

# CROSSROADS

VOLUME II

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Essays on  
Health Care in  
Modern America

*by*

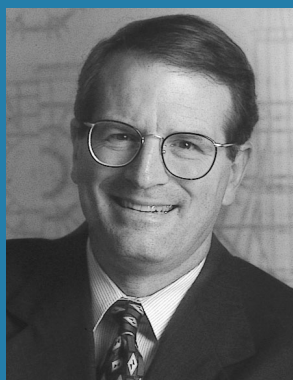
**William R. Brody, M.D.**

*President, The Johns Hopkins University*



# Preface

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This is the second volume of essays culled from a column called “Crossroads” that I write for the Johns Hopkins newsletter *Change*. The newsletter is distributed every two weeks to the medical faculty here, and as the name implies, it’s meant as a forum for discussing the monumental challenges to health care this nation faces.

One look at the medical topics that hit our national news in any given week makes clear that our health care system is now living through—as Dickens so aptly put it—the best of times and the worst of times. New treatments and understandings of how the body works vie for space with stories about the skyrocketing cost of health insurance, huge malpractice insurance fees and the frightening regularity of hospital mishaps. Can both sets of events possibly be describing the same system of medicine?

They can and, of course, they do. Even at Johns Hopkins, our international reputation for state-of-the-art medical care is challenged by economic realities that are altering health care more dramatically than at any time in recent memory. I have always believed that the best way to tackle any challenge is to look it straight in the eye. These essays attempt to do just that.

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P.S. Some of my positions might surprise you. Let me know what you think.

# Table of Contents

## HEALTH CARE IN THE 21ST CENTURY

4. **A PLEA FOR FEWER REGULATIONS**  
Our health care system is broken, but more government regulations won't fix it.
5. **RAPID RESPONSE PAYS**  
Reducing suffering quickly is economical in the long run.
6. **BOOMER CONSUMERS**  
Health care providers beware: Buyers are demanding better service.
7. **PENNY-WISE, POUND-FOOLISH**  
Physicians who think their time is so valuable should think again.
8. **BOTTOM OF THE FOOD CHAIN**  
The pharmaceutical industry likely will be the next victim of cost-cutting.
9. **PUZZLER OF THE WEEK**  
Needed: tort reform to reduce malpractice settlements.
10. **THE INVISIBLE BURDEN**  
For the urban poor, academic health centers offer a safety net.
11. **INCREASING PRODUCTIVITY IN HEALTH CARE**  
In a hospital, investments in new technology are not necessarily returned.
12. **PLAYING PATSY**  
Physicians and hospitals should demand timely payment of medical bills by patients.
13. **PATIENT-CENTRIC MEDICINE**  
Today's savvy health care consumers want a doctor who can provide a lot more services.

## THE HEALTH-INSURANCE DEBACLE

14. **MANAGED MADNESS**  
European countries may spend less on health care than we do, but their systems are hardly superior.
15. **BUDDY, CAN YOU SPARE A DIME...**  
Allowing only 50 cents for a vaccination.
16. **SHOULDN'T HEALTH INSURANCE BE A RIGHT?**  
There's no doubt that every American should have access to health care. Here's why we still don't provide universal coverage.

## 17. INCENTIVES WORK

The bad news is that when it comes to health insurance, they don't always work as intended.

## 18. HIDDEN SUBSIDIES

Not just those with corporate-sponsored coverage should enjoy tax incentives to purchase health care.

## 19. THE 80/20 RULE

By focusing on the few illnesses that cause the biggest problems, insurers can benefit.

## 20. THE END OF HEALTH INSURANCE

Information derived from genetic testing could prove a problem for those seeking coverage.

## 21. THE END OF HEALTH INSURANCE—PART II

Genetic testing will drive out private insurance and usher in universal coverage.

# WITHIN THE MODERN HOSPITAL

## 22. LIGHTS OUT

Like public utilities, hospitals must provide service when prices are capped and costs are unregulated.

## 23. THE SHORTAGE PROBLEM

Besides too few nurses, hospitals also deal with a scarcity of drugs and supplies.

## 24. GETTING TO THE ROOT OF NURSE STAFFING

Knee-jerk legislation won't expand the pool of nurses. Let's fix the problem, not treat the symptoms.

## 25. DOCTOR SQUEEZE?

More medical school slots and increased physician reimbursements could ease that possibility.

## 26. ZERO DEFECTS

On the importance of building quality into every process.

## 27. THE ASSEMBLY LINE

Like the automobile industry, medical workers can eliminate the potential for errors.

## 28. SIX SIGMA

A method for approaching 100 percent accuracy.

## 29. I'VE GOT A SECRET

Reducing the number of steps in a cumbersome process can lower the error rate.

## 30. PATIENT SAFETY ROUNDS

A visit to the cardiac surgical intensive care unit.

## 31. TO ERR IS HUMAN

Only by setting standards and adhering to them can hospitals reduce huge numbers of medical errors.

## 32. THE HOSPITAL

John Shaw Billings got it right more than 100 years ago when he described the essence of this living organism.

April 20, 1999

# A Plea for Fewer Regulations

OUR HEALTH CARE SYSTEM IS BROKEN, BUT MORE GOVERNMENT CONTROL WON'T FIX IT.

**C**ommanding Heights, by Daniel Yergin and Joseph Stanislaw, traces the trend of nations the world over to shed government-owned or controlled industries, shifting them to privately owned, market-driven management. In case after case, previously moribund, money-losing companies are transformed into highly competitive enterprises, almost overnight. *Commanding Heights* suggests governments are not able to control industries effectively because no matter how well-intentioned, the control ultimately falls prey to political influences rather than sound business practices.

Health care, a complicated array of services, is in most countries highly regulated, though often with segments that are supposedly “market driven.” It’s an industry especially prone to political intervention, particularly in the United States.

That’s because in America, health care is viewed as a service that should be made available to all; state and federal governments provide financial reimbursement for a significant fraction of the population; political forces lobby to assure a single-tiered system where care is the same, regardless of individual financial resources; and health care has been offered as an employee benefit due to favorable tax incentives. Finally, and most challenging of all, despite deep suspicions of socialized medicine, most Americans view health care as a right, rather than a service to be purchased.

Yet regardless of one’s philosophical bias, nearly everyone agrees that the current system is broken and badly in need of a fix. The number of people unable to access health care services is both large and increasing. The public backlash against HMOs is rampant, and health care costs continue to rise, despite drastic reductions in

physician reimbursement and curtailment of hospital charges.

Early in his career, economist Milton Friedman wrote a paper, “Roofs or Ceilings?” in which he showed that the institution of rent controls, designed to make housing more accessible, had the perverse effect of reducing incentives to build new apartments, so that fewer apartments were actually available. Removing rent controls would, he argued, have a salutary effect.

So it might be with health care. In an attempt to control health care costs and institute a single-tiered system, the government and private payers have replaced market efficiency with a series of

regulated reimbursements. They have thereby reduced the opportunity for service innovations that could affordably meet the needs of patients. I would argue, in fact, that the very thing the government is trying to avoid, cost escalation, is the direct result of the Medicare payment system.

To some, problems with managed care demonstrate

why for-profit medicine is bad. But I think a debate about the merits of for-profit vs. not-for-profit medicine misses the point. Instead, I’d argue for reducing government controls and well-intended regulations that actually mete out perverse incentives to the marketplace. The current system of health care mixes the worst of government control with the least useful kind of marketplace competition.

Moving toward more regulation, as some advocate, is not the answer: Witness the problems with the Canadian and British health care systems. Lifting controls to allow the market to develop efficient and effective solutions is something that has yet to be tried. It is high time we consider such a bold step. ■

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# Rapid Response Pays

REDUCING SUFFERING QUICKLY IS ECONOMICAL IN THE LONG RUN.

**A**t a recent meeting with Intel executives, I learned they value start-up software companies at a rate of one million dollars per employee. This handy rule of thumb reflects the difficulty of finding capable software engineers for Internet development, and their approximate worth once found.

It might also provide an insight into America's new obsession with rapid response. No doubt about it, we are well on the way to becoming the classic "type A" society. As Yogi Berra might have said, "We want instant gratification and we want it now!" Rapid response has become de rigeur in consumer-driven markets ranging from supermarkets to financial services—and everything in between. No longer are consumers willing to wait days or weeks to access goods and services.

We must recognize that the health care marketplace will be no different. Patients want "instant" access to doctors and nurses. They want their questions answered promptly. They want to be able to schedule medical appointments at their convenience, not the doctor's. And finally, they don't want to flip through last year's magazines while they wait for a physician who shows up 15 or more minutes after the scheduled time.

Are they merely spoiled and fickle consumers, singing "I want it my way" with Frank Sinatra at the top of their lungs? Perhaps. But perhaps also there are bona fide economic incentives at work that underlie this type A consumer behavior. For a single

working parent, every extra minute spent waiting in doctors' offices or in supermarket checkout lines is another minute of day care to pay for. And the costs of this lost time may be even more significant still.

In the knowledge economy, the knowledge worker becomes the most precious resource for production. No longer is access to capital or raw material the economically limiting factor. Thus, the extent to which a patient is detained in the health care system represents a measurable loss of productivity to the gross domestic product. For example, the direct costs of health care in Germany or Canada are a lower percentage of GDP than those of

the United States. But in the U.S., elective heart surgery for coronary bypass is done immediately, while in the other countries, patients must wait seven to 10 months. During that period, a patient may be unable to work productively. Hence, operating sooner and getting the patient back to work more quickly provides the greater economic

benefit.

Unfortunately, right now it's a benefit that can't be measured. We have no system to count rapid response as a positive offset on the health care cost side of the equation. But the closer our economy comes to full employment, the more potent this economic incentive becomes. In my book, reducing pain and suffering quickly may cost more to the health system in the short term, but it provides a big economic return to the United States in the long run. It's time we started recognizing the economic imperative of rapid response. ■



# Boomer Consumers

## HEALTH CARE PROVIDERS BEWARE: BUYERS ARE DEMANDING BETTER SERVICE.

Once, customer brand loyalty was high. My parents only bought cars from General Motors, even when some of them had significant defects, reliability was generally poor and maintenance costs high. Corporate execs only bought computers from IBM. Some families only used Procter & Gamble products or ate only Kellogg's cereals.

My how the world has changed! At the end of the 20th century, consumerism has now become a dominant trend. It used to be, like Henry Ford said, customers could purchase his cars in any color, "as long as it was black." In other words, take it or leave it and caveat emptor. For much of this century, and for most goods and services, this was the way it was. Quality was given lip service. We lived in a corporate-centric rather than customer-centric world.

