Fundamental Health Insurance Problems and Solutions

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Preface

I wrote this book as a text version of various lectures I gave to health insurance brokers over the past decade. It's a somewhat altered version of my 2015 book Consumerism and Value Creation in American Healthcare.

It describes, briefly, the functions of health insurance then, in more detail, the problems we face implementing it in the US today and some possible solutions to those problems.

Each chapter addresses a stand alone issue or set of issues but these often overlap. I apologize for redundancy but, in health insurance, similar problems appear in different guises.

I continue to be amazed that benefits professionals understand so little about the impact of the benefits they provide. Health insurance brokers are generally expert at applying regulations and understanding financial concepts but weak at understanding how the benefits they sell actually affect people medically. I hope this book will address some of that deficiency.

I take the issues discussed here personally and seriously. As a child of the 1960s who, among other things, worked for CARE in Chad, Africa 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 destructive activities, with unnecessary medical care being a prime example.

I value reader feedback. If any of the ideas in this text stimulate your thinking, please let me know. I'm readily available at gfradin@HealthInsuranceCE.com. I promise to respond if you write to me!

I hope you find reading this book a worthwhile experience.

Gary Fradin

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Introduction and Overview

Our healthcare system falls somewhere between a 'mess' [1] and 'insane' [2] costing $10,000 per person per year but putting us about 17th internationally among the 17 richest countries in the world, in life expectancy and infant mortality.

That the system works badly is clear. *Why* it works so poorly is hotly contested and *what* we can do to fix it administratively 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 been 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. If we could have gotten the incentives right, we would have gotten the incentives right - or at least *close* to 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, in theory at least, to improve outcomes and reduce costs. I don't think we can create tremendous value 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: I don't see payment reforms, organizational changes or plan design modifications making our healthcare distribution system much more efficient, effective or valuable, with 'value' defined as better outcomes at lower costs. I base that conclusion on the past 50+ years of our healthcare reform experience defined by **new financing paradigms every 20 or so years** (from major medical to managed care to tax advantaged deductibles and now to private exchanges), **cost growth averaging gdp + 3-5%** and **hard outcomes lagging behind other 1st world countries.**

No healthcare reform in the past 50 years has simultaneously improved access, reduced cost and improved outcomes, though some, most notably the Affordable Care Act, have improved access. Rehashing the same tired arguments strikes me as ineffective at best and insane – doing the same thing over and over but expecting a different result - at worst.

Instead, I propose we focus on the demand side of the healthcare 'supply and demand' equation. I see huge opportunities to improve the system, meaning generate better outcomes at less cost, by focusing on patient behavior rather than physician.

That's what we'll do 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 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 enough 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 compensation.

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 when 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 and negotiating better.

We consequently have really good lobbyists and really lousy value.

My goal in this book: turning amateur patients into professionals

I don't mean 'professional' in any pejorative sense as in 'people who have learned how to overuse the medical care system so they spend excessive amounts of time with doctors.' That's not professional; it's just dumb.

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

Instead I mean professional as someone whose education and training provide them with a particular knowledge base and skill set that allows them to excel in their chosen field.

A professional patient by my definition understands how well medical care actually works according to studies, which treatments are overused in real life, which care options he or she prefers and which providers perform those treatments the best. A heavy lift but a manageable one.

Consider an analogy with cooking or other routine human activities. Great cooks take cooking classes, good cooks read cook books and mediocre cooks rely on personal experience.

Ditto for artists, writers, musicians, craftsmen and more.

Today we get advanced training in lots of previously routine, ordinary activities. We've come to accept that the more training we get in a field, the better we get at it.

Except for the most important and dysfunctional thing we do, receive medical care.

Most important? Your life may depend on your decisions.

Most dysfunctional? We annually waste hundreds of billions of dollars on ineffective or harmful care.

No Patient 101 courses exist in high schools or colleges, no introductory educational programs in doctor's offices, no patient training in hospitals, no overview modules from HR in large self-funded companies, not even any specific training for doctors or nurses in medical schools.

What would a patient education course teach? What body of knowledge, in other words, would a great patient acquire? Here's a short list of topics I'd recommend:

- **How to choose care that works** i.e. benefits patients based on high quality scientific studies. Only some of medical care is based on science these days according to many estimates; the rest is guesswork and hunches.[i]

  That's why great patients routinely get opinions from different physicians with different treatment orientations.

- **How to avoid care that doesn't work** or doesn't work well based similarly on scientific studies, things like extended release niacin to reduce heart attack risks, joint lavage to reduce knee pain, beta blockers to prevent heart attacks and so one. I'll provide case studies of these and others in this book.

  Patients too often trust theories, not hard evidence, thinking 'it should work because the underlying biology says so.'

Indeed, I've heard countless people in my classes say, when I present a case study showing a particular treatment doesn't benefit patients, 'the study must be wrong.'

I'll explain what good, reliable scientific evidence, and show why relying on it can improve your outcomes and reduce your risk of harm.

Not to mention reduce your treatment costs.

- **How to identify care that's overused** even if studies show that it works on a well-defined patient group, because we know that overuse accounts for about third or so of medical care in the US today,[ii] things like

  Imaging for eye disease, overused according to one large study about 74% of the time,[iii]

  Antibiotics for upper respiratory and ear infections, overused about 98% of the time,

  Cardiac stress tests, overused about 19% of the time and representing over $2 billion in annual waste, among others.

- **How to choose among care alternatives** because you have treatment options most of the time.[iv] Surgery or physical therapy? More aggressive surgery or less? Physical therapy or medications? Watch-and-wait or treat now? How does a wise patient decide?

  Studies consistently show that better informed patients – that means better informed about the likely outcomes and treatment options – tend to choose less invasive, less risky and typically therefore less costly interventions more frequently than do less well-informed patients, the amateurs.

- **How to use screening tests effectively** because some tests generate unreliable information while others are tremendously beneficial. How does a wise patient decide which screening tests to have and how frequently?

  Related to this, at what test result should *you* do something, at blood pressure of 130/80 … or 145/85 … or 160/90 for example?

  I'll discuss how different organizations make different, sometimes contradictory recommendations but virtually all leave out critical mind-body or emotional factors. Should a happy, socially active, optimistic, financially well-off, athletic fellow take medications at the same blood pressure as a depressed, impoverished, lonely one? Read Chapter 3, consider the implications, then discuss your own situation with your doctor.

- **How to choose the best specialist and hospital** for fairly obvious reasons. I'll recommend a good, but not perfect, way to identify the best: *first* decide which treatment alternative you prefer, which specific type of surgery for example, and *then*

determine which surgeons perform it the most. It's the best rule-of-thumb available for determining specialist quality, though it's not perfect.

Read the first section of this book then consider how applying the lessons to your own physician and hospital decisions might benefit you.

- **How to understand a medical study, article or ad** because they're omnipresent in today's media and everyone relies on Dr. Google to some extent.

  As a quick introductory comment, it's way more difficult to read a medical article critically than most people think.

  And the headlines, the part that too many people rely on, may misrepresent critical nuances that can affect your own care outcomes.

My hypothetical Patient 101 course wouldn't focus on medical prices or insurance coverage. I've never heard anyone say 'I won't give my child necessary care until next Open Enrollment when we can switch to a plan that covers it.'

But I have heard people say 'I can't afford all this medical care so I'll only get some', which means they have to choose which to get and that takes us back to the care quality and wise patient issues.

Why well informed patients cost less

Wise patients – the professionals in my terms – know 3 things that amateur patients generally don't.

- How to identify and avoid unnecessary, ineffective and overused medical care, perhaps 30% of all spending. [v]
- How to identify, explore and compare treatment options, available to patients about 85% of the time. [vi] Patients who explore and compare tend to choose less risky, less invasive and consequently less expensive care about a third of the time.
- How to identify and choose better quality providers. Better quality means fewer errors and hospital readmissions, shorter hospital stays and a quicker return to good health.

Each above leads to lower medical expenditures and *all three together* lead to much lower medical spending. That's why learning to get better care with less risk will save patients and payers money.

A message for CEOs and CFOs

Corporate attempts to control employee healthcare expenses over the past 40 years have generally failed. We know this because corporate healthcare premiums (employer

+ employee contributions + deductibles) have inflated much faster than the overall Consumer Price Index since the 1970s.

The fundamental reason is not necessarily inappropriate plan designs.

Instead, it's the attempt to solve clinical problems with financial or insurance tools, things like

- **Higher deductibles to reduce wasteful spending** but without defining waste or suggesting ways for your employees to differentiate high from low quality care.
- **Medical price lists**, to which amateur patients may respond 'I want the higher priced care because it's probably better'.
- **Wellness programs** that reward your current healthy employees financially but make the least well employees, i.e. your most expensive medically, feel badly so they don't participate.
- **Health risk assessments**, financially incentivized, meant somehow replace a primary care physician's advice.
- **Tax saving programs** – HSAs, HRAs, FSAs for example - that confuse participants and don't improve patient outcomes, and more.

We impose all this on employees who often lack critical medical decision making skills: some 88% of Americans are medically illiterate according to the US Department of Health and Human Services. [vii]

Illiterate means 'hasn't been trained' not 'stupid'.

'Medically illiterate' also means unable to estimate the likely benefits and risks of medical care.

Imposing financial incentives on this group can't possibly generate satisfying results either for you or them and it hasn't.

But there's an alternative approach: expanding employee medical literacy through a serious and well organized education program. Consider the potential impact on your utilization rates from this conclusion to the 2012 Patient Preferences Matter report, jointly authored by Dartmouth medical and business school professors: [viii]

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

And this observation from Dr. Sandeep Jauhar in his autobiographic book Doctored, largely a description of his years overtreating patients:

> Better informed patients might be the most potent restraint on overutilization.

To make your health insurance program work - reduce corporate medical spending, decrease unnecessary utilization and help your employees get or remain healthy – you need to include employee education about care quality.

I'll outline that content in this book.

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:

- 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.

The task ahead

I see value creation – getting better outcomes for less money – as the fundamental future task of health insurance brokers. There's a vast opportunity and market for the most creative and forward thinking to participate and prosper in this endeavor.

I hope this book will help guide you along that path.

Part 1: Some Fundamental Problems With Health Insurance

Employer Based Health Insurance

Government Subsidies and Tax Policies

Current Levels of Consumer Education and Knowledge

Managing Health Insurance by Numbers

Chapter 1: 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 [7] to about 140 million in 2010 [8] 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. [9]

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

[7] EBRI Issue Brief # 321, September 2008

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

[9] 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 kind of program 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.[10]

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 a poor one for an efficient medical care financing 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,

[10] 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 who 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. 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 $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 the

potential savings even in low cost regions' [11] 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.

[11] 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 and price.

In the employer based health insurance model, consumers have far less sovereignty than many would like, since benefits administrators make many of their key consumption decisions. But remember the economic axiom: the more consumer sovereignty, the more efficiency. And vice versa.

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 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.

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. [12]

First, it is tremendously expensive. In 2013, for example, a typical family health insurance plan cost about $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 – develops 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.

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

- 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. [13] This system, as the two previously mentioned, also has its own access rules, reporting rules, prices and payment rules
- 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 it's end-stage.[14]

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. [15]

- The **List Price** exists though is rarely paid. It's reserved for rich foreigners and uninsured Americans. It's the highest price hospitals charge.

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

[14] 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.

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

- 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.

  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 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'. [16]

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?**

[16] Jonathan Bush, Where Does It Hurt?

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. [17]

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

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

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. [18]

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 expenditure $197 per person per year, requiring the average person to work about 78 hours (2 weeks) to pay for healthcare. [19] Divide $197 by $2.53 to see this.

In 2014, the average wage had risen to $24/hour, healthcare cost to about $8800 per person, requiring the average person to work 366 hours (9 weeks) to pay for healthcare.[20]

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. [21]

'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. [22]

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

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

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

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

[21] 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.

[22] 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.

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.

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 Employer Based Health Insurance Developed
An historical accident

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'. [23]

Consider this story from Bradley and Taylor's book The American Healthcare Paradox about Joe, a 28 year old, very low income diabetic: [24]

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

[24] Ibid. page 1

- 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
- 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. [25]

[25] 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

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 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'. [26]

  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. [27] 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

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

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

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.

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 <u>inappropriate</u> or <u>unflattering</u> 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.

The 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 [28]

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.

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

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 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.[29]

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.'

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

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:

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. [30]

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;

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

- 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. [31] And remember: these were two highly respected Harvard Medical 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.

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

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%

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 [32]) 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 ensure that the various medical interest groups get paid.

Consumer Driven Healthcare to the rescue (or not)

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

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 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 $3000) 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 [33]

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

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

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.

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 has 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. [34]

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

- US healthcare premium increases averaged about 6.2% between 2002 and 2009 – right in the historical range of gdp + 3 – 5%. [35]
- 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.[36]

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 as examples, from the OECD's Health Statistics spreadsheet. [37] I also included estimates from China and India for comparative purposes, though these numbers are pretty squishy.

[35] OECD Healthdata 2014.

[36] 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.

[37] 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.[38]

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

[38] 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% [39] 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

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

in the federal budget, an estimated $260 billion annually. [40] 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. [41]

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.[42]

Summary: Employer Based Health Insurance

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

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

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

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

- 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
- 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.

Where will this take our healthcare system? Stanford Business School Professor Alain Enthoven summarizes in prophetic terms. Our employer based model, he suggests, will unfold 'like a Shakespearean tragedy: known, tragic flaws taking their inexorable toll.' [43]

Or, as Lady Macbeth might put it,

> *The employer based healthcare financing system simply doesn't work. Bandaids and piecemeal reforms cannot not fix this fundamentally flawed model.*

(I've admittedly taken some pretty generous poetic liberties here. Lady Macbeth actually said 'Here's the smell of the blood still. All the perfumes of Arabia will not sweeten this little hand'. It's not easy ending a chapter on employer based healthcare financing with a Shakespearean quote!)

[43] 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 underfunding 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.

7. Which country exhibits the shortest life expectancy at birth?

a. US
b. France
c. Canada
d. Britain

8. Which country uniquely bases healthcare financing on employment?

a. Britain
b. Canada
c. US
d. France

9. About how much medical care is ‘unnecessary’ according to scholars at Dartmouth and other research institutions?

a. 1%
b. 30%
c. 90%
d. 95%

10. Who actually pays the employee’s premiums in our employer based system?

a. The employer
b. The employee via foregone wages and the government via foregone taxes
c. The insurance carrier
d. The primary care doctor

11. How does our employer based healthcare financing system affect job mobility?

a. It has no impact on job mobility
b. It increases job mobility
c. It reduces job mobility because people may be reluctant to switch insurance types and coverage because the switch may lead to provider and treatment differences
d. It increases job mobility in the public sector but reduces it in the private sector

12. Which is the biggest tax break allowed by the IRS?

a. Employer based healthcare premiums
b. State sales taxes
c. Foreign travel
d. Home office deduction

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Correct answers in bold

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Chapter 2: Government Incentives and Tax Programs that impact health insurance

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. [44]

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. [45]

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

[45] 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. [46]

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. [47]

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 [48] to 37.6 in 2014.[49] As we age, we cost more medically. One estimate broke this down by age group using 2004 data. [50] 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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[46] Richmond and Fein, The Healthcare Mess, pages 94 and 92

[47] 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.

[48] http://scholar.lib.vt.edu/theses/available/etd-12098-13236/unrestricted/CHAP2-3.PDF

[49] CIA Factbook estimate https://www.cia.gov/library/publications/the-world-factbook/fields/2177.html

[50] "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 [51]

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 [52] - a 23% increase.

[51] This chart comes from justfacts.com http://www.justfacts.com/healthcare.asp and uses data from the 2007 Health Affairs article cited above.

[52] 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. [53]

- 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. [54]

- Adults with more education are more likely to meet the 2008 Physical Activity Guideline for aerobic activity than adults with less education. [55]

- 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. [56]

Obesity, caused largely by dietary and exercise behaviors, increases healthcare costs. Here are some examples courtesy of US government researchers: [57]

- 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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[53] 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

[54] 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

[55] http://www.cdc.gov/physicalactivity/data/facts.html

[56] http://www.cdc.gov/physicalactivity/data/facts.html

[57] 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. [58] 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. [59]

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**. [60]

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. [61]

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[58] Strum 'The Effects of Obesity, Smoking and Drinking' Health Affairs, March 2002

[59] Obesity and the Economics of Prevention, Fit not Fat, © OECD 2010
From Executive Summary

[60] Hill, et al, Infectious disease modeling, PLOS Computational Biology, November 4, 2010, emphasis added

[61] 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. [62] Today Thorpe estimates, obesity adds about $700 to the cost of healthcare per American adult per year. [63]

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. [64] 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. [65]

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.

[62] Thorpe, The Impact of Obesity on Medical Spending, Health Affairs, October, 2004

[63] http://www.wsbtv.com/news/news/local/obesity-related-healthcare-can-be-costly/nYy4k/

[64] cornandsoybeandigest.com, Sept 2013 USDA Crop Production summary

[65] 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. [66]

Each American, on average, consumes over **half a ton** of food that uses corn as an ingredient. Here's the breakdown: [67]

- 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 [68] **(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." [69]

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

[66] Michael Pollan, The Omnivores Dilemma, page 18

[67] From National Public Radio's report on food consumption by correspondent Allison Aubrey, December 31, 2011

[68] Estimate from Chartbins.com

[69] Paraphrased from Pollan, Ominvores Dilemma, page 18

Europeans [70] - 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*. [71]

The US government actually recommends against eating that much meat. Here are recommendations from the US Department of Agriculture's Dietary Guidelines for Americans: [72]

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

[70] 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.

[71] See the USDA Dietary Guidelines for Americans, 2005 edition.

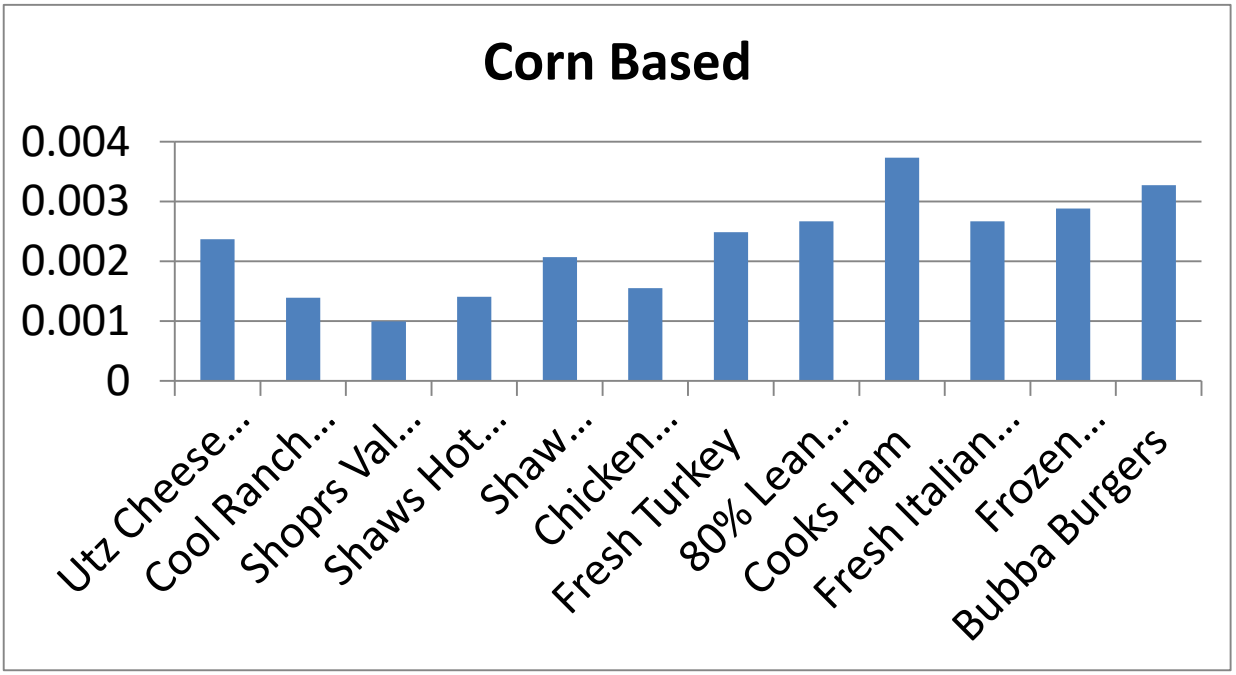
[72] I refer specifically to the 2005 recommendations because they're so clearly stated. Recommendations from other years say pretty much the same things.

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.

