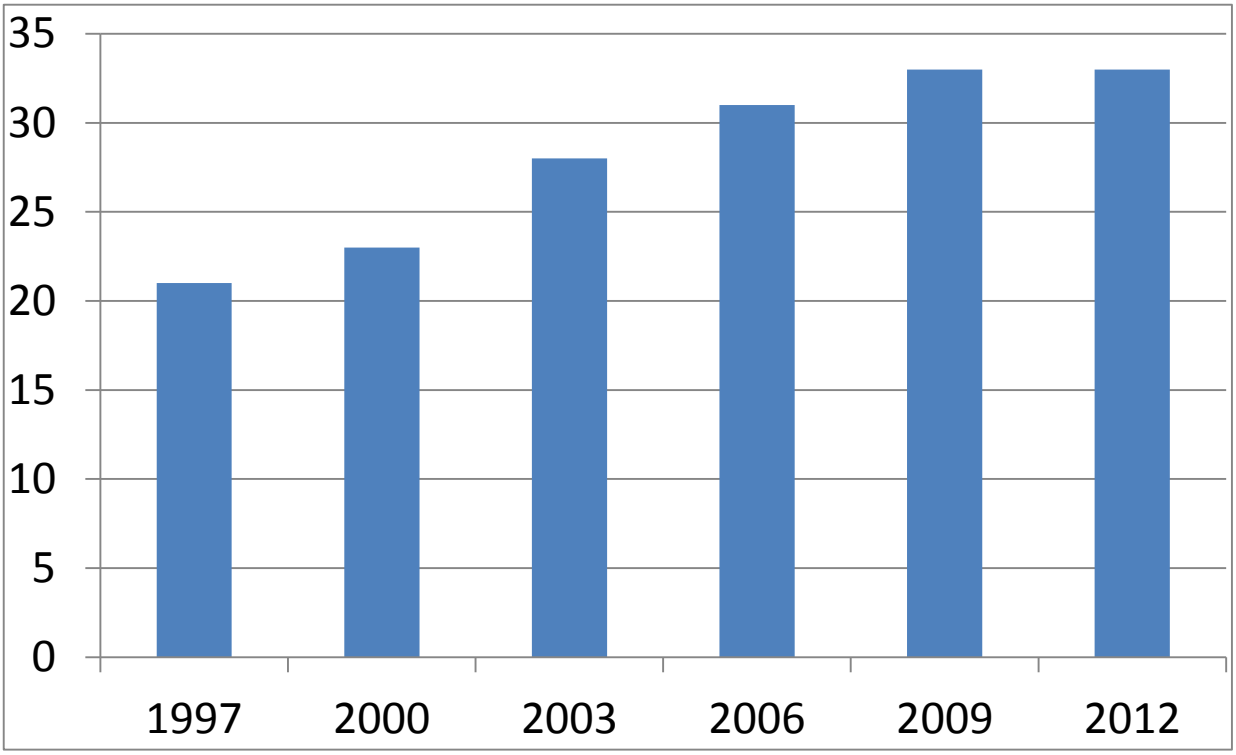
performed annually in the US

[187] These data presented by Dr. Steven Woloshin at Dartmouth's Summer Institute for Informed Patient Choice, 2014



Since the mid-late 1990s, fetal oxygen sensors have become almost universally adopted in delivery rooms, despite the US Preventive Services Task Force not endorsing this technology in birthing. Fetal oxygen sensors identify stress on the fetus' heart and can lead to emergency C-sections. That's one of potentially many reasons for our increased rate of C-section deliveries since the mid-1990s.

Rate of C-sections
as percentage of all US births



Many more examples exist. But to summarize: Doctors face different financial, corporate and emotional pressures and incentives from the patients they advise. Here are some of those differences:

Physician Issues and Concerns	Patient Issues and Concerns
Success	Success
Fear of lawsuit	Pain
Fear of feeling guilty	Recovery process
Local / regional / hospital norms	Infection / readmission risk
Income and time constraints	Impact on family
Personal preferences (religion, experience, etc)	Personal preferences (religion, personal image, etc)

Asking ‘Doc, what would you do if you were me?’ tends to get answers from the Physician List, while patients worry about issues on the Patient List.

Doctors may also have different goals and risk tolerances from patients. Research suggests, for example, that 72% of oncologists advising early stage breast cancer patients rate 'keeping your breast' a top goal while only 7% of patients do.

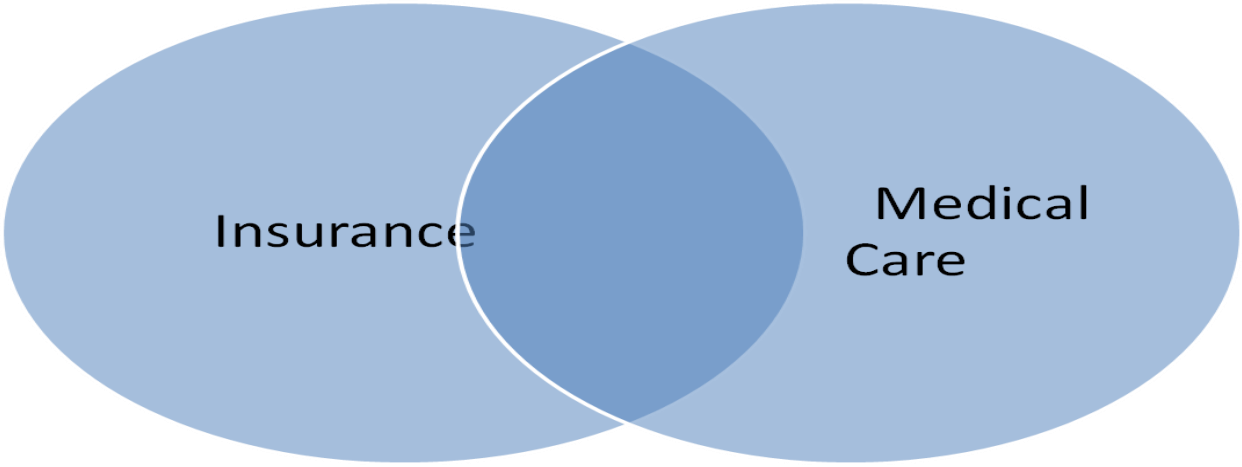
Meanwhile, 0% of oncologists rate 'avoid using prostheses' highly while 33% of patients do. [188]

We have learned, over the past few decades, that leaving medical education entirely to physicians (even with a bit of online research) has led to healthcare inflation at approximately gdp + 3 to 5% with, unfortunately, poorer national statistics than other countries that spend less on medical care.

Splitting healthcare financing from healthcare delivery has proven to be inefficient. It's time to reconsider the Old School model.

New School: Integrating Finance and Care Delivery

Rather than continue with the ineffective Old School model, let's introduce a New School approach.



In the New School, financing and medical care overlap.

- Doctors understand networks, deductibles, plan designs and prices and *include them in treatment prescriptions.*
- Brokers understand medical terms, preference-sensitive decision making, outcome metrics, treatment intensity issues and *include them in plan designs*.

[188] Data from presentation by Benjamin Moulton at Dartmouth's 2014 Summer Institute for Informed Patient Choice

To do this, brokers need to understand and communicate 3 fundamental concepts to their subscribers:

- **Outcomes**, meaning how well does a medical intervention work. Brokers who help their clients focus on medical outcomes will help them avoid unnecessary medical care and choose higher quality care over lower.

  The best way to determine outcomes is from studies comparing patients who had a specific medical intervention with patients who did not. Other attempts to quantify outcomes are less robust, provide less good information and can lead to suboptimal medical decisions.

  We too often in this country, use proxies for outcomes. Proxies include ‘famous hospital’, ‘well known surgeon’, ‘well advertised medication’, or ‘game changing therapy’. Proxies may or may not correlate closely to actual patient outcomes.

  The important point for brokers to communicate to their clients: shop for medical care based on outcomes. They’ll enjoy better outcomes that way.

- **Process**, meaning *how* providers implement a particular treatment.

  Extensive evidence shows that some hospitals favor C-sections in situations that other hospitals do not, and that doctors in some regions routinely treat early stage breast cancer with mastectomies while doctors in others routinely prescribe other treatments. The Dartmouth Atlas of Healthcare has tracked these differences at hospital, regional and state levels for years.

  One simple tool for brokers here: advise patients to ask their physician ‘am I in a high or low intensity region / hospital for this procedure?’ They can use that information when they obtain a second opinion.

- **Preference-sensitive**, meaning that two patients with similar diagnoses and prognoses may choose different treatments *and both be right*.

  This is, perhaps, the single most important issue in American medicine. Scholars ranging from Harvard Business School’s Regina Herzlinger to Dartmouth’s John Wennberg suggest that patients enjoy the best outcomes, often at the lowest costs, when they make well informed decisions. ‘Well informed’ means knowing the likely treatment outcomes (both benefits and risks), their process options (mastectomy or lumpectomy for example) and the prices.

Laura Landro, writing in the Wall Street Journal, summarized the impact: [189]

> *Studies show that when patients understand their choices and share in the decision making process with their doctors, they tend to choose less-invasive and less expensive treatments than they would otherwise have received.*

The broker's educational role in this New School paradigm is to inform patients that they have choices and help them access key information to make wise choices; it is **not** to give specific medical advice.

My Proposed Decision Making Tree that integrates clinical and insurance information

Brokers and benefits advisors can teach people to use this Decision Tree. It can organize your thinking and ensure that you address the key issues in making your medical decisions.

First identify the most likely benefits and risks of a particular medical intervention and the chance of each. Ask 'do the likely benefits of this medical intervention outweigh both the treatment risks and doing nothing?'

> I you answer 'no, the likely benefits do not exceed the risks and are not better than doing nothing' then stop.
>
> But if you decide that the likely benefits exceed the risks, continue.

Second identify your intervention options. You almost always have them. You can have surgery or physical therapy for example, take a brand name medication or generic, have an injection or take a medication, change your diet or take a pill.

> Decide which process you prefer. Research shows that different processes often generate similar outcomes. There's often no objectively right or wrong process decision. Rather these are personal choices or preference-sensitive decisions.

Third decide which provider generates the best outcomes using the treatment process you prefer. Some orthopedic surgeons may generate better spinal fusion surgical outcomes than others; some physical therapists better knee pain reductions.

> Provider outcomes often – though not always – correlate with experience. The more shoulder surgeries a surgeon performs, the better his/her shoulder surgery patients tend to do.

[189] Laura Landro, Weighty Choices in Patient's Hands, Wall Street Journal, August 4, 2009

If you can't determine actual outcomes by physician, use volume or experience with patients like you as a responsible proxy.

Fourth, if two providers generate the same outcomes using the process you prefer, consider price.

Be sure to consider price 4th, only after you've determined that an intervention is likely beneficial, that you're getting the process you prefer and that you've chosen the best provider available.

Follow this 4-step process and you'll likely end up with better outcomes, be more satisfied with your care and perhaps even save some money along the way.

America's research community is developing tools to help patients with these tasks.

The Affordable Care Act on Decision Aids and Shared Decision Making

Section 3506 of the Affordable Care Act or Obamacare addresses Decision Aids and the Shared Decision Making process. The goal is to engage patients in *informed* decision making with healthcare providers.

Decision Aids are **tools** that present clinical evidence of risks and benefits of treatment options; they focus on likely outcomes. Decision Aids are not simply articles describing how a medical treatment works but without quantifying likely benefits and harms; that's more an encyclopedia than an Aid.

Shared Decision Making, on the other hand, is a **process** in which patients and their physicians decide together how to proceed. Unlike the old school paternalist model in which physicians *tell* patients which treatment to have, in the Shared Decision Making model physicians *help patients decide* which treatment option best suits their goals.

Shared Decision Making acknowledges that about 85% of medical decisions are 'preference sensitive', meaning the patient has more than 1reasonable option and that two different patients suffering from the same medical condition can make different treatment decisions but both be right.

This may seem intuitively obvious to many. Unfortunately, research shows that physicians only discuss alternatives with patients about 14% of the time, and only about 9% of physicians inform patients that they have choices. [190] As a result, the impetus to inform patients that options exist most of the time may fall on the insurance community.

[190] Benjamin Moulton, op. cit.

Decision Aids and Shared Decision Making also implicitly acknowledge a new vision of the physician's role. The ideal modern physician, suggests Dr. Atul Gawande of Harvard Medical School insightfully

> should be neither paternalistic nor informative but rather interpretive, helping patients determine their priorities and achieve them. [191]

This means patients need to learn basic outcome and intensity information outside the doctor-patient framework and opens a new, and potentially role redefining opportunity for brokers and carriers.

A Decision Aid Example: the Number Needed to Treat

The Number Needed to Treat tells how many people need to take a medication, have a test or have a treatment for 1 person to benefit from it.

The NNT acknowledges that medicine doesn't work perfectly, equally well on all people, all the time. But various interventions work - to paraphrase Abraham Lincoln - on some of the people, some of the time. The NNT tells how often, so how likely you are to benefit from a particular intervention.

The most comprehensive source of NNT information is a website entitled, not surprisingly, TheNNT.com.

Here's an example: 18 adults suffering from acute sinusitis need to take a course of antibiotics for 1 to benefit by having a faster resolution of symptoms. [192] The Number Needed to Treat for adults with sinusitis to benefit from antibiotics is 18.

Another example: 5 kids suffering from the croup need to take steroids for 1 to enjoy respiratory improvement. The NNT here is 5.

Some more NNT examples [193]

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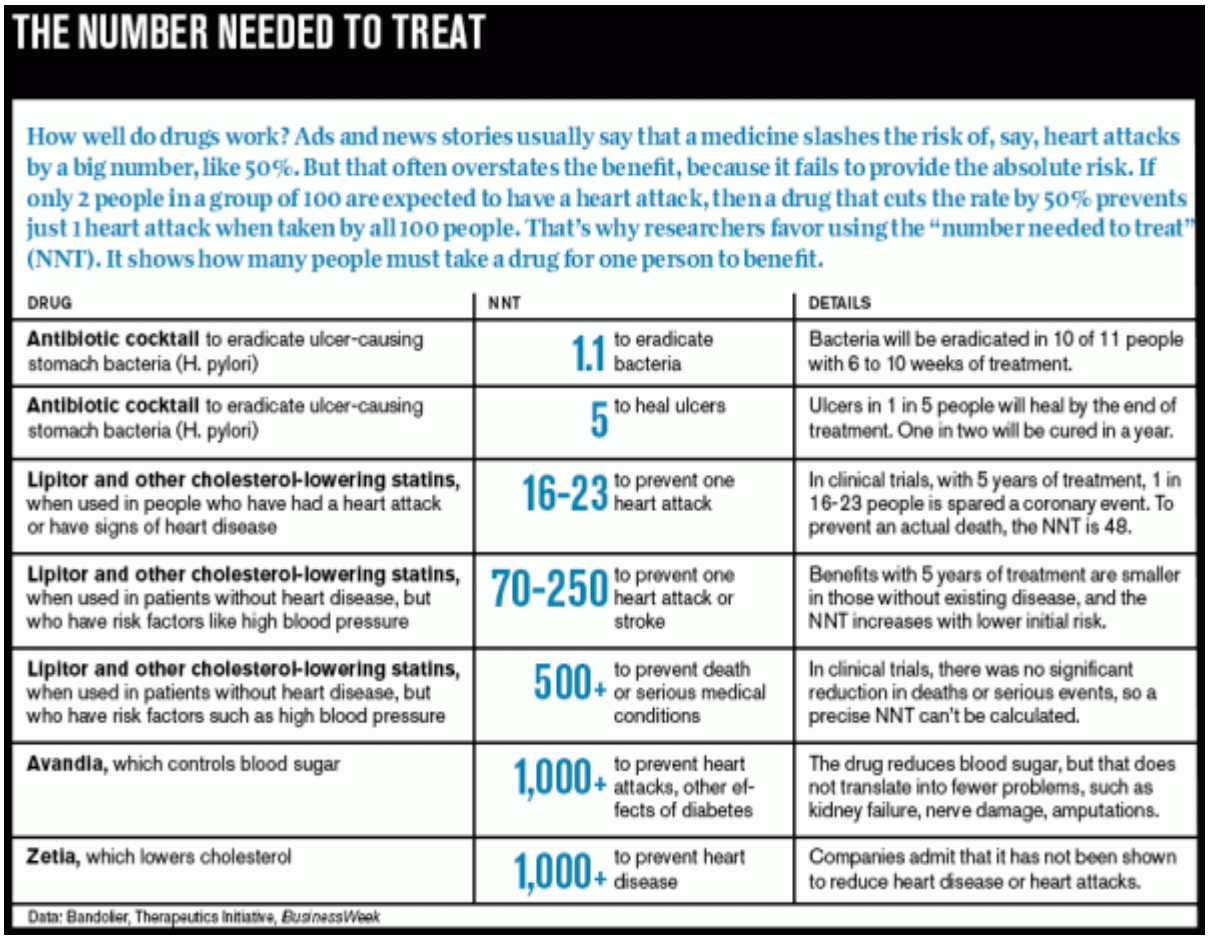
[191] Sheri Fink's review of Atul Gawande's Being Mortal, New York Times Book Review, November 6, 2014

[192] http://www.thennt.com/nnt/antibiotics-for-clinically-diagnosed-acute-sinusitis/

[193] This chart appeared in BusinessWeek, January 2008.



THE NUMBER NEEDED TO TREAT

How well do drugs work? Ads and news stories usually say that a medicine slashes the risk of, say, heart attacks by a big number, like 50%. But that often overstates the benefit, because it fails to provide the absolute risk. If only 2 people in a group of 100 are expected to have a heart attack, then a drug that cuts the rate by 50% prevents just 1 heart attack when taken by all 100 people. That's why researchers favor using the "number needed to treat" (NNT). It shows how many people must take a drug for one person to benefit.

DRUG	NNT	DETAILS
Antibiotic cocktail to eradicate ulcer-causing stomach bacteria (H. pylori)	1.1 to eradicate bacteria	Bacteria will be eradicated in 10 of 11 people with 6 to 10 weeks of treatment.
Antibiotic cocktail to eradicate ulcer-causing stomach bacteria (H. pylori)	5 to heal ulcers	Ulcers in 1 in 5 people will heal by the end of treatment. One in two will be cured in a year.
Lipitor and other cholesterol-lowering statins, when used in people who have had a heart attack or have signs of heart disease	16-23 to prevent one heart attack	In clinical trials, with 5 years of treatment, 1 in 16-23 people is spared a coronary event. To prevent an actual death, the NNT is 48.
Lipitor and other cholesterol-lowering statins, when used in patients without heart disease, but who have risk factors like high blood pressure	70-250 to prevent one heart attack or stroke	Benefits with 5 years of treatment are smaller in those without existing disease, and the NNT increases with lower initial risk.
Lipitor and other cholesterol-lowering statins, when used in patients without heart disease, but who have risk factors such as high blood pressure	500+ to prevent death or serious medical conditions	In clinical trials, there was no significant reduction in deaths or serious events, so a precise NNT can't be calculated.
Avandia, which controls blood sugar	1,000+ to prevent heart attacks, other effects of diabetes	The drug reduces blood sugar, but that does not translate into fewer problems, such as kidney failure, nerve damage, amputations.
Zetia, which lowers cholesterol	1,000+ to prevent heart disease	Companies admit that it has not been shown to reduce heart disease or heart attacks.

Data: Bandolier, Therapeutics Initiative, *BusinessWeek*

Knowing the NNT can help patients in two different ways:

- First, patients can decide if a medical intervention works well enough to have. An NNT of 300, for example, make work so poorly – in your opinion – that it's not worth having.

  But an NNT of 2 works so well that you may decide to have this treatment.

- Second, the NNT helps patients decide which intervention works better. The lower the Number Needed to Treat, the better the medication intervention works.

How to determine the Number Needed to Treat

Researchers compare two similar groups of people, as alike as possible, except that one group gets the medication while the other does not. This comparison study identifies the medication as the independent variable. Researchers then note the outcomes from both groups and quantify the medication's impact.

That helps explain why the NNT numbers above seem so high: most adults recover from sinusitis and most kids recover from croup even without medication.

TheNNT.com lists dozens of medical interventions.

A second type of Decision Aid

ChoosingWisely, an initiative of the American Board of Internal Medicine Foundation, invited dozens of specialty medical associations to list *5 Things Patients and Doctors Should Question*. The ABIM Foundation then posted these lists on a website called ChoosingWisely.

Here are 3 examples from the hundreds listed:

- *Don't do imaging for low back pain within the first six weeks, unless red flags are present*, a recommendation of the American Academy of Family Physicians.

  The Family Physician Academy's justification: Imaging of the lower spine before six weeks does not improve outcomes

- Don't indiscriminately prescribe antibiotics for uncomplicated rhinosinusitis, a recommendation of the American Academy of Allergy, Asthma & Immunology.

  The Allergy, Asthma & Immunology Academy's justification: Viral infections cause the majority of acute rhinosinusitis and only 0.5 percent to 2 percent progress to bacterial infections.

  Most acute rhinosinusitis resolves without treatment in two weeks.

- *Don't perform annual stress cardiac imaging as part of routine follow-up in asymptomatic patients*, a recommendation of the American College of Cardiology.

  The College's justification: Performing stress cardiac imaging or advanced non-invasive imaging in patients without symptoms on a serial or scheduled pattern (e.g., every one to two years or at a heart procedure anniversary) rarely results in any meaningful change in patient management. This practice may, in fact, lead to unnecessary invasive procedures.

As of January, 2015, some 63 medical associations participated in the ChoosingWisely campaign, posting more than 300 treatment recommendations.

Other Decision Aids, besides Option Grids, theNNT and ChoosingWisely exist and are being developed all the time.

Decision Aids help focus doctor-patient discussions. No longer need patients argue about anatomy and physiology. Instead, doctors and patients can interpret Decision Aids together and discuss treatment outcomes and processes – far more fruitful discussions.

Decision Aids: necessary for Shared Decision Making

The Decision Aids listed above – and others - are a necessary step toward true patient involvement in medical decisions. 'Involvement' is sometimes called 'Shared Decision Making' in which patients and doctors together decide how to proceed.

Decision Aids are tools; Shared Decision Making is a process. Both work together.

How impactful are Decision Aids and Shared Decision Making?

Research presented at the Dartmouth Summer Institute for Informed Patient Choice, Hanover New Hampshire, June 2014 shows the following:

- Patients with stable coronary angina who used Decision Aids and engaged in Shared Decision Making with their physicians, were 20% less likely to choose stent insertion than patient who did not so engage
    - Absent Decision Aids, 88% of patients thought stents would help them
- Patients suffering from hip or knee arthritis were 25% less likely to choose hip or knee replacement after viewing Decision Aids
- Back pain patients with herniated disks opted for spinal fusion surgery30% less frequently
- Men diagnosed with early stage prostate cancer were 50% more likely to choose 'watchful waiting' than more invasive treatments.

Using Deductibles and HRAs with Decision Aids

The broker can now evolve from CHD version 1, deductibles with some tax benefits, to CDH version 2, deductibles that can incorporate consumer education into a true employee engagement / benefits program.

To move successfully from CDH 1 to CDH 2, brokers need to incorporate three components into their programs:

- Content
- An employee communication program, and

- Plan design incentives

Let's brainstorm, first with a radiology education program:

Consumer Engagement Example #1: Radiology

Incentive: $25 per employee to complete the following educational module. Then, $50 toward the out-of-pocket costs if an employee decides to have a back MRI. This incentive is not retroactive.

Module content: Low back pain is the fifth most common reason for physician visits. This brief tutorial can help you *benefit* from your physician visit and *avoid unnecessary costs and medical harms.*

Medical research shows that getting an X-ray, CT scan or MRI shortly after the pain begins rarely helps since most people feel better in a month or so with or without the scans.

But imaging raises costs and risks of unnecessary care:

- Lower back MRIs cost about $1000
- CT scans about $1200
- X Rays about $250

One study found that back-pain sufferers who had an MRI in the first month were *eight times more likely* to have surgery, and had a *five-fold* increase in medical expenses—but didn't recover faster.

The excess imaging problem is that people both with and without back pain can show similar imaging results, meaning an identified abnormality in the test may not be the cause of your pain.

Once identified however, abnormalities need further evaluation. This can subject patients to costs and treatments which are often unnecessary since they don't speed recovery.

Review Questions:

1. How common are visits to the doctor due to back pain?
    - Uncommon

- Very common. Back pain is the 5th most common reason for physician visits

2. If you have back pain, should you automatically, immediately get an imaging exam, like an MRI, CT scan or X-ray?

    - Yes, as soon as you feel any kind of back pain
    - Maybe not, since people who have imaging tests don't seem to get better medical results than people who wait before having the test

3. About how much does a lower back MRI cost?

    - About $20, my radiology co-payment,
    - About $1000 on average

Content continues: Some medical organizations recommend *against* imaging tests for back pain within the first month.

The American Academy of Family Physicians, representing 105,000 primary care physicians advises:

- Don't do imaging for low back pain within the first six weeks, unless red flags are present.
- Imaging of the lower spine before six weeks does not improve outcomes, but does increase costs.

The North American Spine Society, representing 7500 doctors, advises:

- Don't have advanced imaging (e.g., MRI) of the spine within the first six weeks for non-specific acute low back pain in the absence of red flags.
- In the absence of red flags, advanced imaging within the first six weeks has not been found to improve outcomes, but does increase costs.

The American College of Physicians, representing 126,000 physicians, advises:

- Don't obtain imaging studies in patients with non-specific low back pain.
- In patients with back pain that cannot be attributed to a specific disease or spinal abnormality, imaging with X-ray, CT scan or MRI does not improve patient outcomes.

The American Society of Anesthesiologists – Pain Medicine, representing 50,000 members who advocate for patients in pain, advises:

- Imaging for low back pain in the first six weeks after pain begins should be avoided in the absence of specific clinical indications
- Most low back pain does not need imaging and *doing so may reveal incidental findings that divert attention and increase the risk of having unhelpful surgery*.

Review Questions:

1. Do many medical professional organizations recommend that you wait 4 – 6 weeks before having a back imaging test, or have the test immediately upon feeling pain?
    - Wait 4 – 6 weeks unless specific red flags are present
    - Have the test immediately
2. Why do several medical professional organizations recommend waiting 4 – 6 weeks before having an imaging test?
    - To reduce patient costs and risks
    - To harm patients

Here are some Red Flags:

- a history of cancer,
- unexplained weight loss,
- fever,
- recent infection,
- loss of bowel or bladder control,
- abnormal reflexes, or
- loss of muscle power or feeling in the legs.

And here are some Key Questions to ask your doctor:

- Do you agree with the recommendations from the American Academy of Family Physicians and others that I wait 6 weeks before having a scan for my back pain?
    - If not, why not?
    - Do you think those recommendations apply to me?
- Do you worry that back imaging tests may incorrectly identify the cause of my back pain?
- Do I have the red flags listed above?
- What other therapies do you recommend?

Consumer Engagement Example #2: Medication Prescription Adherence

Some background:

- 25 – 50% of all medical prescriptions are never filled. [194]
- Only about half of all patients actually follow their doctor's orders even when they do fill their prescriptions. [195]

The main reason patients don't adhere to their medication prescriptions: cost. The second most important reason: they don't see the need to continue, as the medications don't seem to work. Other reasons, including inconvenience, lack of clear instructions, poorly coordinated care, lack of physician follow up, sides effects and others, also play a role.

Some impacts of non-adherence: [196] Non-adherers 3 – 5 times more likely to be hospitalized, re-hospitalized or die prematurely for chronic diseases such as

- Diabetics
- Coronary disease
- High blood pressure

[194] Chen, NY Times, When Patients Don't Fill Their Prescriptions, May 20, 2010 and Townsend, Cleveland Plain Dealer, Ignoring Doctor's Orders, April 1, 2014

[195] NEHI Improving Patient Medication Adherence

[196] Improving Prescription Medicine Adherence is Key to Better Healthcare, Pharma. I do not know the quality of this study. GF

Why do we have out-of-pocket costs if this reduces adherence?

1. Americans take more medications per person than Britons, Frenchmen or Germans.

2. But we don't live longer than these people, nor exhibit better health as we age, leading many to think that Americans take significant amounts of unnecessary medications.

So cost sharing was introduced to reduce the amount of unnecessary medication and thus save the healthcare system money.

Unfortunately, cost sharing seems to have reduced both *necessary* and *unnecessary* utilization.

Many more Decision Aids and Educational Modules exist

Research organizations are continuously developing Decision Aids about the major healthcare cost drivers. A short research project will identify some of these for you. That's the easy part.

The hard part is integrating the clinical information with insurance plan designs. Though difficult, it's necessary if brokers want to change the Zywave reported client satisfaction numbers:

- Creates strategic plan that aligns with company goals: **43% unsatisfied**
- Offers employee benefits and consumerism communication / education: **41% unsatisfied**
- Assists with creating or maintaining a workplace wellness program: **66% unsatisfied**

Brokers face a dilemma: whether to remain in their comfort zone which we call CDH version 1, providing spreadsheets, products and compliance services or move to CDH version 2 that integrates financial and clinical considerations into plan designs.

I encourage anyone who has read this chapter to consider:

> If you were a client, would you prefer a broker who engaged in traditional insurance brokerage or who integrated clinical education into plan designs?

I'd also encourage people to consider their own history:

> Are you satisfied with health insurance trend and utilization rates?

I suggest that if you consider these two questions, your path forward becomes clear. Robert Frost articulated the options poetically:

> Two roads diverged in a wood and I –
>
> I took the one less traveled by,
>
> And that made all the difference

Review Questions

Answers on next page

1. One consequence of having employer based health insurance as the central mechanism of financing medical care in this country is the development of various 'fill in' programs for unemployed people. Examples include Medicare for elderly people and the Veteran's Healthcare Administration for military veterans, each with its own eligibility requirements, access criteria and payment programs. About how many such programs exist in the US?

a. 1
b. About 6
c. About 295
d. About 13,500

2. We have two different definitions of 'well informed consumer'. The health insurance industry defines a well informed consumer as one understanding deductibles, network restrictions, referral requirements and similar. How does the medical industry define well informed consumer?

a. The same way, someone who understands deductibles, network restrictions and referral requirements
b. As someone who understands how well medical care works
c. As someone who has read lots of books about medical care
d. As someone who uses google to research their treatments

3. Can we usefully separate healthcare *financing* from healthcare *service* provision?

a. Yes. A professional broker, for example, only need describe the insurance policy to provide a complete service to his/her customers
b. No. We cannot usefully separate healthcare financing from service delivery. Every attempt to do that has resulted in higher costs and poorer outcomes
c. Sometimes. We can usefully separate financing from service deliveries for orthopedic conditions but not for cardiovascular
d. Sometimes. We can usefully separate financing from service deliveries for acute conditions but not for chronic

4. What is the best way to determine a medical care outcome?

a. From a comparative test, one that compares a group of people who had a specific medical intervention with a similar group that did not
b. By reviewing the relevant biological information

c. By reviewing the relevant anatomical information
d. By reviewing the relevant genetic information

5. What does ‘preference sensitive’ mean in medical care?

a. That one patient may prefer one treatment process while another, similar patient may prefer something different and that both patients can make the right decisions
b. That some people prefer one physician while others prefer someone else
c. That some physicians prefer one type of patient while other physicians prefer a different type
d. That some patients may prefer one hospital while others prefer a different hospital

6. What is the Number Needed to Treat?

a. The number of patients who need to have a treatment for one to benefit
b. The number of doctors who need to perform a surgery for 1 to get it right
c. The number of patients a doctor needs to treat in order to have one patient benefit from his/her care
d. The number of surgeries a hospital needs to host to get optimal outcomes

Review Questions

Correct answers in bold

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Chapter 5: Poorly Understood Risks and Risk Reduction Metrics

An introduction to risk analytics

Patients want medical care when they face health risks. They want their care to reduce those risks. Good care reduces risks a lot; poorer care reduces risk less and may even exacerbate the problems.

Unfortunately patients and their physicians often understand risks poorly and communicate risk reduction impacts even more poorly.

This chapter will introduce some key terms that both patients and their clinicians need to understand to communicate risk concerns and treatment impacts effectively.

Doctors used leeches in the Middle Ages
Why don't we still use them today?

For over 2000 years, doctors used leeches to treat medical conditions ranging from fevers to flatulence. Patients knew that this was the treatment of choice and 'the way' to treat maladies.

So well ingrained was leeching as a medical treatment that Gioachino Rossini described them in his hit 1816 opera 'The Barber of Seville'. Consider Figaro's entrance – one of the most famous in all opera – in which he described the demands put upon him by his customers:

> All call for me,
> all want me,
> ladies and children,
> old men and maidens.
> I need a wig,
> I want a shave,
> leeches to bleed me …

'Leeches to bleed me' was the third most important reason to call a barber, the commoner's physician of the day, just after wigs and shaves.

Leeching made sense centuries ago based on the then-current theory of medical care. Our bodies consisted of 'good' and 'bad' humors, some sort of metaphysical explanation for disease. (I'm not at all an expert on medieval medicine, so this is a really rough explanation.)

Medieval folks had evidence that the body automatically released 'bad humors' when they exceeded the good, with farting or pooping prime examples. Medieval thinkers built on this to develop their encompassing theory of health and disease treatment.

Leeching thus was the *controlled* release of bad humors as opposed to farting, an uncontrolled, natural response. Leeches assisted the body in expelling bad humors.

I often use this story in my live classes, then ask 'how many of you have been treated with leeches in the past few years?' or 'Does your child's doctor prescribe leeches when he or she has a stomach ache?' and, of course, no hands go up, just occasionally some smirks. 'Why not?' is my standard follow up.

The obvious answer is that leeching doesn't make people healthier. We know this from comparative studies: sick people who are leeched do not recover faster or better than similarly sick people who have not been leeched.

We call this 'evidence' and scientific medicine relies on such evidence to determine which care works, or works best, for specific ailments.

Medieval folks relied on theory, not evidence, when choosing treatments. We today rely on evidence.

At least we do in theory.

A more modern example:
Rest after heart surgery

Let's jump ahead a few centuries and consider post heart surgery treatment.

Dr. James Herrick, writing in 1912 recommended 'absolute bed rest for several days' [197] post surgery, saying 'it can take up to 6 to 8 weeks for firm scarring of the lesion to occur … absolute rest… to minimize the risk of ventricular rupture'.[198]

Again, as with leeches, this recommendation was based on the then-current theory of medical care. The body took time to heal and surgeons wanted to reduce the risk of ventricular rupture. Hence absolute bed rest.

Diseases of the Heart, published in 1946 echoed pretty much the same thing saying 'rest in bed for 6 – 8 weeks' post surgery and 'patients have lost their lives by neglect of these precautions'.[199]

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[197] http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1995058/

[198] http://www.dialogues-cvm.com/document/DCVM40.pdf, p 112

And Dr. Wood, writing in 1959 recommended 'total bedrest for 3 – 6 weeks'.

Based on the widespread medical theory at the time, rest after heart surgery was the standard, established recommendation.

Today, on the other hand, patients start exercising almost immediately after coronary surgery and are discharged from the hospital in 4 – 6 days. 'Start walking the day you are transferred from the CSICU' says the St. Lukes Roosevelt Hospital website.

'For the first 6 – 8 weeks … walk everyday' suggests WebMD.

Today we worry more about muscle atrophy than ventricular rupture. Today we recommend *against* 6 weeks of absolute bedrest.

Why the change?

Comparative studies indicated that bedrest worked worse than exercise post surgery to improve patient outcomes. The recommendations from the early 1900s were counterproductive.

Relying on the then-current theory led patients in the wrong direction.

A much more recent example:
Niaspin, a $900 million mistake

Let's jump ahead 50 years for the final example here. I have lots more but want to make other points to make in this chapter.

Niacin, a B vitamin, has been shown in tests to raise good (HDL) cholesterol. More 'good' cholesterol is associated with a lower heart attack risk.

Niacin doesn't lower cholesterol like commonly prescribed statin drugs. Instead it alters the *ratio* of good to bad cholesterol. The higher that ratio, the lower the heart attack risk, or so goes the theory.

Cardiologists have prescribed various niacin products for years. One such product, Niaspin manufactured by Abbott Labs, generated about $900 million in total 2009 sales. Overall some 6 million prescriptions were written annually in this country for niacin to raise good cholesterol.[200]

In 2011 the AIM-High trial of niacin effectiveness on patients published its results. While extended release niacin *is* associated with higher HDL levels and lower triglyceride

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[199] Diseases of the Heart, T. Lewis, Macmillan pub, 3rd edition, http://www.dialogues-cvm.com/document/DCVM40.pdf, page 112

[200] CBS News estimate, Study: Heart Drug Tredaptive is Ineffective, Jonathan Lapook, July 29, 2013

levels, the AIM-High trial found, this *does not* translate to a reduction in cardiovascular events like heart attacks and strokes. [201] The heart attack and stroke rates of people taking and not taking niacin were the same.

In 2013, a second study, this time of Merck's niacin drug Tredaptive then available in 40 countries though not in the US, found the same thing: no difference in coronary event rates between people taking Tredaptive and a statin, and those just taking the statin. [202] Dr. Steven Nissen, Chief of Cardiology at the Cleveland Clinic, summarized the Tredaptive study findings:[203]

> It raised the good cholesterol. It lowered the bad cholesterol. It didn't improve clinical outcomes.
>
> That is a stunning finding.

Two studies on two different niacin based drugs arrived at the same conclusion: niacin doesn't reduce rates of heart attacks or strokes. Patients taking Niaspin had the same coronary event rates as patients not taking it.

But the theory – more good cholesterol leads to fewer coronary events – said niacin should have a beneficial impact.

Again, and just like leeching and rest after heart surgery, patients who relied on theory received no benefit from their medical intervention of choice. They may, in fact, have been harmed by that choice: muscle atrophy for the bed rest, post heart surgery folks, infections or skin irritations from leeches or side effects of Niaspin.

How does a wise patient protect him or herself?

Some basic risk management definitions and concepts
A brief introduction and overview of a big and complex subject

Let's start at the very beginning. I'll try to summarize some complicated definitions and concepts cogently and briefly. Readers may want to highlight important parts and even read this section a couple of times. [204]

According to medical theory, or at least my interpretation of it, 'healthy' means the absence of abnormalities; 'sick' means you have some abnormalities.

'Healthy' in other words, is the norm for most people, most of the time. 'Abnormalities' can range from low HDL to difficulty breathing to pain to intestinal upset to heart attacks, among other things.

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[201] This sentence paraphrases the New England Journal of Medicine discussion of the AIM High study http://www.nejm.org/doi/full/10.1056/NEJMoa1107579#t=article

[202] http://www.reuters.com/article/merck-cholesterol-idUSL1N0BREGB20130227

[203] CBS News, op cit

[204] I first learned many of the ideas in this chapter from reading Steven Woloshin's book Know Your Chances.

We measure some abnormalities on a *scale.* Take blood pressure as an example. You can be 'normal', defined by the American Heart Association as BP less than 120/80. Or you can have slightly high BP, say 125/85.

Or you can have really high BP, say 175/105.

Or you can be somewhere in between.

The more abnormalities you have, and the farther you are from the norm, the sicker you are. Sickness, thus, isn't digital: you're not either 'sick' or 'healthy'. Instead you can be 'a little sick' meaning that your abnormalities are close to the norm, or 'very sick' meaning that your abnormalities are far from the norm. The farther from the norm, the sicker you are and the more benefit you can receive from medical care.

If your abnormalities are close to the norm, medicine can't have much impact on you, by definition; you're not very sick.

You can have abnormalities in a couple different ways. You can have an '*asymptomatic* abnormality' or an abnormality that you don't feel. High blood pressure or high cholesterol would fit into this category. Both of these conditions indicate sickness, again the presence of abnormalities, despite the fact that you can't feel them.

You can also have a '*symptomatic* abnormality' or an abnormality that you feel. A broken leg or displaced hip would fit into this category. It's normal not to have a broken leg or displaced hip; these are both abnormal conditions that you can sense.

All this helps defines medicine's role – find abnormalities and then, once found, bring the patient back to normal by addressing the abnormalities.

How we find, identify and discuss abnormalities

We find asymptomatic abnormalities through screening tests. A screening test, in other words, identifies abnormalities before the patient can sense or feel them.

Diagnostic tests, on the other hand, identify symptomatic abnormalities, or abnormalities after the patient senses them.

A quick rule of thumb to help you remember these two types of tests: you schedule a screening test based on your calendar ('I have a cholesterol test at my annual physical, every summer') and a diagnostic test based on pain ('My shoulder pain was killing me so I had an X-ray the next day').

Once you identify an abnormality, either symptomatic or asymptomatic, you and your doctor can determine the risk it poses. Risk means the chance that something will happen to you – we call this Event X - over some time period, typically 1, 5 or 10 years. Event X could be a heart attack, stroke, lose your leg to diabetes, have a hip fracture or die of colon cancer among other things. There are lots of potential Event X's.

We express your risk of having Event X as a ratio using two numbers:

- The top number indicates the number of people who actually experience Event X over a time period.

- The bottom number indicates the number of people who could possibly experience Event X over the same time period. To keep things simple (simple?) we generally use 100 or 1000 as the base number.

Thus we might say ‘you have a 2 in 1000 chance of dying from colon cancer over the next 10 years’. The numerator ‘2’ is the number of people we expect to die of colon cancer; the denominator ‘1000’ is the number of people who could actually die of it. This is a short hand convention that allows us to compare treatments using the same denominator. We would totally confuse people if we used a different denominator for each risk calculation!

You can then compare your risk of colon cancer death to your risk of breast cancer death, lung cancer death, heart attack death – and even of developing diabetes or shingles, having a stroke or breaking your hip etc - to determine which poses higher risks and which lower. This can help you decide which risks are important enough to protect yourself against by taking medications, having additional tests or having some other type of medical intervention, and which are not.

The way we present risks may impact your decision. Saying ‘you have a 2 in 1000 chance of dying from colon cancer over the next 10 years’ tends to generate a response from patients like ‘I could be one of those two’, which in turn may lead to a screening test or something else.

On the other hand you could express this risk as ‘you have a 998 in 1000 chance of not dying from colon cancer over the next 10 years’ – which generates a somewhat different emotional response. ‘I have a 99.8% chance of being fine? That’s good enough for me and I’m busy with other things.’

Both ratios – that 2 in 1000 will die from colon cancer and that 998 in 1000 will not die – express the same risk. But the presentation of this risk can generate very different patient behavior. If you’re *selling* colon cancer screening tests, you’d probably go with ‘2 in 1000 chance of dying. Are you willing to take that risk?’

If you’re *buying* colon cancer screening, you might consider that 99.8% chance of being fine. Different strokes …

Let’s return to screening tests and discuss the information obtained. Screening tests generally look for abnormalities that are indicators or numbers, like blood pressure or cholesterol, things you can’t feel because they’re asymptomatic. Your doctor may perform a blood pressure screening test, for example, and say ‘your blood pressure is 155/95. That’s a little higher than I would like. Based on that indicator, I recommend that you begin to take blood pressure lowering medication’.

The assumption here is that your blood pressure numbers indicate something about the likelihood of you having Event X, a heart attack or stroke for example. We call these numbers ‘indicators’ or ‘surrogates’. They don’t actually mean ‘have a heart attack’ but instead indicate something about the *probability* of having one.

The outcome of taking blood pressure lowering medication in response to your screening test is that your BP numbers return to the normal range (theoretically) and

you become ‘healthy’ once again, with ‘healthy’ defined by those indicator or surrogate numbers.

The other type of outcome is called a patient or hard outcome: actually *having* a heart attack or stroke.

Let’s review: screening tests identify indicators. If those indicators are abnormal, we tend to treat them. This returns the patient to ‘healthy’ or normal.

But the patient may still have a heart attack.

This raises a troubling question: why might test indicators improve but patient outcomes not?

How closely do test indicators correlate to patient outcomes?

Test indicators, or the ‘number’ associated with *a*symptomatic abnormalities identified by screening tests, generally correlate very loosely to having an Event.

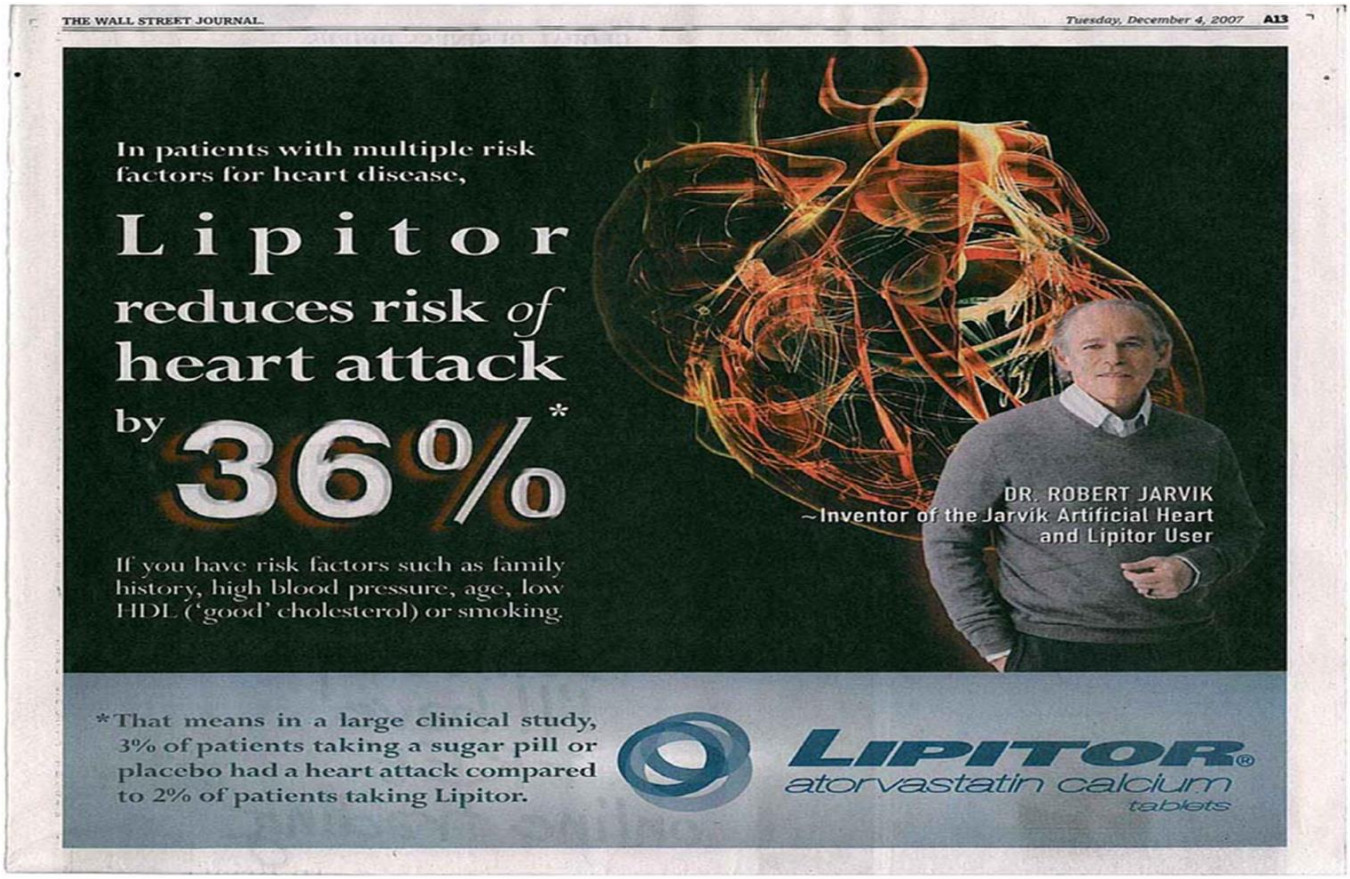
Here’s a specific example. About 3% of people with high blood pressure, family history of heart disease and low HDL (good cholesterol) had a heart attack according to an ad run by Lipitor in the Wall Street Journal, Dec 4, 2007. I think, but am not sure, that this was over a 4 year period.

I’ll reproduce that ad below. When you read it, ignore the man on the right and the big white numbers on the left. Read instead the small print on the bottom left.

That says

> In a large clinical study, 3% of patients taking a sugar pill or placebo had a heart attack compared to 2% of patients taking Lipitor

In other words, 97% of people with high blood pressure and low HDL did not have a heart attack during this time period. The asymptomatic indicators identified by screening tests did not correlate to heart attacks 97% of the time.



Let's extend this line of reasoning and ask 'how much impact can Lipitor have?'

We need to know 2 different numbers to answer this question which, fortunately, this ad provides.

The first number is the 'starting risk' or the placebo group risk, the untreated group of people. In this ad, the starting risk in 3/100 because 3 people per hundred had a heart attack without taking Lipitor. The ad tells us this.

