**What is the cause of the American health care crisis? Part I**

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**Introduction**

Health Care for All Minnesota’s mission is to develop agreement among Minnesotans about how to achieve universal coverage. We start with the assumption that Minnesota will never achieve universal coverage without cost containment and, that in turn means we will never achieve universal coverage without consensus about how to control health care costs. To develop consensus about cost containment, we must develop consensus about why US and Minnesota costs are so high.

Total spending on anything, be it cars or bananas or health care, is a product of two numbers: The *quantity* of the good or service that is sold times the *price* at which it is sold. The debate about why our health care costs are so high is at rock bottom a debate about whether quantity or price is the primary problem. Those who say quantity is the problem say Americans use too much health care. Those who say price is the problem argue our health care costs are high because of factors that drive prices up, notably excessive administrative costs and the failure of either competition or regulation to regulate prices.

This three-part series of papers discusses the debate about the role quantity and price play in the high cost of American health care, and then reviews the debate about solutions. The first two parts lay out the evidence indicating that the high-price diagnosis is the correct one, and that the excessive-quantity diagnosis is at best greatly exaggerated.

The third part in this series will examine the debate about what should be done to reduce health care costs. That paper will reach two conclusions: (1) The solutions based on the excessive-quantity diagnosis have been ineffective and have exacerbated other problems, including underuse, physician burnout, and consolidation of our health care system; and (2) evidence-based solutions to the problems of high prices and administrative waste do exist.

**Three camps in the debate about why costs are so high**

The dominant view among US health policy makers over the last half century has been that Americans overuse medical care. Those who believe this fall into two camps: (1) Those who think overuse is caused by ignorant or greedy *doctors* succumbing to financial incentives to order too many services, and (2) those who think overuse is caused by *patients* succumbing to financial incentives to demand too many services.

The “greedy doctor” version of the excessive-volume/overuse diagnosis was first promoted in the early 1970s by proponents of HMOs. They argued that the fee-for-service method of paying doctors (paying a fee for each service a physician orders) induced doctors to order unnecessary services. Here is an example of the greedy-doctors diagnosis from an op-ed by the CEO of Blue Cross Blue Shield Minnesota and another employee of that insurance company: “In the 1970s and early 1980s, … [m]edical journals were loaded with studies, and the popular press carried tales about, unnecessary tests and procedures…. Managed care emerged to curb health care’s financial excesses…. Managed care achieved cost control largely by reversing the financial incentives of fee-for-service medicine.” [1]

The “over-insured patient” version of the excessive-volume/overuse diagnosis also became prominent in the early 1970s. The argument made by those who subscribe to this diagnosis is that the spread of health insurance beginning in the 1930s reduced the patient’s share of medical costs, which is the same thing as reducing the price of medical care, and patients responded by demanding more medical services. According to the over-insured-patient diagnosis, patients view medical care just like groceries or some other consumer product – when the price goes down, “consumers” demand more of it. Here is an example of overinsured-patients diagnosis: “By shielding consumers from the consequences of their health-care purchasing decisions, the third-party payment system encourages excessive use of medical services and drives up health care costs.” [2]

Those who reject the overuse argument believe that price is the more important of the two numbers in the quantity-times-price equation, and they dismiss or downplay the arguments from the two overuse camps – the doctors-cause-overuse camp and the patients-cause-overuse camp.

Those on the price side of the debate believe our health care system generates high prices because competition and government regulation of prices are weak, and because the combination of multiple insurance companies and their use of managed care generate excessively high administrative costs. This title from a paper comparing US prices to those of other countries is an example of the prices-are-to-blame diagnosis: “It’s the prices, stupid: Why the United States is so different from other countries.” [3]

**What consequences follow from each camp’s diagnosis?**

Before we review the scientific literature on this quanity-versus-price debate, let’s first ask about the solutions each of these diagnoses suggest.