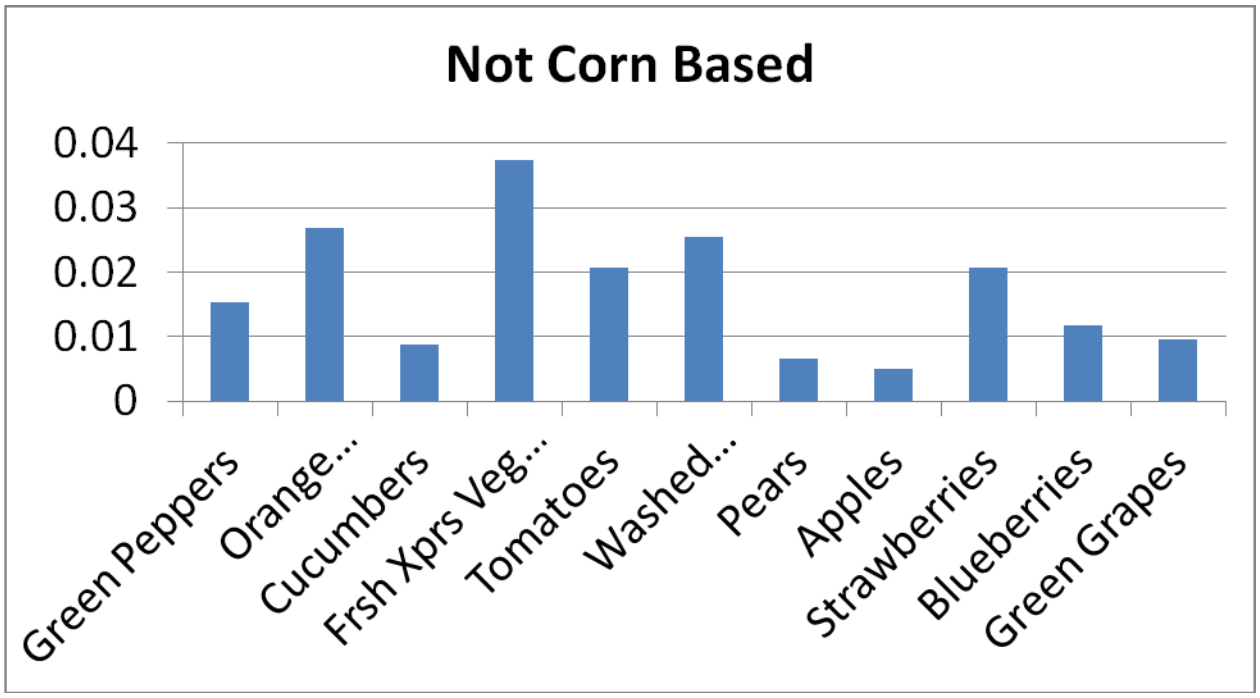
My goal in all this: determine how much it costs to purchase 2700 calories of corn-based products and compare that to 2700 calories of non-corn based. I wanted to see the impact of the corn subsidy on actual daily, monthly and annual food costs for an average American.

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.



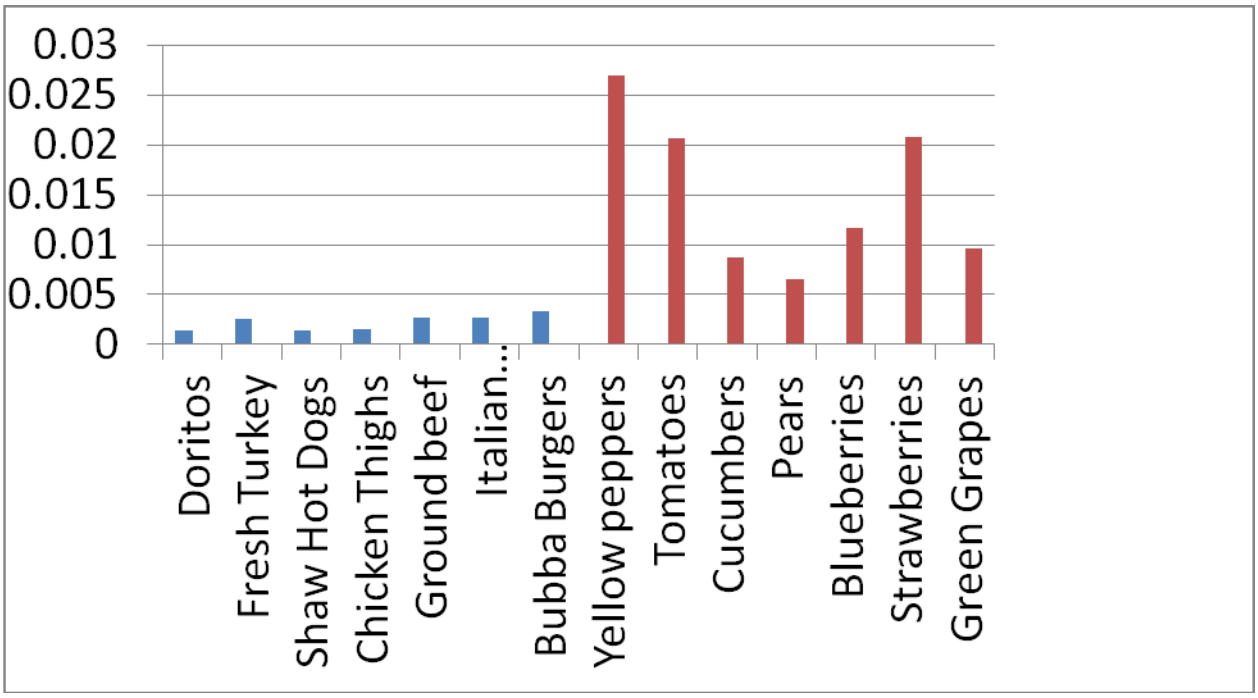
These foods average about 1 cent per calorie.

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 [73]

  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. [74]

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 [75]

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

[73] Chopra et al, Alternative Medicine is Mainstream, Wall Street Journal, January 9, 2009

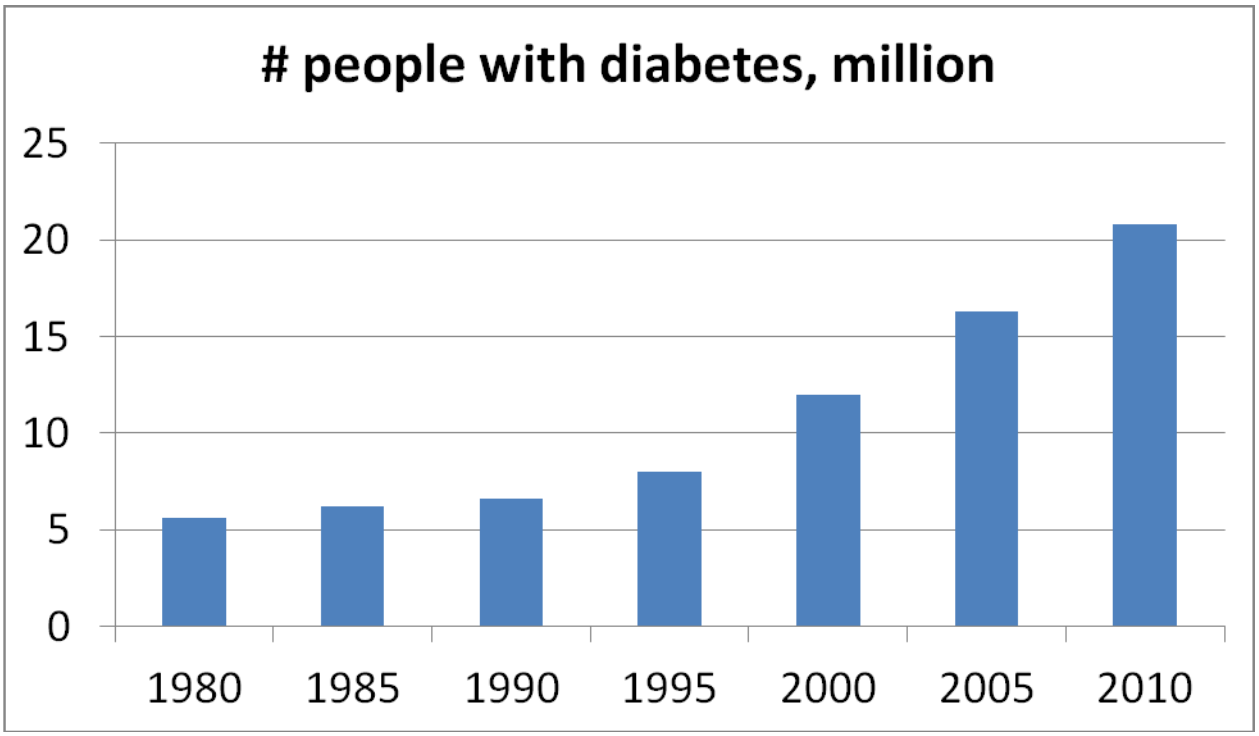
[74] *Economist* 7/9/11, If you build it, they may not come

[75] USDA agricultural fact book

researchers. [76] Soda consumption has doubled since the 1970s to about 50 gallons per person per year. [77]

Michael Pollan summarized this nicely in the New York Times: [78]

> 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.



[76] 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

[77] Duffrey, Food Price and Diet, Archives of Internal Medicine, March 2010

[78] 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. [79]

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 in Massachusetts 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**

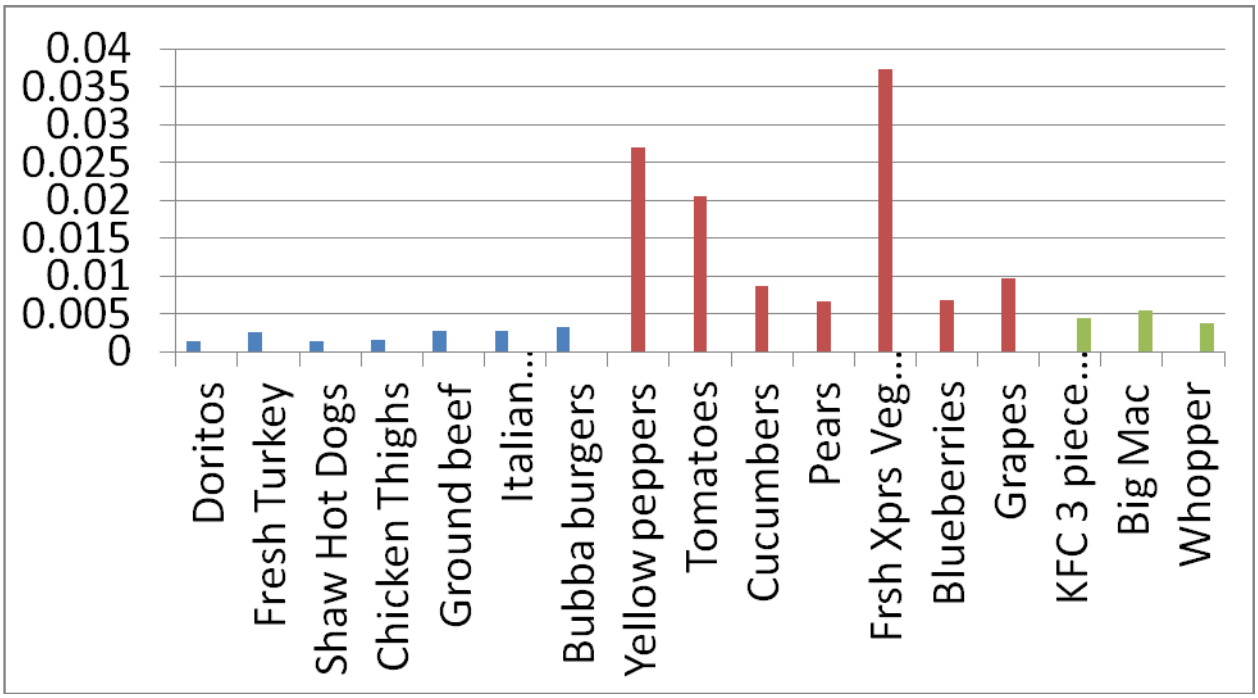
[79] Boston Globe on September 9, 2010.

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.[80]

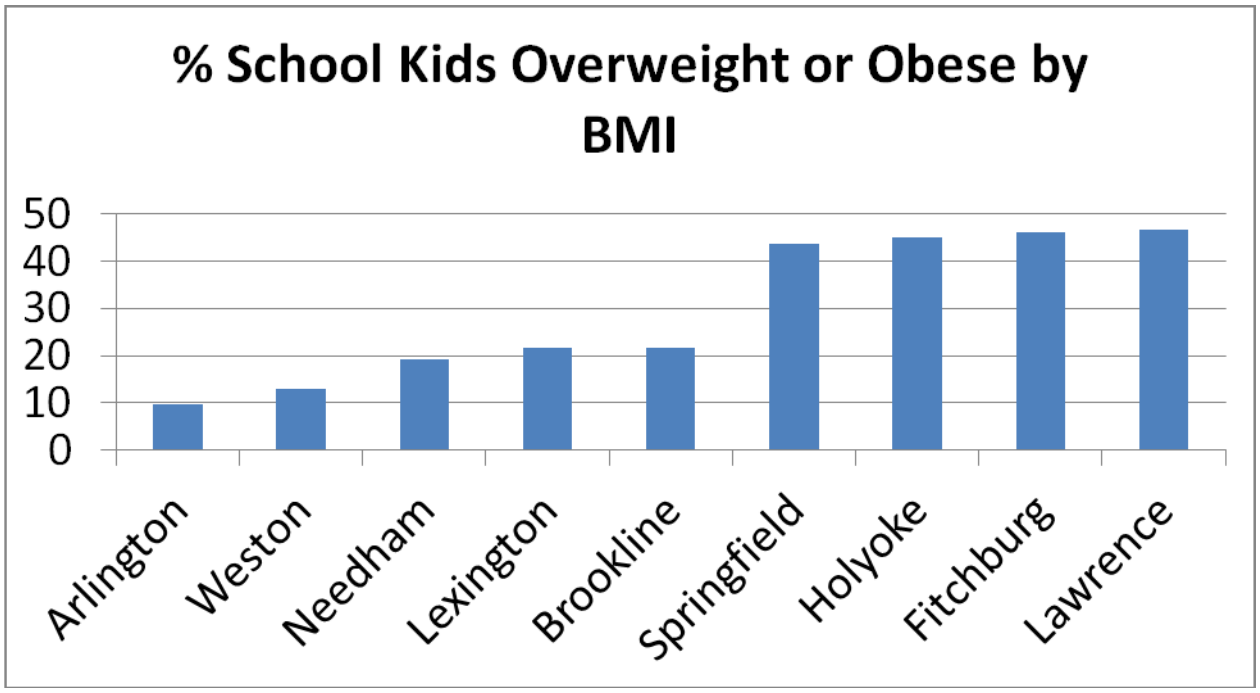
Let's see how fast food compares on a cost/calorie basis to food at Shaw's supermarket.



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.

[80] 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: [81]

- 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

[81] 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. [82]

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.)

[82] 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 generally need *all three* tastes – salt, sugar and fat - to reach bliss: having only 1 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. [83] 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.

---

[83] 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. People, I would argue, respond rationally to economic incentives.

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. [84] 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

[84] Pucher, Why Canadians cycle more than Americans, Transportation Policy, 2006 http://vtpi.org/pucher_canbike.pdf

‘The home mortgage interest deduction subsidizes Americans to buy bigger homes…**Americans, even poor Americans, have *almost twice as much living space* as the average resident of France or Germany’** claims Harvard economics professor Edward Glaser. [85] 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.

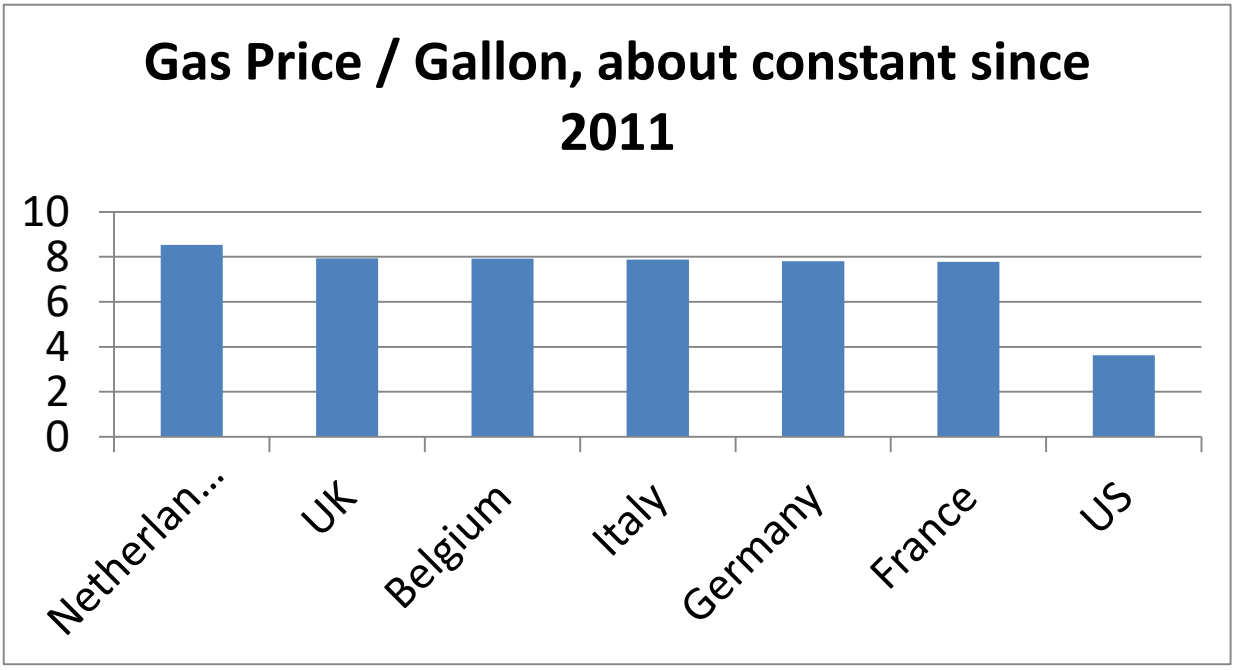
Commuting from these larger homes on larger lots requires a car. Consider the person who passes 100 dwelling units while going from home to work:

- 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:

[85] 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 – 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: [86]

> *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:

[86] http://www.health.gov/paguidelines/guidelines/summary.aspx

- 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. [87] 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 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.

[87] http://www.bls.gov/news.release/empsit.t19.htm

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: [88]

- *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 hierarchy were 3x more likely to die of heart disease than those at the top.

[88] These quotes come from an interview at UC Berkley in March 2002, http://globetrotter.berkeley.edu/people2/Marmot/marmot-con3.html

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 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.

- *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 [89]

- 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

[89] September 9, 2004

- 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 [90]

- 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…

- 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 …' [91]

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 [92]

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 [93]

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[90] 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

[91] Drexler, The People's Epidemiologists, Harvard Magazine, March 2006

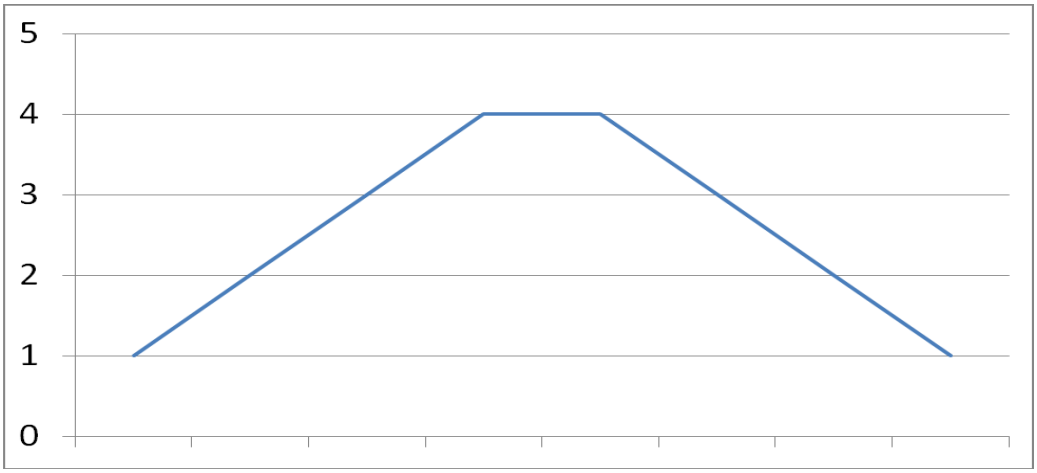
[92] 2015 Dietary Guidelines Advisory Committee report issued February 19, 2015, Part D, Chapter 4

[93] Wolf and Bruhn, The Power of the Clan: Influence of Human Relationships on Heart Disease

the characteristics of a tight-knit community are better predictors of healthy hearts than are low levels of serum cholesterol or tobacco use.