The starting risk is generally quite hard to find. One research study estimates that only about 30% of medical article abstracts, the bit most clinicians read, includes starting risk numbers. Another study suggests that only about 3% of direct to consumer ads include starting risk estimates. And very few medical news reports include starting risk information. [205]

Knowing your starting risk of having a heart attack, stroke, developing shingles, dying of colon cancer or any other Event is necessary for patients, as this number helps define 'important risk' and prioritize your treatments. You would

- *probably* want to treat conditions that posed a 30 in 100 starting risk,

[205] These 3 studies from Woloshin, Know Your Chances, pages 52 - 53

- *maybe* want to treat conditions that posed a 15 in 100 starting risk,
- *possibly* want to treat conditions that posed a 3 in 100 starting risk and
- *maybe not care about* conditions that posed a .01 in 100 starting risk at all.

Of course the severity of Event X could modify these rankings and your decision as could your own risk tolerance.

The second number is the 'modified risk' or the treatment group risk, the number of heart attacks among people who took Lipitor. This ad tells us that 2/100 still had a heart attack.

We can now, *and only now*, determine Lipitor's impact. It's the difference between starting and modified risk.

According to the data presented in this ad, Lipitor reduced the number of heart attacks per 100 people who took it, by 1 over the time period of the study, 4 years I think. Can you see why?

- 3 people per 100 who did not take Lipitor had heart attacks. That's the starting risk
- 2 people per 100 who took Lipitor still had heart attacks. That's the modified risk.
- 1 person per 100 who took Lipitor avoided a heart attack. That's the treatment benefit.

Unfortunately, you're not finished yet. You still have 2 critical tasks ahead before making a wise and well informed decision.

First, you need to decide if the treatment benefit – in this case 1 heart attack prevented per every 100 people who took Lipitor – was a big enough impact for you. Some people may decide it is, others may decide it is not. That's an individual decision. Interestingly, both decisions – that it is a big enough risk to treat and that it is not - may be *right*.

A 'right' medical decision, in other words, is one made by a well informed patient who understands the facts and issues.

- Person A might have a low risk tolerance and decide to take medications to reduce his/her heart attack risk. The 1 in 100 benefit satisfies Person A
- Person B might have a high risk tolerance and decide not to take medication to reduce his/her heart attack risk. The 1 in 100 benefit does not satisfy Person B.

Well informed patients may disagree with other, equally well informed patients and even with their well informed doctors!

Second, you need to consider treatment side effects and harms. You would need to go through exactly the same process – starting risk minus modified risk - for each harm posed by Lipitor.

We know, for example, that about 1 in every 255 people who take statins for 4 years develop diabetes. [206] Thus for about every 2 heart attacks prevented, 1 person develops diabetes.

We also know that statins can lead to muscle pain and weakness with studies suggesting that roughly 10% of patients report some muscular side effects. [207] Other studies report liver and cognitive side effects. [208]

Once you have determined the treatment benefits (starting risk – modified risk for each benefit) and the treatment side effects (starting risk – modified risk for each harm) – *and only then* – can you make a wise and well informed decision.

A bit more complicated than it initially appears.

Types of studies
Types of data

Wise patients understand differences between 'good' and 'poor' quality medical data. Good, high quality data can help you make well informed decisions.

Poor quality data … not so much.

We get two fundamentally different types of data from medical studies. 'Observational studies' look only at 1 group of people and conclude with sentences like

> I studied 1000 people who had colonoscopies for 10 years.
>
> 1 died of colon cancer.

This may well be true but is not particularly useful. Observational studies, by looking only at 1 group, confuse starting and modified risks. Was the 1 person who died of colon cancer in the placebo or treatment group?

You don't know so you can't determine treatment benefits or harms from an observational study.

Higher quality data come from 'comparative studies' or studies that compare two groups of people that are alike in all ways except 1 group gets the treatment while the other gets the placebo. Concluding sentences to comparative studies read something like this

> I studied two groups of 1000 people for 10 years.
>
> In the control (placebo) group, 2 people died of colon cancer.
>
> In the treatment (colonoscopy) group, 1 person died of colon cancer.

Comparative studies differentiate starting from modified risk and therefore allow us to determine treatment benefits and harms. (I should point out that study methodology is

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[206] Sattar, Statins and Risk of Incident Diabetes, Lancet, Feb 27, 2010
https://www.ncbi.nlm.nih.gov/pubmed/20167359

[207] Barbara Roberts, The Truth About Statins, page 50

[208] Ibid, pages 57 - 61

much more complicated than I've outlined here. My goal is to present useful tools to patients, not present a thorough description of scientific study methodology. That's a separate book and a long one at that.)

Any one study may contain bias of some sort: the groups studied may have unique genetic, socio-economic or epidemiologic traits for example. Or the researchers may have goofed in their study design or analysis.

To correct for these potential problems, medical researchers have, over the past couple decades, developed meta-studies, or studies of studies.

Typically in a meta-study, researchers will review several original studies, both the methodologies and outcomes, and compare and contrast the results. They'll then conclude their research with sentences like these

> We reviewed 15 trials containing 24,000 participants over age 60 with moderate to severe hypertension for a mean of 4.5 years.
>
> The treatment reduced cardiovascular events from 149 to 106 per thousand.[209]

Meta-studies are generally acknowledged as the highest quality data available.

Once you've determined that your data sources are high quality, you need to understand how the study conclusions are presented. Again, as seems common in medical studies, we have two basic ways to present risk reduction data.

We can present absolute or relative risk reduction data. Both are correct but sometimes misleading. The Lipitor ad above shows them both.

Absolute risk reduction data uses the same denominator for the control and treatment groups and follows our 'starting risk – modified risk' format. You can identify absolute risk reduction data with sentences like these:

> 2 per 1000 died in the control group but only 1 per 1000 died in the treatment group.
>
> The treatment saved 1 life per 1000 people treated.

This tells quite clearly how many people benefited from the treatment per 1000 people who had it. You can easily understand the treatment impact.

Relative risk reduction, by contrast, uses the control group numerator as the risk reduction ratio denominator and report risk reductions as a percentage. (Yes, this can be confusing!) Relative risk reduction statements read like this:

> 2 per 1000 died in the control group but only 1 per 1000 died in the treatment group
>
> The treatment cut your risk of colon cancer death by 50%, i.e. by 1 of 2

[209] This information comes from an article in Cochran by Musini et al, Pharmacology for Hypertension in the Elderly, Oct 7, 2009. We'll use this in our case study coming up.

A 50% risk reduction sounds much more impressive than saving 1 life in 1000, but both statistics describe exactly the same phenomenon.

A standard question to ask whenever you see a relative risk reduction statement like ‘cuts your mortality risk by 50%’ or ‘increases your survival odds by 25%’:

50% of what?

In this case, 50% of 2. That’s less impressive than it first appears.

Over and under treatment risks

Undertreatment means patients do not receive necessary care so mortality and morbidity rates increase. Undertreatment often results from poor access to medical care.

Undertreated patients are harmed by, or die from, the disease.

Overtreatment means patients get too much care or get treated for insignificant abnormalities. Mortality and morbidity rates increase due to treatment side effects not underlying disease factors.

Overtreated patients are harmed by, or die from, the treatment.

One aspect of overtreatment is overdiagnosis, the current in-vogue term to define identification and treatment of insignificant abnormalities, or abnormalities that will never cause you harm. [210] Diagnosis and subsequent treatment of insignificant abnormalities will not benefit you because the abnormalities will not harm you.

This is a tough concept for many people to understand. Not all abnormalities are harmful or lethal. We can identify which ones are – and are not – by reviewing comparative studies of people who get treated for them.

Often, however, both patients and doctors don’t know immediately if the abnormality is significant or not, so perform additional testing. Sometimes this is useful and sometimes excessive.

We can describe excessive testing in a couple different ways:

- Testing for insignificant risks, or abnormalities that will not harm you, or

[210] Professor H. Gilbert Welch of the Geisel School of Medicine at Dartmouth may have coined this phrase in his book Overdiagnosed.

- Using abnormality indicators that do not correlate closely to patient events. Our Lipitor ad above shows this problem - identification of various risks did not correlate to heart attacks or strokes some 97% of the time.

We have, thus, potential benefits and risks of testing and treating and potential benefits and risks of *not* testing and treating. The wise patient uses the tools introduced earlier in this chapter to understand and identify the difference.

'Let's err on the side of caution' – a common statement in the medical arena – has no practical meaning. A far more meaningful approach:

> Let's identify the likely benefits and risks of testing and treating and compare them to the benefits and risks of not testing and treating.

That's what a wise and well informed patient would say. Ditto for a wise, well informed physician!

Guidelines

Today some 300 professional medical organizations issue guidelines, or treatment recommendations for patients presenting with certain abnormalities.

Those 300 organizations issue about 2300 different sets of guidelines, including 550 for hypertension treatment alone.

Some of these guidelines, according to Dr. Otis Brawley, Chief Medical Officer of the American Cancer Society, are good and reasonable, based on solid comparative studies or meta studies. [211]

Others though are, Brawley says, self interested and harmful. Many are commercial documents. No one regulates them or has developed widely accepted guideline development rules.

The best guideline writing organization, again per Brawley, is the US Preventive Services Task Force, an independent, volunteer panel of national experts in prevention and evidence-based medicine that makes evidence-based recommendations about clinical preventive services. The USPSTF is often referred to as the 'gold standard' of preventive care guidelines.

Case study of hypertension
Should I take blood pressure lowering medication?

[211] Brawley, How We Do Harm, page 241

Let’s review, then tie all these ideas together with a Case Study on Hypertension Management.

- Sick means the presence of abnormalities
- Risk means the likelihood of having a medical event.
- Risk likelihoods require 2 numbers: the number of people who experience Event X divided by the number of people who could possibly experience it.
- Abnormalities can be asymptomatic or symptomatic
- Asymptomatic abnormalities are identified by screening tests
- Symptomatic abnormalities are identified by diagnostic tests
- Asymptomatic abnormalities are often indicators or numbers, indicating that the patient is ‘outside the norm’
- These indicators correlate to patient events like heart attacks and leg amputations, but some correlate much more closely than others
- We can report risk reduction probabilities with absolute and relative numbers.
- Absolute risk reduction is the number of people who experienced Event X in the control group minus the number who experienced it in the treatment group.
- Relative risk reduction is the number of people who experienced Event X in the control group minus the number who experienced it in the treatment group, *divided by the number who experienced it in the control group.* Relative risk reduction is a percentage. Wise patients routinely ask ‘percent of what?’
- The best medical studies are comparative studies, or studies that compare two groups of similar people, one of which gets the treatment and the other of which gets a placebo.
- Less robust studies are observational. These do not differentiate the control from experimental groups.
- The best data come from meta studies, or studies of several comparative studies.
- Undertreatment means failing to treat a dangerous abnormality. Undertreatment can result in patient harm from the disease.

- Overtreatment means treating an insignificant abnormality. Overtreatment can result in patient harm from the treatment.
- The gold standard for medical guidelines is the US Preventive Services Task Force.

Now let's consider whether I, a 64 year old fellow with 162/97 blood pressure should take blood pressure lowering medication.

I'll use myself in this case study so I don't violate any confidentialities and provide all relevant details. All the data are correct though there is a twist at the end.

This is the actual research process that I went through, in chronological step-by-step order, of research sources and reference material. I want to demonstrate a decision making process that includes the tools and features discussed above. I contend that this is the right way to make a medical decision.

In real life it's a quicker process than I'll discuss here but I don't want to leave any steps out of this write up.

The background: At my previous physical, about 1 ½ years earlier, my blood pressure was in the normal range, around 130 over mid 90s though I forget the exact numbers. My wife suggested one day, out of the blue, that I check it on the home blood pressure monitor that she occasionally uses.

I was astonished at 162/97, wondered how things could have changed so much in a relatively short time. I eat pretty well – though generally too much – and exercise a lot.

I first googled 'blood pressure readings' and saw that the American Heart Association recommends a target rate of 140/90, much lower than my current reading. [212] I also saw the American Heart Association's guideline chart, reproduced below.

212 http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/AboutHighBloodPressure/Understanding-Blood-Pressure-Readings_UCM_301764_Article.jsp

Blood Pressure Category	Systolic mm Hg (upper #)		Diastolic mm Hg (lower #)
Normal	less than **120**	and	less than **80**
Prehypertension	**120** – **139**	or	**80** – **89**
High Blood Pressure (Hypertension) Stage 1	**140** – **159**	or	**90** – **99**
High Blood Pressure (Hypertension) Stage 2	**160** or higher	or	**100** or higher
Hypertensive Crisis (Emergency care needed)	Higher than **180**	or	Higher than **110**

I was apparently ‘sick’ meaning at increased risk of having a coronary event since my readings were outside the norm. But at how much risk? Was it high enough to treat?

The AHA target and chart didn’t help much.

- What does ‘High Blood Pressure (Hypertension) Stage 2’ mean about risk?
- Will one Stage 2 person in 1000 have a heart attack over 5 years? 10 people? 300 people? All 1000?
- How much will medication reduce my risk of having a coronary event or dying?
- Do the morbidity benefits exceed the side effect risks?
- If I decide to take medication, is it for life? When can I stop it? If it’s for life, have the medications been tested for the 20+ years I expect to live … or must I extrapolate from shorter studies?

I couldn’t determine from the AHA website how closely the 162/97 indicators correlate to various events. This wasn’t very useful information.

I then turned to WebMD, a popular medical information site, and found their High Blood Pressure Guide: Risk Factors. I listed my own situation opposite every factor.

WebMD's High Blood Pressure Guide: Risk Factors

• Being overweight or obese	Yes
• Smoking	No
• Little or no exercise	No
• Too much salt in the diet	No
• Drinking too much alcohol	No
• Stress	Low
• Sleep apnea	Probably no
• Ethnic background	Caucasian
• History of high blood pressure in the family	Probably yes.

I didn't learn much here either though I confirmed some risk factors, mainly being overweight and probably having a family history of high blood pressure.

I wonder about family history as a risk factor. Many studies suggest that blood pressure is largely affected by lifestyle - diet, exercise and stress. I know that I operate at a much lower stress level than my parents or grandparents; my grandparents were immigrants who suffered racial prejudice and lived through the Great Depression and a couple of world wars. My dad had a tense and explosive personality. I'm not convinced that their lifestyle experiences mean much about my health.

How useful is this WebMD chart? Not very. As with the American Heart Association information, this doesn't suggest any specific risk reduction likelihoods from any specific treatments. I can't turn this information into a meaningful action plan.

I then turned to the **first of four information sources** that I teach about, find useful and suggest patients consider, the US Preventive Services Task Force, the 'gold standard of preventive treatment guidelines'. It suggests at target blood pressure rate of 150/90 for people aged 60 or older.

That's higher than the American Heart Association!

I'm not so far from 150. What gives here?

I then remembered Otis Brawley's observations about guidelines: some are good and some are commercial documents, designed to help various medical interest groups make more money. I know that the USPSTF is publicly funded and the study authors have little-to-no commercial ties to medical interests.

The AHA? I looked up their financial statements (yes, I really did) and learned that pharmaceutical manufacturers, medical device manufacturers and 'other corporate interests' contribute over $160,000,000 annually.[213] Seems to fit Brawley's definition of commercial. Hmmm…

I then turned to the **second of four information sources**, the Cochrane Library. (There's no particular order to these four sites but this was the sequence I followed.)

Cochrane, formerly the Cochrane Collaborative, is an independent, non-profit, non-governmental organization consisting of more than 37,000 volunteers in 130 countries.[214] It was formed to organize medical research information in a systematic way according to the principles of evidence-based medicine originally developed from followers of Dr. Archibald Cochrane, an early and strong proponent of randomized controlled trials to determine medical effectiveness.

Cochrane conducts systematic reviews of randomized controlled trials (i.e. meta-studies) of healthcare interventions and diagnostic tests. It generates income primarily from the Cochrane Library which appears free for patients and accepts no donations from commercial organizations such as pharmaceutical companies. According to its 2016 statement of financial monitoring

> This is to ensure that the conclusions of Cochrane Reviews are not influenced by commercial interests. [215]

I found a Cochrane report 'Pharmacotherapy for hypertension in the elderly', a summary of 15 trials, total 25,000 subjects >age 60 with moderate to acute hypertension, followed for average 4.5 years. [216] I fit that definition.

This proved an incredibly useful report that summarized starting and modified risks for both overall mortality and cardiovascular mortality and morbidity:

- Overall mortality
  - Starting risk, without medication: 116/thousand
  - Modified risk, with medication: 104/thousand

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[213] AHA Statement of Support from Pharmaceutical Companies and Device Manufacturers, 2014 – 2015 http://www.heart.org/idc/groups/heart-public/@wcm/@fin/documents/downloadable/ucm_483997.pdf

[214] This information from Cochrane's Wikipedia page

[215] http://www.cochrane.org/about-us/our-partners-and-funders

[216] Musini, 2009, Pharmacotherapy for hypertension in the elderly, https://www.ncbi.nlm.nih.gov/pubmed/19821263

    - Medication benefit: 12/thousand (1.2%)
- Cardiovascular morbidity and mortality
    - Starting risk, without medication: 149/thousand
    - Modified risk, with medication: 106/thousand
    - Medication benefit: 43/thousand (4.3%)

Why compare overall mortality to disease specific? Sometimes treatment side effects can cause harm or death from a different source. As a wise patient, I wanted to know those risks.

According to this meta-study, my starting risk of having a coronary event or death is about 15 in 100 over 4.5 years. That's high enough to get my attention…if it applies to me.

But remember those old Whitehall studies discussed above. They showed that heart attack rates vary by about 2 to 1 from the lowest to the highest status folks. I'd guestimate that my real starting mortality or morbidity risk is closer to 9 or so per 100 people, not 15.

Less compelling but still meaningful.

I also tempered my likely treatment benefit --- about 4 in 100 over 4.5 years --- to 2.5, again reflecting my higher social status and income and related lower stress levels. (I'm not at really high social status or income but own a small education business and live comfortably. Our family income is well above average in Massachusetts. Good enough to cut my risk estimates.)

Cochran supplied interesting and useful metrics to discuss with my doctor unlike the American Heart Association or WebMD information. He and I can decide if a 9 in 100 disease or mortality risk over 4.5 years is a high enough starting risk to treat. I'd value his advice here.

We can also discuss whether a 2.5 in 100 benefit is good enough. Remember that, if my estimates are correct, 6.5 in 100 people like me still develop heart disease or die of it over 4.5 years, even if they take medications.

Now let's turn to the **3rd of 4 information sites**, theNNT.com. This is an academic, not for profit initiative. As best I can understand, it is funded by the participating researchers though I may be wrong here.

TheNNT calculates the Number Needed to Treat and to Harm for various medical treatments. These are shorthand ways of expressing absolute risk reduction and harms.

The Number Needed to Treat tells how many people need to take a specific drug or have a test or treatment for 1 person to benefit. It is, more or less, a shorthand way of expressing absolute risk reduction.

- Absolute risk reduction tells how many people benefit per 100 who have it. The answer might be, for example, 5.

- The Number Needed to Treat says that, in this example, 20 people need to take the drug for 1 person to benefit.

- Five benefitting in 100 who take it is the same as saying that 1 person benefits for every 20 who take it.

Ditto for the Number Needed to Harm.

- We might describe the side effect harms of a particular medication by saying that 3 in every 100 people who take it are harmed by it

- A different way of expressing the same metrics is saying that the Number Needed to Harm is 33, since 1 in every 33 people are harmed by it

TheNNT website uses meta-studies to calculate the NNT and NNH of various medical interventions.

I reviewed their article 'Blood Pressure Medicine for Five Years to Prevent Death, Heart Attacks and Strokes' [217] which included this chart:

Numbers-needed-to-treat to avoid the listed cardiovascular outcomes

5 years, systolic BP 170	Heart attacks (fatal and nonfatal)	Strokes
Male 50 y/o	238	227
Female 50 y/o	568	310
Male 65 y/o	101	88
Female 65 y/o	294	120

About 101 men like me – my age and blood pressure - need to take medications for 5 years to prevent 1 heart attack while 88 need to take the same drug for 5 years to prevent a stroke.

[217] http://www.thennt.com/nnt/anti-hypertensives-to-prevent-death-heart-attacks-and-strokes/

These estimates are pretty close to the Cochran estimates above, of about 3 - 4 people per hundred avoiding cardiovascular disease or death over 4.5 years. Slightly different meta-studies with roughly similar conclusions.

TheNNT analysis goes two steps further. First it claims that lowering systolic blood pressure below 150 has not been shown to be beneficial but may increase patient risks. Second, it suggests an NNH of 10, meaning that about 1 in every 10 people who take blood pressure lowering medications for 5 years stop the treatment due to drug intolerability.

Finally I looked at the **4th of my 4 selected websites**, ChoosingWisely.

ChoosingWisely, funded by the American Board of Internal Medicine Foundation, aims to help doctors and patients avoid wasteful or unnecessary tests, medications and procedures.

It does this quite creatively. It partnered with 70+ specialty medical associations like the American College of Cardiology and American Association of Family Physicians and asks them to list 'Things Providers and Patients Should Question' within their area of medical expertise.

In essence, ChoosingWisely asks each of its partner organizations to list things that its members do that they should not do. The American College of Cardiology, for example, lists things that cardiologists and cardiology patients should question.

This is the first time in history that medical professionals advise patients to question the care that their own profession provides.

Though not always easy to navigate, ChoosingWisely is an extremely useful resource for wise patients.

I found this recommendation from the Society for Post-Acute and Long-Term Care Medicine:

> Don't initiate antihypertensive treatment in individuals ≥60 years of age for systolic blood pressure (SBP) <150 mm Hg or diastolic blood pressure (DBP) <90 mm Hg.

Again, an evidence based recommendation that's in line with Cochrane and TheNNT and again, less stringent than the American Heart Association.

Those four sources again:

- The US Preventive Services Task Force

- Cochrane
- TheNNT and
- ChoosingWisely

I summarized all my research in a 3 page report that I sent my physician (yes, I really did. It follows this chapter.), then scheduled an appointment.

The nurse took my vitals upon arrival and reported blood pressure of 124/85, 'perfect' she said.

124/85? My home blood pressure monitor said 162/97.

The nurse repeated her reading, then the doctor did his own. Same BP. 'You're in great shape' they both said.

It turns out that my wife's home monitor was broken! That's the twist.

Interestingly, however, my doctor read my research report and commended me on it saying it would have been a good basis for our discussion. I think all patients should write similar reports in advance of their doctor's meetings. The writing process helps you think through some of the central risk and data issues and your doctor may appreciate it. But be sure to make it relevant and short!

The morals of this story:

- Patients who understand risk metrics can differentiate more from less useful information
- More useful information is actionable. It describes starting and modified risk reductions, thus allowing doctors and patients to anticipate likely outcomes and impacts
- It also relies on meta-study data
- Less useful information describes bodily functions, does not quote meta studies and is not obviously actionable
- It does not anticipate likely outcomes and impacts and it may be biased for financial reasons.

And I suppose you should also use more than 1 machine to check your own vital signs.

Back to where we started: leeches

Why don't we use leeches to treat common medical problems today? This chapter's discussion suggests the answer:

> Outcomes in the placebo and treatment-by-leech groups were the same.

There was no risk reduction among the leeched people, no NNT and no meta studies indicating any treatment benefit. People treated with leeches didn't enjoy lower mortality or morbidity rates.

That's the lesson of this chapter. If you apply the definitions and tools introduced here, you'll make better decisions than otherwise. Here's the summary:

- Sick means the presence of abnormalities
- Risk means the likelihood of having a medical event.
- Risk likelihoods require 2 numbers: the number of people who experience Event X divided by the number of people who could possibly experience it.
- Abnormalities can be asymptomatic or symptomatic
- Asymptomatic abnormalities are identified by screening tests
- Symptomatic abnormalities are identified by diagnostic tests
- Asymptomatic abnormalities are often indicators or numbers, indicating that the patient is 'outside the norm'
- These indicators correlate to patient events like heart attacks and leg amputations, but some correlate much more closely than others
- We can report risk reduction probabilities with absolute and relative numbers.
- Absolute risk reduction is the number of people who experienced Event X in the control group minus the number who experienced it in the treatment group.
- Relative risk reduction is the number of people who experienced Event X in the control group minus the number who experienced it in the treatment group, *divided by the number who experienced it in the control group.* Relative risk reduction is a percentage. Wise patients routinely ask 'percent of what?'
- The best medical studies are comparative studies, or studies that compare two groups of similar people, one of which gets the treatment and the other of which gets a placebo.
- Less robust studies are observational. These do not differentiate the control from experimental groups.

- The best data come from meta studies, or studies of several comparative studies.
- Undertreatment means failing to treat a dangerous abnormality. Undertreatment can result in patient harm from the disease.
- Overtreatment means treating an insignificant abnormality. Overtreatment can result in patient harm from the treatment.
- The gold standard for medical guidelines is the US Preventive Services Task Force.

Use these concepts and tools in your own medical research and discussions with your doctor. They will, hopefully, help you avoid under, over and inappropriate treatments.

A sample patient research report prepared for his/her physician
This is the report I gave to my doctor in advance of my appointment

My numbers
- BP running approx. 160/95 in several tests at home, mid-Sept
- Heart rate 64 +/-
- 64 years old

Family history
- Father had heart attack at age 63
- Maternal grandmother heart disease / failure at approximately age 80

Personal situation
- 6 ft tall, 225 lbs, BMI approximately 29
- Regular aerobic exercise
- Healthy, stable marriage
- Low stress job & lifestyle, comfortable income
- Low animal fat, low sugar diet

Notes
- Risk increases as BP increases, analogue not digital
- High status / income people about 1/3 fewer cardiovascular events even if BP same as low income people (Whitehall studies)
    - My starting risk estimate = 1/3 less than average in randomized trials (below)

Popular recommendations

American Heart Association
- Target BP: 140/90

What is the AHA recommendation for healthy blood pressure?

This blood pressure chart reflects categories defined by the American Heart Association.

Blood Pressure Category	Systolic mm Hg (upper #)		Diastolic mm Hg (lower #)
Normal	less than **120**	and	less than **80**

Blood Pressure Category	Systolic mm Hg (upper #)		Diastolic mm Hg (lower #)
Prehypertension	**120 – 139**	or	**80 – 89**
High Blood Pressure (Hypertension) Stage 1	**140 – 159**	or	**90 – 99**
High Blood Pressure (Hypertension) Stage 2	**160** or higher	or	**100** or higher
Hypertensive Crisis (Emergency care needed)	Higher than **180**	or	Higher than **110**

WebMD's High Blood Pressure Guide: Risk Factors

• Being overweight or obese	GF yes
• Smoking	GF no
• Little or no exercise	GF no
• Too much salt in the diet	GF no
• Drinking too much alcohol	GF no
• Stress	GF low
• Sleep apnea	GF probably no
• Ethnic background	???
• History of high blood pressure in the family	GF, yes, father, volatile personality

The research

Cochrane Collaborative (Musini, 2009, Pharmacotherapy for hypertension in the elderly, summary of 15 trials, total 25,000 subjects >age 60 on thiazide diuretic therapy for average 4.5 yrs), patients with moderate to acute hypertension.

- Overall mortality
  - Starting risk, without medication: 116/thousand
  - Modified risk, with medication: 104/thousand
  - Medication benefit: 12/thousand (1.2%)
- Cardiovascular morbidity and mortality
  - Starting risk, without medication: 149/thousand
  - Modified risk, with medication: 106/thousand

- Medication benefit: 43/thousand (4.3%)
- Note Whitehall studies, impact of income / social status: **My starting risk about 1/3 less than average, likely impact about 1/3 less**

- No estimate of treatment harms

USPSTF

- aged 60 years or older to a target blood pressure of 150/90
- treatment consists of a thiazide diuretic, calcium-channel blocker, angiotensin-converting enzyme inhibitor, or angiotensin-receptor blocker.

TheNNT.com – Blood Pressure Medications for Five Years

- The Numbers Needed to Treat to Avoid the Listed Cardiovascular Outcomes

5 years, systolic BP 170*	Heart attacks (fatal and nonfatal)
Male 50 y/o	238
Female 50 y/o	568
Male 65 y/o	**101**
Female 65 y/o	294

- These are data estimates from randomized trials, which tend to represent a **best case scenario** for a drug's benefits
- Medication differences **thiazide diuretics and 'ACE inhibitors' (ACEI) demonstrated a statistically significant reduction in overall mortality, total stroke, and most other cardiovascular outcomes, whereas calcium channel blockers (CCBs) and beta-blockers only showed a statistically significant reduction in total stroke and a limited number of cardiovascular outcomes. Neither CCBs nor beta-blockers statistically reduced deaths**.
- It is also notable that not all drugs that lower BP lead to benefits. Atenolol,[2] doxazosin,[3] and aliskiren[4] all lower blood pressure but large RCTs have shown no heart attack, stroke, or death benefit from these agents when used to lower blood pressure.

- **Moreover, evidence for lowering BP below 150 (systolic) with any agent has not been beneficial in trials, but does increase harms**
- Importantly, the two earliest trials of blood pressure management[5] [6] treated patients whose average blood pressures were ~190/120 and 164/105 respectively, and demonstrated impressive and important benefits. These findings support data suggesting that the higher the blood pressure and the higher the risk, the better the NNT.
- Harms of BP medications are very real, but not as well documented in trials as benefits. **Roughly 10% stop a drug due to intolerability (NNH* 10)** and types of side effects vary between antihypertensive classes

TheNNT.com - Treatment of Mild Hypertension for the Primary Prevention of Cardiovascular Events

- 4 different studies, total 9000 subjects with BP 140-159 or diastolic blood pressure of 90-99, no pre-existing cardiovascular disease or kidney
- four to five years follow up no differences were seen in mortality, cardiovascular events or stroke.

- Approximately 9% more patients in the treatment arms withdrew due to medication side effects.

ChoosingWisely

- From AMDA: The Society for Post-Acute and Long-Term Care Medicine, Released March 20, 2015

  Don’t initiate antihypertensive treatment in individuals ≥60 years of age for systolic blood pressure (SBP) <150 mm Hg or diastolic blood pressure (DBP) <90 mm Hg.

  - data do not suggest benefit in treating more aggressively to a goal SBP of <140 mm Hg in the general population ≥60 years of age.
- Furthermore, moderate- or high-intensity treatment of hypertension has been associated with an increased risk of serious fall injury in older adults.

Review Questions
Answers on next page

1. What is the definition of ‘sick’?

    a. The presence of abnormalities
    b. Having a fever
    c. Needing to be hospitalized
    d. Feeling lousy

2. Why might a wise patient question the identification of asymptomatic abnormalities?

    a. Because ‘if you can’t feel it, it probably doesn’t exist’
    b. Because they’re generally so unimportant
    c. Because today’s medical equipment is generally of such poor quality
    d. Because many asymptomatic abnormalities correlate so loosely to actual patient events

3. What’s a good follow up question when you hear a relative risk estimate like ‘this medication cuts your risk of having a heart attack by 36%’?

    a. Really?
    b. Are you sure?
    c. Is it based on a really good comparative study?
    d. 36% of what?

4. What’s a good question to ask when you learn that ‘the guidelines recommend this treatment’?

    a. When can I start?
    b. How much does it cost?
    c. Are you sure?
    d. What absolute risk reductions do comparative studies or meta studies show about it?

5. What is ‘starting risk’?

    a. The disease risks you are born with
    b. The disease risks you develop over your lifetime
    c. The disease risks you start with, before you get really sick
    d. The disease risk in the placebo group, or the group that does not receive medical care

6. What is ‘modified risk’?

a. The disease risk in the treatment group, or the group that receives medical care
b. The disease risks that you lose over time, since elderly people are more ‘at risk’ than younger
c. The disease risks that you gain over time, since people often build up an immunization over time
d. The differences in disease risks among different genetic and socio-economic groups

7. What is ‘treatment benefit’?

a. The difference between placebo and treatment group rates of having Event X
b. The amount you feel better after having a treatment
c. The amount you feel worse after having a treatment
d. The speed with which you return to work after having a treatment as in the statement ‘out company benefitted from this insurance plan by getting employees back to work after heart surgery 3 days quicker than we anticipated’

8. What is the Number Needed to Treat?

a. The number of people who have to have a test, medication or procedure for 1 person to benefit from it
b. The number of people necessary to test a treatment according to the US Preventive Services Task Force
c. The number of times a surgeon need to perform a procedure in order to achieve excellence
d. The number of patients a hospital needs to treat annually to meet certain guidelines

Review Questions
Correct answers in bold

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Chapter 6: The Price Transparency Movement and Related Confusion

Only prices or much more?

Dr. Clifton Meador, former dean of the University of Alabama Medical School, issued this caution about the role of financing and prices in American medicine:

> Solutions to the high costs of medical care are almost exclusively financial or payment based [but] the underlying causes are based on misdirected clinical and diagnostic thinking [218]

In other words, Meador cautions us about using financial tools like price lists to address clinical problems.

Dr. Andy Lazris, geriatrician and author of Curing Medicare, agrees, decrying our medical care system that

> pushes the most aggressive care, often despite a paucity of evidence to support that approach …as little as 15% of what doctors do is backed up by valid evidence [219]

Prices can vary dramatically for the same service throughout our healthcare system. 'Transparency' means 'making prices public so people can choose the most economical alternative'. Some say this increases systemic value, decreases unnecessary care and generates better patient outcomes.

I'm not so sure.

Some pricing examples

Here are some graphic examples of price differences within a relatively small geographic region for the same services. These prices come from the New Hampshire medical price website, nhhealthcost.org, downloaded in 2013 for arthroscopic knee surgery. I chose this website because it was public and easy to use.

Facility	**Total Cost**
Concord Ambulatory Surgery Center	$3,431

[218] Health Beat blog by Maggie Mahar, 5/16/11

[219] Andy Lazris, Curing Medicare, introduction

Franklin Regional Hospital	$5,118
Cheshire Medical Center	$6,644
Parkland Medical Center	$7,717
Weeks Medical Center	$9,873

Pretty wide variation for the same service. Here are some prices for a pelvic MRI, same website.

Facility	**Total Cost**
Derry Imaging Center	$1,486
St Joseph Hospital	$2,574
Exeter Hospital	$2,758
Speare Memorial Hospital	$3,381
Monadnock Community Hospital	$3,868

Impressive differences. The same situation occurs for dozens of tests and treatments throughout our healthcare system.

Why prices matter (a lot)

Paying too much for a test, medication or treatment *directly* affects two groups of people: individuals / families with high deductible health plans and self insured companies. Both, in an economic sense, function the same way – they spend their own money on medical care. Each dollar saved drops directly to their own bottom line.

Paying too much *indirectly* affects us all by raising overall costs and therefore health insurance premiums.

Thus, the argument goes, considering price generates benefits for us both individually and collectively.

Why prices don't matter (much)

Prices do not tell us

- If we will benefit from the medical care
- If we will be harmed by the medical care
- If we use excellent, average or mediocre providers and treatments.

In short, shopping for medical care primarily based on price can lead patients to cheaper unnecessary or poor quality medical care.

How much unnecessary and poor quality care exists in the US?

The standard estimate of unnecessary care quantity in our healthcare system today is about 1/3. That comes from the Dartmouth Atlas of Healthcare and is based on the amount of geographic treatment variation identified by studying Medicare intensity levels by geographic region. Some regions routinely provide more care to residents while others routinely provide less. The Dartmouth researchers added up all the differences and concluded that the variation equaled about 1/3 of all medical spending.

With our total healthcare expenditures approaching $3 trillion annually, this '1/3' estimate accounts for about $700 billion annually and perhaps as much as $900 billion.

But I think this a low estimate, and perhaps a very low one based on two analyses that we'll discuss in some detail later in this chapter.

- First, Dr. Vinay Prasad and his team from the National Cancer Institute and National Institutes of Health, in a very rigorous, detailed study, estimated that about half of all established treatments are ineffective or harmful.[220]

  If we cut geographic 'low intensity' utilization rates by about half to account for Prasad's findings, **we might double the Dartmouth waste estimate to $1.5 trillion *or more***…potentially well over half of all medical spending.

- Second, Dr. Al Mulley and his team from Dartmouth Medical School estimated the potential systemic savings from incorporating patient preferences into treatment designs at about 20%.[221] Mulley's insight, along with others who have studied the same phenomenon, was that patients who understood their options

[220] Prasad, A decade of reversal, Mayo Clinic Proceedings, August 2013

[221] Mulley, Patient Preferences Matter, The King's Fund, 2012 http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/patients-preferences-matter-may-2012.pdf

tended to choose less medical care – both a lower number of procedures and less intense / aggressive / expensive ones.

If we cut geographic 'low intensity' utilization rates by 20% to account for Mulley's findings, **we increase the Dartmouth waste estimate to about 40% of all medical spending.**

While no one knows exactly how much waste and low quality care exists in our medical system, I think a perfectly reasonable, even conservative estimate is 40%. But I won't argue with somewhat higher estimates.

Overestimating treatment benefits

Patients typically overestimate the benefits of medical care and underestimate the risks. Sometimes they think all the tests, drugs and treatments are crucial to maintaining their health. Other times they discount the risk and side effect warnings. Still other times they think the care quality is all equally good from all providers.

In general, patients seem to think that medical care is always – or, at least *almost* always - tremendously beneficial and absolutely necessary.

But patients generally miss on their benefit estimates and overstate them by quite a bit. One study, for example, found that women without the BRCA genetic mutation overestimated their cancer risk reduction benefit from prophylactic bilateral (double) mastectomy 4 fold or more. [222]

- The average estimated risk reduction was 65%. Most women in the study group estimated their chance of developing breast cancer *without* surgery at 76%, and their chance of still developing breast cancer *with* the double mastectomy at 11%.
- Meanwhile, the real risk of developing breast cancer without surgery was 17%. Whatever the prophylactic mastectomy benefits, they were no greater than 17%, far less than the estimated 65% risk reduction anticipated by most patients.

[222] These examples come from If Patients Only Knew How Often Treatments Could Harm Them, Austin Frakt, New York Times, March 2, 2015. Frakt summarizes 30+ studies of patient expectations of medical care benefits, based largely on Patient's Expectations of the Benefits and Harms of Treatments, Screening and Tests by Hoffman and Del Mar, JAMA Internal Medicine, Feb 2015

Another study found that 80% of patients overestimated the benefit of hip fracture prevention medications, 90% overestimated the benefits of breast cancer screening and 94% the benefits of bowel cancer screening.

Clifton Leaf, assistant managing editor of Fortune magazine, makes pretty much the same point in his upsettingly insightful analysis of the war on cancer, The Truth in Small Doses. Most patients seem to believe that 'the newest cancer fighting drug, or at least the next one after this one, will certainly provide terrific treatment benefits, so I have to have it. Cost is irrelevant, but if I can save a few bucks why not?' and then, under pricing pressure from an employer, carrier or plan design, may choose the least expensive supplier.

Unfortunately, as Leaf shows in almost excruciating detail, those apparent benefits are often illusory or statistical manipulations. Take our war on breast cancer, for example, and consider all the 'newest and greatest' drugs developed since 1970, then see the impact on both our ***actual*** number of female breast cancer deaths and our national breast cancer death rate per 100,000 women: [223]

Year	Actual Number of Breast Cancer Deaths	Crude Breast Cancer Death Rate (deaths per 100,000 women)
1970	29,652	28.4
1975	32,158	29.4
1980	35,641	30.6
1985	40,093	32.8
1990	43,391	34.0
1995	43,844	32.2
2000	41,872	29.2
2005	41,116	27.3

[223] Leaf, The Truth in Small Doses, page 127. Data from the National Center for Health Statistics (CDC) and National Vital Statistics System

2010	40,996	26.1

I did my own 'back of the envelope' analysis of breast cancer mortality gains over the past 20 or so years and found equally unimpressive improvements. I learned that from the mid-1990s to 2006 our national age of breast cancer death remained the same: 68, despite improved technologies, treatments, access and more widespread screening.

	Mid-1990s	2010 [224]
Average age of breast cancer diagnosis	62 [225]	61
Average age of breast cancer death	68 [226]	68
Number of survival years post-diagnosis	6	7

My concern: frightened patients may, under the influence of myth, ads, hope or hype, make unwise medical care choices, 'unwise' in the sense that the care probably won't benefit them much and may harm them some. But they may justify their choices based on relative prices: 'it cost $5,000 from Supplier A and only $1,000 from Supplier B. I'll give it a try. Saves me / my employer / my HSA $4,000!'

Would they have 'given it a try' for $5000?

We often think, as behavioral economists like to point out, in relative, not absolute terms. That $4,000 savings seems pretty good, a motivation to buy. That's why so many consumer products advertise '$500 off this weekend only' without telling the actual price. It's a good deal *relatively*, perhaps especially appealing to scared patient consumers.

[224] 2006 data from National Cancer Inst, SEER Stat Fact Sheet: Breast downloaded Oct 2012

[225] Glockler, Cancer survival and incidence, The Oncologist, Dec 2003

[226] Saenz, Trends in Breast Cancer Mortality, Population Reference Bureau, Dec 2009

That's why I find studies that indicate patients would opt for less, or at least very different care if they had better information about the likely benefits and harms, critically important. [227]

With these types of benefit overestimates and harm underestimates in mind, I'd like to propose a 4-Step Decision Making paradigm.[228] I suggest that patients who follow this process will make better medical decisions, end up more satisfied with their outcomes and save some money along the way.

Perhaps quite a bit of money.

How to make a wise medical decision

I suggest that wise patients use the following decision criteria when considering and accessing medical care. Price considerations are 4th on this list of 4, meaning they're relevant but that other factors are far more important.

First decide if medical care will help you**.** You can learn this from comparative studies of patient outcomes.

Care may not benefit you for a two main reasons.

- You may not be 'sick' even though some indicator or other shows you to be 'at risk'. Our sickness indicators change overtime, with some becoming more expansive and others more restrictive. Someone, for example, with blood sugar of 130 mg/dl was 'not sick' prior to 1997 but 'was sick' after, when a new threshold definition was adopted.

  Similarly, a 65 year old with blood pressure of 145/90 'was sick' prior to new definitions adopted in 2013, but was 'not sick' after. [229]

  As a general rule, medical care cannot improve your health if you're not sick to begin with.

[227] Frakt, op cit

[228] This is the 2nd or 3rd time I discuss this in this book. My excuse: seems like a pretty worthwhile approach to medical decision making. Hope repetition serves to reinforce the message rather than bore readers.

[229] http://www.webmd.com/hypertension-high-blood-pressure/news/20131218/new-blood-pressure-guidelines-raise-the-bar-for-taking-medications

- You may be sick but treatments may not work. We learn from comparative studies which treatments work most of the time, which some of the time and which infrequently.

  Sometimes simply waiting for the 'sickness' to heal itself is the best strategy. This seems the case for pediatric ear aches - the NNT of antibiotics to reduce pain caused by Otitis Media in the first 7 days is 20, for example [230] - and most back pain. ChoosingWisely states that 'back-pain sufferers who had an MRI in the first month were eight times more likely to have surgery, and had a five-fold increase in medical expenses—but didn't recover faster.' [231]

  In your own case, unfortunately, even if you're sick, medical care may not be able to help you.

Once you determine that medical care can help you - *if* that's what you determine and *if* you determine that it can help you *enough* - then **second**, decide which care *process* you prefer. You almost always have options: mastectomy or lumpectomy for early stage breast cancer, spinal fusion surgery or physical therapy for back pain, acupuncture or injections for a sore shoulder and many others.

- The various options sometimes (often?) generate similar outcomes though the treatment, risk and recovery processes may differ significantly.
- There's often no one 'right' answer for everyone, only 'right' answers for each individual

Once you decide which process you prefer, then, **third**, determine which medical provider gets the best outcomes.

- One spinal surgeon, for example, may generate far better patient outcomes than another so, if you've already decided you prefer spinal fusion surgery to physical therapy, choose the better surgeon. Ditto for hospitals.
- A good indicator of likely outcomes is the annual volume of patients like you that each physician and hospital treats. Though this is not foolproof – far from it, in fact – it's about the best indicator we currently have to predict likely patient outcomes.

[230] See Otitis Media evaluation on www.TheNNT.com

[231] Imaging tests for low back pain on www.ChoosingWisely.org

Finally, **fourth,** *after* you determine that medical care can benefit you, and *after* you decide which treatment process you prefer, and *after* you decide which provider gets the best results for patients like you, consider prices.

- You may find that two equally good providers charge different prices for your preferred treatment process. In that case and ***only in that case***, the wise patient chooses the low cost provider.

Be sure to follow these steps in order and rigorously. That will ensure you get the best outcomes, from the process you prefer, at the lowest cost. Don't short circuit this decision tree or you risk getting sub-optimal outcomes, from a process you really don't like, from a provider who's not very good and perhaps overpaying along the way.

Why this decision making process is so important Part 1
The story and legacy of J. Alison Glover: physicians rely on hunches too much

Dr. Glover was a British physician and researcher, perhaps the first to identify the role that physician 'hunches' had in medical care. Glover studied tonsillectomy procedure rates and impacts in the 1920s – 30s. [232] He learned that in Scotland between 1931 and 1935, 60 people died from enlarged tonsils and 513 from tonsil removal including 369 children under 15 years old.

- In this case, even though people were sick, the available medical care couldn't help them much.
- Had they applied Step 1 above, many would have opted against having tonsillectomies and, perhaps, lived as a result.
- Had they applied Step 4 only, the dismal results would have been the same, but some people would have saved money in the process, a Pyrrhic victory if ever there was one.

The US healthcare system, during the same years, was expanding its rate of tonsillectomies in children. Knowing the Scottish experience, however, the Americans tried a different approach, radiation to treat tonsillitis between the 1930s and 50s. This

[232] See In pursuit of the Glover phenomenon http://the-141.blogspot.com/2012/05/in-pursuit-of-glover-phenomenon-what.html and John Wennberg A debt of gratitude to J. Alison Glover http://ije.oxfordjournals.org/content/37/1/26.long

was both unnecessary and ubiquitous, according to the Chicago Tribune's 2004 analysis. [233] The treatments led to increases in thyroid, salivary gland and jaw cancer.

- Patients rigorously using our 4-step process above would, again, have learned in Step 1 that medical care would likely generate more harm than good in most cases.

- They may also have determined in Step 1 that they really were not sick. As such, medical treatments could not make them 'better'. See below.

- They might also have determined, in Step 2, that tonsillectomies were less risky than radiation.

Glover hypothesized that physician preferences, rather than patient need, drove tonsillectomy rates. He tested this hypothesis by reviewing tonsillectomy rates at the Hornsey Borough School in north London, in the late 1920s.

British children in those days got their medical care through the local school with the school physician acting, more or less, like a Primary Care Physician does today in the US, while sometimes even performing surgeries like an American specialist would. As such it was the school's responsibility to diagnose and treat tonsillitis, along with lots of other illnesses.

Glover found that in 1928, an unnamed Hornsey school physician performed 186 tonsillectomies. A new doctor named Garrow arrived in 1929 and the number of tonsillectomies fell to 12.

- The average number of tonsillectomies per year from the previous physician, 1921 – 1928: 169

- The average number of tonsillectomies per year after Garrow took over, 1929 – 1933: 13

- The percent of apparently unnecessary tonsillectomies between 1921 and 1928: about 92%.

Glover identified no outcome differences or population changes during this time. It appeared, though, that some 156 children received unnecessary tonsillectomies annually from the previous doctor. They were not, in our terms, 'sick'.

[233] Goldman, Radiation Babies, Chicago Tribune, Nov 14, 2004

- Again, to tie this back to our price transparency discussion, wise Hornsey parents would have determined whether or not tonsillectomies provided benefit first and then considered price (if that was a factor in 1929 Britain. I'm not sure it was.)

- Unwise parents would have jumped to our Step 4 and considered price first.

OK, one might say. The Hornsey situation happened a long time ago, in a country far away. It doesn't apply to American medicine today.

John Wennberg follows in Glover's footsteps

Wennberg, then a young researcher at Dartmouth Medical School, built on Glover's ideas and tracked tonsillectomy rates in Vermont in the 1970s. He found exactly the same thing as Glover did in Hornsey:

- 7% of children under age 16 had tonsillectomies in Middlebury Vermont, while

- 70% did in Morrisville, despite these two communities being demographically similar.

Wennberg identified a similar treatment variation rate when comparing Waterbury Vermont to next door Stowe, again two socio-economically and demographically similar towns (among the full time residents though not necessarily the ski vacationers who didn't generally have tonsillectomies there anyhow).

Parents choosing the cheapest tonsillectomy provider in Morrisville or Stowe would have received less expensive though still unnecessary care about 80% of the time. Not a vast improvement over the 92% unnecessary rate discovered by Glover in Hornsey, years before.

'Too long ago' you still might say. 'My doctor uses the most up-to-date technology, so this wouldn't happen to me. Those Vermont studies are 50 years old.'

