



Longbranch Research Associates *presents:*

# So-Called Experts

*a book always in progress & free*

by Stephan Michelson

## Chapter 04

### Health

*as of December 29, 2017*

Here's the disclaimer: I am not an expert on health issues. Also, I am not a medical doctor. These are not the same things, of course, but I am neither. However, we need experts in this field, and it is not clear, if we have any, who they are. The industries we have created, and our lifestyle, are killing us.<sup>1</sup> When we finally react to the poisons in the atmosphere, in our food and water, we seek help from a doctor trained to deal with these problems. Why do we not try to prevent them in the first place? In the previous chapter I noted that food preparation experts seldom tell us what is good for us or bad for us. It's not even clear that they know. They tell us what looks good, smells good and tastes good. Fortunately, there are other experts who are concerned with food's impact on our lives, for example, the relationship between what we eat and the cost of medical care.

That is one lesson of this book: We have to be careful just what the experts we rely on are—or are claiming to be—experts in. The best of chefs may be telling us how to cook food that is not good for us. That remains unsatisfying to some people, however. Mark Bittman, former food writer for the *New York Times*, became a columnist who can range more broadly, especially telling us about simplicity and economy and, smartly, health.<sup>2</sup>

---

1 Stacy Finz, "FDA issues broad food safety rules," *MySanAntonio.com*, January 4, 2013: "One in six Americans gets sick from eating contaminated food each year, according to the government, which estimates that of those sickened, 130,000 are hospitalized and 3,000 die." See a similar story in *The Denver Post*, same day, which also lists dozens of headlines about food produced illness. My emphasis will be on the other side of this issue: Not that food hurts us when pesticides and chemicals are not used correctly, or the food is not handled properly. The food itself, containing chemicals and pesticides "properly used," poisons us.

2 "Nothing affects public health in the United States more than food. . . . And the root of that dangerous diet is our system of hyper-industrial agriculture. . . ." Mark Bittman, "Fixing Our Food Problem," *New York Times*, January 1, 2013.

We could think of experts on health in two categories: Prevention and Cure. It is hardly original to point out that what we call “western medicine” focuses on cure, on what to do after we have been diagnosed with an illness, or a disease. I am not sure that “eastern” medicine is more enlightened, but it is more focused on prevention. “Integrative Medicine” tries to do both. See, for example, Dr. Andrew Weil at <https://www.drweil.com/>.

Health clubs and weight loss services are typical capitalist approaches to a problem. They sell us a solution to the harm we have done to ourselves. Several diets—those rich in seafood, those based on rice instead of wheat, those rich in vegetables—would keep us healthier than the industrialized, processed, packaged red meat diet we have developed in the United States.

I will discuss the “experts” we go to first—doctors and their sources of information—in this chapter. Having discussed food in Chapter 3, I discuss shopping, in the next chapter. These areas, shopping for and preparing food, tying food to health, and medical care—consume much of our time. In each area we look to experts to help us. Ah, if only we knew who they were!

But that is not the end of it. In principle, medicine, the part of health care we know most about, and spend most time on, is the product of science. At least it should be. So I return to medical research in Chapter 14, Science.

## An Operation

Searching for advice about being a patient, I found mostly doctors.<sup>3</sup> They have some expertise, for sure, some “inside knowledge,” but it isn’t in being a patient. Before having some procedure performed on me, I would like to hear from patients who have had it performed on them. I might be looking for their recommendations of individual doctors or hospitals, or only their descriptions of experiences.<sup>4</sup> What to expect, what to do. I think patients are more expert than doctors on these issues.

The best source of “people” information, as far as I know, is The People’s Pharmacy. Their weekly radio program plays on many public radio stations. They maintain a web site, where you can buy their excellent, informative books. They tell you about things that people have said work, like beet juice as a blood pressure

---

3 See, for example, Michael F. Roizen and Mehmet C. Oz, *YOU: The Smart Patient: An Insider’s Handbook For Getting The Best Treatment*, Free Press, 2006. Both authors are medical doctors. Sandra Tsing Loh found the same physicians-only phenomenon in her search for advice about menopause. So she wrote a book about it, *The Madwoman in the Volvo: My Year of Raging Hormones*, W. W. Norton & Company (2014).

4 [PatientsLikeMe.com](https://www.patientslikeme.com) is a good start toward finding other patients in the same situation as you.

reducer, yellow mustard to relieve cramps, raw cider vinegar for heartburn, raw onion on a bee sting, soy sauce on a burn, etc. Food products inducing health, although not in the way we usually think of it. If you can't get or don't like beet juice, you can get beet juice reduced to a powder and encapsulated, just like cranberries, which are said to be good for the urinary tract.

### **Shoulder: Rotator Cuff I**

I had what I thought was a rotator cuff injury. Dr. DePaolo in Asheville thought it was not. I had a bone spur, he said, but probably not a rotator cuff tear. The bone spur, however, was getting in the way of muscle movement (causing my pain) and perhaps should be ground down. I thought surely the bone spur had torn the rotator cuff, but we would see.

Dr. DePaolo found plenty of scar tissue caused by the bone spur. He removed both the spur and its damage, but insisted that he did not have to repair the rotator cuff itself. OK, he's the expert in diagnosis and corrective surgery. At least he says he is. And he makes his living at it.

He had advised me that I would be under general anesthesia and a block. They would, in essence, paralyze my right side to minimize pain. I did not understand what pain—I would be unconscious, after all—and failed properly to pursue this question. Only in the hospital did the anesthesiologist explain that the block was to reduce pain *after* the operation. The block was slow acting and long lasting.

Bad idea. First, to put the injection in the right place, he had to probe around my neck with a needle until my right arm twitched uncontrollably. Then he injected a huge vial of something. No one had asked me about my experiences with post-operative pain, say, after root canals. I never took the drugs the dentist provided for pain relief. It was never as bad as they said it would be. Doctors don't know, and patients differ. Why can't the doctor ask?

I could not move my arm for a couple of days. It was annoying, having this lump on my right side that I would have to maneuver with my left hand. Having only one hand was annoying, also. I did have some pain in my shoulder after the block wore off, but it was useful. I could mitigate it by how I placed my arm. Drooping straight down to my leg, there was hardly any pain at all. From there I could determine what motion induced pain, transmit that information to Dr. DePaolo's physical therapist Steve, and get appropriate exercises. Another pain block would have been counterproductive.

Meanwhile, besides my shoulder pain, I had a terrible pain in my neck, where the block had been injected. Unlike the sharp pains in my shoulder, the neck pain was a dull but persistent thud against the vitality of my life. That neck pain persisted for years. There is no way that any pain mitigation in the first two days after my operation—which could have been effectuated by drugs taken orally—was worth the pain caused by the pain-blocking procedure.

My internet search was driven by my desire to enter this information into a data base of patient responses. Perhaps others would take the concept of “pain block” as benign. I wanted to tell them that no, it isn’t.

Doctors and other hospital personnel treat everyone as a potential worst case. If, like me, you are typically a best case, don’t let them fight the pain you will not have, or can well tolerate.

Only patients are experts in patient responses to procedures. Why doctors think *they* are, I do not know. Why publishers think being a doctor is a credential to write about being a patient, I do not know. Only practice brings about expertise. I have more practice at being a shoulder operation patient than most doctors ever will.

Other patients, with other experiences, might disagree with me. They might say the pain block is a good thing. Fine, let the patient data base contain feedback from patients, whatever it may be. It would have an expertise that no doctor-based site has or could have.

What about the pain I am having in the second, third, fourth week after the operation? Is this usual? How long will “full” recovery take, and how “full” will it be? Of course there will be a distribution of results, from “no pain after the first week” to “residual pain forever.” But I will be informed by such a distribution. If most responses say the pain remains high for four weeks, but diminishes markedly after at least eight, then I have some benchmark. Four weeks out, still in pain, I am sort of normal, average, even if some lucky people recover faster. If the pain persists more than eight weeks, or more than ten, perhaps I should consider myself not normal, or perhaps something remediable has gone wrong. My experience has always been that I heal more quickly than average, in addition to having less pain than doctors predict. I’m one lucky guy. So I would be quicker to think something is wrong if pain persists. And, although the doctor would find my questions annoying, I would be right. The signs have to lead somewhere, but without information I do not know if I am even seeing signs.

## Shoulder: Rotator Cuff II

Dr. DePaolo, the so-called expert, was wrong. I had a rotator cuff tear. A second MRI, after I failed to “recover” from my first surgery, showed it. His claim that I did not have a tear was incorrect. A medical error.

What is one to do? I did not think that suing him would make much sense. So I let him operate on the real problem. I insisted that there be no injected pain blocker. Because we patients are not considered experts, and only experts count, you know, there *was* some kind of a pain block. I awoke holding a battery operated device which was injecting pain block into my shoulder. Medical professionals do not listen to patients. He should not have given me a pain blocker. I had every right to make that decision, and I did make it—but it was ignored.

Six months later I had an emergency root canal. For post-operative pain, the endodontist prescribed a regimen of alternating ibuprofen and acetaminophen. I took two ibuprofen, went to bed, and never took another pill for pain. No doctor asks about these experiences, nor are they recorded anywhere. Lack of (or tolerance for) anticipated, predicted pain has been consistent throughout my life, and should affect a doctor’s remediation. The idea that doctors are not expert at being patients, it would seem, is obvious. That patients are experts at being patients, especially given several experiences, should be equally obvious.<sup>5</sup>

On his second attempt, DePaolo did a creditable job. I would have preferred actual sutures to the steel clamp he used to close up my wound—leaving a horrendous and itchy scar—but my shoulder, eventually, did quite well.

## Medical Errors

Characterized as small-town or rural, Western North Carolina might not have the very best doctors or hospitals. However, Park Ridge Hospital, one of several Seventh Day Adventist hospitals in this country, is just that. In December, 2014, Dr.

---

5 Stacy Dale and Alan Kreuger hypothesize that high school students assess their own abilities well. They propose to measure that self-assessment by the average SAT scores of colleges to which the high school senior applies. See “Estimating the Return to College Selectivity over the Career Using Administrative Earning Data,” Princeton University, Industrial Relations Section, Working Paper #563, February, 2011. Perhaps that average SAT score does *not* measure the confidence of the student (who may not know that datum), or perhaps students mis-estimate their own abilities. David Brooks, for example, writes:

. . . people are phenomenally terrible at estimating their own self-worth.  
Some Americans seem to value themselves ridiculously too little while  
others value themselves ridiculously too highly.

