Fighting Hand To Hand Over
Physician Workforce Policy

The invisible hand of the market meets the heavy hand of government planning.

by Kevin Grumbach

PROLOGUE: Analysts and policymakers have been formulating health care workforce policy for many years without definitively answering the question: Should such policy be oriented toward government-based planning or more market-oriented approaches? In recent years the Clinton administration sought to answer this question in its ambitious health care reform proposal by setting out a regulatory scheme. The proposal would have established strict limits on the number of physicians permitted to enter graduate medical education (GME) programs, controlled entry into each specialty, and effectively shut the door to all but a few international medical graduates. The proposal, of course, went down to ignominious defeat, but the question regarding workforce policy remains while answers to it grow more critical in the light of reported shortages of physicians in some geographic areas and among selected specialties.

In this paper Kevin Grumbach makes an impassioned argument that America's reliance on free-market principles to determine physician supply is not only idiosyncratic and irrational but also a key culprit behind the conflict over U.S. physician supply and demand. In characterizing this supply and demand, Grumbach invokes a literary fantasy in which Sisyphus meets Goldilocks: The history is like "an endless cycle of tasting a physician supply porridge that is too hot, or too cold, but never just right." Grumbach concludes that the need for public planning of the physician workforce is "unavoidable" and offers several options for policymakers to consider.

In a Perspective that follows, political economist Uwe Reinhardt suggests that even in principle, workforce planning may be doomed to failure. Reinhardt proposes a "radical departure" from conventional policy, calling for the elimination of GME subsidies and expansion of the National Health Service Corps.

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**ABSTRACT:** A vexing problem in health policy is getting the right number of physicians in the right specialties in the right locations at the right time. I examine market and public planning approaches to getting the number "right." After discussing the basic premises of the invisible hand of the market and the heavy hand of government regulation, I apply these concepts to a review of the past century of U.S. physician supply and workforce policy. I conclude by examining recent health system trends that make clear the need for a firm regulatory grasp on physician workforce policy.

A vexing problem in health policy is getting the right number of physicians in the right specialties in the right locations at the right time. The prospect of too few physicians raises concerns that patients will be deprived of important medical services. Overshooting the right number provokes fears of excessive costs and provision of inappropriate services. Further complicating matters in the United States is the tremendous amount of wishful thinking about physician supply that clouds judgment among both market adherents and proponents of government regulation. Market adherents keep vigil for the miracle of the invisible hand to deftly place the system at its proper point of equilibrium, impeccably balancing patient demand and physician supply. Regulators, for their part, cling to the hope that if they just keep fine-tuning their mathematical models, they will finally solve the riddle of physician supply planning. The result is a saga of the history of the U.S. physician workforce that reads like a version of Goldilocks written by Albert Camus: an endless cycle of tasting a physician supply porridge that is too hot, or too cold, but never just right.

In this paper I examine market and public-planning approaches to physician workforce policy. After discussing the basic premises of the invisible hand of the market and the heavy hand of government regulation, I apply these concepts to a review of the past century of physician supply and workforce policy in the United States. I conclude by examining recent health system trends that make clear the need for a firm regulatory grasp on workforce policy.

**The Invisible Hand**

An alluring quality of the market for policymakers worried about getting the number of physicians right is the promise that a free market will spontaneously solve its own supply problems. In an ideal free market, consumers generate demand for physician services. A supply of physicians develops in response to this exogenous demand, achieving equilibrium between supply and demand.

Moments of market dysequilibrium may occur. A shortage in the supply of physicians (demand exceeding supply) may be indicated by lengthening waits for physician appointments and physicians working "overtime." A surplus in physician supply (supply exceeding demand) may be signaled when some physicians are unemployed or underemployed. However, in a well-functioning market these imbalances should be temporary and self-correcting. A "physician shortage" would lead to physicians' raising the price for their services, which would in turn
dampen demand, achieving a new point of equilibrium. Or a shortage would send a signal to students so that more of them would decide to pursue careers in medicine. Similarly, a "physician surplus" would result in physicians' lowering fees or exiting the medical profession, and the market would settle at a new equilibrium point. The workings of this invisible hand would apply to demand and supply for physicians in specific specialties as well as for physicians overall.

In a free market, supply is simply demand revealed. If physicians are busy, then there cannot by definition be too many of them. And if by some chance there were too many of them, the invisible hand would dispense with the surplus.