Wennberg, now an elderly senior researcher and his colleagues at Dartmouth studied tonsillectomy rates in Northern New England during the period 2007 – 2010. Here's what they found in each Pediatric Surgery Area, per 1000 children:

Rates per 1000 children by Pediatric Surgery Area	Surveys of New Hampshire, Vermont and Maine by Dartmouth affiliated researchers
Middlebury, Vt **5.6**	Burlington, Vt **2.9**
Berlin, NH **10.4**	Lewiston, Maine 5**.2**
York, Maine **7.3**	Portland, Maine **4.0**

Presque Isle, Maine **5.8**	Bangor, Maine **2.7**
Dover, NH **8.1**	Waterville, Maine **3.6**
Manchester, NH **8.1**	Ellsworth, Maine **3.8**
Exeter, NH **8.4**	

The average rate in Burlington Vermont and Bangor Maine was about 3 tonsillectomies per 1000 children while the average rate throughout New Hampshire was about 9, a 3-fold rate difference. The unnecessary tonsillectomy rate in New Hampshire between 2007 and 2010: about 68%, better than Glover's Hornsey example 80 years before but still awfully high.

The Dartmouth researchers could not identify population health differences that explained this treatment rate difference, just as Glover had been unable to in Hornsey. Nor could they identify population health gains from the excessive tonsillectomies.

Throughout this story, the treatment rate differences appear due to physician preferences, not patient need.

- The appropriate mechanism to avoid unnecessary care remains consumer education and use of our 4-Step Program, not price lists and not google searches.

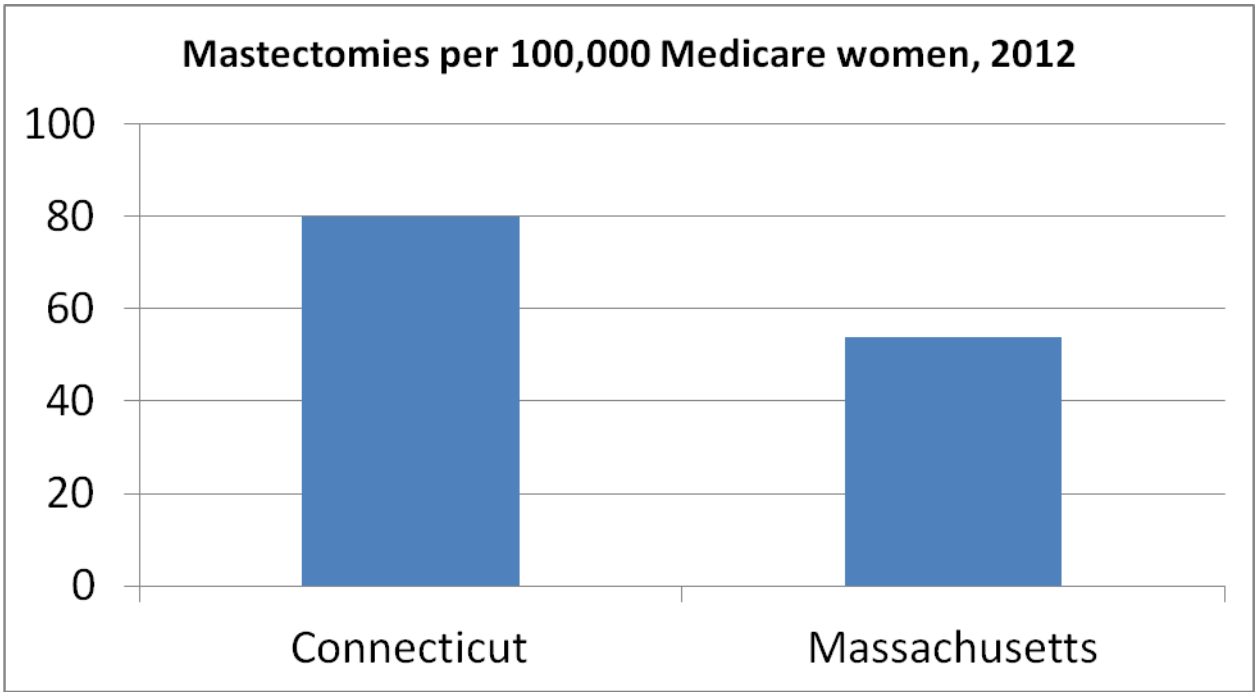
- Parents choosing the cheapest tonsillectomy providers in New Hampshire would have received less expensive unnecessary care for their children 2/3 of the time…just like the parents in Stowe or Morrisville 50 years earlier or Hornsey 80 years before. Not much systemic evolution over the years.

Physicians appear, according to Wennberg, to rely on 'hunches' too often, rather than data and scientific outcome evidence from comparative studies when making treatment recommendations to patients, just as they did in Hornsey and Morrisville many years before.

But perhaps the most shocking treatment variation example comes in the mastectomy rate differences among Massachusetts and Connecticut Medicare beneficiaries. Note that both Massachusetts and Connecticut patients have access to outstanding medical care in facilities affiliated with Harvard and Yale medical schools respectively. It just doesn't get any better than that!

I say 'most shocking' because in this breast cancer treatment case we have disease incidence rates, disease treatment rates and patient outcome rates. This puts to bed the 'population difference' justification for treatment variation rates.

Here's a chart showing mastectomy rates in both Massachusetts and Connecticut, per 100,000 Medicare beneficiaries, from the Dartmouth Atlas of Healthcare, 2012.



Connecticut women are about 50% more likely to have mastectomies as Massachusetts women.

This raises the 'sickness' question: are Connecticut women sicker than Massachusetts women? Do they get breast cancer 50% more frequently?

The answer is no, according to breast cancer incidence rate data from the American Cancer Society. [234] The breast cancer rates are virtually identical.

Breast cancer incidence rates per 100,000 women

	Non Hispanic White	African American	Hispanic
Connecticut	139	113	127
Massachusetts	137	109	104

[234] American Cancer Society, Cancer Facts and Figures, 2011-2012

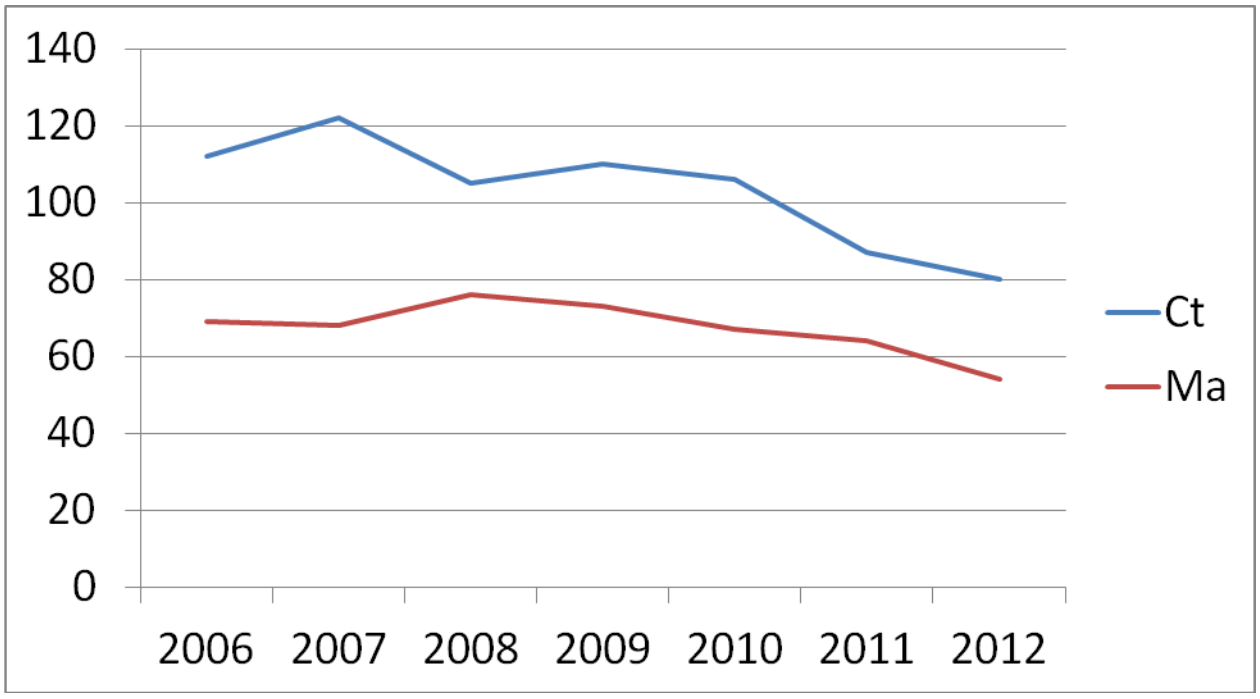
Now, if women in both states were equally sick but received different treatments, did Connecticut women benefit from the additional mastectomies?

Again the answer is no. Breast cancer mortality rates are almost identical in both states.[235]

Breast cancer mortality rates per 100,000 women

	Non-Hispanic White	African American	Hispanic
Connecticut	24.0	27.4	12.1
Massachusetts	23.5	27.3	12.1

This treatment variation situation has existed for years. Connecticut always has more, per thousand women. Here are the rates from 2005 – 2012, again using data from the Dartmouth Atlas:



[235] http://www.cancer.org/acs/groups/content/@epidemiologysurveilance/documents/document/acspc-030975.pdf

That 50% more in Connecticut rate has existed for many years.

If the additional mastectomies Connecticut women received over time had any benefit, then we would see breast cancer mortality rate differences that approximate the treatment differences. That is not the case.

Rate discrepancies like these exist for dozens of medical tests and treatments.

These situations – tonsillectomy rates in Vermont in the 1970s and northern New England from 2007 – 2010, and mastectomy rates in Massachusetts and Connecticut in the 2000s – are exactly the same as Glover identified in Hornsey in the late 1920s.

- Knowing treatment prices would no more help a Connecticut women in 2010 avoid an unnecessary mastectomy – or a Scot in the 1920s avoid dying from a botched procedure or an American in the 1940s avoid radiation-induced thyroid cancer - than a Hornsey child in 1928 avoid an unnecessary tonsillectomy.
- Most likely, price transparency would only have helped that Hornsey child or Connecticut women get cheaper unnecessary care.

An underlying cause of this problem, according to many who have studied it: physicians like to use the newest available technology [236] and patients generally believe that more medical care is better medical care. Wennberg put it this way: [237]

- Few surgeons are hesitant believers in the efficacy of the operations they perform, nor do they doubt their clinical necessity.
- Most patients are convinced that the benefits of surgery exceed the risks by a wide margin.

Yet, as we have just seen, these two certainties do not add up to patient benefit as often as either doctors or patients would like. Knowing prices adds nothing to the patient's chance of benefit.

Why this decision making process is so important Part 2
The impact of Vinay Prasad's research:
half of established medical interventions are found to be useless or harmful when subjected to comparative studies

[236] See Dr. Lazris's comment at the beginning of this chapter.

[237] http://ije.oxfordjournals.org/content/37/1/26.long

Dr. Prasad, Senior Fellow at the National Cancer Institute and National Institutes of Health, was lead author in an extraordinary, though little discussed, study published in the Mayo Clinic Proceedings in 2013, *A Decade of Reversal*. [238] Prasad and his team reviewed every article published in the New England Journal of Medicine between 2001 and 2010 and found that 363 studied an 'established' medical practice, meaning a commonly used medical protocol.

Of those, 146 studies or 40% reversed the practice.

In other words, 40% of comparative studies on existing, established, routine medical practices showed those practices were ineffective or harmful. The actual percentage is probably closer to 50% being ineffective or harmful when Prasad's 'inconclusive' group, 139 practices, is included.

Stated differently, about half of what doctors do doesn't work. As Prasad told the New York Times

> They all sound good if you talk about the mechanisms… the nuts and bolts, what does it do, how does it work….but the real question is: Does it work? **[239]**

Or, as he said in his fascinating You Tube summary: [240]

> Of all those things we're doing currently that lack good evidence, probably about half of them are incorrect.
>
> Patients who are embarking on procedures, screening tests, diagnostic tests should really try to ascertain whether or not those are based on good evidence. By good evidence, I mean randomized controlled trials powered for hard endpoints such as mortality or morbidity and not surrogate endpoints.
>
> Consequences of medical reversal are quite dire. All the people who were subject to the intervention during the years it fell in favor… in retrospect, we realize, received no benefits
>
> These are practices that should never have been instituted, that were instituted in error…even for things that make perfect sense.

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[238] http://www.mayoclinicproceedings.org/article/S0025-6196%2813%2900405-9/abstract

[239] http://well.blogs.nytimes.com/2013/07/26/medical-procedures-may-be-useless-or-worse/

[240] https://www.youtube.com/watch?v=fB1qEoDO2nE

> The take away message from our paper is that a large proportion of medical practices which are based on little to no evidence are probably incorrect. Their continued use jeopardizes patient health and wastes limited healthcare resources.

Remember Prasad's definition of *evidence*: randomized controlled studies powered for hard endpoints, not biological, anatomical or physiological explanations of why some intervention makes sense. Wise patients discuss outcome evidence with their doctors; unwise discuss anatomy and physiology. Prasad clearly explains why the latter approach doesn't work.

Here are some of Prasad's examples of medical reversals. You can find the entire list on the Mayo Clinic Proceeding website. As you review this list, ask yourself if you would like to have the *cheapest* of the reversed procedure or test. My guess: you don't want it at all, regardless the price.

I tried to choose relatively non-technical discussions. Many of Prasad's 146 reversals are very technical, specialized interventions and his discussions are often aimed at a medically trained audience.

Intensive Blood Glucose Control and Vascular Outcomes in Patient with Type 2 Diabetes	A target A1C of 7.0% or less was the guideline for most patients with diabetes. However data were inconsistent how glucose control played a role in vascular disease. In the Action in Diabetes and Vascular Disease (ADVANCE) trial, the effects of glucose control on major vascular outcomes were evaluated. There was no evidence of reduction in macrovascular events and intensive glucose control was associated with increased risk of severe hypoglycemia and increased rate of hospitalization.
A Randomized Trial of Arthroscopic Surgery for Osteoarthritis of the Knee	Arthroscopic surgery is widely used for osteoarthritis of the knee even in the face of scant evidence of its efficacy. This failed to show a benefit of arthroscopic surgery for treatment of osteoarthritis of the knee as assessed by WOMAC scores
Effects of Combination Lipid Therapy in Type	Fibrate therapy has long been used in the treatment of dyslipidemia in type II diabetes.

2 Diabetes Mellitus	Though statins are considered primary therapy to reduce the risk of cardiovascular events, rates remain elevated despite use. Two large previous studies of fibrate therapy in type II diabetics conflicted with regard to their effect on cardiovascular events. The Action to Control Cardiovascular Risk in Diabetes (ACCORD) Lipid study demonstrated here that statin and fibrate combination therapy did not differ in outcomes compared with statin therapy alone at similar levels of serum lipids.
Two Controlled Trials of Antibiotic Treatment in Patients with Persistent Symptoms and a History of Lyme Disease	Many patients with persistent symptoms of Lyme disease receive prolonged courses of antibiotics, although the effectiveness of this practice remains unknown. This randomized, placebo-controlled, double-blinded trial failed to show any significant improvement in symptoms after a prolonged 90- day course of antibiotics in patients with persistent symptoms.
Calcium plus Vitamin D Supplementation and the Risk of Fractures	Observational evidence and data from randomized clinical trials suggested that calcium or vitamin D supplements or both may slow bone loss and reduce the risk of falls. However, in this randomized clinical trial involving 36,000 postmenopausal women, calcium with vitamin D supplementation did not significantly reduce hip fracture, and increased the risk of kidney stones

Consider our mastectomy data from Connecticut and Massachusetts above. Rates are down in both states, more dramatically in Connecticut, even though Medicare enrollment is up. Does this mean 20 or 30% of the Connecticut mastectomies performed in 2006 – 2010 (and earlier – I didn't include those data to keep the above chart easy-to-read) were performed in error (Prasad's term)?

That's in addition to the rate discrepancy between Connecticut and Massachusetts.

Why this decision making process is so important Part 3
Al Mulley and the problem of patient preference misdiagnosis: well informed patients often prefer treatments that differ from what their doctor thought they would want

Dr. Albert Mulley and his team from Dartmouth's Geisel School of Medicine evaluated the phenomenon and impact of physician attempts to diagnoses patient treatment preferences. [241] Patients who learn of all their treatment options, it turns out, often choose very differently from their physicians, or indeed, from what their physicians would expect them to choose.

Mulley summarizes his conclusion this way:

> Well-informed patients consume less medicine – and not just a little bit less, but much less. When doctors accurately diagnose patient preferences, an enormous source of waste – the delivery of unwanted services – is eliminated. It is particularly notable that when doctors accurately diagnose the preferences of patients struggling with long-term conditions, those patients are far more likely to keep their conditions under control, leading to fewer hospitalizations and emergency department visits.

But rushed doctors treat as *they think* the patient wants. This 'silent misdiagnosis' harms both patients and the system:

- It harms patients by providing care to them that they would not have chosen had they been better informed. Patients, according to Mulley, can suffer just as much from a missed *preference* diagnosis as from a missed *medical* one.

- It harms the entire system when doctors select more aggressive, invasive and expensive treatments than the patients themselves would, thus increasing overall costs. 'Patients choose fewer treatments when fully informed' according to Mulley, a conclusion reached in other studies. [242]

  This echoes Wennberg's suggestion above about specialist enthusiasm for surgery and Lazris's about the system promoting the more aggressive care far too often.

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[241] http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/patients-preferences-matter-may-2012.pdf . See especially page 9, source of quote in the next paragraph

[242] See the Dartmouth Atlas of Healthcare, sections on Preference-Sensitive Care and Reflections on Variation

Mulley estimated the overall system savings from better patient preference diagnoses at 15 – 20%, but this comes with a huge caveat. He and his team evaluated the impact of improved patient preference diagnosis in the Britain's National Health Service. The UK averages spending less than half per capita on healthcare as we do, about $3,400 per person compared to over $9,000 per American. The potential savings for our healthcare system is enormous, possibly well over that 20% estimate.

Dr. Sandeep Jauhar, cardiologist and author of 'Doctored' agrees with Mulley's thesis, suggesting that healthcare reforms

> will have to focus less on payment models and more on education…better-informed patients might be the most potent restraint on overutilization …Shared decision making would be more likely to get patients the treatments they want [while helping them avoid unnecessary or inappropriate care]

Adding to this whole line of thinking, Atul Gawande, perhaps one of the key thought-leaders in this field, suggests a new role for doctors that builds on Glover, Wennberg, Prasad, Mulley and Jauhar's thinking:

> **the ideal modern doctor should be neither paternalistic nor informative but rather interpretive, helping patients determine their priorities and achieve them** [243]

I think this is a brilliant summary of the doctor's role. But it takes time to 'help patients determine their priorities and achieve them'; it's not a role one can play in a time compressed environment.

What this means for price transparency

Step 1 of our 4 step 'how to make a wise medical care decision' really matters. This step, in case you forgot, is 'determine that medical care can benefit you'.

That, I think, is where our medical care system should point patients first. Prices are where our medical care system should point patients last.

Dr. Andy Lazris summarizes the problem nicely:

> an idea has blossomed within our medical thinking that equates aggressive, specialized care with good care … with enough perseverance, our healthcare delivery system is capable of virtually anything…the perception that science and

[243] Sheri Fink, New York Times Book Review of Gawande's Being Mortal, November 6, 2014

> technology can cure everything …[but] as little as 15% of what doctors do is backed up by valid evidence … [instead] technology is king
>
> the public – from patients and their families to doctors and experts and politicians and journalists – perceive that more is better [244]

Knowing prices does nothing to fix this problem.

When I think of the various healthcare problems we face, and of price transparency as the solution, I am reminded of a quote I heard at a convention some years ago – sorry, can't remember exactly where or when – about healthcare: Never have so many bright and talented people worked so incredibly hard to achieve so little.

That quote and the energetic price transparency movement also remind me of Ronald Reagan's famous campaign response to a tried-and-failed political initiative of an opponent: *There you go again*.

In healthcare *'there you go again'* means yet another attempt to solve clinical problems with financial tools. It never works.

The problems raised by attempting to solve clinical problems with financial tools

Our healthcare financing tools, commonly called 'health insurance', focus almost exclusively on 'financing' and almost totally disregard 'health'. David Dranove of Northwestern University summarized the impact of this fallacy in his book The Economic Evolution of Managed Care: cost control reforms in the 1980s and 90s 'utterly failed, on all accounts'.

Though there are many reasons for this, I think the two fundamental are:

- A primary financial focus almost inevitably reduces the ***amount of time*** each physician has for each patient. Time is the physician's primary inventory, one which he or she must use wisely to maximize his or her income. As the payment for each inventory unit – i.e. each minute – decreases, physicians need to maximize their income per unit. Hence, they see more patients per hour or day.

  Michael Porter, Harvard Business School's great business strategy professor, put this succinctly in his 2006 book Redefining Healthcare: Without the discipline of

[244] Lazris, Curing Medicare, page xviii

value-based competition on results, carriers have incentive to reduce the time physicians spend with patients. [245]

Price lists and price transparency programs take us exactly where Porter warned we don't want to go. We need to focus on outcomes, not prices, to improve outcomes. We cannot improve value (outcomes per dollar spent) otherwise and we'll probably end up decreasing it.

- Financial / price based solutions lead to 'simplistic actions such as across-the-board cuts in expensive services, staff compensation, and head count' according to Porter. [246] More succinctly, he says,

  'It is a well-known management axiom that what is not measured cannot be managed or improved' [247] meaning financial solutions to clinical problems may lead to cuts that negatively impact care quality. Rather than *managing* some critical but unquantifiable care components, market pressures may lead to across the board *cuts*.

  That was, more or less, our experience with HMOs in the late 1990s and early 2000s: fairly brutal cuts and cost controls that led, among other things, to the Patient's Bill of Rights. Might we simply re-create the same experience, only this time motivated by price lists?

I'll let some physicians express all this in their own words.

Dr. Vikas Siani, President of the Lown Institute, suggests that publishing prices lists will put more pressure on clinicians to improve their efficiency. This will limit the amount of time for each patient's care and serve to erode, not enhance, the doctor-patient relationship.[248]

[245] I wrote this quote in my notes while reading Porter and Teisberg's Redefining Healthcare, but can't find the exact reference. This article in the Harvard Business Review says pretty much the same thing. https://hbr.org/2011/09/how-to-solve-the-cost-crisis-in-health-care

[246] Ibid

[247] https://hbr.org/2011/09/how-to-solve-the-cost-crisis-in-health-care

[248] http://www.doconomics.com/blog/?p=4647

Dr. Joshua Fenton of UC Davis Medical School, lead author of a study that concluded ‘‘Patient satisfaction is linked to higher healthcare expenses and mortality, study of 50,000 people over 7 years’ claims [249]

> Doctors may order requested tests or treatments to satisfy patients rather than out of medical necessity, which may expose patients to risks without benefits. A better approach is to explain carefully why a test or treatment isn't needed, but that takes time, which is in short supply…

…and which may decrease in supply under the increased billing pressures that result from excessive price considerations.

Publishing prices absent the critical and, as yet poorly developed quality metrics may make this situation worse, not better. The net result may be *more* unnecessary tests and treatments, not fewer according to Dr. Jauhar who says

> There is no more wasteful entity in medicine than a rushed doctor.[250]

To save time, he says, doctors order more tests or refer to more specialists. This adds costs and risks; it doesn’t decrease them.

Time compressed physicians have less time to develop personal relationships with each patient. This leads, according to a study of 20,000 diabetics and their care givers, to less empathy for patients and poorer outcomes. [251]

- Patients of high empathy doctors had about 35% fewer metabolic complications like hyperglycemia or diabetic comas.
- Empathy means sharing feelings with other people, not belittling, undermining or judging, according to Dr. Rana Awdish, a critical care physician at Henry Ford Hospital who’s involved in hospital’s empathy program. These skills can be taught and practiced, she says, but this requires emotional availability on part of physician, something he or she needs time with patients to develop.
- Dr. Jauhar addresses the empathy issue from a typical physician’s point of view: ‘Among my colleagues I see an emotional emptiness created by the relentless consideration of money.’ [252]

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[249] http://www.ucdmc.ucdavis.edu/publish/news/newsroom/6223

[250] Jauhar, New York Times, 7/20/14

[251] Bakalar, NY Times, Doctor Empathy a Factor in Diabetes Care

Kaplan and Haas, in their 2014 Harvard Business Review article 'How Not to Cut Health Costs' give an example:

- Starting kidney dialysis with a fistula (a surgical procedure to connect to an artery or vein) rather than catheter generates better outcomes, meaning longer lives with fewer complications.
- Patients starting at optimal times in their disease progression cost tens of thousands of dollars less per year than otherwise.
- One nephrologist said that spending 30 minutes more / patient with advanced kidney disease could dramatically improve rate of fistula or graft starts, *but there was no time or compensation for the discussion*.
- Publishing nephrology office price lists will, suggest these authors, take us in the wrong direction, generate more patient harm and ultimately cost our system more.

Actions like helping patients choose doctors based on price destroys healthcare system value.

But actions that (1) increase the amount of time physicians have with patients and that (2) enhance the doctor-patient relationship, that (3) help doctors diagnoses preferences better and that (4) help patients choose effective care based on their preference and high quality outcome studies, add value.

How to turn price transparency from value-destroying to value-creating

Our definition of value includes two components: costs and outcomes, value being measured as outcomes per dollar spent. Focusing only on spending will probably decrease systemic value by reducing outcomes, for all the reasons above.

Including critical outcome factors along with prices can turn this positive, into a value creating exercise. I'll list some components below as examples. The chapter on Decision Aids goes into this in much more detail.

Consider first **birthing**, about 10% of non-Medicare hospital income. Along with price lists by hospital, an informed patient would need to know

- Infant mortality rates by hospital

[252] Jauhar, Doctored, page 170

- Infant and maternal readmission rates
- C-section rates
- Plus have some indication of whether or not each hospital's catchment area population was abnormal in some critical respect.

For **preventive care**, a wise patient would need to know

- Mortality and morbidity rates both with and without the preventive care
- Harm rates from the preventive care such as false positives and test and treatment harms
- Plus have an ability to understand what all these numbers and statistics really mean.

For **hospital choice**, patients need to know

- Infection rates
- 30 and 60 day readmission rates
- Tendency / process information by hospital per 1000 people in each hospital's catchment area, similar to Dartmouth Atlas information
- Volume of similar patients treated annually. Though an imprecise metric, care quality correlates relatively well with care quantity, and the hospitals performing the highest number of similar surgeries annually tend to generate the best patient outcomes.

For **surgeon choice**, patients need to understand

- Infection rates, complication rates, mortality rates, return-to-operating room rates and hospital readmission rates by surgeon / by procedure
- It does not seem fair that hospitals should be privy to this important information while prospective patients, whose health could be influenced by it are not, says Dr. Paul Ruggieri, general surgeon and former clinical instructor at Harvard Medical School. [253]

[253] Ruggieri, The Cost of Cutting, page 127

- Absent that information, patients need volume rates by surgeon. ‘Patients can improve their chances of survival substantially – even at hospitals with high volumes of a procedure - by selecting surgeons who perform the operations frequently,’ according to Dr. John Birkmeyer, former Chief of General Surgery at Dartmouth – Hitchcock Medical Center in New Hampshire.

For **pharmaceuticals**, note that the Americans average about 13 prescriptions / capita / year, double other OECD countries that generate similar or better population statistics.

- Several new Decision Aid reference sources provide useful drug information though in different forms. See, for example, Informulary’s Drug Facts Boxes™ , Option Grid’s treatment comparisons, theNNT’s evaluations and even some US Preventive Services Task Force analyses.

- I’ll discuss much more of this in the chapter on Decision Aids

Patients who know this quality information can use their doctors as ‘interpreters’ (Gawande’s term) to help them determine which care they really want and which process they prefer. Prices can have a role in those discussions but, I suggest, probably a relatively limited one.

Conclusion

Good health is cheaper than poor health. That’s both axiomatic and true.

Activities that get patients healthier are almost always less expensive than activities that either keep people unhealthier or do not positively impact health.

Well informed patients who understand their options tend to cost less than poorly informed patients. Well informed patients who use our 4-Step Decision Process will chose care wisely by balancing the likely benefits against the likely harms. They will use outcome data from comparative studies to help them make their decisions, consult with their physicians about options and alternatives and ultimately end up healthier.

Poorly informed patients assume that more medical care is better medical care, tend to assume higher likelihoods of benefit and lower of risk than are true, and are ultimately somewhat less likely to end up in good health.

Turning patients from poorly informed to well informed saves money. Shopping by price, especially for medical interventions that do not benefit patients, does not.

I conclude that Price Transparency is value-creation neutral:

- Listing prices alone, absent the critical quality indicators discussed above and in detail elsewhere in this book, probably destroys value.
- But listing prices along with those critical quality metrics, and using prices to engage patients in a discussion of care quality can increase system value.

It’s too early in this process to know where this is headed and to issue a definitive conclusion.

Review Questions

Answers on next page

1. Do prices among vendors vary much for the same medical service?

a. Yes
b. No
c. Only in New Hampshire
d. Rarely in New Hampshire

2. Can you determine which vendor provides the highest quality medical services from price lists?

a. Yes
b. No
c. Only in New Hampshire
d. Rarely in New Hampshire

3. Can a patient determine if he or she will benefit from a specific medical service by learning its price?

a. Yes
b. No
c. Only in New Hampshire
d. Rarely in New Hampshire

4. About how much ineffective or harmful medical care exists in this country?

a. About 2% of medical care is ineffective or wasteful
b. About 40 – 50% of medical care is ineffective or wasteful
c. About 97.8% of medical care is ineffective or wasteful
d. Well over 100% of medical care is ineffective or wasteful

5. This text suggested 3 reasons to explain why medical care is sometimes ineffective or wasteful. Which below is NOT one of those reasons?

a. Physicians rely on hunches, not science, too often
b. Medical care that has not been subjected to comparative studies is proven ineffective or harmful about half the time when subjected to those studies
c. Physicians too frequently treat patients according to physician preference, not patient preferences
d. Doctors are poorly trained in this country

6. This text suggested a Four Step Process for making wise medical care decisions. Which below is Step 1 of that process?

a. Determine if medical care provides more benefits than harms or than doing nothing
b. Pray
c. Ask a trusted friend or relative what to do
d. Learn as much as you possibly can about the anatomical and physiological causes of your medical problem

7. Which below is not an element of the Four Step Process?

a. Determine which treatment process you prefer
b. Determine which doctor and hospital generates the best outcomes for your preferred process
c. If two providers generate the same outcomes from your preferred process, consider prices
d. Pray

8. Which, below, is *most likely* to happen if medical prices become widely known to patients?

a. Doctors will spend less time with each patient
b. Our national 30 day hospital readmission rate will drop
c. Our infant mortality rate will drop
d. Americans will live longer

9. Which, below, is *least likely* to happen if medical prices become widely known to patients?

a. Care quality will improve
b. Prices for many ineffective treatments will fall
c. Doctors will advertise the prices of their (often ineffective or harmful) services
d. Hospitals will advertise the prices of their (often ineffective or harmful) services

10. Americans seem to perceive that more medical care is better and that higher technology care is better than lower. How will posting prices affect these perceptions?

a. It won't
b. It may reduce moral hazard when people understand what care costs
c. It may induce more moral hazard when people learn true care costs
d. It may incent people to drop insurance coverage

Review Questions

Correct answers in bold

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Chapter 7: Our Stop and Start History of Healthcare Reform

So much more to do

We have tried to reform our healthcare system regularly at least since Harry Truman's presidency in the 1940s if not before. Reform goals have remained remarkably consistent over time:

- Expand access and
- Control spending

We have pretty much failed to accomplish either goal with two notable exceptions:

- Medicare and Medicaid which expanded coverage in the 1960s at huge cost and
- The Affordable Care Act (Obamacare) in 2010 which did pretty much the same thing but for a different group of people, suggesting that these two goals – expanding coverage and controlling spending - actually conflict in the real world.

  When they conflict, 'control spending' falls by the wayside.

'Healthcare reform' in the US generally means, therefore, 'expand access'. Contrast this with healthcare reform in other countries, typically defined as 'improve clinical outcomes and the patient experience within a budget'. *They* focus on care quality; *we* focus on care access.

The result, unfortunately but probably predictably, is that the US is the only major developed country with millions of medically uninsured people. We also inflate healthcare spending at about annual gdp growth plus 3% which will bankrupt us over time if left unchecked.

Why have we failed so miserably to solve these two problems?

The answer summarizes our depressing history of healthcare reforms.

We'll start with an overview of Harry Truman's attempts in the 1940s and then discuss how various presidents since have tried – and generally failed – to accomplish the two goals above. This will lead to a discussion of the Affordable Care Act of 2010, the topic of the next chapter.

My basic thesis: Harry Truman defined healthcare reform's coverage goals in 1946 but was unable to implement his vision. Every reform program since has been a step back to Truman's original access vision, though typically at far higher a cost than necessary since reforms are band-aids on an inefficient systemic base.

And sometimes they're band-aids on band-aids!

Healthcare expenditures were little enough 1946 that cost control and quality improvement weren't particularly important issues. They are today. Unfortunately, we have not yet begun the quality improvement / cost control process.

Truman's experience and healthcare vision Truman's healthcare orientation developed in the 1920s and 30s.

Prior to that time, employed people paid out of pocket for their care which was generally both inexpensive and ineffective. In 1900, for example, the average American spent the equivalent of $100 in today's dollars, annually for healthcare. The advent of antibiotics, improvements in medical technology, development of medical schools and similar activities turned hospitals from places people went to die into places people went to regain their health, which, in turn, raised healthcare costs and the potential for hospital profits.

Hospitals, until about 1929, received funding from three sources: those able to pay, charitable contributions directly from wealthy folks and the community chest. That changed in 1929 when the stock market crashed and the wealthy were suddenly less able to contribute both to hospitals and community chests.

Hospitals, facing a potential existential threat, then targeted large employers as a funding source. These employers provided 'health insurance' – a new concept – to their employees. Baylor University Hospital in Dallas, for example, among the first to implement this financing program, contracted with the Dallas School System.

- The school system always had money (from taxes) so stabilized the hospital's cash flow
- The hospital provided a newly-perceived-as-necessary service to school system employees.
- Both entities benefited

This process grew in the 1930s: large employers financed hospitals via insurance contracts. (See the chapter on Employer Based Health Insurance for more detail on this.)

Truman observed all this and noted the fundamental flaw with this system: People not employed at large companies lacked healthcare financing and access therefore both to hospitals for treatment and physicians for routine care. This created several problems including:

- A 13 year average life expectancy difference in 1930 between White Americans (61 years) who were more likely to work for large companies and African Americans (48 years), more likely to work in agriculture.

- Recruits entering the military needed remedial medical services before becoming fit enough to fight.

This last point was particularly poignant for Truman who, as senator, ran the Truman Commission that oversaw World War II expenditures. He noted the high medical costs of treating young (supposedly healthy) American men for combat.

Truman concluded that relying on the private sector to finance healthcare was problematic. He summarized the problem succinctly:

> The principle reason people do not receive the care they need is that they cannot afford to pay for it at time of need.

And too many were left out of the privately funded healthcare financing system.

He therefore proposed in 1946 a comprehensive, universal, government run healthcare financing program that would provide 'health security for all, regardless of residence, station or race, everywhere in the United States' more or less like the various western European countries.

His proposals went approximately nowhere. The Republicans, who gained control of Congress in 1946, called it socialist with Ohio Senator Robert Taft, a 1948 presidential hopeful calling it 'the most socialist measure this Congress has ever had before it'.

They were joined by the American Medical Association, the trade association for doctors, who feared that government involvement in medicine might impact physician independence and earning power. The AMA joined the Republican anti-socialist bandwagon, saying, for example, in a late 1940's flier

> Would socialized medicine lead to socialization of other phases of American life? Lenin thought so

Followed by this quote from Lenin:

> Socialized medicine is the keystone to the arch of the socialist state.

Unfortunately for the historical record – though not necessarily the AMA's political fight – there is no record of Lenin actually having said this as the Library of Congress researchers could not find this quote when asked to do so. [254]

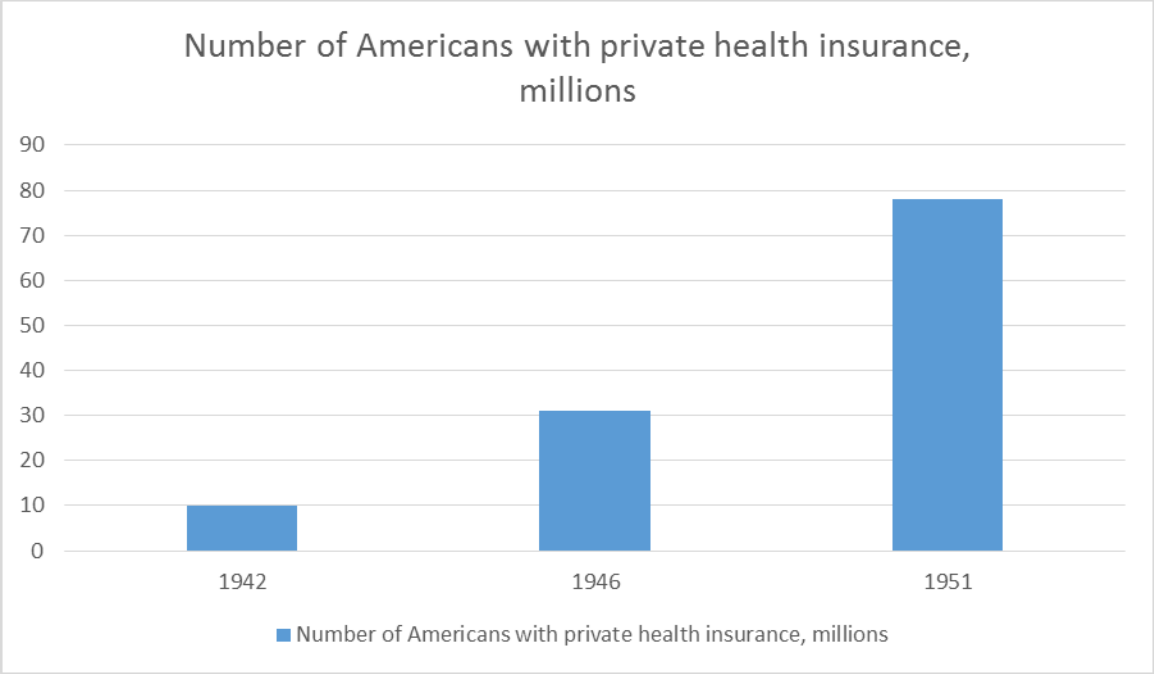
Truman's failure opened the door to private sector health insurance growth.

[254] See Paul Starr, The Social Transformation of American Medicine, page 285

Private sector growth from 1946 – 1965 Let's consider two major trends that grew out of World War II.

- Soldiers had enjoyed access to free healthcare while in the military and wanted this as civilians. This created demand for health insurance.
- Medical technology improved dramatically during the War. This improved the supply of medical products and services and, in turn, stimulated more demand

The chart below suggests the impact of these two trends.



This growth was further stimulated by 2 government decisions and 1 new law.

First, in 1942, the War Labor Board ruled that health insurance and similar 'fringe benefits' were not subject to the wage and price controls that affected most other aspects of American business. Remember that this was during World War II and the government wanted to avoid domestic inflation. They choose wage and price controls as their implementation tool.

This decision incentivized employers to offer health insurance as a means of attracting better employees since they couldn't simply offer more attractive employees more money. A 'fringe benefits' business developed to satisfy these employer needs.

Second, in 1946, Congress passed the Hill Burton Act funding a 50% increase in the number of hospital beds. This supply expansion stimulated additional insurance sales.

Third, in 1953, the IRS exempted employer based health insurance payments from wage calculations and taxes making ‘fringe benefit’ payments tax deductible to employers but not taxable to employees. This reduced the cost of health insurance to both the employer and employee.

So effective were these decisions and the new law in stimulating private health insurance that coverage expanded to about 140 million people by 1963 – a 14-fold increase in just 20 years.

Groups left out This booming private insurance market left out several groups of Americans, just as Truman had observed in the 1930s: the elderly, the unemployed and those working for employers who choose not to offer coverage. Reformers attempted from time to time to include these folks in our health insurance programs, sometimes moderately successfully.

Throughout this process there was one overwhelming economic consideration, and one political, on policy makers’ minds.

- These non-employer based potentially insureds – the elderly and poor - were typically more expensive to cover than employees. Private carriers generally balked at covering these people, preferring for the government to pick up these tabs.

  And the potential insureds generally lacked the money to purchase private coverage anyway.

- The non-employer based potentially insureds were a source of votes for politicians. This is especially true of African Americans who gained the franchise during the early 1960s. Politicians wanted to satisfy at least some needs of these groups to gain their votes.

- This tension between private carriers trying to avoid responsibility for covering expensive risks and politicians seeking votes from the uninsured has existed until the present.

  A related tension arose between politicians seeking to keep taxes low (to get re-elected) and politicians seeking to cover more people through government programs (to get re-elected).

Federal attempts to expand coverage An early attempt to expand coverage outside of employed people was developed by Representative Wilbur Mills of Arkansas, key

author of the Kerr Mills Act of 1960 that provided federal grants to states to cover medically indigent residents, mainly elderly.

Mills, chairman of the House Ways and Means Committee, was an elderly white southerner during the civil rights voting expansion of the 1960s. He wanted those African American votes for himself and similar Democratic politicians in southern states. His proposal called for shared funding (feds and states) of medical costs for indigent people mainly, he hoped, in southern states.

Unfortunately for him, 90% of the allocated money went to New York, Massachusetts, California, Pennsylvania and Michigan – not a southern state among them. His political vulnerability remained.

Then in 1964, Lyndon Johnson won the presidency in a landslide, with Democrats also gaining veto proof control of Congress. Johnson received 60% of the elderly vote and needed to provide satisfactory legislation to keep that trust. He – another white southern Democrat – teamed with Mills to develop healthcare financing programs for the elderly and poor that would, they hoped, achieve Mills' goal of keeping Democrats in power.

Johnson and Mills initially developed Medicare as a hospital financing program for elderly people. In the political jousting that followed, the AMA somewhat changed its position. They wanted a similar program to finance physician visits. (Apparently government funded health coverage was only socialistic if doctor's didn't benefit from it.)

Johnson and Mills acquiesced to the AMA, creating a confusing financing program: Medicare Part A for hospital coverage and Part B for doctor coverage. As a further complication, Part B was voluntary in the hopes of attracting Republican support, Republicans liking voluntary programs, not compulsory ones.

Mills, though, was still not satisfied. Democrats, he thought, still needed a program to attract votes from the newly enfranchised African American voters, many of whom were poor. He built on his Kerr Mills experience of 1960 to devise Medicaid, a program funded 50/50 by the feds and individual states, but controlled by the states, and aimed at the indigent.

Mills hoped that the combination of state control with only 50% of the funding responsibility would attract southern states to embrace it.

Thus the Great Society programs rolled out. Medicare for the elderly, Medicaid for the indigent, both funded by the government and both relieving the private sector of financial responsibility for expensive, non-employed groups.

Workers and Civil Rights groups loved these programs with the AFL-CIO looking to build on them saying ‘‘once you show a well run, working program for people over 65 then you can extend it to all’

Republicans opposed. Ronald Reagan, resurrecting Robert Taft’s 1940s version anti-socialist rhetoric famously stated in a radio show

> One of the traditional methods of imposing statism or socialism on a people have been by way of medicine. It is very easy to disguise a medical program as a humanitarian project. Most people are a little reluctant to oppose anything that suggests medical care for people who possibly can’t afford it

Reagan went on to say, in a different radio show, Write Your Congressman

> We do not want socialized medicine…
>
> If you don’t do this and if I don’t do it, one of these days you and I are going to spend our sunset years telling our children and our children’s children what it was like in American when men were free. [255]

In yet another radio spot he said

> Beyond Medicare will come other federal programs that will invade every area of freedom…we will awake to find we have socialism [256]

George H W Bush, another future US President, dismissed Medicare as ‘socialized medicine’.[257]

Yet Medicare passed and Lyndon Johnson, acknowledging Harry Truman’s initial vision and contributions, signed the legislation in Independence Missouri, Truman’s home town, and gave him Medicare card #1.

Interestingly, and another victory for the Wilbur Mills crowd, Medicare only paid for racially integrated hospitals.

In the short term at least, Medicare had two major impacts on elderly Americans

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[255] http://www.americanrhetoric.com/speeches/ronaldreagansocializedmedicine.htm

[256] http://talkingpointsmemo.com/dc/gop-social-security-medicare-freedom

[257] http://www.forbes.com/2009/08/27/medicare-republicans-george-w-bush-opinions-columnists-bruce-bartlett.html

- The rate of elderly Americans with medical coverage increased from about 55% pre-Medicare to 97% post-Medicare
- The rate of elderly Americans living in poverty fell by about half by 1975

The healthcare reform model was then established based on 2 principles. First, groups left out of the employer based financing system could, if they lobbied sufficiently well, get the government to pay for their healthcare.

Second, the government restricted its involvement to financing, not quality control and not cost control. Consider the first 2 sentences of Medicare's legislation

> Nothing in this title shall be construed to authorize any Federal officer or employee to exercise any supervision or control over the practice of medicine.
>
> Any individual entitled to insurance benefits may obtain health services from any institution, agency or person qualified to participate.

In fact, Medicare originally paid hospitals on a 'cost-plus' basis. Under cost-plus financing, hospitals could bill for their actual treatment costs and a 'plus' percentage for their overhead and profit. This was obviously inflationary, as the more costs a hospital could justify, the higher the 'plus' amount. In other words, the more *inefficient* the hospital, the more money it made. This worked well for hospitals but less well for American taxpayers.

Nixon's contribution The Democrats success attracting elderly and poor voters worried the (non-socialist bashing) liberal wing of the Republican party. New York Republican Senator Jacob Javits teamed with New York Republican Governor Nelson Rockefeller – one of Nixon's main political rivals – to propose a national Medicare for All program. This was a non-starter for Nixon at least for political reasons, if not philosophical.

At the same time, another of Nixon's chief rivals – Democratic Senator Edward Kennedy of Massachusetts – introduced a national health insurance program with AFL-CIO support. Again, a non-starter for Nixon.

Nixon instead proposed his over version of national health insurance, a private sector based program, calling it 'an idea whose time has come'. His HMO Act of 1973 required businesses of a certain size to offer at least 1 HMO plan with federal oversight. He also supported a requirement that employers offer health insurance to their employees.

Thus Nixon's approach differed markedly from Johnson and Mills'. Rather than building on the (liberal) bases of government funded programs – Medicare and Medicaid – Nixon turned back to the private sector. This set the path for the next 30 years, especially under Republican Presidents Reagan and Bush 41, neither a friend of government financed healthcare.

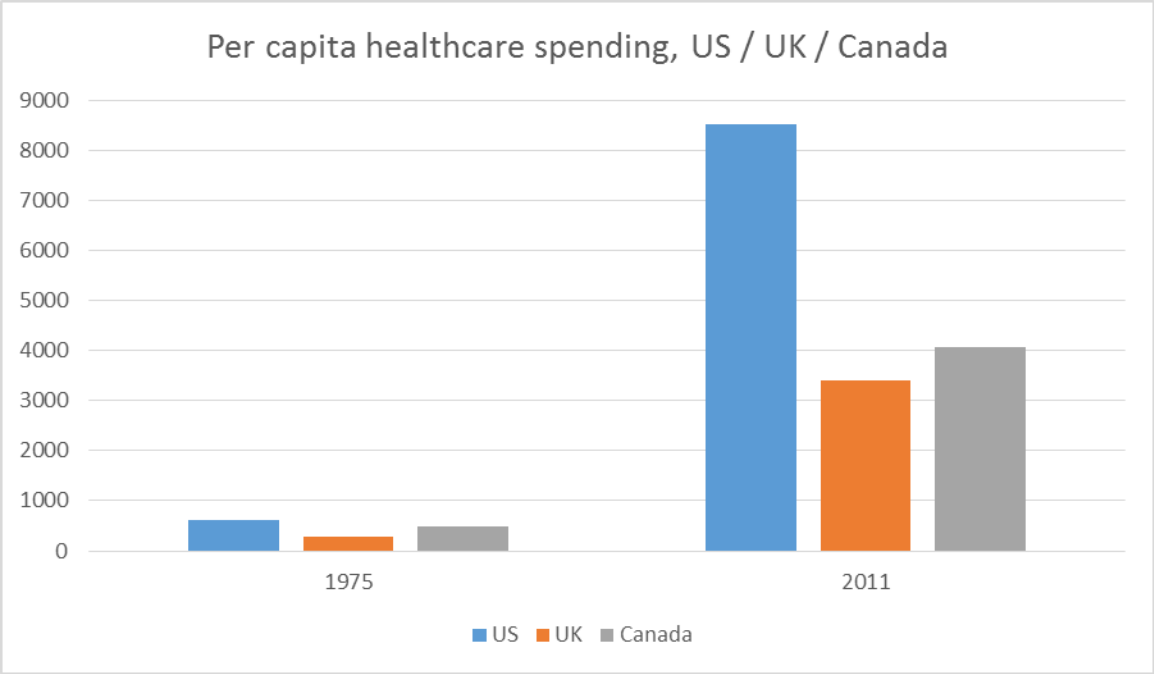
In a sense, Nixon turned health insurance evolution away from government funding and back to its traditional platform, private sector, employer based financing.