“The Problem With Confidence,” *New York Times*, May 13, 2014. If Brooks is right, then whatever they find, Dale and Kreuger’s interpretation will be incorrect. Econometric results are only as good as the assumptions on which they are based. We may think we know who we are better than those assessing us. Do we?

Amal Das replaced my left hip with a combination of steel and plastic. If you think I am a grouch, let me report that this was the finest combination of doctor and hospital I have ever experienced, including in Cambridge, Mass., Washington, D.C. and other supposedly top rate places. Perhaps the patient data base that I envision could contain such reactions.

A friend underwent a rotator cuff repair in Boston in 2010. His wife wrote:

... so many stupid medical institutional errors -- like the pharmacy label telling him to take celebrex before surgery when it absolutely should *not* have been taken until after; or telling him to stop his high blood pressure meds when he should have had them....promising two reiki treatments and neither showed up....forgetting to tell him he needed a complete physical until 3 days before surgery...what if they had found something wrong???

Japanese stress reduction is now offered by Boston hospitals? Offered, but apparently not actually provided. This is frightening. Our medical system often comes close to not working.

Another friend writes from Washington, D.C.:

The antibiotic prescribed was in the same class as one I expressly had identified as contra-indicated on a list of what I am taking and what I avoid. As a result, swelling and red welts appeared wherever cloth was attached with adhesive. This happened quickly enough that, once awake again, I stopped taking the stuff after one dose. Only the next day was the electro-cardiologist told by her nurse practitioner. They discontinued antibiotics entirely instead of substituting a better one! There are too many people who only do one thing in the process - without any fail-safe cross-checks.

The system does not work well because its motive is profit (including physician income), not patient care. Profit is achieved by substituting unskilled for skilled labor, and faster procedures for slower ones. Workers are careless—not deliberately, but habitually. As I later describe bankers, many of these workers are clerks. This is not to demean the work that clerks do, but let's not confuse it with professional work in which the act being performed requires education, thought, knowledge, experience. Clerks follow procedure, and if they do, they are not held responsible for any outcome.

Professionals, also, are bound by procedure, but are expected to judge whether that procedure is efficacious in the current moment. Professionals modify their procedures based on their knowledge tempered by their judgments. Professional

judgments, however, can be wrong. Professionals may not be experts. Or, your professional may not be an expert in your particular problem. Do not be afraid to question them.<sup>6</sup>

### **How Common Are Medical Errors?**

These stories describe medical errors. They lead to one critical instruction: *Do not go to a hospital or other medical procedure alone.* Someone must be there to look out for your interests. You may be unconscious or groggy. Your judgment may not be adequate in this circumstance. Your doctor has his own interests, of which not being reported to have made medical errors is one.

The stories I have just told are the least of the problem,. They are here to introduce the larger issue, many and unreported serious errors leading to serious consequences, including death.

According to the Journal of Patient Safety study, *Evidence-based Estimate of patient Harms Associated with Hospital Care*, preventable adverse events (PAE's) contributing to deaths from care in hospitals cause one-sixth of all deaths that occur in the United States each year.<sup>7</sup>

I am skeptical of this number, but not because I think the real number might be lower. More likely it is higher. We cannot go deeply into this subject, but it is important. It is part of the whole problem of finding experts, of even knowing whether our health providers *are* experts. Health is a major area in which we rely on expertise, and medical care is a major area within the larger category of "health." Here are some things we would like to have:

- A practical definition of "medical error."
- A recognized categorization of medical errors, from harmless through degrees of seriousness to death.
- A recognized categorization of places such errors can be made, such as a doctor's office, an urgent care or outpatient facility, a pharmacy, at home.
- Data on medical errors by severity and place of occurrence.
- If there are no such data, why not?

---

6 See Tula Karras, "When To Question Your Doctor," *Real Simple*, May, 2017 at 95.

7 Erica Daniels, "440,000 Deaths Annually from Preventable Hospital Mistakes," *The National Trial Lawyers*, January 21, 2015. The source of this number is explained below.

- What data *are* available on this subject?
- What analyses have been done on these data?
- Given all of that, what do we know?

### What Are Medical Errors?

Medical error has been defined as an unintended act (either of omission or commission) or one that does not achieve its intended outcome, the failure of a planned action to be completed as intended (an error of execution), the use of a wrong plan to achieve an aim (an error of planning), or a deviation from the process of care that may or may not cause harm to the patient.<sup>8</sup>

Vinay Prasad thinks this definition, from the *British Medical Journal*, is too broad. He suggests:

A medical error is something a provider did or did not do that caused a bad outcome, and the action should have been done differently given what was known, or should have been known, at the time.<sup>9</sup>

More concise, but I do not think much better. We will have to define a taxonomy of outcomes, determine which are bad, and at least rank them if not place them into categories of “badness.” We will have to understand what was or should have been known at the time the error occurred. This gets political quickly, which no doubt is why it has never been done. The World Health Organization (WHO) publishes a classification of procedures, the International Statistical Classification of Diseases, well known as ICD, usually followed by a number (such as ICD-10), as discussed briefly below in this chapter. So there is a classification of things that *can* go wrong, but is there one of things that do?

No. One attempt to classify preventable adverse events (PAEs) should make apparent a major problem in relating events to a cause, that is, to an actor in the health system. John James starts a classification by defining three times, relative to a health procedure, when a PAE might occur: immediate, delayed for days or months, delayed for years.<sup>10</sup> Immediate effects, such as excess bleeding, can most easily be connected to an error made by a health provider. Indeed, as such events occur in the presence of that provider, they should be noted in that provider’s

8 Martin Makary and Michael Daniel, “Medical error—the third leading cause of death in the US,” 353 *BMJ* i2139 (2016).

9 Vinay Prasad, MD, “Don’t believe what you read on new report of medical error deaths,” *STAT*, May 9, 2016.

10 John T. James, *A New, Evidence-based Estimate of Patient Harms Associated with Hospital Care*, 9 *Journal of Patient Safety* 3, September, 2013.

records. Even days later, however, a PAE might not be recognized as such, and might not be treated by the original provider. Regardless what records that provider should have kept, they will be incomplete.

Following that thought,

Harm that occurs years later is exemplified by a nearly lethal pneumococcal infection in a patient that had had a splenectomy many years ago, yet was never vaccinated against this infection risk as guidelines and prompts require.<sup>11</sup>

Errors of omission are only “recorded” by their absence, and therefore can be detected only with great difficulty. The person who suffers from such an error may not remember what her operation was called, or where it had occurred. There is no source of funding to trace such an event back to a health provider who may have caused it. Finally, some patients will die of other causes before such a long delayed consequence occurs. The count of errors will always be biased downward.

Tracing consequences back to a source is the hallmark of epidemiology. This methodology has led to some important findings, such as Legionnaires Disease, which is essentially only found in large buildings in industrialized countries.<sup>12</sup> Hospitals and hotels are equally likely to foster this disease. If hotel patrons contract it, no one would suggest that it was derived from the health care system; but if hospital patients contract it, wouldn't we want to count it as a medical error? It would fit any definition but, not being associated with a specific procedure (it is associated with admission to the hospital) no recording procedure would catch it. Hepatitis C, which is a common side effect of a hospital stay, has the same characteristic: It is associated with being in the hospital, seldom with a specific procedure. Most people who would not count Legionnaire's Disease as a medical error *would* count Hepatitis as one.

I am making two points. First, defining and capturing medical errors would under any circumstances be very difficult. That does not mean it should not be done. That means it can only be done (in the United States) by the federal government. A good study cannot be confined to the location of the medical procedure. There must be a way to start with bad events, trace them to sources, and then re-organize the data by those sources, starting with a census of procedures, so we can count non-events as well as events. Such a study has never even been contemplated.

---

11 James (2013) at 122.

12 Legionnaires' disease, a form of pneumonia, is caused by a bacterium known as legionella, which can grow in water collected at the bottom of a cooling tower used in commercial air conditioning systems.

Second, we have to find an entry point into the topic. In effect, that entry point is death. Let's discuss medical errors that lead to the death of a patient. Surely that is in all cases an unintended consequence—but is it a consequence at all? If a hospital were scored on that basis, would it not refuse to perform new or risky procedures? That is why we have to temper any definition with a finding that the procedure was not correctly performed. Someone had to do something wrong for the event to be called an error. The bad consequence, alone, should not suffice.

So any count of medical errors should have a bad consequence “caused by” an error of commission or omission directly related to the procedure being performed. Or, as above, should it be related to the institution generally? No such count will ever be compiled from health provider records. They are not all there. If the consequence do not occur in the same place as the procedure, someone (or, in the future, some automated procedure based on humans, not institutions) has to put them together. If there are no complete data, there are no real experts on medical errors.

### **Are Medical Errors Recorded?**

As outlined above, confining our attention to death as the bad consequence of a medical error, there are two ways to look for data: One is from the provider. The other is from death. Of course not all deaths are the result of anyone's error. Some people get old and die of “natural causes.” Some automobile accidents are just that, accidents. Others may have a cause, but it is no one's interest to determine it. And many deaths are caused by people unrelated to health services, people who come armed with a gun and use it, for example. Still in principle, one would think, we can start with deaths and ask how many of them were preventable within the health industry, a subset of which we might determine were *caused* within the health industry.

#### Incident Reporting Systems

Most hospitals have incident reporting systems. Many reports are in text—descriptions of events, some of which were adverse. This information can help hospital management, but would require coding, a difficult, expensive and error-prone procedure. In addition:

Incident reporting systems have limitations. First, it can be difficult to determine incidence rates based on reported data because of variability in the rate and consistency of reporting. . . . Second, research suggests that incident reporting systems capture only a

small percentage of adverse events and that some categories of events are underrepresented. Additionally, the rate and consistency of event reporting by hospital staff often varies.<sup>13</sup>

One study sampled patients from a sample of hospitals (stratified by size) in Massachusetts, asking them, 6 - 12 months after they had been discharged, to report medical errors. The researchers compared those patient reports with hospital records. Of 998 patients in the final sample (of 4163 who were eligible to be), 229 reported 299 adverse events. Doctors who reviewed their records, however, found 169 patients with 188 adverse events. Only 46 patients were in both groups. Twenty-one post-discharge events “were the result of hospital events that did not manifest until the patient was at home.”<sup>14</sup>

Two lessons to learn from this study are:

- It is difficult to define PAEs from internal records. Many of these events were not discovered from a careful definition of events until that definition was revised, and records were reviewed again, from patient interview experiences.
- Any definition of an “event” requires observing a consequence, but not all consequences occur and are observed at the patient care site, and therefore those that are not observed are not counted.

