Chapter 7: Follow the Money

"Money makes the world go 'round," or so it is said, and medical care is no exception. Even the most noble doctor or public spirited hospital cannot provide medical services for free. The way the money flows thus has to influence what is done. To see why the medical system does what it does, therefore, we need to follow the flow of dollars.

Money is clearly important in explaining why some people are uninsured, as discussed previously. Somewhat more complex, however, is the situation of the insured. As we have seen, having insurance – even very generous insurance – does not always translate into receiving good care. Why does the system fail so frequently? Understanding this issue requires us to delve into the history of medical care and the payment for medical services.[1]

Early in the 20th century, there were few well-trained doctors, and little that the doctors who were practicing could do to help their patients. Doctors made house calls because all of the tools they needed could fit in a little black bag. This limited ability to treat people kept the cost of medical care low. Medical spending early in the 20th century was less than a tenth of what it is today, and was not increasing over time.

Low spending, in turn, limited the demand for health insurance. The goal of insurance, after all, is to spread money from the healthy to the sick. If being sick isn't that costly, there is not much need for insurance. Most sickness insurance covered lost wages when people were sick, not medical costs.[2]

The first insurance companies were not set up until the late 1920s. Originally, they were operated by providers. Providers felt some obligation to care for people when they were sick, even

if they didn't have much money. Getting people to prepay for care when they were healthy increased the certainty of payment. Blue Cross hospital insurance, started in 1929, was the first insurance company, and Blue Shield followed for physicians a few years later. The two subsequently merged. To show just how cheap medical care was, the first Blue Cross plan charged patients a monthly fee of $.50 (about $5 today) in exchange for up to 3 weeks of hospital care during the year if needed. Today, a typical plan for an individual costs about $200 per month.[3]

Over time, the increasing knowledge of disease and technical capabilities of physicians increased the value of medical care. World War II and its aftermath were the time of biggest change. Penicillin and sulfa drugs were discovered and were shown to have magical effects in curing infections. They became widely available in the late 1940s. Surgery and mental health care both improved during the war. As life settled down with the return of peace, people wanted access to these new types of care.

Demand for medical care translated into demand for health insurance. The era after World War II saw a boom in health insurance enrollment. Blue Cross/Blue Shield policies flowered, and commercial insurance companies, seeing the expanding business, entered the field as well.

Government policy strongly influenced the way that people got health insurance. During World War II, the Federal government put limits on wage payments that firms could make, in an effort to limit inflation. An exception was created for health insurance, however, which was deemed to be a benefit, not a wage payment. Firms competing for labor thus began to provide health insurance to their workers.

After World War II, wage controls were eliminated, but tax policy reinforced the employer provision of insurance. The IRS ruled in the early 1950s that employer payments for health

insurance were not to be counted as personal income for tax purposes. Thus, money that employers contributed to health insurance did not have to pay any taxes, while wage payments to employees would be, even if subsequently used to buy health insurance. This effectively provided a big subsidy to employer-provided health insurance. The result was a major increase in employer provision of health insurance.

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As commercial insurers entered the health business, they needed to set up the details of policies. People running these companies did not know what services were necessary or what doctors should be paid for care. How could they decide what to pay? The simplest decision is to let doctors and patients decide what is needed and how much should be charged for the services. Doctors are the experts in medical care, after all. They should make the medical decisions.

At the limit, this argues for full reimbursement of all medical care received. That clearly was not practical; patients needed to pay some of the cost of care, so that they didn't overuse services. But the patient costs should not be excessive.

In economics parlance, the overuse of medical services resulting from people being shielded from the true costs of care is termed "moral hazard". Insurance actuaries once used the term to connote a moral failure on the part of people buying insurance. Now, the term simply refers to the fact that people use more services when the price of care is lower.

The concept of moral hazard, if not the terminology, goes back to Adam Smith in 1776, who wrote about corporate directors: "The directors of such companies, however, being the managers

rather of other peoples' money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own... Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company."[4] A more amusing depiction was provided by the famous play write George Bernard Shaw nearly a century ago: "That any sane nation, having observed that you could provide for the supply of bread by giving bakers a pecuniary interest in baking for you, should go on to give a surgeon a pecuniary interest in cutting off your leg, is enough to make one despair of political humanity."[5] We do not cut off legs so readily (perhaps) but we do operate on other parts of the body in situations where it is not always needed.