Let's look at some impacts.

First, compare US healthcare spending per capita in 1975 and 2011 with Canada's and Britain's. By 1975, Nixon's healthcare programs were operational – or as operational as they would become.

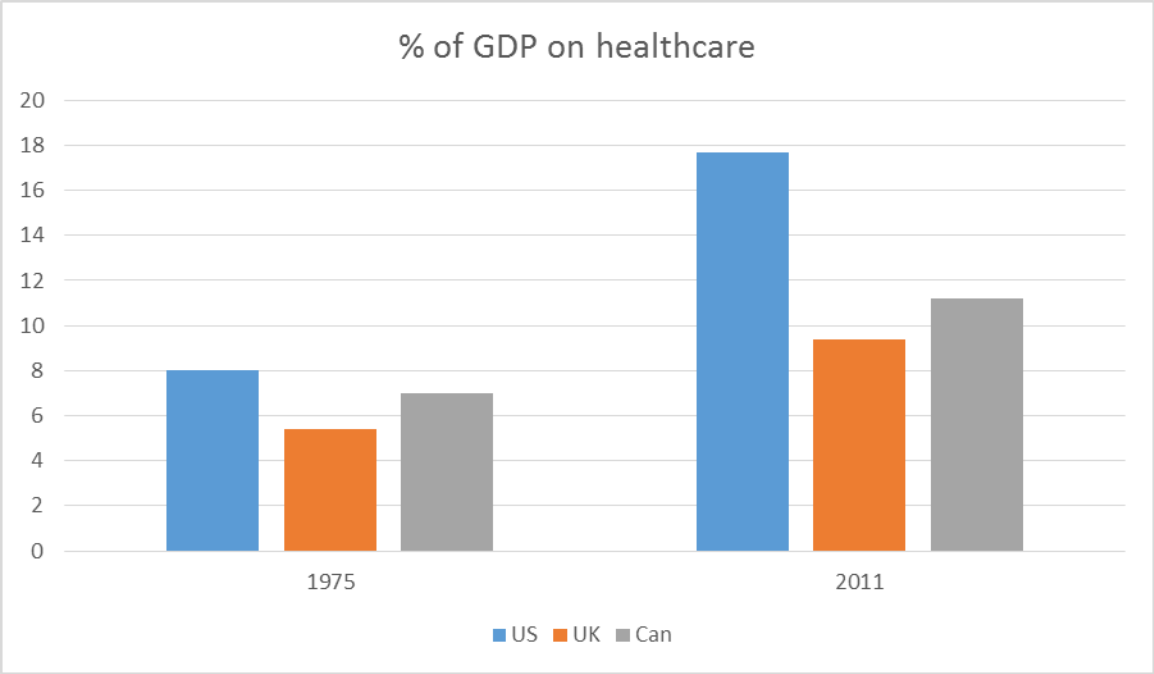
In 1975, we spent slightly more than either Canada or Britain, per capita, on healthcare.

By 2011 we spent far more than either.



Second, compare the percent of gdp that each country spends on healthcare.

In 1975 we devoted a couple more percent of gdp to healthcare than did Britain or Canada. By 2011 that had increased to over 7% more, around $1 trillion a year.

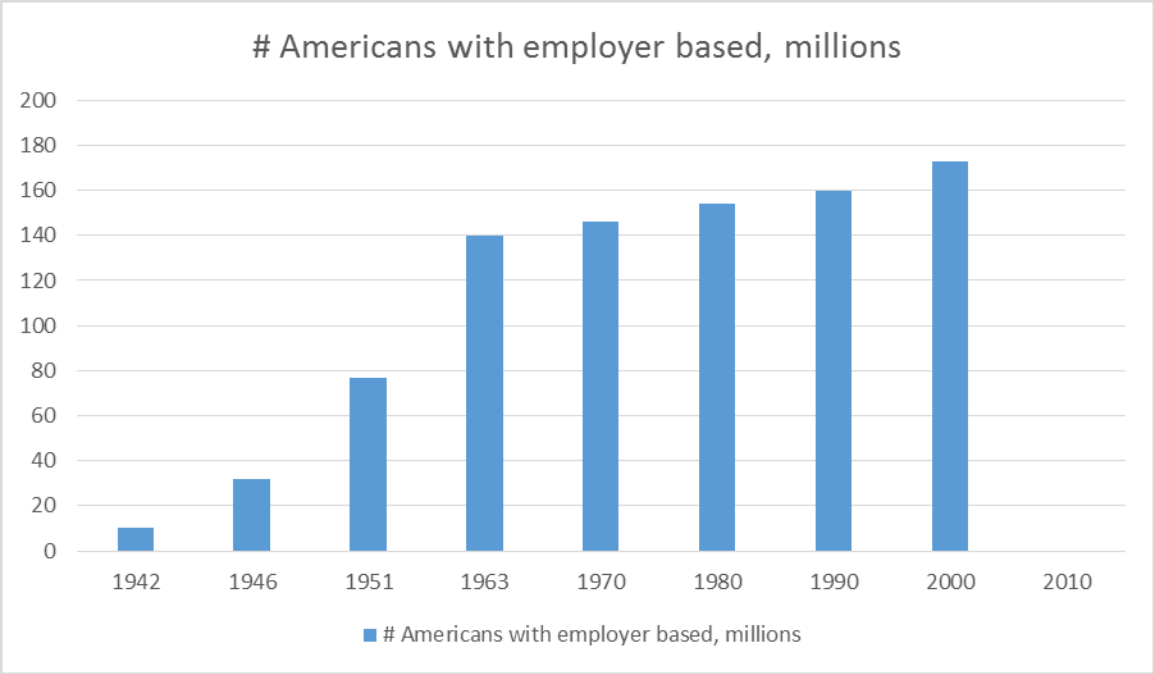


Third, note that by the early 2000s, our private sector based health insurance industry represented over $800 billion of economic activities, tens of thousands of voters and a cadre of well-healed lobbyists. While it was a pretty-well established industry in the mid-1960s, it became part of the DNA of the American economy by 2000 with no serious threats to its existence anywhere on the horizon.

This had significant implications for future reforms, most notably the Affordable Care Act.

Piecemeal reforms lead to W. Bush turning Reagan on his head in 2003 By the early 1970s, health insurance became a ‘mature’ industry.

- The growth rate of employer coverage slowed dramatically. After 20 years of rapid growth going from 10 to 140 million insured between 1942 and 1963 came 30 years of relatively slow growth to 175 million in 2000. There simply weren’t many new market segments for the private sector to mine.



- Medicare and Medicaid covered, at least on paper if not in fact, most of the remaining population.

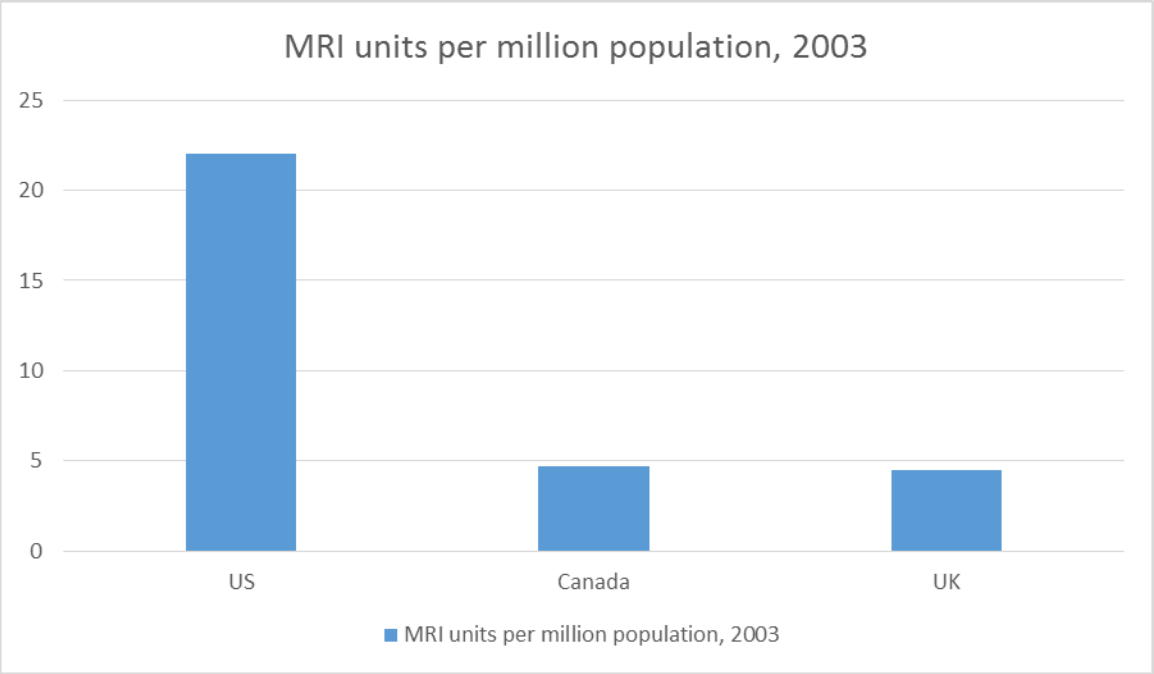
We now entered the piecemeal reform period, expanding benefits slightly (based on coverage numbers) without impacting the gdp + 3% annual expenditure rate.

- 1972 – Medicare agrees to cover under-65-year-old permanently disabled people
- 1972 – Medicare begins the End Stage Renal Disease Program covering kidney dialysis, mainly because private carriers balked at covering this high cost procedure
- 1982 – Medicare adds hospice benefit
- 1983 – Medicare switches from cost-plus financing to fee-for-service.

  Under fee-for-service, Medicare would pay a specific fee for a specific service. Hospitals again could simply provide more services to earn more money. Once again, just like in cost-plus financing, the more inefficient the hospital, the more money it made.

  As one measure of this impact, by 2003 – some 20 years after Medicare's switch to fee for service financing - the US had about 5x more MRI units per million of

population that either Canada or Britain. [258] But the 2003 life expectancies and infant mortality rates in all three countries were about the same, with Americans enjoying slightly poorer longevity and slightly higher infant mortality rates.



- 1986 – Medicare requires that all hospitals that accept Medicare payments must treat any patient suffering a medical emergency, regardless of that patient's ability to pay.
- 1997 – the Children's Health Insurance Program (CHIP) expands Medicaid's population of low income families with children

None of these dramatically increased the population of insured Americans (though some of these program hugely impacted certain people) or reduced spending inflation.

And then George W Bush tackled prescription medications.

W worried during his first term about getting sufficient senior votes in his 2004 re-election campaign. His Medicare Modernization Act of 2003 was, from a political perspective, almost exactly like Johnson and Mills 40 years before, an attempt to sway seniors.

[258] OECD Health Data, 2015

W introduced Medicare Part D, prescription drug coverage, in a tremendously convoluted program. Enrolled Medicare beneficiaries are responsible first for paying the annual deductible, then for $660 of coinsurance for the next $2960 of medication costs (these are 2015 numbers), then for $3720 of drug costs, then Medicare pays the rest. Hugely complex but the Bush administration believed in cost-sharing with beneficiaries.

Part D's funding, though, was about 75% from general revenues, i.e. federal income tax collections and 25% from user fees. Once again the feds pay medical costs for an expensive population segment.

In doing so, W turned Reagan's critique of Medicare on its head. Less than 20 years after Reagan's presidency – and only about a decade after his father left office – W expanded government intervention in American medical care. The fears about creeping socialism and a socialist takeover were, apparently, less important than getting additional senior votes in the 2004 election.

Two other comments about Part D:

- Medicare is specifically prohibited from negotiating drug prices with pharmaceutical manufacturers. This was apparently necessary to get PhARMA on board.
- Part D grew, by 2014, to $76 billion or 11% of Medicare's expenditures. That roughly equaled the Part B annual expenditures for physician services.

W's Medicare Modernization Act included two other features that are relevant to this story.

First, he expanded Part C or Medicare Advantage. Under Part C, Medicare pays private carriers to manage beneficiary health. Typically Part C has smaller networks than Parts A and B and follows a traditional HMO model. This helped solidify 'narrow networks' as a cost control mechanism.

By 2014, Part C represented about 1/3 of Medicare's expenditures. Carriers average about $1100 profit per Part C beneficiary per year.[259]

Second, he introduced income tax deductibility of health insurance deductibles. Under his Health Savings Account program, people with high deductible plans could take a tax deduction when they paid their annual health insurance deductible (or even if they put the insurance deductible into a special savings account). This reduced the economic impact of health insurance deductibles to insured people.

[259] http://www.huffingtonpost.com/wendell-potter/dont-be-fooled-by-latest_b_4674385.html

Wealthy people could benefit tremendously from the tax deductibility of insurance deductibles. They could purchase a high deductible plan, put the deductible amount tax free into a savings account, have it grow tax free, then use it on medical care when needed, again tax free.

But poor people who lacked the disposable income, could not. They – increasingly over time – purchased high deductible plans for affordability reasons, then either didn't use them (again for affordability reasons) or faced economic difficulties when accessing medical care. Anecdotally, low income people began to report either that 'health insurance' turned into 'catastrophic insurance' or became equated with having no coverage at all.

A far cry from Truman's vision!

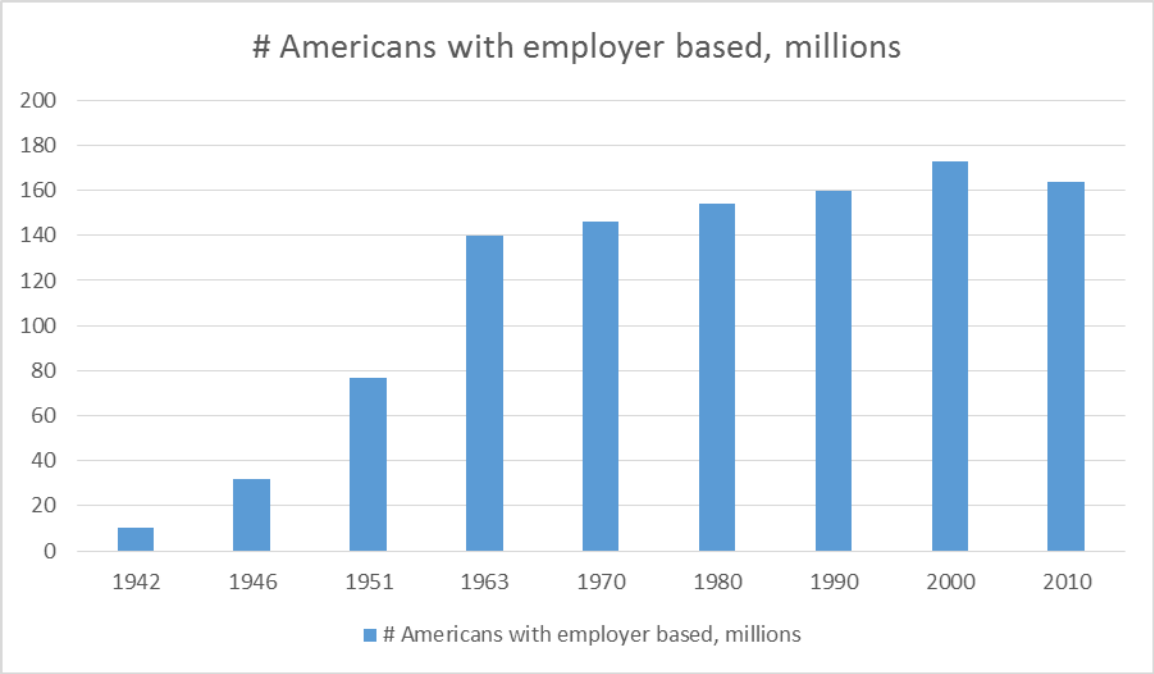
Romney takes a different approach that leads to the Affordable Care Act While W expanded government involvement in healthcare, developed new pharmaceutical markets and increased private carrier profits, Massachusetts Governor Mitt Romney introduced programs to expand coverage and actually reduce the uninsured rate.

Romney's healthcare reform centered on four key features (there were many more and I've oversimplified a very complex program):

- An individual mandate that required all Massachusetts residents to purchase private health insurance
- Subsidies to make private premiums affordable
- Guaranteed issue without rescission, meaning that individual health characteristics like pre-existing conditions were irrelevant in plan pricing and that carriers could not cancel an individual policy except for non-payment of premium
- Exchanges or online marketplaces where people could shop for individual policies

Romney knew that the then-current combination of Employer Based Coverage + Medicare + Medicaid missed a large and growing market: part timers and independent contractors. This is sometimes called the Uber economy, in which people work in multiple places none of which qualifies as full time. He knew that these people needed a mechanism – both carrot and stick – to enter the health insurance marketplace.

Romney was prescient about this. Consider the post-2000 trend in employer based coverage that ultimately unfolded.



The number of Americans enjoying employer based coverage actually began to fall post-2000. This trend, many think, is likely to continue.

Romneycare helped reduce the uninsured rate in Massachusetts to <5%. It became the lowest uninsured rate in the country.

Unfortunately, it also had about the highest healthcare costs in the country showing, once again, that access and cost control often conflict in health insurance.

Enter Obamacare Let's summarize healthcare reform progress up to Obama's election.

- Harry Truman wanted to guarantee health security for all, regardless of residence, station or race, everywhere in the United States. He overshot and failed
- Lyndon Johnson realized Truman's vision for elderly people
- Johnson and Mills teamed up to realize Truman's vision for poor people in conjunction with individual states
- Nixon solidified our employer based / private insurance carrier operated health insurance platform
- W Bush introduced tax deductibility of insurance deductibles
- Romney demonstrated how guaranteed issue, exchanges, an individual mandate and subsidies could enhance the individual marketplace

Now Obama combined all these features and experience into the Affordable Care Act of 2010.

The ACA in brief

- Community rating with no pre-existing conditions in the individual and small group markets
- Individual mandate requiring everyone to have health insurance
- Subsidies to make health insurance affordable
- Exchanges where individuals without access to employer based coverage can compare and purchase health insurance
- No annual or lifetime coverage caps
- Preventive care and pharmaceuticals included in all insurance plans

Consider Obamacare the most recent attempt to fulfill Truman's original vision. It built upon, and integrated lessons from, the previous healthcare reforms.

- It relied on the private sector, from Nixon
- It used exchanges, individual mandate, subsidies and guaranteed issue components from Romney
- It used the federal – state partnership for Medicaid expansion from Mills
- It eliminated annual and lifetime coverage caps, like Medicare, from Johnson
- It integrated tax deductibility of insurance deductibles from W Bush as a key component of the Cadillac Tax, a mechanism to fund subsidies
- It included pharmaceutical coverage like Medicare after W Bush.

Obama himself recognized the limited range of reform options available in 2010. He had to rely on our existing private sector based insurers and providers though he clearly would have preferred a different approach, saying in 2008

> "If I were designing a system from scratch, I would probably go ahead with a single-payer system" [260]

The historical reforms had eliminated that as a realistic reform option.

The ACA is likely to have a smaller impact than Medicare and Medicaid as it extends health coverage to a smaller group of people. It's likely to have only a minor impact on healthcare inflation for two main reasons.

> First, it doesn't reform our tort system, so physicians will likely continue to order excessive tests and procedures for cya reasons.

[260] http://blogs.wsj.com/washwire/2008/08/19/obama-touts-single-payer-system/

Second, it doesn’t offer or fund meaningful treatment effectiveness metrics; it likely won’t reduce the 40% waste factor we discussed in previous chapters.

Review Questions
Answers on next page

1. In 1953 the IRS made a critical ruling about the taxability of employer sponsored health insurance. What was that ruling?

   a. Employer paid health insurance is not taxable as wages
   b. Employer paid health insurance is taxable, exactly as wages
   c. Employer paid health insurance is taxable at twice the rate of wages
   d. The first $2500 of employer paid health insurance is taxable as wages but any amount over $2501 is tax free

2. Harry Truman, influenced apparently by the large number of army recruits who were too sick to fight when drafted, proposed a national cradle-to-grave healthcare financing package after World War II. How did the Republicans and the American Medical Association view Truman's proposals?

   a. They called Truman's plan 'socialism' and fought it aggressively
   b. They embrace Truman's plan as 'democracy in action' and supported it enthusiastically
   c. They both gave Truman's proposal tepid support
   d. They ignored Truman's proposal, instead focusing on expanding tax benefits to employee paid deductibles in the newly expanded Medicare programs

3. How enthusiastically did Americans adopt private health insurance after World War II?

   a. Extremely enthusiastically. The number of privately insured Americans grew from 10 million in 1940 to 76 million in 1950
   b. Quite unenthusiastically. The number of privately insured Americans fell from 10 million in 1940 to 1 million in 1965
   c. So-so, according to Brill. The number of privately insured Americans remained about the same from 1940 – 2003 when George W Bush introduced Health Savings Accounts
   d. Americans enthusiastically purchased pharmaceutical insurance both during and after World War II, but did not extend this enthusiasm to hospital or doctor coverage

4. What impact did President Johnson have on private health insurance in the mid-1960s?

a. Medicare removed elderly Americans from the private health insurance market
b. Johnson's introduction of Health Savings Accounts expanded private health insurance coverage among elderly Americans
c. Johnson's introduction of Health Insurance Exchanges dramatically reduced the number of insured Americans from the early 1960s until about 20000
d. Johnson had very little impact on American health insurance as he focused more on foreign policy, particularly the war on terrorism

5. What was the trend in employer based health insurance post 2000?

a. It expanded to include almost all Americans
b. It expanded to include almost all working Americans
c. It expanded to include many former Medicaid recipients
d. It contracted, covering fewer people in 2010 than in 2000

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Chapter 8: The Affordable Care Act

a very brief overview of a very big and complicated Act

What it is, Why it is and
Does it improve healthcare system value?

Introduction and overview

President Barak Obama introduced the Affordable Care Act (a.k.a. the Personal Protection and Affordable Care Act or Obamacare) in 2010. It's a huge piece of legislation, vast in scope and complexity, more or less a business plan for our $3 trillion healthcare economy.

At $3 trillion, our *healthcare* economy is about the size of France or Britain's *total* economy, half again as big as Russia's or India's total, and twice as big as Korea's or Spain's. [261] Our healthcare economy only serves the *medical* needs of our 310 million people, while India's *total* economy serves all the needs – medical, transportation, education, defense, foreign aid etc – of its 1 billion people. Ditto for Russia with 140 million people.

Consider the Affordable Care Act's size and magnitude as roughly equivalent to developing or fixing the entire economic program for Russia *and* Saudi Arabia, or Iran, Israel, Argentina, Poland and Mexico *together*. It's that huge and complicated and about, I would guess, equally unsuited to glib slogans or simplistic approaches.

This chapter will introduce the ACA, explain what it is, how political forces affected it and how it will, in turn, impact our healthcare system. I'll try to assess whether or not it creates or destroys healthcare systemic value though it's a tough call and one that I'll make with trepidation and caution.

The Act itself is huge, 2409 pages of text, consisting of 10 different chapters and having as its main thrust, better access to health services for Americans.[262]

Chapter 1, 374 pages, explains how health insurance becomes a guaranteed issue product (meaning you cannot be denied coverage) with an individual mandate covering all Americans. Coverage is, in other words, both available and required.

Chapter 1 also introduces subsidies, exchanges and employer's responsibilities under the Act.

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[261] World Bank, Gross Domestic Products 2013 http://databank.worldbank.org/data/download/GDP.pdf

[262] This summary comes primarily from McClanahan, Cliff Notes Version of the ACA, Forbes, 7/9/12

Chapter 2 addresses the role of public programs like Medicaid, the Children's Health Insurance Program and the Indian Health Services. This Chapter discusses subsidies and enrollment standards and extends the CHIP program through 2019.

Chapter 3 consists of 501 pages that improve healthcare quality and efficiency. This Chapter addresses the process of changing from a fee-for-service financing model to quality based payments through Medical Homes, Accountable Care Organizations and similar. It also reduces Medicare spending via efficiency gains and seems to assume that private health insurance carriers will follow Medicare's model.

Chapter 4, Prevention of Chronic Disease and Improving Health, spends 130 pages discussing how our healthcare system will transform in order to treat chronic illnesses, like obesity. It mandates food labels in restaurants and elevates the US Preventive Services Task Force's role in determining which preventive tests will be covered at no out-of-pocket cost to patients.

Chapter 5, 256 pages, tells how our healthcare work force will evolve. It addresses the lack of primary care physicians, creates the Ready Reserve Corp and increases the Public Health Service Corp of first responders to deal with healthcare emergencies like epidemics and terrorism.

Chapter 6 aims to reduce systemic fraud and abuse and expand nursing home transparency.

Chapter 7, a short chapter called 'Improving Access to Innovative Therapies' is basically dedicated to improving access to generic drugs.

Chapter 8, Senator Ted Kennedy's baby, is the CLASS act or Community Living Assistance Services and Support, or federally funded long term care insurance. This was put on the back burner as it proved so difficult to implement.

Chapter 9 explains how we pay for all this, including fees on health insurers, drug manufacturers and medical device manufacturers and the "Cadillac" Tax on high cost health plans, among other things.

Chapter 10, Strengthening Quality Affordable Health Care for All Americans, 372 pages, is a bucket list of programs that various politicians wanted to include, like gun owner's rights and Nebraska's cornhusker kickback. Some commentators, including Princeton Professor Uwe Reinhardt, suggested that much of Chapter 10 was designed to be included in either House or Senate drafts for political reasons, then cut during the conference committee's 'cleansing' process. Scott Brown's election to replace Ted

Kennedy scuttled that idea by depriving the Democrats of a filibuster-proof senate majority and effectively leaving all these programs in the final bill.[263]

Why healthcare reform in 2009

President Obama decided to move aggressively on healthcare because of several disturbing trends. From 2000 - 2006

- Health insurance premiums rose by about 80% while
- Overall inflation only rose by 20%, but
- Median household income was actually down 3% in real (after inflation) terms.

Obama and his aides worried about two different health insurance death spirals especially affecting the individual and small group markets.

The **first** kind of 'death spiral' would occur when healthy people decide not to purchase health insurance, thus leaving only sick people in the insurance pool. Premiums would rise quickly forcing 'healthier' sick people opt out, leaving only the sickest of the sick still in. Health insurance then would become a payment program for sick people, not its traditional role of protection against catastrophic financial calamity due to an unexpected illness for the vast majority of Americans.

The **second**, separate though somewhat related death spiral would occur when young people decide that health insurance is too expensive to purchase. Young 'invincibles' – so called because they don't think they'll get sick – exit the market, leaving only older and more expensive participants in the pool. Again premiums rise, causing more and more young, healthy people to leave the pool and thus depriving the insurance pool of this healthy, inexpensive population.

Obama worried that continued economic stagnation - as began with the stock market crash in 2007 - would exacerbate both of these situations. Indeed, the number of uninsured had risen in this country from under 44 million in 2002 to over 50 million in 2009.

In addition to potential insurance death spirals, Obama saw two kinds of healthcare waste consuming vast amounts of healthcare spending.

[263] Uwe Reinhardt's comments at the 2014 Pioneer Institute Hewitt Healthcare Lecture, available on YouTube https://www.youtube.com/results?search_query=uwe+reinhardt+pioneer

The **first** kind – geographic treatment variation tracked extensively by researchers at the Dartmouth Institute for Healthcare and Health Policy – alone represented about a third of all spending. Here's Dartmouth researcher Dr. Elliott Fisher after completing a massive study of Medicare treatment utilization rates: [264]

> *a large fraction – perhaps a third – of medical care is devoted to services that do not necessarily improve health outcomes or the quality of care …*
>
> *care in the U.S. could be just as good or better and cost a lot less — perhaps as much as 30 percent less — if all U.S. regions could safely adopt the more conservative practice patterns of lower-cost regions*

Many other studies and research organizations, including the Congressional Budget Office, have arrived at similar overspending conclusions.

The **second** kind of waste was identified by a research team led by Dr.Vinay Prasad, senior fellow at the US National Cancer Institute. [265] This team reviewed every article published in the New England Journal of Medicine over a 10 year period (2000 – 2010) then identified those that tested and overturned 'common' or routine medical practices. It's a fascinating though not a terribly easy-to-read study.

Prasad's conclusion:

> *Of all those things we're doing that lack good evidence, probably about <u>half</u> of them are incorrect.*

Or, as Nicholas Balakar summarized Prasad's work in the New York Times

> *Many doctors persist in using practices that have been shown to be useless or harmful*

I'll have much more to say about both the Dartmouth and Prasad studies in the chapter on Price Transparency.

Obama and his team worried that our healthcare system had no systematic, routinized mechanism for identifying such useless, ineffective or harmful practices and of informing

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[264] More Healthcare Isn't Better Healthcare, Dartmouth News, Feb 2003. See the Dartmouth Atlas for a list of other research organizations that agree with the 1/3 waste estimate.

[265] Prasad, A Decade of Reversal, Mayo Clinic Proceedings, July 2013. Short summary in Balakar, Medical Practices May Be Useless, or Worse, New York Times, 7/26/13. Quotes above from both studies. Researchers had known about ineffective treatments prior to this study, but Dr. Prasad quantified the impact in a methodologically valid fashion.

doctors. We lacked a national, comprehensive data base of treatment outcomes and metrics. The economic and personal costs of failing to develop such a data base were probably both incalculable and huge.

In 2009, thus, Obama perceived the following about our healthcare system:

- Cost trend for past 30 to 40 yrs averaged our GDP growth rate + 3 to 5%, economically unsustainable
- Coverage trend
  - Increasing numbers and rates of uninsured
  - Possible death spirals in the small group and individual markets
- Tremendous medical test and treatment inefficiency when defined by
  - Geographic variation and
  - Effectiveness
- Mediocre outcomes when measured by longevity, disease morbidity, infant mortality as compared to other developed countries

Obama's concern: the private sector, mainly health insurance carriers, physicians, hospitals, pharmaceutical companies, medical device manufacturers and similar, could not *alone* solve these healthcare problems. The government had a role and responsibility to help also.

As an analogy, consider the relationship between a city's zoning regulations and private construction companies. The city says 'build industrial buildings here and residences there', then leaves the private companies to do the actual work. The public sector's responsibility is organizational; the private sector's is fill in and implementation. This imperfect analogy may shed some light on Obama's orientation and thinking.

A different way of saying the same thing: Obama did not trust markets to solve our healthcare problems. He thought our healthcare system needed some extra-market inputs.

Two traditional visions of healthcare reform

Democrats and Republicans fundamentally disagree about the government and the market roles in healthcare reform. They've fought each other over the same basic issues for 100 years, ever since Teddy Roosevelt first introduced a national healthcare

program.[266] I'll summarize in 'compare and contrast' fashion briefly below then expand on their different approaches.

Republicans favor market solutions, arguing that efficiency comes from the unfettered relationship between a product buyer (patient) and seller (physician, hospital, pharmaceutical, etc). Republicans see high healthcare costs, rather than high uninsured rates, as the fundamental problem and they believe that the best way to lower costs is through competitive markets.

- The market mechanism promotes efficiency, meaning the best outcomes at the lowest cost, far better than any other mechanism.
- The market also stimulates medical innovation far better than any government program can.
- Activities that suppress the market do more harm than good for our healthcare system according to Republicans.
- As costs come down, so do rates of uninsured folks, since many would like to purchase health insurance policies but simply can't afford to.

Democrats see the healthcare system very differently.

- Wider coverage, they say, is a necessary precursor to cost reduction. You can't develop an efficient healthcare system while 50 million people lack access.
- The government needs to protect people against abuse by healthcare businesses. 'Yes', Democrats might say, 'we can reduce medical care costs in this country through the market mechanisms. But some ways to do that are unsatisfactory' like cancelling policies when people get sick or having stringent pre-existing condition exclusions that deny sick people access.
- Activities that focus on market solutions can do more harm than good for our healthcare system according to Democrats. That's why programs like the Affordable Care Act are necessary and important.

Both the Democratic and Republican positions presented above and below are overly simplistic summaries: sometimes Democrats agree with Republicans and vice versa,

[266] See Thomas Miller's article Health Reform: Only a Cease-Fire in a Political Hundred Year's War, Health Affairs, June, 2010 http://content.healthaffairs.org/content/29/6/1101.full?ck=nck&related-urls=yes&legid=healthaff;29/6/1101&cited-by=yes&legid=healthaff;29/6/1101

and sometimes Democrats or Republicans disagree with the summaries. Read the discussion below more as ideal positions rather than detailed policy proposals.

Paradigm Democratic Position

Democrats fundamentally believe that healthcare is a right. Americans, they say, are entitled to clean air, clean water, elementary school education and access to medical care. Extending coverage to all Americans is simply the right thing for a just, enlightened society to do.

The logical extension of the Democratic position is a national single payer system, sometimes called Medicare for All. Indeed, here is Senator Barak Obama, speaking in 2008:

> *If I were designing a system from scratch, I would probably go ahead with a single payer system.*

Democrats believe that we need more governmental involvement in healthcare, more oversight, more regulation, more programs to protect people against systemic abuse, and, most importantly, more programs to ensure equity and expand coverage rates. Coverage, according to them, is the primary healthcare systemic problem right now. It's both morally wrong and economically inefficient to continue having 50 million uninsured Americans.

Our healthcare problems, say the Democrats, are fundamentally caused by having *insufficient* governmental involvement in healthcare.

Evidence by Democrats:
Why wider coverage will lower costs

Single payer healthcare systems cost less: Medicare's administrative budget runs about 2% of total program costs, while private health insurers average around 15%. That difference – 13% of about $3 trillion in total annual healthcare spending – approaches $400 billion dollars annually.

Single payer healthcare systems generate better results: Western European countries, Canada, Japan and other developed countries that have embraced single payer healthcare enjoy longer life spans and lower infant mortality rates than we do.

Our private sector based healthcare financing system generates poorer value, meaning poorer results at higher costs. One key reason for this, according to Democrats: our overly expensive healthcare system deprives our various social programs of resources. In fact, Americans spend less on social support programs like

housing subsidies, nutrition programs, job training and retraining and public health in general than do most other developed countries. [267]

Democrats point to people like Joe described below, as needing far more social supports than exist today. [268] By medicalizing Joe's problems – meaning treat what are fundamentally social problems with expensive medical care – we end with poorer outcomes at higher costs. (I included this discussion in Chapter 1 already. If you remember it, skip it this time. Apologies for redundancy.)

Joe, 28 years old, suffers from type I diabetes. He works only occasionally, has little cash available and consumes a poor diet consisting mainly of processed food with few fresh fruits or vegetables.

Joe's shoes have holes in them so his feet are constantly damp. Last year he had 2 toes removed from his right foot due to poor circulation, costing $7,100 though he didn't pay any of this on his own. His doctor admonishes him to keep his feet dry, eat better food and take his insulin but Joe can't afford to do any of these sufficiently regularly.

He will likely lose toes on his left foot costing $14,000 and faces a potential below-the-knee amputation ($17,000) leading both to total medical expenses exceeding $30,000 and a lifetime existence on social benefits. Post-amputation, it's unlikely that Joe will earn enough to pay very much in taxes – one standard measure of contribution to our society - if he pays anything at all.

The first tragedy in Joe's story: new shoes cost $50 and apples about $1/day. We, as a society, could solve many of Joe's medical problems for a few hundred dollars annually and help turn him from an economic 'taker' into an economic contributor.

The second tragedy is that we already spend enough on healthcare + social service combined to treat problems like Joe's. In fact, according to Bradley and Taylor's research published in The American Paradox, the US already spends at about the OECD average for healthcare and social services together. But we misallocate those resources. We're 1 of only three countries that spends the majority of [medical + social] on 'medical'; most other countries spend about 2/3 on 'social'.

We have, thus, medicalized our social problems, very expensively and inefficiently. That's why single payer systems generate better results at lower medical costs than we

[267] For a fascinating discussion of this, see Bradley and Taylor, The American Paradox

[268] Bradley and Taylor start their book with this description

do: by controlling medical spending more tightly, they allow societies to invest more in social programs.

This resource misallocation harms everyone in our society, claim Democrats, not just the poor. They cite research studies to back up this line of reasoning. Elizabeth Gudrais, for example, summarizing research by Harvard Professor Majid Ezzati, finds that [269]

> Americans at top income levels live longer than people at bottom income levels, *but less long than people at top income levels of other countries*

Bradley and Taylor find, in The American Paradox, that

> American health outcomes *among insured populations* lag substantially behind those of other countries.

Our entire system needs, according to Democrats, a complete overhaul with Medicare for All or something similar as the ultimate goal.

Why the Democratic vision won't work

The Democratic single payer goal is politically impossible to achieve. Consider these factors:

First, we already have an $800 billion private health insurance industry and we're not in the business of nationalizing industries in this country, especially not industries that big.

Some 160 million Americans get employer based private insurance today, and 98% of companies with more than 200 employees offer it. The push-back from these people against a Medicare for All program would be enormous and create a political passage impossibility.

Second, most Americans like the existing system with polls showing support at about 2/3 of the population, about the same rate as support the single payer systems in other countries. (Poll methodologies vary but this seems a general average of the dozens I've read.) There's no popular sentiment for dramatic systemic change.

Third, all single payer systems developed organically, each with its own unique flavor and features. The British National Health Service, for example, started in 1942 when German bombs destroyed much of Britain's infrastructure. There wasn't much healthcare existent, nor much alternative to government provided medical care. Post war the system grew, people became used to it and today it flourishes.

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[269] Gudrais, Unequal America, Harvard Magazine July, 2008

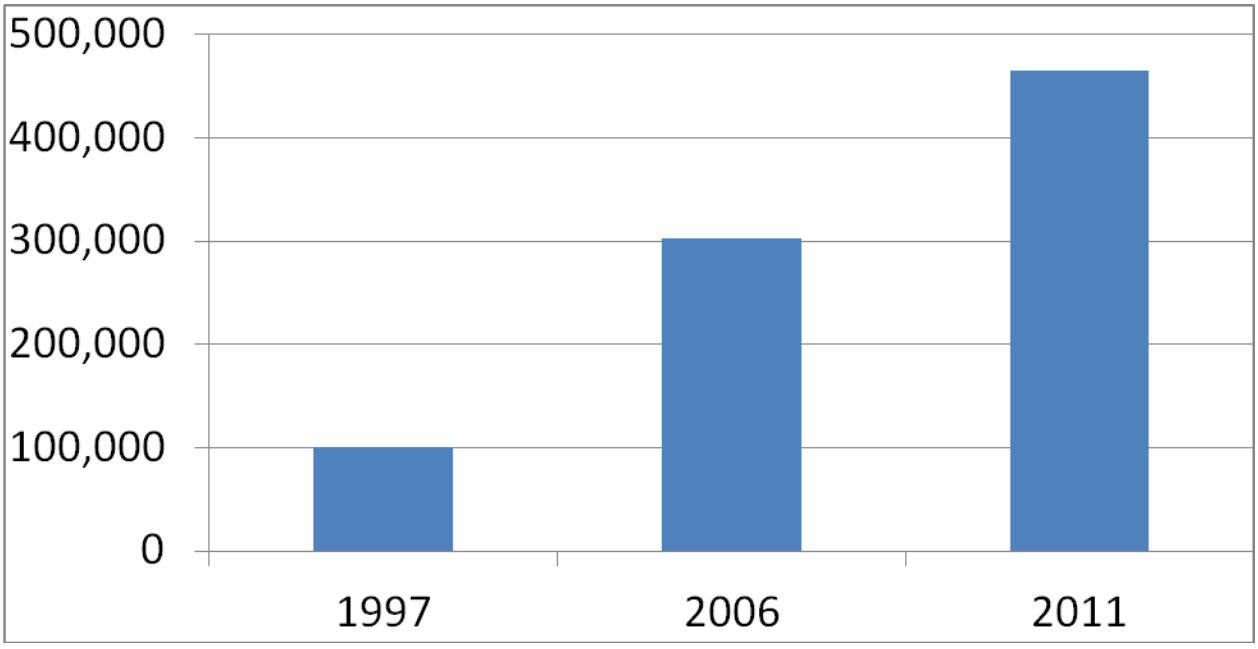
Our current medical system looks nothing like Britain's in 1942. The development analogy doesn't work.

Fourth, Medicare isn't actually all that efficient. Its payment formulas promote excess and it's a poor basis for systemic expansion, at least in the opinion of many commentators.

Consider this brief history. Medicare's 1980s payment program rested on a 'cost plus' formula, in which providers were reimbursed their actual service delivery costs 'plus' a small profit percentage of 'cost'. This rewarded the least efficient care providers the most. A hospital might provide a certain service for $100. At a 10% 'plus' factor, it earns $10. But if a different hospital can provide the same service for $500, it earns $50. The clear message to hospitals: become less efficient.

Medicare learned this by the 1990s and switched to fee-for-service payments. Now hospitals would get paid a specific amount for each service provided. This rewarded excessive care and led, in part, to explosions in our surgery rates. See the growth in spinal fusion surgeries at least partially due to our payment incentives.

Number of spinal fusion procedures performed annually in the US



Medicare and providers fight over payment codes and costs, not patient outcomes. It has about 140,000 billing codes. [270] It also has, depressingly, about a 20% patient readmission rate within 30 days of hospital discharge. Perhaps the two are related.

Fifth, even if Democrats could enact a Medicare for All type program, Republicans would object, fight it and keep on fighting. That's one lesson of our hundred year's war over healthcare reform – it's never over.

Though perhaps laudable in goal, the paradigm Democratic approach to healthcare reform is simply impractical.

Paradigm Republican Position

Republicans see healthcare very differently from Democrats. They see healthcare provision as a product, not a human right. As a product, it will respond to market forces that demand efficiencies. Republicans believe that the suppliers of healthcare will develop new products to capture markets, that the best of the suppliers will succeed and that our system will be better for it.

The key element in the Republican's vision is stimulation of consumer demand for services by getting money into patient's hands. They favor refundable tax credits that allow people to purchase their own insurance policies rather than having their employer do this for them, and higher deductibles so consumers have 'skin in the game' when making medical care decisions.

Republicans think our uninsured problem is caused primarily by the high cost of medical insurance. Their efficiency-oriented programs will reduce costs they say, thereby making insurance affordable to more people and reducing our rate of uninsured to a more reasonable number, one that public programs can, realistically, address.

Mitt Romney, in an early draft of RomneyCare in Massachusetts, aimed for individual monthly premiums of $200. Though never passed, that is the type of low cost insurance option Republicans would like to offer.

Republicans worry about market inefficiencies causing US hip replacements to average about $40,000 while Spanish cost about $8000, or New York City colonoscopy prices to range from $2000 to $8700 depending on the hospital, for exactly the same service. [271]

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[270] http://www.forbes.com/sites/brucejapsen/2013/05/04/140000-new-government-diagnosis-codes-doctors-hate/

[271] Data from Elizabeth Rosenthal, NY Times, Paying Until it Hurts

These discrepancies exist because market forces are suppressed in our healthcare system by regulations and public programs.

Our healthcare problems, say the Republicans, are fundamentally caused by having *too much* governmental involvement in healthcare.

Evidence per Republicans

Today's 'health insurance', say Republicans, actually combines two different financial products, 'insurance' traditionally defined as protection against catastrophic financial harm from unexpected events, and 'routine medical financing' or payments for normal, expected medical activities.

Suppressing market financing for routine, predicted medical activities like flu shots, child deliveries and knee replacements decreases efficiency and raises costs. Better financial tools exist.

Using insurance to finance all medical activities opens the system to moral hazard abuse. 'Moral hazard' means people spend insurance money less judiciously than they would spend their own and get more medical care because it appears 'free' to them. An insurance based healthcare financing system is, virtually by definition, one that promotes excessive care and waste.

Republicans sometimes point to Switzerland and Singapore as two countries that have organized their healthcare financing systems 'efficiently'. Other times they point out specific examples of efficient healthcare providers like

- Shouldice Hernia Hospital in Canada that generates outstanding outcomes for about half the normal US cost. This hospital is so fascinating that the Harvard Business School case study on it was, when last I checked, the 4th best seller of all its case studies.
- Apollo Hospitals in India, subject of another Harvard Business School case study, and Bumrumgrad in Thailand, compete for international patients by providing outstanding outcomes at relatively low costs.

Republicans would like to see the efficiencies of Shouldice, Apollo and Bumrumgrad copied throughout the US.

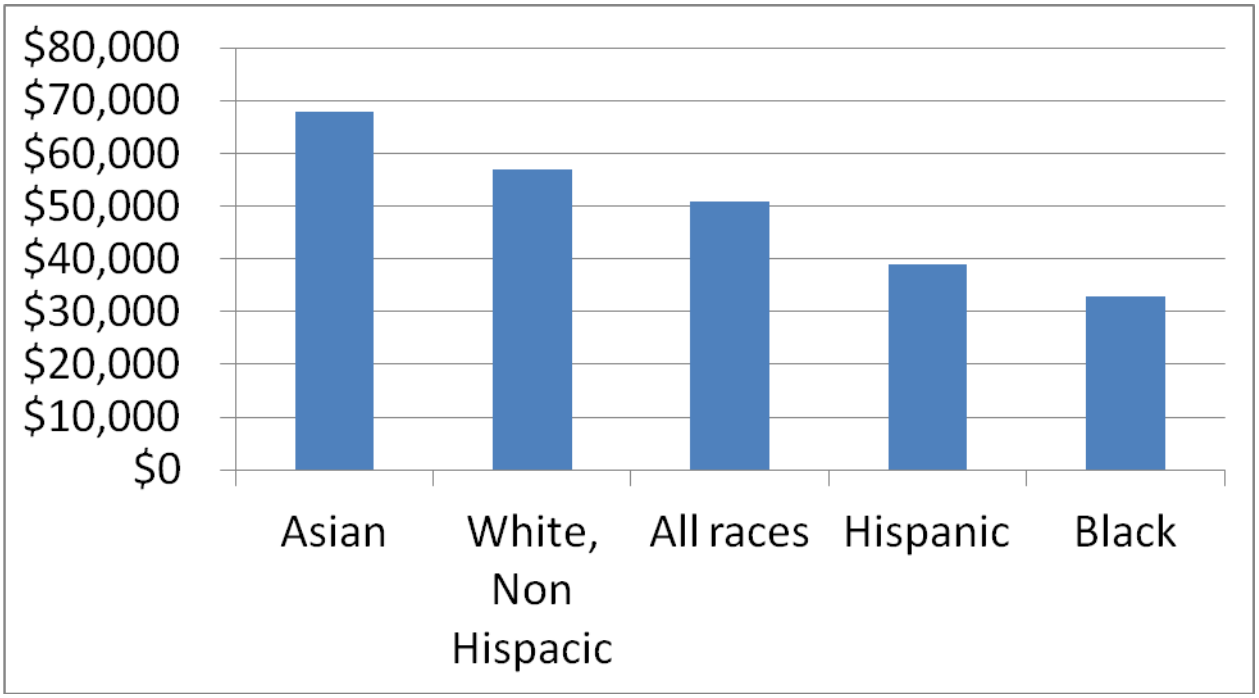
Why the Republican vision won't work

First, health insurance has traditionally been unavailable to many Americans due to pre-existing conditions, especially in the individual markets. Tax credits don't matter if insurance is simply unavailable to you.

Second, health insurance may remain unaffordable if the tax credit is too small. Republicans since John McCain ran for president in 2008 have suggested a family tax credit around $5000. Family health insurance policies average around $20,000. I don't know how that size refundable tax credit makes family policies 'affordable'.

Consider the distribution of household incomes in this country as presented in this chart using 2012 census data.[272]

Median US household incomes, 2012



The median household income in this country was around $50,000 with a median household size of about 2.5 people. It's not obvious that the $5000 tax credit goes to health insurance rather than, say, food or housing.

It's even less obvious for the third of Americans who are Hispanic or Black, both averaging around $35,000 per household.

[272] Income, Poverty and Health Insurance Coverage in the US 2012, DeNavas-Walt, US Census Department

Third, Republican proposals haven't been vetted otherwise known as 'eviscerated' by lobbyists. We have only bare bones Republican proposals and cannot anticipate how any actual legislation might change or what the legislation might include after going through Congress. Would Republicans make the same deals with general hospitals to restrict specialty hospital development, pharmaceuticals to kill comparative effectiveness research and lawyers to avoid on tort reform as Obama did? (See below). We don't know. Nor do we know what other issues may arise and political compromises any prospective Republican plan may involve. For that reason, I'm uncomfortable pitting *un-vetted* Republican theories against *vetted* Democratic proposals and attempting to draw any meaningful conclusions.

Partisans build straw men to destroy

Both political parties ask the same question, though from different points of view: Do you really trust *them* with your healthcare?

Reform advocates play on distrust of private insurers that

- Charge subscribers outrageously high premiums to fund their
- Bloated, uncaring staffs that
- Reject claims or rescind policies when you get sick, just to enhance their bottom lines
- While paying healthcare executives millions of dollars annually.

See - you need more government oversight to protect you!

Reform opponents generally offer dire forecasts about the future, suggesting death panels, economic disaster, loss of liberty or fundamental changes to the American way of life. Opponents have used the same word – socialism - to fight healthcare reforms for at least 50 years, all the while vowing to protect Medicare.

