MAKING A LIVING:
ALTERNATIVE CAREERS FOR PHYSICIANS
PULSE

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Editor’s Note

Alternative Careers for Physicians
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Last year, a consensus statement from the American Medical Association, Association of American Medical Colleges, and 4 other groups declared that there is “compelling evidence” that the United States is on the verge of a physician oversupply crisis.1 One widely cited author estimated that by the year 2000 there may be as many as 165,000 physicians more than required by a managed care–based system.2 Already, the United States is burdened with a significant excess of physicians. The current supply of about 200 physicians per 100,000 population outstrips the 145 to 185 ratio that is generally agreed to be appropriate for a managed care–dominated system.3

In an effort to forestall this crisis, many leaders are calling for the federal government to limit residency positions.4 In 1997, a demonstration program was implemented in New York State that coordinated the exchange of Medicare benefits for voluntary decreases in residency positions, resulting in a decrease of 2228 residency positions.5,6 Encouraged by the success of this program, the Balanced Budget and Taxpayer Relief Acts of 1997 allocated $7 billion per year to extend this opportunity to hospitals throughout the country.5,6

While many authors remain pessimistic about the future for thousands of unemployed US physicians over the next 1 to 2 decades, some maintain that such concern is unnecessary. Market forces will prevail, according to health economist Uwe Reinhardt, and trained physicians will seek out and mold alternative career paths.7 This issue of Pulse focuses on alternative career options that today’s physicians can anticipate in the near future. Suzanne Fraker discusses some of the options for which an MD degree may be particularly suited.8 Two articles address some specific areas in which physicians will likely be employed. Scott Eggener describes a profession that has gained increased public attention in recent years—medical journalism. John Timpane writes on the 2 fields that are likely to be the most abundant and lucrative source of employment for physicians: pharmaceuticals and biotechnology.

The United States is not the only country where physicians are overabundant. Japan, France, and Germany all face physician surpluses of their own;9 and in recent years the Czech Republic has also faced a severe physician oversupply.10 The destiny of excess physicians in the Czech Republic, argues Bohdan Pomahac and coauthors, may serve as a predictor of how successful their Western counterparts will be in finding desirable employment.

Karie Praszek notes that the perceived surpluses are mostly categorical and geographical. While the national supply of physicians is 200 per 100,000 population, there is a dearth of practitioners in rural and inner-city regions, where the supply averages 30 per 100,000 population. It is estimated that 11,000 physicians are needed to bring this figure up to 50 per 100,000 population, which is thought to be the acceptable minimum for any region.2

The future for US physicians is full of uncertainty—but also full of opportunities. Tomorrow’s doctors should not be unemployed; rather, they should be redefined.

References

Cover: Morning in Simla, photo taken in Simla, Himachal Pradesh, India, during the monsoon season by Sarita Shah, a medical student at Johns Hopkins University School of Medicine.
The model of the past, when medicine was a reliable field in which hard work was rewarded by a stable and comfortable lifestyle, no longer holds true. There is more opportunity, however, away from the bedside than ever before. Physicians are among the most capable individuals in the workforce, and their particular training in the biomedical and clinical sciences makes them a valuable asset to law firms, businesses, consulting firms, and other corporations.

The worsening job market and changes in the practice of medicine motivated physicians to leave patient care and seek alternative careers.1 The experience of physicians in California, where the health care market is already deeply penetrated by managed care, illustrates the frustrations with which many physicians are dealing.2 In a 1995 survey of office-based MDs and DOs, 21% of physicians over age 50 said they wanted to retire or sell their practices within a year.3 A San Francisco survey of 173 practitioners of mental health found that 43% were considering leaving the field.4 There are also indications that specialists in certain fields have found it necessary to relocate to other states just to maintain a sufficient patient population.5

In 1997, physician focus groups conducted by the American Medical Association met to discuss physician career management in an era of increased demand for efficiency, productivity, and cost-cutting.6 As a group, they identified work pressures and job insecurity as leading causes of dissatisfaction in clinical careers. In addition to these compelling dissensions from patient care, MDs may soon find that clinical practice may not be an option, as the job market for clinical positions is already more than saturated and will soon be forced to absorb a surplus of trained physicians.7

This problem was forecasted early in this decade, by the Council on Graduate Medical Education.8 Preventive measures such as limiting the number of graduate medical residency positions to 110% of the national graduating class size and eliminating up to 25% of US medical school programs in the next 5 to 10 years have been widely iterated suggestions but have yet to be fully implemented.