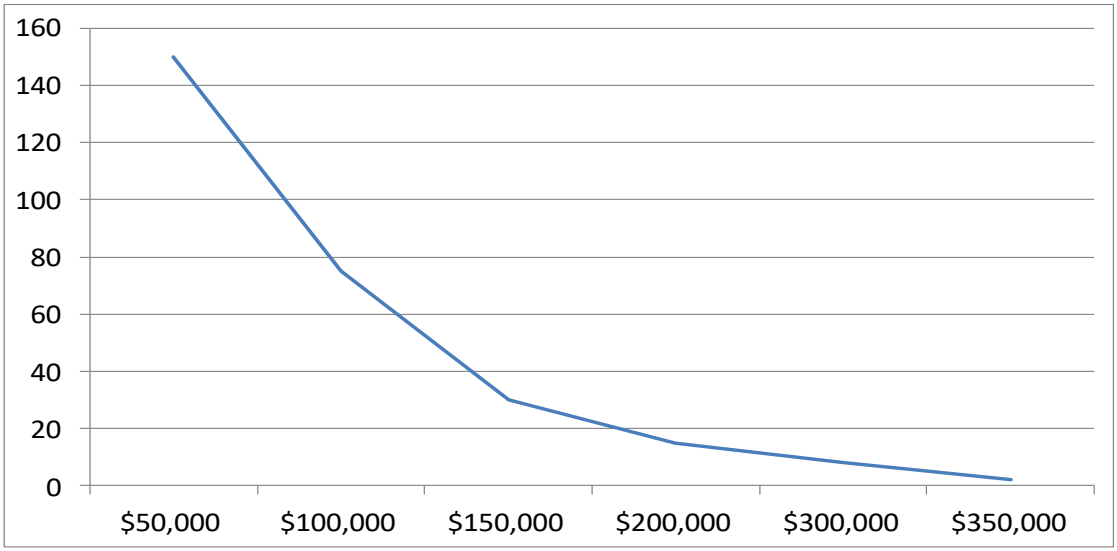
Whitehall and wellness programs

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.



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 would likely 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'. [94] More than 49 million people in the United States, including nearly 9 million children, live in food insecure households. [95] 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. [96] 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-

[94] From the Executive Summary of http://www.health.gov/dietaryguidelines/2015-scientific-report/PDFs/Scientific-Report-of-the-2015-Dietary-Guidelines-Advisory-Committee.pdf

[95] Part B of the 2015 DGAC report

[96] DGAC report, Part D, Chapter 4, Question 2

related health problems, including overweight and obesity, cardiovascular disease, type 2 diabetes, and other health outcomes. [97]

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.

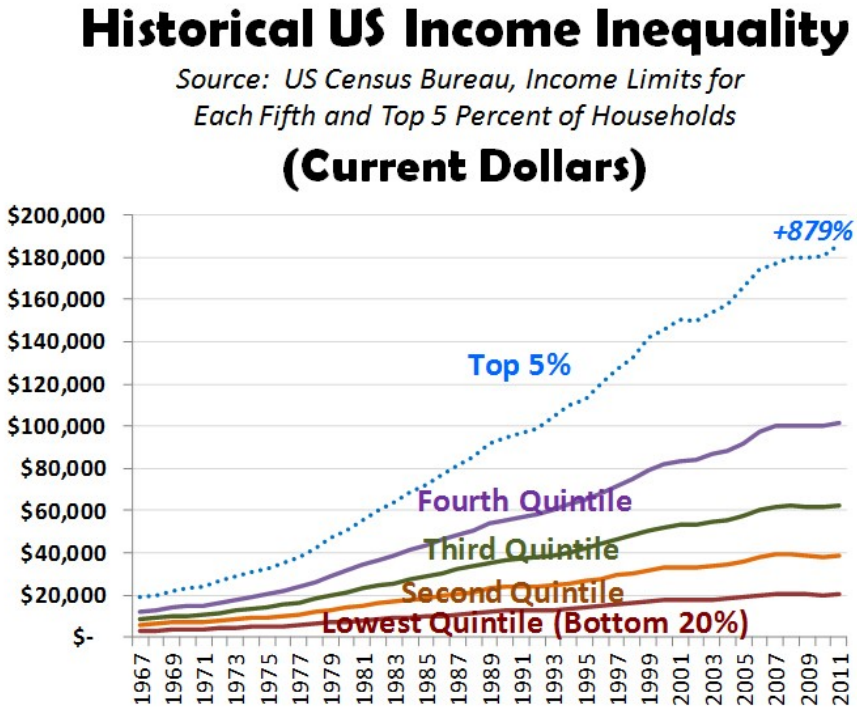
Corporate wellness programs seem particularly ill suited to address the socio-economic lifestyle disparity problems in this country.

[97] 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

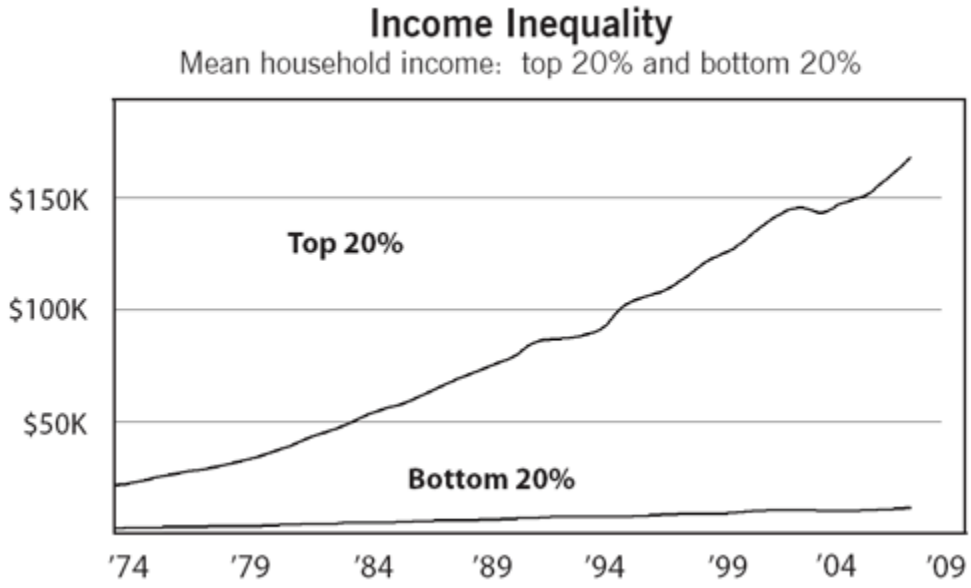
Whitehall and related studies indicate that lower socio-economic groups have higher disease rate than higher socio-economic groups. Whitehall and the others also found a gradient: the greater the socio-economic and status differences, the greater the disease rate differences too, even after controlling 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. [98]

[98] 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



Here are some questions that follow from this analysis, with their unsettling answers:

- 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 [99]
- 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 [100]
- Probably won't reduce the number of pediatric antibiotic prescriptions for ear aches, unnecessary 95% of the time and harmful about 15% [101]
- 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 [102]
- 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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[99] 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.

[100] See ChoosingWisely, http://www.choosingwisely.org/?s=ct+scans+sinusitis&submit=

[101] See Antibiotics for Otitis Media on the NNT website, http://www.thennt.com/nnt/antibiotics-for-otitis-media/

[102] 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 annually 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

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Chapter 3: The Evolving Insured's Role

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.[103] As you read some highlights from 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.*
- *And this is all occurring while brokers are convinced that they were innovating all along.*

[103] Clayton Christensen et al, Thank You MOOCS, Boston Glove, May 11, 2014

The poll in question was Zywave's 2013 study of customer satisfaction with broker services that received 5500 responses. Some highlights: [104]

- 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. [105] 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.*
- *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.*

[104] 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'.

[105] Uwe Reinhardt, The Culprit Behind High US Health Costs, NY Times, June 7, 2013

- *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.[106] 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 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: [107]

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[106] 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.

[107] Suzanne Koven MD, Is physician burnout really a problem? Boston Globe, May 26, 2014

- I appreciate patients informing and advocating for themselves
- I don't appreciate patients arguing with me about anatomy and physiology

In the 10 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. [108]

We have not, in this country, developed a standard definition of 'consumer engagement' or 'well informed patient' because, I suggest, of the 'mess' [109] 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 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

[108] We'll discuss preference sensitive decision making in detail later in this book

[109] "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.

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're intellectually and emotionally within the normal range, 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: [110]

> 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

[110] Richmond and Fein, The Health Care Mess, pages 92 and 94

> 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. [111]

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.[112]

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.

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.

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[111] CNBC Meeting of the Minds: The Future of Healthcare, broadcast in July 2009.

[112] 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.

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. [113]

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*

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.

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[113] More care is not necessarily better care, Connolly, Washington Post, 9/29/09

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 [114] 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
- You don't want cheap *inappropriate* care when slightly more expensive care might be preferable.

[114] Rabin, Questions about Robotic Hysterectomy, New York Times, Feb 25, 2013

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.[115]

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:

- Prices

[115] 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.

- 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 hire 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'. [116] 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 wisely and frugally than they would spend the insurance carrier's money, according to the theory, thus avoiding unnecessary care and saving money.

[116] Sandeep Jauhar, Busy Doctors, Wasteful Spending, New York Times, July 20, 2014

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 [117]

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.[118]
- 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* [119] and

[117] Trivedi 'Increased Ambulatory Care Copayments and Hospitalizations Among the Elderly, NEJM Jan 28, 2010

[118] Bradley and Taylor, The American Healthcare Paradox, page 9

[119] Gudrais 'Unequal America' Harvard Magazine July 2008 referring to research by Harvard Prof Majid Ezzati

- Even the people most likely to be healthy, like college-educated Americans and those with high incomes, fare worse on many health indicators …[120]

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:

- Patient's personal health status
- Disease diagnosis
- Treatment recommendations and alternatives

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

- 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'. [121]

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. [122]

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

[121] O'Reilly, Patient satisfaction: when a doctor's judgment risks a poor rating, AMED News, November 26, 2012

[122] Data from presentation by Benjamin Moulton at Dartmouth's 2014 Summer Institute for Informed Patient Choice

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. [123]

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 and, of course, there's a pill for that)

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.

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.

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[123] Hettrich, The Costs of Defensive Medicine, AAOS Now, December, 2010. AAOS Now is the Journal of the American Association of Orthopedic Surgeons

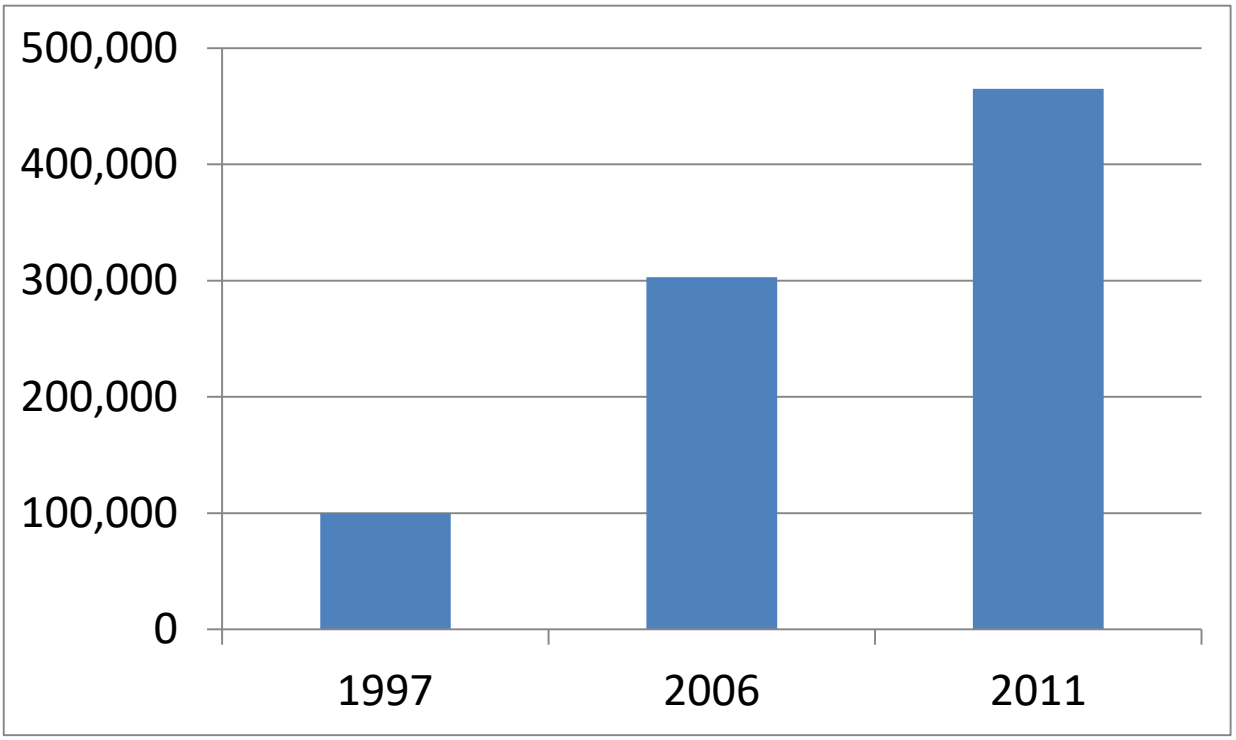
Scans per 1000 people/year [124]

	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

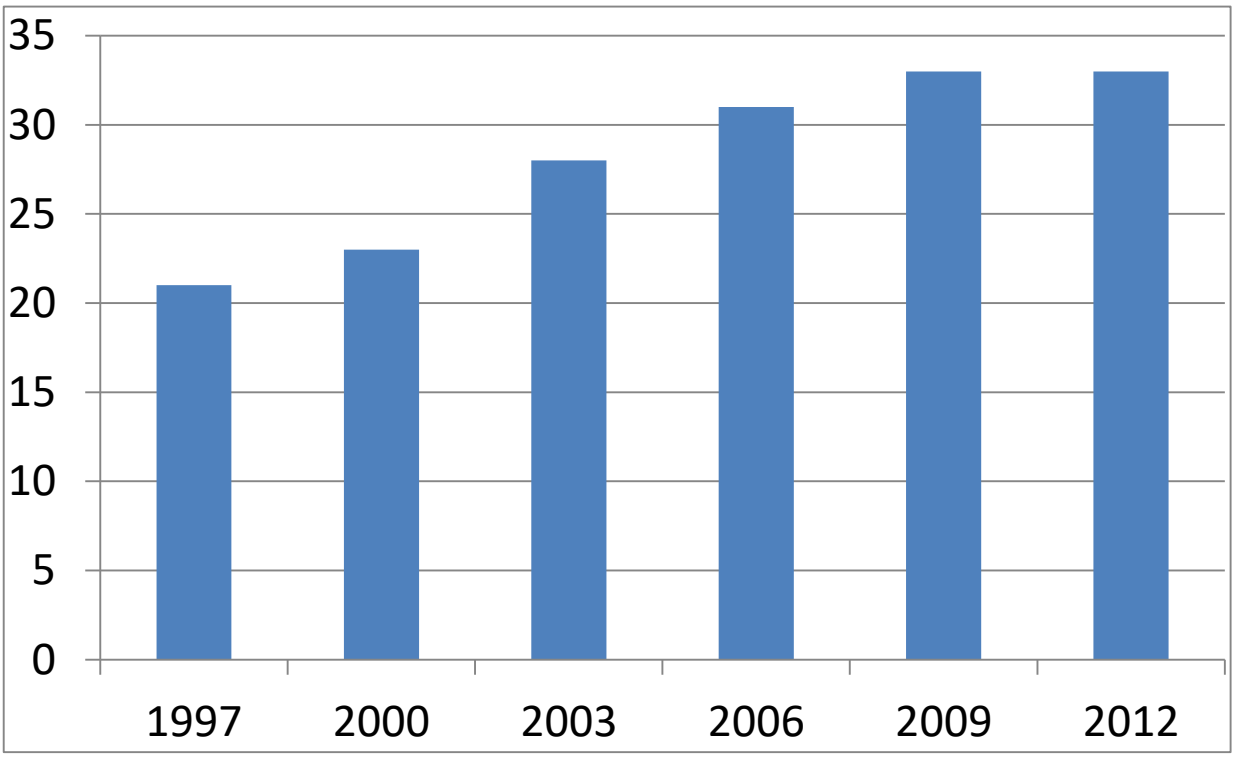


[124] These data presented by Dr. Steven Woloshin at Dartmouth's Summer Institute for Informed Patient Choice, 2014

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.

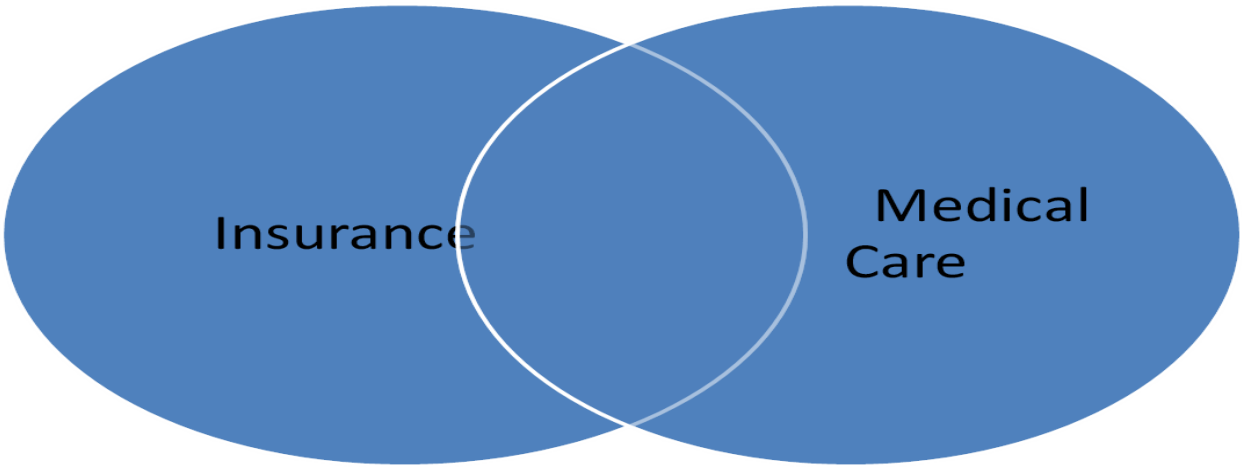
Meanwhile, 0% of oncologists rate ‘avoid using prostheses’ highly while 33% of patients do. [125]

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 been proven 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.

[125] Data from presentation by Benjamin Moulton at Dartmouth’s 2014 Summer Institute for Informed Patient Choice

- 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*.

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: [126]

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.

[126] Laura Landro, Weighty Choices in Patient’s Hands, Wall Street Journal, August 4, 2009

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.

If you can't determine actual outcomes by physician, use volume or experience with patients like you as a responsible proxy. Though not perfect, it can lead you in a positive direction.

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 an encyclopedia, not 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 1 reasonable 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. [127] As a result, the impetus to inform patients that options exist most of the time may fall on the insurance community.

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. [128]

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

Decision Aids, currently under development at several medical schools and institutions, provide outcome data quantifying risks and benefits of medical interventions.

Consider the Number Needed to Treat. This 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. [129] 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.