If you accept the overuse diagnosis, then you must believe that overuse is caused either by greedy or ignorant doctors, by over-insured and perhaps whiny patients, or both of the above. Right? There are only two actors in the doctor-patient dyad, and one or both of them must be causing all the alleged overuse.

If you accept the greedy-or-ignorant-doctor diagnosis, then you should support insurers (both insurance companies and public programs like Medicare) controlling or influencing physician-patient decisions. This “solution” has been the most widely accepted one among policy makers in America since the early 1970s. Examples of attempts by insurers to control doctors include requiring doctors to get permission from insurers before hospitalizing a patient, requiring doctors to get approval from the insurer before prescribing a particular drug, and rewarding and penalizing doctors and hospitals according to how many of “their” patients visited an emergency room. These policies have been supported by both Democrats and Republicans.

However, if you accept the “over-insured patient” version of the overuse diagnosis, then you should support exposing patients to high out-of-pocket costs so that they have some incentive not to order all those unnecessary services (and you might oppose authorizing insurers to supervise and influence doctors). These high out-of-pocket costs could be inflicted on patients by requiring that insurance policies have high deductibles (say $2,000 per person per year), by excluding medical goods and services from coverage (such as maternity care or prescription drugs), or some combination of the above. This policy tends to draw support mainly from Republicans.

Polls indicate the vast majority of Americans do not support either of the solutions that flow from the two “overuse” camps – interference in physician-patient decisions by insurers (the solution suggested by the “greedy doctor” diagnosis) and exposing patients to high out-of-pocket costs (the solution suggested by the over-insured-patient diagnosis). Are Americans just being crybabies when we object to these “solutions” to the alleged overuse – to third-party interference in the doctor-patient relationship and to high out-of-pocket costs? Must we really choose between those two “solutions”? Obviously, when we are solving problems, we raise the odds of failure if we first pick the “solution” we like and then fit our diagnosis to that solution. But in this case, Americans’ dislike of the solutions that flow from the quanity-is-the-problem camp is consistent with the evidence. The evidence indicates the overuse diagnosis is wrong or at best greatly exaggerated and that the correct diagnosis is excessive price and factors that drive prices up, notably high administrative costs.

**What does the evidence say?**

As I indicated above, the “overuse” diagnosis became widespread almost 50 years ago. You might think that by now overwhelming evidence to support the overuse diagnosis would have been published. Specifically, you might think a large body of evidence has been published demonstrating that hundreds and maybe thousands of medical services are overused, the fee-for-service (FFS) payment method is to blame, and underuse is trivial or non-existent. On all three counts, you’d be wrong: (1) The number of papers documenting overuse is tiny compared with the number of medical goods and services sold; (2) no paper has ever been published in a peer-reviewed journal demonstrating that the fee-for-service method causes the overuse that does exist; and (3) studies comparing over- to underuse are extremely rare and the few studies that do compare over- to underuse find underuse greatly exceeds overuse.

Let’s examine each assumption one at a time.

**Assumption 1: Overuse is well documented.**

Research on overuse of specific services is sparse and it is limited to just a few services. A review of the overuse literature for the period 1978-2009 by Korenstein et al. <http://www.ncbi.nlm.nih.gov/pubmed/22271125> reported finding only 172 studies (out of 114,831 they examined) documenting overuse. According to the authors, “the majority of [those] studies focused on four interventions: antibiotics for URI [upper respiratory infection] and three cardiovascular procedures [carotid endarterectomy, coronary angiography, and bypass surgery].” Korenstein et al. concluded, “The robust evidence about overuse in the United States is limited to a few services.”

The converse is also true: Research on underuse is also sparse. In a 1997 paper <http://www.ncbi.nlm.nih.gov/pubmed/9179719> on the underuse of angiography and revascularization (“revascularization” refers both to angioplasty and bypass surgery), Kravitz and Laouri observed, “Most health services research to date has been directed at identifying and reducing excessive utilization. Little attention has been given to underuse of care.”