While reasons to leave the field of patient care may become more pressing, fortunately, inducements for MDs to enter other fields are rapidly growing. No longer does the acquisition of medical training imply a lifetime of work limited to the clinical setting. Today, physicians are finding that a medical degree opens the door to an increasing number of opportunities in a variety of settings.

There has long been a sizable portion of physicians involved in occupations outside patient care. In 1980, of 373,503 MDs in the United States, at least 59,000 (15.8%) were not involved in patient care. In 1994, the number was nearly unchanged (57,000), although the proportion of these MDs sank to 10%, likely as a result of the lucrative return for providing patient care in the 1980s.8 With an anticipated physician surplus as high as 200,000, this absolute number can be expected to increase dramatically over the next decade.

The question of exactly how 200,000 surplus MDs will be employed remains to be determined. A look at past practices and current trends may prove useful. In 1990, Rucker and Keller9 assessed the breadth of involvement in alternative careers of the then 11.8% of physicians outside clinical practice. They identified more than 900 employment opportunities in 12 broad categories. While physicians have entered professions as varied as politics and entertainment, the careers that will hold the most opportunity for them are those for which a medical education is particularly suited. Three fields that are full of opportunities for MDs are bioinformatics, patent law,10 and governmental legislation and policy.

The newest surge of employment for MDs may come from the young field of bioengineering. Several chemical giants have recently shown a keen interest in developing genetically engineered food sources. These massive undertakings will undoubtedly require medical doctors to carefully evaluate the safety of these products, as well as to address skeptical consumer groups.

The key to taking advantage of these options is the realization that a medical career needs to be developed and managed for an entire career life cycle. The idea of actively managing a career is a new and unwelcome concept for most physicians, but is a reality that must be addressed to ensure employment in today’s complex marketplace. Numerous resources are available commercially to guide the physician in the process of self-assessment.12,13 New niches abound, and the creativity and resourcefulness of physicians will help them find a variety of alternate ways to employ their skills.

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The Power of the Pen: Medical Journalism and Public Awareness

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With approximately 4000 journals indexed on MEDLINE, containing more than 9 million abstracts, the sheer mass of emerging biomedical knowledge is overwhelming. Unfortunately, there is a gap between the wealth of expanding information and the quality of public health, partly because of the difficulty of dispensing this information to the lay public. The editors of the *New England Journal of Medicine* noted recently that “the problem of [communicating health] is not in the research itself but in the way it is interpreted for the public.” To facilitate the flow of pertinent medical research to the public at large, we rely on the skills of medical journalists.

Reflecting the public’s voracious appetite for medical news, health stories are now regularly found as page 1 newspaper stories and as daily segments on prime-time television newscasts. In addition, the need for reliable sources of medical news has produced the *Journal of Health Communication*, a Division of Health Communication at the Centers for Disease Control and Prevention, health communication graduate programs offered at 6 universities, and other resources. Thus, medical journalists are facing expanding job opportunities, greater visibility, and the potential to have a more powerful impact.

Among the media available to reach American health information consumers are newspapers, magazines, medical journals, billboards, radio, pamphlets, and mailings. Two of the most influential and extensive are television and the Internet. The potency of television can be illustrated by a recent survey of regular viewers of the NBC medical drama “ER”3; 32% indicated that information they receive from the show helps them make choices about their family’s health care. Remarkably, 12% of viewers have contacted their physicians because of something they saw on the show. Another widely used system, the Internet, provides around-the-clock access and, unlike many other resources, is capable of accommodating personal health inquiries. This ever-growing collection of information continues to influence the “wired” groups of society—the educated, wealthy, Generation X, and Baby Boomers—and has great potential for countless others.

While every practicing physician is a health communicator, some choose to make it a career. When the American Medical Writers Association (AMWA) was founded in 1940, its membership consisted almost entirely of those with MD degrees. Over the next 50 years, however, physician membership in AMWA steadily declined. In 1955, 76% of members possessed an MD degree, yet in 1991 this figure dropped to only 9%.4 Betty Cohen, former president of AMWA, explains that “As AMWA evolved, other [nonphysician] writers entered, bringing different expertise. Physicians may have felt it was no longer their organization.” Since 1991 this trend has begun to reverse itself and as AMWA membership has increased by 20% to 4000 members, physicians now comprise 12.5% of all members. There are few data available to assess the total number of physician-writers without ties to professional organizations.