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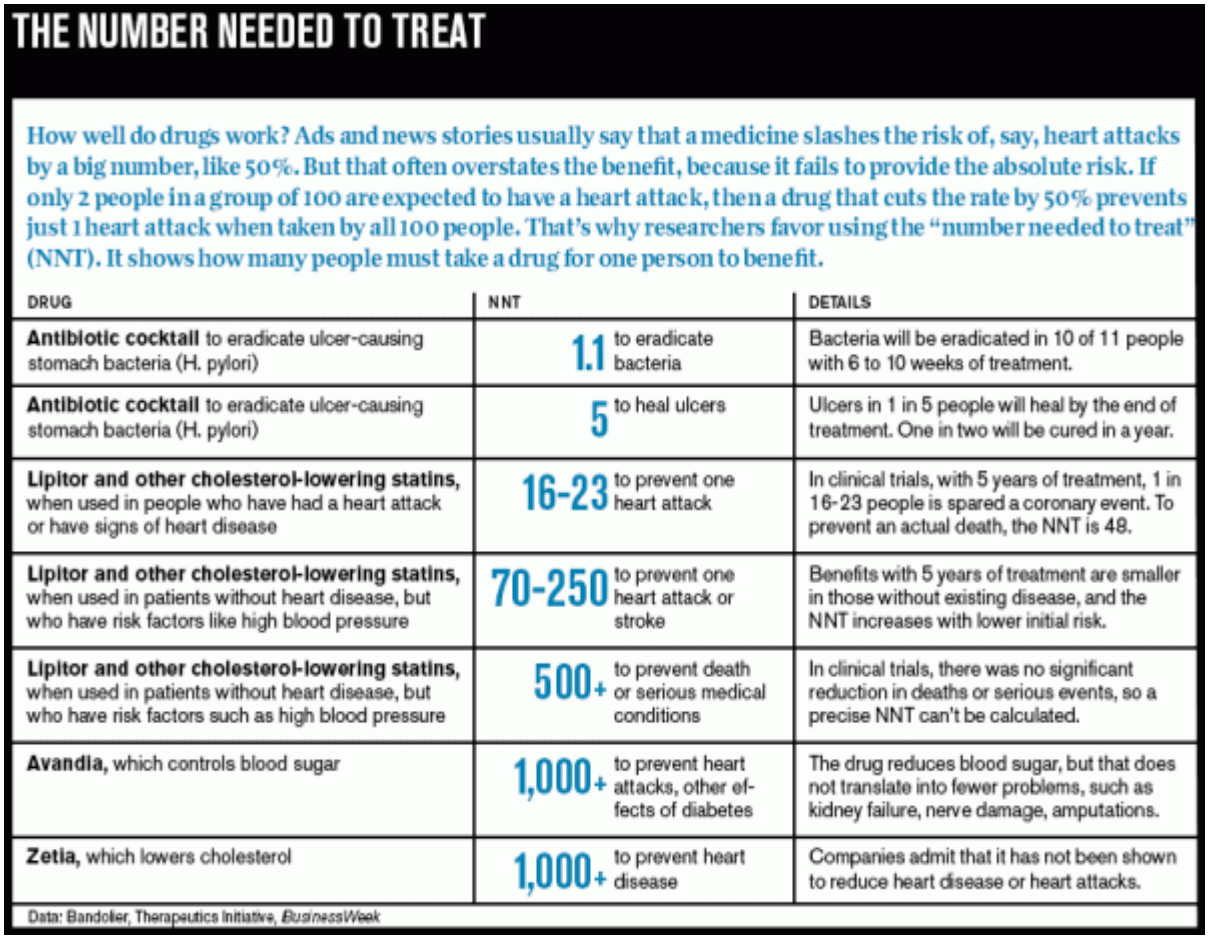
[127] Benjamin Moulton, op. cit.

[128] Sheri Fink's review of Atul Gawande's Being Mortal, New York Times Book Review, November 6, 2014

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

Some more NNT examples [130]



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

[130] This chart appeared in BusinessWeek, January 2008.

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 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: 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.

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 or unexplained weight loss,
- fever or 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?
- And What other therapies do you recommend?

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 non-employed 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 major 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

7. What are Decision Aids?

a. Decision Aids are tools that present clinical evidence of risks and benefits of treatment options; they focus on likely outcomes.
b. Techniques that can aid a physician who needs to make an important decision
c. Surgical tools to help hospital residents make better use of their time
d. Computer programs that determine the optimal treatment protocol for a specific patient

8. Which, below, is NOT a credible decision aid?

a. TheNNT
b. ChoosingWisely
c. The US Preventive Services Task Force
d. Brochures developed by Pfizer, the manufacturer of Lipitor, that explain the benefits of taking statins

Review Questions

Correct answers in bold

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Chapter 4: Understanding and Managing Medical Risks

This chapter was originally written as the introduction to a book on the history of medical education by Andy Lazris, a primary care physician in Maryland. My thanks to Dr. Lazris for allowing me to include it here.

It was a chilly fall day in Baltimore, 1911, and Abraham Flexner was preparing for his meeting with William Welch. He meticulously parted his thinning, dark hair that sat on a long and stern face, barely cracking a smile. He slipped into his dark suit and wide tie, and then trod over to the kitchen for a cup of black coffee. He stood tall at just over six feet. He Semitic features were somewhat obscured by a bushy mustache that was curled at its edges. He wore small wire spectacles over his beady black eyes. He was neither engaging nor distant; he seemed to exist is a space all his own, and, as his friends and enemies often said, he lived within his own perception of reality. In a mere year, this former minor educator vaulted himself to fame and prominence, taking the entire medical world by storm. He understood the significance of his accomplishments and his new-found worth, and today he hoped to transform that into something that would forever alter American health care.

His hotel sat just outside the Johns Hopkins medical campus, in a well-manicured area of East Baltimore well beyond the stench of its more industrial harbor. Here there was a mix of poverty and wealth, and the Johns Hopkins Hospital, an innovative leader in medical education, had catered to both, transforming itself into the beacon of American medical excellence. Flexner himself had graduated from Hopkins many years ago with a degree in education. He obtained his diploma in just two years before moving to Indiana to establish a school. His brother, Simon, was a prominent doctor on staff, a man who had gained fame in discovering a bacterial infection that still bears his name. Now Abraham even eclipsed Simon in fame; William Welch, Johns Hopkins Hospital's president and a pathologist on staff, sought to meet with him to discuss perhaps the most significant change that the medical school, and all of American health care, would ever incur.

To Abraham Flexner, who believed in process and order, it was going to be just another day. One year earlier he had penned a comprehensive report sponsored by the Carnegie Foundation that scrutinized all of the nation's medical schools and picked winners and losers from among them. For Flexner and his allies, the report that would ultimately bear his name was the first requisite step in professionalizing and standardizing not only medical education, but the entire field of American health care. This was the culmination of work from the American Medical Association (AMA), an organization that had been fighting for half a century to gain control over the training and practice of doctors. Now with Flexner's report, the AMA, whose prior work had spurred Flexner's findings, put itself in a position to be the final arbiter regarding what a school must prove to be worthy of graduating "credentialed" physicians. Many schools did not make the cut and quickly died a natural death. Many doctors—women, blacks,

alternative practitioners, those without certified education—lost their ability to practice medicine. In an instant, because of Flexner, the entire medical landscape changed.

Flexner believed that it was about time that American health care followed the European example and adapted a rigorous scientific approach to education. And it was at Hopkins he hoped to drive in the first stake of a grand new program of reform. As he finished his single slice of toast and coffee, Abraham Flexner prepared to meet with Welch, an ally of his, and the most powerful man at Hopkins since Sir William Osler retired. Doctors Welch and Osler had personal enmity for each other and proclaimed very different visions about what health care, and specifically Johns Hopkins' mission, should encompass. One of American's premier medical institutions, Johns Hopkins stood at the forefront of the medical world, but both Welch and Flexner knew that it could be even better. With Osler gone, and with both Flexner's report and the promise of large amounts of corporate money in his back pocket, Dr. Welch now could do as he had always hoped. He would conspire today with Abraham Flexner to transform Johns Hopkins from a clinical institution that taught students how to care for patients to the nation's most prominent research facility, replacing clinical staff with full time scientists, and instituting a rigid curriculum for students that emphasized a pursuit of pure science, a curriculum (based on Flexner's recommendations) ultimately that every credentialed school would be compelled to follow, and one that largely has remained intact even today.

To exorcize the ghost of William Osler from Hopkins, Welch needed money and a template, and on this day in Baltimore, Abraham Flexner was prepared to offer him both. Now working for the Rockefeller Foundation, Flexner promised Welch with enough money to hire full-time research faculty, increase lab facilities, and institute a rigorous 4-year scientific curriculum. With Osler gone, William Welch could have his way.

Osler had established a program of clinical instruction, in which community physicians like him and his colleagues trained Hopkins students. As Osler said, "Medicine is learned by the bedside and not in the classroom. Let not your conceptions of disease come from words heard in the lecture room or read from the book. See, and then reason and compare and control. But see first." Osler not only reformed Hopkins and transformed it into a premier medical institution through his novel bedside patient-centric approach to teaching, but he did it with part-time instructors who were actual doctors and made their living by seeing patients. While he valued research and teaching, he believed that both were subservient to an education obtained in the real world by working with real patients. "He who studies medicine without books sails an uncharted sea," he said. "But he who studies medicine without patients does not go to sea at all." Osler never did any research on his own; he published books and gave lectures around the world about how to take care of patients, and how to raise a new class of physicians who would be expert in patient care. Hopkins was his grand laboratory for change.

William Welch despised Osler and sought to move Hopkins away from the community and into the lab. As a pathologist and a disciple of the scientifically-oriented German school of thought, he believed that clinical teachers were no more than greedy hacks who would sully students and prevent them from achieving medical greatness. Osler held sway at Hopkins, at least while he remained. But once he retired, his hand-picked clinical colleagues lacked the influence to maintain Osler's vision. Welch slowly drove them out, one by one, replacing them with scientists. When Flexner approached him with money and new method of education—one that Welch himself help to formulate through his position at the helm of the AMA—Welch now had the power and authority to entirely expunge Osler's stamp from Hopkins. He hired full-time faculty and fired all the clinical staff, including many of Osler's friends. Students now received their education in the class, in labs, and on the wards, not with patients in the community. They were taught by doctors who did not practice medicine but who merely read and researched it. All of this happened rapidly once Welch and Flexner shook their hands and made a deal on that chilly fall day in 1911. Hopkins was entirely transformed, and a new epoch of medical education began.

But 3500 miles west in London, Sir William Osler was fuming mad. A man known for his biting wit, his sardonic insults, and his medical genius, Osler had laid the path of modern medicine in America through his teaching and writings. Now, with Flexner's report taking root at Hopkins and elsewhere, all that he held dear was being threatened by the very man now glibly eating a piece of toast in Osler's city of Baltimore, a man who knew nothing about patients or medical care, a man prepared to exterminate all that Osler had accomplished for his profession by allying with no other than Osler's nemesis, William Welch. So, Osler wasted no time; he found his allies and used his influence to save the very field and institution to which he had devoted his life.

The struggle between Osler and Flexner set medical education and the entire health care industry on a trajectory that continues to this day. Not much has changed since the battle ended. One of the men continues to be quoted and well known, although his ideas have evaporated from our medical horizon. That is William Osler, whose books and innovations are thought to have initiated the birth of modern medicine, but whose soul was permanently shattered by the battle that commenced. The other was Abraham Flexner, a man known to very few, neither a physician nor a person with any knowledge about health care, but one whose report on medical education stamped a template upon medical care in America that we use even today. Its message is the very antithesis of what William Osler had so passionately advocated, and the changes it sparked transformed health care from a field devoted to the patient, as Osler so desperately endorsed, to one devoted to science alone and to the corporate foundations that funded scientific pursuits. And when we look at the proliferation of low value medical care today, at the trillion dollars of health care money that is squandered every year on medical interventions that help no one, at the generic medical school curriculum that emphasizes rote memorization and irrelevant sciences instead of critical thinking

and patient-centered care, we owe all of that to Flexner. Osler's vision was just the opposite of what we have today. And upon Osler's ashes, the medical system took a jagged turn and went far off course.

Medical care in America sat on a precarious spire through the latter part of the nineteenth century. Most medical schools were diploma mills with few standards, and those who could pay were able to obtain a degree. Hundreds of such schools were scattered across the country, producing far too many doctors as was necessary. (B12) Educated people typically eschewed the medical field; a survey in 1851 showed that from top colleges 26% of students became clergymen and lawyers, and only 8% became doctors. The salaries were low and the competition for patients fierce, a situation that remained in tact at least until 1900. (G82-4) The result were poorly trained doctors who held no mastery of their skills. A popular book in the 1880's, *The Physician Himself*, by DW Catheell, encouraged doctors to be more concerned with showing an image of competence rather than actually being competent. According to Paul Starr, "Cathell's guide reflects the exceptional insecurity of the 19th center doctors, their complete dependence on their clients, and their vulnerability to competition from laymen as well as colleagues." (g86-8)

In many ways to counter the beleaguered state of health care, a group of physicians in 1846 started a small organization called the American Medical Association (AMA). Meeting in New York, these doctors orchestrated a national organization whose goals were to raise and standardized medical degrees with the aim of improving the caliber of practice, decreasing the physician pool, and increasing doctor salaries. Throughout the century, the AMA met only once a year and remained small, exerting most of its influence on state medical societies. By accommodating with other forms of medical practitioners, especially homeopaths and eclectics, and by becoming a confederation of local medical societies instead of a top-down voice of change, the AMA gained members and influence. It also consolidated medical licensing state by state, (G90-112) setting standards by which physicians would be required to practice. This went a long way toward creating a set of licensed doctors would could now distinguish themselves from the mass of untrained practitioners dotting American's medical landscape.

The AMA's rise was not beneficial for all physicians, nor necessarily for patients. African-American doctors, unwelcome in many local medical societies, became marginalized, unable to obtain credentials. Similarly, women and doctors who practiced non-orthodox medical care, such as chiropractors, were excluded from those able to be credentialed. At this juncture, the AMA never elucidated a vision of health care that encompassed science and patient-centered care as the core of a viable medical system; its concrete objectives were much more nuanced and vague. It essentially was more a trade association that imposed laws and restrictions that were favorable to its members. Only in 1900 did it begin to see the advantage of "touting itself as a

promotor of scientific education" to advance its agenda. (H2-3) In fact, even as late as 1906, the AMA promoted a pharmaceutical policy that on the surface sought to remove sham drugs from the market, but in reality promoted a regulatory system to "withhold information from consumers and re-channel drug purchasing through physicians." (G129-32) The ultimate intent of the AMA was not necessarily to improve the drug market, but to make sure that doctors have control over it, so as to increase the power of physicians in health care delivery.

But one ingredient was essential for the AMA and its licensed physician members to improve their status: better control of medical education. And that is the crux of the Flexner – Osler conflict. As long as medical schools remained unregulated, as long as they could proliferate without any rules or standardization, as long as diploma mills and substandard schools could produce large numbers of poor physicians, then American doctors could not achieve the status, money, and exclusiveness that the AMA sought. And as long as the AMA did not directly control the apparatus of medical education, then the less its influence would be over the health care delivery system. The AMA sought to cultivate a landscape with fewer schools training fewer doctors that were directly controlled by the AMA's regulatory system. To that end, in 1904 the AMA established a council of medical education, formulating minimal standards that should be implemented in all medical schools. In 1906 it inspected all 160 medical schools and made judgments about which ones (82 in all) met minimal standards. But it kept its findings secret, fearful that any judgment it imposed on medical schools would be viewed as being self-serving, (G11-18) which of course it was.

To appear more objective, the AMA commissioned the Carnegie Foundation essentially to repeat its survey of medical schools and render an opinion about which schools met standards, so as to get "independent and presumably disinterested support for its efforts." (B73) By 1908, when the AMA sanctioned this second survey, medical education had already been improving on its own, primarily due to state regulations and also the high cost of providing of running a school. The 450 schools training doctors in the late 1800's had already been whittled down to 150. Many schools were already undergoing reforms to improve themselves. Many other schools remained marginal; they did not have any lab equipment or hospital affiliations, some even had sparse curricula and were situated in one room homes. 60% of schools did not have requirements for admission, only an eighth of the schools required two years of colleges, and many remained for-profit institutions. (B70-1) The Carnegie Foundation, led by Henry Pritchett, had similar concerns about medical education as the AMA, so their collaboration made sense. (B 73)

Many in the Carnegie Foundation touted the German model of medical education as a good template upon which any recommendations should be made. German schools utilized a hard science curriculum; students were well versed in chemistry, physics, biology, and math, and this provided the crux of their education. Labs and classroom

work constituted requisite ingredients of education; clinical experience was far less important. The goal was to develop a very rigid science-based curriculum that would be the same in every American medical school without variation, emphasizing lab science, qualifiable data, and a view of disease as a scientific entity that was not patient-specific. (I598) To orchestrate and implement the survey, Pritchett chose Abraham Flexner, an unknown former educator, a man with no medical training or background, but someone who adhered to the German model. Flexner also had a famous physician brother at Johns Hopkins, and the Carnegie Foundation had very close ties to that school and its president, William Welch. Welch, a pathologist, had transferred Hopkins into a living example of the model medical school that Carnegie and the AMA espoused.

But why Flexner? Why not a medical doctor or someone privier to the controversies in medical education? Or even someone who had set foot in a medical school? According to one source, Pritchett's hiring of Flexner was "one of the strangest appointments in education history." But Pritchett was counting on the AMA to lead the actual effort, with Flexner being more of a figurehead who followed the AMA roadmap. (B68) But Flexner was not a type of man who liked to be directed. As someone who had lived in Germany, who graduated from Hopkins, and who had experience in education, he had very established ideas about what he hoped to achieve with his survey. He made very profound decisions about many schools by only spending a few hours studying them. After consulting with doctors from Hopkins and others in the AMA, his report would do more than just set standards for medical schools; it would profoundly alter the very foundation of American medical education and practice, a legacy we will live with today, over 100 years later.

Who was Abraham Flexner? Born in Louisville, Kentucky in 1866 he was a son of Jewish German immigrants. He received a Bachelor of Arts at Johns Hopkins after only two years. He moved back to Kentucky where he founded an experimental school based on the German model, a school that ultimately failed. He met his wife, Annie Crawford, a former student in his school, and she ultimately became a successful Broadway playwright, bringing the couple to New York. Buoyed by her income, he then studied psychology both at Harvard and at the University of Berlin, never receiving a degree. While in Germany he was influenced by Fredrich Paulsen, a leader of the German school system, who believed that American education was not sufficiently serious and fact driven. Like German physician Fredrich von Mullen, from whom Flexner also learned, Paulsen advocated a stringent gymnasium system of learning whereby teachers taught students through a very formulaic and scientific fact-based curriculum. (B59, 91) After returning to New York, Flexner landed a job with the Carnegie Foundation through his brother Simon, a medical researcher at Hopkins and a good friend of Henry Pritchett's. (A63, B63)

The President of Johns Hopkins medical school, William Welch, a pathologist who also adhered to the German school of education, happened to be the president of the AMA

at this time. Welch and Simon Flexner were good friends, and Welch was also connected to the Carnegie Foundation and supported its proposed survey of medical schools. Welch had co-authored the AMA's report on medical education in 1907 with Simon Flexner, a report many people think that Abraham Flexner's report is based. Welch believed in a rationalistic and scientific view of medical education: if students can master science, they can figure out a patient's diagnosis and treatment without necessarily seeing or speaking with the patient. They just need data. Welch felt that medicine was a branch of pathophysiology, the science of studying the human body's operating system. He also insisted that all doctors, and all teachers, needed to be proficient in lab science rather than clinical skills; the vector of treatment for Welch ran from the lab to the bedside. In other words, doctors need only understand science and engage in research, and they will then be able to diagnose and treat diseases. (I599) As a corollary, Welch was adamant that all medical educators should be full time lab faculty; the clinical faculty (those who actually practiced medicine) were too busy and not sufficiently qualified to teach, he said. (K1860)

Abraham Flexner attacked tasks with purpose and an unbending agenda. Although often funny, and a person who enjoyed teasing colleagues, he also could be brutal and one-sided. He was known to be verbally abusive, scornful of compromise, self-centered, and only receptive to ideas and suggestions that mirrored his pre-conceived notions. (B2,3). Said one source, "Flexner did not tempter his language to please readers—a quality that was to become typical of Flexner's style. He was as tenacious as a bulldog in holding to his positions." (D64-5). And what were his positions regarding the report he was charged to write? Clearly, Flexner derived many of opinions from the people at Hopkins and the AMA with whom he conversed, people like Welch and his own brother, who believed that research and science must be the bedrocks of all medical schools, that faculty must be research based and full time, that schools needed to have a uniform science-based curricula, and that AMA would henceforth regulate medical schools and its graduates to ensure compliance with very strict, unwavering regulations. In other words, his report would match his own personality, and reflect the German-focused vision of William Welch and the program he had constructed at Johns Hopkins. In fact, Hopkins became Flexner's model school.

Flexner felt that two-thirds of the schools were hopeless and should not be allowed to survive, and that most of the others needed significant reform. All but two African-American schools were told to shut down, and the remaining two were expected to train black "practitioners" whose main job was to care for the black community and assure that they don't spread disease to whites. Said Flexner, "The practice of the Negro doctor will be limited to his own race, which in its turn will be cared for better by good Negro physicians than by poor white ones. But the physical well-being of the Negro is not only of moment to the Negro himself. Ten million of them live in close contact with sixty million whites. Not only does the Negro himself suffer from hookworm and tuberculosis; he communicates them to his white neighbors…. The Negro must be

educated not only for his sake, but for ours. He is, as far as the human eye can see, a permanent factor in the nation" (Flexner report) Similarly, all schools that trained women, and all that trained alternative doctors, were eradicated by Flexner's report. Those schools deemed salvageable all were primarily white institutions with close ties to the AMA. If they complied with the report's recommendations regarding curricular, structural, and faculty reform, then they would be accredited by the AMA's Association of American Medical Colleges, be eligible for philanthropic funding from groups like Carnegie and Rockefeller to help defray full-time faculty and structural cost, and look to Hopkins as a model of how to succeed. (H2)

The report was front page news across the country. The New York Times headline stated that most medical schools were "Factories for the making of Ignorant Doctors," lauding the Carnegie Foundation for uncovering the basest features of medical education and practice in the United States. (B69) No organization or newspaper said much about Flexner or his motivations, linked the report to Hopkins or the AMA, or questioned the report's conclusions. The report, it was believed, represented a milestone in American medical care, a turning point whereby the health care delivery system in this country would be purged of its most corrupt and loathsome elements. The response was fairly uniform adulation.