Here's Ronald Reagan, for example, circa 1966 arguing against Congressional passage of Medicare

> one of the traditional methods of imposing socialism on a people has been by way of medicine. It's very easy to disguise a medical program as a humanitarian project, most people are reluctant to oppose anything that suggests medical care for people who possibly can't afford it
>
> Write to Congress 'We do not want socialized medicine'

Today's reform opponents often echo the same sentiments.

Both reformers and opponents, however, say exactly the same thing about themselves and their opponents:

> We put forward realistic common sense suggestions but the other guys follow strict ideology, refuse to compromise and have another agenda.

The Democrats gain power

In 2009, Democrats gained control of the Presidency and both Houses of Congress with, for the first time in decades, a filibuster proof Senate majority. This gave them both the opportunity to implement their own healthcare agenda and the responsibility to do so.

Simultaneously, according to Paul Starr in his book Remedy and Reaction, various healthcare interest groups realized that the current health insurance framework and inflation rate trend were unsustainable. Their appetite for systemic modification met the Democrats ascendency to power.

The Democrats decided to back off their Medicare for All approach and make a Grand Bargain with the health insurance industry:

- The government would require everyone to purchase health insurance and subsidize those unable to afford it;
- The industry would accept all applicants, regardless of medical condition, at community rates.

The Affordable Care Act, thus, rests on three legs:

- Leg #1: Community rating with guaranteed issue
- Leg #2: the Individual Mandate
- Leg #3: Subsidies to make insurance affordable

Everything else, more or less, supports these three components.

Note how this addresses Barak Obama's original concerns:

- The individual mandate solves the various death spiral problems
- Subsidies address the huge uninsured problem

- Guaranteed issue addresses the access problem

Republicans, still believing that more governmental involvement in healthcare simply makes the system worse, and realizing that they couldn't advance their agenda politically, decide to fight judicially and challenge two of these three legs to Court. 'If you can't win politically, try to win in court' became their approach as the hundred years war over healthcare reform continued.

Let's explore each ACA component.

Leg #1: Community rating with guaranteed issue policies

The ACA reformed the health insurance markets by prohibiting carriers from discriminating based on medical conditions or employment status. No longer would we have 'group' and 'non-group' rates or pre-existing condition exclusions. This was in line with the Democratic idea that healthcare is a right.

Community rating without compulsion, however, leads to adverse selection. Healthy people, according to this theory, would not purchase health insurance until they got sick. Carriers would price policies at the sick person rates, thus driving more healthy people out of the market, destroy the notion of 'insurance pools' and lead to a different type of death spiral than previously discussed.

The flip side, if you will, of guaranteed issue health insurance at community rates is the individual mandate.

Leg #2: The individual mandate

The individual mandate or requirement that all Americans have health insurance, solves the adverse selection problem. Carriers, by and large, went along with the 'guaranteed issue at community rate' program, since the individual mandate simultaneously eliminated the adverse selection problem and provided them with 30 million new customers.

Politicians, however, were a different story. Some saw the individual mandate as a tax, others as an infringement on individual liberties and still others changed their minds with the political winds. I'm not sure any added constructively to the discussion. Since I'm a non-partisan commentator, I'll point out the position changes and discrepancies among both Republicans and Democrats. Neither, in my opinion, comported themselves with distinction or honor.

Consider first what Iowa Republican Senator Charles Grassley said to Chris Wallace on Fox News, June 14, 2009 about the individual mandate: [273]

> There isn't anything wrong with it, except some people look at it as an infringement upon individual freedom.
>
> But when it comes to states requiring it for automobile insurance, the principle then ought to lie the same way for health insurance, because everybody has some health insurance costs, and if you aren't insured, there's no free lunch …
>
> I believe that there is a bipartisan consensus to have individual mandates.

Grassley completely changed his position a few months later, as he said to the Washington Monthly on October 7 of the same year:

> the individual mandate, which for the first time would have a federal penalty against people who don't have health insurance.... I'm very reluctant to go along with an individual mandate.

And, just in case anyone was confused (?), he explained his position to the Huffington Post on February 1, 2011

> I think it's a violation of the Constitution to tell you 'you have to buy something'

Note how Grassley doesn't complain about the cost of the mandate or accuse it of being a tax, two standard refrains from Republicans. Why would he avoid those positions? (Answer below)

Now consider Newt Gingrich's 2008 comments, printed in Forbes. [274]

> you've got to require everybody to either have insurance or to post a bond…The fastest growing section of the uninsured is people [with] over $75,000 income, who are making a calculated gamble that if they get sick, you'll take care of them. I think that's just immoral.

Gingrich clearly understands both the adverse selection problem and free rider problem, i.e. that people receive medical care that they don't pay for.

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[273] http://www.foxnews.com/story/2009/06/14/transcript-sens-dodd-grassley-on-fns/

[274] Roy, Gingrich Now Says He Was 'Wrong', Forbes, 12/28/11

> the one loophole I'll give them is, if they don't want to buy any insurance, post a bond. We can figure out the value of the bond, but probably if you posted $100,000, $150,000 bond, you wouldn't have to buy

He said pretty much the same thing on Meet the Press in May of 2011:

> I've said consistently that we ought to have some requirement that you either have health insurance, or you post a bond, or in some way you indicate you're going to be held accountable.

All this was before he called the individual mandate 'fundamentally wrong' on his 2012 Presidential website:

> I am completely opposed to the Obamacare mandate on individuals…. I am against any effort to impose a federal mandate on anyone because it is fundamentally wrong

He explained why during the GOP Presidential Debate in Manchester, New Hampshire on June 13, 2011, shortly after his Meet the Press statement above:

> If you explore the mandate, it ultimately ends up with unconstitutional powers. It allows the government to define virtually everything. And if you can do it for health care, you can do it for everything in your life, and, therefore, we should not have a mandate.

Like Grassley, Gingrich opposes the individual mandate on liberty, not tax grounds: he also omits the standard Republican outcry against taxes. Why? (answer still coming, below)

I have no particular antipathy for either Grassley or Gingrich and no particular reason for highlighting these two Senators. I simply started researching statements about the individual mandate, found the information above, and stopped there. I expect I could have found similar discrepant statements from others.

Meanwhile, Barak Obama, trying to gain political support for the ACA, engaged in the following discussion with George Stephanopoulos on ABC News about the individual mandate:

> STEPHANOPOULOS: But you reject that it's a tax increase?
>
> OBAMA: I absolutely reject that notion. [275]

[275] Good, Obama in 2009: The Individual Mandate is Not a Tax, abcnews.com, 6/28/12

He clearly didn't want to be seen as a tax raiser.

Nancy Pelosi said pretty much the same thing to David Gregory on NBC News

> GREGORY: It is a new tax on the American people.
>
> PELOSI: No, no, no. It's not a tax on the American people.[276]

The Democrats don't want to call the mandate a 'tax' because they'll lose politically. But the Republicans don't want to call it a tax either because they'll lose in court; they know that Congress has the power to tax even if it's politically unpalatable. They can score political points by complaining about 'taxes' and win an occasional battle here and there, but they know they'll ultimately lose the legal war if they base their opposition to the individual mandate on taxes. Instead they play the liberty card and hope it carries the day in court. Stay tuned.

During the arguments in the court challenge, before the Fourth Circuit Court, US Acting Solicitor General Neal Katyal, speaking for the government (i.e. the Democrats, since the ACA passed with only Democratic senators supporting it) said the individual mandate is

> independently authorized by **Congress's taxing power**…The minimum coverage provision appears in the Internal Revenue Code and **operates as a tax**. It is projected to raise billions of dollars in revenue each year.
>
> The practical operation of the provision **is a tax**. Individuals who are not required to file income tax returns for a given year are not required to pay the penalty [277]

Solicitor General Donald Verrilli's brief on the legality of the individual mandate said pretty much the same thing: "Congress' taxing power provides an independent ground to uphold the minimum coverage provision" [278]

Is the individual mandate a tax as the Democrats say it is or it isn't, depending on which Democrat was talking and who he/she was talking to? Or is it a violation of individual liberty as Republicans said it is, shortly after they said it wasn't?

The US Supreme Court ruled 5-4 that the individual mandate is a tax on people who don't have health insurance, saying, in the words of Chief Justice John Roberts, it

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[276] Jones, Pelosi: Individual Mandate Isn't a Tax, cnsnews.com, 7/2/12

[277] Roy, Obamacare's Individual Mandate 'Is a tax', Forbes, 7/6/12

[278] Ibid.

‘makes going without health insurance just another thing the government taxes’. It’s not, apparently, an attack on individual liberty.

What is the individual mandate economically?

What might the Democrats have done had the Supreme Court decided against the individual mandate, i.e. that is was unconstitutional? Uwe Reinhardt gives us a glimpse of one possible thought process.

The individual mandate acts economically, he says, as an intergenerational grand bargain. It protects today’s young when they get old from paying actuarially based health insurance premiums.

The young pay in now and subsidize the elderly, according to Reinhardt, and the individual mandate guarantees that when they get old, some other young people will pay in to protect them.

Reinhardt suggests an economic alternative to the legal individual mandate. You don’t need to purchase health insurance, he proposes, but if you don’t, you never can. If you opt-out, in other words, you can never opt-back-in. That restriction, he thinks, will function just as well as the individual mandate.

Perhaps this was a Democratic fallback position, in case the Courts decided differently. I don’t know but suspect they would not simply have given up the fight. Our hundred years war somehow just keeps on going.

Interestingly Reinhardt’s Princeton colleague, Paul Starr, recommends only a 5-year opt-back-in restriction. The lifetime ban, he thinks, is simply too brutal. Maybe that would have been the political compromise position.

Leg #3: subsidies to make health insurance affordable

The ACA provides subsidies to individuals and families earning up to 400% of the federal poverty level. Since the Obama administration wanted to keep the ACA ‘revenue neutral’, meaning that it would not add to the national debt, it raised money to fund those subsidies in several creative ways, none of which, of course, avoided controversy.

First, the ACA ends ‘overpayments’ to Medicare Advantage. In this program, Medicare pays private insurance carriers to manage Medicare beneficiaries. The private carriers, in other words, made money off of Medicare Advantage.

Since the carriers were going to get some 30 million new subscribers under the ACA and make money off of them, Obama reasoned that they could give back some of what they got from Medicare Advantage.

‘Not even close’ argue Republicans. Medicare Advantage is the most efficient part of Medicare. The ACA is gutting, in other words, the only part of Medicare that actually works well.

Second, the ACA increases taxes on industries that will benefit from the 30 million newly insured Americans, like medical device manufacturers. Republicans say this stifles job creation in this dynamic, growth industry.

Third, the ACA increases taxes on the richest Americans, those earning more than $250,000 annually. The Democrats say that wealthy Americans benefit from lots of social investments – roads, bridges, public schools etc – so they should give a very small portion of their incomes back to benefit those needing health insurance subsidies.

Republicans say this penalizes job creators.

Fourth, the Cadillac tax. Beginning in 2018, sponsors of insurance (not the beneficiary, i.e. employers not employees) pay a 40% tax on the portion of premium over $27,500 for family plans and $10,200 for individual plans. It acts more or less like the luxury tax in baseball.

Three goals of the Cadillac tax

First and perhaps foremost, the Cadillac tax provides revenues for ACA subsidies, probably in the $16 billion dollar per year range. [279] It does this by reducing the tax deductibility of employer funded health insurance premiums.

This tax benefit costs the US Treasury about $250 billion annually as is the biggest loophole in the US tax code. The home mortgage interest deduction, by comparison, only costs the Treasury about $70 billion per year.

It acts, economically, as a subsidy for wealthy people generally, encouraging them to use more medical care. Wealthier people tend to choose more generous health insurance policies with lower deductibles, and pay higher premiums than poorer people who more typically choose higher deductible plans. The premium deductibility, thus, benefits the wealthier more. The Obama administration and, interestingly, some Republicans like Paul Ryan (see below) think this is wrong and/or economically inefficient.

[279] Turner, et al, Why Obamacare is wrong for America, page 35

- Obama thinks it's wrong for 'average' Americans, with household incomes around $50,000 and high deductible health insurance policies, to subsidize the lower deductible plans purchased most frequently by richer people

- Ryan opposes our overall increase in tax deductible benefits of which health insurance is one. Consider this quote from the foreward to Turner's book Why Obamacare is Wrong for America. The tax deductibility of employer paid premiums, says Ryan…

  tilts the compensation scale toward ever-greater (tax free) benefits and away from higher (taxable) wages.

  This isn't just a big driver of runaway healthcare costs, as more dollars chase the same amount of services.

  It's also a big reason why too many Americans haven't seen a raise in a long time.

Ryan, in his budgetary 'Roadmap', called for repealing the tax exclusion for employer paid premiums and replacing it with a fixed-dollar refundable tax credit. [280]

Second and related, the Cadillac tax forces wealthier people to shop more wisely for their medical care by increasing their deductibles and copayments. This is a tacit acceptance of the W. Bush administration's Health Savings Account approach to reducing moral hazard related systemic waste. Moral hazard, if you remember, is the phenomenon in which people spend the insurance carrier's money less wisely than they would spend their own and get more medical care than they need because it appears free to them. Moral hazard is an inflationary force in our healthcare system.

The Cadillac tax attempts to reduce moral hazard excess by ensuring that all Americans – not just the middle class and poorer among us - consider the necessity and cost of each procedure.

Third, the Cadillac tax reduces the amount of money flowing into our healthcare system. This should, in theory, also have some inflation-mitigation impact.

Legal problems with subsidies: King vs. Burwell

We may delete this section if/as the King decision becomes clear

[280] Turner, ibid, page 201

ACA opponents, continuing the Hundred Year's War Over Healthcare Reform, challenged the constitutionality of subsidies available through federally-established exchanges.

Background: King, a Virginia resident, earned below the individual mandate threshold so would not be required to purchase health insurance absent a subsidy. With the subsidy, however, he would need to purchase a policy or face the IRS penalty. King, apparently, didn't want health insurance.

Virginia did not establish its own health insurance exchange but instead used the federally established exchange as did 34 other states.

King challenged the constitutionality of subsidies in Virginia since, according to the Affordable Care Act wording, subsidies are available to people 'enrolled in through an Exchange established by the state'. The Virginia exchange was not established by the state of Virginia, but rather by the feds.

King, the plaintiff in this case, argued that Congress intentionally restricted payment of subsidies to state exchanges as an inducement to getting states to set up exchanges. (Their legal argument is actually much more complicated than this but let's stick with an overview.)

The government, the defendant here, argued that the law intends for federal exchanges to be treated identically to state exchanges and that, at least, the IRS interpretation of the statue in question was 'reasonable'.

The Fourth District Court heard the case and ruled unanimously for the government saying that the wording in the statute was ambiguous, and that the IRS interpretation was reasonable. HOWEVER, and, as we have learned about healthcare reform, nothing is ever settled, the District Court also

> "cannot ignore the common-sense appeal of the plaintiffs' argument; a literal reading of the statute undoubtedly accords more closely with [the plaintiffs'] position," and "the [government has] the stronger position, although only slightly."

The US Supreme Court agreed to hear this case and is expected to rule in the spring of 2015. I, of course, have no idea what or how they will decide. Some impacts of a decision in favor of the plaintiff, however, are either clear or troublesome.

According to friend-of-the-court briefs filed in late January, 2015 by the American Cancer Society, American Diabetes Association, American Heart Association and National Multiple Sclerosis Society, some 10 million Americans will lose their health insurance subsidies should the Court rule in favor of King.

This will lead to ‘severely dysfunctional insurance markets’ in 34 states according to an amicus brief filed by America’s Health Insurance Plans on January 29, 2015.

The Commonwealth Fund projected the impact on individual health insurance premiums: [281]

- A 40-year-old nonsmoker in Cheyenne, Wyoming, earning $20,000 annually pays $84 in premiums each month if she chooses the benchmark silver plan. If subsidies are terminated, she pays $407 for the same plan—more than 20 percent of her wages.
- In the more competitive Miami insurance market, that same woman pays the same amount for the benchmark plan with the subsidy in place ($84), but the price jumps to $274 without it.
- Individual premiums could increase by 47% as healthy people drop their coverage and only sicker ones retain it (adverse selection leading to a death spiral)
- The insurance market, access and coverage consequences of a pro-King decision would be, according to this analysis, ‘dramatic’.

We cannot predict how this decision might ultimately impact and change our healthcare system. Stay tuned.

Compromises necessary to make the Grand Bargain

I’d like to discuss only 3 of the many compromises the Obama administration made to ensure passage of the Affordable Care Act. Ezekiel Emanual, in his overview book Reinventing American Healthcare, called these examples of ‘the tortured interplay of policy and politics’. Did these compromises allow enough of the Democrat’s vision to remain? Did they so severely impact the legislation as to destroy its original intent? Did they buffer the Democratic vision enough for some Republicans to accept? All tough questions. I don’t know most of the answers.

Restrictions on specialty hospitals: Most American hospitals today are ‘general’ hospitals that provide virtually all medical services to people living in their catchment area. ‘Specialty’ hospitals, by contrast, provide only 1 service.

[281] http://www.commonwealthfund.org/publications/blog/2015/feb/king-v-burwell-what-shutdown-could-mean-consumers?omnicid=EALERT714323&mid

General hospitals, like any businesses, worry about competitors. They demanded protection against specialty hospital encroachment into their markets as a price for supporting the Affordable Care Act. They got it in the form of some very burdensome regulations regarding specialty hospital development and expansion. What this means for American patients in terms of value creation – the impacts on hospital costs and quality - is an open question.

The hospital sector of our economy is huge, comprising some 5,000 acute care facilities with some 800,000 beds and 4.6 million employees (potential voters). Hospitals tend to be the largest private employers in each state. See this list of the 10 largest Massachusetts private employers in 2012, for example, with hospitals in bold:[282]

Employer	# Mass Employees
Massachusetts General Hospital	**24,000**
Stop & Shop	23,000
University of Massachusetts	17,600
Steward Healthcare	**17,000**
Harvard University	16,800
Brigham and Women's Hospital	**15,000**
UMass Memorial Hospital	**14,800**
MIT	14,000
Raytheon	12,400
State Street	12,400

Hospitals are 4 of the state's top 10 private employers. This represents both a great number of votes, significant lobbying power and a potentially enormous source of political campaign contributions.

Other states show similar employment demographics.

A huge fear among general hospitals is that specialty hospitals will pick off the most profitable market segments – orthopedics, cardiology or dermatology, for example - and leave general hospitals only with the least profitable like psychiatric wards and geriatrics.

Among the well-known specialty hospitals in this country:

- Dana-Farber (cancer, Boston)

[282] Boston Business Journal April 24, 2012

- Joslin (diabetes, Boston)
- Massachusetts Eye and Ear (Boston)
- Hospital for Specialty Services (orthopedics, New York)
- MD Anderson Cancer Center (Houston)
- Memorial Sloan-Kettering (cancer, New York)

General hospitals are probably right to worry about specialty competition. Regina Herzlinger claims ‘specialty hospitals generally provide better, cheaper healthcare’ in her book Who Killed Healthcare, then goes on to explain the interplay between lobbyists, politicians and general hospitals [283]

> The general hospitals go to Congress and they say, These specialty hospitals, they're bad for my health. They're killing me. In the rest of the economy, if Dell said, Hewlett-Packard is killing me so much in the printing business that I can't sell computers anymore and I'd like you to drive them out of business, Congress would say, Go away. If you can't compete with Hewlett-Packard, don't come to us. You need to be more efficient. We will not eliminate your competitors.

But we treat general hospitals very differently, despite evidence of their inefficiency or poor value creation.

Jonathan Bush from athenahealth agrees with Herzlinger. [284] He calls the mergers of 551 hospitals between 2007 – 2012 a ‘victory of the inefficient’ that allowed general hospitals to charge premium prices for commodity services like hernias, hysterectomies, hip replacements and births, and use their political clout to raise prices, control referrals and keep competitors out.

Bush questions general hospital efficiency, noting that hospitals averaged 10 employees per physician in 1990, before all these mergers, and 16 employees after despite the computer revolution and the outsourcing industry developing during this period. Those impacts were supposed to make businesses more efficient, not less.

The Affordable Care Act negotiators, realizing that they needed hospitals as their partners in healthcare reform, agreed to the following specialty hospital restrictions (partial list).

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[283] Galvin, Consumerism and Controversy, Health Affairs, July 2007

[284] Bush, Where does it hurt?, Chapter 5

- Specialty hospitals must obtain Medicare Certification by December 31, 2010 if they want to treat Medicare patients. [285] Few hospitals can remain viable without Medicare's business.

- Specialty hospitals could not expand their capacity beyond the number of operating rooms, procedure rooms and beds for which the hospital was licensed as of March 23, 2010, unless an exception is granted by the Secretary of the Department of Health and Human Services [286] The political lobbying for and against exception provision would be, I expect, fierce.

- New and expanding specialty hospitals must be located in a county where population growth is 150% of average state growth for past 5 yrs

  - Have a Medicaid inpatient admission percentage equal to or greater than the average of all hospitals in the county

  - Be located in a state with a below-national-average bed capacity and

  - Have a bed occupancy rate greater than the state average. [287]

Under the Affordable Care Act, will we see another Dana-Farber hospital built in another city? Unclear. Will this create more or less value for American healthcare consumers? Also unclear.

But what is less unclear is that existing general hospitals will face less cost and quality pressure than otherwise.

Was this a deal with the devil, one from which American patients and premium-payers will benefit? I certainly can't say.

Comparative effectiveness research: How can a patient tell which of two drugs works better, or even if either drug works at all? How can you tell if back surgery will more likely alleviate your back pain than would physical therapy? Should you have coronary angioplasty or take aspirin to prevent a heart attack?

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[285] http://www.healthcapital.com/hcc/newsletter/04_10/Specialty.pdf

[286] http://www.coxsmith.com/portalresource/lookup/wosid/intelliun-105-8302/media.name=/LIBRARY1Poppittpresentation.PDF

[287] http://www.outpatientsurgery.net/outpatient-surgery-news-and-trends/general-surgical-news-and-reports/healthcare-reform-bill-puts-physician-owned-hospitals-in-peril--03-24-10

Though it's easy to find answers to these questions – just ask google – it's hard to determine if the answers are right. Drug companies typically study their own drugs for example and, not unsurprisingly, find they work better than the competition's: [288]

- In 5 trials funded by Eli Lilly, it's drug Zyprexa was better than Risperdal manufactured by Janssen
- But in 3 of 4 trials funded by Janssen, Risperdal was better than Zyprexa

This situation exists throughout the medical system, from drugs to surgeries and back again. We often simply don't know, objectively and conclusively, what works well in medicine, what poorly and what not at all.

Obama wanted the Affordable Care Act to establish and fund 'comparative effectiveness research' to test various medical interventions and determine how well they really worked. He also wanted consumers to have access to this 'care quality' information along with pricing information, so they could spend their healthcare dollars wisely.

In other words, Obama wanted to treat healthcare services just like other goods and services. You wouldn't purchase a TV without knowing its quality, nor a steak, nor hire an architect or a plumber. The same, thought the Democrats, should hold true in healthcare. Obama thought the government had an important role to play here, to establish comparative study guidelines and methodologies and to become the trusted, objective repository of all this data and information.

Not so fast, warned industry lobbyists. "You have to be very careful," said "Billy" Tauzin, then president of the Pharmaceutical Research and Manufacturers of America, in explaining why he mobilized his industry's legions of lobbyists in fierce opposition to the administration's proposal. "An arrogant staffer writing a report was about to dramatically change the direction of health care in America." [289]

PhARMA worried that objective comparative research would show that many drugs were ineffective or harmful, which would harm drug companies profits. That would have been a deal-breaker in Obama's attempts to get drug manufacturers on board as ACA allies…and possibly an Affordable Care Act deal breaker too. PhARMA and Obama administration staffers knew that Tauzin only needed to convince 1 Democratic Senator

[288] See Shannon Brownlee, Overtreated, page 230

[289] This paragraph comes from Phillip Longman's article The Republican Case for Waste in Healthcare, Washington Monthly, March/April 2013

to switch sides in order to kill the bill. As Steven Brill describes in his book America's Bitter Pill "He knew they could never get 60 votes in the Senate if the drug makers switched sides and began financing a different set of ads, and he said so." [290]

The price for PhARMA support of the ACA: neuter comparative effectiveness research. The Democrats caved. Did they have an option?

Phillip Longman, writing about all this in the Washington Monthly, summarizes the result:

> In its final language, the ACA specifically bars policymakers from using cost-effectiveness as a basis for even recommending different drugs and treatments to patients. In practical effect, the ACA ensures that such research won't even be done, let alone be used as a criterion for guiding how the nearly $2.6 trillion the U.S. spends on health care each year might be put to best use. [291]

Was this a necessary deal? Probably. Did it create value for our healthcare system? Probably not. Did it destroy value? Possibly. Maybe. Probably. Take your pick.

Overall, was this another deal with the devil that did more good than harm or not? Again, I don't know.

Punting on malpractice and tort reform: Tort reform changes the way in which patients collect money from physicians and hospitals that commit errors. Medical malpractice judgments are sometimes very large, especially in wrongful death and child delivery cases. [292]

This raises healthcare costs in two different ways. First, doctors and hospitals pay very high prices for their medical malpractice insurance. This raises the 'cost of doing business' that ultimately get passed on to consumers.

Second, physicians may change their behavior to avoid potential lawsuits, for example by ordering excessive tests or delivering more babies by C-section. This also raises the costs of doing business and may actually sometimes backfire if, for example, an excessive test generates a false positive result that incorrectly identifies a medical problem that then gets treated.

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[290] From the New York Times Review http://www.nytimes.com/2015/01/11/books/review/americas-bitter-pill-by-steven-brill.html?_r=0

[291] Longman, Washington Monthly, op cit

[292] I relied on Christy Rakoczy's analysis from The Arguments For and Against Tort reform for this section http://legalfinancejournal.com/the-arguments-for-and-against-tort-reform/

No one knows exactly how much the current (unreformed) tort system costs our healthcare system but most commentators suggest that it's 'a lot.' Perhaps a 'very lot'.

Ezekiel Emanuel, one of the principal authors of the ACA, tells why Obama decided not to pursue tort reform in his book Reinventing American Healthcare:

> *Late one summer afternoon, I met my brother Rahm—then the White House chief of staff—in his West Wing office. We chatted, and then he asked in his usual staccato, "What else is going on, Zeke?"*
>
> *"I'm also working on the medical malpractice proposal I told you about," I began.*
>
> *He immediately cut me off: "Shut the f— up! We are not doing malpractice. Period. Every time the AMA comes in here, they don't talk about malpractice." Their first, second and third priority, he said, was the formula used by Medicare to determine doctors' pay. "We don't need to do malpractice for the doctors, and I am not alienating the president's base for nothing," he barked. "Stop it."*
>
> *Rahm's reaction told me everything that I needed to know about the politics of the issue. Democrats would accept malpractice reform under two circumstances: if they needed it to keep the AMA's support for the bill, or if they needed it to attract Republican support. Neither was true.*
>
> *Between foregoing the public option that alienated liberals, changing the tax exclusion that offended unions, and making deals with drug companies that pissed everyone off, the president did not need to antagonize the plaintiff bar for no gain.*[293]

Politics trumped policy. Did Obama make the right call here? Did this decision, on top of the restrictions on specialty hospitals and neutering of comparative effectiveness research, leave enough in healthcare reform to make it meaningful?

These are but 3 of the many issues reformers faced. I can't say yet, if ever, whether or not the ACA created much value for our healthcare system. I tend to agree with the New York Times summary: [294]

> the insurers got a fair shake, uninsured and underinsured patients truly benefited, hospitals and pharmaceutical companies and medical equipment companies

[293] Emanuel, Reinventing American Healthcare, page 185

[294] http://www.nytimes.com/2015/01/11/books/review/americas-bitter-pill-by-steven-brill.html?_r=0

were left free to charge exorbitant prices, while the general public was left with no real strategy for cost containment.

The net value impact on our healthcare system? Better access for the uninsured certainly. But more than that? I simply don't know.

Measuring the ACA's effectiveness
Metric #1 - Quantification

The Affordable Care Act attempts to impact several different aspects of our healthcare system, including (partial list)

- Expand coverage
- Control costs
- Improve quality and
- Improve population health

Ezekiel Emanuel suggests using dashboards to measure each of these. Here are some examples.

How well does the ACA expand coverage? You can see the Congressional Budget Office estimate compared to Emanuel's below.

Metric	CBO Prediction	Emanuel Prediction
# states expanding Medicaid by 2020	N/A	All 50 states
# people purchasing ins through exchanges, Jan 1, 2016	22 million	>30 million
# purchasing through exchanges, Jan 1, 2020	25 million	>50 million
# no longer receiving ins from ER but covered by exchanges, Jan 1, 2020	11 million	25 million
% private sector workers with employer sponsored health ins, Jan 1, 2025	61% of workers in private companies	<20% of workers in private sector companies

How well does the ACA help control medical costs? Again, see both the CBO and Emanuel's estimates.

Metric	CBO estimate	Emanuel estimate
Federal Medicare and Medicaid spending exceed $1 trillion	2016	2018
Federal Medicare and Medicaid spending exceed $1.5 trillion	2024	2025
Overall per capita healthcare inflation at GDP + 0%	??	2020

Third, some care quality metrics. Here compare our 2014 levels to Emanuel's goals / hopes for the ACA.

Metric	2014 levels	Emanuel Goals
All cause hospital-wide readmission rate for Medicare	18.6%	15% by 2018 12% by 2022
Overall hospital-acquired infections	1 in 20 patients	Lower than 1 in 40 by 2016
Central line-associated infections	41,000 annually	10,000 by 2016
All patients obtain their complete medical records electronically	??	2018

Fourth, some population health metrics. I, for one, would be delighted to see these kinds of population health improvements over the next few years.

Metric	Current Level (2014)	Emanuel Goal
% adults who are overweight or obese	69%	59% by 2025
% of children who are overweight or obese	32%	22% by 2025
Infant mortality rate	5.9 per 1,000 live births	4.0 per 1,000 live births by 2025
Deaths of adolescents ages 10 - 24	60 per 100,000	40 per 100,000 by 2025

Measuring the ACA's effectiveness
Metric #2: Qualitative measures

Emanuel's dashboards seem like reasonable ways to measure the ACA's impact on our healthcare system and I always like quantifiable indicators. They tell the target and allow commentators to see if we hit the target or not, and if we miss by how much and why. This falls into the 'evolutionary' nature of the ACA as perceived by Democrats. 'We can correct ACA mistakes in Phase 2', they might think, 'once we know how well we did on Phase 1.' Not an unreasonable approach.

But I'd like to suggest a completely different way of measuring the ACA's impact, a qualitative rather than quantitative metric and one that indicates a paradigm shift in our healthcare system. It tracks the movement of healthcare from an ***in***efficient industry to an efficient one. This idea actually comes from David Cutler, economics professor at Harvard. [295]

Cutler defines efficient industries in 3 ways. **First**, **efficient industries use information well.** They track what they do, why they do it, how much it costs, whether they achieved their goals or not and how to improve the process, among other things. As Cutler summarizes 'you can't manage what you can't count' and efficient industries like car and computer manufacturing, count and track lots of their activities to the penny and byte.

Medical care fails to quantify adequately many (most?) of these types of data. As one simple example, studies show pretty conclusively that surgeons performing the highest volumes of a procedure annually get the best patient outcomes and surgeons performing the lowest volumes generate far poorer outcomes. That's a pretty blunt or 'inefficient' measure. Here's what we don't know about this, a partial list:

- What is the volume threshold?
- How much better do patients of high volume surgeons do, as compared to patients of low volume ones?
- Are there outcome gradations by volume? If so, what are they?
- Do 'high' and 'low' volume definitions vary by procedure?

And, perhaps most fundamentally

- How many of a given type of procedure does each surgeon do annually?

Somewhat astonishingly for me at least, there are no easily accessible, public sources of that information, at least not in Massachusetts. I learned this from an official at CHIA,

[295] David Cutler, You Tube, Healthcare Reform, Univ Washington, Nov 13, 2013

the Massachusetts Center for Health Information and Analysis, the state's healthcare data collection and dissemination agency who explained the methodological problems assembling that information, which are both existent and significant. (I don't fault this or any particular agency for failing to have this information available. It indicates a systemic problem, one characterized by David Cutler as stemming from healthcare's status as an inefficient industry.)

Also and somewhat indicative of an inefficient industry, individual hospitals may have these data. They often, in fact, have tons but, as Dr. Paul Ruggieri says in his excellent book The Cost of Cutting, no legitimate entity has ever held them accountable for their reluctance to publish.[296] Perhaps the ACA will. If so, that's a clear value add.

Second, efficient industries have rational employee compensation arrangements. They reward workers for delivering higher value. Healthcare workers, though they are rewarded for doing lots of things like ordering more tests or scheduling more appointments, are rarely rewarded for adding value.

- Who in our healthcare system is financially rewarded for dissuading a patient from having more tests?
- Our piecemeal, fee-for-service financing system rewards quantity increases, not value creation.
- Our medical care system routinely pushes for the most aggressive care, not the least. [297]

Third, efficient industries empower workers to improve value. Each Toyota worker famously is empowered to stop the production line when he or she detects a quality problem.

Where is the healthcare equivalent? Who, if anyone, can tell a surgeon to stop?

Let's explore in this issue in The Tale of Two Polyps below, originally described by Dr. Marty Makary in his book Unaccountable. [298]

The Tale of Two Polyps

[296] Ruggieri, The Cost of Cutting, page 117

[297] Dr. Andy Lazris, Curing Medicare, introduction. I'll discuss this much more in the chapter on Price Transparency

[298] Makary, Unaccountable, pages 21 - 23

A gastroenterologist named Dr. Cotman, one day performed a routine colonoscopy and found a golf ball sized polyp that appeared benign. He thought the best removal technique was to lasso it with a wire snare and remove it while the patient was asleep.

But Dr. Cotman was somewhat inexperienced with this technique, so called in a colleague who performed the procedure ‘slick and fast’ according to Makary, ‘it was awesome’.

Upon awaking, the patient learned that doctors had removed a polyp during the colonoscopy, was pleased, then went home. No ill effects. The process seemed routine to the patient in every way and, apparently, unremarkable from his point of view.

Some days later, Makary assisted a respected colorectal surgeon named Dr. Frederick on an identical colonoscopy procedure and identified a similar polyp. ‘It looked so similar it was almost as if it were the same patient’ Makary reported. He asked if Dr. Frederick would use the same wire snare lasso technique to remove it.

- ‘I like to remove these in the operating room by taking out the colon’ Dr. Frederick responded.

Colon removal sounded like overkill to Makary, who had just observed the ‘slick and fast’ removal of a similar polyp by a different physician. He relayed this story to Dr. Frederick and who responded ‘I just like to take these out with surgery.’

The patient awoke from the colonoscopy, learned about the polyp, was terrified according to Makary, and scheduled surgery for a few weeks hence. That surgery was ultimately successful in that a benign polyp was removed and the patient recovered fully.

Let’s let Dr. Makary summarize his thoughts about these experiences:

- Everyone in the colonoscopy unit – nurses, anesthesiologists, technicians, me, even the scheduler – knew this surgeon [Dr. Frederick] took disproportionately more screening-colonoscopy patients to surgery whereas other doctors worked as a team to get the best doctor to remove polyps with a wire snare
- While nearly every employee knew this surgeon wasn’t a team player – and wasn’t really doing the right thing for many patients – their input didn’t matter.
- The only thing the two physicians had in common was that they reported to no one except their respective, information-deprived patients.

I'll suggest that the real long term value creation impact of the ACA will occur in situations like this.

- Will residents like Makary have the power to create patient value, like Toyota workers have when they see a quality problem present itself?
- Will patients have access to critical information about physicians so they choose their doctors wisely?
- Will hospitals, carriers and ultimately consumers hold physicians accountable for creating value – as Dr. Cotman did above – or destroying it, as Dr. Frederick did?
- Will the Cotmans of the world be financially rewarded more than the Fredericks?

If the ACA moves us in this direction, then we can see real value being created. But that's a long term objective and perhaps one too subtle for us to discuss or measure today.

Conclusion

Will the ACA add value to our healthcare system?

Ezekiel Emanuel thinks so though he doesn't expect the Affordable Care Act to solve all our healthcare problems, but rather just to improve things. He subtitles his book 'How the Affordable Care Act will improve our terribly complex, blatantly unjust, outrageously expensive, grossly inefficient, error prone system', acknowledging how badly the system works today.

He and the Democrats aim for an evolutionary step, not perfection. The standard by which Emanuel wants to be judged is both modest and historical: 'modest' mainly by changing the direction of our systemic development toward more value creation and 'historic' by serving as the basis for future reforms. Healthcare reform, for Emanuel, is never over but is, rather, a process. He sees the ACA as the first in a series of reform steps. He's optimistic that structural reforms will create value over time.

Republicans disagree. They see the ACA's direction as wrong, taking us backward rather than forward, in an inappropriate evolutionary manner. They think the government expansion and market suppression features, whatever their short term dashboard gains, cause long term systemic harms that they will have to undo when they (almost inevitably at some point) gain more power in Washington. They see the ACA's structural changes as an impediment to true systemic improvement.

My two cents: I don't know if structural reforms ever increase systemic value, though clearly insuring more people is a good thing. I think the deals reached to restrict

specialty hospital development, comparative effectiveness research and tort reform are symptoms of the problem I discussed in the Introduction. We never get value creation from supply side structural reforms because of the tremendous economic and lobbying power each special interest group has in blocking true value creation (unless, of course, they can make money off the reforms).

I continue to think that the real value creation action lies on the demand side, with consumers, through improved patient education so people learn how to make medical decisions based on care quality. The comparative effectiveness research programs, had they been appropriately implemented, would have been a major step forward here. But political realities trumped patient need, reprising the problem with all structural reforms in healthcare.

One unintended consequence of the ACA's failure to promote true consumerism is an opening for the private sector to step into the consumer education void. I'll outline some current efforts to do and show some real value creation activities this later in this text.

Review Questions

Answers on next page

1. Why did President Obama decide to reform healthcare in 2009?

    a. He worried about the rising rate of uninsured people and the potential of death spirals in the individual and small group markets
    b. It seemed easier than dealing with Iraq and Iran
    c. Republicans indicated strong support for a major healthcare reform movement
    d. Doctors, trial lawyers and insurance carriers demanded major systemic reforms

2. Healthcare reform rests on 3 legs. Which below is NOT one of those legs?

    a. The Individual Mandate
    b. Guaranteed issue policies at community rates
    c. Subsidies to make insurance affordable
    d. Major tort reform

3. What is the Individual Mandate?

    a. A requirement that all Americans have health insurance
    b. A requirement that all physicians treat ‘any willing patient’
    c. A requirement that all hospitals treat ‘any willing patient’
    d. A Federal requirement that States inform all their residents of their healthcare financing options

4. What does ‘guaranteed issue’ mean?

    a. That you will be allowed to purchase health insurance regardless of your age or medical condition
    b. That insurance companies have to issue guarantees about health outcomes
    c. That hospitals have to issue guarantees about health outcomes
    d. That physicians have to issue guarantees about health outcomes

5. What are health insurance subsidies based on?

    a. Your medical condition
    b. Your income
    c. Your proximity to a hospital
    d. The number of health insurance policies available to you

6. What is the Cadillac tax?

a. A tax on the amount of premium above a certain threshold.
b. A tax on Cadillacs
c. A tax on people who drive Cadillacs
d. A tax on physicians who drive Cadillacs

7. This chapter suggested that efficient industries differ from inefficient ones in three basic ways. Which below is NOT one of those ways?

a. Efficient industries use information well
b. Efficient industries have rational employee compensation arrangements
c. Efficient industries empower employees to create value
d. Efficient industries pay far lower salaries

8. The Obama administration made several compromises to ensure passage of the Affordable Care Act. Which below is NOT one of those compromises?

a. It severely restricted development of new specialty hospitals
b. It gutted comparative effectiveness research
c. It did not reform tort practices
d. It rewarded acupuncturists – a key source of Obama's political support and campaign financing – by lowering their Federal licensure requirements and expanding their list of approved procedures to include steroid injections and some organ removals.

Review Questions

Correct answers in bold

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Chapter 9: Why Consumer Literacy and Engagement Can Resuscitate Health Insurance

A message to commercial account managers

Successful and sustainable healthcare cost control programs require that you teach your employees how to identify and avoid unnecessary, ineffective, wasteful and low quality medical care.

Attempts to control expenses *without* this component never live up to their billing.

Here's a condensed 50 year history of commercial health insurance:

- **Cost sharing** or 'major medical' in the 1970s was inflationary so replaced by
- **First dollar coverage** or HMOs – the opposite of cost sharing - in the 1980s and 90s. People found these plans too restrictive so replaced by
- **High deductible plans** - the opposite of first dollar coverage - post 2000. People complain about the deductible size and have trouble differentiating necessary and beneficial medical expenditures from unnecessary and wasteful.
- **None of these programs integrated the necessary educational component into their fabric.** Any would have been far more successful with it.

You've probably tried

- **Wide hospital networks** figuring more competition leads to lower costs and
- **Narrow hospital networks** figuring more carrier control leads to lower costs,
- **Defined benefit plans** to give employers more plan design latitude and
- **Defined contribution plans** to give employees wider choice,
- **And probably other things that didn't work out too well** …but never with a fully integrated employee education component.

The unwritten assumptions behind all these plans and design changes: the right financing program will motivate employees either to (a) use better medical care, (b) use less medical care or (c) use less expensive medical care.

History has conclusively shown these assumptions wrong.

Your employees will always find a way to access the medical services that they believe will improve their health *whether or not that belief is valid.* Attempting to influence their

behavior with financing restrictions annoys them, doesn't work and doesn't improve their treatment outcomes or health.

The fundamental axiom
that any *effective* healthcare financing program honors

Good health is cheaper than bad health. That's universally and patently true.

So is its extension: the more quickly and efficiently you can turn an employee from sick to healthy, the less it costs, especially if you factor in absenteeism and presenteeism.

Better care quality – better outcomes in other words – is cheaper than poorer care. (Yes, I understand that some MRIs cost less than others. But I wonder how many are necessary and actually improve employee health.)

If your employees choose medical care based on likely outcomes, *they'll* get healthier and *you'll* save money. It's the best possible win-win.

But if your financing program tries to get them to choose medical care based on other criteria … not so much.

This presents a new focus

I suggest that corporate healthcare programs have as their #1 priority teaching employees how to choose care based on the outcomes they're likely to enjoy.

Design and develop that program first. This book can help. So can my online education program www.TheMedicalGuide.net

Then design a financing system to enhance and support your educational effort.

Don't do it the other way around.

Summary of the problem

Millions of well insured Americans get too many tests, take too many medications and have too many medical interventions. Are you one of them?

This book will teach you how to identify and avoid unnecessary, excessive, ineffective and low quality medical care. If you read it, understand it and follow its suggestions, you'll get better medical care with less risk.

And you'll save money in the process.

Too much care is bad for your health, both medical and financial. Here are estimates of the financial waste caused by our current healthcare system use

- **David Cordani, CEO of Cigna** a huge national health insurer, claims that slippage or 'things that don't work the way they're supposed to' accounts for at least 25% of all medical spending but, he adds emphatically, 'probably much more'. [299]
- **Aetna,** another huge national health insurer, claims that 'wasteful spending likely accounts for between one-third and one-half of all US healthcare spending' with redundant, inappropriate or unnecessary tests, procedures and medications the key culprits.[300]
- And the **Dartmouth Atlas**, generally considered the bible of healthcare utilization analytics, uses a widely quoted estimate that 'up to about 1/3' of all US healthcare spending generates no patient benefit but added 'we view this as an underestimate given the potential savings even in low cost regions'.[301]

We waste, according to these estimates, about $1 trillion annually on unnecessary, excessive, harmful and low quality medicine. *That's almost Russia's total GDP!* [302]

The specifics may shock you. We Americans annually, for example,

- get 36 million prescriptions for a blood pressure lowering medication that doesn't prevent heart attacks or strokes,
- spend $1 billion on a back procedure that works no better than a placebo,
- spend $3 billion on a knee procedure that can work less well than a placebo,

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[299] Keynote address at the 2015 Yale Healthcare Conference

[300] https://www1.aetna.com/health-reform-connection/aetnas-vision/facts-about-costs.html I added 'medications' to Aetna's list.

[301] http://www.dartmouthatlas.org/keyissues/issue.aspx?con=1338

[302] http://statisticstimes.com/economy/countries-by-projected-gdp.php

- spend well over $1 billion on a cholesterol lowering drug that has never been shown to prevent heart disease or heart attacks, *and much more*.

I'll name names and provide details.

I'll also show you that

- **A quarter**, maybe more, of the mastectomies in states like Connecticut generate no patient benefit but, like all invasive treatments, increase patient risks of harm and surgical error. Not to mention psychological pain.
- **Half**, maybe more, of the back surgeries in cities like Fort Myers Florida generate no patient benefit but increase patient risks of harm.
- **30%** or maybe even half of the c-sections in states like Florida, New Jersey and Louisiana are unnecessary and don't benefit patients but raise out-of-pocket patient costs plus the risk of infection, and much more.

This excess can lead to patient harms caused by medical care. Consider this trend:

- The **1999** Institute of Medicine report 'To Err is Human' found that up to 98,000 patients die annually from medical errors.
- **Seventeen years later**, a 2016 Johns Hopkins study found that over 250,000 Americans die annually from medical errors. [303]

All this leads to a dismal healthcare summary:

- Americans spent **$328 billion more** for healthcare in 2015 than 2013. [304] That's about $1000 more per person.
- But we **lived slightly less** long in 2015. For the first time in decades, our national life expectancy actually fell despite the increased medical spending. [305]

This gross inefficiency puts enormous responsibility on individual patients to choose healthcare very wisely.

Step 1 of that process is acknowledging and understanding the problems.

Step 2 is learning how to make wise medical decisions.

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[303] Medical Errors are No. 3 Cause of Death, NPR, May 3, 2016 http://www.npr.org/sections/health-shots/2016/05/03/476636183/death-certificates-undercount-toll-of-medical-errors

[304] Peterson-Kaiser Health System Tracker http://www.healthsystemtracker.org/interactive/health-spending-explorer/?display=U.S.%2520%2524%2520Billions&service=

[305] National Center for Health Statistics, Mortality in the United States, 2015

HOW FOUR TYPES OF PATIENTS RESPOND TO THE INFORMATION ABOVE

Ostrich Patients assume that the problems described above don't apply to them because their doctors and hospitals are so outstanding.

- Research unequivocally invalidates this belief.

Skeptical Patients figure their doctors may have missed critical medical information or don't trust their doctor's judgment so try to become mini-MDs through their own research.

- This is generally unsuccessful because you can't become a medical expert absent extensive formal training. A physician-friend once quipped 'patients used to come to appointments *un*informed, now they come *mis*informed.'

Cynical Patients think that most medical care is bogus and doctors only do it for the money.

- Cynics overlook the vast amount of good medical care does for so many people.

Wise Patients understand that medicine offers both benefits and risks. They know there are risk-reward tradeoffs and judgement calls to make.

- Wise patients ask the questions in this book so they – *with their doctor's assistance* – make the wisest possible decisions and avoid many of the risks and harms discussed above.

The essential component of healthcare consumerism
Ability to ask the right questions

Asking the *right* questions gets you the information necessary to make wise medical decisions.

Asking the *wrong* questions gets you … something else. Maybe useful information, but maybe just *some* of the most important information, maybe irrelevant (even if true) facts, maybe impressions, maybe incorrect information, maybe noise, who knows.

Questioning your doctor correctly is a skill that most patients lack. In fact, according to the US Department of Health and Human Services, 88% of Americans are medically illiterate, meaning lack the skills necessary to assess likely treatment benefits and harms [306] though I suspect the real number – the percentage of people who understand and use the tools described in this book – is actually much lower.

Upsettingly, and again according to HHS, medically illiterate patients have higher hospitalization rates and medical costs, and poorer health outcomes.

Medically illiterate people don't know, for example,

- How to differentiate *necessary* from *unnecessary care*
- How to tell if you're *overtested* or appropriately tested, *overdiagnosed* or appropriately diagnosed, *overtreated* or appropriately treated, *overdosed* or appropriately dosed
- How to determine if you're receiving good, high quality medical care; poorer, low quality care; or unnecessary care

Medically illiterate patients haven't been taught the right questions to ask. This book will teach you.

In the process, you'll meet [307]

- John who tore his rotator cuff but, when his doctor recommended surgery, responded with insightful questions and decided to try physical therapy instead. He recovered 95%+ range of motion much less expensively and without missing

[306] https://health.gov/communication/literacy/quickguide/factsbasic.htm

[307] I changed people's names in this book to avoid any undesired publicity but all are real people who shared these stories with me. I have permission from all to describe their experiences.

any work or experiencing post-operative pain in the same time period as rotator cuff surgery recovery,

- Sean who was praised by his doctor as being 1 of only 4 patients who had ever asked him how well medical care actually works, and
- Sue who developed kidney cancer and was referred to two outstanding surgeons practicing at the best hospitals in the country (according to surveys). One wanted to operate as soon as possible and the other wanted to wait as long as possible before operating. Both had excellent reasons for their recommendations and their presentations helped Sue make the right decision for her. Do you get such insightful referrals?