The policies that insurers developed in the 1950s and 1960s reflected a balance between the desire to limit moral hazard and the goal of not having people exposed to too much risk. A typical insurance plan required the enrollee to pay the first $500 or so of care out-of-pocket, and then 20 percent of costs above that amount, up to a maximum payment of perhaps $1,500. For small expenses, these cost sharing amounts were significant; many people did not go for routine visits to avoid paying for the full cost of care themselves. In the case of more serious illnesses, however, the cost sharing provisions rarely had much effect. A patient with a serious injury rapidly exceeded the maximum patient payment, and thus did not pay a great deal for additional care. That is still true today. "What do I need, doctor?" is heard often. "Can I afford it?" is much rarer.

Rather than using high cost sharing to discourage use, insurers instead simply decided not to cover some services. The first insurance plans covered hospital and physician care only; other services were not sufficiently costly or too subject to moral hazard. Prescription drug coverage was added in the 1960s and 1970s, as the benefits of pharmaceuticals became apparent and expensive

drugs began to be developed. Medicare was created before coverage for prescription drugs was common, and it has never added that coverage, to the consternation of many elderly today. Mental health care, dental care, and pregnancy care (in the terminology of the day, 'mental, dental, and placental coverage') were also added in the 1970s and 1980s.

The first insurers also had to decide how to reimburse providers for the services they rendered. The simplest solution was simply to pay the prices that hospitals and doctors charged. Providers already had prices, after all, just as all firms did. It was easiest for insurers to simply pay those prices. Such a payment system is termed fee-for-service reimbursement. The predominance of fee-for-service reimbursement was to have a major impact on the development of modern medicine. It came about largely by convenience, not with great forethought.

Ultimately, insurers had to get more involved in pricing issues. As more people became insured in the 1960s and 1970s, doctors and hospitals found that they could charge very high prices, because only the insurer was paying. To counter this, insurers developed elaborate fee schedules. Doctors were paid on the basis of what they charged, up to a limit based on the prices paid to other doctors in the area.[6] The scheme was more complicated, but the theme was the same – reimbursement was on a fee-for-service basis, with doctors determining what was appropriate.

Medicine operating in this way is often called the fee-for-service era. The pure fee-for-service era dates from the 1950s and to the early 1990s, when fee-for-service insurance largely (although not totally) gave way to managed care. Still, the fee-for-service system dominated the historical development of medicine, and has strong residual impacts today. To make sense of the medical system, therefore, we need to understand the operation of that system.

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While fee-for-service insurance pays for any medical service provided, in practice the system pays more for high-tech care than for less intensive care, because high-tech care involves more physician time and greater skill. Bypass surgeons make thousands of dollars on each procedure, for example. A physician performing such surgery regularly can net several hundred thousand dollars per year after practice expenses and insurance. With payments so generous, there is no shortage of doctors willing to operate on patients.

Routine care is reimbursed well, but less generously. Fees are reimbursed when patients visit the doctor, but primary care physicians make far less than their interventional brethren. Care provided outside of traditional office settings is not covered at all. Having a nurse call patients to check on medication compliance is not a medical care visit and thus is not reimbursed. E-mail communication never made it into fee-for-service reimbursement, and remains unreimbursed today. Error checking is in the same category. Monitoring prescription doses, looking for allergic reactions, and verifying referrals are all uncompensated.

This division of payments by intensity is fundamental to the story, so let me explain it in some detail. We can position medical services along two dimensions: how intensive the care is, and how valuable it is. At the more intensive end are high-tech surgeries, for example bypass surgery and angioplasty. These services are among the most sophisticated that medicine can deliver. Intensive surgeries are valuable in some patients and ineffective in others.

Moderately intensive care includes chronic disease diagnosis and treatment: performing regular mammograms and cholesterol screens, writing and updating prescriptions as appropriate, and

referring patients to specialists at the right times. Providing these services involves a fair amount of physician ability, but these services are nowhere near as intensive as invasive surgery. Most of these moderate services are valuable, although some are not.

The least intensive services are follow-up and routine monitoring: providing reminders about medication usage and testing, coordinating patient education materials, and maintaining telephone or e-mail contact. Many of these can be performed by non-physician office workers. They are valuable, but not very intensive.

