

Health policy

The editors invite original articles and letters to the editor for the Health Policy section, length 1500 words or fewer for articles, 250 words or fewer for letters.

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The consumer movement in health care

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Medicine is remarkably resistant to change. That may be a good thing when there is a new medication or device that is approved and marketed but not adequately tested in the real world. Or when physicians are asked to type into a PC during an office visit instead of looking the patient in the eye and communicating in a fully committed fashion.

Too many things have happened in recent years to change the dynamics and challenge the resistance of the medical community to undergo transformation. In the United States in 1997, for the first time, pharmaceutical companies were permitted to market drugs direct to consumers (DTC). Over the course of the next decade, pharmaceutical, device, and biotechnology companies came to realize an extraordinary return on investment. One can hardly turn on a television today without watching a flood of drug commercials. Why was this new strategy so effective? Because it empowered the consumer to ask his or her physician for a medication that otherwise would not have been prescribed. Did anyone ever know of the term “erectile dysfunction” before the era of DTC advertising?

Right around the same time as DTC marketing of drugs became commonplace, there was the jump in use of the Internet. Whereas in the early years the information on medical diagnoses and treatments was sporadic and often unreliable, over time the accuracy has greatly improved, with many trusted websites that are “go to” places for consumers to get educated about their (or loved ones’) symptoms, conditions, or treatments. Now the typical consumer is not only getting information pushed to her via the media, but more than sixty percent of the American public is frequently going to medical web sites to get educated. The education now extends to research hospitals, clinics, and individual physicians, and in some states where such data are widely available, such selection can be markedly enhanced by searching the web.

The “third wave” of consumer empowerment is the most recent, related to genome-wide scanning. In late 2007,

multiple companies began offering a research-grade test of more than 500,000 to 1 million genotypes of variant markers across the genome. Via a saliva specimen or buccal smear, a consumer can order the kit over the Internet and mail it in, getting the genomic data results in a few weeks at a cost now ranging from \$200 to \$1000 (originally \$1000 to \$2500). The output for each individual has information on susceptibility to (or protection from) over fifty complex traits, including most common cancers, cardiovascular conditions, immunologic diseases, neurodegenerative, and metabolic diseases. While controversial because of the question of actionable data, consumers are ordering these scans and own the data. The DTC genomics era has been instructive since it gets around the concern of having genetic data entered into the medical record (unless the patient decides to make that available). Even more striking is that individuals who get their genome scan and read the materials on the web site and their personalized reports often know more about genomics than most physicians.

While there are many uncertainties about the genetics of common polygenic (non-Mendelian) diseases, more has been learned about the genes and pathways underpinning diseases over the past few years than during the entire history of man. There has hardly been a week since April 2007 when there was not a major disease genetic association published in *Nature*, *Science*, or *Nature Genetics*. Many key pharmacogenomic discoveries have also been made for commonly prescribed medications like clopidogrel for arterial disease, or tamoxifen for breast cancer. Since the pace of discovery has been truly unprecedented and breakneck, and physicians are generally quite busy with limited training in genetics in medical school (even recent graduates), an imbalance has been established favoring consumers. The concerned, motivated individual is apt to spend considerable time researching his or her condition and be much more knowledgeable than the physician. Yet surveys indicate that over eighty percent of consumers trust their physicians more than anyone else for interpretation of their genetic data, while ninety percent of physicians feel uncomfortable about making decisions based upon genetic data!

Next up: whole genome sequencing of the diploid 6 billion base pairs with need for interpretation at the individual level.

Now that medicine is going digital with personalized health records (albeit with very limited adoption to date) and genomics, the next frontier is wireless sensors and imaging devices. For example, diabetics can have continuous glucose



monitoring via a subcutaneous sensor that provides a highly accurate reading of glucose every five minutes. Smart “band-aids” and non-invasive sensors are being developed that monitor all vital signs including continuous blood pressure, heart rhythm, oximetry, respiratory rate, and temperature. A recently released cell-phone-sized device can be used to acquire high-resolution two-dimensional echocardiography and color flow. It is just a matter of time until consumers will learn how to acquire their own echocardiograms, fetal ultrasounds, or breast ultrasounds, and transmit the images for their physicians for real-time interpretation.

If one reflects on the biggest life-changers of the past decade, it clearly was the mass adoption of digital devices that transformed the way we listen to music, communicate via e-mail and texting, engage the web via mobile computing and smartphones, and the way we read. With this precedent and the cell phone as the primary platform, it is interesting to speculate how much further consumers will be empowered in the coming decade by digital wireless medical devices. Having patient records, biologic, physiologic, and imaging data all digitized and eminently portable creates an exceptional opportunity for consumers to drive the next phase of evolution of medicine.