But now consumers have won the battle and are demanding products tailored for their needs, coupled with excellent service, high quality and reasonable price. The baby boomers have driven this change by taking things into their own hands, spawning an entire industry of companies that provide information about products, compare prices and evaluate quality. Nearly every product, from PCs to personal aircraft, has a series of providers of information about that product.

Today, brand loyalty is generally low, and consumers will switch in a heartbeat, for better service, better quality or better price. The few companies that have excelled at meeting consumers' new thirst for quality have been

amply rewarded, but slip once on a single product and customers will flee like rats from a sinking ship. Consumerism has produced a fickle buyer, who is willing to switch rather than fight with the vendor.

Consumerism is greatly enabled by ubiquitous access to information. Comparison shopping was hard to do if the only automobile dealer in your town sold Fords and there were few publications to check about other makes and models. Today, few people purchase cars without looking at J.D. Power's quality ranking, or Consumer Reports, or some other rating services. This trend is

going to have a tremendous influence on health care. A recent survey showed that 40 percent of patients arrive at their doctor's office already having consulted the Internet for information about their medical condition. A majority of patients say they'd like to access their physician by e-mail, yet only a small percentage of doctors provide such service today.

Health care providers of the world (and Hopkins), have you made the switch? Do you allow your patients to access you by e-mail? Do you have a Web site for your clinic? Do you offer online access to disease-specific information? What about chat rooms, or remote video teleconferencing with patients and with referring physicians? Can patients access their lab tests or their account and billing information on the Web? How about allowing patients to re-order their prescriptions online? Ready or not, we're entering a new world of patient service. ■

40 PERCENT OF PATIENTS ARRIVE AT THEIR DOCTOR'S OFFICE ALREADY HAVING CONSULTED THE INTERNET FOR INFORMATION ABOUT THEIR MEDICAL CONDITION.

# Penny-wise, Pound-foolish

PHYSICIANS WHO THINK THEIR TIME IS SO VALUABLE SHOULD THINK AGAIN.

I was recently approached by a prospective donor who wants to contribute a substantial sum of money to an academic medical center to create a service where patients with prostate cancer (one could readily substitute any other life-threatening disease in its place) could get unbiased information about possible treatment options. As this person (who is a prostate cancer patient himself) pointed out, “If you go to a surgeon first, you almost always end up with a surgical treatment option. And if you go to the radiation oncologist first, you are more likely to end up with a recommendation for conformal beam therapy and/or radiation implant therapy. “Bill,” he said, “why isn’t there a place to get unbiased information and consultation?”

The answer is quite simple. The way our health care system works, there is little reimbursement available to pay for expert advice. For example, most oncologists, many internists and other general practitioners have the knowledge necessary to advise patients. But even if they get paid something for this advice, it will hardly cover their practice overhead expenses. Often, they won’t get paid for this kind of activity at all. So the simplest alternative is to refer the patient to a surgical urologist or radiation oncologist, who will, in turn, only get paid if the patient ultimately ends up having surgical therapy or radiation therapy, respectively.

No wonder we have over-utilization of

patient services provided by people who perform procedures. The economic incentives are all oriented in that direction!

Another illustration of how badly medicine has been afflicted by commodity pricing: My nephew visited a dermatologist in California under his employer-paid HMO plan. The dermatologist walked in with a clipboard and a stopwatch in his hand. After introducing himself, he notified my nephew that he had exactly 6.5 minutes in which to see and examine him. At the completion of the exam, he made his diagnosis and recommended treatment. When my

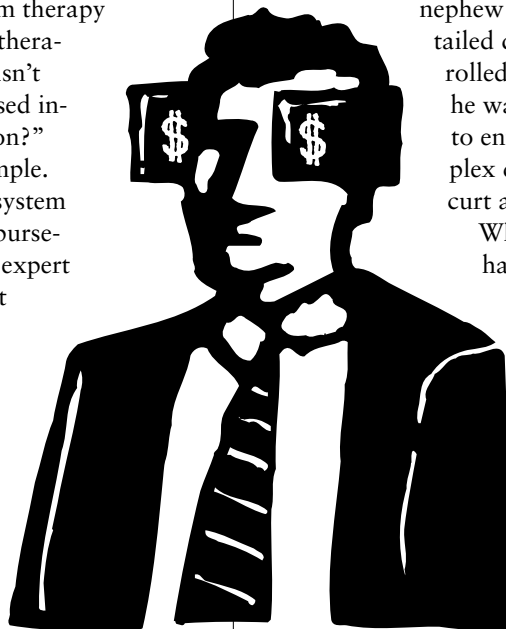
nephew asked a somewhat detailed question, the doctor rolled his eyes to indicate he was not in the mood to entertain such a complex question. With a curt answer, he left.

What if the diagnosis had been melanoma or basal cell carcinoma? Would the doctor have allocated additional minutes?

Such examples illustrate the shortsightedness of our health care system.

We physicians must work to

change the growing impression that our time is too valuable to spend talking with our patients. We can begin by creating awareness that physician services are not commodities to be viewed on the same level as price-club razors and batteries. ■



# Bottom of the Food Chain

THE PHARMACEUTICAL INDUSTRY LIKELY WILL BE THE NEXT VICTIM OF COST-CUTTING.

Over the last decade, hospitals and physicians have borne the brunt of health care cost-cutting measures. In addition to reduced average lengths of stay, major cuts in reimbursement rates for doctors and hospitals have taken their toll on providers. These cuts were facilitated by an excess number of hospital beds and further exacerbated by innovations that have moved many inpatient procedures to outpatient status. In addition, an excess number of physicians has enabled payers to dictate prices without fear of being closed out by providers.

The net effect is that we've all learned what it feels like to be at the bottom of the health care food chain.

At the same time we were being devoured by the cost-cutters, other factors were driving increases in our own costs, including rising labor costs and especially, the rapid rise in the cost of new medical technology. But change may be coming.

I'm surprised that recent reports about the shifting costs of health care have received so little attention. On Nov. 14, for instance, *The New York Times* reported that insurers and HMOs are now paying more for prescription drugs than for hospitalization. Blue Cross and Blue Shield of New York estimates that drugs will represent 15.5 percent of premiums this year, and hospitalization less than 15 percent. Just three years ago, says the *Times*, drugs were 12 percent of premium costs and hospitalization 22 percent. What could have brought this dramatic shift about?

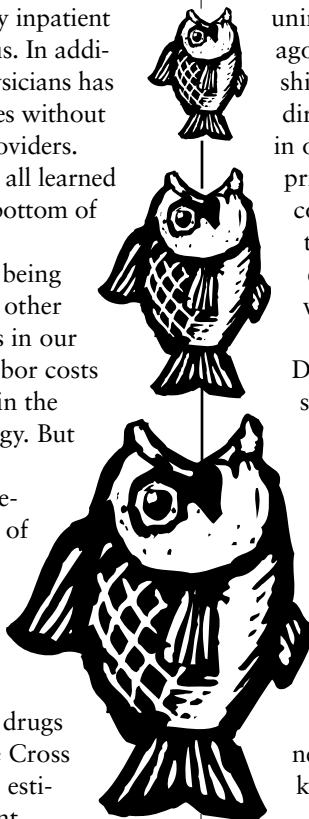
I suspect it results from a number of fac-

tors. First, of course, hospitals have been cutting back, while the pharmaceutical industry has seen boom times. New wonder drugs under patent protection are immune to competitive pricing pressures. Often, their benefits mandate they be adopted by providers and patients desiring the best available care.

Meanwhile, in a move that was unimaginable even two or three years ago, pharmaceutical companies have shifted their marketing emphasis to direct-to-consumer (DTC) advertising in order to stimulate demand for proprietary drugs. And although these companies have been criticized for these activities, they persist unabated. Obviously, this has proved to be very cost effective.

I would have no major issue with DTC advertising if patients were responsible for paying 100 percent of drug costs. Let consumers decide if they want to pay for the latest drug, when perhaps a generic will substitute nicely for a 10th of the cost or less. As long as insurers are footing the bill, however, DTC advertising is likely to be driving up the price of my insurance as well, and so I have a less enthusiastic view of this new wrinkle in pharmaceutical marketing.

The bad news for hospitals is that pharmaceutical costs are rising rapidly. But the good news—if there is any in this era—is that the pharmaceutical industry is likely to become the next major target of the cost-cutters. And in the process, perhaps, we may move up the managed care food chain a bit. ■



# Puzzler of the Week

## NEEDED: TORT REFORM TO REDUCE MALPRACTICE SETTLEMENTS.

**H**ere's the *Health Talk*\* puzzler of the week: How much will Johns Hopkins Medicine spend on malpractice insurance this coming year?

Please write your answer on a crisp new \$100 bill and send it to: *Health Talk*, Office of the President, Johns Hopkins University, Baltimore, MD 21218. If your answer is selected at random from among the correct guesses, you will have the opportunity to serve as an expert witness, without remuneration, at the next Johns Hopkins malpractice suit.

OK, so you don't like suspense? Then here's the shocking answer: Next year, Johns Hopkins Medicine will spend \$30 million on malpractice insurance to cover our doctors, clinics and hospitals. That's up 25 percent from last year, when we paid a whopping—but now seemingly trivial—\$24 million!

To put it in perspective, with \$30 million, we could fully fund comprehensive health insurance for upwards of 6,000 people. It's shocking, but you know what? Things could be considerably worse. We pay much less for malpractice insurance than others because we have our own insurance company, formed by a consortium of top-tier academic medical centers. But, we still purchase reinsurance to protect the financial stability of our own insurance company, and those costs have gone up dramatically.

Why are rates up? Well, I don't fully comprehend all the reasons, but several immediately stand out: First, nationally over

the past six years, the median malpractice award has more than doubled from \$375,000 to \$800,000; second, insurance companies take the premium dollars they receive and invest that money, and with the stock market down and interest rates at historic lows, investment income is much lower, so rates have to be higher; third, 9/11 has sent ripples through the industry, causing insurance companies to be much more risk-averse and to charge more for insurance premiums.

Tort reform and comprehensive legislation that limits malpractice settlements to direct expenses incurred due to malpractice are urgently needed. These reforms would be of great benefit to patients as well as health care providers, since they are the ones who ultimately pay these outrageous premiums through higher medical bills. Malpractice cases do little to improve the safety of

health care. Further, it has long been known that a large part of any settlement dollar often fails to go to the plaintiff.