The Goldilocks Rule
not too little, not too much, but just right

Too little medical care leads to *undertreated* patients and poorer-than-optimal outcomes. Undertreated patients are harmed by their diseases.

Too much medical care leads to *overtreated* patients, higher-than-necessary treatment risks and higher-than-necessary medical costs. Overtreated patients can be harmed by their care, not their diseases.

Inappropriate medical care leads to suboptimal outcomes, excessive costs, patient dissatisfaction and sometimes lawsuits.

Appropriate medical care minimizes your chance of medical harm but maximizes your opportunity to live longer in less pain and enjoy greater satisfaction with life.

The best medical decisions

The best medical decisions come from wise, well informed patients working together with thoughtful, caring clinicians.

- **Patients** know their own hopes, fears, goals and the benefit / risk tradeoffs they are prepared to make. Different patients, when faced with the same set of facts, can reasonably make different care decisions and all be right.
- **Clinicians** have extensive knowledge and experience that can aid a patient.
    - Wise patients avail themselves of this knowledge and counsel.
    - Unwise patients ignore it or delegate decision making to their clinicians.

Ignoring clinician counsel deprives patients of potentially valuable insights. That's the 'art' of medical care.

Delegating decision making forces your treaters to assume or guess the benefit / risk tradeoffs you're willing to make. They're not always right.

Why can't I just follow my doctor's advice?

You always should consider your doctor's advice! But temper it with our questions for two main reasons:

First, doctors generally worry more about undertesting and undertreating than overtesting and overtreating patients.

- As trainees, they're upbraided for having too little information about their patients not too much, so learn to overtest.
- As doctors, they're typically paid to do more not less, so may overtreat.
- As caring human beings, they want to do *something* to relieve your suffering, not nothing.
- As professionals operating in our legal system, they're more likely to be penalized for *not* doing something than for doing something extra.

One result is that about a third of patients annually receive one or more useless tests or treatments.

- Dr. Atul Gawande, a famous Boston area surgeon estimated over 85% of his patients had. [308]
- Millions more he writes, 'receive drugs that don't help them, operations that don't make them better and scans and tests that do nothing beneficial *but often cause harm*.'

Second, many doctors assume they know what patients want, their treatment goals and risk / reward tradeoff decisions. But studies show doctors often can get this wrong.[309]

- One, for example, showed that doctors assume 96% of breast cancer patients rate 'living as long as possible' as their primary goal.
- But only 59% of patients agreed. Doctors were wrong over 1/3 of the time.

I CAN'T QUESTION MY DOCTOR WHEN I'M SICK AND IN PAIN … *OR CAN I?*

When you're sick and frightened, you're probably more likely to try something, *anything* to make you feel better. You're more likely, in other words, to consider unproven treatments in the hope that they'll work.

That's exactly the time – when you're physically compromised - to ask *more* questions, not fewer. You face

[308] Gawande, Overkill, New Yorker, May 11, 2015 for all quotes in this section. I made some minor grammatical upgrades

[309] These examples come from Mulley, Patient Preferences Matter, Kings Fund, 2012

- A second showed that 40% of men with benign prostate disease opted against surgery once they were fully informed of surgical risks and benefits.
- A third showed that almost 20% of patients suffering from chest pain diagnosed as stable angina opted against surgery when fully informed of their treatment options and likely outcomes.

A fundamental cause of these problems is 'information asymmetry' or 'your doctor knows more about medical care than you do so thinks he or she understands your treatment goals and preferences too.' Gawande writes

> We can recommend care of little or no value because it enhances our incomes, because it's our habit, or because we genuinely but incorrectly believe in it and patients will tend to follow our recommendations.

Patients often *want* to do their homework but don't know how. Some attempt to become mini-MDs through online research**.** This almost certainly won't protect against unnecessary, excessive or inappropriate care; that research is clear.

Instead this book will show you how.

It will put you on a level (or, at least, a more level) field so you can participate more wisely and effectively in your own medical decision making.

The 5 Most Critical Questions

In a typical appointment, you and your doctor discuss a medical problem and your doctor recommends a medical intervention.

Ask these 5 questions about that recommendation:

- **Has it been tested?**
- **Out of 100 people like me, how many benefit and how many are harmed?**
- **Is it overused?**
- **Would most physicians make the same recommendation or might some suggest something different?**
- **How many patients like me do you treat annually?**

These questions are deceptively simple but based on extensive research and analysis. The better you understand them and the more you integrate them into you medical thinking, the better care you'll get.

Ask them of *every* doctor, at *every* meeting, about *every* medical intervention.

Use this list as a script. Feel free to share it with your doctors.

The importance of testing in CDH plans

Testing determines how well a medical intervention works in real life, on real people.

When testing, medical researchers typically divide a large group of people in half to make 2 identical smaller groups. They give one group the treatment but not the other. [310]

Then researchers watch both groups for a time period, say 5 years, and note medical differences like the number of heart attacks, deaths or strokes. They attribute any differences to the intervention.

Simple! (Actually not simple at all. Medical research methodology is very complicated and worthy of many books, each much longer than this.)

But what happens if you don't have 5 years available? Say that a new blood pressure lowering drug just came on the market, looks promising and you, a person with high blood pressure, have a doctor's appointment the next day.

Your doctor may say 'this is the newest generation of blood pressure lowering medications and has been configured to reduce the side effects of the old drug. I suggest you try it and see how you tolerate it.'

In theory the new drug works well. But it hasn't been tested yet in real life, on real people, for years.

How well does it work?

Dr. Vinay Prasad, assistant professor of medicine at the Oregon Health and Sciences University, studies that issue. He asks 'how well do medical interventions work if they haven't been tested over long time periods on real people, in real life?'

How well, in other words, did medical theory hold up to subsequent testing?

Prasad and his team conducted a fascinating study. [311] They reviewed every article in the New England Journal of Medicine between 2001 and 2010 and pulled out those that tested an established medical practice, one commonly used on patients like intensively lowering blood sugar in Type 2 diabetics to reduce cardiovascular events … interventions, in other words, that made medical sense and that the medical community embraced.

363 studies qualified.

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[310] Research methodology is extremely complicated. If you're interested in learning more, check out Know Your Chances by Woloshin et al. It's an easy to read introduction to medical statistics and research methodology.

[311] See Prasad et al, Decade of Reversal, Mayo Clinic Proceedings, August 2013. This YouTube video statement by Dr. Prasad summarizes this article and contains the phrase 'of all those things we're doing that lack good evidence, probably about half of them are incorrect' https://www.youtube.com/watch?v=fB1qEoDO2nE. Also see his 2015 book Ending Medical Reversal.

Prasad then asked 'Of those 363 studies, how many *affirmed* the practice?' i.e. found that it benefited patients.

38% affirmed the practice, 40% negated the practice, (found it ineffective or harmful) and 22% were ambiguous.

Dr. Prasad's research shows that if you base your medical decisions on biology, physiology, anatomy and logic – *but not on test results* – you are wrong about as often as you are right.

We'll call this Prasad's Law and refer to it throughout this book.

PRASAD'S LAW

Medical interventions that haven't been subjected to real life testing are ineffective or harmful about half the

According to Dr. Prasad, rather than focusing on outcomes, patients often

> gravitate toward the nuts and bolts — what does it do, how does it work?
>
> But the real question is: Does it work? What evidence is there that it does what you say it does? What trials show that it actually works?
>
> You shouldn't ask *how* does it work, but *whether it works at all*. [312]

Why is this the case?

Our bodies are enormously complicated and our understanding of medical risks, causality and treatment impacts surprisingly limited. Sometimes (often?) rather than using the most *important* biological or anatomical factors in our medical theories, we use the most *easily accessible and measurable*.

Here's an analogy to illustrate:[313]

> Assume that our bodies are controlled by a wizard located in our brain, more or less like the fellow behind the curtain in the Wizard of Oz.
>
> The wizard in our brain has a wall of knobs that control body parts and functions - one controls cholesterol levels, another blood pressure, a third bone density, a fourth eye ball pressure, etc.
>
> If each knob is 1 inch in diameter and 1 inch apart (so the wizard can get his fingers around it) **the wall is six and a half feet high and half a mile long!**

We simply can't account for all the initial effects, rebound effects, interactions and modifications from turning a knob or two. We don't always know, for example, how turning a knob 2 feet high 100 yards from here affects a level controlled by a knob 3 feet

[312] Quotes from Nicholas Bakalar, Medical Procedures May Be Useless, or Worse, New York Times July 26. 2013, italics added.

[313] I've adapted this example from David Newman, Hippocrates's Shadow, page 202

high 300 yards away. And how either of these affects a knob 4 foot high 400 yards away. And so on.

Medicine rarely works in the simplified 'if A causes B, and B causes C, then A causes C' scenario.

The wise patient always asks 'has it been tested?'

If it *has been* tested, then your doctor can tell you how well it works. All physicians today can access extensive databases of medical studies…in their offices… in real time so can answer this question.

If answers exist.

Asking this question may motivate your doctor to refresh his or her memory and look for new studies that have been published since the last time he or she checked.

You and your doctor can then decide if the intervention works well enough for you. I'll show you how in the next section.

But you may learn that the intervention *has not been* tested. In that case, you know your chance of benefit is only 50/50. Prasad's Law tells us that.

And even if it benefits you, it might not benefit you very much.

Some case studies to illustrate the power of 'has it been tested?'
Medical care that *should* work, but doesn't

I'll present 6 case studies to show the power of 'has it been tested?' and why you need to ask this question about every medical intervention:

- Niaspin, an HDL 'good cholesterol' boosting drug
- Atenolol, a blood pressure lowering drug
- Zetia, a cholesterol lowering drug
- Vertebroplasty, a back surgery technique
- Arthroscopic knee surgery, a knee osteoarthritis remedy
- Rest after heart surgery, an historical example to tie everything together

Niaspin an extended release niacin drug. Niacin, a B vitamin, has been shown in tests to raise good (HDL) cholesterol. More good cholesterol is associated with a lower heart attack risk, so artificially raising it benefits patients, at least in theory.

Niacin doesn't lower total cholesterol like commonly prescribed statin drugs. .

Cardiologists have prescribed various niacin products for years. One, Niaspin manufactured by Abbott Labs, generated about $900 million in 2009 sales from about 8 million prescriptions.[314]

[314] Armstrong, Abbott Doubled Niaspin US Sales Before Trials Cut Use, Bloomberg, June 10, 2013 https://www.bloomberg.com/news/articles/2013-06-10/abbott-doubled-niaspan-u-s-sales-before-trials-cut-use

In 2011, the AIM-High trial of niacin effectiveness showed that, while extended release niacin *is* associated with higher HDL levels and lower triglyceride levels, this *does not* translate to a reduction in cardiovascular events like heart attacks and strokes. [315]

In 2013, a second study, this time of Merck's niacin drug Tredaptive found the same thing: no difference in coronary event rates between people taking Tredaptive with a statin, and those just taking the statin. [316] Dr. Steven Nissen, Chief of Cardiology at the Cleveland Clinic, summarized the Tredaptive study findings:[317]

> It raised the good cholesterol. It lowered the bad cholesterol. It didn't improve clinical outcomes.
>
> That is a stunning finding.

Two studies on two different niacin based drugs arrived at the same conclusion: niacin doesn't reduce rates of heart attacks or strokes. Patients taking niacin had the same coronary event rates as patients not taking it.

This is an example of Prasad's Law: interventions that appear to make biological sense and that are adopted before publication of comparative tests are proven ineffective or harmful about half the time when they finally are tested.

Patients who bought and took Niaspin received no heart attack or stroke reduction benefit from it.

They only exposed themselves to side effects like burning, tingling, itching, headaches, stomach upset, intestinal gas, dizziness, and redness of the face, arms, and chest. [318]

Not to mention the financial costs.

OTHER BLOOD PRESSURE DRUGS EXIST

This case study only applies to Atenolol. Other drugs may have different heart attack and stroke prevention impacts.

Ask 'has it been tested' about each that you

Atenolol, a blood pressure lowering drug.

High blood pressure is a common condition in which the long-term force of the blood against your artery walls is high enough that it may eventually cause health problems,

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[315] This sentence paraphrases the New England Journal of Medicine discussion of the AIM High study http://www.nejm.org/doi/full/10.1056/NEJMoa1107579#t=article .

[316] http://www.reuters.com/article/merck-cholesterol-idUSL1N0BREGB20130227 and For a good summary see CBS News estimate, Study: Heart Drug Tredaptive is Ineffective, Jonathan Lapook, July 29, 2013

[317] CBS News, op cit

[318] This list comes from WebMD http://www.webmd.com/vitamins-supplements/ingredientmono-924-niacin%20and%20niacinamide%20vitamin%20b3.aspx?activeingredientid=924&

such as heart disease. High blood pressure can damage the heart and coronary arteries and lead to heart attacks, strokes and death, among other events.[319]

Lowering blood pressure, therefore, should reduce the number of heart attacks, strokes and deaths. So strongly do physicians subscribe to this theory that they write millions of blood pressure lowering medication prescriptions annually, worth billions of dollars, including 36 million prescriptions for atenolol in 2010.

Atenolol recorded $161 million in 2014 sales.[320]

Unfortunately, again, comparative study hard outcomes do not support the theory.

Start in 2003 with publication of the LIFE study on two of the most commonly prescribed blood pressure lowering medications - also called beta blockers - losartan and atenolol. [321] Neither outperformed the placebo.

In a European Heart Journal editorial, Dr. Franz Messerli, writing for the European Society of Cardiology concluded

> the LIFE study should be considered as the final straw that will break the camel's back and hopefully motivate physicians to no longer expose their elderly hypertensive patients to the cost, inconvenience, adverse effects, and most importantly, to the inefficacy of beta-blockers.

That was followed up by a 2004 meta review (a compilation that integrates results from several different studies to develop a single conclusion) in the Lancet entitled 'Atenolol in hypertension: is it a wise choice?' [322] Those reviewers found that

DEFINING 'BENEFIT'

Studies can report two different types of outcomes.

One, called 'test outcomes' tells how well you do on a test, say for cholesterol or blood pressure.

Niaspin, Atenolol and Zetia (coming next) score well here.

The other called 'patient events' or 'hard outcomes' measure events like heart attacks and strokes.

Niaspin, Atenolol and Zetia don't score well here at all.

Beware of relying on test indicators. They may correlate very weakly with patient outcomes if they correlate at all.

Focus instead on

[319] http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/WhyBloodPressureMatters/Why-Blood-Pressure-Matters_UCM_002051_Article.jsp

[320] http://www.pharmacompass.com/sales-forecast/atenolol

[321] See 'The LIFE Study: The straw that should break the camel's back' by Franz Messerli for a brief summary in the European Heart Journal, March 2, 2003.

[322] A meta review is a comparison of several tests. Meta reviewers study, for example, the methodology of each individual test to ensure that researchers didn't goof somewhere along the line. http://www.ncbi.nlm.nih.gov/pubmed/15530629

> there were no outcome differences between atenolol and placebo in the four studies, comprising 6825 patients, who were followed up for a mean of 4.6 years on all-cause mortality, cardiovascular mortality, or myocardial infarction [heart attacks].

The theme was then picked up in the March 15, 2005 issue of The American Family Physician, a publication of the American Association of Family Physicians. Dr. Henry Barry's article 'Should Atenolol Be Used for Hypertension?' concluded that, though atenolol *did* lower blood pressure,

> *It does not appear to reduce the rates of cardiovascular mortality or morbidity.*

Let's summarize:

- One major, high quality comparative study in **2003** concluded atenolol generates 'no benefit'
- A large meta study in **2004** concluded 'no benefit'
- Physicians writing in various highly regarded journals – who reviewed the underlying study data – between **2003 and 2005** recommended *against* prescribing these drugs
- **Six years later**, docs wrote 36 million Atenolol prescriptions and **ten years later** Atenolol achieved $161 million in annual sales.

I hope you're beginning to understand why you need to ask 'has it been tested?' about *every* medication.

And find out what those test results are.

Even for medications that have been around for a long time.

Zetia, a cholesterol lowering drug. Zetia (ezetimibe) lowers cholesterol by blocking its absorption in the intestines. This differs from statins that block cholesterol absorption in the liver.

Some patients can't tolerate statins. Zetia appears an attractive alternative.

Some patients also might not achieve their desired cholesterol reduction goals with statins alone.

Thus Zetia offers benefits to two types of patients: those who can't tolerate statins and those who don't achieve their cholesterol goals from lifestyle changes and statins alone. As Zetia's website, zetia.com, says [323]

[323] I had used this example in lectures for several years and last viewed zetia.com in about August 2016. When I visited the site in late December, I discovered that – astonishingly – it had been replaced with a 'prescribing highlights' pdf in small print. This is Prasad's Law with a time lag of several years. What happened to the patients who relied on the old website information? Since Zetia is still on the market, I decided to keep this example in this book. I posted an old screen shot too.

Adding Zetia to a statin is proven to help reduce cholesterol more than a statin alone.

Zetia's annual sales appear to have ranged between about $1 and $4 billion since 2008.

Unfortunately for Zetia users and the people who pay for it, we should also point out the next sentence on zetia.com, the one following 'Adding Zetia to a statin is proven to help reduce cholesterol more than a statin alone', this one written in bold

Unlike some statins, Zetia has not been shown to prevent heart disease or heart attacks.

Somehow Zetia reduces cholesterol without affecting patient outcomes!

Here's a screen shot of Zetia.com downloaded Nov 8, 2016. See the bold sentence, middle of the page.

The New York Times review of Zetia's 2008 clinical trial, concluded it [324]

> …failed to show that the drug had any benefits…[and]
>
> … no trial has ever shown that it can reduce heart attacks and strokes — or even that it reduces the growth of the fatty plaques in arteries that can cause heart problems….

Our old friend Steve Nissen from the Cleveland Clinic (of Atenolol fame earlier in this section) called these results 'shocking'. [325]

Harlan Krumloz, cardiologist at Yale Medical School went even further, asking *How can a drug have $4 billion in sales without any evidence of benefit?* [326]

The Zetia.com consumer friendly site was taken down in late 2016 and replaced with a hard-to-read 'prescribing information highlights' pdf in small print. I see this as an admission of failure.

But what of the patients who did their homework and visited Zetia.com prior to late 2016 but didn't ask the 'has it been tested' question *and insist on an answer*?

- What do we call their research besides ineffective?
- What do we call their expenditures besides wasteful?
- What do we call their discussions with doctors besides off base?

The problems I discussed above were known since 2008 (at least) and wise patients – those who ask the questions in this book – would have considered them.

They wouldn't, in other words, have taken a drug that generated no patient benefit *but did subject them to side effect harms.*

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[324] Drug Has No Benefit In Trial, Makers Say, Berenson, NY Times, January 14, 2008

[325] Ibid.

[326] Another Vytorin Mess for Merck, Herper, Forbes, Nov 15, 2009

Here's a partial list of Zetia side effects from drugs.com. I don't know how frequently they occur:

- black tarry stools or constipation
- bleeding gums
- blood in urine or stools or darkened urine
- fever, chills, indigestion, nausea or skin rash
- large, hive-like swelling on face, eyelids, lips, tongue, throat, hands, legs, feet, sex organs
- muscle cramps, tenderness, weakness or spasms
- skin rash
- vomiting

I wonder why it took so long for Zetia to take the original site down.

And I wonder how many patients made poorly informed decisions based on it.

Vertebroplasty to relieve back pain Let's switch focus now from medications to procedures. Consider vertebroplasty, a procedure to inject medical grade cement into fractured vertebra (back bones) to reduce back pain. It's a minimally invasive procedure with a low complication rate, about 1 – 3%.[327] Complications include soft tissue damage, nerve root pain and compression, pulmonary embolism, respiratory and cardiac failure and death.

In 2008, the US market for vertebroplasty was $245 million.

Then in 2009 the New England Journal of Medicine published two studies comparing vertebroplasty to a control group that received lidocaine (a skin numbing agent), massage and aromatherapy.

- The Australian study found 'no beneficial effect' of vertebroplasty compared to the control
- The Mayo study concluded that patient improvements were similar in the placebo and experimental groups.[328]

'FEELING BETTER' AS AN OUTCOME

Some patients in the vertebroplasty placebo group reported less back pain even though they only received a topical skin numbing agent and a back massage.

Dr. David Kallmes, lead author of the Mayo study, summarized his findings: Patients in the placebo group who reported improvements 'did not respond to simple local anesthesia – they responded to local anesthesia that they thought was a vertebroplasty.'

When you ask about pain reduction, be sure the treatment benefits exceed placebo benefits.

[327] Estimate from Johns Hopkins Health Library

[328] For a good summary of those studies, with expanded comments, see Sham-Wow by Walter Eisner in Orthopedics This Week, August 11, 2009, https://ryortho.com/2009/08/sham-wow/

Vertebroplasty, in other words, worked as well as, but no better than, the safer and far cheaper placebo.

Dr. Rachelle Buchbinder, lead author of the Australian study, recommended that vertebroplasty not be performed outside of research settings. There are some risks, she reasoned, without any demonstrated patient benefits.

The market for vertebroplasty then grew to about $1 billion in 2012.[329]

Read that last sentence again. Even though 2 high quality studies showed in 2009 that vertebroplasty works no better than a placebo, patients spent hundreds of millions of dollars *more* for it 3 years later!

And that market continues to grow.

Surgery for Knee Osteoarthritis Knee osteoarthritis is a degenerative disease that causes pain, stiffness and decreased knee function.

Arthroscopic surgery, including lavage (removal of particulate material such as cartilage fragments and calcium crystals) and debridement (surgical smoothing of articular surfaces and osteophytes) was the widely used treatment in the early 2000s despite the fact that, according to the New England Journal of Medicine in 2008 'scientific evidence to support its efficacy is lacking'. [330]

Estimates of the number of knee arthroscopies performed annually in the US vary, not all address osteoarthritis so we'll have to estimate the size of this problem:

- A 2002 New England Journal of Medicine study estimated 650,000 procedures at $5,000 each, creating a $3.25 billion market [331]
- A 2014 NEJM study estimated the market at 500,000 knee arthroscopies at about $20,000, generating a $10 billion market. [332]
- Vinay Prasad in his 2015 book Ending Medical Reversal estimated the market at 700,000 patients spending $4 billion.[333]

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[329] http://www.slideshare.net/AnnaGrahm1/minimally-invasive-vertebral-compression-fracture-repair-market-in-2013-2019-transparency-market-research. I was unable to determine how much of this market is vertebroplasty to guessed at $1 billion. For our purposes, it doesn't matter much if the market is $800 million or $1.2 billion: THE PROCEDURE DOESN'T WORK ANY BETTER THAN A PLACEBO!

[330] Kirkley et al, A Randomized Trial of Arthroscopic Surgery for Osteoarthritis of the Knee, NEJM, September 11, 2008

[331] Moseley et al, A Controlled Trial of Arthroscopic Surgery for Osteoarthritis of the Knee, NEJM, July 11, 2002

[332] These estimates from Cram, et al, Total Knee Arthroscopy Volume, New England Journal of Medicine, Sept 19, 2014. I was unable to develop a specific number of procedures by year, nor estimate the annual growth rate of knee arthroscopies.

[333] Prasad, Ending Medical Reversal, page 22

How poorly does the scientific evidence support the efficacy of arthroscopic surgery to treat knee osteoarthritis?

- A 2008 New England Journal of Medicine published study concluded that they 'failed to show a benefit of arthroscopic surgery for the treatment of osteoarthritis of the knee' [334]
- This followed a 2002 comparative study which concluded 'At no point did [the] arthroscopic-intervention group have greater pain relief than the placebo group'
    - In addition, 'objectively measured walking and stair climbing were poorer in the débridement group than in the placebo group at two weeks' (Treatment side effects really matter!)
- The 2002 study authors concluded 'This study provides strong evidence that arthroscopic lavage with or without debridement is not better than and appears equal to a placebo procedure in improving knee pain and self-reported function.' [335]

Those disagreeing with these study conclusions present the usual 'weak study methodology' case, primarily, I would suggest, to protect their incomes. Even at our lowest market estimate - $3 billion – that's certainly a big incentive for lots of people to protect their turfs.

These studies raise some uncomfortable questions:

- Why, after the 2002 paper, did doctors continue to prescribe this procedure and patients have it?
- Why after the 2008 study did both parties continue to use it?

This is an extension of Prasad's Law that says treatments adopted absent testing are proven ineffective or harmful about half the time. Here we have treatments used *even after* studies showed no patient benefit, underscoring the need for you to ask this question and insist on a clear answer about *every* medication and procedure.

Asking encourages your doctor to check (again?).

Never hurts but may help.

A lot!

Rest after heart surgery, an historical example to tie all this together. We'll start in the early 1900s with Dr. James Herrick's advice then fast forward to today's protocols.

Herrick was an extraordinarily influential coronary care researcher who received both the Kober Medal for distinguished research from the Association of American Physicians and a Distinguished Service Medal from the American Medical Association.

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[334] Kirkley, op cit

[335] Moseley, op cit

In his major 1912 paper, Herrick wrote that, after having a heart attack or heart surgery 'the importance of absolute rest in bed for several days is clear' [336]

Herrick's recommendations were adopted by most hospitals according to medical historian Eugene Braunwald. Over time hospitals extended Herrick's advice of absolute bedrest from several days to a few weeks.

That remained the treatment norm for decades. Indeed, thirty four years after Herrick's paper, Dr. Thomas Lewis published his own coronary care textbook *Diseases of the Heart* and elaborated on Herrick's prescription:

> Rest in bed should continue for 4 – 6 weeks to ensure firm cicatrisation of the ventricular wall … Patients have lost their lives … by neglect of these precautions. [337]

Lewis' justification came from recently invented pathological studies showing that it can take 6 to 8 weeks for firm scarring of the lesion to occur. Rest for that amount of time was considered necessary to minimize ventricular rupture risks. [338]

Dr. Paul Woods, another coronary care authority, reinforced that message in his textbook *Diseases of the Heart and Circulation* 13 years later in 1959, recommending 3 – 6 weeks of bedrest or more depending on the severity of the heart attack.[339]

Thus three influential treatises written between 1912 and 1959 agreed: post heart attack and heart surgery, patients should rest, pretty much for as long as possible.

But by the 1960s medical opinion reversed. Braunwald the medical historian, claims doctors began to realize that

> prolonged bed rest, which had been routine since Herrick's day, could actually be harmful in some patients by leading to venous thrombosis and fatal pulmonary thromboembolism. In uncomplicated cases, the duration of absolute bed rest was shortened to about five days [340]

Patients who asked 'what do you recommend doc?' in the ***1940s and 50s*** would have received the long bedrest recommendation.

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336 Braunwald, The treatment of acute myocardial infarction, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3760555/

337 Silverman et al, British Cardiology in the Twentieth Century, Chapter 27

338 Julian, Ischemic Heart Disease in Dialogues in Cardiovascular Medicine, 2006 http://www.dialogues-cvm.com/document/DCVM40.pdf

339 Silverman, op cit.

340 Braunwald, op cit.

But patients who asked the same questions in the *1960s and 70s* would have received the short bedrest advice.

And today, patients are advised to walk every day during the first 6 – 8 weeks post heart surgery, the exact opposite of Herrick's, Lewis's and Woods' recommendations. [341]

How can 'rest' and 'don't rest' both be right? They obviously can't. At least one is wrong. Drs. Herrick, Thomas and Woods offered their *opinions* backed up with biological justifications. In effect, they said 'in our *opinion*, the risk of ventricular rupture exceeds the risk of venous thrombosis and fatal pulmonary thromboembolism' (if they even knew those risks existed).

Their *opinion* was really a testable proposition which, apparently, wasn't actually tested until relatively recently. When tested, we learned that thrombosis risks exceed ventricular rupture risks. Thrombosis and embolism risks are so high in fact that today's patients are advised not even to stand in one place for more than 15 minutes! [342] The exact opposite of Herrick's, Thomas's and Woods' advice.

That's why wise patients don't research *why* a specific medical recommendation makes sense. Doctors and scientists can justify a wide range of (often conflicting) recommendations, just as we've seen here. Prasad's Law tells us that absent testing those recommendations are wrong about half the time.

Wise patients instead rely on test data, the facts.

The tragedy of this story is that some heart attack recovery patients presumably died in the last century *from following the established protocols and textbook advice*.

They didn't ask if the recommendations had been tested.

****

Dozens, hundreds, perhaps even thousands of other 'makes sense but doesn't work' situations exist. Here are some relatively-easy-to-understand additional examples of Prasad's Law from his book Ending Medical Reversal.

Estrogen replacement to reduce heart attacks in postmenopausal women. Testing showed no heart attack rate reduction

Coronary stent insertion to prevent heart attacks in patients with stable angina. Testing showed no impact on heart attack rates over time.

Prophylactic antibiotics for people with persistent Lyme disease symptoms and a history of Lyme disease. Testing showed no symptom reduction.

Lowering diabetic's blood sugar (A1c) below 7% to prevent heart attacks with an intensive drug regimen. Testing showed an increase in mortality rates.

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[341] WebMD, Recovering after heart surgery, http://www.webmd.com/heart-disease/guide/heart-disease-recovering-after-heart-surgery#1

[342] WebMD, op cit.

Calcium plus vitamin D to reduce the risk of hip fractures. Testing showed no hip fracture rate reduction but an increase in kidney stone risk.

Withholding birth control pills for women with lupus to reduce the rate of lupus flares. Testing showed no increase in flares.

Saw palmetto for benign prostatic hyperplasia. Testing showed no benefit measuring multiple outcomes despite more than 2 million men using it.

****

ChoosingWisely, a program organized by the American Board of Internal Medicine Foundation to combat wasteful, unnecessary and harmful medical care lists 300+ more examples of medical practices that, according to testing, should not be used. I'll discuss ChoosingWisely later in this book but here are a few examples: [343]

Don't automatically use CT scans to evaluate children's minor head injuries.

Avoid doing stress tests using echocardiographic images to assess cardiovascular risk in persons who have no symptoms and a low risk of having coronary disease.

Don't perform EEGs (electroencephalography) on patients with recurrent headaches.

Don't routinely treat acid reflux in infants with acid suppression therapy.

Don't recommend prolonged or frequent use of over-the-counter (OTC) pain medications for headache

Don't routinely prescribe antibiotics for inflamed epidermal cysts.

Don't use systemic (oral or injected) corticosteroids as a long-term treatment for dermatitis.

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When you ask 'has it been tested?' you may learn how well it works. In that case you and your doctor can determine if the benefits are substantial enough, and risks low enough, for you to have the treatment.

But you may learn that the treatment has not been tested in real life, on real people.

In that case, remember Prasad's Law.

[343] I found these examples on links posted here http://www.choosingwisely.org/?s=american+academy+family+physicians. There are many more

Understanding risk reduction metrics

Determining *how well* care works from medical tests

Once you learn that a treated has been tested, you and your doctor can discuss the impact. Use this phrasing:

- Out of 100 people like me, how many benefit? and
- Out of 100 people like me, how many are harmed?

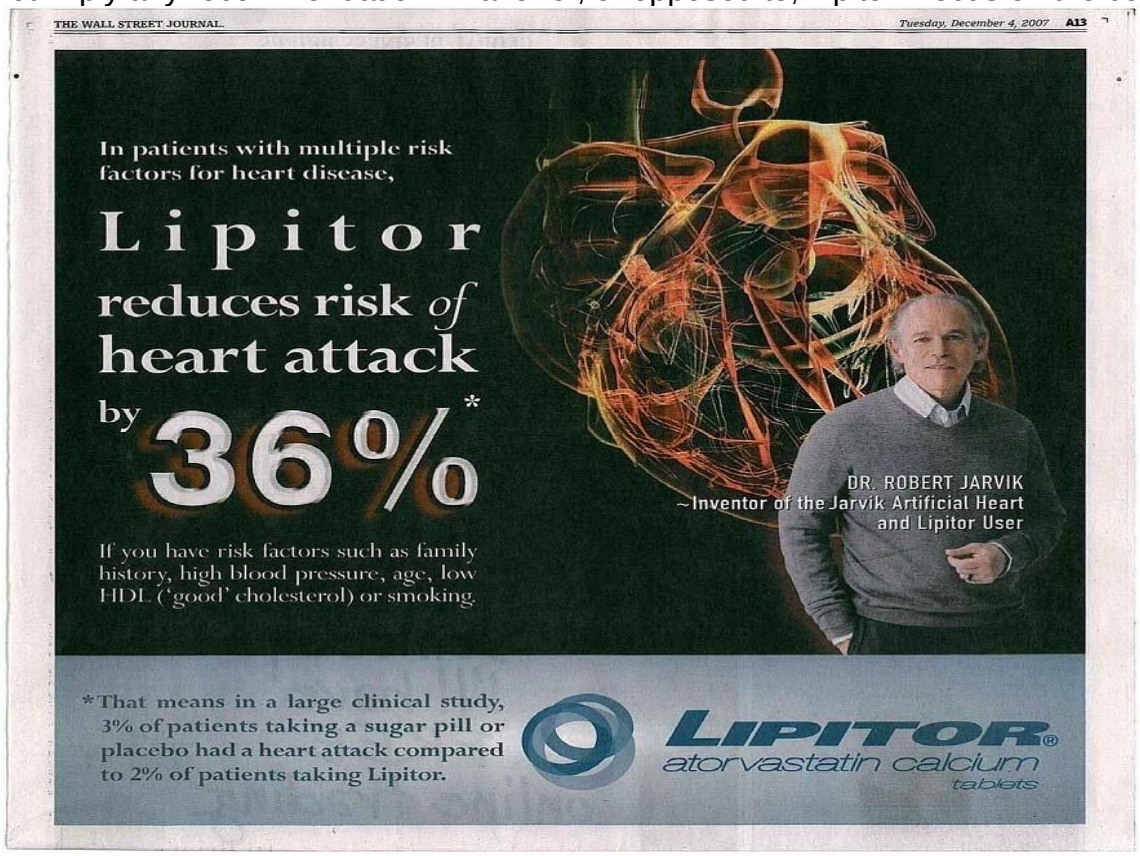
This tells you how well the treatment works in testing circumstances. We'll discuss how well it may work in real life circumstances in the next chapter.

Ask '**out of 100**' to get a number for your answer. '16' conveys more information than 'some', 'many', 'a few' or 'quite a few'.

Some patients may decide that 16 people benefiting is good enough to have the treatment while others say 'only 16? That's not very many'. Different people can reasonably interpret the answers differently.

Statements like 'this treatment cuts your risk by 36%' don't answer the question! 36% *of what*? Percentage answers may confuse more than they illuminate.

Consider this ad for Lipitor from the Wall Street Journal, Dec 4, 2007. It shows how 'cuts your risk by 36%' means less than you probably think it does. My use of this ad does not imply any recommendation in favor of, or opposed to, Lipitor. Focus on the center.



Now read the fine print, lower left.

In this ad, a 36% risk reduction (sounds like a lot) actually means avoiding 1 heart attack in every 100 people who take Lipitor (doesn't sound so impressive).

To avoid this potential confusion, ask 'out of 100 people' and demand an answer.

Remember that Prasad's Law applies if your doctor can't answer this question.

Ask about '**people like me**' because treatments can have different impacts on different demographic groups. Consider these examples.

> **Age:** The American Academy of Pediatrics recommends against prescribing cough and cold medications for respiratory illnesses in children under 4 saying 'these products offer little benefit to young children and can have potentially serious side effects'. [344] They're apparently fine for 6 or 8 year olds - or 30 or 40 year olds – but not for very young children.
>
> … out of 100 people … these medications work, but
>
> … *like me* … not if you're under 4 years old
>
> **Gender:** In 2014, the Food and Drug Administration cut the recommended dose of Ambien, a sleep aid, in half for women after determining that men and women metabolize it differently. Women, it turns out, have more of the drug in their bodies the next morning, putting them at higher risk of impaired driving.[345]
>
> … out of 100 people … the medication works, but
>
> … *like me* … not so well for women

Other patient differences exist but we don't always know how frequently. You and your doctor may have to estimate the impact on people like you.

Identify the **benefits** of interest to you. If you are taking a heart attack prevention medication ask 'out of 100 people like me, how many avoid a heart attack by taking this medication?'

If you want to reduce your back pain, ask 'out of 100 people like me, how many enjoy less back pain as a result of this procedure?'

Beware of listing 'lower my cholesterol' or 'lower my blood pressure' as the benefit you hope to achieve. We discussed earlier how these 'test benefits' may or may not correlate closely to 'patient' or 'event' benefits. Focus on the benefits you hope to achieve.

And be as specific as possible.

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[344] ChoosingWisely, American Academy of Pediatrics, http://www.choosingwisely.org/societies/american-academy-of-pediatrics/

[345] CBS News 60 Minutes, Feb 9, 2014 http://www.cbsnews.com/news/sex-matters-drugs-can-affect-sexes-differently/

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Where have we come so far in this book?

- You first want to verify that the intervention has been tested. We introduced Prasad's Law saying that if an intervention hasn't been tested in real life, it doesn't work about half the time.

- For treatments that have been tested, you want to learn how well it works on patients like you so you can decide if it works well enough for you to have. Different patients can make different decisions based on the same information.

ONE PATIENT'S EXPERIENCE ASKING THE 'OUT OF 100 PEOPLE LIKE ME' QUESTIONS

Sean, a middle aged insurance professional told his story in class one day. He had previously attended several of my lectures and apparently they had an impact.

Sean had been brought up in conservative Ireland and learned that there are two people you never question: your priest and your doctor.

Fast forward several decades. He moved to Massachusetts, built a successful business and had his own family. One day he took his daughter to the doctor for a minor issue. I don't know what it was.

The doctor prescribed treatment and Sean remembered the lectures and plucked up the courage to ask 'Doc, out of 100 kids like her, how many benefit from this treatment?'

The doctor's answer was apparently satisfactory.

But more importantly for our story is what happened next. The doctor, as Sean recounted the story, shook his hand and introduced him to the other physicians in the practice saying (and here's the direct quote)

I have 1700 patients in my practice. Sean is 1 of only 4 who have ever asked me how well medicine works

I asked Sean for permission to use his story. His email response:

Please feel free to quote me. If it helps 1 person then it worked

Some case studies to indicate the power of asking this question

Out of 100 **people like me, how many benefit and are harmed?**

Consider antibiotics to treat pediatric ear infections, a quite common childhood problem. Ear infections can be painful for the child and frightening for the parents who, not unreasonably, want to do something to help their child.

Ear aches are sometimes viral and sometimes bacterial. Doctors often prescribe antibiotics.

This intervention – antibiotics to treat pediatric ear aches - has been studied so Prasad's Law doesn't apply.

A meta review – that's a compendium of several individual studies – of 15 studies on 4100 kids concluded that 6 in 100 who took antibiotics reported less ear pain after 2 – 7 days; 94 in 100 did not enjoy less ear pain as a result of the antibiotics. [346] Most had a complete recovery within 2 – 7 days without the medication.

But 11 in 100 who took antibiotics suffered uncomfortable side effects like diarrhea.

- Out of 100 kids who take antibiotics to treat ear infections, how many benefit by enjoying less ear pain in 2 – 7 days? **6**

- Out of 100 kids who take antibiotics to treat ear infections, how many are harmed by diarrhea or other uncomfortable side effects? **11**

Now you have sufficient information to discuss this intervention with your pediatrician. Does it work well enough for your child? Some parents may decide yes, others no.

But in both cases, it's an informed decision made by a parent in light of the facts.

Dozens of similar cases exist. One website www.TheNNT.com lists about a hundred. ChoosingWisely www.ChoosingWisely.org takes a slightly different approach and lists hundred more. Both sites will provide good information for you to discuss with your doctor.

Out of 100 ***people like me*** **how many benefit and are harmed?**

We already discussed how age and gender can impact medical risks and treatments. I'd like to explore, very briefly, a different, infrequently discussed but vitally important *like me* category: social status.

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[346] This information comes from Antibiotics for Acute Otitis Media on theNNT.com http://www.thennt.com/nnt/antibiotics-for-otitis-media/. The underlying studies Sanders S, Glasziou PP, DelMar C, Rover sMM. Antibiotics for acute otitis media in children. Cochrane Database of Systematic Reviews 2004, Issue 1. Art. No.: CD000219. DOI: 10.1002/14651858.CD000219.pub2.
Turck D, Bernet JP, Marx J, et al. Incidence and risk factors of oral antibiotic-associated diarrhea in an outpatient pediatric population. J Pediatr Gastroenterol Nutr 2003;37:22-26.

I'll define social status ambiguously as a combination of wealth, income and sense of control over your life, analogous to the way former US Supreme Court Justice Potter Stewart defined pornography: you know it when you see it.

The Whitehall studies first identified and quantified social status' impact on health. These studies tracked disease and death rates by job and rank in the British civil service and their conclusions have been reproduced in other studies, in other countries.[347]

Whitehall found that low social status folks had higher disease and death rates than high status folks. Surprisingly – and this is the big deal - this was not *only* due to measureable factors like cholesterol, blood pressure, blood sugar, smoking, obesity or exercise rates.

After correcting for those factors, *the lowest status folks were about twice as likely to have heart attacks, develop other diseases and die as the highest status ones*.

Whitehall also found a gradient: the higher you are on the social status scale, the lower your disease and death rates and the reverse, the lower you are on the social scale, the higher your disease and death rates.

Over and above specific disease risk factors, Whitehall concluded, there is something about social status *independently* that impacts people's health. Harvard School of Public Health Professor Nancy Kreiger, whose own work agrees with Whitehall's conclusions, put it this way:

> an individual's health can't be torn from context and history. We are both social and biological beings—and the social is every bit as "real" as the biological. [348]

A major 2016 study published in JAMA, the Journal of the American Medical Association found that the life expectancy gap between the richest 1% of Americans and the poorest was about 12 years on a gradient similar to Whitehall's. In an accompanying editorial, Nobel laureate Angus Deaton emphasized the impact of income and social status on health and castigated traditional medical thinking:

> The finding that income predicts mortality has a long history… the mortality gradient by income is found wherever and whenever it is sought…**but the**

[347] See, for example, Isaacs and Schroeder, Class – The Ignored Determinant of the Nation's Health, New England Journal of Medicine, September 9, 2004 http://www.nejm.org/doi/full/10.1056/NEJMsb040329, Drexler, The People's Epidemologists, Harvard Magazine, March-April 2006 http://harvardmagazine.com/2006/03/the-peoples-epidemiologi.html, The Panel Study of Income Dynamics at the University of Michigan https://psidonline.isr.umich.edu/, and Bradley and Taylor, The American Healthcare Paradox

[348] Drexler, The People's Epidemiologists, Harvard Magazine, March-April, 2006

medical mainstream emphasizes biology, genetic factors, specific diseases, individual behavior, health care, and health insurance. [349]

Consider the medical impacts of your own social status. Let's say, for example, that after examining you, your doctor says 'your cholesterol level is slightly higher than I'd like. The guidelines suggest lowering it. I'll prescribe a medication.'

- If you're a *low* status person (facing higher than average heart attack risks according to Whitehall) you may be undermedicated, leaving you exposed to *disease* harms.

- But if you're a *high* status person (facing lower than average heart attack risks according to Whitehall) you may be overmedicated, exposing you unnecessarily to *medication* harms.

Try to include social status factors in your 'like me' discussions with your doctor along with age, gender, general health status, family history etc. One good information source is the 2004 report 'Work, Stress and Health: The Whitehall II Study'. Share it with your doctor. It's surprisingly easy to read and it may change the way you think about medical care.

It did for me.

'Out of 100 people like me…' or 'the guidelines say…' Case study of hypertension

The American Heart Association recommends that people over 60 years old begin treatment for high blood pressure when their readings exceed 150/90. [350]

But out of 100 people like me, how many benefit by following those guidelines?

Some answers come from a 2009 Cochrane report that summarized 15 trials totaling 25,000 subjects over age 60 with moderate to acute hypertension followed for average 4.5 years. [351]

Cochrane is a highly respected research organization that publishes meta studies of medical research. Meta studies are generally considered the most reliable medical data.

Out of 100 people over 60 years old with moderate to acute hypertension, how many avoid cardiovascular disease or death over 4.5 years?

Answer: About 4

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[349] Chetty, The Association Between Income and Life Expectancy in the United States, JAMA, April 26, 2016. See also Deaton's editorial, On Death and Money: History, Facts and Explanations, same issue, slightly paraphrased with emphasis added.

[350] http://www.heart.org/HEARTORG/Conditions/HighBloodPressure/PreventionTreatmentofHighBloodPressure/American-Heart-Association-backs-current-BP-treatments_UCM_459129_Article.jsp

[351] Musini, 2009, Pharmacotherapy for hypertension in the elderly

Here are Cochran's numbers:

- Risk of cardiovascular death or disease without taking hypertensive medication: 14.9/hundred
- Risk of cardiovascular death or disease among patients taking hypertensive medications: 10.6/hundred
- Medication benefit: 4.3 fewer deaths or diseased patients/hundred (4.3%)

Which question gives you the best information and best helps you make the wisest decision: 'Out of 100 people like me, how many benefit?' or 'What do the guidelines say?'

It's your call.

Understanding treatment variation

Sometimes beneficial care is overused so may not benefit *you*

This question acts as a yellow light to wise patients: proceed but proceed cautiously.

Very cautiously.

****

Testing sometimes shows that a treatment works well on a narrowly specified group of patients but, in the real world, doctors may offer it more widely, perhaps hoping to benefit even more patients.

Examples include mastectomies, back surgery, c-sections (I'll discuss these three in some detail below), tonsillectomies, antibiotic prescription, prostate surgery, MRI use, coronary angioplasty and many more.[352]

This results in **treatment variation** meaning that different doctors may treat similar patients differently. The wider use sometimes benefits patients, sometimes doesn't, sometimes harms patients and sometimes is unclear.

Vast amounts of research into this phenomenon have identified three significant issues.

First, about 85% of the time, two or more treatments can generate the same patient outcomes.[353] Mastectomy or lumpectomy for early stage breast cancer; surgery or physical therapy for back pain; injections or physical therapy for frozen shoulder, etc. Though the outcomes may be the same, the process, pain, risk, recovery period, family impact and cost can vary widely.

Second, when faced with care options, many patients delegate decision making to their doctors. This forces the doctor's preferences, not the patient's, to define the treatment decisions and doesn't always serve the patient's best interests.

We'll explore some implications in the next section.

Third, the higher the supply of medical services in a region, the more frequently patients access those services: the more hospital beds, the more hospitalizations, the more MRI units, the more MRI tests,

TREATMENT VARIATION

Treatment variation means that similar patients get different care from different doctors or hospitals.

The Dartmouth Atlas of Healthcare, the epicenter for variation research, concludes 3 things about treatment variation:

- It accounts for up to about 1/3 of all medical spending, perhaps $1 trillion annually.
- It arises primarily from physician orientation differences, not patient health differences
- Patients receiving more care, or care above the minimum

[352] See the Dartmouth Atlas for more on this, including a list of the most commonly overused treatments.

[353] See John Wennberg's book, Tracking Medicine, especially pages 5 – 13 for a good overview

the more orthopedic specialists, the more orthopedic surgeries etc.

We'll discuss some implications in this section.

Excessive supply, and therefore excessive utilization, raises costs and risks but doesn't improve patient outcomes. It may even worsen them since patients expose themselves only to potential treatment harms, not benefits.

We'll explore three case studies of treatment variation. Two are based on Dartmouth Atlas of Healthcare information: early stage breast cancer treatment in Massachusetts and Connecticut and back surgery in south*western* and south*eastern* Florida. The third is hospital baby delivery patterns, specifically c-section rates.

These are but 3 of dozens I could have chosen. As you read them, consider how patients who have the more aggressive, excessive and overused treatments may actually end up worse off.