The digital innovation that is already here and will soon

ramp represents extraordinary potential for unparalleled progress in medicine. The bottom-up consumer movement may well be the best thing that ever happened to push this front along and force the desperately needed jump forward. Working with consumer groups and patient advocacy organizations may be an ideal way to assimilate the flood of technology and innovation that is coming. This can be in the form of clinical trials to validate the improvement of outcomes and reduction of costs in such approaches as genome-wide scanning or wireless sensors for continuous blood pressure monitoring. As more emphasis is placed on comparative effectiveness, testing novel strategies that put consumer empowerment front and center would be appropriate. As the medical community fully acknowledges that consumer driven health care is like a high-speed train that has already left the station, it will be positioned to catalyze a great inflection for medicine’s future.

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Expanding physician supply—An imperative for health care reform

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Amidst intense discussions about health care reform, too little attention is being paid to the fact that the United States is entering an era of physician shortages.^{1,2} Never before have shortages of the magnitude now developing existed, nor was the United States ever so far behind in responding. Most remarkably, although shortages in nearly every field of medicine are recognized by political leaders,³ health care planning is proceeding as though no serious problems exist.

Two decades of complacency

One reason for this complacency is that surpluses, not shortages, dominated policy planning for three decades.² The last shortages were fifty years ago. In response, forty new medical schools were developed, existing schools were expanded, and the number of entry-level residency positions was doubled.⁴ While this fixed the problem, the vigor of the response fueled fears of an overshoot, and federal support for medical schools ended abruptly in 1976. It took another twenty-five

years before medical schools grew again.⁵ However, residencies continued to expand throughout these years, with support from Medicare and an influx of international medical grads.⁶

In 1997, certain that the long-anticipated surpluses would soon materialize, academics and legislators joined to cap the number of residency positions funded by Medicare,⁷ and that stemmed the tide. Yet by then the problem was exactly the opposite. While a temporary bulge in supply was unfolding, it was clear that “the nation would soon confront shortages in relation to the potentials of medical care, the desires of the public and the capacity of the economy,” and I cautioned that, “although the long duration of this projection insulates current educators and planners, it is incumbent upon them to prepare for these future needs.”⁸

But they did not, and shortages soon appeared, initially among specialties in which technology had created new beneficial services.⁹ For a time, primary care was spared, in part because more medical grads had been encouraged to enter primary care in the 1990s and in part because nurse practitioners and physician assistants were playing larger roles, but ultimately shortages emerged there. And it is these shortages in primary care, rather than the overall shortages of physicians, that have garnered the most attention.

Antipathy to expanding specialist supply

One reason for the focus on primary care is that, although shortages there are roughly proportional to overall shortages, they are more prominent, since most patients have a primary care physician, whether or not they are ill, while relatively few depend on specialists. But more importantly, health care reformers believe that specialists cause health care spending, that perverse incentives lead them to provide unnecessary care, and that if only there were fewer doing less there would be enough for everyone, which would be better and cheaper.^{10–12} As the Queen told Alice, “Sometimes I’ve believed as many as six impossible things before breakfast.”¹³

The impossible notion that fewer specialists would be better was hatched fifty years ago by Max Shain and Milton Roemer, two health economists who observed that the number of hospital admissions correlated with the number of hospital beds.¹⁴ This was extended to physicians by Victor Fuchs, who found a correlation between the number of surgeons and the amount of surgery.¹⁵ But, in like manner, David Dranove and Paul Whener found that more obstetricians practiced where there were more births,¹⁶ just as more snow plow drivers live where there is more snow.

Nonetheless, policy makers have pondered the idea that, if eight more physicians were produced than the 800,000 needed, health care spending would increase by 0.001%, which translates into \$20 million, and that’s a lot of money.¹⁷ Even applying what economists term “elasticity,” which they peg at about 0.35,¹⁸ spending would be \$7 million more. And, moreover, it’s to no good purpose. Proof is no further than your user-friendly, online Dartmouth Atlas, which shows that services abound where supply is abundant,¹⁹ ignoring the simultaneous abundance of poverty and the even greater abundance of disease,²⁰ and totally ignoring the link between health care spending and economic capacity.¹