Write or call your elected representatives today. Tell them that there is a simple and effective method of promoting a considerable reduction of health care costs: tort reform. ■

WE STILL PURCHASE  
REINSURANCE  
TO PROTECT THE  
FINANCIAL STABILITY  
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\* With apologies to Tom and Ray Magliozzi of NPR's Car Talk

June 20, 2001

# The Invisible Burden

FOR THE URBAN POOR, ACADEMIC HEALTH CENTERS OFFER A SAFETY NET.

**A**cademic health centers bear a disproportionate burden of the costs of providing care for the uninsured and underinsured. Recently, the Commonwealth Fund Task Force on Academic Health Centers reported that the amount of charity care provided by AHCs is increasing faster than at other types of hospitals. According to the report, “A Shared Responsibility: Academic Health Centers and the Provision of Care to the Poor and Uninsured,” the cost of charity cases rose by more than 40 percent from 1991 to 1996. Yet from 1995 to 1998, reimbursement to faculty practice plans for Medicare and Medicaid patients dropped between 10 percent and 15 percent.

This hardly comes as a surprise to Hopkins physicians. It merely documents the increasing resources that AHCs are devoting to caring for the poor, while support from federal and state agencies diminishes. Armed with these data, it shouldn’t take a statistician to forecast the sea of red ink now engulfing many of our teaching hospitals and some medical schools.

The amazing thing about this is that the public seems neither to understand nor to care that we are providing the safety net for the mostly urban poor. This unfortunate reality came to mind recently when I argued against the Baltimore City Council proposal to impose an energy tax on non-

profit institutions. “This is a tax on the poor,” I argued, like a voice in the desert.

And what credit does Hopkins get for the more than \$100 million worth of uncompensated care (not even counting discounted physicians’ fees for Medicaid) we deliver to the poorest citizens of Baltimore each year? The answer is simple: zero, zippo, nada.

The City Council was only too happy to exempt churches, primary and secondary schools and foundations—in fact, everyone except hospitals, nursing homes and colleges. After all, the former group has influential constituents who know how to make themselves heard in City Council. Our indigent patients are without a voice to represent their interests.

In many ways, it is our success that works against us. One big reason we don’t have a natural constituent base supporting us

is that we prevent crises. As long as patients aren’t dying in the streets—and the better the care we provide for the poor—the more nobody notices. ■

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# Increasing Productivity in Health Care

IN A HOSPITAL, INVESTMENTS IN NEW TECHNOLOGY ARE NOT NECESSARILY RETURNED.

One of the unique aspects of health care, compared with almost every other sector of our economy, is that investments made to improve productivity accrue to the patient and to society, but not necessarily to the health care provider. Sound a bit obtuse? Let me explain.

If you are the CEO of General Motors and you decide to invest in a new robotic assembly line, although the capital expense is high, you figure GM will recoup its investment in lowered manufacturing costs and improved quality. This means that GM can produce better cars at a lower cost, making more money. The investment, though costly, is returned several fold.

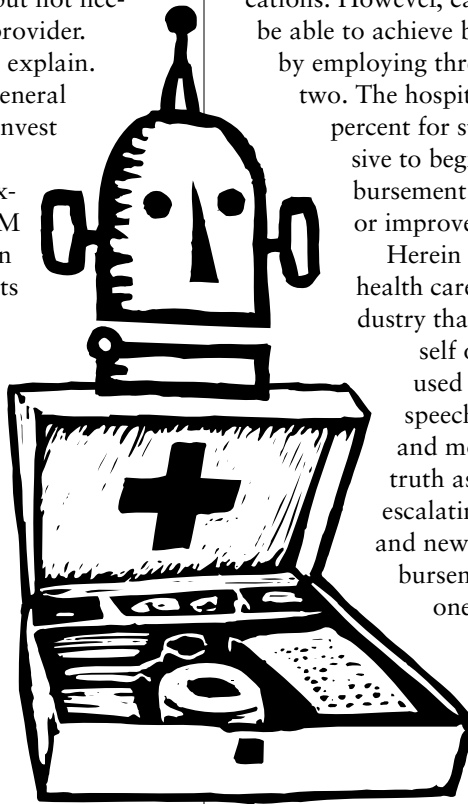
If, on the other hand, you are the CEO of Elsewhere General Hospital, and you invest in a new surgical suite to perform minimally invasive surgery, you figure you can convert an inpatient procedure such as gallbladder surgery to an outpatient procedure. Your patients benefit with reduced morbidity and mortality. They return to work faster, leading to improved economic productivity for the employer and the employee. But because a complex inpatient hospital stay has been reduced to same-day surgery, the hospital now receives only a fraction of the revenue for the procedure—a negative return on

investment!

When a medical device company introduces an improved stent for coronary angioplasty, patients benefit from more complete revascularization and reduced complications. However, cardiologists may now be able to achieve better revascularization by employing three stents instead of two. The hospital's costs are up by 50 percent for stents (which are expensive to begin with) while reimbursement often stays the same or improves only marginally.

Herein lies the paradox in health care: We are the only industry that endeavors to put itself out of business. This used to be a figure of speech; lately, it has more and more become a literal truth as hospitals cope with escalating costs for technology and new drugs while reimbursements stagnate. Everyone benefits from high-tech medicine—the patient, the employer and the payer. Everyone, that is, but the provider, especially the hospital.

What's the simple solution? I wish I had one. But I would start with the premise that health care reimbursement for hospitals and physicians should be deregulated. Patients have to assume more financial responsibility for their health care. Heretical? You bet. You probably won't hear George W. Bush or Al Gore even come near this one. ■



# Playing Patsy

PATIENTS NEED TO DEMAND TIMELY PAYMENT OF THEIR HOSPITAL BILLS.

The other day I was talking with my internist about the strange reluctance Americans have to paying for medical treatment they receive. “Bill,” he said, “I used to have an elderly patient who was extremely wealthy. Here was a man who regularly used the services of other professionals like accountants and attorneys, and would think nothing of shelling out thousands of dollars at a single visit. But at that time, I wasn’t taking assignment from Medicare and he objected so much to having to pay a \$15 co-payment from Medicare that he switched to another internist. Whenever that \$15 fee came up, this patient acted as if he was personally being robbed.”

In today’s topsy-turvy medical world, this story is more or less the norm. Everyday, patients who readily pull out their checkbooks to spend \$100 or more when the family pet goes to the vet are enraged when they have to pay a \$75 physician fee toward their annual insurance deductible.

No other segment of our society works this way. Try paying your mortgage or credit card bill 60 days late and see what happens. For good measure, explain to the bank that the reason your loan payment was late was because you don’t think the bill is your responsibility. See if that helps. “Health care is different,” you are about to tell me, to which I reply, *expletive deleted*. What’s different is that we have simply allowed ourselves to be manipulated and outmaneuvered by the insurance companies (and the government, too).

Your pharmacist doesn’t put up with this nonsense. I know. Over the New Year’s holiday, while we were on the West Coast, I had to pick up a prescription for a family member with the flu. With a valid Rx from a California doctor, I

went to the pharmacy, which promptly filled the prescription and presented me with a bill for \$75. “There’s something wrong,” protesteth I. “My insurance carrier provides coverage with a small co-payment through PCS!” “Well,” the pharmacist shrugged, “I entered your Social Security number in the computer and it told me that you were no longer covered under PCS.”

I don’t know why the computer hiccuped, but I can assure you that the pharmacist didn’t say, “Don’t worry, just give me the co-pay and we’ll balance-bill your insurance company for the remainder.” No irree Bob, they took only cash (or Visa) on the barrel head. Collection from the insurance company is my problem.

When you go to your corner drugstore (more likely a national chain these days), the pharmacist can determine, at the time he or she fills your Rx, whether it will be paid by the insurance company and what your eligibility requirements are (e.g., co-pay, limits, generics, etc.). The pharmacist gets paid before you walk out with your prescription, either by you, by your insurance carrier, or both, in the case of co-pays. Why don’t we have a similar system for providers?

I hate to call myself stupid, but clearly we physicians are either lacking in common sense or we have been duped. Probably both. It’s time to put the responsibility for payment of medical bills back on the shoulders of the patients. Since insurance companies view patients as their customers, they are likely to give better service and more prompt payment than to us providers. And, a side benefit, patients, understanding the real costs of their health care, will become more knowledgeable consumers. ■

TRY PAYING YOUR  
MORTGAGE OR  
CREDIT CARD BILL  
60 DAYS LATE  
AND SEE WHAT  
HAPPENS.

# Patient-Centric Medicine

TODAY'S SAVVY HEALTH CARE CONSUMERS WANT A DOCTOR WHO CAN PROVIDE A LOT MORE SERVICES.

In previous columns, I discussed how five trends—consumerism, rapid response, globalism, innovation and competitiveness—are driving successful economies of the future. Although in very primitive stages compared to other service sectors of the U.S. economy, consumerism is about to transform health care. In the next decade, the doctor-centered world as we know it will go the way of the dinosaur.

To compete, physicians will have to be highly responsive to their patients' growing desire for convenience, rapid response to their problems, and meaningful communication of information with their health care provider. Many at Hopkins have already begun to accommodate these new expectations, but even greater change is in store. Routine appointments will be scheduled evenings and weekends to accommodate increasingly mobile, two-career families. Doctors will have Web pages and provide e-mail access for patients, chat rooms for groups of patients, and most likely, remote video teleconsultations directly to patients' homes. The Internet will enable physicians to monitor patients' vital signs and order and refill prescriptions over the Web. Patient billing and access to insurance information will also be transacted via the Web.

Medical records will be maintained over the Internet, subject to stringent security and new privacy law. Insurance eligibility information will also be available electronically. Patients will be able to view all of their personal medical data. Before visiting their physician, they will respond to a medical history questionnaire online. By the time they arrive at the doctor's

office, the necessary tests will already have been ordered. A visit with the doctor will occur after the tests have been completed and the results dispatched over the Web.

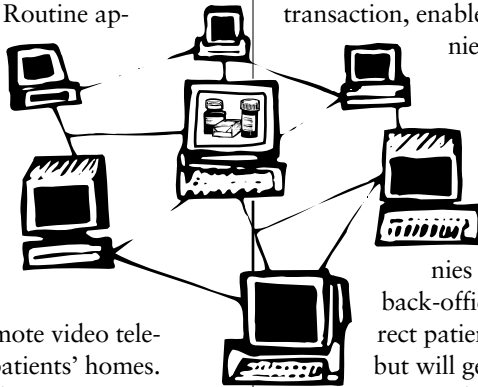
For those willing to pay extra, the doctor will provide a no-wait policy with substantial rebate given if she (women doctors will be the majority) is more than 10 minutes late. Office visits during peak hours will cost you 20 percent to 40 percent more. Doctors will set their fees, even for Medicare patients. Patients will negotiate fees, either directly with the doctor, or by joining groups such as the American Association of Retired Persons that will negotiate volume discounts.