The focus of the report, and the model of what a reconstructed American health care system would look like, could be found at Johns Hopkins. Medical schools now looked to Baltimore for guidance, to William Welch, and to the German model. All doctors henceforth trained and credentialed in America would be scientifically oriented and experts in research. They would be taught by full time researchers, not clinicians who saw patients. And they would follow a science-based pre-medical and medical curriculum uniform in structure. But in reality, a purely scientific bent to medical education did not reflect the reality of Johns Hopkins. Hopkins was much bigger and broader than how Flexner portrayed it, mostly because of the tremendous presence of William Osler, the most respected and well-known doctor in America, who now was knighted and retired in England. His legacy was the blood and soul of Hopkins Medical School.

"It is much more important to know what sort of a patient has a disease than what sort of disease a patient has," said William Osler as he and his contingent of practicing physicians taught the medical students of Johns Hopkins through the late 1800's. "Listen to your patient, he is telling you the diagnosis." To Osler and the clinicians of Hopkins, the vector of education ran from the patient to the lab; students learned from seeing and working with patients, not from research or lectures, and then brought that information back to the scientific theater. Teachers needed to be practicing physicians, and students needed to learn at the bedside. Osler believed in the very opposite ideals of his nemesis William Welch and of the German school. And until his retirement, Osler's word was law at Hopkins.

William Osler was born in Ontario, Canada in 1849. After graduating from medical school in Canada, and working at McGill, he was recruited in 1889 the be the lead physician at the new Johns Hopkins Hospital in Baltimore, and in 1893 he helped create and lead the new Johns Hopkins Medical School. He essentially created the school from scratch, designing a curriculum based on his primary dictate: that students learn only through immersion in direct patient care. To that end he eschewed a focus on science and the lab, and he hired as instructors practicing physicians in Baltimore. From the day they entered the school, students interacted with patients, an act that became their only forum of learning in the third and fourth year. To further their clinical proficiency, Osler invented the residence, whereby after graduating from medical school, new doctors would essentially take apprenticeships for several years before going off to practice on their own.

While men like William Welch did expose students to lectures and lab work, this was not the focus of Hopkins. Said Osler, "I cannot imagine anything more subversive to the highest ideal of clinical school than to hand over young men who are to be our best practitioners to a group of teachers who are ex officio out of touch with the conditions under which these young men will live…" To Osler, researchers and scientists should not teach medical students; this, after all, was the very lifeblood of Hopkins' Zeitgeist. (C387-9) The thrust of Osler's educational focus was to emphasize problem-solving and critical thinking skills, and the evaluation of medical information through directive observation of and interaction with real people, whose problems not only were medical but were socio-economic and cultural as well. He specifically rejected the "inculcation of facts through rote memorization" and the assumption that one could apply scientific dogma to patients without knowing the patient first. (F6-8)

When Osler left Hopkins in 1905 he was not only the primary driver of Hopkins' medical educational philosophy that vaulted the new school to the very pinnacle of American medical institutions, but he was also a national celebrity, having authored the widely read *The Principles and Practice of Medicine* and given lectures all over the country. He retired to England and left the cherished institution he created to his many clinical colleagues and friends.

But to William Welch and the scientists at Hopkins, a different type of school was needed to push Hopkins into the new age of medical education, one based on science, one in which full-time researchers and scientists taught students, and one in which practicing physicians (who men like Welch felt were greedy and contemptuous for earning money by seeing patients) were absent from the faculty. Welch was a powerful man, he was President of the AMA, he helped to write the first national review of medical schools, he had connections at the Carnegie Foundation. And he helped Flexner turn Hopkins away from a clinical institution to one that was inexorably married to hard science, research, and an inflexible curriculum based on the German school of thought.

By painting Hopkins as his model school, Flexner was in fact looking at a Hopkins that existed not in the realm of reality, not in the blueprint of its founder and primary architect, but rather through the stilted lens of non-clinical researchers like Welch, who sought to increase their power and influence now that Osler had slipped away. That Hopkins was the type of school that Flexner revered is a great absurdity; in many ways it was the very anthesis of the rigid science-based bastion of learning that Flexner sought to promote in his report. But by painting the school using brushes and canvas supplied by Welch, Flexner in essence altered the very heart of Hopkins by making it comply with what he believed it already was.

From his perch in England, Osler did not stay subdued for long. Known for his fiery personality and pointed wit, he immediately conferred with his clinically-minded friends still at Hopkins, many of whom were being threatened by Welch with dismissal and demotion. Osler rejected Flexner's conclusions, believing that researchers should be in research institutions and not medical schools because they were poor teachers and they lacked the ability to enable students to learn how to practice medicine and interact with patients. (I600) He read the report "as a brutal and ignorant attack on his staff, his principles, and his sense of professionalism." Osler did not understand how faculty could be composed of anyone other than physicians actively practicing the art of medicine. "We chance the sacrifice of something that is really vital, the existence of a great clinical school organically united with the profession and the public," he said. He believed that the report will "likely spell ruin to the type of school I have always said should be and which we have tried to make it…," a place of refuge for the poor, a place where the best that is known is taught to the best students, where "men are encouraged to base their art upon the science of medicine…." Stating that Flexner had a "very feeble grasp of the clinical situation at Johns Hopkins Hospital" and that the institution was "more brilliant from the clinical side than the laboratory side," he felt that the report would diminish the educational experience of its students drastically. "The danger would be of the evolution throughout the country of a set of clinical prigs, the boundary of whose horizon would be the laboratory, and whose only human interest was research, forgetful of the wider claims of a clinical professor as a trainer of the young…." (C385-88)

Osler and others fought back as best they could. He wrote to Welch and to his clinical colleagues, asking them to repudiate the report, and not move Hopkins and the entire medical educational establishment in a direction he knew to be deleterious to the field. At Harvard, Francis Peabody, another clinician who was trying to inculcate medical education with real-life experiences, similarly assailed the Flexner report. Peabody who famously stated that "The secret of the care of the patient is in caring for the patient," (F20) felt that Flexner's approach "weakened the soul of the clinic." He, like Osler, sought a less rigid and lab-based means of teaching students how to practice medical science that focused on actual patient care rather than theoretical scientific theories that may not apply to the individual patient for whom they were caring. (B15) They both

believed that Flexner's report "fossilized medical education into following a standardized format" that moved so far away from patients as to be useless in training competent physicians. (H3). Said one author: "Osler and Peabody recognized the danger of reducing the patient to simply a pathophysiology characterized by laboratory tests" while fearing that such a parochial focus blinds doctors from "the broader contextual issues that so often play a crucial function in disease." (I600-1)

But there were larger forces afloat than merely a few men who fought over medicine's direction. Despite the experience, status, and wisdom of men like Osler and Peabody, their words evaporated in the report's wave of acclamation. In fact, although Flexner's report did reflect what he and others believed to be the most logical path upon which the American medical system needed to tread, replacing corruption and incompetence with the scientific rigor of the German school of thought, the report was also a tool used by others to achieve a very specific agenda. Not only did the AMA gain power and notoriety by now grabbing the reigns of American medical education and licensing, but other corporate philanthropic groups like the Carnegie Foundation, who sponsored Flexner's study, and the Rockefeller Foundation, where Flexner worked for much of his subsequent life, had carefully crafted the report to create an American medial system that met their needs and expectations.

For the next 15years of his life, Flexner worked in the Rockefeller Foundation general education board, dictating which schools would receive foundation money and which would not. During that time, he approved the donation of half a billion dollars to schools that met all the rigid criteria of his report and in the process "profoundly altered the medical education landscape;" the schools that did not follow Flexner's script received no money and could not afford to stay afloat, (B1) failing too to be granted requisite accreditation by the AMA. As one author states, "Money was power, and contributors to medical education knew that." (F12)

What was the agenda of groups like the Rockefeller foundation, and why did they buy into Flexner's model? Essentially, their hope was to create great bastions of medical research, whereby American medical institutions could engage in scientific study that matched that of Europe and created breakthroughs that would advance the medical industry and, undoubtedly, generate financial gain for the foundations and their parent corporations. These foundations had very specific agendas for the many schools they sponsored, and their donations were tied to the realization of those agendas, which typically required moving the schools from a clinical direction to one that was purely scientific and lab-based. (F12) Schools had to eliminate clinical faculty, hire full-time science based faculty, emphasize basic science research in their teaching, and adhere to the very rigid science-based curriculum that Flexner laid out in his report. This instigated bitter struggles between old line clinical teachers like Osler who used to have clout, and the newer research scientists who were now taking over. Full time faculty

could only exist if the schools were subsidized, and these large foundations were happy to pay the schools so long as the schools adhered to their rules. (B21-3)

As the tide of funding and accreditation became clear in the years after Flexner, most schools accommodated to the new reality. As clinical professors disappeared from these schools, full-time researchers took their place. The foundation leaders—who were in fact agents of the large corporations who funneled money to them—then dictated to these schools the forms of research they desired. Hence began a cycle in American medicine in which clinical skills fell prey to basic science, and in which corporate entities dictated the direction of medical education and medical practice. "Whether their motives were shrewd business instincts or noblesse oblique, the influence of these industrialists and financers was profound, some would say pernicious." (B19) Within years, the clinical institution that Osler always envisioned, ones in which patients and clinicians taught students, and in which students would leave the school with both a scientific and humanistic knowledge of disease and treatment, completely vanished from the medical landscape. Osler's name remained well-known and respected, but Flexner's ideas won the day. All this occurred because the corporate boards gained enough power to impact the direction American medicine would flow. "Though the board represented itself as a purely neutral force responding to the dictates of science and the wishes of the medical schools, its staff actively sought to impose a model of medical education more closely wedded to research than to medical practice. These policies determined not so much which institutions would survive as which would dominate, how they would be run, and what ideals would prevail." (B121)

On that chilly day in 1911, when a well groomed and stern-faced Abraham Flexner walked through Baltimore to meet with William Welch, he planned to describe to Welch a plan that both men had already conspired to create. Flexner had been working with Frederick Gates of the Rockefeller Trust, who wanted to provide Hopkins with a $1 million grant if the school transformed to the model school described by Flexner's findings. Essentially, Hopkins would be the nation's premier research institute, with salaried researchers paid in part by the grant spearheading all teaching responsibilities, with all students following a rigid curriculum focused on science (A74), and with strict guidelines for admission and graduation. The clinical realm championed by Osler and his colleagues would be relegated to a footnote. Clinicians "have long ceased to be scientifically significant…. Whether the extremely prosperous physician or surgeon should have a place in such an institute as the Johns Hopkins Hospital seems to me most doubtful," said Flexner to Gates. (C-381)

In the realm of large foundations like Rockefeller and Carnegie, medical schools served as the best repositories of research and the production of scientists, upon which these companies were focused. Often, they sought to promote research pertinent to their own corporate interests. In fact, under Flexner's new guidelines requiring full-time faculty

and ample research facilities, schools needed foundation money if they were to survive. As a result, within a decade all medical schools became dominated by researchers and not clinical physicians and teachers. “Many have argued that this was a mistake. They would have preferred to see only a few schools like Johns Hopkins training scientists and specialists, while the rest, with more modest programs, turned out general practitioners to take care of the everyday ills that make up the greater part of medical work. But this was not the course that American medical education followed….” (G123)

Despite emphatic and frequent protests from Osler in England, the world that he created at Hopkins and beyond quickly dissolved. His colleagues were fired and replaced by a purely research-based staff. No longer did clinicians teach students, and no longer did students learn from their patients, as Osler so vehemently insisted. Welch readily accepted the million dollar grant from Rockefeller, and spearheaded a dramatic transformation in medical education and practice that relied on Flexner’s template, the AMA’s leadership, and Corporate dollars. Flexner went on to spend most of his career working for the Rockefeller Foundation.

The other winner in the battle for medicine’s soul was the AMA, which stood as the only organization capable of assuring that Flexner’s vision was properly implemented and executed. After Flexner, “the AMA would largely control medical school accreditation which would become bureaucratized and sclerotic. It also became the officially recognized entity authorized to speak on behalf of all physicians.” (H3) Because doctors had to be licensed, and because licensing was controlled by the AMA, and because only AMA sponsored medical schools could graduate certified physicians, the AMA in fact controlled the global American medical system, and in many ways it was beholden to corporate foundations that help fund them and the schools. Flexner himself believed that medical education and practice would change and grow as times changed. “The flexibility and freedom to change—indeed the mandate to do so—was part of the system’s mission from the very beginning. Contrary to popular myth, the system was always intended to evolve.” (F25). Unfortunately, groups like Rockefeller and the AMA were not interested these changes.

Today, medical schools, and the entire health care network in this country, reflect the legacy of Flexner. As one author stated, “The practice of medicine was seen as a rigorist science with clear answers to defined questions, the foibles of patients being the province not of the laboratory-trained physicians but of clergymen and social workers.” (K1860-1) The medical system would now focus on “disease organically defined, not on the system of health care or on society’s health more generally.” Patient-centered care, prevention, and the nuances of disease all were extirpated from training as a very parochial view of science as fact reduced medical education to a technical pursuit. (F25). Using a narrow set of courses in chemistry, physics, and biology to determine which students best qualified to be physicians, and then teaching students the science of the human health through a set curriculum that today is nearly identical to the one

recommended by Flexner, medical schools have moved far away from the vision of Osler. Humanistic qualities, critical thinking, and a patient-focused approach to care have lost all significance both in the selection of students and in their training. “Isn’t it astonishing that the medical school curriculum structure has remained unchanged for more than 100 years? And if we omit the ‘dynamic sociological encounter between patient and physician’ [as Osler advocated], is it any wonder a health care crisis would emerge?” (H3)

The legacy of Flexner’s report and the rise of the AMA has left many scars with which we are living today. On the positive side for physicians, many charlatan practices have disappeared, and physician competency and income increased considerably. In 1900 the average doctor earned $750-$1500. By 1928 they were already earning on average $6354, with salary escalating continually due to a deliberately low physician supply and strong advocacy by the AMA. (G142)

But the physician class changed dramatically. Now only one, scientifically-based model of medical care predominated; the field became quite homogeneous and dependent on a scripted formula of practice to achieve success. The increased cost of medical education, required to help defray costs for full-time faculty and research facilities, eliminated all but the wealthy from the ranks of medical students. And Flexner’s report and its ramifications triggered deliberate policies of discrimination against women, African-Americans, and Jews. (G124) Only two African-American medical schools remained, and the black doctor only survived through the efforts of the newly created National Medical Association (NMA) which sponsored a parallel black medical system given the pervasive bigotry sewed into the AMA and the American medical system it helped to create.

The other casualty of Flexner was the slaying of Osler. Today many people know Osler, or at least have heard the name. Virtually no one has heard of Flexner, the Rockefeller and Carnegie Foundation, or men like William Welch. Yet Flexner’s report and its subsequent embrace by the AMA, charitable foundations, and established medical schools like Hopkins have secured Osler’s irrelevance to the practice of medicine and the training of physicians. Researchers and specialists have trumped clinical generalists, the very physicians Osler’s bold reforms were promoting as the cure to health care’s ills at the turn of the century. After Flexner, researchers were “regarded as of greater intellectual worth than clinical practitioners which, not lending itself to grants, publications, or academic glory, was deemed a lesser calling.” Even when schools trained non-research physicians, the emphasis on clinical education revolved around specialization and a scientific view of disease. (K1861) According to historian Howard Berliner, Flexner’s “language leaves little doubt that he held the mass produced ‘family doctor’ in low esteem and he considered the new standard among physicians to

be the highly scientific and sophisticated clinicians molded in the Hopkins environment of its equivalent." (B15)

In 1984 an AAMC report recommended changes in medical education that would move clinical medicine beyond the narrow confines of Flexner's report, changes they predicted would take root within just a few years. These were to:

- Develop analytic skills and instill patient-centric values into the curriculum.
- Encourage a broad liberal arts pre-med education
- Emphasize critical thinking over memorization
- Ensure that clinical clerkships encourage respect and concern for patient values
- Reward doctors who are educators. (I598)

Needless to say, none of those reforms transpired. Pre-meds are required to focus on science, and the Medical College Admission Test (MCAT) requires memorization and regurgitation of a large quantity of purely scientific data. Even through medical school, memorization, not critical thinking, is the skill that is necessary for testing success. Virtually no generalists teach students, and students are exposed almost entirely to specialized highly-scientific medical practices and ideas. Most significantly, patient-centered care as advocated by Osler has become a token gesture rather than the crux of all medical education.

We are indeed in a health care crisis. In our country we spend a trillion dollars of health care dollars for interventions that have been shown to be ineffective or even dangerous. Almost 50% of all we do as doctors is considered low value. Despite all we spend on health care, we rank among the worst in outcomes among all industrial countries. We are a nation of specialists, of high-tech medical practice, and of excessive drug use. Virtually all research is financed and controlled by industry and is conducted within medical schools whose research faculty are dependent on industry to survive and thrive, thus leading to conclusions that are sullied by self-interest. Patients feel frustrated, and their needs often fall prey to generic protocols and an emphasis on rigid scientific dogma. Students continue to be trained as scientists and not as physicians. Said one historian, "The Flexner Report… has taught us the danger of establishing a confining (and ultimately damaging) standard" in medical education and practice. (I601)

Can our health care delivery system ever change? To do so, we first must understand why it has moved so far off the rails of common sense and medical sanity. Today, over 100 years after Flexner, we should ask why we have not changed yet. Are there too many people and organizations benefitting from the current system? Do medical thought leaders believe that Flexner's formula is still the best one for our health care delivery system? Or is it perhaps inertia and a lack of understanding of what needs to be fixed? In the end, we should peak back to a time before Flexner and grasp what William Osler had already gifted to the medical world. When read today, Osler's words and ideas make sense. Certainly, if we are ever to transcend the health care mess in

which we are embroiled, me must understand and embrace Osler and finally acknowledge the flaw of Flexner's errant course.

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Review Questions

Answers on next page

1. Which statement below best summarizes the European or Flexner approach to medicine?

a. Medicine is entirely scientific. As long as doctors gather enough data on the patient and are well enough trained, they will make the correct diagnosis and prescribe the correct treatment
b. Medicine is entirely an art. Tests and data are irrelevant since each patient is unique
c. Medicine is a combination of science and art. Doctors need to combine patient hard data from tests with wisdom and experience
d. Medicine is a religion. As long as patients believe strongly enough, they will recover from their medical ailments

2. Who said “It is much more important to know what sort of a patient has a disease than what sort of disease a patient has…Listen to your patient, he is telling you the diagnosis.”?

a. William Osler
b. Abraham Flexner
c. Alfred E. Neuman
d. Albert Einstein

3. Which type of physician would you prefer to diagnose and treat you: one trained in the Flexner style or one trained in the Osler style?

a. Flexner
b. Osler

4. How can a patient determine which type of physician – a Flexner or an Osler follower – treats them?

a. By interviewing the physician before receiving care. Note that this requires that the patient be well informed (medical definition) about care and treatments
b. There is no good mechanism available today to help patients make that choice
c. By staying ‘in-network’ based on your health insurance plan
d. By getting all your medical care overseas

Review Questions

Correct answers in bold

1. Which statement below best summarizes the European or Flexner approach to medicine?

a. **Medicine is entirely scientific. As long as doctors gather enough data on the patient and are well enough trained, they will make the correct diagnosis and prescribe the correct treatment**
b. Medicine is entirely an art. Tests and data are irrelevant since each patient is unique
c. Medicine is a combination of science and art. Doctors need to combine patient hard data from tests with wisdom and experience
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2. Who said “It is much more important to know what sort of a patient has a disease than what sort of disease a patient has…Listen to your patient, he is telling you the diagnosis.”?