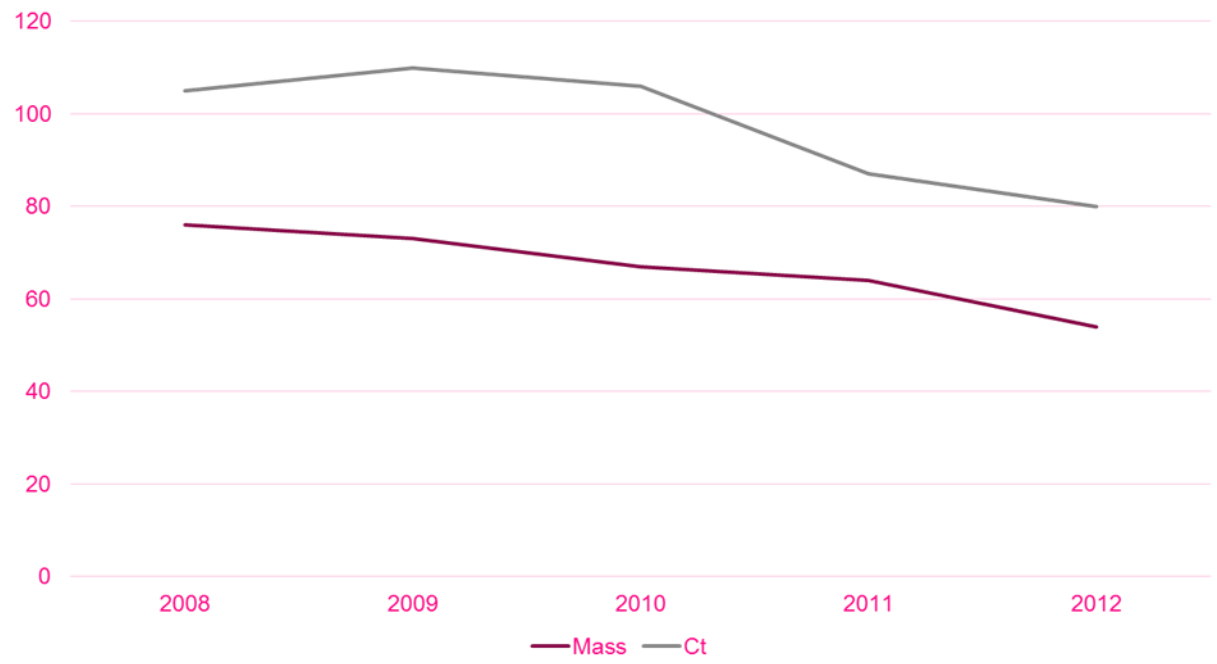
Case Study: Mastectomy Rates in Massachusetts and Connecticut

Female Medicare beneficiaries in Connecticut, using Connecticut hospitals, get about 50% more mastectomies per 100,000 than do similar women in Massachusetts. This has been roughly constant since 2008.

Here's a chart showing the mastectomy rates each year from 2008 – 2012, the most recent years for which data are available on the Dartmouth Atlas. The Connecticut rate is the top line, Massachusetts the bottom. [354]

Mastectomies per 100,000 Medicare women

[354] Data from the Dartmouth Atlas



How can we determine if these surgical rate differences are driven by *patient* health differences or *physician* treatment orientation differences?

We'll first consider any patient differences. The American Cancer Society tracks cancer incidence and mortality rates by state. They show that the breast cancer incidence rates for 2011 per 100,000 women are virtually identical in both states: [355]

	Non-Hispanic White	African American	Hispanic
Connecticut	139	113	127
Massachusetts	137	109	104

Hispanics are about 10% of each state's population so their incidence difference would play a minor role in the overall statistics though it might raise epidemiological questions.

Based on breast cancer incidence rates alone the treatment variation appears driven by physician orientation, not patient disease rate differences.

Did the Connecticut women benefit from more mastectomies?

[355] American Cancer Society, Cancer Facts and Figures, 2011 - 2012

The American Cancer Society also tracks breast cancer mortality rates in each state. That's the rate at which women die of breast cancer. Again, they're virtually identical in both states. Here are the rates for 2011-2012, again per 100,000 women: [356]

	Non-Hispanic White	African American	Hispanic
Connecticut	24.0	27.4	12.1
Massachusetts	23.5	27.3	12.1

If the higher rate of mastectomies in Connecticut from 2008 – 2011 generated patient benefit, we would expect to see lower Connecticut breast cancer mortality rates in 2011-2012 than in Massachusetts. We don't see that.

Women asking the standard treatment questions – is this a good treatment? Do you get good results? Would you recommend this treatment for your wife, daughter or sister? – would get the same answers in Massachusetts and Connecticut.

But the Connecticut women wouldn't avoid those additional mastectomies.

The higher mastectomy rate in Connecticut generates no patient mortality reduction benefit. It only raises patient risks and costs.

Asking the 'is it overused' question would help motivate physicians and well informed patients to review these kinds of data.

Follow up with 'out of 100 women like me, how many benefit and are harmed by mastectomies?'

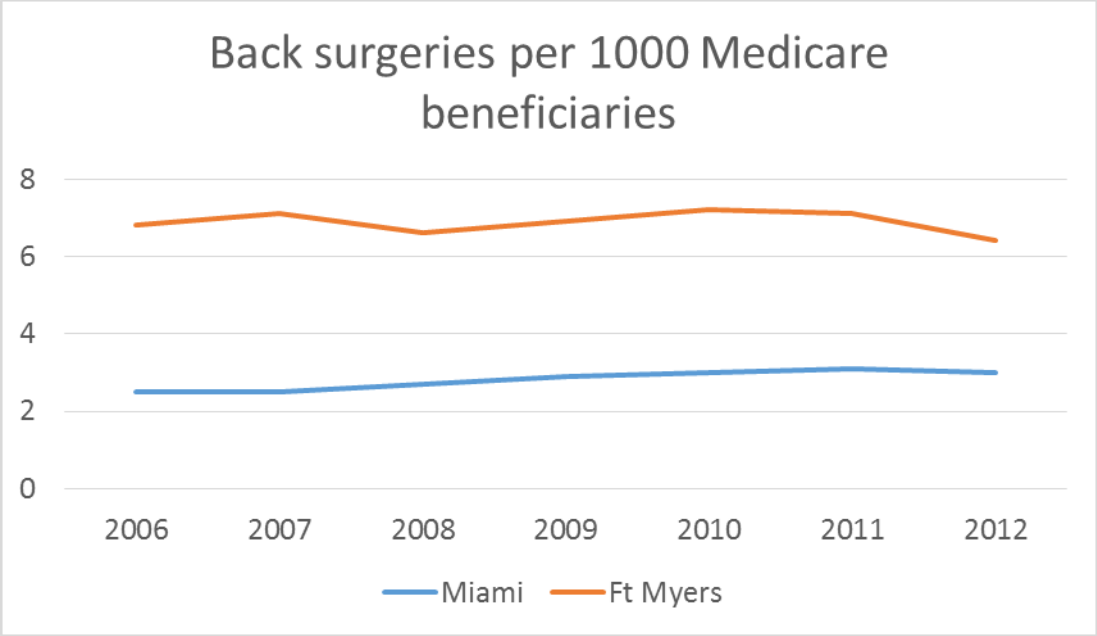
Really well informed women might also ask 'would most physicians make the same treatment recommendation or might some suggest something different?' I'll introduce that question in the next chapter.

Case Study: Back Surgery in Florida

Let's explore a second Dartmouth Atlas example: Florida back surgeries. I want to introduce a completely different medical situation to show the breadth of treatment variation.

Medicare beneficiaries in southeastern Florida, around Miami, are about half as likely to have back surgery as Medicare beneficiaries in southwestern Florida, around Fort Myers. See this chart with Fort Myers on top and Miami on the bottom from 2006 – 2012, again the most recent years of data on the Dartmouth Atlas website.

[356] http://www.cancer.org/acs/groups/content/@epidemiologysurveilance/documents/document/acspc-030975.pdf



Are retirees in Miami *medically different* from retirees in Fort Myers? John Wennberg, founder of the Dartmouth Atlas and professor emeritus at the Geisel School of Medicine at Dartmouth, answers with a resounding 'no' saying

> There is no epidemiologic evidence that illness rates vary as sharply from one health care region to another as does surgery.[357]

Do retirees in Miami *prefer* more aggressive care than retirees in Fort Myers? In other words, do Miami patients routinely ask for physical therapy for their back pain while Fort Myers patients typically ask for surgery?

Again 'no' but this time from Dr. James Weinstein, former Chairman of the Orthopedics Department at Dartmouth's Geisel School of Medicine who has studied treatment variation for years:

> It's highly improbable that Medicare retirees living in Fort Myers prefer back surgery two times as often as residents of Miami. [358]

What causes the treatment variation? Wennberg again provides the answer

> Doctors decide who needs health care, what kind, and how much…

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[357] John Wennberg, Variation in Use of Medicare Services Among Regions and Selected Academic Medical Centers: Is More Better?' page 6 slightly paraphrased http://www.commonwealthfund.org/~/media/files/publications/fund-report/2005/dec/variation-in-use-of-medicare-services-among-regions-and-selected-academic-medical-centers--is-more-b/874_wennberg_variation_medicaresvcs-pdf.pdf

[358] Gilbert Gaul, When Geography Influences Treatment Options, Washington Post, July 24, 2005 http://www.washingtonpost.com/wp-dyn/content/article/2005/07/23/AR2005072301040.html

> If you live in Fort Myers, Fla., you're two or three times more likely to get your knee replaced [or have back surgery] than if you live in Miami because there are more orthopedic surgeons in Fort Myers on the lookout for patients than there are in Miami.[359]

Could Wennberg be right? Might physicians in 'high physician density regions' be on the lookout for patients with back pain?

To help answer these questions, the Washington Post reviewed 125,000 records of patients who underwent spinal fusion surgery in Florida. [360] They learned that about half the surgeries addressed common spine problems like stenosis, herniated disks and degenerated disks that are commonly deemed inappropriate for surgery by professional medical societies, including orthopedic associations.

Who's right? The surgeons who performed the procedures in Florida or those who called the surgeries inappropriate?

I'll suggest an objective way to answer: see what orthopedic medical organizations recommend. If orthopedic organizations say 'don't do it under these conditions' then we'll assume the Washington Post critics were right.

The Canadian Spine Society, an organization of spine surgeons and healthcare professionals interested in advancing excellence in spine patient care, says exactly that. [361] (Sorry, this is a bit technical but I wanted to provide exact quotes in case any orthopedic surgeons read this section.):

> *Don't perform fusion surgery to treat patients with mechanical axial low back pain from multilevel spine degeneration in the absence of:*
>
> - *leg pain with or without neurologic symptoms and/or signs of concordant neurologic compression*
> - *structural pathology such as spondylolisthesis or deformity.*

The Canadians continue

> *there is no unequivocal evidence that fusion is superior to comprehensive conservative treatment for treating back pain without focal structural pathology and concordant mechanical or neurological symptoms.*

Might Fort Myers surgeons operate on patients deemed inappropriate by the Canadian Spine Society?

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[359] Consumer Reports, Too much treatment?, July 2008 http://www.consumerreports.org/cro/2012/04/too-much-treatment/index.htm

[360] Whoriskey and Keating, Spinal fusions serve as case study for debate, Washington Post, Oct 27, 2013 https://www.washingtonpost.com/business/economy/spinal-fusions-serve-as-case-study-for-debate-over-when-certain-surgeries-are-necessary/2013/10/27/5f015efa-25ff-11e3-b3e9-d97fb087acd6_story.html

[361] ChoosingWisely Canada, Five Things Physicians and Patients Should Question from the CSS, Canadian Spine Society, http://www.choosingwiselycanada.org/recommendations/spine/

The answer seems like a definite 'maybe' but the impact on you, if you're a Fort Myers patient, could be huge.

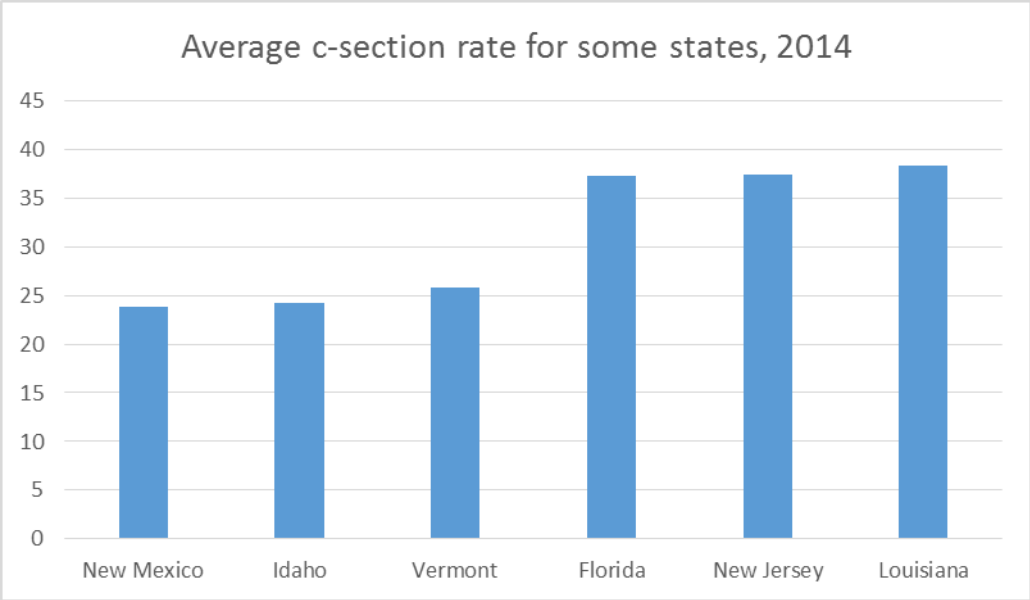
Wise patients don't stop their questioning when they learn that a treatment is beneficial, as spinal surgery or mastectomy sometimes is.

Wise patients want to ensure that the treatment provides benefit to *them*. That takes additional questioning.

Case study: C-section delivery rates at different hospitals

C-section rates vary tremendously among hospitals and regions. Some hospitals routinely deliver 40% or more of babies by c-section while others delivery 20% or less.

Similarly some states exhibit far higher average c-section rates than others. [362]



Why? Do patients differ dramatically in these states? Do outcomes?

We'll start our analysis with a 2011 New Hampshire Insurance Department study 'A commercial study of vaginal delivery and cesarean section rates at New Hampshire hospitals' that showed c-section rates varied between 15% and 47% of deliveries by New Hampshire hospital. That study concluded

> There are no obvious reasons that explain why c-section rates are higher at one NH hospital than another …

[362] Data from March of Dimes, http://www.marchofdimes.org/peristats/ViewSubtopic.aspx?reg=99&top=8&stop=86&lev=1&slev=1&obj=9&dv=ms

> there does not appear to be a relationship between c-section rates and health status among hospitals …
>
> statistics show essentially no relationship between hospital population health and health status and c-section rates.

The NH study did not note outcome differences among hospitals suggesting similarity. (Major outcome differences would have been headline news and almost certainly included in this study.)

That raises the question: Do hospitals that perform more c-sections on similar populations generate healthier babies?

A second 2011 study addressed that, this time of 30,000 births at 10 upstate New York hospitals without specialized neo-natal intensive care units but with varying c-section rates. It found no difference in outcomes for babies born in the hospitals with the highest c-section rates and those with the lowest when outcomes are measured by Apgar scores, need for assisted ventilation, or need to move to intensive care hospitals. [363]

Two studies, both showing different c-section rates by hospital without apparent patient health reasons or outcome differences.

Fast forward to 2013 and consider the conclusion of a Harvard School of Public Health study of 228,000 births in 49 different Massachusetts hospitals: [364]

> The same woman would have a different chance of undergoing a c-section based on the hospital she chooses….
>
> certain hospitals' high rates of cesarean births have more to do with characteristics of the hospitals themselves than with characteristics of their patients.

Harvard goes on to issue this caution:

> While c-sections can be a lifesaving procedure for an infant in distress, or when there are multiple births or other labor complications, c-sections that are not medically necessary can put mothers and babies at avoidable risk of infection, extend hospital stays and recoveries, and increase health costs.

Again a beneficial medical intervention is overused and when 'not medically necessary' (Harvard's words) puts patients at unnecessary risk.

The same year, 2013, a different study by Dr. Katy Kozhimannil and others of 817,000 births in 593 hospitals nationally arrived at the same general conclusion.[365] Kozhimannil

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[363] Bakalar, Childbith: More Labor Interventions, Same Outcomes, NY Times, April 25, 2011

[364] These quotes come from a Press Release March 19, 2013 from the Harvard T H Chan School of Public Health describing their study. The entire study is published here http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0057817

[365] Kozhimannil et al, Cesarean Delivery Rates Vary Tenfold Among US Hospitals, Health Affairs, March 2013.

found that c-section rates varied from 7 to 70 percent of all deliveries by hospital and suggested that *provider practice patterns* are a key driver of this rate variation.

More or less like the New Hampshire study, the New York study and the Harvard study.

Surgical variation rates were not, according to Kozhimannil

> explained by hospital size, geographic location or teaching status…
>
> The scale of this variation signals potential quality issues that should be quite alarming to women, clinicians, hospitals and policymakers [366]

Four different studies of different hospitals and patient populations arrived at the same conclusion: c-sections benefit some patients but are overused so may not benefit – and may even harm - others.

To summarize:

- The hospital that you choose has a significant impact on your likelihood of delivering by c-section
- Hospitals with the highest c-section rates don't necessarily serve the sickest, most at-risk populations
- C-section rates vary significantly even among low risk mothers
- Hospitals performing the highest rates of c-sections do not generate better outcomes than hospitals performing lower rates

****

These treatment variation situations get replayed for dozens of procedures including

- tonsillectomies
- coronary stent insertions
- heart valve replacements
- referrals for CT scans
- hip replacements
- radical prostatectomies and others.

Dartmouth researchers estimate that if you add all the excesses above the minimum, for lots and lots of procedures, you'll arrive at about 1/3 of all medical spending. I'd recommend that anyone interested in this topic visit the Dartmouth Atlas website and click around. It's packed with fascinating, potentially life-saving information.

A somewhat famous medical party trick story showing that even great doctors in great hospitals practice differently

John Wennberg, more or less the godfather of treatment variation analytics in this country, performed a party trick of sorts to show how doctors practicing at highly regarded hospitals can treat similar patients differently.[367]

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[366] Pearson, C-Section Rates Vary Across US Hospitals, Huffington Post, March 15, 2013 http://www.huffingtonpost.com/2013/03/06/c-section-rate-variation-hospitals_n_2819024.html

He used Boston, home to Harvard Medical School affiliated teaching hospitals, and New Haven, home to Yale Medical School affiliated hospitals, as his case study.

Wennberg learned that Boston area patients spent about 40% more time in the hospital:

- A Boston patient suffering from gallstones would be 40% more likely to be hospitalized than a similar patient in New Haven.
- A patient hospitalized for surgery that required 1 night in a New Haven hospital would often have spent 2 nights in a Boston hospital.

He wondered if the New Haven docs felt they undertreated patients or if Boston docs thought they overtreated. When asked, doctors in both cities claimed to treat patients appropriately.

Which were right? They can't both be.

To answer that question, Wennberg presented his findings at New Haven and Boston medical conferences, but *he accidently-on-purpose switched the data*!

He showed the Boston docs that their patients spent 40% *less* time in the hospital and therefore received less care than New Haven patients, and vice versa, and asked for explanations.

- The Boston docs came up with lots of reasons why the New Haven ones erred by overtreating their patients, admitting too many to hospitals and therefore exposing them to unnecessary treatment risks and financial costs.

- The New Haven docs explained why the Boston ones erred by undertreating their patients, admitting too few to hospitals and therefore exposing them to unnecessary disease risks.

Wennberg then admitted his data mistake and went through the (presumably uncomfortable) analysis of the doctors' faulty reasoning.

The bottom line: though doctors all want to treat appropriately – and claim to - they are often unaware of their own assumptions and treatment patterns.

That's why wise patients always ask our questions…

Even of the most experienced doctors who graduated from the most famous medical schools and work at the most prestigious hospitals!

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[367] This summary comes from Brownlee, Overtreated, page 111 -112 and Wennberg, Are Hospital Services Rationed in New Haven or Over-Utilized in Boston, Lancet, May 23, 1987. Though the data come from a 1980s era study, the implications remain valid today.

Understanding patient choice differences

How to get and evaluate a second opinion

We learned earlier that patients have care options about 85% of the time. Often two or more treatment processes generate the same patient outcomes

But the treatment processes can involve quite different pain levels, family impacts, recovery periods, costs and other factors.

Researchers have learned that, for the 85% of care that allows for choice, wise and well informed patients may choose treatments different from that recommended by their doctors.

And two different patients with the same medical problem can choose different treatments and both be right.

Unfortunately, since patients today often delegate decision making to doctors, *physician preference* rather than *patient preference* often determines which treatment patients ultimately receive. That's not always such a good thing.

Preference-sensitive decision making among patients with access to good information

Various studies have assessed the impact of patient education on preference-sensitive decision making and have generally arrived at the same conclusion: when provided with good information about both outcomes and processes, patients tend to prefer less invasive and lower risk care.

The general trend is about a 20 – 25% shift.

Coincidentally, less invasive / lower risk care tends to be less expensive.

One 2012 study in Washington State found that patients who went through a thorough treatment comparison process had 26% fewer hip replacement surgeries, 38% fewer knee replacements and cost about 15% less than patients who did not go through the same process.[368]

Other studies have indicated

- 20% fewer stent insertions
- 40% fewer prostate removal surgeries

PREFERENCE SENSITIVE MEDICAL CARE

Two patients with the same medical problem can choose different treatments and both be right.

Preference sensitive also means you can prefer a different treatment from what your doctor prefers.

[368] Arterburn, Introducing Decision Aids, Health Affairs, September 2012

- 40% fewer spinal fusion surgeries for herniated disks [369]

These studies and others suggest that physicians need to diagnose both the *medical condition* and the *patient* to prescribe the appropriate intervention. A classic analysis, Patient Preferences Matter, written by two medical school, professors and one business school prof, highlights the impact. [370] Some summary quotes:

> *Health care may be the only industry in which giving customers what they really want would save money.*
>
> *Well-informed patients consume less medicine – and not just a little bit less, but much less.*
>
> *When doctors accurately diagnose patient preferences, an enormous source of waste – the delivery of unwanted services – is eliminated.*

In other words, when doctors assume they know which treatment process a patient wants, they substitute their own preferences for the patient's.

That's not always wise because there's a huge difference between advice *giving* and advice *receiving*. The advice recipient may or may not agree with the advice giver.

Here's a list of some potential preference-sensitive considerations that affect physician 'advice givers' differently from patient 'advice receivers'. It's not exhaustive. I didn't include 'success' since it's obviously the most important consideration of both doctors and patients.

Some Physician Issues and Concerns	Some Patient Issues and Concerns
Regulations and guidelines	Pain
Fear of lawsuit	Recovery period
Local / regional / hospital norms	Family impact
Income	Self image
Experience with intervention alternatives	Personal preferences (e.g. religious)

[369] These conclusions were discussed at the 2014 Dartmouth Summer Institute for Informed Patient Choice, Hanover, NH

[370] Mulley, et al, Patient Preferences Matter, Kings Fund, 2012. These quotes come from page 9.

Avoid feeling guilty	Cost

The question ‘what would you do if you were me, doc?’ is unfair. The physician-advice-giver can’t remove him or herself entirely from the constraints imposed by that role.

How to proceed after getting a second (or even third) opinion

Once you’ve had a second (or third) physician make treatment recommendations, use this chart to compare benefits and harms. Try to fill in as many boxes as possible. Include Treatment C and D as appropriate.

	Treatment A	Treatment B
Benefits and harms at intervention		
Benefits and harms over the short term		
Benefits and harms over the long term		

Each patient can define benefits and harms as those most important to him or her, as well as the short and long term. Typically short term means the first few months and long term 3 – 5 years, though you can modify these definitions as you see fit.

Here are some considerations in a hypothetical comparison of surgery and physical therapy for illustration purposes only.

	Treatment A (surgery)	Treatment B (physical therapy)
Benefits and harms at intervention	* How long will I be hospitalized? * How likely is an infection or other surgical complication?	* How many sessions will I need? * How much pain is associated with the therapy?

	* How much pain will I feel after the procedure and for how long? * How much work will I miss? * Will I be incapacitated and need care from a family member or home health aide? If so, for how long?	* How often are patients harmed by the therapy itself? * When will I know if the therapy is working?
Benefits and harms over the short term	* How long will it take to regain my strength and range of motion? * How many patients report satisfaction with the outcome at 3 and 12 months? * How often do patients need a second surgery?	* How often do patients report satisfaction at 3 and 12 months? * How often do patients quit physical therapy and opt for surgery in the short term?
Benefits and harms over the long term	* How many patients report satisfaction with the outcome at 48 months? * How many need a second surgery within 48 months?	* How many patients who started with PT ultimately end up with surgery within 48 months? * How many patients report satisfaction with the PT outcome at 48 months?

This comparative process isn't limited to surgery and PT: you can use it to compare any medical interventions, though the specific questions in each box may differ.

Try to format your treatment comparisons this way. It will help you focus on the most critical issues and streamline your decision making process.

And feel free to show this chart with your own questions to your doctor. It may facilitate your discussions.

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Case Study: How John decided on physical therapy for his torn rotator cuff

John, a 69 year old insurance broker, related this story to me after a lecture one day. I hadn't seen or talked with him in the previous year or two.

He walked up to me in the lecture hall with his arms high in the air, smiling and saying 'my shoulder feels fine'. Odd behavior and greeting in a professional setting.

His right shoulder had been so weak, he said, that he couldn't shift gears in his pick-up: he had to reach over the steering wheel with his left hand to shift.

His scans clearly showed a torn right rotator cuff and his orthopedic surgeon recommended surgery. All fairly routine.

But his story then took a surprising turn. I'll quote him: [371]

> 'I probably would have said yes to surgery prior to hearing your lectures. Instead I asked your questions and decided to try PT first.
>
> I regained 95%+ range of motion without pain in same time period as surgical recovery.
>
> Same outcome as surgery at far lower cost, risk and hassle.'

The key questions:

> Out of 100 people like me, how many benefit from, and are harm by, rotator cuff surgery?
>
> Would most physicians recommend rotator cuff surgery or might some suggest something different?

COST IMPLICATIONS

The Patient Preferences Matter scholars suggest a 16% or so systemic savings potential. I suspect this estimate is low!

They used British National Health Service costs and practices as a basis for their savings projections.

The British only spend about a third as much as we do per capita on healthcare.

The 16% potential British savings

[371] I received permission to use these quotes verbatim, but decided not to use his real name. This story is completely true, word-for-word.

Interestingly John, a well-educated, knowledgeable, regular attendee at insurance seminars, wouldn't have asked those questions absent specific instruction and a script.

I suspect a similar situation exists for most patients, notably the Fort Myers back surgery folks and Connecticut mastectomy women we discussed earlier.

They all might have made different choices had they simply been taught to ask the right questions.

Another patient's experience asking the '*out of 100 people like me*' and the 'would most physicians agree' questions.

'Preference-sensitive' applies to physicians too!

A fellow called me with this poignant story one day, completely out of the blue. He had attended a lecture and read my book Transparency Metrics. [372]

> *I have a good relationship with my cardiologist, so I felt comfortable asking your 'out of 100 people like me' questions. So I did.*
>
> *He put down his pen, looked at me and said 'no one has ever asked me that. I don't know the answer. Let's figure it out' and he started typing on his computer.*
>
> *The process of finding answers got me involved and I ended up feeling more comfortable with his treatment recommendations as a result. I feel like I now have an even better working relationship with him than I did before.*
>
> *I'm also more inclined to comply with his recommendations.* [373]

I asked a few questions then he announced 'now I have to tell you about my next experience'.

> *I asked my dermatologist the same questions including 'would most physicians agree with your recommendation?'*
>
> *His response: 'you come into my house and ask me those questions? If you don't trust my judgment, I think you should get another dermatologist.'* [374]

[372] This really happened. I don't remember this fellow's name and don't know anything about his medical condition. I wrote this conversation down as best I recollected it as soon as we hung up.

[373] Patient compliance with physician recommendations is spotty, leading sometimes to poorer outcomes than desirable.

Different doctors for different patients.

Preference sensitive works for physician choice also.

Choose the doctor whose style and professional demeanor work for you.

[374] The first sentence is a direct quote. It's burned into my memory. The second sentence is as close as I recall.

Quantity as a quality indicator

The more experience a specialist or hospital has treating patients with your medical condition, the better your likely outcomes

Research has identified a pretty strong (but not perfect!) correlation between the volume of similar patients treated by a specialist or hospital and the outcomes for those patients: The higher the volume, the better your chances.

This is not a perfect predictor but it's about the best predictor currently available.

One classic study on the impact of **hospital volume** on mortality rates was published by Dr. John Birkmeyer of the Dartmouth-Hitchcock Health System and his colleagues.[375] They analyzed the impact of hospital volume on mortality rates for 2.5 million patients who underwent 14 different medical procedures over a 5 year period.

Patients, they concluded, can significantly reduce their operative mortality risk by choosing a high volume hospital. Though the specific mortality rate reduction varied by procedure, Birkmeyer and his colleagues identified a surgical quality gap between high and low volume hospitals.

They concluded three things about this gap:

> First, it is **large** enough to concern patients.
>
> Second, it is **consistent** across different medical specialties and research studies, and
>
> Third, it **makes sense**. High volume hospitals, they reason, tend to have more consistent processes for postoperative care, better-staffed intensive care units, and greater resources for dealing with postoperative complications.

Other research pretty strongly supports Birkmeyer's conclusions:

> A 2011 study of heart failure patients estimated that 20,000 lives could be saved annually if patients at low volume hospitals switched to high volume hospitals.[376]

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[375] Birkmeyer et al, Hospital Volume and Surgical Mortality in the United States, NEJM, April 11, 2002

[376] Hospitals treating high number of heart failure patients see better outcomes than low volume hospitals, Harvard School of Public Health News https://www.hsph.harvard.edu/news/hsph-in-the-news/hospitals-heart-failure/

> A study of bariatric surgery found that hospitals treating more than 100 patients annually had shorter lengths of stay, lower mortality rates and decreased costs. [377] In particular, bariatric surgical mortality rates at low volume hospitals were up to 3x higher than at high volume hospitals for patients over 55 years old.
>
> A 2013 study of high risk patients found those undergoing aortic valve replacement at high volume hospitals enjoyed better outcomes. [378]
>
> Studies of breast cancer treatment, knee surgery and other medical care finds pretty much the same things. [379]

By contrast, studies comparing patient outcomes from newer vs. older technologies, or from academic medical centers vs. other hospitals, do not always find such a gap.

> One such new vs. older technology study found that physicians need to perform 1600 robotic assisted prostate removal surgeries to achieve excellence. [380] *Experience* with the technology, often more than the technology itself, correlates with quality outcomes.

We find the same thing for **surgeons** – the higher their volume of a particular type of surgery, the better their outcomes. Dr. Paul Ruggieri summarized the literature on this topic in Chapter 5 of his book The Cost of Cutting:

> The message is becoming clearer with each published study. High volume surgeons, surgeons with experience, operating out of high-volume hospitals with experience give patients the best chance for quality outcomes…
>
> Based on the data, the high volume-surgeon part of the equation seems to be the most important factor. [381]

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[377] Nguyen et al, The relationship between hospital volume and outcome in bariatric surgery, Annals of Surgery, October 2004 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1356460/

[378] Hospital volume linked to outcomes for aortic valve replacement in high risk patients, The Society of Thoracic Surgeons October 31, 2013 http://www.sts.org/news/hospital-volume-linked-outcomes-aortic-valve-replacement-high-risk-patients

[379] http://www.ncbi.nlm.nih.gov/pubmed/15988622, http://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/1471-2474-13-250

[380] Cortez, Doctors Need 1600 Robotic Prostate Surgeries for Skill, Bloomberg, Feb 11, 2011 http://www.bloomberg.com/news/articles/2011-02-16/doctors-need-1-600-robot-aided-prostate-surgeries-for-skills-study-finds

[381] Ruggieri, The Cost of Cutting, page 137

Ruggieri, a surgeon, might be slightly biased.

But Birkmeyer, the Dartmouth physician, agrees with Ruggieri's assessment, concluding that patients can improve their chances of survival substantially, *even at high volume hospitals*, by choosing high volume surgeons. [382]

Thresholds

Some organizations publish 'thresholds' or recommendations for the minimum experience a surgeon or hospital needs to achieve excellence. Treating fewer than the threshold number of patients tends to increase mortality rates but treating more doesn't decrease those risks.

The Leapfroggroup, for example, has developed hospital threshold recommendations for several procedures such as

- Coronary artery bypass graft, minimum 450 procedures/year
- Abdominal aortic aneurysm repair, minimum 50 procedures/year
- Percutaneous coronary intervention, minimum 400 procedures/year [383]

Johns Hopkins, Dartmouth-Hitchcock and the University of Michigan go one step further and have developed minimum hospital *and surgeon* requirements for their affiliated hospitals including [384]

- At least 20 pancreatic cancer surgeries per hospital per year, and at least 5 for each surgeon
- At least 50 knee or hip replacements per hospital per year, and at least 25 per surgeon
- At least 10 carotid stent insertions per hospital per year, and at least 5 per surgeon.

John Birkmeyer, a leader of the Dartmouth effort, suggests the impact. If all US hospitals adopted this standard, he says, about half the hospitals that perform many of these procedures would be prohibited from continuing to do them. [385]

Wise patients choose specialists and hospitals working at or above the recommended threshold.

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[382] High volume surgeon, better chance of patient survival, Vox of Dartmouth http://www.dartmouth.edu/~vox/0304/1201/surgeons.html

[383] http://www.leapfroggroup.org/media/file/Leapfrog-Evidence-Based_Hospital_Referral_Fact_Sheet.pdf

[384] Boodman, Do you need complex surgery?, Washington Post, April 25, 2015, Urbach, Pledging to eliminate low volume surgery, New England Journal of Medicine, October 8, 2015

[385] Clark, Limits urged on surgeries by low-volume providers, HealthLeaders media, May 20, 2015

Why is experience so important?

The common sense answer that 'practice makes perfect' is only part of the reason, and the least important part. Physicians learn the process of cutting, suturing, etc. relatively quickly. Though these mechanical skills may improve slightly over time, this doesn't address the significant mortality reduction evidenced by high volume surgeons and hospitals. Few patients, it seems, die from faulty incisions.

Instead, I suggest that the true benefit of dealing with high volume surgeons and hospitals comes from their ability to identify patients who are 'out of bounds' more quickly and address their problems more appropriately. With volume a surgeon can sense, almost even without testing, that something is wrong.

Without the experience that volume brings, the surgeon is unsure if the patient's blood loss or reactions are within the normal range. This applies at a systemic level to hospitals also: nurses and technicians can develop the same sense from experience.

Atul Gawande wrote insightfully about this process in his article 'The computer and the hernia factory', a study of Shouldice Hernia Hospital in Canada. [386] Shouldice only performs hernia surgeries. Each Shouldice surgeon performs about 700 annually or, over their medical career, perhaps 20,000 similar surgeries. Gawande estimated, in 2002, that Shouldice's hernia surgery failure rate was 'an astonishing 1 percent'. He revised that figure in 2008 to 'closer to .1%'. [387]

By comparison, some studies suggest an average 10-year hernia repair failure rate at around 11%. [388]

With repetition, Gawande found, 'a lot of mental functioning becomes automatic and effortless, as when you drive a car'. This allows experienced practitioners to focus on novel or abnormal situations and essentially ignore all that is normal and routine. A surgeon, he writes, for which most activities become automatic has a significant advantage.

He described a Shouldice operation: [389]

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[386] Gawande, The Computer and the Hernia Factory, Complications. These quotes from pages 38 and 39

[387] February 3, 2008, event at the Coolidge Corner Theatre, Brookline, Massachusetts, in answer to my specific question

[388] Migliore, Reoperation for failed reflux surgery, Multimedia manual of cardio-thoracic surgery, January 1, 2011 http://mmcts.oxfordjournals.org/content/2011/0311/mmcts.2009.004226.full This study included a broader range of procedures than Shouldice apparently performs.

- The surgeon performed each step ‘almost absently’
- The assistant knew ‘precisely which issues to retract’
- The nurse handed over ‘exactly the right instruments; instructions were completely unnecessary’
- The doctor slowed down only once, to check ‘meticulously’ for another hernia. He found one that ‘if it had been missed, would almost certainly have caused a recurrence’

This ‘almost absent attention to routine features’ but intense focus on potential abnormalities comes only from experience. That’s why higher volumes identify better quality surgeons and hospitals.

Just like why more experienced drivers have fewer car accidents!

When you consider hiring a specialist or using a hospital, be sure to ask the volume question. It just may save your life.

Conclusion

This section introduced 5 questions to ask every doctor at every meeting about every medical intervention:

- Has it been tested?
- Out of 100 people like me, how many benefit and are harmed?
- Is it overused in this hospital or region?
- Would most physicians make the same recommendation or might some suggest something different?
- How many patients like me do you treat?

You can cut this page out and take it with you to your next doctor’s appointment as a reminder.

Patients who understand and ask these questions will tend to enjoy better outcomes with less risk and at lower costs.

We’ll move now to applications of these questions. I’ll suggest some scripts of specific questions to ask by medical service category.

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[389] Ibis, page 40

Applying these lessons

Patients have lots decisions to make in their quest to avoid overtreatment and inappropriate care. The 5 questions already introduced cover the most critical topics.

But you may need to rephrase them for your own specific needs when you choose tests, doctors or hospitals.

In this section we'll provide checklists of key questions to ask by activity. These are more targeted than our 5 general questions but cover the same material.

Ask in whichever form you feel most comfortable…***but ask***!

How to Choose a Primary Care Physician

I want to start with suggestions for choosing a primary care physician. Admittedly this is somewhat outside the scope of questions already introduced and discussed, and the criteria for choosing a PCP differs from the criteria for choosing most medical providers and services.

Your PCP manages your overall health and directs you to specialists and hospitals as needed.

I think it's important to start here because choosing the right PCP as your teammate is a critical step toward ensuring that you get appropriate medical care. You need someone in your corner to talk to when you go about your questioning and when you learn the answers.

Unfortunately today, there is a deficit of PCPs available in the US and many have closed their practices to new patients. You may have to settle with someone with whom you're not completely comfortable.

Consider, with these questions, if 'good enough' is good enough *for you*.

How to choose a primary care physician
Ask yourself these questions

1. Do I feel comfortable discussing my most intimate, personal issues with this person?
2. How does this doctor handle annual physicals?
3. Does this doctor refer to aggressive or conservative specialists?
4. Does this doctor refer to excellent specialists?

Do you feel comfortable discussing your most intimate, personal issues with this person?

Many medical situations have both a physical and emotional component. You want a PCP who can understand and address both, one you feel comfortable confiding in.

Some physicians refer to the 'human connection' with your doctor as a healthcare tool. Atul Gawande puts it like this: 'we are used to thinking that a doctor's ability depends mainly on science and skill … but these may be the easiest parts of care.' [390]

[390] Gawande, The Bell Curve in *Better*, 2007

All doctors are highly trained and technically competent. You, a non-medically trained patient, really can't judge.

But you can choose 'the best for you'. You may develop a more open and comfortable relationship with one than with another. This human connection may be – and probably is - the most important criteria in your primary care physician choice.

The human connection helps you and your PCP together answer the questions discussed in this book…and the lack of human connection can stifle those critical and necessary conversations.

How does this PCP handle annual physicals?

Some excellent Primary Care Physicians perform lots of tests at annual physicals. Other, equally excellent PCPs, use annual meetings to talk more.

Neither approach is universally right or wrong as there are benefits and risks of *testing* and benefits and risks of *not testing*.

But either approach might be right *for you:*

- Do you worry ***more*** about missing a potentially dangerous abnormality until it's too late to treat… and worry ***less*** about getting an inaccurate test result or being overdiagnosed with a meaningless abnormality?
- Or do you worry ***more*** about having a false positive test result or being overdiagnosed than about missing a serious asymptomatic abnormality?

Related / follow up questions:

- How open is this doctor to discussing specific tests and either omitting or including them based on *your* preferences?

ONE DOCTOR'S OPINION

Dr. Benjamin Brewer uses the annual physical time to build trust and rapport.

In his words:

That helps me to motivate, to provide hope and to persuade patients to face things about their health that they'd rather not…

The time allows me to listen, look for hidden problems, dispense advice on lifestyle issues, give preventive care, arrange testing and to discuss health, not just disease…

Health is more than the absence of disease, and quality care is more than the sum of the tests that can be done on your organ systems.

Relationship-based care has a beneficial impact on health quality, costs and outcomes that goes way beyond disease detection and health screening.

Brewer, Annual Physicals Can Pay Unexpected Benefits, Wall Street Journal, January 8, 2009

- Does this doctor prefer to manage your health by numbers (i.e. test results) or the 'human connection', more a combination of medical science and his/her feel for your personality? Which approach do you prefer?

How do you wish to use ***your own*** face time with your doctor? More tests than talk? More talk than tests? There's no universally right or wrong answer, only right or wrong approaches for you.

Does this PCP refer to aggressive or conservative specialists?

Some surgeons, for example, may prefer to operate *as soon as* possible; others may prefer to wait *as long as* possible before operating. Both may have valid reasons.

The *outcomes* from both may be the same but the *process* can differ.

Which do you prefer? Aggressive? Watch and wait? Neither is universally right or wrong though either may be right or wrong ***for you*** based on your own treatment preferences.

Your PCP – if you have a good relationship with him or her – can help guide you to the specialists who will treat you as you want to be treated.

AGGRESSIVE OR CONSERVATIVE?

Sue developed kidney cancer and needed a referral to a urologist for treatment.

By coincidence, her cousin, a retired Boston area urologist, knew and had trained many of the then-practicing local ones. So she called him for advice.

'I'll give you referrals to two excellent surgeons,' he responded. 'Both practice at the same Harvard teaching hospital. One will want to wait as long as possible before operating. The other will want to operate immediately. They're both outstanding surgeons. I trust them both. You choose.'

Try to get this type of information from your own PCP when he or she refers you to specialists.

What did Sue decide? She went with the more aggressive surgeon. His approach felt more comfortable to her

Does this PCP refer to excellent specialists?

Some specialists generate better patient outcomes than others.

One measure of surgical excellence is the mortality rate for patients like you. If this information is unavailable (as it is, far too often), then a good indicator of surgical excellence is the quantity of patients *like you* treated annually. We discussed this earlier.

Ask your PCP about specialist referrals:

- What are this specialist's ***outcomes for patients like me***?
- ***How many*** patients like me does this specialist treat annually? and
- Is this above the recommended treatment threshold if one exists?

The act of asking may get your PCP to re-evaluate his/her referrals …which, in turn, may improve your outcomes.

A PRIMARY CARE DOC ON THE MASSACHUSETTS – CONNECTICUT BORDER

INTEGRATING SEVERAL ISSUES WE'VE DISCUSSED SO FAR INCLUDING

- TREATMENT VARIATION
- PREFERENCE SENSITIVE CARE AND
- THE HUMAN CONNECTION

Imagine a primary care doc on the Connecticut – Massachusetts border with patients and hospital admitting privileges in both states.

He/she knows that referring patients with early stage breast cancer to Connecticut oncologists will more likely result in mastectomy while referring to Massachusetts oncologists will more likely result in lumpectomy and watchful waiting.

The mortality impact is probably the same in both states.

How does the doctor approach this? Which women does he/she refer to which state?

The answer can depend on how well the doc knows his/her patients. That's why the human connection is so important.

****

Imagine how this conversation would differ between and doctor and a well informed patient as I've defined her (i.e. someone who has read this book and understand the issues) and someone who has not read this book, doesn't understand treatment variation or preference sensitive but wants to focus on biology and anatomy.

Questions about Preventive Care

Preventive medical services aim to help you avoid a specific future event like a heart attack, stroke, lose your leg to diabetes, die of breast cancer, etc. I'll call each of them an Event X.

Preventive care includes medications, screening tests, therapies, surgical procedures and more. Some work well: they help lots of people avoid various Event Xs. Others work less well.

How can you differentiate? Follow this script: [391]

The Preventive Care Question Script

1. Out of 100 people like me, how many will have Event X *without* preventive care?
2. Out of 100 people like me, how many will *still have* Event X *with* preventive care?
3. Out of 100 people like me, how many actually avoid Event X because of the preventive care?
4. Out of 100 people like me, how many are harmed by the preventive care?
5. What grade does the US Preventive Services Task Force give this service?
6. What, if anything, does ChoosingWisely say about it?

You can ask these questions about all preventive medical services from screening tests (e.g. cholesterol, cancer, bone density, lung function etc) to medications to therapies to surgeries.

Out of 100 people like me, how many will have Event X *without* preventive care?

We can call this your 'starting risk' or the risk you start with before you get any medical services – in other words, your chance of having a heart attack without preventive medications for example.

Starting risk is a sometimes confusing concept. Here's a simple analogy to help you understand it.

- You wear a helmet when you ride your bicycle (I hope).
- But you don't wear helmet when you walk into a business meeting. Why not?

Your chance of falling off your bike and suffering brain damage is high enough to protect against. 'Suffering brain damage' is an Event X.

- But your chance of falling when you enter a business meeting and suffering similar brain damage is low enough not to concern you.

In our terms, your starting risk of head injury from riding is higher than your starting risk of falling from entering a conference room. The bicycle helmet is your preventive care.

[391] Much of the logic in this section comes from Woloshin et al, Know Your Chances

You wouldn't wear it to a business meeting even if it cut your chance of suffering long term brain damage by 99.9% because the *starting risk is too low*.

Preventive care, like wearing a bike helmet, always has costs. If your starting risk is really low – like suffering brain damage from walking into a business meeting – then the costs exceed the likely benefits. What are the costs?

- $50 or so purchase price
- Plus you look like a dork. No one in your meeting will take you seriously … *especially if you also wear a seat belt to avoid falling off your chair***!**

Wise patients learn their starting risks of various medical Event Xs for two reasons.

First, starting risk tells you which Event Xs to worry about it and seek care to avoid. Men can die of breast cancer, for example. But their risks are so low that few men have annual mammograms. Middle aged women, on the other hand, face much higher breast cancer mortality starting risks and often make very different screening decisions.

Remember that you can't be screened for or take medication to prevent every possible medical risk. There are simply too many. Learning your various starting risks helps you determine which preventive services to access.

Second, knowing your starting risk of having Event X is necessary to determine if, and by how much, medical care reduces it.

Out of 100 people like me,
how many will still have Event X with the preventive care?

This is the rate of Event X if you have preventive care. We can call it your modified risk, or your starting risk modified by the preventive treatment.

ESTIMATING YOUR STATING RISK OF VARIOUS EVENTS

Your doctor can help you determine your starting risk of having various different medical events. Just ask.

Remind your doc that the starting risk is the event rate in the control group of a comparative test.

And remember Prasad's Law: if your doctor can't tell you because the intervention hasn't been studied, your chance of receiving ineffective or harmful care is about 50%.

Preventive medical services are not, unfortunately, foolproof and perfect. Some people still have heart attacks despite being screened for them and taking medication to prevent them.

Some women still die of breast cancer, despite regular mammography and preventive treatment.

You need to know your modified risk - the answer to this question - to determine how well the preventive services actually work.

Out of 100 people like me,
how many actually avoid Event X?

This is a simple subtraction, the difference between your starting and modified risks of having Event X, or the number of people who would have Event X without the preventive care and the number who still have it with.

It's the only way to determine preventive care benefits.

Out of 100 people like me, how many are harmed by the preventive care?

No medical intervention is entirely risk free. Wise patients always consider their likelihood of being harmed before embarking on medical care.

Some preventive care harms:

- False positive test results indicating you have a medical problem when, in fact, you really do not. Some screening test false positives exceed 50%. [392]
- Treatment harms such as medication side effects, surgical error or infection.
- Overdiagnosis, or identification and treatment of harmless abnormalities. Not all abnormalities harm you. Some never even become symptomatic. The US Preventive Services Task Force considers overdiagnosis an important enough consideration to discuss in many of its evaluations.

Ask about the frequency and impact of all of these potential harms.

The bottom line

There are benefits and risks of accessing preventive services and benefits and risks of not accessing. Make sure you consider all before deciding.

[392] See the US Preventive Services Task Force discussion of prostate cancer screening https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/prostate-cancer-screening

THE PSYCHOLOGY OF RECIPROCALS

Remember reciprocals from high school? Most people forgot…unfortunately.

Learning that 2 in 100 people have heart attacks means that 98 in 100 do not.

• Some people respond to learning that 2 in 100 have heart attacks by thinking 'I might be one of them.'

• Other people may respond to learning that 98 in 100 do not have heart attacks by thinking 'I should be fine.'

• Different medical decisions follow from these different reactions.

How do *you* respond to alternate presentations of the same risks?

Try to remember, whenever you hear medical risks and treatment impacts, the reciprocal. It may affect your decision.

What grade does the US Preventive Services Task Force give this service?

The US Preventive Services Task Force is part of the Department of Health and Human Services. It evaluates dozens of preventive medical services, makes recommendations and gives letter grades to each.

- Their evaluations are widely considered the 'gold standard' of clinical analyses by insurance carriers, public agencies and research institutions.

The USPSTF letter grades:

A means high certainty that the net benefits are substantial

B means moderate certainty that the net benefits are moderate

C means at least a moderate certainty that the net benefit is small

D means there are no net benefits or the harms exceed the benefits

I means current evidence is insufficient to make a determination

You should always discuss the USPSTF recommendations and letter grades with your doctor.

You do not always have to follow the USPSTF recommendations, as your own case may be unique or you may weigh certain factors differently from the USPSTF. But if you choose not to follow those recommendations, you should understand why.

HOW IMPACTFUL IS THE USPSTF?

Vinay Prasad suggests that people never get screened more aggressively than the US Preventive Services Task Force recommends.

Even then he says, be sure to understand the outcomes, both benefits and harms, that the test has actually been proven to achieve.

USPSTF write-ups are thoughtful, thorough and well worth consideration by wise patients.