Managed care as we know it will be gone, replaced by a more direct patient-to-provider transaction, enabled by a host of new companies that will rate providers.

J.D. Power will rank hospitals and physicians based on medical outcomes, convenience, patient satisfaction and cost. Insurance companies

will continue to provide the back-office functions for enabling direct patient-to-physician contracting, but will get out of the cost containment and health care rationing business. Instead, they will compile data for health care report cards, which they will use for their provider ratings. And government and insurance companies will provide direct financial incentives that will shift the economic responsibility for health care back to the patients.

Farfetched? Most of these examples are based on practices being implemented now at Hopkins and other sites around the country. ■



June 6, 2001

# Managed Madness

EUROPEAN COUNTRIES MAY SPEND LESS ON HEALTH CARE THAN WE DO, BUT THEIR SYSTEMS ARE HARDLY SUPERIOR.

I just returned from a trip to Europe, where, among other things, I attended a meeting in which a group of European doctors and health economists from Germany, Sweden, France and the United Kingdom talked about health care reform in Europe. I was struck by several things:

First, the countries in Europe each spend less than we do on health care. Most striking is the UK, arguably the country most like us, which spends less than half of what we do in the United States. To do this, the UK uses what looks to me to be a rigid system of rationing, particularly when it comes to new devices, drugs and technologies.

My second observation is that citizens in these countries don't seem to be any happier with their health care systems than we are with ours.

And third, while the European health system is largely governmental and mostly managed through the social security system of each country, reforms are under way to devolve more to the private sector with a system that sounded much to me like managed care. I remarked to several of the participants that Europe, by adopting a managed care model, was "failing to learn from our mistakes."

When it comes to the payment for providing health care services, it appears that no one has the optimal solution. Wide variations in utilization among developed na-

tions bear little or no correlation with health status. The one common thread I detected from the Europeans was a move toward more private insurance and non-governmental control of health care services. However, this may not be so much a move to improve efficiency as a way to move patient complaints away from government officials and onto private insurance companies.

There is considerable angst in this country about health costs rising as a percentage of GDP, and interest in the European models for controlling those costs. But what I learned on my recent trip is that those in Europe with enough money will often choose to opt out of the government system to receive the care they need. The poor and working class, on the other hand, have no option but to accept whatever level of care is available through the social security system. I would argue

that our system, despite its rising costs and its frailties, is markedly superior to a European system that promotes several classes of health care based on economic means. ■

THERE IS CONSIDERABLE ANGST IN THIS COUNTRY ABOUT HEALTH COSTS RISING AS A PERCENTAGE OF GDP, AND INTEREST IN THE EUROPEAN MODELS FOR CONTROLLING THOSE COSTS.

# Buddy, Can You Spare a Dime...

IF YOUR INSURANCE PROVIDER ONLY ALLOWS 50 CENTS FOR A VACCINATION, LOVE IT OR LEAVE IT!

**R**ecently, I commented in this space about the poor reimbursements insurers pay for provider services. At the time, I didn't realize how ridiculous things had gotten.

Last week, my wife received a bill for her recent hepatitis B vaccination. The charge from the physician's office was \$105, which included \$90 for the vaccine and \$15 for the administration. So far, so good.

Then our insurance provider sent us a statement indicating that of the \$90 for the vaccine, only \$72.65 would be allowed. Our insurance covered \$58.12 of that amount, and we were billed the balance of \$14.63. Now for the \$15 charge to administer the immunization—i.e., load the vaccine into the syringe and inject the vaccine into the

to help me understand why my insurer will only allow 50 cents for a vaccination.

"How can this be?" I asked. "After all, the needle alone must cost more than 50 cents."

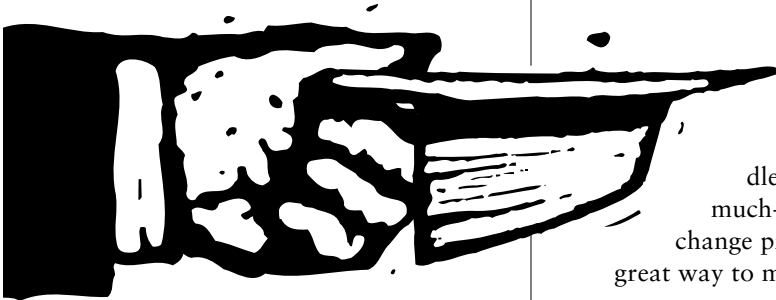
The answer was, unfortunately, both straightforward and somehow poignant.

"Your doctor is a member of our network. When he signed up to be in the network, he agreed to accept our fee schedule."

Love it, or leave it, simple as that. A true one-sided negotiation. This is the stuff from which revolutions are made. Workers of the world, arise! Or as Pogo said, "We have met the enemy, and he is us."

Five thin dimes to administer a hepatitis vaccine shot—what a deal. As I was wondering how doctors pay their bills at the end of each month, it came to me: Maybe my

doctor doesn't shave for a couple of days, puts on some scruffy clothes, and then takes all his used needles down to Baltimore's much-heralded needle exchange program. It would be a great way to manage his costs. ■



patient's arm (or other unmentionable places)—only \$0.50 was allowed. You got it, a measly 50 cents. The insurance company generously paid 40 cents and balance-billed us for the remaining 10 cents!

I decided to call the insurance company. After a full minute of listening to a recording informing me of their hours of operation, I was instructed to listen closely to "the following menu options." Then, after pressing "2," I waited another half minute or so until a very pleasant woman came on

# Shouldn't Health Insurance Be a Right?

HERE'S WHY UNIVERSAL COVERAGE STILL HASN'T HAPPENED.

I had an engaging discussion with a couple of very intelligent medical students recently. Why, they asked, doesn't the state or federal government provide health care benefits like education, where the government uses tax dollars to provide equal free access to K-to-12 education for all citizens?

These students rightly raised the key question that is central to the entire debate about health care. I think most people in America would agree that everyone should have access to health care, irrespective of ability to pay. Where there is a dramatic divergence of opinion is the question of how much, or what level of, health care the government should provide.

The number of people without health insurance continues to grow each year, and these "medically indigent" are an increasing problem for our society. Even families with one or more wage earners can readily be bankrupted by an illness, including, sometimes, illnesses that are less than catastrophic. So why does the United States tolerate this black eye when other developed nations—such as Canada, Japan and most of Europe—embrace government-sponsored health care systems that provide universal coverage?

I have surmised that there are two reasons for our current state of affairs, one pragmatic or political, the other cultural. The pragmatic reason we don't provide universal coverage or universal access to care is that no one can agree on what minimum set of benefits should be included in the health care "safety net." We evidently can't afford to provide comprehensive coverage for everything to everyone because the cost would be astronomical. Universal coverage therefore has to be viewed more as the minimum coverage necessary to maintain health and well-being. Unfortunately, neither politicians, doctors, economists

nor lay groups have yet been able to define and agree on what that minimum set of benefits should be.

There is a cultural impediment as well. Countries with systems of universal coverage usually rely on a single payer (the government). Usually the hospitals are state-owned and the physicians actually government employees. Consequently, the degree of patient service is quite different from what we in the United States have grown to expect. For example, the waiting list for elective open-heart surgery in Germany's health care system is nine months. Most U.S. citizens would find

such a waiting period unacceptable. Canada and the United Kingdom tightly control the proliferation of expensive technologies such as MRI and CT, thus effecting a form of rationing that, again, would not be acceptable here.

Public K-to-12 education works (or used to work) because everyone agreed on a minimum set of benefits, which

was the high school equivalency degree with proficiency in math, science, English, history and so forth. The costs of such a benefit can be predicted and agreed on in advance. Although subjects such as music, art, drama and athletics have unfortunately been viewed as optional, we nonetheless have generally accepted principles about what a single-payer educational system should provide.

Health care is more open-ended. It is a well-known fact, for instance, that utilization of medical services increases with a higher density of physicians. The more surgeons in a community, the greater the utilization of surgical procedures; the same holds true for psychiatrists, internists and so forth. Thus, even with an explicit, agreed-on definition of minimum health benefits, it's surprisingly difficult to predict the cost of those benefits due to large variations in utilization of services from community to community. ■

THERE ARE TWO REASONS FOR OUR CURRENT STATE OF AFFAIRS, ONE PRAGMATIC OR POLITICAL, THE OTHER CULTURAL.

# Incentives Work

THE BAD NEWS IS THAT WHEN IT COMES TO HEALTH INSURANCE, THEY DON'T ALWAYS WORK AS INTENDED.

Following one of my recent columns, a colleague wrote wondering if I was advocating moving the health care system to a free-market economy. He rightly pointed out that leaving health care to unbridled market forces would not necessarily optimize the health of individuals. Rather than advocating a free-market approach to health care, I simply wanted to emphasize that incentives drive health care, like any market, regulated or not.

The one characteristic of incentives is that they always work. But they don't necessarily work as intended. That fact was illustrated to me in 1983, when my family and I toured Poland, then a regulated, centrally planned communist state. At about that time the Polish government decided to encourage the recycling of glass jars by introducing the equivalent of a five-cent-per-jar rebate.

Some enterprising Polish entrepreneurs quickly figured out that pickles, at that time not in short supply, could be purchased, the jars turned in for a rebate, the pickles repackaged in cardboard containers and resold at a net profit. The result was that within 48 hours of the institution of the rebates on jars, all of the pickles disappeared from grocery shelves. Even in a controlled economy incentives work—but not always as expected.

There are many problems with our system of health care delivery. I believe the principal driver of adverse effects is perverse incentives created by government regulations, employers, insurers and the IRS. These include:

1. Providing first-dollar health benefits rather than last-dollar, or catastrophic coverage. Patients (and their doctors) need not be concerned with the cost of health care because someone else—the government, insurance companies or an employer—is footing most, if not all, of the bill.

Often patients don't even bother to check whether the items on their hospital bill are correct, since they are not responsible for payment. And payers are so far removed from the specifics that it is difficult for them to verify accuracy of charges.