The weakness of the market begins with the problem that reality too often fails to live up to theory. The history of U.S. physician workforce policy, described in greater detail below, is riddled with market distortions that defeat the self-equilibrating promise of the invisible hand. Moreover, the invisible hand does not firmly grasp certain principles valued by most health systems, particularly the goal of social equity.

The Heavy Hand

If the invisible hand of the market is at the end of one limb of physician workforce policy, on the other limb is the hand of government regulation. Proponents of public planning of physician supply believe that the physician supply market is neither self-regulating nor an effective means to achieve desired social objectives such as equity. Government intervention is justified on the grounds that government can function as an agent for the collective good. Although one could characterize government intervention in health planning as a "helping hand," in recognition of the aversion to regulation often articulated in the United States I have opted for the metaphor of the "heavy hand" of regulation. The discussion that follows makes clear my own sympathy for the good intentions of this heavy hand, even as the choice of metaphors concedes that the regulatory hand is not always a deft one.

The planning approach creates the immediate problem that illumination about the question of the right number of physicians will never occur by divine revelation. Market proponents seek comfort in the positivist position that the free market always finds its own appropriate supply of physicians. True public planning is a decidedly normative undertaking. The planner must make a judgment about the required number of physicians and then implement policies to guide supply to this specified level. The hand of regulation is an exposed one.

The perils of resource planning are evident in a story Eli Ginzberg tells of his first assignment as a gainfully employed health economist. Working for the U.S. military in World War II, Ginzberg was given the task of planning the hospital capacity needed to care for wounded U.S. soldiers after the D-Day invasion. As Ginzberg tells it, he got the number just right: There were half as many casualties as expected, but the wounded spent twice as long in the hospital as projected.
This story highlights the analytic challenges facing the workforce planner. A calculation must be made of the expected services to be delivered by physicians, incorporating factors such as the anticipated incidence of disease—in the case of D-Day planning, the incidence of serious wounds. There may be unanticipated morbidity, such as post-traumatic stress disorder in the wounded. In addition, the relationship between supply of personnel and volume of services delivered is not necessarily a constant. In the Ginzberg story, hospital productivity was half that expected. Productivity therefore must be factored into the supply requirements calculation. Finally, the Ginzberg story is silent about the most essential variable of interest: the actual health outcomes for wounded soldiers. We do not know what supply of hospital beds, nurses, and physicians would have been optimal for producing successful recovery from war trauma, much less the marginal cost per unit of health benefit associated with increasing levels of supply.¹

In addition to the technical challenges of workforce planning, there are political impediments to effective regulation. The history of U.S. physician workforce policy highlights both the analytic quandaries and the legislative hurdles facing the physician supply planner.

The Roles Of The Invisible Hand And The Heavy Hand

With this introduction to market and planning concepts in mind, it is illustrative to examine how the invisible and heavy hands have touched the U.S. physician workforce in the past century.

■ Pre-1910. The U.S. health care system before 1910 is the closest the nation has come to a traditional free market for physician services. A heterogeneous mixture of minimally regulated purveyors of medical services calling themselves physicians sought their livelihood in a market largely devoid of third-party payment. A degree of physician-induced demand was in effect, much of it mediated by promotional activities of dubious credibility, but this process had limited financial consequences because of the rudimentary medical technology and facilities available in this era. Patients directly incurred the costs of most health care transactions. In 1900 there were 160 medical schools, more than 25,000 medical students, and about 175 physicians per 100,000 U.S. population. Physicians’ incomes were modest.²

■ 1910–1963: the post-Flexner era. The Flexner report published in 1910 marks a distinct shift in U.S. physician workforce policy.³ The report indicted conventional medical education as conducted by most proprietary, nonuniversity medical schools. More vigorous state and professional regulation of credentialing of medical schools and licensure for medical practice soon enforced the standards promoted by the Flexner report. More than thirty medical schools closed in the decades following that report’s release. By 1930 the number of physicians per 100,000 population had dropped to about 125.⁴ Physicians’ incomes increased. Physician supply hovered around this level for the next thirty years.