Does ChoosingWisely discuss this service?

ChoosingWisely is a remarkable program in which specialty medical organizations advise *against* common practices of their members, probably for this first time in history. The goal is to advance a dialogue on avoiding wasteful or unnecessary medical care.

It was originally organized and funded by the American Board of Internal Medicine Foundation that invited other medical societies (such as American College of Cardiology and American Academy of Family Physicians) to list things their members do that they shouldn't do.

Some 70+ specialty medical societies responded, listing 300+ recommendations.

In ChoosingWisely's program, cardiology associations recommend against wasteful or unnecessary cardiac procedures, pediatric groups recommend against pediatric interventions etc.

Recommendations are typically approved by each organization's board of directors and generally identify the lowest-of-low hanging fruit in the excessive treatment arena.

Here are four samples, chosen randomly from the hundreds available, for illustration purposes only:

From the American Academy of Family Physicians: Don't do imaging for low back pain within the first six weeks unless red flags are present.

From the American Urological Association: Don't prescribe testosterone to men with erectile dysfunction who have normal testosterone levels.

From the American College of Cardiology: Don't perform annual stress cardiac imaging or advanced non-invasive imaging as part of routine follow-up in asymptomatic patients.

From the American College of Radiology: Don't do imaging for uncomplicated headaches.

Hundreds more exist on ChoosingWisely. Review those relevant to you before, after – and maybe even during – your own doctor's meetings.

WHY I LIKE THE US PREVENTIVE SERVICES TASK FORCE AND CHOOSING WISELY

I like sources that base their recommendations on

- Solid, unbiased academic research, are
- Held in high regard by the medical community,
- Make actionable recommendations to patients and
- Have no financial interest in their recommendations.

Both of these sources qualify.

Contrast these with the 2300 medical guidelines currently promulgated by 300 different organizations.

Some are reasonable but many, according to Dr. Otis Brawley, Chief Scientific Officer of the American Cancer Society, are self- interested and harmful commercial documents designed to promote the financial interests of some interest group or other.

Wise patients beware!

You're pretty safe with the USPSTF and ChoosingWisely.

Assess any others with your doctor….very critically.

Questions about Treatments for Your Existing Medical Problems

This section suggests questions to ask about your acute and chronic medical care.

- Acute care includes active but short term care for a severe injury or illness, an urgent medical condition or recovery from surgery.
- Chronic care addresses long term illnesses like asthma, diabetes, congestive heart disease and similar. About 2/3 of our annual medical spending goes to chronic care.

The Acute and Chronic Treatment Script

1. What studies did you rely on to make that recommendation?
2. What are the results of those studies?
3. Do I differ from the norm in any important way?
4. Would most physicians agree with that recommendation or might some suggest something different?
5. What does ChoosingWisely say about it?
6. For medications: When do I stop taking this medication? And Has it been studied for the length of time I'm likely to be on it?

What studies did you rely on to make that recommendation?

We discussed the need for real life tests on real people earlier and introduced Prasad's Law: treatments that have not been tested are ineffective or harmful about half the time.

This question simply asks your physician to review the most recent and relevant studies to ensure that you get the most up-to-date information. It's not a threatening or pejorative question, but rather a speedbump that says 'let's make sure we haven't missed any important research.'

What are the results of those comparative studies?

Try to get your answers in this form:

- '23 out of 100 people who had surgery reported less pain after a year compared to 9 out of 100 who had physical therapy and 3 out of 100 who had no care at all'

Try to avoid answers in this form:

- 'This treatment cuts your risk by 50%' or
- '50% of patients recover faster using this treatment'

- Whenever you get a percentage as your answer, follow up with ‘of what?’ as in ‘50% *of how many*?’

WHY THE FORM OF YOUR ANSWER MATTERS

Consider Drug X that cuts your heart attack risk by 50%.

- 50% is a huge benefit. Drug X sounds terrific.

But it cuts your risk from 2 to 1 in 10,000 people…

- 1 heart attack prevented in 10,000 people isn’t much of a benefit. Drug X doesn’t sound so good anymore.

… over 25 years.

- That’s a very long time period. Most people care about the next 1 - 5 years, maybe 10.

Do I differ from the norm in any important ways?

Studies typically report averages and their results are generally valid for ‘average’ people. But you may deviate from the medical norm in some important way.

As we learned in our earlier discussion of ‘100 people *like me’*, treatments can affect different people differently: men vs. women, young vs. old, high socio-economic status vs. low.

Ask your doctor how well the comparative studies reflect your own, individual case. They may reflect it very well. Or not.

Would most doctors agree with that treatment recommendation or might other doctors suggest something different?

We discussed the two reasons for asking this question earlier in this book. Quick review:

- You don’t want to get a beneficial treatment that is overused so may not benefit you, and
- You don’t want to decide on a treatment only later to learn that more attractive treatment alternatives existed.

What does ChoosingWisely say about this?

We discussed ChoosingWisely's preventive care recommendations in the last section.

I'd like to add 1 specific point here. ChoosingWisely rarely tells you what care to have. Instead it tells you what care to avoid or to question.

Good enough for our purposes. Use ChoosingWisely as an 'I want to avoid those services' resource, rather than an 'I want to have this service' resource.

Avoid services that don't benefit you and you've made substantial progress.

Specifically for medications:

When do I stop taking this medication? and
Has it been studied for the length of time I'm likely to be on it?

Medication guidelines and recommendation – especially for preventive meds – typically detail when to *start* taking the drug, but not as often when to ***stop*** taking it. Your underlying medical condition may change over time due to diet, exercise, stress levels, natural aging or other reasons. Two potential ways to phrase this question:

- When do I stop taking this medication? Or
- How will I know if my condition has changed sufficiently to stop needing this medication?

Feel free to ask about any medication that does not have a clear end point.

Also note that some medications may have been tested for 1 year, say, but be prescribed for longer. What are the 8, 15 or 20 year effects, both positive and negative? We often don't know.

That's why wise patients ask 'Has it been studied for the length of time I'm likely to be on it?'

This is a version of Prasad's Law. In this case, the untested treatment is the *time horizon.* A medication with few side effects over 6 months may have major side effects over 10 years. Be sure to discuss this and the implications with your physician.

WHY TIME MATTERS

A **six month trial** of 8000 people using the arthritis drug Celebrex showed lower rates of stomach and intestinal ulcers and related complications than two other arthritis drugs, diclofenac and ibuprofen.

Some doctors and patients presumably made medication decisions based on those facts.

But the full **12 month test** showed Celebrex's safety advantage disappeared since most of the ulcers and complications occurred in the second 6 months.

****

In the 1990s, after a total of 42 clinical trials, the FDA and approved several new antidepressants including Prozac, Paxil, Zoloft, Celexa, Serzone and Effexor.

Patients may take these drugs for years.

But the majority of those 42 trials lasted just 6 weeks.

How to Choose a Specialist

Specialists have advanced training is a specific area of medicine like cardiology or dermatology. About 2/3 of physicians are specialists. [393]

How do you choose the one that's right for you? I encourage you to ask 3 specific questions.

The specialist choice script

1. What are your outcomes for patients like me?
2. How many patients like me do you treat annually?
3. How do you normally treat patients like me?

What are your outcomes for patients like me?

'Outcomes' mean 'how well patients generally do'. Some standard outcome measures

- Surgical mortality rate
- Speed of return to previous health status
- Satisfaction with amount of pain reduction
- Post surgical infection rate, and many more.

You can feel free to ask your doctor about these or any other outcomes that concern you. He or she may keep in touch with their previous patients and maintain detailed records.

Most specialists, unfortunately, don't.

But asking this question engages the doctor in discussions about how well his/her patients do, how healthy they are after treatment. This helps get you away from discussions of bodily functions and medical theory. Prasad's Law explains why.

How many patients like me do you treat annually?

If your specialist doesn't keep track of patient outcomes over time, use this question as a proxy.

Volume isn't a perfect predictor of your outcomes but, absent actual patient data, it's about the best predictor available.

How do you typically treat patients like me?

[393] Estimate from US Agency for Healthcare Research and Quality
http://www.ahrq.gov/research/findings/factsheets/primary/pcwork1/index.html

Some specialists develop expertise in a particular medical approach such as prostate removal surgery for early stage prostate cancer, while others develop a different process expertise, say radiation therapy.

These are preference-sensitive treatment decisions on the doctor's part. Different doctors may treat similar patients differently, though their outcomes may be the same.

Be sure, when you choose a doctor, that his/her treatment preferences match yours.

Remember also that you have treatment options about 85% of the time and normally a wide range of specialists from which to choose.

Ask this question of several so you get treated according to *your* preferred process.

HIGHER VOLUMES MAY MEAN HIGHER QUALITY UNNECESSARY CARE

Dr. Marty Makary documents in his book Unaccountable that the most lucrative procedures are the most commonly performed, sometimes perhaps in the absence of clear patient need. For example

• Medicare pays about $5000 for a complex, 12 hour brain-cancer surgery. But it pays more for a 2 hour back surgery. An orthopedic surgeon who stacks 3 back surgeries together can earn $15,000 - $20,000 a day, compared to $5K for the brain surgeon.

Perhaps not unsurprisingly, an increasing number of neurosurgery graduates go into back surgery. But I wonder if we have enough bad backs to keep them all busy.

• Consider this email that one of Makary's physician friends received from his boss: 'As we approach the end of the fiscal year, try to do more operations. Your productivity will be used to determine your bonus.' I wonder if this is a subtle suggestion to perform more procedures on patients in the gray area.

These examples highlight the wise patient's dilemma. Choosing a high volume surgeon

- Increases your likelihood of having good outcomes and avoiding harm, but

How to Choose a Hospital

Hospitals, like any huge bureaucratic organization, often have specific strengths and weaknesses. These questions will help you choose the hospital that's right for your specific needs … which may change over time.

The logic of hospital choice is similar to specialist choice: higher volumes tend to indicate better patient outcomes. We discussed that in the last chapter.

Also hospitals, like specialists, can develop routine ways to treat certain types of patients. Ask if this is the case and decide, with your advisors, if that's the way you want to be treated.

The hospital choice script

1. What are this hospitals' outcomes for patients like me?
2. How many patients like me does this hospital treat annually?
3. How does this hospital typically treat patients like me?
4. Do I increase or decrease my chance of benefit and harm by choosing a different hospital?

What are this hospital's outcomes for patients like me?

Some hospitals may generate excellent coronary outcomes but mediocre urologic. Others may have high thoracic surgery readmission rates but low orthopedic.

Reasons why hospitals may excel at certain procedures and not others vary:

- Some may achieve the volumes necessary for excellence
- Others may focus their resources on certain treatments
- Still others may have standard operating procedures or internal operations that promote or inhibit excellence.

You want a hospital that generates excellent outcomes for patients with *your* medical condition. Overall hospital mortality, infection or readmission rates may confuse more than they clarify.

- An **average** hospital readmission rate of, say 14% may mean a 30% readmission rate for one, low volume department but only 9% for another, higher volume one.

Be sure to ask about mortality, infection and readmission rates for patients treated for your specific ailment.

Sometimes specific outcome data by department are difficult to find. In that case, the surrogate measure *quantity-of-patients-served* may substitute. Though an imperfect metric, quantity often correlates reasonably well to quality.

How many patients like me does this hospital treat annually?

Studies consistently show that the *more frequently* a hospital treats a specific type of patient, the *better the outcomes* for those patients. We discussed this in the last section. Let these 2 studies act as a reminder:

- One study found that the 30 day mortality rate for various procedures was inversely related to the hospital volume of those procedures. [394] In other words, as the volume increased, the mortality rate decreased.
- Another study estimated that 602 patient deaths could have been avoided in only 1 year for a select set of procedures in California had those patients used high volume hospitals. [395]

You can also ask if the number of patients treated is above any recommended threshold. We discussed why earlier.

How does this hospital typically treat patients like me?

Hospitals may exhibit different treatment tendencies.

- Connecticut hospitals are more likely to perform mastectomies on early stage breast cancer patients than are Massachusetts hospitals
- Fort Myers hospitals are more likely to operate on people with back pain than Miami hospitals
- Some hospitals annually perform C-sections in 45% of their deliveries, others in 20%. We'll discuss that in the next chapter.

Compare treatment tendencies at different hospitals to find the one that's right *for you*.

Do I increase or decrease my chance of benefit and of harm by choosing a different hospital?

This question invites you to compare multiple hospitals based on care quality**.**

The Leapfroggroup's website offers some useful and reasonably user friendly ways to compare hospitals. I'd encourage you to review it and discuss it with your doctor.

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[394] Urbach, BMJ, October 2004

[395] Dudley, JAMA, March 2000

Summary

Let's review what we've learned:

Patients who follow the Goldilocks principle enjoy better outcomes than patients who do not.

- Too little medical care can expose you to disease harms
- Too much medical care can expose you to treatment harms
- Inappropriate medical care can expose you to higher costs and lower satisfaction than necessary

We introduced 5 questions that you should ask all doctors about all medical interventions. Here's a summary grid with suggested introductory readings if you're interested:

Has it been tested?	If the treatment has been tested, you and your doctor can decide if it works well enough for you to have.	If it has not been tested, it's ineffective or harmful about half the time. This is Prasad's Law.	Prasad's Law can apply to treatments, medications, tests and time horizons.	Suggested reading: Vinay Prasad's ground-breaking book 'Ending Medical Reversal'.
Out of 100 people *like me*, how many benefit and are harmed?	Try to get a number as your answer. '16' conveys more information than 'some' or 'many'.	Focus on patient outcomes not test indicators when you discuss benefits.	'*like me'*: Disease and mortality rates can vary 2-to-1 based on socio-economic status.	Suggested reading: the 2004 report 'Work, Stress and Health: The Whitehall II Study'
Is it overused?	Patients have treatment options about 85% of the time.	Different physicians and hospitals may treat similar patients differently.	Wise patients get a second opinion from a physician with a different orientation from the first opinion.	The Dartmouth Atlas of Healthcare is a good place to start your research into this topic.
Would most doctors make the same recommendation or might some suggest something different?	Doctors sometimes assume that patients share their treatment preferences.	Delegating decision making results in physician preference, not necessarily patient reference, being implemented.	When patients explore all their alternatives, they tend to choose less invasive, less risky and less costly care.	For a good introduction, see the Patient Preferences Matter article by Dr. Albert Mulley and colleagues.

How many patients like me do you treat annually?	The higher the volume, the better the outcomes.	This is a tendency, not an absolute predictor.	This metric applies to specialists, surgeons and hospitals.	See Atul Gawande's article 'The Computer and the Hernia Factory' for an interesting introduction.

We then developed scripts of questions for patients to ask about specific interventions and providers:

For preventive services including tests, screenings and medications:

1. Out of 100 people like me, how many will have Event X *without* preventive care?
2. Out of 100 people like me, how many will still have Event X *with* the preventive care?
3. Out of 100 people like me, how many actually avoid Event X because of the preventive care?
4. Out of 100 people like me, how many are harmed by the preventive care?
5. What grade does the US Preventive Services Task Force give this preventive service?
6. What, if anything, does ChoosingWisely say about this preventive service?

For your existing medical problems:

1. What comparative studies did you rely on to make that recommendation?
2. What are the results of those studies?
3. Do I differ from the norm in any important ways?
4. Would most physicians agree with that recommendation or might some suggest something different?
5. What does ChoosingWisely say about this?
6. For medications: When do I stop taking this medication? and Has it been studied for the length of time I'm likely to be on it?

About primary care physicians:

1. Do I feel comfortable discussing my most intimate, personal issues with this person?
2. How does this doctor handle annual physicals?
3. Does this doctor refer to aggressive or conservative specialists?
4. Does this doctor refer to excellent specialists?

About specialists:

1. What are your outcomes for patients like me?
2. How many patients like me do you treat annually?
3. How do you normally treat patients like me?

About hospitals:

1. What are this hospitals' outcomes for patients like me?
2. How many patients like me does this hospital treat annually?
3. How does this hospital typically treat patients like me?
4. Do I increase or decrease my chance of benefit and harm by choosing a different hospital?

You can, of course, ask plenty of your own questions too; you may have specific concerns about pain, cost, time off from work, impact on your family etc.

But I hope people will ask the questions listed here. They'll help you differentiate better from poorer care, reduce your chance of receiving unnecessary and non-beneficial care and increase your likelihood of satisfaction with your medical processes and outcomes.

You can only benefit!

Review Questions
answers on next page

1. What does the *medical care* industry mean by ‘well informed consumer’?

a. Someone who understands treatment options, risks, benefits and trade-offs
b. Someone who understands deductibles, copayments and other components of his/her health insurance policy
c. Someone who has done lots of online research about his/her medical condition

2. What does the *health insurance* industry generally mean by ‘well informed consumer’?

a. Someone who understands treatment options, risks, benefits and trade-offs
b. Someone who understands deductibles, copayments and other components of his/her health insurance policy
c. Someone who has done lots of online research about his/her medical condition

3. About how much impact does *plan design* have on the amount of *unnecessary medical care*?

a. Very little, as evidenced by the fact that we still waste up to about a third of all healthcare spending on care that generates no detectible benefit
b. A great deal, as evidenced by the fact that we have cut our rate of unnecessary medical care dramatically over time

4. What impact has plan design had on the rate of medical inflation over time?

a. Very little impact. We still spend see medical spending growing at about 2 to 3x the overall inflation rate
b. Very big impact. The medical inflation rate has fallen below the overall inflation rate in the past few years

5. What does this statement mean from your doctor: “I too take a statin to control my cholesterol”?

a. That you and your doctor have exactly the same medical conditions and exactly the same orientation to care, so you too should take a statin
b. That statins are good for almost everyone
c. It doesn’t mean much of anything since you and your doctor may have different genetics, exercise routines, diets, orientations to care, treatment preferences and risk tolerances

6. Which professional entity seems best positioned to teach consumers how to choose their medical care more wisely?

a. Doctors
b. Nurses
c. Health insurance brokers
d. Pharmaceutical salespeople

7. This interview suggested a new frontier in employee engagement and education. What is it?

a. Teaching employees which medical information is useful and which is not
b. Developing fixed commission products
c. Selling more disability and voluntary products

8. Which activity will likely have the greatest impact on medical care cost reduction?

a. Teaching employees how to avoid unnecessary medical care
b. Developing narrower provider networks with higher barriers to switching from one network to another
c. Expanding the use of HRAs
d. Restricting access to primary care physicians

9. A broker once said ‘this quality information is too complicated. If you assume the quality is all the same, then you can shop based on price’. What’s wrong with this?

a. Everything. Quality is the ballgame. No one wants the least expensive, poor quality unnecessary medical care
b. Nothing. This is a quick and dirty way to summarize medical care purchasing to employees with high deductible plans

10. Over the course of this Interview, how does Todd McDonald’s position change?

a. He’s initially skeptical about having brokers inform patients about how to use the medical care system – preferring to inform patients only about how to use their health insurance – but by the end, he’s excited by the opportunity to engage employees on a whole new level. He suggests that this may be a key future component of the ‘benefit advisors’ role
b. He thinks the broker’s role is and always will be to teach about how to use their benefits but not to engage consumers about how to use the medical care system and to ignore the existence of, and impact of, unnecessary medical care.

11. As surgeons perform more procedures annually, do their patient outcomes generally improve?

a. Yes, surgeons performing the most number of similar surgeries (e.g. hernia repairs) tend to generate the best patient outcomes
b. No, all surgeons generate roughly the same patient outcomes, regardless the number of times a surgeon performs the procedure
c. Sometimes, but the most important variable is the number of times each surgery is performed annually in each hospital
d. There is no correlation between surgical experience and patient outcomes

12. What is ChoosingWisely?

a. An initiative of the American Board of Internal Medicine Foundation in which 60+ medical societies listed activities that patients should question or avoid
b. A decision process in medicine
c. A suggestion from many doctors that patients choose medical care ‘wisely’ as opposed to ‘unwisely’
d. A statistical protocol for generating the best patient outcomes at the lowest cost

13. Which question below will likely generate the most useful information for a patient?

a. Out of 100 people like me, how many benefit from this test by avoiding a heart attack?
b. Is this a good test?
c. Do you think I should have this test?
d. Do you have this test yourself?

14. Which question below will most likely help a patient choose a surgeon wisely?

a. How many surgeries like mine do you perform annually?
b. Where did you go to medical school?
c. Where did you go to undergraduate school?
d. How much money did you earn last year?

15. Should patients have more screening tests or fewer?

a. More
b. Fewer
c. That depends on the patient’s preferences. Some worry more about having an undiagnosed abnormality so want as many screening tests as possible. Others worry more about having a false positive test result and the related risks and

harms. There's no 'one size fits all' answer
d. More cancer screening but fewer orthopedic

16. Do all hospitals treat similar patients similarly?

a. No, significant variation exists as exemplified in the C-section rate differences among hospitals
b. Yes, all hospital treat similar patients similarly
c. Most hospitals treat similar patients similarly, especially pregnant women
d. Hospitals within a region treat similar patients similarly. For example, hospitals in New England and the Rocky Mountain states perform more C-sections per 1000 births than do hospitals in the southeast or Pacific northwest

17. Which is bigger, a 33% risk reduction or a 1 in 100 risk reduction?

a. 33%
b. 1 in 100
c. There is insufficient information to answer this question. In fact, both risk reductions are the same if the starting risk is 3 in 100

18. What is the US Preventive Services Task Force?

a. An independent set of experts working within the Department of Health and Human Services that evaluates and grades preventive medical services
b. A military group that forces prisoners to test preventive medical services
c. A group that writes reports every 5 years on the state of preventive services in the military
d. An engineering group that evaluates road and bridge structures to determine which are at risk of collapse so need preventive maintenance

19. Does the FDA require drug manufactures to state drug benefits in ads?

a. Yes
b. No, drugs ads *may* (not '*must*') state benefits
c. Yes to orthopedic drugs but no to psychiatric drugs
d. Yes to pediatric drugs but no to adult drugs

Review questions

Correct answers in bold

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Integrating Consumer Education into Broker Services

Brokers and other insurance professionals use terms like ‘consumer engagement’ and ‘informed consumer’ in two very different – and sometimes opposing – ways. This can create confusion among subscribers and patients, and even among brokers themselves.

To *risk management professionals* – and the medical community - ‘informed consumer’ means someone who understands treatment options, risks, benefits and trade-offs. An informed consumer - to risk management folks, for example - might prefer a treatment that *differs* from the one recommended by his/her physician.

A case-in-point: an oncologist might recommend a mastectomy for a woman with early stage breast cancer, based on *his* analysis of the risk-reward tradeoffs. Meanwhile the patient might prefer to watch-and-wait before operating based on *her* analysis. Both analyses may be factually correct, but the doctor and patient value the risks and rewards differently. We saw an impact of this in our discussion of mastectomy rates in Connecticut and Massachusetts.

An informed consumer, from the risk management or medical point-of-view, thus takes an active role his/her own *medical decision making* and is able to make wise medical care decisions.

To *compliance oriented insurance professionals,* ‘informed consumer’ means a subscriber who understands the component parts of the health insurance policy and the associated regulations about how to use it.

An informed insurance consumer - to the compliance professional, for example - might prefer to compliment a Health Savings Account with a Flexible Spending Account rather than a Health Reimbursement Account, based on some set of specific medical spending habits and needs. Or the informed insurance consumer might prefer a lower-cost policy that pays for medical services on a reference-based model rather than a higher-cost plan that pays everything over the deductible.

This type of informed consumer is one able to make wise *coverage choices* and use the insurance policy most effectively.

This interview highlights these two different definitions of ‘informed consumer’. I published it originally in my 2012 book Transparency Metrics, but think it’s a worthwhile addition to this book.

The interviewer, Todd McDonald, owner of Aisling Partners, a brokerage firm in Worcester Massachusetts, articulates the *compliance definition*. He wants to help

insurance customers understand policy provisions and tax implications so they can use their policies most effectively.

Todd initially wants to leave the consumer alone to decide which medical care is necessary and which providers appropriate; he doesn't, initially, adopt the risk manager perspective. He suggests that the traditional broker advisory responsibility ends when the consumer understands policy provisions.

Meanwhile I use the *risk manager's - or medical – definition* of informed and engaged consumer. I suggest that consumers who are well informed about medical care options will make better choices for themselves, meaning better outcomes at lower costs.

I also suggest that the process of becoming a 'well informed medical consumer' is one that can be taught and learned, though admittedly, it rarely is today. My comments focus on the types of education one needs to become well informed about medical purchasing and suggest that choosing care based on medical quality metrics generally results is lower total care costs, and probably lower insurance costs too.

The savings available from making informed *medical* choices, I suggest, likely trump the savings available from making informed *insurance* choices.

I also wonder who in our medical care system can teach consumers to become well informed about medical care. Doctors? Hospitals? Carriers? Brokers? Or some other entity.

As you read this interview, ask yourself if either definition of 'well informed' is *sufficient* in our evolving healthcare system and market…or if we need to combine *both*.

Todd ultimately suggests that wise and innovative brokers will need to combine both definitions of informed and engaged consumers in order to maintain their advisory role. You can sense his discomfort – and also his excitement – about exactly how to do this.

Do you agree with Todd? Do you think he's being too aggressive, defining the broker's future roll too expansively? Or do you think he's being too conservative by not defining the broker's role expansively enough?

This interview was sponsored by the Massachusetts Association of Health Underwriters and was taped on May 25, 2012. We thank MassAHU for permission to publish this transcript.

Transcript

Todd McDonald: Good morning, I'm Todd McDonald, President of Aisling Partners, a benefits consulting agency located in Worcester Massachusetts and I'm joined by Gary Fradin, President of TheMedicalGuide.

This morning we're going to spend some time talking about consumer engagement. What does it mean? What is it? So welcome Gary.

As I take a look back in time and think about the notion of Consumer Engagement and Consumer Driven Health Plans, I keep wonder 'what is it'? Ten years ago we saw the introduction of annual deductibles, high deductible health plans sometimes called CDHC or Consumer Driven Healthcare, I think that was the introduction of consumerism in healthcare. The challenge was the lack of data, the lack of information and so forth. So Gary, in your mind, what is consumer engagement?

Gary Fradin: Great question. You started off with a hard one.

I think consumer engagement means helping healthcare consumers – patients – make medical decisions the same way they would make car-buying decisions, or refrigerator-buying decisions. Use the same types of criteria, ask the same types of questions and bring all the skills that we have developed as a society that make us great consumers to medical care. I think we'll have tremendous benefits, both for the patients and for healthcare costs.

So I'd say consumerism in medical care means the same thing as consumerism in automobiles and other products.

TM: And in automobiles, for those of us buying a new car, you can go online, you can research, you can find out what a dealer paid for the car, the mark-up and all of that.

I think the challenge that we've had in healthcare historically is the lack of information, the costs and quality. So let's talk a little bit about that. What you say seems to be straight-forward, seems to make sense to me in the role that I play as a benefits advisor to companies.

Why is there such a challenge to make it happen? What are the barriers to entry to consumer engagement when it comes to this type of consumerism?

GF: Barriers to entry. Tough question.

There are probably lots of barriers to entry. The one that strikes me as most significant is the fact that we have relatively lousy outcome data about medical care. We simply don't know what works well, what works badly, and exactly *how well* it works.

It's like buying a car if you don't know the miles per gallon. Maybe we can get some pricing information. But if a car dealer tells you a car gets good gas mileage, does this mean 16 miles per gallon or 41?

In medical care, we hear things like 'that's a risk factor for having a heart attack' or 'that's a risk factor for cancer' and this is a good treatment. Well…*how much* of a risk factor, *how good* of a treatment and how will it affect *me*? Those are questions that we're increasingly starting to focus on and we're developing some data to help us get those answers.

TM: What's interesting in the role that I play with clients is that consumer engagement really plays out around product design. The various health insurance carriers have created over the past several years, new products designed to engage the consumer. Deductibles, co-insurance and things of that nature. We have products today designed to get consumers to make decisions, to learn where providers fall within certain tiers for example, limited networks.

So from a product standpoint there's this notion of consumer engagement, working with employers and employees to understand product.

From your perspective and the topic that we really want to get into today, beyond insurance products, beyond 'where do I go, what hospital is in-network', you're talking about consumer engagement at the physician level, at the choice level, is there an overabundance of prescriptions, of unnecessary medical care. Let's talk a little bit about that from your perspective.

GF: Let me make a couple points because you're raising critical issues here.

One is that researchers estimate, based on lots and lots of medical studies, that we waste up to 1/3 of all medical spending on unnecessary medical care. That's care that can't help you – because it's unnecessary – but costs you money and could potentially actually harm you.

The lowest range of estimates that I've seen is 20%. That's from Donald Berwick who ran Medicare for a couple of years. The commonly accepted estimate of medical waste is up to about 1/3 of care that generates 'no detectible benefit'.

That estimate hasn't changed despite plan design changes. We still waste up to about a third.

My comment about plan design changes is that carriers and regulators have tried to organize our healthcare delivery system to become more efficient and cut down on unnecessary care through iteration after iteration after iteration over the past over the

past 20 or 30 years, and we have always seen healthcare inflation running about double CPI (the Consumer Price Index inflation rate) or about double the GDP growth rate. We haven't seen that fall significantly despite plan design changes.

I don't think this is a regulatory issue – reducing unnecessary care – and I don't think it's a plan design issue, although high deductibles seem to have some impact. I think the way to reduce unnecessary spending is to educate consumers, educate patients and show why it's in their interest not to get unnecessary care. It doesn't benefit them – it might hurt them.

TM: Let's talk about that a little bit. My firm provides advice and guidance to clients. We do it at the employer level and at the employee level. We have benefit communication meetings and so forth. From your perspective, what are the tools and resources available? What tools exist to engage consumers outside of products, outside of plan designs?

GF: I think that those tools are being developed. We're starting to get the relevant data about quality so people can make medical decisions based on care quality, not necessarily price.

Nobody wants to get bad quality care. Forget price for a moment. I have yet to hear a parent say 'times are tough, we're cutting back on medical care quality for our kids'. I've never heard that. I always hear parents say 'I don't care what it costs, I want my kid to get the best care he or she can get.'

One tool that we've been working on a lot is called the Number Needed to Treat. Teaching consumers to ask their doctor 'what's the Number Needed to Treat with this medication, this medicine or this screening test?' NNT simply tells you how many people have to have a medical procedure or take a medication in order for 1 person to benefit.

TM: Can you give an example.

GF: Sure, I can tell you about cholesterol lowering medications. Lots of people think that high cholesterol leads to heart attacks.

Study after study after study has suggested that people with high cholesterol – using all kinds of different definitions of 'high' cholesterol, these are generally industry funded studies – suggest that about 3 people out of 100 with high cholesterol will have a heart attack in the next 4 or 5 years. Roughly, approximately 3 out of 100. Some studies show somewhat higher rates. These are folks who don't have heart disease.

If you reduce your cholesterol with a statin, you bring that number from about 3 having a heart attack out of 100 to about 2 having a heart attack out of 100.

In other words, you have to give 100 people a statin for about 4 years to prevent 1 heart attack. The Number Needed to Treat is about 100.

Let me make 2 points going in 2 different directions here. Some commentators have suggested that insurance not pay for interventions that have a Number Needed to Treat greater than 20. An NNT of 20 means that only 5% of people benefit. So if you learn the Number Needed to Treat, you can learn how efficient or how effective this medical intervention is, so you can choose.

The sister, or cousin if you will, of Number Needed to Treat is Number Needed to Harm.

TM: NNH?

GF: Yes, NNH. Obviously that tells you how many people have to take the medication for 1 person to be harmed.

Let me tie all this together and refer to what Dr. David Newman of Columbia Medical School claims. Knowing the Number Needed to Treat and Number Needed to Harm is basic medical literacy. If you don't know these numbers and you can't discuss them, then you're medically illiterate. It's sort of like an accountant saying 'you made money, but I don't know what your earnings per share were, or exactly how much you made'.

TM: So is your expectation that individual consumers should know their own NNT and NNH information and should know these facts and be able to go into a physician and discuss them?

I guess I'll use myself as an example. I happen to have had, 2 days ago, my annual physical. I went in and had my 12 minutes with my doctor and part of the discussion was, ironically, around cholesterol. There have been a lot of articles about cholesterol and statins and the danger of them.

I thought I was being a good consumer, I thought I was engaging by simply asking my doctor and challenging the notion of whether or not I should remain on a statin. And my doctor's comment to me was that the belief still is that the rewards of being on a statin outweigh the risks.

My doctor went on to say 'if it's of any help, Todd, I too am on a statin and have been, so I would not be prescribing something to you that I myself am actually not engaged in taking.'

From my standpoint as someone who is in this industry and do what I do, I felt that I had become a better consumer, that I engaged in the process more by asking questions and actually challenging the notion of remaining on this, asking about the risks and rewards. I'm not sure that many people take the step that I took.

But I get the sense from our discussion certainly that there's more to do, more questions to ask and that I should be armed with NNTs and NNHs and so forth. Is that true?

GF: I think so.

First, let me make one point very strongly: if you're comfortable with your doctor, do what your doctor says. I in no way want to make people uncomfortable. That is dysfunctional all the way through.

But I hesitate to rely very much on your doctor's story about himself. Your doctor may have different risk tolerances from you. He may have different orientations. Different family background and genetics. He may or may not exercise the same as you. He may have all kinds of different risk factors. And his decision criteria may not be the same as yours.

To some extent, and I don't want to belittle doctors, I'm not trying to do that, but to some extent this is like when you buy a used car and you go to a dealer with lots and lots of high quality used cars. You look at a Ford Taurus. The salesman says 'well, I drive a Ford Taurus' suggesting a personal endorsement for how good this car is. OK, but I don't know how he made his decision. Does he drive young kids around? Does he schlep hockey equipment? Is his wife a baker and he makes deliveries for her? Did he get a particularly good deal on a used Taurus, when, perhaps, he would have preferred a Honda Civic? I don't know how he made his decision.

And I don't know how your doctor made his statin decision. Lots of studies suggest that when patients are well informed about their treatment options, they often choose differently from their doctors. That's why I think you have to know what the outcome numbers are.

Remember, doctors learn how to calculate the Number Needed to Treat and Number Needed to Harm in medical school. But they don't talk to patients about it because they figure that in 12 minutes, they don't have time to teach this to a patient.

But if you go in and ask the question, and say 'I will take a medication that you prescribe, but I want to know the NNT, I want to know the Number Needed to Treat so I know how well it works. In fact, I want to know the Number Needed to Treat for 2 or 3 different options, and then I want to choose the best. And I don't want to take a

medication if you don't know how well it's going to work for me.' That's how I would offer for consumers to engage with their doctors.

TM: And I like it. I truly do. The question is how to get consumers to be able to take that step, to have the comfort and the confidence to be able to challenge their physician, question their physician – and I don't mean that in a negative or derogatory sense – but to give them the comfort and the confidence.

Is there data or resources – are there any tools available that I could use, prior to having gone to my physical 2 days ago, any resources that I could have reviewed or tools that I could have evaluated to make me a better consumer and a more engaged consumer, by asking particular questions?

GF: Sure. In fact we have a website that does this in quite a bit of user friendly detail.

Let me go through four simple questions that we sometimes suggest people ask prior to, or during, their appointments about preventive medications, simply as an example here.

Question #1: Out of 100 people like me, how many will have the bad medical event without taking medication? In other words, out of 100 people with high cholesterol like me, how many will have a heart attack? In the statin example, we said about 3. If your total cholesterol level is 350, it might be 5. It might be 6. If your total cholesterol level is 202, it might be 2. Remember, you're asking 'out of 100 people ***like me*** how many will have the bad event?' You want to know *your* risks, not necessarily average or theoretical risks.

Question #2: Doc, if I take the medication, if I have the screening test, if I have the medical intervention, then **out of 100 people like me, how many will *still* have the bad event?** Because we know that medicine doesn't work perfectly all the time.

Question 3: Out of 100 people like me, how many actually benefit from the medication by avoiding the bad medical event? Get the number.

And Question #4: Out of 100 people like me, how many are harmed?

These are simple questions. You would ask these of a car dealer, in a different form of course. You would ask these if you're buying a refrigerator. You would ask these types of questions about many different products.

TM: I think that's the key. When you say 'ask'…we're a society that has just taken advice, taken whatever is said by our doctor, trusting it, doing whatever is prescribed, and I think we're at a day and an age where it's so complex.

In the health insurance world, we engage around products, tiers, networks, HRAs, HSAs, FSAs, and so on. For many of us, when we think of consumer engagement, we think of doing a better job of educating the consumers on product and product design.

You're talking about a completely different, though interwoven piece, saying that the consumer or the patient needs to ask questions and understand *medically* what steps need to be taken.

GF: Yes. Let me turn this into a question for you. We're entering a high deductible world where people are starting to spend their money 'more wisely'.

High deductibles give you the opportunity to spend your money more wisely. Somebody has to educate people about *how* to spend their money more wisely.

Where in our healthcare distribution system does that entity lie?

- Is it physicians – you have 12 minutes per year. Is that the right entity?
- Is it the hospital – are they going to teach you which questions to ask about your medical care?
- Is it the insurance carrier? The problem with the carrier is we all know why a carrier would tell you about unnecessary care. They want to save money. Or, at least, that's the cynical public perception.
- Is it the employer, who's probably pretty busy making widgets, especially during a recession. They don't have a lot of extra resources to teach about medical care.

Where in our healthcare distribution system – our medical distribution system – is there an entity that can take on the responsibility of doing this teaching so we can reduce the 33% waste factor, besides the broker?

TM: I don't think there is, and I think that of all the stakeholders, the various people involved in the process, none others of them have the ability, the bandwidth, the time to do that, and I think you make a very valid point.

It's just an interesting dynamic that for 20 years I've been in the business. We provide advice and guidance and council to employers, more and more to employees, now the notion of wellness which engages a whole different element to all this.

Now all of a sudden, in the role that we play, thinking about education and engagement at a completely different level. To talk about NNTs and NNHs, what questions to ask

your provider. It's a completely different way to proceeding, a completely different approach. And at the same time, critically important.

GF: Let me ask you a question.

TM: Please.

GF: You said that at your physical a couple days ago was the first time you pushed back and challenged your doctor. Why? You've had a physical presumably every year for many years. Why now? What happened this year?

TM: A little more knowledge, a little more understanding. Certainly the likes of folks like you. News and information is becoming greater. I don't simply want to take the status quo as many of us have done, when the doctor gives a prescription we take it without asking.

I think the notion of statins and harms and long term effects have really resonated with me and have caused me to push back on that particular item.

I think in general, we can all agree that our healthcare system is flawed, at many levels.

You mentioned waste before, 33% waste. Above and beyond all of that, for me to go in once a year for my personal health, and literally have about 12 minutes to ask questions, review data, update personal information and all that to me is challenging and troubling. I need to become my biggest and my own advocate for my own healthcare.

And I think getting back to your original question 'why this year?' I think because more information is available. We are changing and I think there's a dynamic going on in our industry where we need to challenge where we need to be, in the role that we play providing advice and guidance beyond product, beyond solution, beyond all of that to provide advice and guidance at the employee level.

GF: I think it's really interesting when you make the point about more information becoming available. That resonates with me. More and more information is becoming available to consumers. I think we run the risk of having information overload. The question is 'what information is really useful?' What information is bogus or biased or not terribly useful? How does a consumer figure that out?

TM: Gary, that's a complete struggle for me and I'm sure for just about every consumer. What is the right information? If I read the Harvard Business Journal, that's one piece of information. If I read another article, another book…it's very challenging to know what

information is accurate. From which stakeholders does this information come and is there any bias or connection back to a provider or manufacturer?

Maybe I can turn this back to a question for you. As a consumer, how do I navigate my way through the various information channels to arrive at what I think is good, solid accurate information so that I can make good, solid, accurate personal choices?

GF: I think that's the question that highlights the broker's role.

A broker clearly can't give medical advice. They're not licensed for this. And a broker can't say 'here is a procedure that works and here is a procedure that doesn't work' according to some study. That's not the broker's role.

It seems to me that the broker's future role and the growth of this part of the business is teaching people the questions to ask. If you ask the right question, you have a pretty good chance of getting the right answer. But if you don't ask the right questions, then you may get all kinds of misinformation or confusing information or biased information.

We at TheMedicalGuide try to simplify this by, for example, asking the 4 questions that we discussed a few minutes ago to determine Out of 100 people like me, how many will be harmed?, Out of 100 people like me how many will benefit?

We try to simplify the process by teaching people to ask questions about the Number Needed to Treat and Number Needed to Harm. I should probably add that we teach questions to ask about lots of different kinds of medical interventions.

I guess my feeling is that if brokers can put on consumer engagement programs and courses for their subscribers that help people ask the right questions of their doctors, then we've gone a big step. We've made progress. And Step 2 I can't tell you about yet. I don't know what it is!

TM: Going back to your question - when you have all these stakeholders and providers being part of the equation, who is best served to do it – for someone who spent 20 years in this business, I have an initial challenge, internally, to think that I am the one, and my firm is the one, to provide consumer engagement at a level that gets so specific to medical care and so forth.

At the same time, I can see the validity to this and that many of us can't hide behind the notion that consumer engagement is teaching and educating about product and all of the elements that go along with that. It's a challenge. It's a shift in thinking for me.

GF: Do you think, as a business owner, you can avoid getting involved in this kind of consumer education?

TM: I don't. I truly don't.

The question is when? How quickly? How broad of a spectrum? How deeply? It's a challenge. I say this openly, it's really a shift. It's a mental shift to think of the role that we play and how we will engage the consumer at a completely different level.

At the same time, it's tremendously exciting.

And then beyond all of that, the complexities to everybody. As we sit in the roles that we play as advisors to employers and employees, you have new products – with all sorts of functionality and limitations, with tiers and networks, and the account based elements of HSAs, HRAs and all that. It has become so complicated. My point being that complexities at the product level and at the distribution level are just immense and enormous, and then you fold in another component and layer.

I guess trying to understand it and articulate it, and taking it back to the role that we play, I have to wonder and ask 'how do we do this?' What is the first, best step for us to do it? I guess I'll put that to you. There was a question, or at least a thought of a question in all that.

GF: I think it's very thought provoking. I don't have an answer. As you were talking, I was thinking about that famous Chinese curse or blessing 'May you live in interesting times.' Yes, it is tough to navigate the future.

Look, it's always tough to navigate. It's always tough to run a small business. I guess the first step I would say to brokers who want to get into this brave new world is to become familiar with some of these consumer aids, these medical decision making aids, to become familiar with this part of the business, and on a case-by-case basis work it in. I wish I had a better and more complete answer.

TM: But I think that your answer is representative of the stage we're at in the development of all this. I truly do.

One of the things that comes to my mind, and I certainly want to garner your perspective on, is this notion of cost and quality. It's at times such a nebulous thing, where many carriers, going back to the product designs, and consumer engagement at the product level, is about cost and quality.

Your thoughts on cost vs. quality, the importance of it. Is cost a real driver and issue or do you believe quality prevails, that someone is going to request and require quality without much notion of cost?

GF: I think transparency is clearly both. You have to know price. You don't want to get the same quality for $2000 that you can buy for $600.

But I think that the first step, the driving force, is quality. Everyone wants the best medical care they can get for themselves and their family. One of the reasons that so many people use expensive hospitals is that we equate higher costs with better quality care. Or high credentials with better quality. Or medical school affiliation with better quality. I think people want quality. Then, if you find 2 procedures that have the same NNT and the same outcomes, then sure, go for the least expensive one.

I would warn people against assuming that you can learn something about the care quality from the price, because you can't. A broker once said to me 'this quality information is too complicated. If you assume the quality is all the same, then you can shop based on price'. My response was 'besides that Mrs. Kennedy, how was your trip to Dallas? I heard you had a nice breakfast.'

The ballgame is quality. And price is a secondary consideration. I have yet to meet a person who wants poor medical care, and I have yet to meet someone who wants the cheapest *un*necessary medical care. I only meet people who want good, necessary care.

TM: I think you bring up a great point, and the challenge that we see every day is also the waste in care. People don't want bad care, but I think it still goes back to waste. It goes back to that 33% waste factor, it goes back to how the system is currently structured, and I think that is a tremendous challenge. The complexities of the system. Waste continues to be an issue.

But getting back to your NNT, unnecessary care ideas, are these regional? National? International? Is this about how our healthcare is structured here or is it relevant beyond state and even national boundaries?

GF: I think all healthcare consumers in all countries have the same questions. I think all parents want good care for their kids, all sick people want good care for themselves, and if you're in a government funded system, a privately funded system, or a mixed system, you as the consumer still have the responsibility for asking the right questions and getting the best care for yourself. So I don't think the structure of the system matters for consumer responsibility and engagement. I think people are all the same – they all want good medical care. No one wants to have unnecessary care that won't help them but might harm them.

Research is currently being done on all these different kinds of metrics all over the world, with researchers having the same fundamental question: how can we identify

good, high quality, necessary care as opposed to poor, unnecessary, low quality, wasteful care. Everyone is interested in the same thing.

My guess would be that there will be an explosion of knowledge in this whole quality arena in the next decade or so. The early adopter brokers who start to educate their clients now, start to learn the programs now, start to learn what this is all about now will put themselves in an awfully strong position as all of this evolves to capitalize on it and grow their businesses in the future.

TM: I think that's a great point. I think that's something that brokers like me need to be mindful of. We have been, and continue to be moving away from product based sales, product based advice and guidance to become a true benefits consultant. I think it's a tremendous opportunity personally for those willing to engage.

GF: It's exciting.

TM: It's tremendously exciting. I think we as brokers have a role to play and I think a unique one. The other stakeholders that we don't believe are equipped to participate in this consumer engagement process, my hope is that that changes at least in some capacity. We really need them to be part of the equation in some way, shape or form, so this becomes a collaboration.

GF: I would agree with that.

TM: This has been a tremendous dialogue.

GF: Yes, it's been interesting. You asked good questions.

TM: Thanks. Hopefully this has been useful to the people watching who want to learn more about the consumer engagement process.

We've discussed a tremendous spectrum of what it means and what it is. Historically, engagement has been around product – how can we engage consumers around products, so they best utilize the plan that they have chosen.

But today we've discussed taking this to a different level and really getting to the medical aspect of consumerism and consumer engagement…asking questions, understanding outcomes, a completely different aspect to the world of healthcare as it stands today. Gary, thank you for your time, your comments, your insights…

Review Questions
answers on next page

1. What does the *medical care* industry mean by ‘well informed consumer’?

a. Someone who understands treatment options, risks, benefits and trade-offs
b. Someone who understands deductibles, copayments and other components of his/her health insurance policy
c. Someone who has done lots of online research about his/her medical condition

2. What does the *health insurance* industry generally mean by ‘well informed consumer’?

a. Someone who understands treatment options, risks, benefits and trade-offs
b. Someone who understands deductibles, copayments and other components of his/her health insurance policy
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3. About how much impact does *plan design* have on the amount of *unnecessary medical care*?

a. Very little, as evidenced by the fact that we still waste up to about a third of all healthcare spending on care that generates no detectible benefit
b. A great deal, as evidenced by the fact that we have cut our rate of unnecessary medical care dramatically over time

4. What impact has plan design had on the rate of medical inflation over time?

a. Very little impact. We still spend see medical spending growing at about 2 to 3x the overall inflation rate
b. Very big impact. The medical inflation rate has fallen below the overall inflation rate in the past few years

5. What does this statement mean from your doctor: “I too take a statin to control my cholesterol”?

a. That you and your doctor have exactly the same medical conditions and exactly the same orientation to care, so you too should take a statin
b. That statins are good for almost everyone
c. It doesn’t mean much of anything since you and your doctor may have different genetics, exercise routines, diets, orientations to care, treatment preferences and risk tolerances

6. Which professional entity seems best positioned to teach consumers how to choose their medical care more wisely?

a. Doctors
b. Nurses
c. Health insurance brokers
d. Pharmaceutical salespeople

7. This interview suggested a new frontier in employee engagement and education. What is it?

a. Teaching employees which medical information is useful and which is not
b. Developing fixed commission products
c. Selling more disability and voluntary products

8. Which activity will likely have the greatest impact on medical care cost reduction?

a. Teaching employees how to avoid unnecessary medical care
b. Developing narrower provider networks with higher barriers to switching from one network to another
c. Expanding the use of HRAs
d. Restricting access to primary care physicians

9. A broker once said 'this quality information is too complicated. If you assume the quality is all the same, then you can shop based on price'. What's wrong with this?

a. Everything. Quality is the ballgame. No one wants the least expensive, poor quality unnecessary medical care
b. Nothing. This is a quick and dirty way to summarize medical care purchasing to employees with high deductible plans

10. Over the course of this Interview, how does Todd McDonald's position change?

a. He's initially skeptical about having brokers inform patients about how to use the medical care system – preferring to inform patients only about how to use their health insurance – but by the end, he's excited by the opportunity to engage employees on a whole new level. He suggests that this may be a key future component of the 'benefit advisors' role
b. He thinks the broker's role is and always will be to teach about how to use their benefits but not to engage consumers about how to use the medical care system and to ignore the existence of, and impact of, unnecessary medical care.

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