The only upward bias one can see in this study is that only 51 percent of those completing patient interviews consented (in writing) to have the researchers review their hospital records. It is reasonable to suppose that those who did were more likely to have had adverse events than those who did not. Otherwise this study indicates that it is hard to discern adverse events in hospital records. Counts from this source are surely too low.

### Death Certificates

A death certificate is supposed to list a cause of death. The Center for Disease Control (CDC) collects and codes these documents. A CDC spokesman, defending his agency’s coding, said that

---

13 *Hospital Incident Reporting Systems Do Not Capture Most Patient Harm*, Office of the Inspector General, Department of Health and Human Services, OEI-06-09-00091 (2012) at 3.

14 Joel S. Weissman, et al., “Comparing Patient-Reported Hospital Adverse Events with Medical Record Review: Do Patients Know Something That Hospitals Do Not?” 149 *Annals of Internal Medicine* 100 (2008) at 103.

complications from medical care are listed on death certificates and that codes do capture them.

Though they are at times listed, they are systematically not considered the cause of death. That is, the data are a biased source of information on medical errors.

The CDC's published mortality statistics, however, count only the "underlying cause of death," defined as the condition that led a person to seek treatment. As a result, even if a doctor does list medical errors on a death certificate, they aren't included in the published totals. Only the underlying condition, such as heart disease or cancer, is counted, even when it isn't fatal.<sup>15</sup>

Why is there one "cause of death?" A woman was in a car that was bombed in Washington, DC. A piece of the car slashed her throat. Cause of death: Loss of blood. I would say cause of death was a bomb. Neither would be completely right.

What about someone who bleeds to death from a cut, because her blood thinner prescription was too strong? If we apply a "but for" test we come up with at least two answers:

- But for the wrong prescription, she would not have died (medical error).
- But for cutting herself, she would not have died (accident).

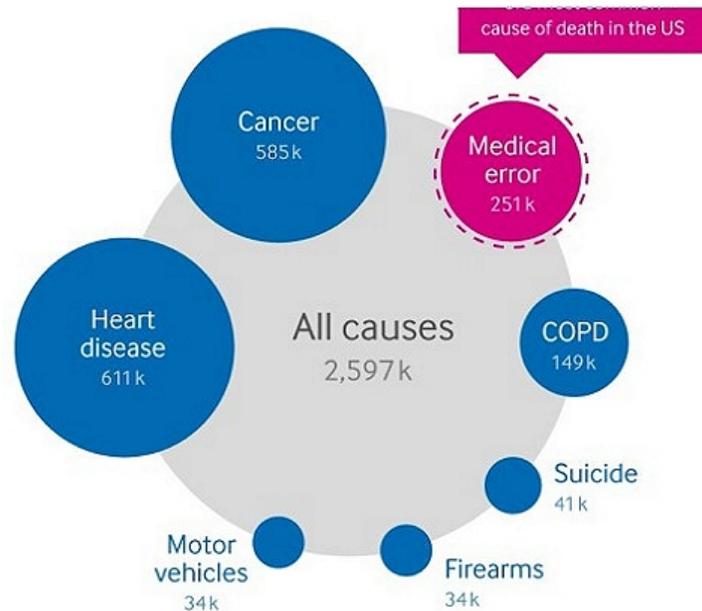
Or, perhaps, but for delay in calling 911, or but for not having trained her children, or many other interventions that might have saved her life.

Listing "cause of death" with counts, as we are all too ready to do, assumes that each death has a sole cause. When a listing is rationalized as by "primary cause" or "underlying cause," medical errors will be under-counted. The error usually leads to an intermediate result (an infection, for example) which will be what the coroner sees. Someone will have to devise and defend a weighting system in which we recognize multiple causes, not each of which gets a value of "1" in our count. Or we can go to two levels, just as the player who last touches the puck before a score is credited with a goal, but the player whose shot was deflected by the goal scorer is credited with an assist. Medical errors currently get a score of zero

---

15 Both quotations are from Marshall Allen and Olga Pierce, "Medical Errors Are No. 3 Cause Of U.S Deaths, Researchers Say," National Public Radio, Morning Edition (May 3, 2016). This report is based on the BMJ study, cited above.

unless they precipitate a death in the care facility where they occur.<sup>16</sup> They should get a score of “1” in a supplemental “but for” list.



### So What Do We Know?

The sad fact is that it is difficult to get believable data on the consequences of medical procedures. John T. James, Ph.D., in Houston, Texas, is the originator of the number of deaths from hospital error, based on data from 2008 through 2011, and published in 2013: 440,000 per year.<sup>17</sup> His son

died as a result of un informed, care less, and unethical care by cardiologists at a hospital in central Texas in the late summer of 2002.<sup>18</sup>

He is also responsible for devising and effectuating a system of grading hospitals, so that prospective patients can compare those in their area, if they have a choice (i.e., if their doctor has access to more than one). These grades are available to the public at <http://www.hospitalsafetygrade.org>.

Here we see what is ultimately the paramount problem. I searched on this site for hospitals in and around Asheville, North Carolina. Park Ridge received an A rating. As I expected, Pardee, in Hendersonville, received a lower rating, a B, which

16 Graphic from Martin Makary and Michael Daniel in *BMJ* (2016).

17 John T. James, *A New, Evidence-based Estimate of Patient Harms Associated with Hospital Care*, 9 *Journal of Patient Safety* 3, September, 2014 at 122.

18 From the dedication on Dr. James' web site, [www.patientsafetyamerica.com](http://www.patientsafetyamerica.com).

struck me as too high, but which reinforced my own judgment that Park Ridge was superior. The largest hospital in the area is Mission, a merger of several religious hospitals.<sup>19</sup> Neither it nor any component appears on the list of hospitals rated in this area. There can be only one reason: They will not make their data public.

This is how ProPublica describes itself:

ProPublica is an independent, nonprofit newsroom that produces investigative journalism with moral force. We dig deep into important issues, shining a light on abuses of power and betrayals of public trust — and we stick with those issues as long as it takes to hold power to account.<sup>20</sup>

They have developed a “Surgeon Scorecard, available at

<https://projects.propublica.org/surgeons/>.

One can search for data on surgeons or hospitals. I searched it for Mission Hospital in Asheville on December 29, 2017. The Scorecard had last been updated on July 15, 2015—two and a half years ago. The report on Mission looked like this:

## MEMORIAL MISSION HOSPITAL AND ASHEVILLE SURGERY CE

509 BILTMORE AVE, ASHEVILLE, NORTH CAROLINA, 28801, PHONE: 828-213-1111

### How Surgeons at This Hospital Perform, by Procedure



One can appreciate that ProPublica is trying to provide more information than one can get from a single rating, but I do not find this useful at all. First, where grades are instantly comparable, it would be hard to compare this presentation with that

19 Go to [www.Mission-Health.org](http://www.Mission-Health.org). Dr. DePaolo’s shoulder operations were at Mission, and we know that his first was totally in error. I also had a stent inserted in their Cardiac wing, apparently without error.

20 Describing their mission, under “About” on their website <https://www.propublica.org/about/>.

from another hospital. Pardon me, but I thought that was the point of something called a scorecard. I have scored many a baseball game, recording every play, but also *the score*. Second, their score is indeed about surgeons, not the hospital, but it essentially tells us that all surgeons make errors. Third, given the rate of change of hospital personnel—at least hospitals in the fast growing Asheville area—ProPublica’s promise to stick with it seems not to hold.

Whether we start with care providers, and try to get data on their failures, or start with failures (deaths) and trace some of them backwards to care providers, only those providers have the information from which we could code—in theory—death inducing medical errors. As long as those providers are private institutions—indeed, private *for profit* institutions—they will not provide those data to any honest research operation. There can be some people who know more about this issue than others, but there cannot be experts.

Throughout this book I define experts as those who are right when others are wrong, those who lead to new knowledge, not those who have mastered old beliefs, some of which may not be knowledge at all. I see no way there can be an expert measure of medical errors. Over and above the inherent difficulty of definition and patient cooperation, the required institutional information is held by those whose interests are best served (at least as they see it) by keeping them secret.

### **Cost of Medical Care**

The cost of medical care is too large an issue to tackle here. The appropriate questions would be what could we do about cost if we had information, where would such information come from, who is an expert on the subject? Some analysts would say that there are two kinds of cost: diagnosis and treatment. And some argue that there is too much of both.<sup>21</sup>

Here I take a different approach. There are two kinds of cost: public and private. And therefore there are two avenues of discussion. One is public policy to pay for medical costs. Public programs, discussion of which would lead to legislative action, include Medicaid for poor people, Medicare for old people, and as of 2014, a national health insurance system derisively called Obamacare. Required vaccination

---

21 Atul Gawande argues that the former leads to the latter—that finding abnormalities of no consequence leads to a demand to correct them. Unfortunately, this concept is part of the all too frequent urge to blame the patient. He also notes, “Doctors get paid for doing more, not less.” And he sees a path out of these bad incentives. “Overkill,” *The New Yorker*, May 11, 2015 at 42, quotation at 46.

without religious exemptions would be a good addition.<sup>22</sup> As its benefits are more public than private, so should be its cost. Private costs include information on and discussion of alternatives (your doctor, clinics, hospitals), their quality, their accessibility.

Bethanne's niece had a severe form of cancer, at age 11, luckily discerned by an alert doctor. Her subsequent operations and treatment have put her father into a debt from which he can never recover. Both of his children understand that there can be no parental support for college. This event has changed their lives forever, even though they had medical insurance! Insurance is almost always a bad bet. The expense is certain, the benefit is rare; the expense is large for everyone, the benefit large for only a few.

Such a major medical expense at an early age is also rare. How much of one's lifetime medical costs occur when? Here is one expert on public cost:

The roughly 6 percent of Medicare patients who die each year do make up a large proportion of Medicare costs: 27 to 30 percent. But this figure has not changed significantly in decades. And the total number of Americans, not just older people, who die every year — less than 1 percent of the population — account for much less of total health care spending, just 10 to 12 percent.<sup>23</sup>

We do not usually know in advance that this is the last year of someone's life. We make heroic efforts to save that person, which sometimes succeed. When they do, the cost is allocated to some year other than the last. We cannot make policy on the basis of facts we do not have at the time the judgment how to act is being made. That is, reference to how much the last year of life costs is irrelevant. If we have a public policy to care for people, then it should be for everyone. If we handled economic policy more expertly—on which see Chapter 13—there would be so much more income than there now is that we could decide to allocate much more to health care and all be happier for it.