**Assumption 2: Overuse is caused by the fee-for-service method of payment**

Common sense tells us that paying doctors a fee for every service they provide gives doctors an incentive to order more rather than fewer services. But the mere existence of an incentive does not tell us that the incentive actually works in the expected direction. There are numerous incentives influencing physicians not to order too many services, including professionalism, resistance from patients (due to fear and cost among other factors), and the threat of malpractice suits, criminal prosecution, and loss of a license.

There is no research demonstrating that the FFS payment method causes what little overuse has been documented. This is consistent with the paper by Korenstein et al. If there is very little research documenting overuse, we should not be surprised that there is no research linking overuse with the FFS payment method (or any other factor for that matter).

**Assumption 3: Underuse is trivial or non-existent**

The research indicates underuse is widespread and far more common than overuse. Papers that attempt to measure the incidence of both under- and overuse are rare, and papers that attempt to do so for multiple services are extremely rare. I am aware of only two that fit that last category. Both of those found that underuse occurred far more frequently than overuse.

The most comprehensive of those two studies is a paper <http://www.nejm.org/doi/full/10.1056/NEJMsa022615#t=article> published in the *New England Journal of Medicine* in 2003 by Elizabeth McGlynn et al. That study must have been very expensive. I doubt we’ll see another one as comprehensive for a long time. McGlynn et al. interviewed 6,600 adults across 12 cities and examined their medical records to determine which medical services (related to 30 conditions and several preventive services) they received and whether those services were necessary or unnecessary. The authors found that underuse occurred four times as often as overuse. “[W]e found greater problems with underuse (46.3 percent of participants did not receive recommended care ...) than with overuse (11.3 percent of participants received care that was not recommended …),” they reported.

The other very good study <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1490182/> of both under- and overuse of multiple services appeared in the Journal of General Internal Medicine in 2005. Its authors, Rodney Hayward et al., studied the records of 621 patients seen in 12 VA systems in two states. They found an under-to-overuse ratio of 22 to one, far worse than the four-to-one ratio McGlynn et al. reported. “Of errors that could be classified ....,” they concluded, “95.7% ... were classified as underuse and 4.3% ... as overuse/misuse.” [4]

Other evidence confirms that underuse is far more common than overuse. As I noted above, Korenstein et al. found that the limited research on overuse tends to focus on antibiotics and cardiovascular interventions. The *under*use literature includes several papers on cardiovascular interventions, including coronary angiography, angioplasty, and coronary artery bypass graft (CABG) surgery. Thus, it is possible to set the studies of cardiovascular-service underuse next to those that studied overuse and compare rates.

Korenstein et al. reported that “overuse rates of CABG were generally lower than 15 percent, and overuse rates for CA [coronary angiography] were generally lower than 20 percent.” [5]

The underuse research indicates that underuse rates of cardiac services are much higher than the overuse rates (under-15 and 20 percent) reported by Korenstein et al. Here are underuse rates for angiography reported by five papers:

* 41% (Kravitz and Laouri <http://www.ncbi.nlm.nih.gov/pubmed/9179719> 1997);
* 44% (Laouri et al. <http://content.onlinejacc.org/article.aspx?articleid=1121694> 1997);
* 54% Medicare FFS, 65% Medicare Advantage (Guadagnoli et al. <http://www.nejm.org/doi/full/10.1056/NEJM200011163432006#t=abstract> 2000);
* 42% (Garg et al. <http://journals.lww.com/lww-medicalcare/Abstract/2002/07000/Understanding_Individual_and_Small_Area_Variation.8.aspx> 2002);
* 49% Medicare FFS, 56% VA (Petersen et al. <http://www.nejm.org/doi/full/10.1056/NEJMsa021725#t=article> 2003).

The five studies listed above report underuse rates for angiography above 40 percent, which is far higher than the under-20-percent overuse rates Korenstein et al. found. If the true overuse rate of angiography is in the range of 10-15 percent and the true underuse rate is over 40 percent, then the ratio of under- to overuse of this valuable diagnostic test is at least three-to-one.