The ideal medical care system would encourage services with high value and discourage services with low value. Included in the high value category are some very intensive services, some moderately intensive services, and some non-physician services. The fee-for-service system does not provide incentives this way, however. Fee-for-service plans pay on the basis of intensity, not value. Intensive services are strongly encouraged, while less intensive services are shunned.

Adding to the case for doing more is the fact that patients pay little out-of-pocket for very intensive care, and so have few incentives to limit such care. The clincher is the potential for doctors to be sued if care is not provided and the patient suffers an adverse outcome. Doctors fearing such a situation perform intensive care whenever there is the slightest doubt. Less intensive services are not as essential, however, and so are not viewed with the same urgency.

As we have seen, this corresponds well to what happened over time. Patients for whom intensive therapy was helpful were well served. A lot was spent for them, but the benefits were even greater. Along with this valuable care, though, came a lot of overuse. There is often a thin line between what is valuable and what is not. When money is generous, doctors perceive things to be appropriate that they otherwise would not, and thus do them more frequently. Routine management

and follow-up services are underprovided, as befits their low rate of reimbursement.

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In addition to encouraging use of technologies that were available, the fee-for-service payment system created powerful incentives to develop new technologies, particularly very intensive ones. Intensive surgeries or devices that improved health found a wide audience, whether the health improvement was large or modest. This spurred the developers of medical technology to create a steady flow of new innovations. Central as it is to our story, the development of new technologies bears a bit more discussion.

Medical innovations come from many sources – researchers at the lab bench, doctors in clinical practice, and pathologists in laboratories, to name a few. Economically, we can divide these innovations into two groups: those produced by scientists and clinicians without a corporate sponsor, and those produced by for-profit firms looking to make money. New surgeries are typical examples of the former. Surgeries are not commercial products to be patented and sold. Rather, a technique is developed, described in medical journals, and used freely by all surgeons. New drugs and imaging devices are examples of the latter. They are developed by commercial firms and sold on an exclusive basis for a profit.

Researchers working on non-commercial innovations are typically not motivated by making money. Most people do not weather the years of education required for an academic career because they believe they will get rich. Personal motivations are much more important. Many innovations are developed in response to clinicians seeing patients for whom there is no other treatment. The

possibility for international fame also strongly motivates academic researchers.

The major factor driving this type of research is government and hospital support for the research enterprise itself. Clinicians need free time and money to experiment with new therapies. Biomedical researchers need money to pay for labs, equipment, and research assistants. Historically, there were two sources of funding for this research. The first was from the government, in the form of research grants. Since World War II, the US government has made significant commitments to medical research, largely through the National Institutes of Health. The National Institutes of Health spends over $20 billion each year on biomedical research (about $100 per person).

Hospitals provide the second source of research funding. Hospitals with a research commitment typically charge more than did non-research institutions. These additional funds are used to support research activities by their physicians. This method of support is on much less solid footing than is public funding. As medical care markets become tighter, for example with the expansion of managed care, hospital-based funding of research has plummeted. For the most part, there is little of this internal financing left.

In commercial research, principally that of pharmaceutical companies and medical device manufacturers, the dominant factor driving research is obviously money. The average new drug costs about $500 million to develop, once the costs of testing and the inevitable failures are added in.[7] For firms to be willing to conduct this research, the expected return for developing a new drug has to be high. Generous payment systems once the product is developed allow firms to recoup their initial investment rapidly, and thus spur research into new innovations. The fee-for-service system was a boon to this type of research.

To see the alternative, go as far away from the US as it is possible to do – to sub-Saharan

Africa. Millions of people in sub-Saharan Africa survive on the equivalent of a dollar a day in income. As one might imagine, health problems in such a society are profound. Every year, 5 million Africans die of malaria, tuberculosis, and AIDS, about five times the number of deaths from heart disease and cancer combined in the United States.[8]

Experts generally believe that vaccines against some or all of these conditions could be developed, were enough research devoted to the problem. Malaria and tuberculosis in particular are good candidates for vaccines; AIDS might be as well, although the case is less certain.

And yet, pharmaceutical companies devote virtually no money to developing such vaccines. Less than a penny in every dollar of medical research goes to malaria and tuberculosis. More money is spent on potential AIDS vaccines, but essentially all of that research is on the strand of AIDS prevalent in developed countries. It is not at all clear that a vaccine for that strand of AIDS would work against the strand prevalent in Africa.