Of course that will not happen. So let's continue discussing health with no concern for public policy. We're on our own.

---

22 In 2015 California repealed its "personal belief exemption" to universal vaccination. That repeal was challenged. The challenge failed. See *Whitlow v. California*, 203 F.Supp.3d 1079, S.D. California (2016).

23 Ezekiel J. Emanuel, "Better, If Not Cheaper, Care," *New York Times*, January 4, 2013 at A23.

## Knowledge

David Servan-Schreiber has lived in both worlds.

No longer wrapped in the comfortable mantle of physician and scientist, I had become a cancer patient.<sup>24</sup>

Is this the real expert, the doctor turned patient? There is much to say for Servan-Schreiber's explorations into cancer research, and the pro-active (what you can do about it) conclusions he draws. I recommend his book for anyone, cancer patient or not. I will use some of the information he provides over the next two chapters. But as he is an expert summarizer of research literature, I also recommend your completing this chapter before you take what Servan-Schreiber has to say as true.

Individuals gain knowledge through education (broadly), training (specifically), and their own research and experience (idiosyncratically). Some individuals take as their task to distill and disseminate knowledge. Does expertise come from proclamations made by others? In general, I call a person "competent" if he knows what others have said about a subject. An expert is something more. He/she may create knowledge, or apply it where others do not, or determine that it is not knowledge at all. Knowing the "literature" does not an expert make.

The measurement of success in medicine is statistical. There are measurements over repeated applications of whatever it is (that operation, say, or this medicine). There are measurements describing the patient before the procedure, the procedure itself, and the patient after the procedure. In terms of deriving information from data, one might say that the statistician who performs the study is the real expert, not the physician who performed the operation, or the chemist who formulated the medicine. Most people who claim to be experts in medical affairs have read a lot of these studies. Reading about studies takes less time than performing them. Is reading the same as understanding?

Certifying what is medical "knowledge" is undertaken by people who did not create it, and may or may not be capable of evaluating it. One book starts out:

How does an average person sift through today's information overload of opinions on health, fitness, and exercise to find factual data in the pursuit of valid knowledge?<sup>25</sup>

---

24 David Servan-Schreiber, *Anti-Cancer*, Viking (Second Edition 2009) at 1.

25 Doug McGuff and John Little, *Body By Science*, Northern River Productions (2009)

This is the problem not only of the “average person,” but of the professional, the would-be expert. How do we know if a study’s conclusions represent “fact?” How do we know if a person who has read many studies can discern fact therefrom?

Consider the admonition that one should drink 8 glasses of water a day. Both Mayo Clinic and Web MD tell you that it is not a strict rule, people differ, there is no scientific evidence for it, but they both recommend it as a guideline. Here is Mayo Clinic:

Everyone has heard the advice, “Drink eight 8-ounce glasses of water a day.” That's about 1.9 liters, which isn't that different from the Institute of Medicine recommendations. . . . Just keep in mind that the rule should be reframed as: “Drink eight 8-ounce glasses of fluid a day,” because all fluids count toward the daily total.

Then we read in the *New York Times* that there is no science behind any such guideline. One should trust one’s body’s signals.

Contrary to many stories you may hear, there's no real scientific proof that, for otherwise healthy people, drinking extra water has any health benefits.

I choose to believe that but really, I do not know.<sup>26</sup>

Failure to discern fact and report it adequately may not be due solely to inadequacies of the reporter, the summarizer. The study’s “creator” may not have provided all relevant information—especially information capable of refuting his conclusion. This taking in and evaluating proposed “knowledge” is a critical societal function. Yet among those who take on this task there are often contradictory opinions.

In a society as free as we surely want it to be, anyone can evaluate current knowledge, or claim to. The question then is not who performs this function, but whom we can trust among those who say they do? The basis of that trust is not the summarizer’s intentions. It is what information did he have access to, how reliable was it, and how competent is he to evaluate it? We usually do not know.

One example should suffice: Is mammography screening a good idea? A principled answer might be yes, if the benefit from early detection of cancer exceeds

---

26 <http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/water/art-20044256>. Web MD is similar: <http://www.webmd.com/diet/6-reasons-to-drink-water>. Both quoted from August 24, 2015. See Aaron E. Carroll, “No, You Do Not Have to Drink 8 Glasses of Water a Day,” *New York Times*, August 24, 2015.

the cost, in time, money, false positives, over-diagnosis (that is, a true detection of a cancer that will not, itself, be fatal) and the harm from the radiation of the exam. Although there have been many studies, and several “meta-analyses,” there is no consensus answer. Not that a consensus would necessarily be correct, but there are many confounding variables, and statisticians disagree what to do about them.<sup>27</sup> Good question, to which there is currently no answer.

Perhaps the answer could come from clinical trials. You might think that research on human subjects is carried out mostly in university settings, guided by physician-professors, staffed by well-paid professionals. More and more, however, these trials are subcontracted to firms specializing in performing research. Trials often take place in poor countries, where access to medical care is scarce.

Contract researchers may find that their sponsors do not welcome bad news about the trials, especially if the drug appears unsafe. Reporting that subjects have experienced a “serious adverse event” (industry-speak for the worst side effects) may mean losing the contract. One physician, . . . when she documented her concerns and recommended redesigning the trial, the sponsor ignored her and successfully submitted the drug for approval. The drug was later withdrawn from the market. “We never got a contract from that manufacturer again,” she adds.<sup>28</sup>

It is probably rare that such a report gets suppressed. What the manufacturer wants is that such a report should never exist. The important point of this quotation is the last sentence. Punished for telling the truth, the researcher is never permitted to be in that informed position again. Medical researchers act towards their hired task-performers just as lawyers act towards statistical experts: The ultimate suppression of truth is not allowing it to be discovered in the first place. Honest experts and honest medical researchers are screened out. Over time, the only firms offering these services are those that have learned the lessons of their sponsors.

Consider Medtronics’ Infuse spinal bone graft:

Stanford orthopedic surgeon Eugene Carragee and his editorial team at the *Spine Journal* . . . discovered in a broad array of

---

27 See, for example, Paul Taylor, “Breast Cancer Screening,” *London Review of Books*, June 5, 2014 at 30.

28 Carl Elliott, “The Mild Torture Economy,” 32 *London Review of Books* 18:26, September 23, 2010 at 27. The books being reviewed are Roberto Abadie, *The Professional Guinea Pig: Big Pharma and the Risky World of Human Subjects*, Duke University Press (2010); Jill Fisher, *Medical Research For Hire: The Political Economy of Pharmaceutical Clinical Trials*, Rutgers University Press (2008); and Adrianna Petryna, *When Experiments Travel: Clinical Trials and the Global Search for Human Subjects*, Princeton University Press (2009).

published research that risks of complications (including cancer, male sterility and other serious side effects) appeared to be 10 to 50 times higher than 13 industry-sponsored studies had shown. And they learned that authors of the early studies that found no complications had been paid between \$1 million and \$23 million annually by the company for consulting, royalties and other compensation.<sup>29</sup>

As seriously as doctors may try to get the latest and best information, the information they find may have been tampered with at very early stages—at the clinical trial stage, for example, run by a private contractor that wants to get more such jobs. The doctor is expert at knowing what the literature says, but not what it *should* say.

Contract researchers may not do much intellectual work, but this doesn't mean they are not well paid. A part-time contract researcher conducting four or five clinical trials a year can earn an average of \$300,000 in extra income. In 2000, a full-time clinical trial site earned an average of \$1.6 million.<sup>30</sup>

This is but one of the reasons—and not even the major one—why John Ioannidis wrote “Why Most Published Research Findings Are False,” the most widely downloaded article ever made available in the Public Library of Science.<sup>31</sup> Researchers can keep earning like this as long as their trials go “well,” without excessive side effects or other incidents that do not please the sponsors. If you want to be in this business, that is the job you have to do.

## Chemicals

### Synthetic chemicals

may draw the most attention when they show up in places like children 's pajamas or macaroni and cheese, but in reality they are everywhere.<sup>32</sup>

---

29 Joan O'Connell Hamilton, “Something Doesn't Add Up,” *Stanford Alumni Review* May/June 2012. Similarly, studies to which Aaron Carroll was responding in his *New York Times* article, August 24, 2015 (cited above) had been sponsored by Nestle, which sells bottled water.

30 Carl Elliott (2010), *London Review of Books* at 26.

31 John P. A. Ioannidis, “Why Most Published Research Findings Are False,” *PLoS Med* 2(8): e124. doi:10.1371/journal.pmed.0020124 (August, 2005)

32 Evan Helper-Smith, “How to Save Your Sperm,” *New York Times*, July 31, 2017. Next indented quote from the same source. For the poisoned pajamas story, see <http://www.wnd.com/2007/08/43133/>. [S]cientists found formaldehyde, a chemical preservative, in wool and cotton clothing at levels hundreds of times higher than levels considered safe.

Sometimes, as with DDT, the public learns about the deleterious effects of certain chemicals, and authorities are forced to ban some chemicals, but industry fights it, as I describe in Chapter 14, Science. At other times, when the alarm was raised about some chemicals,

chemical entrepreneurs did what the market incentivized and their training equipped them to do: find a slightly different molecule that could do the same thing.

But that slightly different molecule, which had the same effect in the product, also had the same effect in the environment.

Most synthetic chemicals are derived from oil and gas. It is not surprising that they do damage to the environment, and consequently to humans. These chemicals seem a likely cause of the 50 percent decline in sperm count between 1973 and 2011.

In response, people try to avoid these chemicals. Unfortunately, that is not easy. Organic food may well be free of most of them, but one cannot be sure. And fabrics made of organic cotton seldom are. When a product states it is made from 100% organic everything, manufacturers are not required to state all the processes that product has gone through. For example, organic cotton may be “slashed” before being woven, by soaking it in a chemical bath to strengthen it. After weaving, the cotton is washed. The slashing material is never mentioned, but was it all washed out, or does a residue stay in the product?

### **Exercise**

Besides nutrition, we all need exercise. My “man descends from trees” thinking supports the concept that we were made to move, that not moving contributes to bad health. Good food and proper activity make for a happy body. We have to develop some expertise in both of those areas, like it or not. Isn’t that what “education” is supposed to do? How did education get off the track of teaching us how to take care of ourselves, body and mind?