Defining the job of a medical journalist is difficult. They specialize in fields as varied as marketing, public relations, policy planning, advertising, speechwriting, producing, and computer programming. They work in newsrooms, corporations, hospitals, nonprofit organizations, entertainment industries, schools, government agencies, health maintenance organizations, and pharmaceutical firms.

While the range of occupational opportunities for a medical journalist is extensive, it is difficult to gauge employment supply and demand. Compensation for medical journalists varies widely. Freelance writers are paid per word or per project, while a full-time metropolitan newspaper reporter earns about $80 000 per year. Some writers’ incomes are dependent on subscriptions or syndication. Becoming a medical writer can be as easy as distributing a newsletter. However, landing a full-time position in a major media market typically requires considerable experience.

“If physicians have the same attributes as a really good journalist, they help reflect a better rendition of reality,” says Stephen J. Bloom, associate professor of journalism at the University of Iowa. The model doctor and journalist share similar qualities: the ability to conduct a focused and fact-oriented interview, perform a relevant (physical) examination, assemble reliable and reproducible data, analyze quickly and accurately, and describe results in a clear, concise, and unbiased manner.

While physicians offer the advantages of understanding medical terminology and having had clinical experience to guide them in fairly relaying health information, they generally lack the benefits of a formal education in journalism. “Don’t think you can waltz into a newsroom and suddenly become a star,” warns Mr Bloom. “The MD degree won’t do anything for you, unless you’ve already proven yourself a first-rate journalist with a track record of superbly written and well-researched medical stories.”

As long as a discrepancy exists between medical wisdom and the health of the population, there will be a valued role for the medical journalist. According to David Satcher, MD, recently confirmed as US Surgeon General, “We’ve come to a point where, unless we can communicate to people outside of medicine, we can’t achieve a lot of our goals.”5

References

Physicians from disparate fields are found throughout contemporary pharmaceutical companies, as well as throughout many biotechnology companies.

The opportunities for physicians are tremendously varied and often form-fitted. Depending on their interests and abilities, physicians may work in a variety of positions, including that of bench scientist, medical support provider, and administrator. Many devote the majority of their time to clinical and scientific responsibilities, ie, designing new studies, writing protocols, initiating and monitoring studies, interpreting data, preparing medical reports, extrapolating results, and developing a clinical strategy to bring a new drug or new indication for an existing drug forward.³

These responsibilities reflect many of the factors that attract physicians to the industry in the first place—a research career with ample resources, the use of special skills, a desire for change and challenge, an interest in pharmaceuticals, and a desire to contribute to development of new drugs.² Naturally, there are lifestyle issues that motivate industry physicians as well, the most important of which are regular hours, remuneration, and career flexibility.² A physician entering the pharmaceutical company at an entry level position can expect to earn $110 000 to $120 000 plus bonuses and benefits during the first year.³ Salaries advance proportionally. For example, pharmaceutical neurologists receive on average 20% more than those in equivalent academic positions, in addition to stock options and bonuses.⁴

Careers in the biopharmaceutical sector also have the advantage of opportunities to travel, to attend medical and scientific meetings, and to be involved in a variety of career settings.

There are, however, several factors that may deter a physician from entering the field. A survey in 1991 of pharmaceutical employees with MD degrees revealed several reasons for job dissatisfaction; these included bureaucracy, ethics being subverted for profit, autocracy, favoritism, and restrictions on initiative and responsibility.² Subtle cultural issues are also involved. While the concept of MDs working within the pharmaceutical industry is gaining acceptance among physicians, there has long been a sense of mistrust of the industry that has kept some from making the transition.³

Another limiting aspect is the level of competition for highly coveted positions in the biopharmaceutical sector. Greater numbers of physicians are applying for these positions. Because the cost of discovery and development of a new pharmaceutical drug can total $100 million to $200 million or more, pharmaceutical and biotechnology companies are careful to hire only the most qualified applicants.

These industries seek in their physician employees varied and demanding qualities. Specialized knowledge is one. While generalists usually fill the niche of helping companies learn to deal with and interact in the changing world of managed care, subspecialist interns are the population from which most physicians are hired.³ For example, several of the largest drug companies, including Novartis, Merck, Bristol-Myers Squibb, and SmithKline Beecham, have significant research efforts under way in several areas relevant to the aging segment of the population and will need gerontologists as part of that effort. Tremendous advances in the development of novel neurotherapeutic agents, largely derived from biotechnologic advances in molecular biology and genetics, have expanded the pharmaceutical need for clinician-scientists with experience in neurology.³ Similar scenarios exist for specialists in oncology, virology, pain, epidemiology, respiratory disease, and infectious disease.