The reason for the lack of research is simple: it's money. Poor Africans cannot afford to pay high prices for new medications. Thus, there is no incentive for pharmaceutical companies to work on such projects. From a business standpoint, these companies are doing exactly what they should. But the outcome is horrible. No money means no research, and no research means more deaths.

Indeed, the situation is getting worse, as we frequently hear from the media. While there is no vaccine for AIDS, recent advances in medications for people with AIDS seem to keep virus levels low. In developed countries, millions of people with AIDS taking these medications might be spared an early death. These new treatment packages are expensive, though, selling for up to $10,000 per year in the United States. That amount is far above production cost, but it allows the pharmaceutical companies to recoup their initial investment in research – and make a profit.

The government of South Africa recently decided that it wanted access to these drugs at a lower cost. In 1997, it passed a law allowing generic versions of AIDS drugs to be imported. Generic drugs are the same as the branded drug, but they are produced by other companies copying a competitor's research. Without original research costs to recoup, generic drug prices can be much lower. The pharmaceutical companies, fearing that poor countries would buy generic drugs at a low price and resell them cheaply in rich countries, filed a lawsuit to stop the implementation of the law. The South African government, and Nelson Mandela in particular, were named as defendants.

This may have been good legal strategy, but it was horrible publicity. Suing Nelson Mandela for helping poor South Africans spurred protests against the drug companies worldwide. As the trial was about to start, the drug companies could take the bad publicity no longer and dropped the lawsuit. They agreed to sell their AIDS drugs in Africa at production cost, about $600 per year.

The situation in South Africa reinforced a horrible lesson – there is no incentive to develop therapies when the amount they can be sold for is low. It is virtually inconceivable that the private sector will mount a sustained research effort against the diseases of the poor after this meltdown. Even sadder, the poor in Africa are no better off than they were before. Poor South Africans with AIDS can no more afford $600 per year in treatment costs than $10,000 per year. The situation was a fiasco all around.

The US is in no danger of becoming as stingy as South Africa in its payment for new pharmaceuticals. But the lesson holds. The incentives in payment policy influence what it is profitable to explore. Paying well for medical care led to rapid innovation, and its resulting gains. Cutting back would have the opposite effect.

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The dynamics of the fee-for-service payment system ultimately led to its demise. Over time, the increase in costs of the traditional system made the payers of medical services nervous. Throughout the 1970s and 1980s, employers providing health insurance found themselves facing continually higher benefit costs. While these costs were ultimately pushed back to workers in the form of lower wages, the process for making this happen was not so easy. Governments found spending on Medicare and Medicaid rising more rapidly than tax revenues to pay for them. Families found their out-of-pocket bills rising as well, even as their cash wages were falling and taxes to pay for public medical programs were going up. Added to this cost concern was the fear of becoming uninsured and being bankrupt by medical bills. As costs increased, this fear grew correspondingly stronger. At the dawn of the 1990s, the pieces seemed in place for fundamental reform.

Endnotes

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2. Melissa A. Thomasson, "The Importance of Group Coverage: How Tax Policy Shaped US Health Insurance", NBER Working paper No. 7543, February 2000.

3. Jon Gabel, Larry Levitt, Jeremy Pickreign, Heidi Whitmore, Erin Holve, Samatha Hawkins, and Nick Miller, "Job Based Health Insurance in 2000: Premiums Rise Sharply While Coverage Grows", *Health Affairs*, 19(5), September/October 2000, 144-151.

4. Adam Smith, *An Inquiry into the Nature and the Causes of the Wealth of Nations*, Ed. E. Cannon, New York: Modern Library, 1937.

5. George Bernard Shaw, *The Doctors Dilemma*, New York: Brentano's, 1911.

6. This became known as "usual, customary, and reasonable" fees.

7. Joseph DiMasi, Ronald Hansen, Henry Grabowski, and Louis Lasagna, "The Cost of Innovation in the Pharmaceutical Industry," *Journal of Health Economics*, 10 (2), July 1991, 107-142.

8. Michael Kremer, "Creating Markets for New Vaccines, Part I: Rationale", and "Part II: Design Issues", *Innovation Policy and the Economy, Volume 1*, Cambridge, MA: MIT Press, 2001.