Servan-Schreiber wants us to understand about “inflammation,” the harm it does, what aggravates it, what reduces it. He tells us that “less than twenty minutes of physical activity a day” is an aggravator.<sup>33</sup> He recommends at least 30 minutes of exercise a day, 6 days a week. It could be that less than 30 minutes of exercise a day has no effect on cancer, which is the focus of Servan-Schreiber’s book, but to dismiss

---

33 Table 3, “The Principal Influences On Inflammation,” *Anticancer* (2010), second edition, page 48..

the benefits of less exercise is the kind of nonsense we get from mono-maniacal so-called experts. Within limits, the more exercise the better, but some is better than none, and more is better than some (although by decreasing amounts).<sup>34</sup>

More and more, studies conclude that if one knows how to do it, one can be very healthy with little exercise. The feature that permits less time is spurts of high intensity. I cannot review all the exercise studies here, but it is an interesting turn-around that some doctors find hard to accept.<sup>35</sup>

There are two predominant exercise approaches. One is to sell you a machine, or to rent you the use of machines at a fitness club. The other is to sell you DVDs, exercise programs you move and dance along with. Of course the machines come with exercise instructions, and the DVDs usually require that you purchase some ancillary equipment—ropes, balls, weights. So the difference is of degree, not kind.

I think an expert would advise two approaches to exercise, aerobic and muscle building. However, although I see advertisements for particular machines and programs, where is the general advice that starts with principles and leads to a limited set of choices?

The Gazelle's "non-impact" concept means little to me. That might change when my knees are destroyed, and some doctor asks just why I chose an impact exercise machine. Lacking both expertise and expert advice, I have gone with a treadmill. (I deny that my treadmill exercise had anything to do with the destruction of my left hip, but . . .) The best exercise machine surely is the one you use. We live on a mountain. Some of our neighbors have taken *that* to be their exercise "machine." Round trip top to bottom is about a mile, and some of our neighbors—who seem much the healthier for it—walk the round trip twice a day.

Like the cold-call stock brokers we will meet in later chapters, health-machine advertisements contain selected truths rather than outright lies. Most people who say

---

34 See Chi Pang Wen, Jackson Pui Man Wai, Min Kuang Tsai, Yi Chen Yang, Ting Yuan David Cheng, Meng-Chih Lee, Hui Ting Chan, Chwen Keng Tsao, Shan Pou Tsai, Xifeng Wu, "Minimum amount of physical activity for reduced mortality and extended life expectancy: a prospective cohort study.," *The Lancet* Early Online Publication, August 16, 2011. More accessible is Catharine Paddock, "For Longer Life, Exercise 15 Minutes A Day And Cut TV Hours," *Medical News Today*, August 16, 2011.

McGuff & Little, in *Body By Science* (cited above), describe and recommend a rigorous exercise routine taking 12 minutes *per week*. See also multiple authors, "Leisure-Time Running Reduces All-Cause and Cardiovascular Mortality Risk," *Journal of the American College of Cardiology*, August, 2014, summarized in Gretchen Reynolds, "Running 5 Minutes A Day Has Long-Lasting Benefits," *New York Times*, July 30, 2014.

35 See, for example, Gillen JB et al., "Three Minutes of All-Out Intermittent Exercise per Week Increases Skeletal Muscle Oxidative Capacity and Improves Cardiometabolic Health," *PLoS ONE* 9(11): e111489. doi:10.1371/journal.pone.0111489 (2014).

they lost 30 - 50 lbs and now look like **THIS** probably did use the machine and did lose the weight. Whether the two are associated is the question. Surely some governmental agency would prohibit outright lying in a television ad.<sup>36</sup> The point is that the producer of the product selected the examples. They chose their successes, just like you do when you describe your life to someone you just met. They are showing you what is possible, not average or even probable.

So, in my non-expert way, I take a different approach. Let's see the principles behind these machines. Some will have you pull or push against weights; some against rubber; some against specially formulated bendable plastic. I worry about these attachments wearing out. I had a set based on rubber. They all eventually broke—a slight tear, then bigger and bigger until the inevitable parting of the ways. Weights won't do that, but buying weights seems silly, except possibly small ones for your hands. Our bodies are weighty. You do not have to spend money to obtain weights to lift.

If you do want a machine, surely the simpler the better. In principle, pushups and pull-ups should be sufficient. Or you can get a machine that uses your body as the weight you are lifting. It might be that a pull-up bar in a doorway is all the "equipment" one needs. Lifting your own weight is the concept behind The Total Gym. It makes sense to me.

You can find amateur versions of exercise machines in whatever used sports equipment store you know. I say "the amateur versions" because I have seen "professional" versions of some popular machines—including Total Gym—in physical fitness centers. I do not know if they are there through "placement," or because the customers expect to see them, or because they really are superior to the home versions. Those in fitness centers are sturdier and more expensive than the ones we are likely to purchase. My skeptical bent says that, once you buy the amateur version, the professional version is offered to you "at a discount." That may be, but the amateur version should last your lifetime. If you think it won't—and it surely won't if you are bending or stretching something—don't get it.

There is yet another approach to exercise, which is not aerobic and does not build muscles. Our physical therapist, Spencer, recommended Feldenkrais, which you can find out about on the internet. We purchased some tapes that contain 40

---

36 On March 17, 2014, Kevin Trudeau was sentenced to ten years in prison for lying in infomercials or, more exactly, for violating a 2004 court order that instructed him not to do so. As the judge said, lying and cheating was his way of life. He was unable to stop. For background on this huckster's career, see Catherine Bryant Bell, "The Curious Case of Kevin Trudeau, King Catch Me If You Can," 79 *Mississippi Law Journal* 1043, Summer, 2010.

minute exercises. They all start and end lying on your back on the floor. Now that is something I can do! Then each one goes on to explore a part of your body, by moving or stretching in a particular way. Getting to feel how your body works is a large part of the Feldenkrais approach, and mild stretching is another part. One might say that Feldenkrais is in the same class of “exercise” as Yoga, and maybe Tai Chi. I found it quite effective.

Thus when an “expert” says we should exercise 30 minutes a day, it is not clear what he, she, it means. Although we can find Yoga, Tai Chi and Feldenkrais experts, they are expert at what they do, but not at evaluating it, or comparing it to something else. Nor are they expert at relating their methods to the advice of another so-called expert who tells us that something bearing the same name, exercise, is fundamental to fighting cancer.

There are people whose stupidity is expressed by their pride in their ignorance. I am thinking of Sarah Palin’s response to Michelle Obama’s quest that children be given health advice, and fed nutritious meals. Palin ranted about mama Obama—read, “the government”—trying to “take over” care of our children. And where does Palin think people get good information, or does she think “information” is a government plot to subvert human activity? Her reaction is based on thinking that adults magically have the knowledge they need, although it is clear that few do. It is bad enough that experts fail us—that they do not know what they think they know, what they say they know. But the idea that we do not need real experts, people who have and can disseminate real knowledge, comes from people who have no use for libraries and education, who think the primary use of the internet should be to find games to play.

That is, this book espouses caution before you believe an “expert,” but surely it is clear that I respect the concept of expertise. I am dealing with the fact that few people have it, and many who claim to are charlatans. If you follow Sarah Palin, my whole point is wasted. She either thinks that we do not need expert knowledge, or that, perhaps through our genes, we all have it.

No, we don’t. Most of us stumble through life in our own inexpert way, figuring out enough to help us when we need it. We understand that there is such a thing as expertise, and we want to find it. Yet so many so-called experts fail us. The fitness “experts” just want to make a buck. That does not mean they have nothing to offer. It probably means that they are not worth what you will pay them.

My cousin Sybil walks her dog with friends who are walking theirs. The dogs have been replaced over time, as have Sybil's knees. Still, it surely is better than not walking. Exercise is fundamental. If you do not do it now, please start. If you are getting old, if you fear Alzheimer's or any other kind of dementia, start exercising. In one study, rats were trained to respond to a signal with a behavior. Let's call this stimulus-response a "memory" test. The rats were split into two groups. One ate regular rat meals, the other ate a particularly fat-laden meal with the same caloric intake. After four months, the fat-eating rats performed much more poorly on the memory test.

Each group of rats was split again. Their diets remained as they were. One subgroup from each diet was provided with running wheels, which even fat rats apparently use. Weekly memory tests were given. The high-fat rats that did not exercise continued to decline, while those that did improved. Indeed, over many weeks their memories improved to pre-diet status. Changing their diets to low-fat would also have improved their memories, other researchers have found, but exercise is more effective.<sup>37</sup>

## Exercise

I know that my doctor spends considerable time reading medical journals. Is that where expertise comes from? Or are medical journals essentially controlled by pharmaceutical companies? Is what my doctor reads science or advertisement? More on the journals later. This is about my doctor. Or your doctor.

Peter Orszag—President Obama's first Director of the Office of Management and Budget—proposes that a patient should not be able to sue a doctor (for malpractice) who follows "evidence-based guidelines." That is, doctors are not experts; but if they do what experts recommend, how can they be faulted?

Right now, health care is more evidence-free than you might think. And even where evidence-based clinical guidelines exist, research suggests that doctors follow them only about half of the time. One estimate suggests that it takes 17 years on average to incorporate new research findings into widespread practice.<sup>38</sup>

Health care, he says, is not currently based on empirical evidence of what works. As I suggested above, and Orszag apparently agrees, the real experts are the

---

37 For a write-up of these studies, see Gretchen Reynolds, "Can Exercise Protect The Brain From Fatty Foods?" *New York Times*, November 7, 2012. For more detailed information get the one page summary at <http://graphics8.nytimes.com/packages/pdf/health/SFN.pdf>.

38 Peter Orszag, "Malpractice Methodology," *New York Times*, October 20, 2010.

statistical analysts. Doctors, it is implied, act more to prevent a law suit than to cure the patient.<sup>39</sup> There is surely some truth to that, but there is also another truth. Some doctors order or administer tests looking for that obscure problem they think this patient might have. If best practice is not to look for that problem, Orszag would have your doctor not look for it, either. Then he should not be held accountable when he fails to find it.

As not all doctors are experts, holding all of them to an expert standard will only raise their insurance rates. But neither should all doctors be reading off the same script, especially one based on averages. If we want them to be experts, we have to let them exercise judgment. They should be rewarded when they do it well, and held accountable when they do it badly.

Although I think this “evidence-based” approach is wrong—it is a statistical conclusion based on general experience, whereas any competent statistician will tell you that such a result should not be applied to individual observations—it is about medical reimbursement, not medicine. The real problem is structural. Doctors should be paid by outcome, not by procedure. If the doctor recommends something to me, and I follow his advice, and it works, he should be well paid. Even if that recommendation is that I walk up and down my mountain each day. We pay for preventive maintenance on our cars. Why not on our bodies?