The 1910–1963 period was one of an anticompetitive market for physician labor
under professionally dominated regulation. Licensing and related regulatory policies confounded the invisible hand by controlling supply. This is not to say that no market dynamics were at play in this period. The geographic distribution of physicians followed the logic of the market. A 1925 article in the *Journal of the American Medical Association* documented the decreasing supply of physicians in rural America coinciding with deteriorating economic conditions in farming communities. The author was particularly scornful of the suggestion that merely reducing the cost and duration of medical education would make graduates more willing to venture into economically depressed rural areas: “This argument can be logically maintained only on the assumption that a lowering of the standards of medical education will attract into the profession persons who are so mentally debased and generally idiotic that they will not display that degree of common sense in the conduct of their individual economic lives, as evidenced by their geographic distribution, that we see exhibited every day by common laborers, chiropractors, or even college professors... They do business where business is good, and avoid places where it is bad.”

Seventy-five years later Fitzhugh Mullan penned the phrase “white follows green” to describe this persistent inclination of physicians to practice in more privileged communities, a major conflict between market-oriented workforce policy and goals of social equity.

What of planners during this era? Most conveniently sidestepped complicated computations of physician requirements involving interactions among supply, productivity, service delivery, and health outcomes. A series of planning commissions in the 1940s and 1950s contemplated the unequal distribution of physicians across U.S. regions, decided that every region should have at least as many doctors as those regions at the median for physician supply, and concluded that the nation needed more physicians to raise the level of supply in these “below-average” communities. This is the Lake Wobegon method of physician workforce regulation: make all areas above average.

### 1963–1990: the epoch of government blank checks

The 1960s ushered in a third era, one of rapid growth in physician supply. By the 1950s some developments were amplifying consumer demand for physician services. Employer-based insurance had become prevalent, shielding patients from much of the direct costs of medical care services and making them less price-sensitive. The “medical miracles” achieved by biomedical science captured the public’s imagination. But these demand-side factors, while perhaps setting the stage for an expansionist era, did not in and of themselves produce large increases in physician supply. It was only in 1963, when the federal government (heeding the calls of Lake Wobegon planners for more physicians) for the first time began heavily investing in medical education, that the U.S. supply of physicians per capita began to increase.

In 1965 there were 115 practicing physicians (excluding physicians in training) for every 100,000 people. By the late 1990s there were almost 200 per 100,000, an increase of nearly 75 percent even after accounting for the underlying growth in
the U.S. population. The increase in physician supply per capita occurred almost exclusively for specialists (Exhibit 1). Open-ended federal subsidies to teaching hospitals provided financial incentives for more specialized physician training programs. By the 1990s the federal government was spending more than $6 billion per year for graduate medical education (GME), with state governments contributing additional funds for state-supported medical schools. Despite the growth in supply, the average physician’s real income rose during this time. The nation’s spending on physicians, and on all health care services, increased dramatically. Despite hopes that increased overall supply and market competition would result in passive diffusion of physicians to underserved communities, physicians remained clustered in the same affluent areas.

The 1963–1990 era demonstrated that contrary to market predictions, a dramatic increase in physician supply could in fact coexist with rising physician incomes, particularly when the profession largely directed its fees under both private and public insurance. Physicians lost some of their atavistic fear of supply growth as a threat to earnings. In addition, Medicare funding of GME revealed that it was possible to obtain government financing without much government regulation. Medicare payments came with no strings attached for how many residents could be trained or in which specialties they would be trained.

A more directive federal approach to physician supply planning was in fact entertained during this era. The Graduate Medical Education National Advisory Committee (GMENAC), appointed by the Carter administration, undertook the nation’s most devoted effort to develop a needs-based physician workforce policy. GMENAC analyzed in great detail the expected health care needs of the nation’s population and the medical services that could be expected to improve population

### EXHIBIT 1
Supply Of Practicing Physicians In The United States, 1965–2000

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Specialists</th>
<th>Generalists</th>
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<tbody>
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<td>1965</td>
<td>100</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>1970</td>
<td>150</td>
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<td>1985</td>
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<tr>
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<td>350</td>
<td>175</td>
<td>175</td>
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<tr>
<td>2000</td>
<td>400</td>
<td>200</td>
<td>200</td>
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**Notes:** Generalists include family physicians, general practitioners, general internists, and general pediatricians. Specialists include all other physicians. Numbers include only physicians active in patient care and exclude physicians still in training. Numbers for 2000 are estimates. The trend lines shown are linear interpolations of actual observations in five-year increments from 1965 to 1985, plus data for 1992 and 2000.
health. In 1980 the multimillion-dollar GMENAC study produced detailed projections of required supply by individual specialty, concluding that overall projected physician supply would soon exceed estimated need. The GMENAC report experienced an inhospitable response from the newly elected Reagan administration, intent on dismantling government regulation and planning. In addition, many special interest groups objected to the study's methods and conclusions.