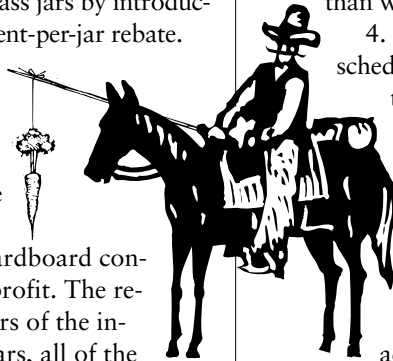
2. State and federal governments are in the health insurance business. As a result, reimbursement rates are subject to political maneuvering and rarely subjected to a test of the marketplace. For example, there are wide variations in Medicare reimbursement rates based on geography that have little, if any, correlation with the actual cost of the services.

3. Health insurance benefits are tax-exempt, encouraging corporations and employees to push for more compensation in health benefits rather than wages.

4. Physicians are paid on a fixed fee schedule. The lower the reimbursement, the more doctors try to increase patient services in order to maintain their income. Doctors' salaries are only 20 percent of health care costs, but they drive 80 percent to 95 percent of costs. Maintaining their income tends to increase utilization of services, exactly the opposite of what Medicare and Medicaid intend.

5. Regulation of inpatient—but not outpatient—services creates incentives to move patients out of the hospital, which is generally beneficial, but encourages overutilization of outpatient services.

Free market or communist-style controlled market, watch out for the incentives. They work. The trick is defining incentives that work the way we would like for them to work. More about that in the future. ■



# Hidden Subsidies

NOT JUST THOSE WITH CORPORATE-SPONSORED COVERAGE SHOULD ENJOY TAX INCENTIVES TO PURCHASE HEALTH CARE.

One of the challenges facing health care reform is hidden subsidies and perverse incentives that drive behavior in sometimes unintended ways. I believe much of our behavior results either from culture—“this is what we expect to get”—or from incentives. It is difficult to change the culture of societies, but one can often modify behavior rapidly by altering incentives.

For example, one important incentive is the use of the federal tax system to provide health care benefits in pre-tax dollars. Money corporations use to pay for employee health care benefits is exempt from corporate taxes; employees receiving the benefit pay no income tax on the benefit as well. This incentive was designed to promote affordable health care for all, and for many years it accomplished exactly that.

However, as wages escalated, it became more efficient for the corporation and the employee to transact more compensation in the form of health care benefits rather than direct wages, thus avoiding significant taxes. The growth of these benefits helped fuel a nearly unbridled use of the health care system in which employee and doctor could choose treatments for which neither bore financial responsibility. It is not surprising that such incentives have the perverse consequence of driving up utilization of health care resources.

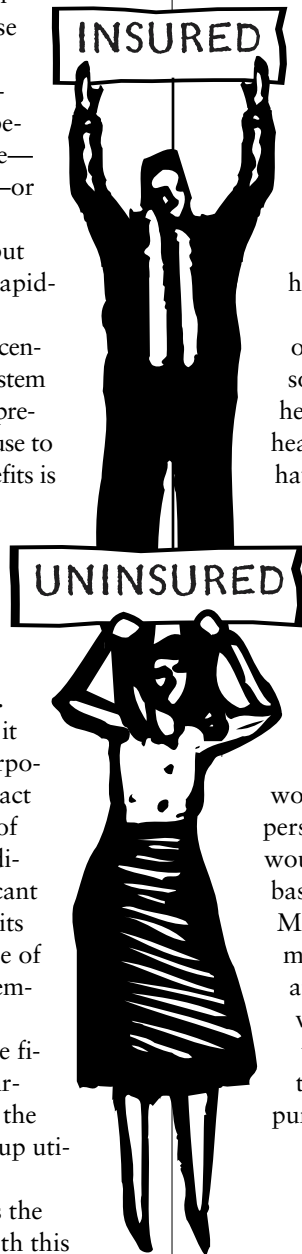
Another, less obvious effect is the “hidden subsidy” that occurs with this tax incentive. If you work for General Mo-

tors and are provided health care benefits, you pay no taxes on those benefits. If, however, your employer does not provide health care benefits and you must purchase your own health plan or insurance, you must first pay taxes on the money and then use after-tax dollars to buy insurance. In other words, individuals who purchase health care receive no tax benefits.

What does this mean? Viewed another way, it implies that every person who has no corporate-sponsored health care coverage is subsidizing the health care costs of employees who do have this coverage. In other words,

each of the 44 million medically uninsured is providing a subsidy (through the IRS, as it were) to the workers at General Motors in order for GM workers to get health care benefits! I’m sure Congress never intended such subsidies to occur.

A much more balanced system would provide tax incentives for all persons to purchase health care and would index the amount of the credit based on income. The CEO of General Motors would get no tax benefit, middle managers would get a moderate deduction, the hourly workers would get a sizeable deduction, and unemployed persons would get a tax credit to be applied only to the purchase of health insurance. ■



# The 80/20 Rule

BY FOCUSING ON THE FEW ILLNESSES THAT CAUSE THE BIGGEST PROBLEMS, INSURERS CAN BENEFIT.

There are few observations about behavior that have as wide an application as the “80-20 rule.” I have no idea who first came up with this novel concept, but I marvel at its applicability nonetheless.

Stated briefly, the 80-20 rule says that for any given phenomenon, 80 percent (or more) of the occurrences result from 20 percent (or fewer) of the causes. For example, 80 percent of the crimes in Baltimore City are caused by 20 percent of the criminals. In other words, there must be a large number of repeat offenders, professional criminals, if you will, wreaking havoc among the rest of our citizenry. Or 80 percent of America’s wealth is held by 20 percent of its people, 80 percent of the soft-drink market is controlled by 20 percent of the soft-drink companies, and so forth. I don’t know that these rules are exactly applied, but they make good approximations. In the case of soft drinks, for example, there are probably 10 or fewer major soft-drink companies, and I would guess that Coca-Cola and PepsiCo produce easily 80 percent of the sodas consumed in the United States.

So, jumping in without data, I would argue that roughly 80 percent of the cost of illness in this country is produced by fewer than 20 percent of the diseases. Or that 80 percent of health care costs are generated by 20 percent of the population, and so forth. The great advantage of the 80-20

rule in dealing with large-scale problems is that it allows us to focus on a small segment rather than on the entire problem, with the confidence that this small segment is where most of the action is concentrated. To reduce crime, it is well known that if you focus on the relatively small number of repeat offenders, you will have a dramatic reduction in the overall incidence of crime.

Why is this so important in the case of health care? The 80-20 rule tells us if we want to reduce the cost of health care, it is futile to try to focus on all illnesses (this was the managed-care gatekeeper concept or the pre-authorization system). Rather, it would be better to identify the 20 percent of the illnesses or the 20 percent of the population that generate most of the costs and focus on this segment.

My hunch is that if insurance companies were to focus on 10 to 20 illnesses, and work with doctors and hospitals to find ways of reducing the costs of these few, and then reward those providers that actually use these methods for demonstrably better outcomes, we could shave a significant amount off health care expenditures in the United States. More about this in a future issue. ■

STATED BRIEFLY, THE 80-20 RULE SAYS THAT FOR ANY GIVEN PHENOMENON, 80 PERCENT (OR MORE) OF THE OCCURRENCES RESULT FROM 20 PERCENT (OR FEWER) OF THE CAUSES.

# The End of Health Insurance

INFORMATION DERIVED FROM GENETIC TESTING COULD PROVE A PROBLEM FOR THOSE SEEKING COVERAGE.

Recently, I was part of a group of university presidents to hear a thoughtful and provocative presentation by Francis Collins, director of the Human Genome Research Institute. In a wide-ranging discussion, Collins described some of the important ramifications of our improved understanding of genes and disease.

During his presentation, he indicated that there was a danger insurance companies, as well as employers, would use information derived from genetic screening to either deny health insurance coverage or adjust the premiums according to the risk of disease based on genomics. As a result, he noted, there are plans afoot in many states and perhaps even at the federal level to bar insurance companies and others from using genetic testing to determine insurability or insurance ratings.

An astute observer quickly challenged Collins on the appropriateness of such legislation. This individual pointed out that within a competitive market, whenever the participants have asymmetric access to information, you end up with disadvantaged economics for one side versus the other, which in turn leads to economic imbalance. If insurance companies can't use genetic testing to set rates, why should consumers be allowed to use test results to determine how much and what kind of health insurance to purchase? Perhaps not surprisingly, the observation sparked a heated discussion, with some taking the medical ethics side arguing for a ban on using genetic testing, and others arguing like economists that a ban would lead to economic chaos.

Collins himself claimed that genetic information was too imprecise to be used for health in-

urance risk adjustment. However, several in the audience, yours truly included, didn't entirely buy that argument. Although the medical ethics argument is more intuitively appealing, the economics perspective cannot be easily discounted. Because this issue of genetic testing and its unintended consequences is so emotionally charged, let me offer a similar, but less controversial, example where asymmetric information leads to economic advantage.

Consider the situation where you offer voluntary participation in a health insurance plan that includes maternity benefits for residents, graduate students, fellows and so forth—young people of generally excellent health but modest means. Because today most families can plan the timing of pregnancies, it has been shown that young adults in this situation will opt out of the cost of health insurance coverage until they decide that they wish to become parents. Because the insurer

(or employer paying the health benefits) does not have this information, it prices the policy based on average risk and health costs for young adults. But, in fact, the group purchasing the insurance is not representative of the cohort because of the bias toward couples planning to have children. The underwriting is only representative if every graduate student, for example, is required to purchase the insurance coverage. Instead, it ends up being used disproportionately by young couples just starting new families.

The implication of this lesson, I believe, spells the demise of health insurance as it now exists in this country. In the next issue, I will suggest what I believe will be one of the most important—and unlooked for—outcomes of genomic medicine. ■

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# The End of Health Insurance—Part II

IN THE END, IT WILL BE GENETIC TESTING THAT USHERS IN UNIVERSAL COVERAGE.

In my previous column, I recounted a fractious debate about genetic testing with Francis Collins, director of the Human Genome Research Institute, at a meeting of research university presidents. Some argued that insurance companies should be proscribed from using genetic tests to set insurance rates or determine insurability. Others responded that if customers can learn of increased risk of illness by those tests, they will be motivated to buy lots of insurance fairly cheaply, thus skewing the insurance pool and creating the potential of financial disaster for the insurance companies.