I paid for my first shoulder operation. As it turned out to be the wrong procedure—it was not directed at the major problem—much of what I paid should have been refunded to me. In this system you pay for medical procedures whether they are right or wrong, competently performed or not. Doctors want to be paid for what they do, regardless of the result. A better system would be to pay for the result, regardless what they do. Orszag is simply wrong. His approach assumes the experts—in this case, the statistical experts, for they have determined which

---

39 There is evidence to this effect. See Gideon Parchomovsky and Alex Stein, “Torts and Innovation,” 107 *Michigan Law Review* 285 (2008):

We demonstrate that courts’ reliance on custom and conventional technologies as the benchmark of liability chills innovation and distorts its path.

at 285. See also Michael Frakes, Matthew Frank and Seth Seabury, “Do Physicians Respond to Liability Standards?” available at <http://ssrn.com/abstract=2475485>. A review article, concludes:

A customary practice ordinarily works well but is not necessarily best for an individual whose conditions or needs are not like the average patient. An innovative departure from custom could help such a patient, but this approach would increase the risk that the physician will be second-guessed in a lawsuit, and the patient’s informed consent to the innovative treatment provides no immunity from that threat.

Mark Geistfeld, *Does Tort Law Stifle Innovative Medical Treatments?*, JOTWELL (June 2, 2015).

procedure is best on the average—are the holders of knowledge beyond that of regular doctors. If that is true, we need a way to get this expertise disseminated. His proposal, expectedly, ignores the patient.

There is the TV doctor, House, who figures out the most obscure mal-functions of the human body, because it is not worth his time to dwell on ordinary things. And because he cares; he really *cares*. What do we want, general care recommended by anonymous “experts,” or special care recommended by a doctor of our own choosing? Do we want our doctors to be professionals, or clerks? Of course we want them to be professionals, even experts. But are they?

My doctor is quick to send me to a specialist. I respect that function. He is not the guardian of my health as much as its gate-keeper. He knows where I should go. He sent me to Dr. Das at Park Ridge Hospital, and to Dr. Yeung at Hendersonville Cardiology, whose tests led me to Mission Hospital for insertion of an arterial stent. What he needs to know—and does—is not diseases and how to treat them, but symptoms and who will investigate them.

I do not think it requires a doctor to perform this traffic directing function. Practical nurses could do it. We need a whole reorganization of patient care, emphasizing prevention through food and exercise, and direction to specialists when needed. If the way medical care is structured is the best “experts” can do, then they are not experts at all. Debate about the future of Medicare misses the point: We need an entirely different health services delivery, centered on less expensive, but still expert, traffic-directing nurses who understand the route to prevention as well as to cure. And are paid well for it.

My doctor had prescribed the statin that I stopped taking. He now tells me that I have high cholesterol, but he does not tell me that having high cholesterol is worse than having the deteriorating muscles that I attribute to the drugs. I do not think that he has this information. Perhaps he has conflicting information, sponsored and promulgated by the pharmaceutical companies that sell statins. That relationship does not mean they are wrong. It does mean that they are suspect.

### **An Experiment**

My doctor recommended pills to reduce blood pressure. This generated two questions. First, by how much would the med decrease blood pressure; and second, what is the health implication of that difference? So I bought a home blood pressure machine, calibrated it to my doctor’s, and started collecting data.

You can take your blood pressure several times in a row, getting a different answer each time. Is this the fault of the machine, the measuring device, or is it a characteristic of a living body? I do not know, but it is easy enough to take my blood pressure three times and record, as data, their average. I recorded the date, the time of day, whether I had taken the blood pressure medication the night before, systolic, diastolic and heart rate. I ran regressions, estimating both blood pressure measures:

$$\text{Measure} = b_0 + b_1 * (\text{time of day}) + b_2 * (\text{meds}) + b_3 * (\text{heart rate}) + \varepsilon$$

where the  $b_i$  are the estimated coefficients, and  $\varepsilon$  is unexplained variation.

The equation I estimated is printed below, in a truncated version of the format the computer program (Stata) provides. I found that my heart rate did not affect either blood pressure measure. That left the time of day (hour in tenths) and whether I had taken my meds the night before to “explain” variation in my blood pressure.

The dependent variable—that which is being “explained”—is listed above the independent, or explanatory variables. Only 52 observations are counted here, 22 the day after taking my medications, 30 when I had not taken my meds the night before. A real study would go on longer, and would record whether I had taken meds two nights before, for I do not know that the medication’s effect lasts only one day.

Linear regression		Number of obs =	52		
		F( 2, 49) =	10.79		
		Prob > F	=	0.0001	
		R-squared	=	0.3192	
		Root MSE	=	4.7594	
-----					
diastolic	Coef.	Robust Std. Err.	t	P> t	
meds	-6.089957	1.382112	-4.41	0.000	
time	-.535456	.1610426	-3.32	0.002	
_cons	92.15403	2.162798	42.61	0.000	
-----					
Linear regression		Number of obs =	52		
		F( 2, 49) =	5.99		
		Prob > F	=	0.0047	
		R-squared	=	0.1214	
		Root MSE	=	6.8731	
-----					
systolic	Coef.	Robust Std. Err.	t	P> t	
meds	-3.829171	1.962608	-1.95	0.057	
time	-.830284	.2794112	-2.97	0.005	
_cons	139.0953	3.147038	44.20	0.000	
-----					

The column marked “ $P > |t|$ ” contains probabilities. They measure the improbability of having found such a coefficient (a coefficient this far from zero) if the “true” effect is zero. The smaller this probability is, the less likely that zero is the true relationship. That is why these figures are better thought of as “improbabilities.” We are not estimating the probability that the coefficient, on the left, is “correct.” We are estimating the likelihood that a true zero relationship would have produced it through random fluctuations or my not having measured other characteristics. The lower that probability, the more sure we are of the *sign* of the relationship. In the example above, blood pressure medication likely reduces blood pressure. It is improbable that it doesn’t, or didn’t in these measures.

That does not answer the question I am asking, but it is one step towards it. My best estimates are that, the next day, the medication has reduced the diastolic pressure by 6 points, and the systolic pressure by about 4 points. By and large I go to bed at about the same time every night, and go through the same routine when I wake before taking my blood pressure. So time of day is a rough measure of the amount of sleep I had. The later in the morning, the more sleep, the lower the blood pressure on measurement.

This is not an expert study, but it does indicate that the blood pressure reducing medication (Losartan) works. More importantly, it measures *the extent* to which the medication works.<sup>40</sup> This is information I can take to my doctor. I need to know what differences in my life expectancy I can derive from these differences in blood pressure. And then I need to know the costs, in money and side-effects, and decide if the benefits are worth the cost.

My doctor did not respond to my having estimated a *quantity* by which my blood pressure was reduced by taking the medication he prescribed. His response: High blood pressure should be avoided. That is unacceptable. If drugs have benefits but also bad effects, then someone needs to decide whether the benefits are worth the monetary cost plus those effects.

That person should be me, the patient. To make it, the patient must be informed. My doctor was not willing to participate with me in *my* deciding how best to deal with my body. He reads studies like mine in the literature, but they are performed, he thinks, by “experts.” If so, those “experts” should have told him by how much one can expect the blood pressure measures to be reduced (was my “study” even in the ball park?), and also the effect on one’s life from those results.

---

40 Of articles in Wikipedia, drugs.com and WebMD.com, not one provides a metric of effectiveness.

That I could create information, that he could participate by interpreting it, and that I could participate by responding to his interpretation, were foreign concepts.<sup>41</sup>

Meanwhile, although my heart rate does not influence my blood pressure readings, taking meds does influence my heart rate. My heart beats 8.9 more times per minute if I had taken my meds the night before,  $p = .000$ . That is, it is improbable that the true effect of the meds on my heart rate is zero. Is this good or bad? Don't we admire people with *low* heart rates? If it is bad, how bad is it compared to how good the effect of the meds on my blood pressure is?

Why am I taking you through all this? Because knowing that blood pressure medication reduces blood pressure is not sufficient.. Your doctor will assure you that it does, and apparently he will be right. He has read studies that show that high blood pressure reduces life expectancy, and other studies showing that this medication reduces blood pressure. You need to know *by how much* your blood pressure is reduced, at what cost, and with what benefit. Then you need to know by how much that estimated would effect produce the desired consequence (increased life expectancy)? How reliable are these figures? What are the negative side-effects? Physicians can neither ask nor answer these questions.

My doctor scowls when I tell him about the good results I have had for several problems from alternative therapies. Beets or, in concentration , beet powder or beet juice, reduces blood pressure quite as well as his prescribed pills.<sup>42</sup> A doctor should be open to, should be investigating, alternative therapies. That we take too many prescribed pills might be a starting point for a search for alternatives.<sup>43</sup> Once again, as our so-called experts are limited, and experts we can trust are hard to find, it is up to us to go beyond them.

## Medical Research

David Freedman writes:

If a scientist wants to or expects to end up with certain results, he will likely achieve them, often through some form of fudging, whether conscious or not-bias exerts a sort of gravity over error,

---

41 Some months after performing my study, the national standards for blood pressure were revised. Suddenly, by fiat, my blood pressure was no longer high. A few years later they were revised down again!

42 Wolfson (2015) at 31:

[Vegetables, such as beets and arugula, are loaded with nitrates that cause vasodilation (increased blood vessel size) and lower blood pressure.

43 Austin Frakt, "How Many Pills Are Too Many?) *New York Times* April 10, 2017. See also Andrew Weil, *Mind over Meds : Know When Drugs Are Necessary, When Alternatives Are Better , and When to Let Your Body Heal on Its Own*, Little, Brown & Co, (2017)

pulling the glitches in one direction, so that the errors tend to add up rather than cancel out. Francis Bacon noted in the late sixteenth century that preconceived ideas shape observation, causing people, for example, to take special notice of phenomena and measurements that confirm a belief while ignoring those that contradict it. Thomas Kuhn, the MIT science historian who famously gave the world the phrase “paradigm shift,” argued in the early 1960s that what scientists choose to measure, how they measure it, which measurements they keep, and what they conclude from them are all shaped by their own and their colleagues' ideas and beliefs. And Berkeley's Robert MacCoun told me that once an expert jumps to a dubious conclusion, she'll simply tend to ignore or explain away conflicting evidence.<sup>44</sup>

Let us agree that some research is biased, that some researchers find what they want to find, whether consciously or not. And let us realize that some researchers, the more famous the more likely this is, do not even write their own articles. Whether the person who does write them—the ghost writer—understands what the research was, he is not likely to put in the caveats, the “this might not hold if . . .” statements, that a true researcher would include.