A 1999 paper by Carlisle et al. [http://www.amjmed.com/article/S0002-9343(99)00051-0/abstract](http://www.amjmed.com/article/S0002-9343%2899%2900051-0/abstract) examined both overu- and underuse for both angiography and non-invasive means of testing for heart disease 1999. They reported a mere 4 percent overuse rate – almost one-sixth of the reported 22-percent underuse rate.

Similarly, the few studies that have estimated underuse of revascularization find rates much higher than the under-15-percent rate for CABG overuse reported by Korenstein et al. Here are revascularization underuse rates from four studies:

* 23% (Kravitz and Laouri <http://www.ncbi.nlm.nih.gov/pubmed/9179719> 1997);
* 25% (Laouri et al. <http://content.onlinejacc.org/article.aspx?articleid=1121694> 1997);
* 26% (Leape et al. <http://annals.org/article.aspx?articleid=712512> 1999);
* 25% men, 22-24% women (Epstein et al. <https://www.jstor.org/stable/3768413?seq=1#page_scan_tab_contents> 2003).

The last study listed above, Epstein et al., also reported overuse rates for men and women. In men overuse was 14 percent (far below the 25 percent underuse rate Epstein et al. found) and in women 5 percent (way below the underuse rate of 22-24 percent).

Studies of medical care for non-cardiovascular conditions also reveal very high rates of underuse. Asch et al. <http://jama.jamanetwork.com/article.aspx?articleid=193249> found that “underuse of necessary care is widespread for the 15 … conditions [studied] … in the relatively well-insured Medicare population. For almost half of the indicators, less than two-thirds of beneficiaries received needed care.” For example, 59 percent of seniors who were told they should have their gall bladders removed did not have it done.

**Underuse is underestimated**

As bad as the underuse rates I just reported are, they are underestimated. That’s because estimating true underuse rates requires that we know who in a given population needed a service and didn’t get it. All the research I discussed above studied patients *who made contact* with the medical system. [6] But many people who need a service don’t get it because they never visited a clinic or hospital, and therefore left no record of underuse. Note that the *over*use research does not suffer from this limitation. By definition you can’t get a medical service, including an unnecessary one, without seeking medical care. There is, in other words, no large quantity of undetected overuse lurking out there as there is with underuse.

Determining true underuse rates requires field work – surveys and interviews and diagnostic tests – outside of the usual clinical or hospital setting to determine the prevalence of a condition or need. That research is expensive and there is, therefore, not a lot of it. What research of this type we have indicates unmeasured underuse is enormous. The Centers for Disease Control, for example, reports <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6135a3.htm> that 67 million adults in the US have high blood pressure but 30 percent of them are not being treated for it (14.1 million don’t know they have high blood pressure, and another 5.7 million know but aren’t being treated). Research on other chronic conditions, such as tooth decay, depression, and diabetes, reveals similar results.

To sum up what I’ve presented so far: The research indicates underuse occurs at epidemic levels, it occurs at very high rates even among the insured, it is common even for expensive medical services (where we would expect the FFS incentive would reduce underuse to zero if in fact that incentive were as powerful as overuse-is-to-blame advocates make it out to be), and occurs more often than overuse.

**Causes of underuse**

Patient aversion to visiting doctors and hospitals, and doctors and hospitals not having enough time or resources, are the main causes of underuse. [7] I’ll discuss one study documenting each of these factors.

One of the best articles demonstrating how much Americans dislike seeking medical care was a paper generated by the well known RAND Health Insurance Experiment. The paper <http://annals.org/article.aspx?articleid=700241>, by Shapiro et al., reported that 80 percent of participants refused to see a doctor when they suffered “serious symptoms” such as unexplained bleeding, shortness of breath from climbing stairs, and unexplained loss of consciousness. Insurance status had no influence on the 80 percent rate; even among participants who had “free care” (their medical care would have been totally paid for by insurance), the rate was 80 percent. The vast, vast majority of Americans don’t have 100 percent coverage. The unaffordability of medical care is, in addition to widespread aversion to medical treatment, another significant reason why many people avoid doctors and, in the case of patients who did see doctors, refuse to follow physician recommendations.