Genetic testing is medicine's iceberg. Right now, most of the consequences are out of sight. But just below the surface lurks an enormous problem. My prediction is that in the years ahead, genetic testing will become more and more pervasive. At the same time, our knowledge of the risk of disease associated with the results of those tests will become increasingly refined. The result, I think, will be to drive out private health care insurance as we now know it. If legislatures pass laws banning the use of genetic screening data, insurance companies will protect themselves from the resulting asymmetric access to information by raising premiums. Some may go bankrupt because purchasers of insurance will be the more knowledgeable in the transaction. If, on the other hand, we allow the use of genetic data, many more individuals will be deemed too high-risk to warrant affordable coverage.

In my mind, only one solution can preserve the concept of health insurance: universal coverage. The idea behind universal coverage is actually a very old concept, called community rating: The individual purchasing insurance becomes part of a large community and is insured based on the rate for the large group. The basic premise is to spread the risk: Individual dif-

ferences are averaged over that large lot. True universal coverage would require every person to be covered by health insurance from birth to death. The cost would be based on the average risk of the national pool. Regional, gender, ethnic and genetic differences would not be taken into account for the individual policy holder, but would be factored into determining the risk of the national pool.

The government could provide the insurance, or could allow multiple companies to provide policies while requiring that every insurance company use the same actuarial data for determining policy pricing. The government could make the insurance affordable to all through the use of tax credits or other incentives for low-income individuals and for children.

Dogmatic as I am in my belief that individuals should ultimately be responsible for their own health care decisions, I see no other alternative. The information revolution will eventually drive out too many consumers from the health insurance market to enable our present system to remain viable. Some may even make the argument—difficult to refute—that our present situation, in which tens of millions are already lacking health insurance, and institutions like Johns Hopkins are left to somehow provide them free care, is already unviable. Moving to universal coverage presents many challenges, but also presents the opportunity to bring back into the system the tens of millions of Americans who presently lack the means to acquire health insurance. I believe that day is

coming sooner than many people expect. ■



February 13, 2001

## Lights Out

LIKE PUBLIC UTILITIES, HOSPITALS MUST PROVIDE SERVICE WHEN PRICES ARE CAPPED AND COSTS ARE UNREGULATED.

**T**he recent blackouts in California highlight the problems that arise when a public utility is squeezed between its customers and its suppliers. The fundamental problem is that California's utilities must provide services where prices are capped but costs are unregulated. Logic tells us that such a system is bound to come apart when energy prices begin escalating far faster than general inflation. Unfortunately, though the governor and state legislature were aware of the problem for many months, the state only took emergency action when the long-predicted blackouts actually started.

Many people don't realize that our nation's hospitals are in a very similar situation. A decade of cost cutting by insurance companies and the federal government effectively created price controls on what health care providers can charge. Yet at the same time, the costs of providing those services are exploding. At The Johns Hopkins Hospital, for example, pharmaceutical costs have risen about 15 percent each year since 1996. Though life-saving for our patients, new drugs and technology can be life-threatening to a hospital's bottom line. Meanwhile, nurses are getting harder and harder to find, at any salary.

A decade ago, it was felt that we had too many hospitals, and that they were inefficiently operated to boot. Consequently, in each year out of the past 10, hospitals have cut costs, closed beds, reduced length of stay, improved service and efficiency, and moved procedures from the hospital to community-based settings. Now our hospitals are more thinly staffed than ever, yet the patients we house are more critically ill.

In Maryland alone, eight hospitals have closed, and the number of licensed beds in the state has dropped by 20 percent. But the situation only gets worse. Industry profitability statewide

has declined from a 4 percent margin in 1996 to a 0.7 percent margin in 2000. Forty percent of Maryland acute-care hospitals had operating losses during the last fiscal year, compared with only 16 percent five years ago. And while there may be more operating efficiencies to be gained, it is increasingly hard to see where they might be found. The irony is that even though they may be losing money, a number of our hospitals cannot keep up with demand. Emergency rooms are flooded. Many hospitals have no more intensive-care unit beds to house the very sickest patients who need our services the most.

EVEN THOUGH  
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Generally speaking, suburban hospitals are faring better than their urban counterparts, which are saddled with the sickest patients, the greatest number of uninsured, and all the additional costs of working in an urban environment. Among this latter group are the majority of our academic medical centers, the elite teaching hospitals that represent the best of breed. Even some of the most

renowned of them are hemorrhaging financially.

We must not allow our public leaders to ignore this crisis until the surgery lights start flickering. Hospitals are very much public utilities that provide a vital service for the common good. We cannot give up modern medicine. We are not about to go back to more invasive surgery, less effective drugs, or poorly trained medical staff. But these advances cost money and hospitals cannot continue to survive the squeeze that is now occurring. It's time to recognize that the present system penalizes those who are most important to the delivery of health-care services. We must uncapped reimbursement so that hospitals and doctors can be reimbursed fairly for their services. Otherwise the lights will go out in more and more of our very best—and most essential—public utilities: the nation's hospitals. ■

# The Shortage Problem

BESIDES TOO FEW NURSES, HOSPITALS ALSO DEAL WITH A SCARCITY OF DRUGS AND SUPPLIES.

By now, everyone is aware that many hospitals are unable to fully staff their inpatient services due to a critical shortage of registered nurses. At Hopkins, there have been times over this past year when we had to close beds for this reason. But the national nursing shortage is only one example of a growing list of shortages that can prematurely gray the hair on a hospital administrator's head.

Recently, I was shocked to learn we are facing shortages of critical pharmaceuticals as well. For example, the *Washington Post* reports hospitals have already begun to ration the use of tetanus shots for adults because the major supplier, Wyeth-Ayerst Laboratories, has announced it is discontinuing production of the tetanus vaccine "for business reasons." Fortunately, there is a second supplier of the vaccine, but it will take some months before it can ramp up the supply to take up the slack.

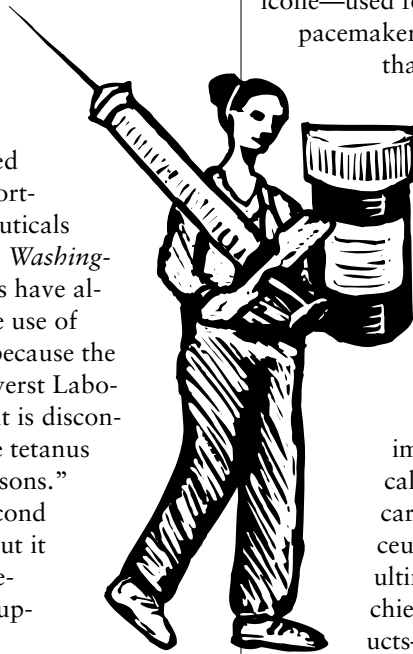
Drug discontinuations like the tetanus vaccine aren't uncommon. Other drugs, such as Wydase, used in ophthalmology, or Isuprel, a common staple in crash carts for cardiopulmonary resuscitation, also are on the endangered species list. And more shortages are likely to occur, either for business reasons as pharmaceutical companies are pushed by Wall Street to improve profit margins, or through the disappearance of critical precursors used in producing specific drugs. In some cases, the FDA shuts down produc-

tion facilities for irregularities in the manufacturing process. Finally, of course, the tort system hasn't been kind to companies that produce a drug with significant side effects.

The medical device industry has gone through similar cycles. Key materials have been withdrawn from the market to limit product liability exposure. In the case of silicone—used for implantable devices like pacemakers—Dow Chemical decided

that the legal liability involved dwarfed any potential revenues it might gain from selling silicone to medical device makers. Those companies were left scrambling for alternate sources.

Because of the varied nature of these shortages, it is not clear that any single solution can be imposed. But the situation does call for close observation and careful scrutiny of the pharmaceutical industry's actions. It is ultimately left to us to protect the chief beneficiary of these products—our patients. ■



# Getting to the Root of Nurse Staffing

KNEE-JERK LEGISLATION WON'T EXPAND THE POOL OF NURSES.  
LET'S FIX THE PROBLEM, NOT TREAT THE SYMPTOMS.

In the wake of devastation from the managed care tornado, states from California to Massachusetts are considering legislation that would require hospitals to provide minimum mandated levels of nurse staffing. Such craziness is an example of legislative knee-jerk responses to real imbalances in care that have led to significant patient complaints, and in some situations, dangerously low levels of nursing care.

My objection to this solution is twofold.

First, it treats the symptom—poor nursing care resulting from reduced nurse staffing—rather than the problem, which is inadequate reimbursement by insurers and HMOs to hospitals. It is this inadequate funding that forces care providers to reduce all staffing levels to critically low levels. Second, optimal staffing levels are difficult to ascertain, and will vary from hospital to hospital, specialty to specialty, ward to ward. We have already seen that reimbursement adjustments for indices of illness severity often fail to capture true differentials, despite the best intentions. I can imagine that there will be many cases in which minimum nurse staffing standards will be insufficient for appropriate care, and other cases in which the minimum is more than needed.

Legislated standards are an attempt at micromanaging a process—patient care—that is difficult enough for the providers to manage. Layering on another essentially unfunded mandate is only likely to accelerate the bankruptcy of more hospitals. In California, where a mandated 1-nurse-to-5-patients ratio took effect in January, almost two-thirds of the state's hospitals are already operating in the red, according to *The New York Times*. The California Healthcare Association estimates the new regulations

will cost hospitals an additional \$400 million annually in wages and benefits. Where is that money to come from?

If we want to improve the level of care in our hospitals, we will have to increase the minimum standards for reimbursement so they can afford to provide optimal care without fear of bankruptcy. We can

also expand the pool of available nurses by giving financial incentives to colleges and universities to reopen or expand schools of nursing, and perhaps provide full scholarships to nursing students who agree to serve set terms in hospitals.

My message to legislators is a simple one: The present crisis in patient care results from inadequate reimbursement and insufficient supply of nurses. Let's fix the problems, not treat the symptoms. ■

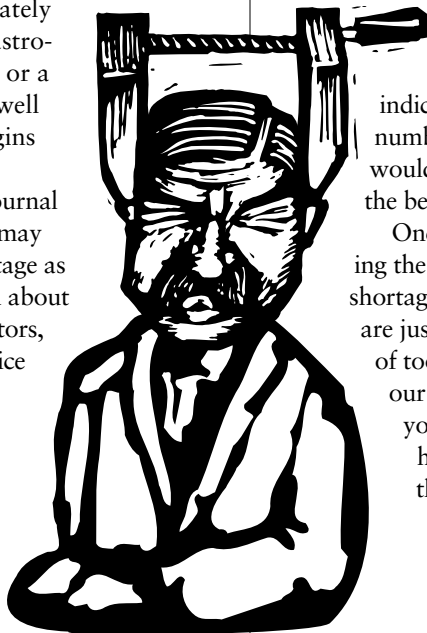
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# Doctor Squeeze?