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3. Which type of physician would you prefer to diagnose and treat you: one trained in the Flexner style or one trained in the Osler style?

a. Flexner
b. Osler
c. **The correct answer is up to each individual patient**

4. How can a patient determine which type of physician – a Flexner or an Osler follower – treats them?

a**. By interviewing the physician before receiving care. Note that this requires that the patient be well informed (medical definition) about care and treatments**
b. There is no good mechanism available (either a or b can be correct)
c. By staying ‘in-network’ based on your health insurance plan
d. By getting all your medical care overseas

Chapter 5: Fundamental Problems with Medical Risk Management in Today's Health Insurance System

As Andy Lazris so eloquently discussed in the previous chapter, Abraham Flexner believed in science and facts. He idealized the then-cutting-edge German approach to medical education that focused on 3 laboratory based disciplines - physiology, pathology and bacteriology – at the expense of the humanities and experience. Science gives answers, 'facts', and the medical student's role to Flexnerians, is to collect them.[131]

The more facts the student accumulates, the better the student.

The better the student, the better the doctor.

The ideal physician accumulates as many scientific facts about medicine in general, and then the patient in particular, as possible in order to make the best diagnosis and treatment recommendation. Facts drive the process.

It's not even necessary to see the actual patient in Flexner's world. To quote Andy's comments on the German approach:

> if students can master science, they can figure out a patient's diagnosis and treatment without necessarily seeing or speaking with the patient. They just need data.

Or, stated differently, Flexnerians believe that the human body is a mechanical object to be understood and fixed when it malfunctions, a huge wall of knobs and dials that doctors optimize with medications, therapies and surgeries. Treating a patient essentially becomes the same as baking a cake or building a car. Cake too sweet? Dial down on the sugar. Cholesterol too high? Dial up on the statins. Knee pain? Arthroscopic debridement.

An extension of the Flexnerian mechanical world view is that there's always some way that medicine can improve the patient's condition, leading to the proposition that more medical care is better than less. Why settle for a *pretty* healthy patient when we can create, through science, a *very* healthy one?

This scientific-mechanical approach to medicine minimizes the problem of complexity, sidesteps the problem of overreach and ignores the issue of patient preference. Each independently poses a significant objection to this mechanical view of medicine. Altogether, they pose a mortal one. We'll explore below.

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[131] *Flexner's exact quote was 'The student is to collect and evaluate facts.' Abraham Flexner (1910). "Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching"*

The Problem of Complexity

The human body, as any practitioner or recipient of medical care knows, is north of unbelievably complex. Each medical intervention creates primary effects, side effects and rebound effects which may serve to mitigate the intended impacts. Statins, for example, have a primary effect of preventing heart attacks, which they do, on average according to Pfizer's estimates of patients without known heart disease but with risk factors, about 1% of the time. [132]

But statins cause diabetes about half as often. [133] Diabetes, in turn, can cause heart attacks. So the statin rebound effect ultimately negates some of the primary impact.

Michael Porter and Elizabeth Teisberg, in their massive Redefining Health Care treatise, summarized the medicine complexity problem. 'There are too simply too many dimensions of process to track and too much heterogeneity among patients,' they write.[134] Clinicians may tend to focus not on the most important medical variables but on those most easy to identify, quantify and affect.

Often these become 'guidelines', 'checklists' or 'established protocols.'

We humans, it appears, like guidelines and protocols. It's one of our foibles. Checklists help us reduce the number of potentially important variables to a manageable handful, help us target our investigations and streamline the medical diagnostic and treatment process. Guidelines help us avoid starting every patient analysis from the underlying biological and physiological principles, then reasoning toward a specific diagnosis and treatment. Protocols tell us which interventions commonly succeed with a particular type of patient.

Those efficiency gains are the good bits.

The bad bit comes from a second human foible: intellectual and bureaucratic inertia. Once we accept a standard approach, we tend to ignore contrary evidence, put blinders on in other words. Some research suggests that this is the reason it takes up to 10 years for a new medical process to become widely accepted even if it's clearly

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[132] See the Lipitor ad, Dec 4, 2007 Wall Street Journal. The small print, bottom left of that ad states '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.' This study was of patients without known heart disease. The number differ for patients with heart disease.

[133] See Statin Drugs Given for 5 Years for Heart Disease Prevention (Without Known Heart Disease), 2017 version by John Abramson on TheNNT.com.

[134] Porter and Teisberg, Redefining Health Care, page 87

scientifically based and clearly better than the old process, or even longer for an outdated one to disappear. [135]

In Flexner's model, physicians would, theoretically, constantly review and revisit guidelines and protocols to ensure their accuracy in the face of new research and information. But that's simply not what happens in real life. Our foibles – fatigue, complacency, greed, intellectual laziness perhaps - don't permit it.

As Atul Gawande summarized in his 2015 Overkill New Yorker article:

> 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.

Flexner apparently thought well trained physicians wouldn't take this approach; Gawande, the product of our Flexner based medical education system, admitted to it.

How often does this actually happen? Vinay Prasad answered that in a brilliant analysis of medical reversal. [136]

Prasad and his team 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 were scientifically fact based and that the medical community embraced.

363 studies qualified.

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.

The Prasad team's research shows that if you base your medical decisions on biology, physiology, anatomy and logic – *exactly as Flexner prescribed* – you are wrong about as often as you are right.

That strikes me as a pretty dismal report card on the Flexner / Germanic approach to medical education.

Porter and Teisberg attack Flexner's medicine-as-mechanics approach from a second point of view also. Mediocrity, errors and the important human / personal interaction factor in doctor-patient relationships go unaddressed. Even if two physicians have managed to master Flexner's scientific facts equally well, one may be a better medical

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[135] See Vinary Prasad, Ending Medical Reversal and Richard Pearl, Mistreated for more on these estimates.

[136] Prasad, A Decade of Reversal, Mayo Clinic Proceedings, August 2013

practitioner. Fact based knowledge and process compliance don't always lead to similar outcomes.

Consider cystic fibrosis treatment and outcomes. [137]

All CF patients receive care from one of 117 ultraspecialized centers that follow the same extremely detailed treatment guidelines. CF specialists attend the same conferences, shared the same knowledge base, focus on the same variables and facts, and treat patients the same way. But they generate different patient outcomes.

The two primary CF outcome metrics are lung function and longevity. The Flexner / German expectation would be that all centers would generate approximately similar outcomes on these two measures, within a fairly narrow margin. After all, they all use the same science and facts in their diagnostic and treatment protocols and treat similar patients.

But research shows that the 117 cystic fibrosis facilities generate quite discrepant outcomes. The average clinic, according to a 1997 study, generated patient life expectancies of just over 30 years. But the best managed 46.

Ditto for lung capacity.

That's only part of the issue. Perhaps the more astonishing thing is that one CF center routinely outperformed the others. It was at Fairview-University Children's Hospital in Minneapolis. (This is based on an early 2000's study, is likely out of date and I don't give cystic fibrosis treatment advice.) Patients at Fairview apparently routinely had lung capacities equal to the average non-CF population, higher than at most CF clinics.

How could a facility far outperform the average, and how could the same one outperform the average year after year? The answer appears to be some amorphous combination of physician-patient connections, a corporate culture that wouldn't accept sub-par outcomes and the personality of the director.

Flexner's mechanical model doesn't describe or account for these results.

But William Osler's does. 'The good physician', he claims, 'treats the disease. The great physician treats the patient who has the disease.' Medical excellence is only partially grounded in science and facts – those are necessary but not sufficient conditions. Excellence also requires empathy, interpersonal connections, clinician perceptiveness and a human connection that somehow, almost indescribably, adds therapeutic value. That's the art of medical care, present to Osler but missing from Flexner.

The difference between good and great to Flexner is some measure of scientific understanding and fact accumulation. The difference between good and great to Osler appears in other arenas like human connections, the non-scientific ones that medical education too often leaves out.

[137] This discussion comes from Atul Gawande's article The Bell Curve in his book Better, 2007.

But we've so far only discussed the 'complication' critique of Flexner's approach. Let's now turn to the treatment overreach objection.

Low Quality and Unnecessary Care

The US medical care system, and perhaps others with which I'm unfamiliar, offers an astonishing amount of poor quality care. I'll define poor quality in a couple of ways:

- Unnecessary care or waste: Care that generates no patient benefit according to comparative studies. In other words, outcomes from the control and treatment groups are the same or practically so.
- Low quality care: Care that generates some benefit to a clearly specified group of patients according to studies but that is offered to a wider group so likely generates no benefit to the wider population.

Consider statins to prevent heart attacks as a simple example.

TheNNT.com estimates the Number Needed to Treat (NNT) is 39 for people with known heart disease, meaning that for every 39 people with known heart disease who take statins for 5 years, 1 will avoid a heart attack.

The Flexnerian, caring physician might look at a patient *without* heart disease though and say 'This patient shares certain important biochemical and physiological factors with the studied group. I think patients without heart disease will also benefit though probably not quite as much' and prescribe statins to the wider group, expecting somewhat similar results.

But that's not the case, at least not by an order of magnitude. TheNNT.com estimates that only 1 in 217 patients without known heart disease will benefit by avoiding a heart attack over 5 years. [138]

Are 1 in 39 and 1 in 217 similar care quality? I think not. There seems to me at least, a qualitative difference here. I'll postulate as a thought experiment that if 1 in 39 is 'good quality care', then 1 in 217 is 'low quality care'.

And if 1 in 39 is 'low quality care', then 1 in 217 is 'unnecessary care or waste'. (Yes there's some benefit but differentiating value from waste at these levels strikes me like splitting hairs with an axe.)

And we haven't even considered the treatment risks.

Where would a caring physician, draw the line between high and low quality care, or between low quality and unnecessary? I certainly don't know.

[138] http://www.thennt.com/nnt/statins-persons-low-risk-cardiovascular-disease/

And neither, I'll postulate, does a Flexnerian, fact based scientist.

Extending this argument – that care generating reasonable quality care to a narrowly defined group might generate low quality care to a larger group – uncovers tremendous waste throughout our medical system.

David Cordani, Cigna's CEO estimates somewhat conservatively, that 'slippage' or care that should benefit patients but doesn't, accounts for at least 25% of all US healthcare spending but probably much more. [139]

Aetna, another huge national health insurer, says less conservatively on its website that

> Wasteful spending likely accounts for between one-third and one-half of all US healthcare spending. [140]

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'.[141]

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

This shouldn't happen according to Flexner's German school view. Physicians should accumulate all the facts and develop the right interventions. That's what science is all about – being right.

They shouldn't miss 30 – 50% of the time!

Let's put some meat on this low quality and unnecessary care bone by reviewing a 2018 Washington State study.[142] The Washington Health Alliance analyzed utilization and billing data from 2.4 million commercially insured patients and found that 45% of services delivered were wasteful. 45%!

Why does our system engage is so much low quality care? I think our human foibles are largely to blame. These fall into 3 general categories:

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[139] Cordani's Keynote Address at the 2015 Yale Healthcare Conference

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

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

[142] First, Do No Harm: Calculating Health Care Waste in Washington State, February 2018, www.wacommunitycheckup.org

- Physician role definition, basically 'this treatment *might* benefit my patient and I don't want to withhold any potential benefit'. We might call this the medical plausibility foible – 'it might happen';
- Tort issues, basically 'I might get sued it I don't do it'; and
- The Upton Sinclair insight that 'it's difficult to get a man to believe something when his salary depends on him not believing it.' That's why surgeons tend to recommend surgery, therapists therapy and urologists interpret PSA study results differently from the US Preventive Services Task Force.

None of these foibles fit Flexner's world view. They're not science and fact based.

But they're all human characteristics and all impact the actual practice of medicine.

And they all, in various ways, touch on the third major flaw in Flexner's approach, the problem of patient preferences.

Preference sensitive decisions

Unnecessary care to one person might be reasonable care to another just like in our statin example above. John Wennberg, founder of the Dartmouth Institute calls this a 'preference sensitive' decision, meaning that one patient might opt for the statins while another declines and **both may be right**. This is a tacit admission that there are rarely clear cut medical decisions.

Wennberg calls these relatively few obvious medical decisions 'effective care' defined as services that, on the basis of reasonably sound medical evidence, are known to work better than any alternative. [143] This group of treatments accounts, based on his research, for only about 15% of all medical care.

It's the category in which Flexner's analysis applies and probably flourishes. Examples include childhood immunizations, lifesaving drugs for patients with heart attacks, and regular blood tests and eye exams for diabetics.

A far larger category is 'preference sensitive' care meaning care for which there is more than one option and in which different people can make different decisions and all be correct. Preference sensitive care requires judgment to evaluate the risk-benefit tradeoffs. Wennberg estimates it's at least 25% of medical care. [144]

We've already discussed preventive services – statins as primary prevention. Now consider treatment for torn or injured rotator cuffs. A surgeon will likely recommend

[143] Wennberg, Tracking Medicine, pages 8 – 10, then Parts II and III

[144] Wennberg's definitions of 'preference sensitive' and 'supply sensitive' care overlap. According to some interpretations, 'preference sensitive' may describe 85% of medical care. The exact definition and amount doesn't matter for this analysis; it's a lot no matter how we define the terms.

surgery after examining the patient and identifying a rotator cuff tear. But a physical therapist, reviewing the same data on the same patient, might well suggest PT.

That rotator cuff situation arose for a student of mine. He recounted that he first saw an orthopedic surgeon who took an MRI, identified the cuff tear, showed him the picture and recommended surgery. 'I would have agreed to surgery' he went on to say, 'prior to hearing your discussions about preference sensitive decision making.' (See – there actually is some value to continuing education classes!)

'But I asked the surgeon if all physicians would agree with that analysis and recommendation.' (In other words, was this an effective care situation in Wennberg's terms?) The surgeon 'answered with a snort that some clinicians might suggest physical therapy but that would be a waste of time and that I'd be back in his office shortly thereafter.' (In other words, this was a preference sensitive decision.)

My former student decided to try PT and reported when next I saw him that his shoulder was pain free and that he had regained 99%+ range of motion – it might have been 100% but he wanted to be conservative - in the same time as surgical recovery but without the costs and risks of surgery. 'Thanks' he smiled as he relayed the story.

Was the surgeon wrong? Probably not. Surgery probably would have worked.

Was the patient right to ask about therapy? Clearly. Not only did it solve his problem but he preferred it. His choice defined the best medical treatment.

None of this makes sense in Flexner's the-human-body-is-a-big-mechanical-device world view. There's an answer in the Flexnerian world and the doctor's job is to find it.

But in the real world, doctors have foibles. They don't always diagnose and prescribe correctly because the human body is so complex. They frequently overreach because of their desire to help, combined with their economic incentives. And often misunderstand their patients' preferences.

Together these three problems doom Flexner and his Germanic approach.

Atul Gawande summarized the modern physician's role more appropriately by acknowledging that emotion complements science and that each patient has individual hopes, aspirations, fears and conditions:

> The ideal modern doctor should be neither paternalistic nor informative but rather interpretive, helping patients determine their priorities and achieve them.[145]

That approach, far more than Flexner's, warms my heart as a patient.

[145] Sheri Fink, Atul Gawande's Being Mortal, NY Times Book Review, Nov 6, 2014

Review Questions

Answers on next page

1. What is medical reversal?

    a. Stop providing medical care when studies show that it doesn't benefit patients
    b. Save a dying patient. In other words, reverse the biological process
    c. Have a different specialist undo the treatment you previously received
    d. Have a doctor change his/her mind as in 'I thought that Treatment A would help you but I was wrong, so now we'll try Treatment B.'

2. What is one definition of low quality care?

    a. Care that generates some benefit to a clearly specified group of patients according to studies but that is offered to a wider group so likely generates little to no benefit to the wider population.
    b. Cheaper care when more expensive care is available
    c. Care based on virtually any non-state of the art equipment
    d. Low technology care when higher technology care is available

3. What is the NNT or Number Needed to Treat?

    a. The number of patients who need to receive a treatment or test in order for 1 patient to benefit
    b. The number of physicians who need to treat a patient for the patient to benefit
    c. The number of times a physicians must perform a test or treatment in order to achieve excellence at it
    d. The number of patients a hospital must treat in order to avoid harming any

4. What is a definition of unnecessary care?

    a. Care that does not generate any patient benefit
    b. Care that does not generate any physician income
    c. Care that does not generate any hospital income
    d. More expensive care when less expensive care is available

5. What lesson can we learn from Atul Gawande's analysis of cystic fibrosis treatments?

    a. That beneficial medical care is a combination of science, art, human interactions and emotion
    b. That physicians who follow the guidelines most closely generate the best patient outcomes
    c. That physicians who ignore guidelines generate the best patient outcomes

d. That medicine is almost exclusively a science and the best physicians are those who understand the underlying biological, physiological and anatomical processes the best

6. What does preference-sensitive mean in medical care?

a. That different patients, with the same medical condition, can choose different treatments and all be right
b. That different patients, with the same medical condition, should always choose the same treatment
c. That there is 1 correct treatment for a given medical condition and dozens, perhaps, incorrect treatments
d. That doctors often prefer to give different treatments to similar patients simply to add variety to their professional lives

7. According to this chapter, is the human body a big mechanical device?

a. Yes
b. No. People consist of bodies and minds. The wisest physician understands this and seeks to engage both when prescribing medical care

8. This chapter suggested 3 reasons why physicians prescribe unnecessary and low quality care. Which below is not one of those reasons?

a. Physician hopes and role responsibility, basically thinking ‘this treatment *might* benefit my patient and I don’t want to withhold any potential benefit’
b. Tort concerns, basically ‘I might get sued if I don’t do it’
c. The Upton Sinclair insight that ‘it’s difficult to get a man to believe something when his salary depends on him not believing it.’ That’s why surgeons tend to recommend surgery, therapists therapy and some providers routinely recommend the most expensive interventions
d. The boredom defense, basically ‘I didn’t have a lot to do in the hospital that day to I decided to provide some unnecessary care to break up the boredom’

Review Questions

Correct answers in bold

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Part 2: Some Solutions to Common Health Insurance Problems

Moving Beyond Deductibles

Price Transparency

Chapter 6: Moving Beyond Deductibles

I originally wrote this chapter as a stand alone short book ‘Beyond Deductibles: How medical literacy programs reduce healthcare spending and improve employee health’ in 2017.

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 with plan design changes or ancillary programs but without this educational 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
- Several 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.

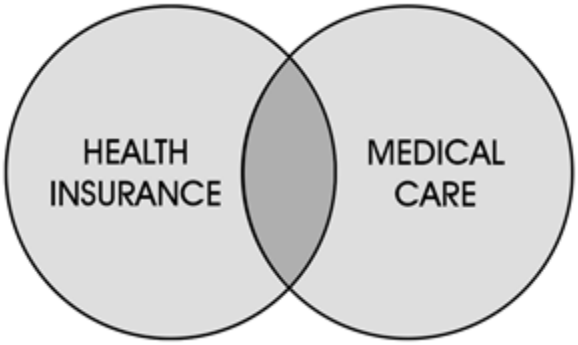
Then design a financing system to enhance and support your educational effort.

Don't do it the other way around.

The Old School approach currently in effect

Corporate engagement programs focus on understanding insurance coverage. Employees ask ‘is the service covered?’ and often conclude that ‘if it's covered, I want it.’

The New School approach proposed in this book



The interesting work takes place in the overlap.

Corporate engagement programs include medical literacy.

Employees learn to ask ‘is the service covered, *does it benefit me and do I want it*?’

What this chapter is about

Millions of well insured Americans get too many tests, take too many medications and have too many medical interventions. Our currently in-vogue benefits programs – deductibles, HSAs, wellness programs, etc. – haven’t stemmed that tide.

Instead, I’ll show you how to identify and avoid unnecessary, excessive, ineffective and low quality medical care.

I'll teach you the Five Most Important Questions to Ask Every Doctor, At Every Appointment, About Every Medical Intervention.

- If you learn, understand and ask these questions, you'll get better medical care with less risk. And you'll save a bunch of money along the way.
- If your company adopts this approach, it will save money and help its employees enjoy better outcomes with less intervention risk.

Too much care – and the wrong care - is bad for your health, both medical and financial. We currently waste according to many, up to $1 trillion annually. That's almost Russia's total GDP!

Consider these estimates.

- David Cordani, CEO of Cigna 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 'probably much more'.
- Aetna's website says that 'wasteful spending likely accounts for between one-third and one-half of all US healthcare spending'.
- The Dartmouth Atlas, generally considered the bible of healthcare utilization analytics, suggests that up to about 1/3 of all US healthcare spending generates no patient benefit views this 'as an underestimate given the potential savings even in low cost regions'.

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 save lives,
- 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,
- spend over $2 billion on a cholesterol lowering drug that has not been shown to prevent heart disease or heart attacks according to its own advertising,
- and much more.

I'll name names and provide details. I'll also discuss some common medical procedures and show you that, for example,

- A quarter, maybe more, of the mastectomies in Connecticut generate no patient benefit.

- Half, maybe more, of the back surgeries in Fort Myers Florida generate no patient benefit.

- 30% or maybe even half of the c-sections in Florida, New Jersey and Louisiana provide no patient benefit.

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.