These perceptions have stimulated legislation to increase the number of primary care trainees, increase reimbursement for primary care physicians and provide other economic inducements, with the belief that more medical graduates would choose primary care, as occurred in the 1990s. But times have changed. Then, there was an abundance of physicians and a widespread view that surpluses were developing. Now, most specialties are in short supply and deepening shortages are predicted. It’s a zero-sum game. With too few physicians overall, more in primary care simply means fewer surgeons, oncologists, and other needed specialists. Recognizing this, the AAMC²¹ and other major organizations have called upon Congress to lift the caps on graduate medical education

Realities on the ground

Faced with the reality of too few, most physicians are concentrating their efforts on elements of care that they must necessarily provide, while delegating more routine tasks to others. As a result, the average acuity and complexity of physicians’ practices is increasing, while pressure to provide more services to more patients continues to increase.² Some primary care physicians have opted for concierge practices. Others have limited their patient care hours. Many younger physi-

cians are carving out defined roles as hospitalists, intensivists, nocturnalists, or emergency physicians. And most specialists are narrowing the spectrum of care that they provide. At the same time, fewer physicians are choosing to practice in rural and inner-city areas, and more are closing their practices to patients with poor health insurance coverage—even Medicare.

While some of these adaptations may aid in getting the job done, some clearly won’t. Sadly, few will help physicians to “lavishly dispense time, sympathy and understanding,” as Francis Peabody urged they should.²² Indeed, surveys show the opposite. Nor will most foster the personal bond that, in Peabody’s words, “forms the greatest satisfaction in the practice of medicine” and that, in Paul Starr’s words, “gives the profession of medicine its special place in society.”²³ And tragically, some adaptations will contribute to a further marginalization of society’s poorest and most vulnerable members.

The future course

It is difficult to know what the practice of medicine will become. Most of the adaptations mentioned above were not predictable, and it is hard to predict what will follow. What seems certain is that, if efforts are not begun to expand physician supply, the practice of medicine will become intolerable for many physicians and many patients. All of this may seem quite distant from the daily machinations surrounding health care reform, but it is much more important, because physicians have a more pervasive impact on health care than anything now being debated.

If Medicare’s funding of residencies had not been capped in 1997 and entry-level positions had continued to increase by 300 to 500 annually, there would be no shortages today.⁶ But now, more than a decade later, residencies cannot be increased quickly enough to meet the current demand, let alone the added demand if access to insurance is expanded. If residency growth at about 500 annually resumes over the next few years, a further deepening of shortages could be averted but no real increases in supply will occur. If, in addition, nurse practitioner and physician assistant programs are expanded, the shortages of physicians could be further mitigated, but probably not enough to accommodate the expansions in technology and utilization that are contemplated. Remember that, even with expenditure cuts deeper than those proposed in health care reform legislation, health care spending will grow more rapidly than the economy overall for decades.²⁴

Despite this reality, some planners continue to see an expansion of physician supply as fueling the unnecessary use of technology, which is strange, since virtually everyone wants more, the NIH spends more than \$30 billion annually to produce more, the growth of jobs in our economy depends on having more, and no credible model of social progress exists without creating more. It is difficult to contemplate deploying more without having a sufficient supply of highly-skilled physicians.

Planners also recoil from the likely persistence of geographic differences in physician distribution. But Mississippi will not resemble Manhattan any time soon, nor will Detroit resemble Des Moines. As I have noted,^{1,20} regional differences in health care will exist as long as differences in economic

status persist, and health care will distribute accordingly. Physicians can soften the edges, but greater social equity requires less income inequality.

Finally, planners express concern that, despite technological progress, primary care is languishing. This brings into focus an image of the inchworm meeting Florence Nightingale. As technology has stretched the range of physician services, physicians have looked up, seen valid partners, and pulled in their tails.²⁵ It was not until the late 1940s that nurses performed venipunctures,²⁶ and not until the 1960s that they were permitted to take blood pressures.²⁷ Both were painful for the medical profession. The future promises more pain.

Our nation now has a choice. Will it allow the current shortages of physicians to deepen, with the hope that fewer will hold back the march of technology but more will serve primary care roles? Or will measures be taken to train enough to make a technologically-advanced, socially-equitable health care system possible. I favor the latter. I believe that our patients do, too.

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An invitation

March 22: Last night the House of Representatives passed the administration's Health Reform and reconciliation bills over the united opposition of the Republican minority. The pundits will now analyze how this happened and try to predict the effects of the new legislation.

Pharos editor Ted Harris and I encourage members of AQA to join the analysts by writing about the significance of the new legislation for the Health Policy section of the journal. How do you think health care reform will affect the health of our patients, the practice of primary and specialty medicine, the policies and operations of medical schools and academic and community hospitals, and the finances of the federal and state governments?

John A. Kastor, MD