MORE MEDICAL SCHOOL SLOTS AND INCREASED PHYSICIAN REIMBURSEMENTS COULD EASE THAT POSSIBILITY.

Some months ago, I pointed out that continuing to regulate reimbursement for providers without somehow controlling their costs would bring about further financial exigencies resulting in more hospital closures. In fact, in many major metropolitan areas, hospitals are often filled to capacity while operating at, or below, break-even margins. The failure of just one of these urban hospitals would create significant regional shortages of hospital beds. Managed care has wrung out all of the system's excess capacity to the point where we now lack the health care resources to respond adequately to a local or regional catastrophe, such as an epidemic, or a terrorist attack. We may well be skating along the margins of a disaster.

Now the widely read journal *Health Affairs* reports we may be facing a physician shortage as well. We have long known about the maldistribution of doctors, who often choose to practice in suburban areas rather than rural or inner-city locations, or who opt for specialty practice rather than primary care. We are now beginning to see a more general problem of insufficient numbers of doctors, even in subspecialty areas. With the growth and the aging of the population, some researchers contend it is likely that we are going to see rather significant shortages of physicians in a number of areas, from general practice to subspecialty medicine. Already, there is evidence of regional shortages of some specialty physicians.



The shortage may be attributed to two factors. First, of course, is the familiar tale of economics. Physician reimbursements are being squeezed while medical school debt approaches astronomical proportions. This drives people to other, more financially remunerative careers, and also pushes medical students toward higher paying specialties. Second, we have not significantly increased the number of medical school training slots since the 1970s, despite the fact that the population has increased by almost 75 million in 30 years. Policy is still dictated by the dogma of the 1960s, which

projected that we were training too many doctors (and nurses!). Studies conducted as recently as 10 years ago indicated that significant excess numbers of doctors and nurses would be entering the workforce at the beginning of this century.

Once again, we learn that predicting the future is impossible. Nursing shortages are already a reality, and we are just beginning to feel the impact of too few physicians. It is time for our nation to encourage our best young people to enter careers in health. We're going to need them. ■

# Zero Defects

ON THE IMPORTANCE OF BUILDING QUALITY INTO EVERY PROCESS.

**B**y the end of the 20th century, a revolution in automobile manufacturing had occurred. It was led by Toyota, adopting principles earlier espoused by an American statistician, W. Edwards Deming. Deming developed a rather simple concept: Quality was about never letting defects or errors propagate within a process or system. To correct a defective \$15 part in an automobile might cost the manufacturer hundreds of dollars. Developing processes that never allow a defective part to be used in the fabrication of the automobile is more cost effective than inspecting a completely built car to hunt for defects.

The analogy applies very directly to many of the processes we use in medicine. A patient bill for a \$25 physician fee in which the insurance company is incorrectly listed may take months to resolve—and the cost of resolving the error will be more than the original \$25 bill. For example, we could hire an auditor to inspect patient bills submitted to Medicare to find any errors, but such a process is time consuming and therefore expensive. Better to develop procedures that ensure that the bills are submitted without errors to begin with.

Adopting modern methods of quality improvement will not only reduce compliance problems, they will cost less in the long run. Quality is built in and compliance is virtual-

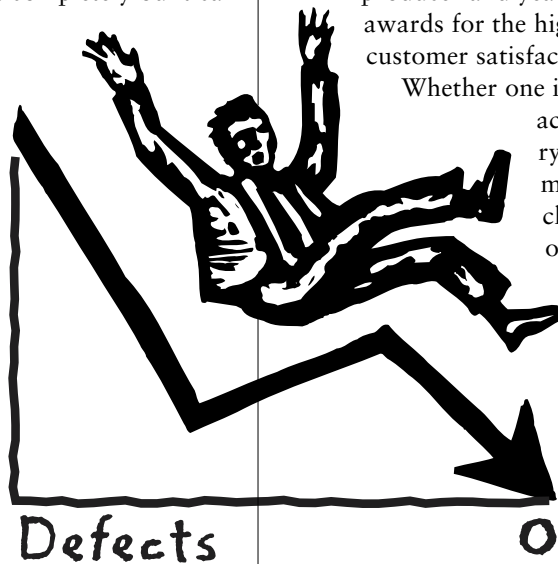
ly assured at the same time. If quality is not built into a process, we must inspect the resulting output to detect errors in compliance at a higher cost.

Beginning around 1950, Toyota became the first corporation to adopt Deming's principles and quickly set the standard for quality manufacturing. In addition, Toyota demonstrated that building quality into manufacturing processes ultimately lowers costs, not raises them. This discovery was in contrast to the established dogma within the automobile industry at the time. Today, Toyota remains the lowest cost automobile producer and year after year receives awards for the highest quality and customer satisfaction.

Whether one is looking at grants accounting, laboratory animal management, patient billing, clinical trials or other processes,

Deming's concepts apply in hospitals as well as in auto plants: Eliminate defects through comprehensive process improvement rather than post-facto detection.

Zero defects is an achievement worth emulating in any business. ■



# The Assembly Line

LIKE THE AUTOMOBILE INDUSTRY, MEDICAL WORKERS CAN ELIMINATE THE POTENTIAL FOR ERRORS.

**W**hen Henry Ford introduced the Model T in 1906, he revolutionized the building of automobiles. The key to the tin lizzie's success was its affordability, made possible by two important advances: standardization and assembly-line manufacturing. Prior to the Model T, automobiles were literally hand built to custom specifications. Each one was different. Standardization allowing economies of scale ushered in the age of the automobile.

Ford came up with the production-line concept after visiting Chicago slaughterhouses, where he saw the beef carcasses being transported on hooks while the meat was being dressed. In a similar fashion, the chassis of his new mass-produced automobile was moved through a number of stations while workers added parts in a standardized fashion. What was important in Ford's process was to keep the assembly line moving at all costs. Defective parts might be incorporated into the automobile, but as long as the assembly line kept moving, these defects could be detected by inspection of the finished product later on.

Toyota was the first company to modify the classic assembly line by adopting a key new tenet: there would be zero tolerance for defects. Rather than waiting for later inspection, the moment a defective part is encountered on the assembly line any individual employee is empowered to shut down the entire process until that defect is removed,

its source identified, and the problem corrected. Under such a scenario, workers become much more compulsive about preventing and ultimately eliminating defects. No one wants to have to shut down the assembly line.

Today, there are innumerable pressures on the practice of medicine. With challenges like managed care, reduced reimbursement, limited lengths of stays, less funding for administrative costs, more regulations, more complex billing requirements and so forth, it is all too easy to get into the Ford assembly-line mentality: Keep things moving, don't rock the boat, and whatever problem there may be, we'll fix it later.

We need to change that mind-set, not only at Hopkins, but all around the country, in every academic medical center. The way to begin is by empowering all of our workers—not simply doctors or nurses, but secretaries, maintenance personnel, students and so on—to allow them to “stop the assembly line” when they encounter defective processes. Stopping the assembly line, as it were, immediately focuses everyone on the process improvement needed to eliminate the potential for errors to recur. While conceptually simple, adopting the appropriate incentives and rewards to promote this new behavior will be a major challenge. But I think it is a great opportunity for Johns Hopkins once again to lead by its example to other medical centers around the world. ■

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# Six Sigma

## A METHOD FOR APPROACHING 100 PERCENT ACCURACY.

Improving the operations of Johns Hopkins Medicine should be the highest priority for all of us. Whether we are talking about basic research, clinical trials, education and learning, or patient care, we must recognize that improving quality not only provides a better end result, but also translates into lower costs.

Beginning with the statistical work of W. Edwards Deming in the 1950s, the quality revolution has evolved into what now is almost a science. Quality improvement is fact based, data driven, and highly analytical. For the most part, science has replaced mere slogans, although clear ways of defining quality objectives still require simple descriptors.

The newest way to discuss super-quality initiatives is embodied in the phrase “six sigma.” Whether making automobiles or processing medical insurance claims (or something in between), quality improvement relies on reducing process variability. This variability is the variance or standard deviation. Six sigma has come to the fore at manufacturing companies like General Electric and Motorola, which have specified that process variability should be reduced to within 3.4 defects per one million encounters [how the six sigma translates to this number is left as an exercise to the reader]. Thus, six-sigma quality means 99.73 percent accuracy.

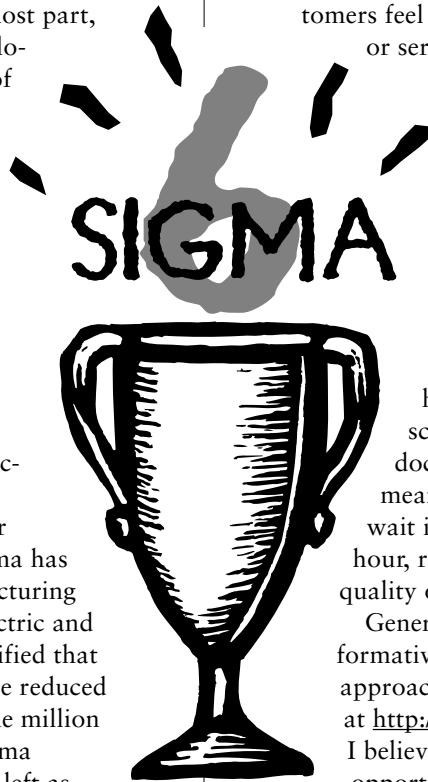
In recent years, GE and Motorola have actually achieved six-sigma results in

building X-ray tubes and cellular phones. In service industries, the results have been less dramatic. Nonetheless, the six-sigma concept is spreading to organizations such as hospitals, financial service companies and the like. Implementing six sigma in a hospital setting would result in many fewer complications, would reduce the time needed to respond to inquiries, and would promote maximum speed and accuracy.

Six sigma starts from a customer-centric approach rather than from the employee perspective. GE makes the point that customers feel the variance in a product

or service more than they feel the mean. For example, if the doctor is always one hour late for appointments, the variance is low. Thus, the patient can adapt, or even show up one hour later than scheduled. If the variance is high, however, the patient will have to show up as scheduled, just in case the doctor is on time. But the mean tells us the average wait is still likely to be one hour, reducing by that much the quality of the patient’s visit.