One 2003 study in *The British Journal of Psychiatry* found that ghostwriters working for a single medical-communications agency had produced more than half of all medical-journal articles published on Zolofit over a three-year period.<sup>45</sup>

Many people have written about common inaccuracies among medical “experts.” How much of this is incompetence, how much of it is the inevitable error inherent in science, and how much of it is fraud? How much of the fraud is due to corporate pressure on researchers, how much to the researchers themselves?

In the list of “causes” of bad research, of so-called experts making false claims, we should recognize the law suit. A famous case is the claim that Bendectin, taken by pregnant women to reduce nausea, generated birth defects. Many so-called experts claimed that it did. The percentage of children with birth defects was not different between Bendectin-taking women and others. The Supreme Court finally instituted new rules about how courts are to receive (or reject) “scientific” evidence.<sup>46</sup> Ultimately, plaintiffs claiming harm from Bendectin lost, as they should have.

---

44 David H. Freedman, *Wrong: Why Experts Keep Failing Us—And How to Know When Not to Trust Them*, Little, Brown & Company (2010) at 114.

45 Carl Elliott, “The Ghost Writer: How To Spin Pharmaceutical Research,” 306 *The Atlantic* 5:26 (December, 2010), at 26 & 28.

46 *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).

In litigation there are always at least two sides. If each puts up the same number of experts, at least half of them are wrong. But in addition we have research at universities, at pharmaceutical companies, and even, to some extent, in doctors' offices. Steven R. Feldman, a dermatologist, discovered, by asking patients, that they were not taking their medications as often as prescribed. He is struck by what each of us does not know about what goes on in the world, even in our own fields. He generalizes that insight into a book about "compartments."

It is an intriguing and no doubt true concept that, because we are of different religions, go to different schools, listen to different music, etc., it is sometimes hard to communicate. But these compartments lead to more than misunderstanding. They lead to ignorance. For example, asked if over-the-counter wart removers are successful, Feldman tells his patient that he has never seen them work. But then, he adds, someone who cured her warts with over-the-counter medication would not pay for a visit to a dermatologist. It's not that Feldman does not know, it's that he is not in a position to know the answer to the patient's question. He is not an expert in what works, because his knowledge is limited to so-called remedies that have *not* worked with his patients, as well as remedies "approved" by the literature he reads.

"We ought to be circumspect when we try to draw conclusions about things of which we don't have firsthand knowledge," he writes.<sup>47</sup> Yes, but we expect our experts to seek the knowledge they do not have, to amplify first-hand knowledge with second-hand knowledge. Much in Feldman's book is revealing—such as why people continue to suntan even after they realize the harm it is doing to their skin—but less than one would hope. So many things that are true are unhelpful. Knowing that our knowledge of others is always limited is one of them.

It may well be that one reason medicines do not work as expected is that patients do not take them as directed. Feldman's view comes close to blaming the patient for the failure of medical research to be correct. We have seen, above in footnote 20, that he is not the only one. David Servan-Schreiber cautions that

the statistics we are shown on cancer survival don't distinguish  
between people who are satisfied with passively accepting the

---

<sup>47</sup> Steven R. Feldman, *Compartments*, Xlibris (2009) at 19. Police in the 1960s and 1970s, had to tend to persons who were not taking well to LSD or some other psychedelic drug. Many concluded that there was nothing good about those drugs. They claim expertise from their experiences, although they saw only the bad cases, that is, a biased sample. Similarly, responding to anecdotal objections to the FDA's rescinding approval of Avastin, Frederick C. Tucker wrote "there are too many patients who have been treated with Avastin but are not here to tell their stories." Op-Ed "Drugs and Profits," *New York Times*, May 25, 2011.

medical verdict and those who mobilize their own natural defenses.<sup>48</sup>

Servan-Schreiber wants us all to put ourselves on the right-hand tail of the survival curve, out where people live well beyond “life expectancy.” If we could do that, we all would—and then “life expectancy” itself would increase. Except in Lake Wobegon, we will not all outlive the average. The problem cannot be passive acceptance of a death sentence. It has to be that the research, or the synthesis of the research available to our doctors, does not prescribe behavior that can modify the course of the disease. That is not our fault. For now, it is the fault of so-called experts. Maybe they will get better.

David Freedman’s book *Wrong* is perhaps the best of the collection of books exposing experts for their lack of, uh, expertise. And what can we do about it?

... part of the problem lies with us, in that we don’t merely fail to distinguish good expertise from bad expertise—we actually sometimes *seek out* the lesser stuff.<sup>49</sup>

Our fault? Why is it a “problem” if we seek out the easy solutions before the harder solutions? Is it wrong to take ibuprofen before taking codeine, and codeine before morphine? Most easy solutions do not work, but some do. Most people have no way to determine which is which. What “expert” has told you to reach for soy sauce if you burn yourself? Much better than running cold water over it. If you think you are too young to have arthritis, but it seems that you do, try adopting a gluten-free diet, fortified with fish oil or krill oil. Your doctor did not suggest that? What a surprise!

What is likely to be universally true is that the people we turn to for expertise do not have it. That leaves us searching for it. Although most of us are not skilled at that search, or do not have access to the best information, I do not think people are to blame for investigating solutions from the simple to the difficult, from the inexpensive to the expensive. What is wrong is that discerning real expertise is itself so hard that we have to try a lot of what pretends to be such expertise before making our own mind up about what is real.<sup>50</sup>

---

48 David Servan-Schreiber, *Anti-Cancer* at 23.

49 *Wrong* (2010) at 69.

50 Steve Jobs delayed being operated on for pancreatic cancer, trying alternative medications first. A tragic mistake, costing him his life and costing us, him. No one can be sure who has the expertise he seeks. The time it takes to find out, before we *know* who has the expertise we need, can be fatal.

“Learning” from experience is not exactly the same as doing research, but if many of the experiences recommended by so-called experts disappoint us, what choice do we have? Solution deliverers—mostly poseurs—exist because we do not want to spend our lives deriving solutions from the ground up. We want to hear what people who have been here before us have to say, but only those who lived through it will tell us, so that information carries its own bias.

Blaming ourselves is not an answer. There is something wrong with “discovery,” its evaluation and dissemination. Our doctors tell us what they think they know, from having read magazines and journals, which get articles from researchers financed by pharmaceutical companies. If our doctors come away with mis-information, and transmit it to us, neither we nor they should also be beating ourselves with brambles about it. The system has failed us.

### Reporting Medical Research

Marcia Angell has written article after article about drug companies. She has no great solution to their lies, other than exposing them. So her expertise—Marcia Angell is truly an expert—is in a sense wasted telling us about all the incorrect information we are fed.<sup>51</sup> It does not get us much closer to the knowledge we want. In this world of so-called experts, most of our energy is expended slogging through false information, which helps us understand what *not* to believe, starting with drug companies. We need to appreciate the expert reporter who ferrets out falsehoods. However, aside from convincing us to be skeptical—which I recommend—she cannot lead us anywhere.

Resistance to the theory that ulcers were caused by bacteria came partly from a theory (that the cause was stress), backed by research (finding stress in the history of everyone who had ulcers). The theory could have been debunked easily by finding an equal amount of stress in those who did not have ulcers. But such research does not occur often. It would not be based on a product a company wants to sell us. Research occurs to support another theory, not to debunk the current one.<sup>52</sup>

Asking why we take drugs for mental illness, Marcia Angell summarizes:

When it was found that psychoactive drugs affect neuro-transmitter levels in the brain, as evidenced mainly by the levels of their breakdown products in the spinal fluid, the theory arose that the

---

51 See, as an example, “The Truth About Drug Companies,” 51 *New York Review of Books* 12, July 15, 2004.

52 The story about debunking the “stress” theory of ulcers is told more fully in Chapter 14, Science.

cause of mental illness is an abnormality in the brain's concentration of these chemicals that is specifically countered by the appropriate drug. . . . Thus, instead of developing a drug to treat an abnormality, an abnormality was postulated to fit a drug.<sup>53</sup>

After all, a drug is a product a company can make and sell. To sell it, the company needs to provide a reason why people should buy it. Makes sense, except for one thing: side effects. But rather than hiding from side effects, prompted by the federal government, drug companies now trumpet them.

Listing every inkling of an adverse reaction can help drug companies in lawsuits . . . If someone sues about a side effect that is listed in the drug's package insert, the company can say patients had been warned.<sup>54</sup>

The result is that we do not really get much information from the sheets of verbiage included with our prescriptions. They list hundreds of things that might happen to us, with no weighting of the probabilities that they will.

Side effects, though, may have an influence on the very research that tells us why we are taking the drug in the first place. To medical researchers, the "random assignment double blind" study is the gold standard, the pathway to the truth. Patients are selected to be as comparable as possible, then data are used to control for their differences. Whether a patient gets a pill of the drug being tested, or a placebo, is randomly assigned. It is "double blind" because neither the doctor nor the patient knows if he is getting the treatment or the placebo. In theory.

Irving Kirsch has discovered a flaw in this protocol. Here is Marcia Angell's description:

The patients are told only that they will receive an active drug or a placebo, and they are also told of any side effects they might experience.<sup>55</sup>

I presume they are not given a three page list of side effects, but even if they are, the placebo will have none. So, if there are side effects, the patient "knows" he/she has had the treatment. As this is in the nature of a guess, there will not be a clear-cut division in which only treatment receivers get "better," and none of the placebo

---

53 Marcia Angell, "The Epidemic of Mental Illness: Why?" 58 *New York Review of Books* 11: 20 June 23, 2011.

54 Gina Kolata, "Side Effects? These Drugs Have a Few," *New York Times*, June 4, 2011.

55 Angell on Mental Illness (2011), cited above. This article is a review of three books, one of which is Irving Kirsch, *The Emperor's New Drugs: Exploding The Anti-Depressant Myth*, Basic Books (2010)

receivers do. But this guess can induce good consequences in itself, at least the sense of good consequences, enough to bias the results.

Thus drugs that have no empirically measurable effect (say, on serotonin level) are as effective as those that have such an effect. Drugs that have never been postulated to be anti-depressants are as effective in treating depression as those that have been developed and studied for just that purpose, as long as they have the side effects of the “treatment” drugs. Angell again summarizes:

What all these “effective” drugs had in common was that they produced side effects, which participating patients had been told they might experience. . . . [Kirsch] suggests that the reason antidepressants appear to work better in relieving severe depression than in less severe cases is that patients with severe symptoms are likely to be on higher doses and therefore experience more side effects.