Experience with patient care may be the most unique and indispensable skill that MDs have to offer. This is an element most research scientists lack: actual experience with the kinds of people who might be administering or taking the drug in question. In business parlance, MDs speak the language of the clients—in this case, of both patients and other MDs. Still other MDs have had experience managing an office or a medical department or a clinical study.

Finally, MDs generally have extensive backgrounds in anatomy and physiology, and often are a part of the interdisciplinary teams that prepare a compound for clinical trials. They know enough science to understand the goals and procedures of the project, and their understanding of the relationship between medicines and organ systems helps bridge a crucial divide between the creation of the compound and its testing in humans. Classical physiology may become much more important to biopharmaceutical companies in the next 10 years as the Human Genome Project advances. This will require a shift from modern molecular biology back to classical physiology, employing genetic as well as surgical and chemical variables.

Physicians possess many attributes that cannot be provided by nonphysicians. At the same time, the opportunities that biopharmaceutical companies offer can be attractive. As physicians struggle with the economically driven vagaries of a modern medical career, they may find a comfortable and productive alternative in drug development.

References
Physician Surplus: The Czech Story
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Not long ago physicians in the Czech Republic could be found working in factories at manufacturing occupations. After being forced out of health care by the communist regime, these doctors accepted practically any paying job. Although the communists are no longer in power, a similar situation may arise for a different reason: the Czech Republic has an excess of physicians.

In the 1970s, elementary school students in the Czech Republic were taught that the health care systems of their country and of the Soviet Union were the most developed in the world. While statistics showed a high number of physicians, this did not always translate into a high level of development. Probably the major factor that contributed to the current situation was the organization of health care. As with similar other branches of the national economy, the work productivity in health care grew extensively, not as the result of increased efficiency but of a greater number of physicians and staff being hired.

This surplus was not apparent in the communist system, but became clear in the new Czech market economy after the so-called Velvet Revolution. In 1995, there was 1 physician per 295 citizens. This was much higher than other countries, such as Great Britain where there was 1 physician per 715 citizens, or Italy which had 1 physician for every 667 inhabitants.1 Insufficient control over expenses and inefficient management caused waste of labor and supplies. The widespread shortage of health care resources motivated a group of physicians to call a strike in the fall of 1995. This in turn led the health care minister to convene a group of experts to analyze the efficiency of hospitals, with the intention of closing the least productive health care facilities.

The theory is that the management of the remaining hospitals will have to improve so as to handle a greater workload.

Because a rapid downsizing of the health care system would likely cause a high rate of unemployment, officials decided to reduce the number of students accepted to medical schools. This has already been reflected in the total number of medical graduates. In 1994 and again in 1995 more than 1500 students graduated from all Czech medical schools; in 1996, the number dropped to 1295.2

Even with these changes, however, unemployment is expected to grow. There were 289 registered unemployed physicians by December 31, 1995.2 This number represented less than 1% of the total 36,548 physicians at that time. Significantly, however, 202 of these unemployed physicians were 1995 medical graduates, representing almost a 14% unemployment rate for that class.

Medical graduates are clearly in a difficult situation. Hospitals are hesitant to sign contracts for longer than 1 year because even the near future is unstable. The general viewpoint of the medical graduates was reflected in a recent questionnaire released by Chamber of Physicians.3 Approximately 40% of the medical school graduates questioned would not have applied to medical school again. Even though the majority of them still obtained jobs, more than 25% had to accept a specialty that was not their first choice. A small percentage of graduates set their sights on practicing abroad.

Although the percentage of graduates who do not practice medicine remains undetermined, it seems that those who leave the field can usually find work in pharmaceutical companies or others in the medical field. Many graduates choose this option intentionally, lured by higher salaries and a more attractive lifestyle. For example, in 1996 the average monthly income of a medical graduate was approximately Kc 6310 (US $185),3 while the national average was Kc 9676 (US $285).4 Starting salaries in pharmaceutical companies are generally well above the national average. In an effort to continue postgraduate education and to become eligible for national board examinations, some medical graduates work for a much lower monthly salary (Kc 3000, or US $88), or even for free.5 While pharmaceutical and biotechnology companies offer more than satisfactory salaries and benefits, there are still other attractive options including a combination of research and clinical work. Career tracks of this type have traditionally not been supported in the Czech Republic, but several universities have recently opened programs offering positions for those interested in research.