General Electric has an informative Web site discussing its approach to six sigma, accessible at <http://www.ge.com/sixsigma>. I believe that Hopkins has a real opportunity to lead by implementing six-sigma improvements across all we do—from research to education to patient care. It’s something I look forward to addressing in the coming year. ■



# I've Got a Secret

## REDUCING THE NUMBER OF STEPS IN A CUMBERSOME PROCESS CAN LOWER THE ERROR RATE.

I spent a few hours relaxing over the holidays playing a game of “I’ve Got a Secret” with my family. As we played, it occurred to me that this game actually provides a clear demonstration of the six-sigma process of improving safety and quality, and suggests how it might apply to our hospitals and health care system.

In case you have forgotten this game of our youth, “I’ve Got a Secret” involves whispering a secret message to one person among a ring of 10 or so people, and then having that person whisper the secret on to the next person and so forth, until the last person tells the secret back to the first person. What comes back, of course, generally is a highly distorted version of the original message.

The reason the message gets so distorted is that the error rate propagates through each step of the process. For example, if we assume that any one person can be 99 percent accurate in receiving and transmitting the message on to the next person, by the time the message gets back to the initiator, there will be  $(0.99)^{10}$  percent accuracy, or about 90 percent accuracy in the overall message transmission. Thus, a 1 percent error rate in any individual step becomes a 10 percent overall error rate. The error rate quickly degrades with lower accuracies. For example, if the accuracy of each person is 95 percent rather than 99 percent, the overall message accuracy will be about 60 percent, or a 40 percent error rate. Similarly, increasing the

number of steps of transmission also degrades the error rate rapidly.

What does this have to do with quality in health care? Simply this—most processes that are used to provide a service or produce a product involve multiple steps. Even if the error rate at any given step is low, the cascading of multiple steps will virtually guarantee errors, or defects, or complications (depending on the process). For example, there are literally dozens of steps involved in patient medications—many steps between the physician ordering a medication and the delivery of that drug to the patient. As we saw with “I’ve Got a Secret,” even with high accuracy for each step, the probability that a medication error will occur in a 15- or 20-step process becomes significant.

The six-sigma solution to reducing hospital errors and complications is straightforward. First, you simplify the work by reducing the number of steps so that error-rate cascading is reduced, and then you develop fail-safe mechanisms that reduce the error rate for each individual step to a much lower value.

Quality improvement is a highly analytical and quantitative process. It does not require slogans and expensive consultants. It needs simply a sustained commitment by those who know most about delivering health care—our doctors and nurses—to focus on ways to simplify processes and to make each step of the process less prone to error. ■

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# Patient Safety Rounds

## A VISIT TO THE CARDIAC SURGICAL INTENSIVE CARE UNIT.

**A**s part of Johns Hopkins Medicine's focus on patient safety, Ed Miller, Ron Peterson and I have "adopted" care units and will be making monthly patient safety rounds. Through our personal involvement, we are emphasizing to faculty and staff that patient safety is a top priority concern of our institutions. My unit is the cardiac surgical ICU; my role is to meet with a team of doctors, nurses, pharmacists, ICU staff and others to highlight the top safety concerns and to focus on implementing solutions.

I came away with several observations after my first encounter with this group. First, I was impressed by how much work had been done and how well the team was working together. No outside consultants needed—these people are truly the experts in patient safety, and their direct involvement in the process will assure a successful outcome. Second, as it has been 27 years since I was a cardiac surgery resident, I was overwhelmed by how much more complex the cardiac surgery ICU operations are today than circa 1975. Third, it is readily apparent that our physical facilities must be continually improved to keep up with the requirements of this new and developing kind of medicine. Constructing the new hospital facilities outlined in the JHM facilities master plan is not an option, it is truly a mandate.

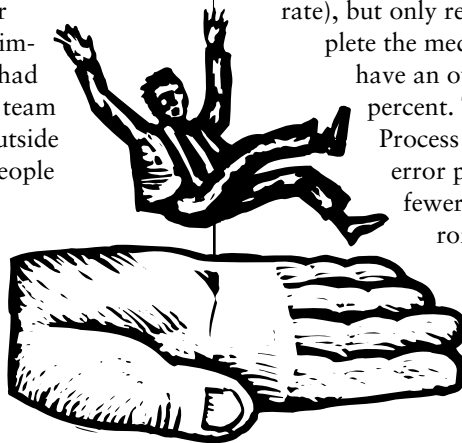
Finally, I have an impression that safety improvements could be held hostage to our high degree of specialization. As ICU operations have become more complex and the patients we treat more critically ill, we have moved more and more to specialization. Yet

the more we specialize in an effort to reduce errors, the more steps in the process of care we introduce.

An example is the preparation of drugs today, which requires specialized pharmacy services. It takes many steps to successfully fulfill a medication order. Consider two different processes for doing so. Process A requires 10 steps to complete the medication order, with each step having an error rate of 1 percent (i.e., 99 percent accuracy). The overall chance of a medication error will thus be 90 percent. Process B has an error rate per step of 1.5 percent (a 50 percent higher error rate), but only requires five steps to complete the medication order. It will have an overall error rate of 92.5 percent. Thus, even though Process B is considerably more error prone than A, it results in fewer overall medication errors.

Clearly, there is a trade-off between reducing the error rate per step and introducing more complexity in a process. As we have seen in the example above, more accuracy doesn't necessarily translate into fewer errors. Furthermore, the use of more specialized workers often leads to scheduling delays in order fulfillment, with the result that nurses are often forced to bypass the desired process in order to obtain medications in a timely fashion.

Lessons from other industries have shown the benefits of "de-specialization" of the workforce. Training multifunctional workers for particular environments, like ICUs, may be the way to go. I don't know if this idea will apply in health care, but we should think about the possibilities. ■



# To Err Is Human

ONLY BY SETTING STANDARDS AND ADHERING TO THEM CAN HOSPITALS REDUCE HUGE NUMBERS OF MEDICAL ERRORS.

**W**hat would you think about driving the streets of a large city where there were no traffic rules, no traffic lights and no police?

How about flying from Baltimore to San Francisco if there were no flight safety regulations or FAA flight controllers, and pilots were free to choose their own route and altitude? Not on your life, you say?

All right, how about taking a new drug for lowering your cholesterol that had not undergone stringent animal and clinical trials, and whose manufacturing was not strictly controlled? No way, right?

But now why would any one of us go to a hospital or health care facility for major treatment? Are not doctors free to deliver whatever therapy they choose, even if it has never been tested? And can we be sure that safety procedures there are adhered to as strictly as those for drug manufacturing or commercial aviation?

A recent report published by the Institute of Medicine, "To Err Is Human," suggests we shouldn't be so confident. It estimates that each year between 50,000 and 100,000 people die from medical errors in hospitals. That's more than die from motor vehicle accidents or breast cancer or AIDS. And while an estimated 6,000 Americans die in workplace accidents every year, about 7,000 die

from mistakes in their medication.

Yet the clinical practice of medicine is still largely an uncontrolled and unregulated function. The Institute of Medicine report is a welcome wake-up call about the pressing need to reduce medical errors. It is the work and first publication of the Quality of Health Care in America Project, a National Research Council-funded effort chaired by former Hopkins president Bill Richardson. Just as defects were commonplace in manufacturing industries before the days of lean production, "To Err Is Human" asserts that

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American medicine has serious quality issues that must be addressed. But as the report's own description says, "the problem is not bad people in health care—it is that good people are working in bad systems that need to be made safer."

It is high time that we in medicine wake up to reality. Our laissez-faire system for the delivery of medical care is not nearly as good as we think it is. Only by focusing on improving quality—by setting standards and then adopting procedures that must be adhered to—will we reduce errors. By reducing variability in the delivery of care, and thereby improving quality, we'll save millions of dollars—and even more importantly, many thousands of lives. As the car companies said before us, "Quality Is Job #1!" ■

# The Hospital

BILLINGS GOT IT RIGHT MORE THAN 100 YEARS AGO WHEN HE DESCRIBED THE ESSENCE OF THIS LIVING ORGANISM.

The other day, a friend of mine in the Midwest sent me a copy of a quotation from John Shaw Billings, the famed designer of the Johns Hopkins Hospital. This is from his speech on the occasion of the opening of the Hospital on May 7, 1889. Many of you may have read this before. But I thought it is so appropriately relevant these 110+ years later, that I reproduce it for you here:

“A hospital is a living organism, made of many different parts, having different functions, but all these must be in due proportion and relation to each other, and to the environment, to produce the desired general results. The stream of life which runs through it is incessantly changing; patients and nurses and doctors come and go; today it has to deal with the results of an epidemic, tomorrow with those of an explosion or fire; the reputation of its physicians or surgeons attracts those suffering from a particular form of disease, and as the one changes so do the others. Its work is never done; its equipment is never complete; it is always in need of new means of diagnosis, of new instruments and medicines; it is to try all things and hold fast to that which is good.”

The dynamic organism called The Johns Hopkins Hospital has thrived for more than a century through the creativity, innovation and hard work of our many doctors, nurses, staff and administrators who adapt, with Darwinian efficiency, to the rapidly changing environment in which they work, through the generosity of our donors, and by the trust of our patients and the communities from which they come.

Congratulations, Johns Hopkins Hospital—not for again being #1 in *U.S. News & World Report*, but for a century of maintaining excellence and adhering to standards of the highest quality. For these achievements, we are recognized around the globe.

Yes, our work is never done. We shall continue always “to try all things and hold fast to that which is good.” ■



**W**illiam R. Brody became the 13th president of The Johns Hopkins University on Sept. 1, 1996. Previously, he had been provost of the Academic Health Center at the University of Minnesota and, from 1987 to 1994, director of the Department of Radiology at Johns Hopkins and radiologist in chief of The Johns Hopkins Hospital.

A native of Stockton, Calif., Dr. Brody received his B.S. and M.S. degrees in electrical engineering from the Massachusetts Institute of Technology, and his M.D. and Ph.D., also in electrical engineering, from Stanford University. Following postgraduate training in cardiovascular surgery and radiology at Stanford, the National Institutes of Health and the University of California, San Francisco, Dr. Brody was professor of radiology and electrical engineering at Stanford University (1977–1986). He has been a co-founder of three medical device companies and has made contributions in medical acoustics, computed tomography, digital radiography and magnetic resonance imaging.

Dr. Brody is a member of the Institute of Medicine, and a fellow of the Institute of Electrical and Electronic Engineers, the American College of Cardiology and the American Institute of Biomedical Engineering. In September 2002, President George W. Bush appointed him to a two-year term on the President's Foreign Intelligence Advisory Board.

Dr. Brody and his wife, Wendy, have two children and reside at Nichols House on the Johns Hopkins Homewood campus.

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