Turning now to the second major cause of underuse: Kimberly Yarnall and her colleagues at Duke are among the handful of researchers who have sought to determine whether doctors have enough time in the day to treat every issue presented to them according to existing guidelines. In a paper published in 2009, Yarnall et al. determined that a primary care doctor would need 21.7 hours per day to provide “care for prevention, chronic care, and acute care to an average patient panel.” <https://www.cdc.gov/pcd/issues/2009/apr/08_0023.htm>

**Conclusion**

America has been debating why US health care costs are so high for almost a half-century. To understand this debate, it helps to start by dividing the contestants according to their diagnosis of the problem. The contestants fall roughly into three camps: Those who think overuse is the problem and doctors cause it; those who think overuse is the problem and patients cause it; and those who think price is excessive and overuse is either overstated or not a problem.

In this paper we have looked at some of the evidence from the peer-reviewed literature. The evidence indicates that overuse has been vastly exaggerated by the overuse camps, and that underuse is far more common than overuse. In the next installment of this series we will examine how much medical care citizens of other countries get and how much they pay for it. We will see that Americans do not get more medical care than people in other countries, but we sure pay a lot more for it. This finding will reinforce the conclusion we reached in this first installment that excessive quantity is not the reason US per capita spending on health care is high.

[1]Andy Czajkowski (CEO BCBSMN)and Steven Foldes, “Managed care holds down costs, doesn’t hurt quality,” Minneapolis *Star Tribune*, January 3, 1998. The phrase “managed care” became popular in the mid-1980s. It refers to the cost-containment tools pioneered by HMOs.

[2] Michael Tanner, “Chapter 2: What’s wrong with the present system,” in Grace-Marie Arnett, ed, *Empowering Health Care Consumers Through Tax Reform*, University of Michigan Press, Ann Arbor, September 1999.

[3] Gerard F. Anderson et al., “It’s the prices, stupid. Why the United States is so different from other countries,” *Health Affairs*, 2003; 22(3):89-105.

[4] Hayward et al. used “overuse” and “error of commission” interchangeably and, similarly, “underuse” and “error of omission” interchangeably. The title of their paper signifies what they found: “Sins of omission: Getting too little medical care may be the greatest threat to patient safety.”

[5] I suspect the average overuse rates Korenstein et al. reported for CABG and angiography (“lower than 15 percent … and 20 percent” respectively) are lower today than they were in the 1970s and 1980s when angiography and CABG were still relatively new. If, for example, Korenstein et al. had based their overuse estimates on research done since 1990 rather than 1978, their estimates would have been lower. For example, a 1993 paper <http://jama.jamanetwork.com/article.aspx?articleid=403407> by Bernstein et al. reported only a 4 percent overuse rate for angiography, and a 2011 paper <http://jama.jamanetwork.com/article.aspx?articleid=1104058> by Chan et al. reported a mere 1 percent overuse rate for angioplasty “for acute indications” and a 12 percent rate for “non-acute indications,” for a weighted average rate of 5 percent.

[6] The McGlynn and Hayward studies *under*estimated underuse because they studied only patients who had contact with doctors and hospitals. McGlynn et al. excluded the 7 percent of their original sample that had “no visits to a health care provider during the previous two years.” Hayward et al. excluded any VA patient who hadn't had at least two doctor visits in each of the preceding two years. Similarly, Asch et al. limited their denominator to Medicare FFS enrollees who had already received a diagnosis of one of the 15 conditions studied.

[7] The impossibility of achieving 100-percent agreement on the appropriateness of every medical good and service given to every patient is also a factor in both over- and underuse. Researchers who examine medical records and claim forms after the fact will inevitably classify some services as inappropriate that doctors and patients might argue were appropriate.