The process of Czech health care transformation continues. In the meantime, the Czech model of downsizing and redeployment will continue to serve as a valuable teacher, and its successes and failures may guide other countries that face similar problems.

References

Murmurs

• Watch for the debut this fall of a new Web resource: The Medical Student JAMA.

• Plan now to attend the 1998 AMA-MSS Annual Meeting, June 11 through 14, at the Hyatt Regency Hotel in Chicago, Ill. This year’s program will include a presentation, “Miracle on Everest,” by Beck Weathers, MD, a Texas pathologist who nearly lost his life climbing Mt Everest in May 1996. For more information, visit the AMA-MSS Web site at http://www.ama-assn.org/mss.

• Apply now for positions during 1998-1999 on the following AMA-MSS committees: Legislative Awareness, Minority Issues, Computer Projects, and Long-Range Planning. The National Board of Medical Examiners also has 2 positions for MSS members on its Medical Student Liaison Committee. Applications for all these positions must be postmarked by July 24, 1998. For more information, call (800) AMA-3211 ext 4746 or e-mail: mss@ama-assn.org.
Family Medicine: A Call to the Front Line

Karie Praszek, Anita Taylor, MEd, Kathryn Chappelle, MA, Oregon Health Sciences University

Between 1965 and 1992 the proportion of physicians in general practice declined from 51% to 35%.

Despite repeated expressions of concern by government agencies and health care experts, an imbalance in physician career preference has persisted, favoring oversaturated specialty fields. The 1992 report of the Council on Graduate Medical Education (COGME) set a national goal for at least half of graduates to begin careers in family practice, general internal medicine, or general pediatrics by the year 2000.

Analysis of data from the National Residency Matching Program (NRMP) from the time since the COGME report suggests that this goal is being approached. Following a 4-year decline between 1988 and 1991, the number of family medicine residency positions filled in the NRMP jumped from 1658 in 1992 to 2002 in 1993, an increase of more than 20%. By 1997, the number of filled positions was 2905, an increase of 75%. Historically, approximately 95% of those entering family medicine have proceeded to enter primary care practice. Additionally, 60% of those entering pediatrics and 35% of those entering internal medicine have also entered primary care practice. Taking these figures together, it can be expected that 37.5% of the 1997 graduates will have a generalist career, up from 27% in 1992.

There is evidence to indicate that financial incentives influence specialty choice, and managed care is providing new economic incentives for young physicians. Between 1985 and 1993, states with the highest penetration by managed care also had the highest rate of growth in primary care physicians' income.

This attraction paradoxically may put underserved rural populations in some peril, as HMOs may be luring some generalists into prosperous urban areas. Recently, young physicians have begun to respond in earnest. In 1997, the Association of American Medical Colleges Medical School Graduation Questionnaire demonstrated a significant rise in graduates planning to practice in an underserved area. Many educators believe that recent changes—including all allowing medical students to rotate through rural and inner-city clinical settings and providing required clerkships in community-based practices—are having a positive effect.

A less apparent influence on specialty choice may come from distinctive cultural influences engendered in academic medical centers. Students and residents may encounter an unwelcoming attitude toward primary health careers and expressions of these sentiments can have significant effects on specialty choice.

Alternatively, the trends in specialty choice might be explained by the increasing tendency of medical schools to recruit students with a particular interest in primary care. A program initiated in 1974 at Jefferson Medical College that combines a selective admissions policy with a special educational curriculum has proved effective.

While medical student choice has an important effect on physician supply, the 650,000 physicians already in practice in the United States have a greater potential to alter demographics. Though the demand for this option has thus far been underwhelming, the retraining of subspecialists for primary care careers remains a viable potential means of redistributing the physician workforce.

Job satisfaction may explain why relatively few physicians have chosen to retrain. A recent large study showed that even in this turbulent period of health care transformation 80% of physicians surveyed were satisfied with their jobs and overall satisfaction was equivalent for primary care and non–primary care physicians.

It appears that the precautions against overspecialization urged by health care leaders at the beginning of this decade are now being heeded by its end. The changes are far from complete, however, and opportunities for young physicians to practice medicine, even in the midst of a physician surplus, will continue to exist in the unsaturated primary care fields.

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