All this leads to a dismal healthcare summary:

- Americans spent $328 billion more for healthcare in 2015 than 2013. 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.

This gross inefficiency puts enormous responsibility on individual patients to choose healthcare wisely.

Step 1 of that process is acknowledging and understanding the problems.

Step 2 is learning how to make wise medical decisions.

How to make a wise medical decision

Follow this process to get better outcomes with less risk and at lower costs:

- First, determine how well the medical intervention works.

- Second, evaluate your treatment options. You almost always have them.

- Third, determine which doctor and hospital generates the best outcomes for your preferred treatment alternative.

- Fourth, if you find two or more equally excellent providers for your preferred option, consider price. But consider price fourth, only after you've completed the first three steps!

Asking the right questions gets you the information necessary for wise decisions.

But 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.

Obtaining the relevant information is a skill that most of us lack. In fact, according to the US Department of Health and Human Services, only 12% of Americans are medically literate, meaning they have the skills necessary to assess likely treatment benefits and harms though I suspect the real number – the percentage of people who understand and use the tools described in this book – is actually much lower.

Less medically literate folks have higher hospitalization rates and medical costs, and poorer health outcomes. This medical literacy problem arises because most of us haven't been taught how to approach medical investigations. This book will correct that problem.

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.

Too much medical care leads to overtreated patients, higher-than-necessary treatment risks, higher-than-necessary medical costs and potentially poorer-than-optimal medical outcomes.

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 chance of medical benefit.

Why can't I simply follow my doctor's advice
and skip the rest of this chapter?

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. (This highlights a difference between advice giving and advice receiving, a situation I'll discuss in Question 4.)

- As trainees, they're upbraided for having too little information about their patients not too much information, 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, found that 7/8ths of his patients had.
- 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 risk / reward tradeoff decisions. But studies show doctors can get this wrong.

- One, for example, showed that most doctors assume breast cancer patients rate 'living as long as possible' as their primary goal. But only 59% of patients agreed. Doctors were wrong about 40% of the time.
- 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.

Patients often want to do their homework but don't know how. Some attempt to become mini-MDs through online research. That almost certainly won't protect against unnecessary, excessive or inappropriate care; the research is clear.

Instead this book will show you how.

It will put you onto 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 Question Checklist
Medical Literacy in Practice

*If you **understand** these questions, you're medically literate.*

*If you **ask t**hem, you're ahead of the curve.*

*If you **get them answered**, you've maximized your chance of benefit and minimized your risk of harm.*

In a typical appointment, you and your doctor discuss a medical problem and your doctor recommends an intervention.

Ask these 5 questions about that recommendation:

- Has it been tested for the outcomes that concern me?
- 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 deceptively simple questions are 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.

You can use this list as a script. Feel free to share it with your doctors.

Question #1
Has it been tested for the outcomes that concern me?

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.

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?'

How well, in other words, did medical theory hold up to subsequent testing?

Prasad and his team conducted a fascinating study. They reviewed every article in the New England Journal of Medicine between 2001 and 2010 and pulled out those that studied and 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.

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.

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.*

Why is this the case?

Our bodies are enormously complicated and our understanding of medical risks, causality and treatment impacts is 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:

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!

Turning any one knob affects the value of some others, which in turn affect still others.

We simply can't anticipate all the initial effects, rebound effects, interactions and modifications from turning a knob or two.

Medicine rarely works in the simplified 'if A causes B, and B causes C, then A causes C' scenario. That's why we need to test.

Wise patients always ask 'has it been tested for the outcomes that concern me?'

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 they 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 appropriately 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.

Examples of medical care that should work, but doesn't;
Case studies that illustrate the power of asking this question

I'll present 6 case studies to show the power of asking 'has it been tested for the outcomes that concern me?' and why you need to ask this question about every medical intervention:

- Extended release niacin, a 'good cholesterol' boosting drug
- Atenolol, a blood pressure lowering drug
- Ezetimibe, 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

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, so artificially raising it should benefit patients.

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.

Then 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, there was no significant reduction in cardiovascular events.

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.

Two studies on two different niacin based drugs arrived at the same conclusion: niacin doesn't reduce rates of heart attacks or strokes.

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.

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 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.

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.

Unfortunately comparative study hard outcomes do not always support the theory.

Start in 2002 with publication of the LIFE study on two of the most commonly prescribed blood pressure lowering medications called beta blockers, Losartan and Atenolol. Atenolol placed 2nd in preventing heart attacks and strokes.

Was that because Losantan was superior or because Atenolol was actually ineffective?

That question was answered in 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?’

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].

The PubMed abstract summary concludes:

> Our results cast doubts on atenolol as a suitable drug for hypertensive patients.

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 2002 concluded Atenolol is ‘inefficient’
- A large meta study in 2004 concluded ‘no outcome differences’ as compared to a placebo and cast doubts on Atenolol as a suitable drug for hypertensive patients.
- At least one article in a professional publication in 2005 seriously questioned the use of Atenolol.
- Five years later, docs wrote 36 million Atenolol prescriptions and nine years later Atenolol achieved $161 million in annual sales.

Medically literate folks – the ones who ask the questions in this book – could have saved those millions of dollars by avoiding Atenolol.

Would they have made wise decisions?

In January 2017, Cochrane released an update on beta blocker research. Cochrane researchers reviewed all relevant beta blocker studies published through June 2016, most of which focused on Atenolol. Their conclusions were entirely in line with the

research discussed above, specifically that beta-blockers have little to no effect on heart attacks or mortality and are inferior to other anti-hypertension drugs.

I hope you're beginning to understand why you need to ask 'has it been tested for the outcomes that concern me?' about every medication. Even for medications that have been around for a long time.

Ezetimibe, a cholesterol lowering drug. Lower cholesterol is associated with fewer heart attacks. Ezetimibe, typically marketed as Zetia, blocks cholesterol absorption in the small intestine, unlike the more commonly prescribed statins that block absorption in the liver.

- Some patients can't tolerate statins.
- Others might not achieve their desired cholesterol reduction goals with statins and lifestyle changes alone.

Ezetimibe offers benefits to both types of patients. Consider this statement on Zetia's website, zetia.com from about 2011 – 2016.

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

Zetia's sales exceeded $3 billion annually from 2013 - 2016.

But read the next sentence on Zetia.com, this one in bold:

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

The New York Times review of Zetia's 2008 clinical trial, for example, concluded that no trial has ever shown that it can reduce heart attacks and strokes.

Note the difference between cholesterol lowering (Zetia has been shown to be good at this) and heart attack prevention (Zetia has not been shown to be good at this).

Then in 2014, the IMPROVE-IT study showed a 'modest' though statistically significant benefit of Vytorin (combination of Zetia and Zocor, a statin) over a statin only, but just for a very select group: patients who had already suffered a heart attack or experienced chest pain.

This underscores the need to ask your doctor regularly 'Has it been tested for the outcomes that concern me?' Be clear about the outcomes that concern you – heart attack reduction or cholesterol lowering. They're not necessarily the same.

- Patients who conflated the two and focused on Zetia.com's first claim that Zetia reduces cholesterol might have opted to take the medication but then only have received the cholesterol lowering benefit, not the heart attack reduction one. On the other hand

- Patients who relied only on the website's second sentence 'Zetia has not been shown to prevent heart disease or heart attacks' - and who had previously had a heart attack - might have missed the heart attack prevention benefit discovered in 2014.

See why being medically literate is so important?

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.

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 or placebo group that received lidocaine (a topical skin numbing agent), massage and aromatherapy to reproduce operating room smells.

- The Australian study found 'no beneficial effect' of vertebroplasty compared to the control group.

- The Mayo study concluded that patient improvements were similar in the placebo and experimental groups.

Vertebroplasty, in other words, worked as well as, but no better than, the safer and far cheaper placebo.

$245 million on a procedure that works no better than a placebo?

See why asking the 'has it been subjected to comparative studies?' question is so important?

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'.

Estimates of the number of knee arthroscopies performed annually in the US vary, and 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.
- A 2014 NEJM study estimated the market at 500,000 knee arthroscopies at about $20,000, generating a $10 billion market.
- Vinay Prasad in his 2015 book Ending Medical Reversal estimated the market at 700,000 patients spending $4 billion.

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.'
- This followed a 2002 comparative study which concluded 'At no point did [the] arthroscopic-intervention group have greater pain relief than the placebo group.'
- The 2002 study 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.'

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 impressive accolades from both the Association of American Physicians and the American Medical Association.

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'.

Herrick's recommendations were adopted by most hospitals. Over time they extended Herrick's advice of absolute bedrest from several days to a few weeks.

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.

Lewis' justification came from 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.

Dr. Paul Woods, another coronary care authority, reinforced that message in his textbook Diseases of the Heart and Circulation in 1959, 13 years later, recommending 3 – 6 weeks of bedrest or more depending on the severity of the heart attack.

Thus at least three medical textbooks 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. Eugene Braunwald, author of his own 2007 cardiology textbook, 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.

Patients who asked ‘what do you recommend doc?’ in the 1940s and 50s would have received the long bedrest recommendation.

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.

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 best guesses backed up with biological justifications. In effect, they said ‘our best guess is that the risk of ventricular rupture exceeds the risk of venous thrombosis and fatal pulmonary thromboembolism.’

Their guesses were really testable propositions which, apparently, weren’t actually tested until relatively recently. When tested, they 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! 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 for specific outcomes of concern, those recommendations are wrong about half the time.

Instead of relying on theory, wise patients 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.

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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.

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.

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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. ChoosingWisely is a wonderful resource for well informed patients. Here are a few examples for illustration purposes.

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.

****

When you ask 'has it been tested for the outcomes that concern me?' 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. I'll show you how in the next section.

But you may learn that the treatment has not been tested in real life, on real people.

In that case, remember Prasad's Law.

Applying Prasad's Law to long term medication use

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.

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.

You can rephrase the testing question to 'Has it been tested for the length of time that I'm likely to be on it?'

Summary of Question 1
What We Have Learned So Far

Comparative tests tell us how well medical interventions work.

Wise patients ask 'Has it been tested for the outcomes that concern me?' and base their medical decisions on comparative test results. I'll show you how in the next section.

Importantly, we also learned that interventions that make biological and anatomical sense are shown to be ineffective or harmful about half the time in comparative tests.

Patients who base their medical decisions on biology and logic – but not test results – are wrong about as often as they're right.

Question #2
Out of 100 people like me, how many benefit and are harmed?

Determining how well care works from medical tests

Once you learn that a treatment 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.

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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 disagree.

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.

Remember that Prasad's Law applies if your doctor can't answer the 'of what' question above.

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'. They're apparently fine for 6 or 8 year olds though.

> … 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.

> … 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 take a heart attack prevention medication ask ‘out of 100 people like me, how many avoid a heart attack by taking this medication?’

- Remember our discussion of Atenolol and Zetia in the last section.

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?’

- Remember our discussion of vertebroplasty and knee surgery in the last section.

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.

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 to the child and frightening to the parents who, not unreasonably, want to do something to help.

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. 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 hundreds 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 outcomes. I'd like to explore a different, infrequently discussed but vitally important like me category: social status.

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 in Britain 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.

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 affirms 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.

In line with this analysis, a major 2016 study 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 medical mainstream emphasizes biology, genetic factors, specific diseases, individual behavior, health care, and health insurance.

Consider the medical impacts of your own social status. Imagine your doctor says 'your cholesterol level is slightly high. The guidelines suggest lowering it. I'll prescribe a medication.'

- If you're a low status person (thus facing higher than average heart attack risks) you may be undermedicated, leaving you exposed to disease harms.
- But if you're a high status person (thus facing lower than average heart attack risks) 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 certainly 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.

But out of 100 people like that, 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.

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

Here are Cochran's numbers:

- Risk of cardiovascular death or disease without taking hypertensive medication: 14.9/hundred. This is the control group.
- Risk of cardiovascular death or disease among patients taking hypertensive medications: 10.6/hundred. This is the test group.
- Medication benefit: 4.3 fewer deaths or diseased patients/hundred (4.3%)

I don't know how many, if any, were harmed by the medication.

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.

Summary of Question 2
What We Have Learned So Far

Question 2 builds upon the lessons of Question 1.

Question 1 was 'Has it been tested for the outcomes that concern me?' We learned that comparative tests identify the benefits and harms of a medical intervention.

- Importantly, we also learned that medical interventions that have not been subjected to comparative testing are ineffective or harmful about half the time. We called this Prasad's Law.

Question 2 showed how to quantify the benefit and harm impacts. We learned to ask

- Out of 100 people like me, how many benefit? And
- Out of 100 people like me, how many are harmed?

We also learned

- Why to ask 'out of 100' and not to accept answers like 'this treatment reduces you risk by 36%'.

- Why to ask about ‘people like me’, including about people in your socio-economic demographic.
- Why ‘patient outcomes’ always matter but ‘test outcomes’ may not.

Question #3
Is it overused?

Sometimes beneficial care is overused so may not benefit you

This question acts as a yellow warning light to wise patients: proceed but proceed cautiously.

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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.

This results in treatment variation meaning that different doctors may treat similar patients differently.

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.

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 Question 4, 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, the more orthopedic specialists, the more orthopedic surgeries etc.

We'll discuss some implications in this section.

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 southwestern and southeastern Florida. The third is hospital baby delivery patterns, specifically c-section rates.

These are 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 40% more mastectomies per 100,000 than do similar women in Massachusetts. This has been roughly constant since 2008.

How can we determine if these surgical rate differences are driven by patient health differences or physician treatment orientation differences?

We'll first consider 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:

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?

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.

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. That didn't happen.

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 in this hospital or region' 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

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.

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.

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.

What causes the treatment variation? Wennberg again provides the answer:

Doctors decide who needs health care, what kind, and how much.

And the key patient benefit question: Do retirees in Fort Myers benefit from the extra back surgeries? In other words, do Miami retirees suffer unnecessarily from receiving too few back surgeries?

Though I was unable to find solid academic studies that specifically answer this question (!), Dr. Elliott Fisher and his Dartmouth colleagues addressed this issue in general in their massive 2003 study, 'The Implications of Regional Variations in Medicare Spending'. One observation, paraphrased for readability here:

For every 10% increase in medical spending, the relative risk of death increased.

In none of the regions studied did the higher per capita expenditures lead to a statistically significant mortality decrease.

In other words more care, or care above the minimum available in any US region, led to more harm not more benefit.

Wise patients don't stop their questioning when they learn that a treatment is beneficial, as spinal surgery and mastectomy sometimes are.

Wise patients want to ensure that the treatment provides benefit to them. That takes additional questioning.

Acceptable and Unacceptable Answers to 'Is it overused?'

Acceptable answers include 'yes', 'no' and 'I don't know'. All can lead to a useful, additional discussion.

Unacceptable answers include 'we never perform unnecessary back surgery.' Fort Myers orthopedists and Miami orthopedists would say this about as frequently!

So would Connecticut and Massachusetts oncologists.

See the somewhat-famous-party-trick discussion coming up for further explanation.

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 deliver 20% or less.

Similarly some states exhibit far higher average c-section rates than others.

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 …

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.

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:

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. Kozhimannil found that c-section rates varied from 7 to 70 percent of all deliveries by hospital and suggested that provider practice patterns were a key driver of this rate variation.

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.

More or less like the New Hampshire study, the New York study and the Harvard study.

Four different studies 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.

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 and demand answers…

Even from the most experienced doctors who graduated from the most famous medical schools and work at the most prestigious hospitals!

Summary of Question 3
What We Have Learned So Far

Question 3 builds upon the lessons of Questions 1 and 2.

Question 1 was 'Has it been tested for the outcomes that concern me?' We learned that comparative tests identify the benefits and harms of a medical intervention.

- Importantly, we also learned that medical interventions that have not been subjected to comparative testing are ineffective or harmful about half the time. We called this Prasad's Law.

Question 2 showed how to quantify the benefit and harm impacts. We learned to ask

- Out of 100 people like me, how many benefit? And

- Out of 100 people like me, how many are harmed?

Question 3 moved us out of the laboratory and into the real world. We learned that sometimes beneficial medical interventions are overused. We learned to ask

- Is it overused?

Appropriate answers include ‘yes’, ‘no’ and ‘I don’t know’.

Inappropriate answers include ‘we never perform excessive or unnecessary treatments.’

We’ll move now to Question 4 ‘Would most physicians make the same recommendation or might some suggest something different?’ This helps you identify your treatment options.

While always important to ask, this question is particularly critical for patients who learn that the answer to Question 3 is ‘yes, we sometimes perform this procedure too often’.

Question #4
Would most physicians make the same recommendation or might some suggest something different?

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 prefer 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.

Other studies have indicated

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

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:

> 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 treatment alternatives	Personal preference (e.g. religious)
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 Treatments 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 issues in a hypothetical comparison of surgery and physical therapy for illustration purposes only. You may have different concerns.

First, benefits and harms of the intervention.

Surgery	Physical therapy
How long will I be hospitalized?	How many sessions will I need?
How much pain will I feel and for how long?	How much pain is associated with the therapy process?
How much work will I miss?	When will I know if the therapy is working?
How long will I be incapacitated?	
How likely is an infection or complication?	

Second, benefits and harms over the short term.

Surgery	Physical therapy
How long before I regain my strength and range of motion?	How often do patients report satisfaction at 3 and 12 months?
How many patients report satisfaction with the outcomes at 3 and 12 months?	How many patients quit PT and opt for surgery in the short term?
How often do patients need a second surgery?	

Third, benefits and harms over the long term

Surgery	Physical therapy
How many patients need a second surgery within 48 months?	How many patients report satisfaction with the PT outcome at 48 months?
How many patients report satisfaction with the outcome at 48 months?	How many patients who start with PT ultimately end up with surgery within 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.

Feel free to show a chart like this but 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, walked up to me in a lecture hall one day with his arms high in the air, smiling and saying 'my shoulder feels fine'.

Odd behavior and greeting in a professional setting. I hadn't seen or talked with him in the previous year or two.

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:

'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 harmed by, rotator cuff surgery?

Would most physicians recommend rotator cuff surgery or might some suggest something different?

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 like 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.

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.

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.’

Different doctors for different patients.

Preference sensitive works for physician choice also.

Choose the doctor whose style and professional demeanor work for you.

Summary of Question 4:
What We Have Learned So Far

Question 4 builds upon the lessons of Questions 1, 2 and 3.

Question 1 was ‘Has it been tested for the outcomes that concern me?’ We learned that comparative tests identify the benefits and harms of a medical intervention.

- Importantly, we also learned that medical interventions that have not been subjected to comparative testing are ineffective or harmful about half the time. We called this Prasad’s Law.

Question 2 showed how to quantify the benefit and harm impacts. We learned to ask

- Out of 100 people like me, how many benefit? And
- Out of 100 people like me, how many are harmed?

Question 3 moved us out of the laboratory and into the real world. We learned that sometimes beneficial medical interventions are overused and learned to ask

- Is it overused?

The answer helps identify at least one critical reason for asking Question 4 ‘Would most physicians make the same recommendation or might some suggestion something different?’

There are several additional reasons for posing this question to your physician including:

- It helps you get a second opinion that differs from the first thus exposing you to a range of treatment options.
- It helps you differentiate personal preferences from medical imperatives.

Once you identify the treatment option that you prefer, you'll want to identify the physician and hospital that does it the best. Ask Question 5 'How many patients like me do you treat annually?'

Question #5:
How Many Patients Like Me Do You Treat Annually?

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. 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.

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. 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.

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

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 newer vs. older technology study found that physicians need to perform 1600 robotic assisted prostate removal surgeries to achieve excellence. 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 operating out of high volume hospitals 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.

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.

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.

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

- 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, the 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.

Wise patients choose specialists and hospitals working at or above the recommended threshold.

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. 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 1.0%.' He revised that figure in 2008 to 'closer to 0.1%'.

By comparison, some studies suggest an average 10-year hernia repair failure rate outside of Souldice at around 11%.

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:

- 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.

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 unnecessarily to disease harms
- Too much medical care can expose you unnecessarily to treatment harms

• Inappropriate medical care can expose you to more risks, higher costs and lower satisfaction than optimal

We introduced 5 questions to ask all doctors about all medical interventions.

- Has it been tested for the outcomes that concern me?
- Out of 100 people like me, how many benefit and 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?

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 you 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 own medical care.