Apparently, if we are to believe random assignment double-blind study results, placebos have to be developed that have the same side effects as the treatment, but none of the treatment’s actual chemicals. There are such drugs, called “active placebos.” Angell reports that Kirsch has found studies in which there is no reported difference in effect between treatment drugs and active placebo drugs. One is led to conclude that some of what we think we know about effective drugs from medical research has really come from the choice of placebo, not the treatment.

A similar false comparison was discovered by John Ionnidis. When a new drug is compared, for effectiveness, with an old drug—but there are many similar older drugs—which older drug should be the comparison? If you represent the drug company making the newer drug, your safest course is to choose the weakest of the older drugs for the comparison. Ionnidis concludes:

Maybe sometimes it’s the questions that are biased, not the answers.<sup>56</sup>

As I mentioned above, meta-analyses may not provide the answers.

It has become a fairly common practice to accumulate a number of studies, none of which has demonstrated significant results, and by pooling them “prove” difference. This practice, now dignified as

---

56 Quoted by David H. Freedman, “Lies, Damned Lies, and Medical Science,” *The Atlantic*, November, 2010 at 76, quotation at 78.

meta-analysis . . . is only valid if the individual studies which are “pooled” are themselves valid.<sup>57</sup>

One should not accept passive placebo studies as providing the content of active placebo studies. One type is simply better than the other.

Research about mental states combines reports from patients and observations from doctors. Whether it is generalizable to studies with more physically measured results, we cannot know. Even in this one area, anti-depressants, studies using “gold-standard” protocols are unreliable. The experts did everything right, but some of their answers are wrong. We do not know which ones.

### **Publication Bias**

It's not that the experts survey all the studies, determine which of them were well done, and distill the results for our consumption. Most survey only the *published* studies. Publishers and journal editors, however, seldom know how well done a study is. And remember, the name of the scientist associated with an article might not be the name of its actual author. Even if it is, the author is unlikely to have actually performed the research, which was done under sub-contract by a company that wanted to get more such business.

What publishers do know is whether the study claims to have found a “significant” relationship between treatment and alleviation of symptoms. Those are the studies they like to publish. Consider 100 submissions to medical journals analyzing the effect of Drug A on Disease Z. Two or three of them show remediation effects “significant at the 5% level.” Only those articles are published. They form the “literature” relied on to support the proposition that Drug A is efficacious. If all the studies were of equal quality, then the likelihood is overwhelming that the drug is not efficacious, because at the two-tail 5% level, we would expect two or three out of 100 false positives from chance alone.

David Freedman allows that some “non-significant” results will be published, but few. He first estimates that one out of three published medical studies is wrong. Adding some other “rough” calculations of error, he concludes:

---

57 Petr Skrabanek & James McCormick, *Follies and Fallacies In Medicine*, Tarragon Press, 3<sup>rd</sup> Edition 1998, at 28-29.

you'd expect that, in published studies that test a new, incorrect theory, more than two out of three would mistakenly conclude that the theory is correct.<sup>58</sup>

Thus even if the studies are done well—for example, if only active placebos are used—we will still get the wrong information from “the literature.” Kirsch’s negative findings, from unpublished studies, came from a freedom of information inquiry to the Food and Drug Administration. That is hard to do, and no doubt will become harder now that he has exposed the information those studies contain.

### Public Policy

A 2013 study in The United Kingdom drew a distressing conclusion:

Evidence drawn from national research by influential bodies such as the medical Royal Colleges and the National Confidential Enquiry into Patient Outcome and Death (NCEPOD), has . . . demonstrated that patients admitted [to National Health Services hospitals] at the weekend have a significantly greater risk of dying within 30 days of admission than those admitted on a weekday . . .<sup>59</sup>

It is certainly possible that *when* you are admitted to a hospital affects your recovery; and it is also possible that, if this premise is true, at least part of the problem can be traced to hospital policies or practices. Possible, but is it true?

Jeremy Hunt, British Secretary of State for Health, and Prime Minister David Cameron, think it is. What they think is important, especially as, in the spring of 2016, they are negotiating working conditions with junior doctors.

What “radicalised” junior doctors last summer was not Johann Malawana, the BMA’s junior doctor leader, but Hunt’s own folly in attempting to bind contract negotiations to his infamous allegation that: “6,000 people lose their lives every year because we do not have a proper seven-day service in hospitals”.<sup>60</sup>

Whether government officials believe this, or only find it convenient to use this study’s conclusions in negotiations, we do not know. But even if the latter, they can only do so if most people cannot evaluate competing “expert” analyses.

---

58 *Wrong* (2010) at 124. Freedman’s calculation is designed more to shock us than to inform us. Like my estimate of the effect of Losartan, his point is well made whether Freedman estimates exactly the right number or not.

59 “Summary of Initial Findings,” NHS Services, *Seven Days a Week Forum*, December, 2013, item 2.6 at 11.

60 “Junior doctors have been radicalised by Jeremy Hunt’s Smears,” *The Guardian*, May 15, 2016. The “BMA” is the British Medical Association.

Statistical illiteracy isn't unique to Hunt, and it's enabled by a broader innumeracy in society

writes one columnist, siding with Peter Rothwell, a professor at Oxford, who "found the data flawed."<sup>61</sup>

The gist of Rothwell's critique is that data are recorded differently on weekdays from weekend days.

It turns out there are quite big differences between the accuracy of diagnostic coding for weekend admissions versus weekday admissions. There are . . . a lot of admissions during the week for routine care—for pre-planned rehabilitation after stroke, for example, or investigations which are miscoded subsequently as being acute strokes—and of course those patients have a low mortality during the week and so that gives you the illusion of a higher mortality during the weekend.<sup>62</sup>

It is not clear whether Rothwell thinks the issue is that patients with different kinds of problems are admitted on the weekend, or that weekend coding is less accurate. Data errors certainly have led researchers to mistaken conclusions—see some examples in Chapter 13, Economics—but I would need to see more detail before believing that, with corrected data, all week-day/weekend differences disappear.

Characteristics of those admitted could well be different on different days. One could use survival analysis methods to control for those characteristics and ask if, in addition, outcomes differ by entry day. If the data are flawed, they should be corrected, and the same analysis re-run.<sup>63</sup> Then we would know what effect the flaws had. Is that what Rothwell did?

News reports fail to provide a citation to Rothwell's analysis, or to the data. So much of reporting is like this: the conversation is reported, but its basis remains hidden. We are supposed to choose which expert to believe without being provided sufficient information to do so. We need real experts to tell us what the politicians could not even if they wanted to: What is correct here? Which so-called expert should we believe?

---

61 Rosamund Urwin, "Do the maths—or risk political embarrassment," *The Evening Standard*, May 12, 2016.

62 Rothwell on BBC Radio 4, quoted in "Researchers say seven-day NHS England study is flawed," *The Oxford Times*, May 16, 2016.

63 Britain follows the World Health Organization's International Statistical Classification of Diseases (ICD). ICD-10 was adopted in 2010. It was updated in 2016, and will be replaced in 2018 with ICD-11. Surely the data were coded by people well accustomed to a stable ICD-10.

Not only is the public baffled by the plethora of conflicting statements of “knowledge.” Like it or not, the government is intertwined with the health system, both in providing health services (most clearly to current and former military personnel) and funding them. As what is knowledge is a puzzlement in the United Kingdom, and, as I have shown above, U.S. government agencies cannot accurately tell us what foods are good to eat, we have evidence that at least one such agency does not even know its own rules. The agency is the Department of Health and Human Services. The issue is rules under which it reimburses care agencies. The evidence comes in **a** decision written by Judge Gorsuch:

This case has taken us to a strange world where the government itself—the very “expert” agency responsible for promulgating the “law” no less—seems unable to keep pace with its own frenetic lawmaking. . . . an agency decision that loses track of its own controlling regulations and applies the wrong rules in order to penalize private citizens can never stand.<sup>64</sup>

The many regulations governing reimbursement change so often that even the administering agency does not know which ones are relevant. The care-providing agency has to sue to get money clearly due it, which increases the cost of providing medical services that will, in turn, have to be reimbursed by the government!

The Veterans Choice program was established to cure the long waits that prospective patients suffer between their first contact with the Veterans Administration and actual service. Veterans Choice allows service by the private sector. However, waiting time has not been reduced.

Not only are veterans not serviced quickly, care providers find getting paid so difficult that some give up. This is politics, you know—not health care—so providers calling to find why they have not been paid first have to sit through a 90 second speech from Veterans Affairs Secretary Bob McDonald. Then they are put on hold.<sup>65</sup>

## Conclusion

The inevitable result of leaving medical expertise to drug companies is that there is a drug for every ailment. Some of them (aspirin, for example) are truly wonder drugs. Some list so many side effects that taking them becomes a scary

---

64 *Caring Hearts Personal Home Services, Inc. v. Burwell*, 824 F.3d 968, 976 (10th Cir. 2016). Experiences count. This judge has taken this skepticism about federal agencies into the Supreme Court.

65 <http://www.npr.org/2016/06/06/480604249/for-doctors-and-patients-veterans-choice-often-means-long-waits> (National Public Radio, June 6, 2016).

proposition. Neither the supposed benefit nor any side effect is listed with a probability of its occurring. We are not provided useful information.

Many so-called experts are hired guns, survivors in the contest to please their clients by finding that every drug they test is effective and has few harmful side effects. Also, many of them, even if they have the best credentials and the best intentions, are simply wrong. Readers of these studies know what “the literature” says. But if the literature is not correct it does not provide knowledge.

So-called experts cannot discern truth from fiction. Nor can we. Few of us have the skill, and none of us has the necessary information. What do we do? The more expertise is required to make good decisions in society, the more we need to have real experts in place, and to know who they are. Yet we rely on credentials, because we do not know how to distinguish true expertise.

The need for expert help to keep us healthy will not go away. Even if that help only advises how to shop, cook and eat, we need to come to healthy truths without such a high research burden that we simply will not look for them. One problem we need to work on is how to find experts and expert advice, and how to determine how expert it is. Only federally funded and not politically tampered with research can accomplish this. Does such a thing exist? Another problem, if we had true expertise, is how to employ it in appropriate legislation, especially regulating food providers. A still larger problem is how to educate the public so they elect legislators who can determine who are the real experts, and take their advice. We have a long way to go.