Review Questions

Answers on next page

1. What is a comparative study?

    a. A study that compares two very similar groups of people, one of which gets the medical intervention and the other of which does not
    b. A study that looks at only 1 group of people
    c. A study that predicts outcomes based on biological theory
    d. A study that compares the biological and physiological make up of different people

2. What is a well informed patient according to the medical definition of ‘well informed’?

    a. Understanding how well care works, what treatment options exist and which provider generates the best outcomes
    b. Understanding deductibles, insurance regulations and prices
    c. Understanding the biological processes in each treatment option
    d. Someone who reads lots of articles online

3. Which do doctors generally worry about the most?

    a. Performing too few tests and undertreating patients
    b. Having patients wait longer in their waiting rooms
    c. Providing interesting magazines for patients to read
    d. Performing too many tests and overtreating patients

4. Which is the cheapest?

    a. Good health
    b. The lowest cost knee surgeon
    c. A hospital-based MRI
    d. A free-standing MRI

5. Which strategy is generally the cheapest after factoring in all costs including patient out-of-pocket, deductibles, insurance premiums, time off of work, productivity losses and rehab expenses?

    a. Getting the best treatment outcomes
    b. Getting care from the lowest cost surgeon
    c. Paying cash for your treatment
    d. Negotiating the best deal you can with each provider

6. Why would a wise patient ask a physician if a proposed treatment has been subjected to comparative testing?

a. Because treatments that have not been subjected to comparative testing are ineffective or harmful about half the time
b. Because it makes you sound smart to your doctor
c. Because you want to show your doctor who's really running the meeting
d. Because you want to waste time before making an important decision

7. What is Prasad's Law?

a. Medical treatments that have not been subjected to comparative testing are ineffective or harmful about half the time
b. A hospital room built is a hospital room occupied
c. The most expensive surgeon is the best
d. The most expensive hospital generates the best patient outcomes

8. Which benefits more people?

a. A treatment that prevents heart attacks 3 out of 100 people
b. A treatment that cuts the heart attack rate by 25%
c. A treatment that reduces total cholesterol levels by 10 points
d. We have insufficient information in (a), (b) and (c) above to answer the question

9. Which benefit interests a wise patient the most?

a. A reduction in heart attacks
b. A reduction in cholesterol levels
c. A reduction in blood pressure levels
d. An improvement in blood oxidation rates

10. This chapter suggests that patients who base their medical decisions on biology, physiology, anatomy and logic – but not comparative studies – are what?

a. Wrong about as often as they are right
b. Wise and thoughtful
c. Using the best possible information
d. Likely to enjoy the best outcomes

11. As the number of medical services in a community – like MRI machines, vascular surgeons or hospital beds – rises, what tends to happen?

a. More patients use those services
b. Fewer patients use those services
c. Service prices tend to fall
d. Care quality tends to decline

12. Wise patients sometimes ask if a particular treatment is overused. Which below in an inappropriate answer to that question?

a. Yes
b. No
c. I don't know
d. I never provide unnecessary care

13. What is a 'preference sensitive' medical decision?

a. A decision that's right *for you*. Different patients with the same medical condition can choose different treatments and all be right.
b. A decision that your doctor would prefer that you make, not him or her
c. Delegating your decisions to your doctor
d. Delegating your care decisions to your hospital

14. What is the general trend among patients who explore their treatment options?

a. They tend to choose less risky, less invasive and consequently less expensive care by about 25 – 30%
b. They get confused
c. They ultimately do what their doctor tells them to do
d. They cost the most

15. What is the main purpose of second opinions?

a. Expose patients to a range of treatment alternatives
b. Waste time
c. Increase physician billing opportunities
d. Confuse patients

16. Which surgeon generally generates the best patient outcomes?

a. The surgeon who does a specific type of surgery most frequently
b. The surgeon who graduated from the most prestigious medical school
c. The surgeon who charges the most
d. The surgeon who uses the newest technology

Review Questions

Correct answers in bold

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    a. **Understanding how well care works, what treatment options exist and which provider generates the best outcomes**
    b. Understanding deductibles, insurance regulations and prices
    c. Understanding the biological processes in each treatment option
    d. Someone who reads lots of articles online

3. Which do doctors generally worry about the most?

    a. **Performing too few tests and undertreating patients**
    b. Having patients wait longer in their waiting rooms
    c. Providing interesting magazines for patients to read
    d. Performing too many tests and overtreating patients

4. Which is the cheapest?

    a. **Good health**
    b. The lowest cost knee surgeon
    c. A hospital-based MRI
    d. A free-standing MRI

5. Which strategy is generally the cheapest after factoring in all costs including patient out-of-pocket, deductibles, insurance premiums, time off of work, productivity losses and rehab expenses?

    a. **Getting the best treatment outcomes**
    b. Getting care from the lowest cost surgeon
    c. Paying cash for your treatment
    d. Negotiating the best deal you can with each provider

6. Why would a wise patient ask a physician if a proposed treatment has been subjected to comparative testing?

a. **Because treatments that have not been subjected to comparative testing are ineffective or harmful about half the time**
b. Because it makes you sound smart to your doctor
c. Because you want to show your doctor who's really running the meeting
d. Because you want to waste time before making an important decision

7. What is Prasad's Law?

a. **Medical treatments that have not been subjected to comparative testing are ineffective or harmful about half the time**
b. A hospital room built is a hospital room occupied
c. The most expensive surgeon is the best
d. The most expensive hospital generates the best patient outcomes

8. Which benefits more people?

a. A treatment that prevents heart attacks 3 out of 100 people
b. A treatment that cuts the heart attack rate by 25%
c. A treatment that reduces total cholesterol levels by 10 points
d. **We have insufficient information in (a), (b) and (c) above to answer the question**

9. Which benefit interests a wise patient the most?

a. **A reduction in heart attacks**
b. A reduction in cholesterol levels
c. A reduction in blood pressure levels
d. An improvement in blood oxidation rates

10. This chapter suggests that patients who base their medical decisions on biology, physiology, anatomy and logic – but not comparative studies – are what?

a. **Wrong about as often as they are right**
b. Wise and thoughtful
c. Using the best possible information
d. Likely to enjoy the best outcomes

11. As the number of medical services in a community – like MRI machines, vascular surgeons or hospital beds – rises, what tends to happen?

a. **More patients use those services**
b. Fewer patients use those services
c. Service prices tend to fall
d. Care quality tends to decline

12. Wise patients sometimes ask if a particular treatment is overused. Which below in an inappropriate answer to that question?

a. Yes
b. No
c. I don't know
d**. I never provide unnecessary care**

13. What is a 'preference sensitive' medical decision?

a. **A decision that's right *for you*. Different patients with the same medical condition can choose different treatments and all be right.**
b. A decision that your doctor would prefer that you make, not him or her
c. Delegating your decisions to your doctor
d. Delegating your care decisions to your hospital

14. What is the general trend among patients who explore their treatment options?

a**. They tend to choose less risky, less invasive and consequently less expensive care by about 25 – 30%**
b. They get confused
c. They ultimately do what their doctor tells them to do
d. They cost the most

15. What is the main purpose of second opinions?

a**. Expose patients to a range of treatment alternatives**
b. Waste time
c. Increase physician billing opportunities
d. Confuse patients

16. Which surgeon generally generates the best patient outcomes?

a. **The surgeon who does a specific type of surgery most frequently**
b. The surgeon who graduated from the most prestigious medical school
c. The surgeon who charges the most
d. The surgeon who uses the newest technology

Chapter 7: Price transparency

Value creation or not depending on what else becomes transparent

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 [146]

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 [147]

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.

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

[146] Health Beat blog by Maggie Mahar, 5/16/11

[147] 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. And, since it's cheaper, perhaps to *more* unnecessary or poor quality 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. Aetna claims the actual amount is at least $765 billion.[148]

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.[149]

  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

[148] http://www.aetna.com/about-aetna-insurance/document-library/corporate-responsibility.pdf page 11

[149] Prasad, A decade of reversal, Mayo Clinic Proceedings, August 2013

treatment designs at about 20%.[150] Mulley's insight, along with others who have studied the same phenomenon, was that patients who understood their options 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.**

Add the Prasad and Mulley numbers to Dartmouth's original waste estimate and you get a very large number. I think a perfectly reasonable, even conservative estimate is 40% of all medical spending.

But I won't argue with 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 - beneficial and necessary.

But patients often 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. [151]

- 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

[150] 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

[151] 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

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.

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.'

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: [152]

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

[152] Leaf, The Truth in Small Doses, page 127. Data from the National Center for Health Statistics (CDC) and National Vital Statistics System

2000	41,872	29.2
2005	41,116	27.3
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 [153]
Average age of breast cancer diagnosis	62 [154]	61
Average age of breast cancer death	68 [155]	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

[153] 2006 data from National Cancer Inst, SEER Stat Fact Sheet: Breast downloaded Oct 2012

[154] Glockler, Cancer survival and incidence, The Oncologist, Dec 2003

[155] Saenz, Trends in Breast Cancer Mortality, Population Reference Bureau, Dec 2009

price. It's a good deal *relatively*, perhaps especially appealing to scared patient consumers.

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. [156]

With these types of benefit overestimates and harm underestimates in mind, I'd like to propose a 4-Step Decision Making paradigm.[157] 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. [158]

  As a general rule, medical care cannot improve your health if you're not sick.

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[156] Frakt, op cit

[157] 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.

[158] 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 [159] - 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.' [160]

  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.

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[159] See Otitis Media evaluation on www.TheNNT.com

[160] 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. [161] 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

[161] 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. [162] 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 possibly generate more harm than good.
- 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'.

[162] 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 assumed something about the procedure benefits then jumped to our Step 4 and compared prices from available providers.

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.'

In 2013, Wennberg, now an elderly senior researcher and his colleagues at Dartmouth published a tonsillectomy rate analysis among kids 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.

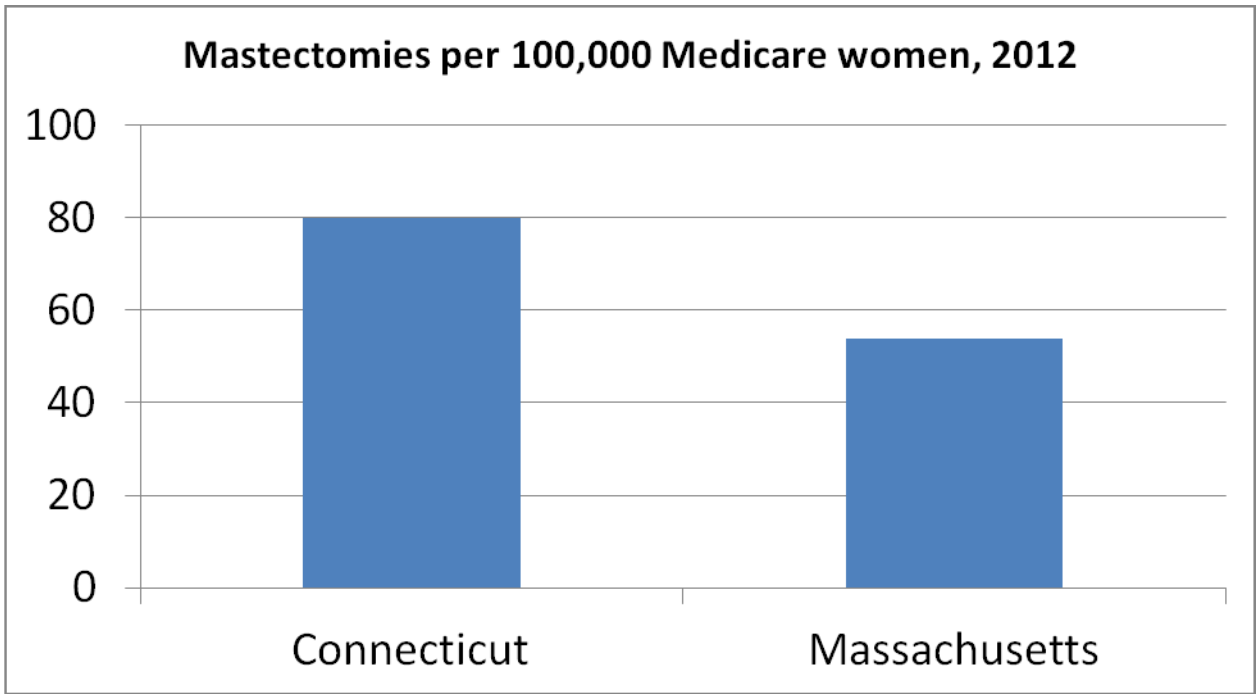
Physicians appear, according to Wennberg, to rely on 'hunches' too often, rather than data and scientific outcome evidence from comparative studies when making treatment recommendations to patients, just as they did in Hornsey and Morrisville many years before.

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 than 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. [163] The breast cancer rates are virtually identical.

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

Breast cancer incidence rates per 100,000 women

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

Now, if women in both states were equally sick but received different treatments, did Connecticut women benefit from the additional mastectomies?

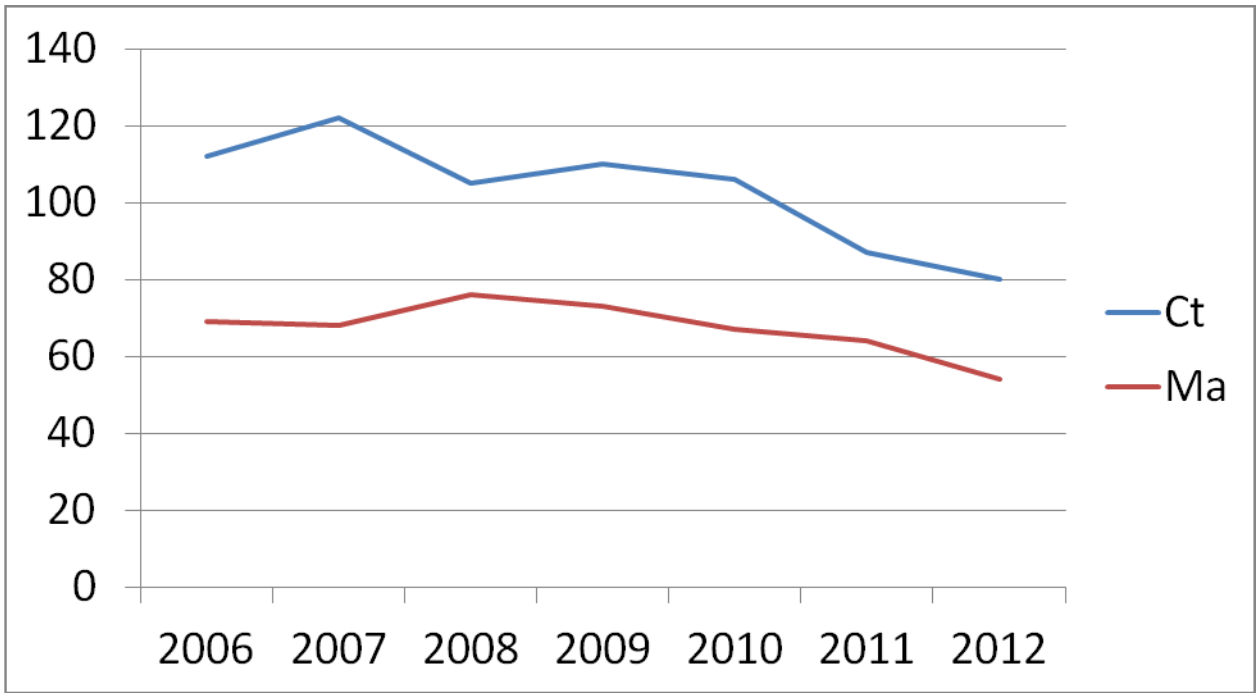
Again the answer is no. Breast cancer mortality rates are almost identical in both states.[164]

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:

[164] 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 [165] and patients generally believe that more medical care is better medical care. Wennberg put it this way: [166]

- 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

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*. [167] 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 or 22% is included.

Stated differently, about half of what doctors do doesn't work. As Prasad told the New York Times

[165] See Dr. Lazris's comment at the beginning of this chapter.

[166] http://ije.oxfordjournals.org/content/37/1/26.long

[167] http://www.mayoclinicproceedings.org/article/S0025-6196%2813%2900405-9/abstract

> 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? [168]

Or, as he said in his fascinating You Tube summary: [169]

> 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.
>
> 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

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[168] http://well.blogs.nytimes.com/2013/07/26/medical-procedures-may-be-useless-or-worse/

[169] https://www.youtube.com/watch?v=fB1qEoDO2nE

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 2 Diabetes Mellitus	Fibrate therapy has long been used in the treatment of dyslipidemia in type II diabetes. 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. [170] 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

[170] 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

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. [171]

  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.

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, 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:

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[171] See the Dartmouth Atlas of Healthcare, sections on Preference-Sensitive Care and Reflections on Variation

> **the ideal modern doctor should be neither paternalistic nor informative but rather interpretive, helping patients determine their priorities and achieve them** [172]

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 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 [173]

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*.

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[172] Sheri Fink, New York Times Book Review of Gawande's Being Mortal, November 6, 2014

[173] Lazris, Curing Medicare, page xviii

In healthcare *'there you go again'* means yet another attempt to solve clinical problems with financial tools. It never works. Dr. Meador told us that in the beginning of this chapter.

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 on cost control reforms in the 1980s and 90s: they '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 value-based competition on results, carriers have incentive to reduce the time physicians spend with patients. [174]

  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. [175] More succinctly, he says,

  'It is a well-known management axiom that what is not measured cannot be managed or improved' [176] meaning financial solutions to clinical problems may

[174] 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

[175] Ibid

[176] https://hbr.org/2011/09/how-to-solve-the-cost-crisis-in-health-care

> 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.[177]

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 [178]

> 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.[179]

To save time, he says, doctors order more tests or refer to more specialists. This adds costs and risks; it doesn't decrease them.

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[177] http://www.doconomics.com/blog/?p=4647

[178] http://www.ucdmc.ucdavis.edu/publish/news/newsroom/6223

[179] Jauhar, New York Times, 7/20/14

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. [180]

- 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.' [181]

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 per 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.

[180] Bakalar, NY Times, Doctor Empathy a Factor in Diabetes Care

[181] Jauhar, Doctored, page 170

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 diagnose 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
- 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. [182]
- 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. I particularly like Number Needed to Treat and Harm 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.

[182] Ruggieri, The Cost of Cutting, page 127

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 that 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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[i] Richard Harris, Rigo Mortis and John Wennberg, Tracking Medicine for example.

[ii] See the Dartmouth Atlas of Healthcare for example on this.

[iii] State of Washington 2018 report First Do No Harm. I used this source for the other examples in this section also.

[iv] Wennberg, Tracking Medicine. He estimates that patients have options about 85% of the time.

[v] See the Dartmouth Atlas of Healthcare and various research papers from the Dartmouth Institute for Health Policy and Clinical Practice, for example. Also David Cutler's estimate in The Quality Cure, page 20.

[vi] See Wennberg, Tracking Medicine, Chapter 1

[vii] HHS, Quick Guide to Health Literacy, https://health.gov/communication/literacy/quickguide/factsbasic.htm

[viii] Mulley, et al, Patient Preferences Matter, Kings Fund and the Dartmouth Center for Health Care Delivery Science, 2012, page 9

The New Health Insurance Frontier

Our attempts to control employee healthcare expenses over the past 40 years have generally failed, especially perhaps in the corporate arena. We know this because corporate healthcare premiums (employer + employee contributions + deductibles) have inflated much faster than the overall Consumer Price Index since the 1970s.

The fundamental reason is not necessarily inappropriate plan designs.

Instead, it's the attempt to solve clinical problems with financial or insurance tools, things like

- **Higher deductibles to reduce wasteful spending** but without defining waste or suggesting ways for your employees to differentiate high from low quality care.
- **Medical price lists**, to which amateur patients may respond 'I want the higher priced care because it's probably better'.
- **Wellness programs** that reward your current healthy employees financially but make the least well employees, i.e. your most expensive medically, feel badly so they don't participate.
- **Health risk assessments**, financially incentivized, meant somehow replace a primary care physician's advice.
- **Tax saving programs** – HSAs, HRAs, FSAs for example - that confuse participants and don't improve patient outcomes, and more.

We impose all this on employees who often lack critical medical decision making skills: some 88% of Americans are medically illiterate according to the US Department of Health and Human Services. [viii]

Illiterate means 'hasn't been trained' not 'stupid'.

'Medically illiterate' also means unable to estimate the likely benefits and risks of medical care.

Imposing financial incentives on this group can't possibly generate satisfying results either for you or them and it hasn't.

But there's an alternative approach: expanding employee medical literacy through a serious and well organized education program. Consider the potential impact on your

utilization rates from this conclusion to the 2012 Patient Preferences Matter report, jointly authored by Dartmouth medical and business school professors: [viii]

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

And this observation from Dr. Sandeep Jauhar in his autobiographic book Doctored, largely a description of his years overtreating patients:

Better informed patients might be the most potent restraint on overutilization.

A necessary component in all this, something, in my opinion, critical to the future of health insurance, is a robust subscriber educational program about medical care quality.

I hope this text explains why those program are so necessary and what they might entail.