Unwilling to tackle the overall physician supply issue, the federal government more narrowly defined its role as one of compensating for the distributional failures of the marketplace. Programs such as the National Health Service Corps, established in the 1970s, attempted to use incentives to induce physicians to practice in communities with a meager supply of physicians.

While the experiences of GMENAC chastened physician planners interested in more assertive government regulation, true believers in deregulated free markets also expressed consternation over the physician workforce's deviation in the 1963-1990 period from market rules. The true believers called for cleansing the health care marketplace of its anticompetitive impurities. Proposals included minimizing licensure and related professional regulations, terminating tax subsidies of medical education, and relegating health insurance to catastrophic coverage. These types of proposals, while perhaps estimable in their ideological and philosophical purity, were anachronistic in their desire to return to a twentieth-century, pre-Flexner, pre-comprehensive health insurance era. Professionalism developed not just as an anticompetitive strategy but in response to legitimate societal concerns about competence and quality with an unregulated health care workforce. Comprehensive insurance addressed desires for pooling of financial risk and mitigation of financial barriers to needed care.

While the true market believers were looking backward to find a more pristine incarnation of the invisible hand, a different breed of market advocates, more accepting of the conventions of modern-day health care, began promoting a different form of market competition. The era of "managed competition," spanning the decade 1990-2000, attempted to transform the market for physician labor from a retail to a wholesale market. In so doing, this era presented physicians with the most formidable market challenge of the twentieth century.

1990-2000: the era of the wholesale market for physician labor. The traditional economic model considers physician services as a retail business. Patients shop for physicians, and out-of-pocket and insurance payments follow the patient. The nation's intensification of its experiment with managed care and managed competition in the 1990s was in one sense an attempt to convert physician services into a wholesale market. A new breed of middlemen for physician supply, health maintenance organizations (HMOs), acted as bulk purchasers of physician services through either direct employment of physicians or selective contracting with a network of physicians.

The rise of a wholesale market for physicians had the potential to dramatically
weaken the relative economic strength of physicians. Replacing disempowered individual consumers as procurers of physician labor were large, organized purchasers. Individuals and their sponsors (employers or government) were given the role of shopping for a managed care plan. The health plan assumed responsibility for directly or indirectly hiring physicians and bargaining over the price of physician services. Advocates believed that this new wholesale market would restore conditions favorable to the proper working of the invisible hand (or at least of a translucent managed hand). The HMO bulk purchasers would exercise countervailing market clout against the physician cartel, forcing physicians to become price takers. A well-informed HMO would intercede between individual consumer and physician, protecting against supplier-induced demand. HMOs could affect physician supply by moving their business away from physicians deemed too expensive, too poor in quality, or simply too plentiful.

The wholesale market for physician supply would not address all of the deficiencies of the market, such as the fundamental tension between market allocation and equitable distribution of services. But it would, it was reasoned, at least deal with some of the key failures of the distorted physician marketplace such as excessive costs and production inefficiencies.

The workforce ramifications of the emerging wholesale, managed competition market were made clear in the early 1990s by publication of several prominent studies of HMO physician staffing patterns. Jonathan Weiner and others documented that established HMOs used far fewer physicians per enrollee, especially specialists, compared with the overall supply of U.S. physicians per capita. Weiner's calculations indicated that if enrollment in managed care plans increased as anticipated, the United States would face a surplus in 2000 of 165,000 physicians relative to the number of positions available in HMOs and the vestigial fee-for-service sector. By the mid-1990s research began reporting decreases in employment opportunities for specialists. The changing prospects for specialists were summed up by a New Yorker cartoon showing a despondent surgeon standing on a corner wearing a sign stating, “Will do bypass surgery for food.”

Physician planners were not idle in this period. In 1986 Congress authorized establishment of a new federal physician workforce planning group, the Council on Graduate Medical Education (COGME). One of COGME's initial activities was to synthesize information from a variety of sources about physician supply requirements. COGME adopted an ecumenical approach to this task. Although the council drew on the classic GMENAC report, it also relied on the studies by Weiner and others on physician staffing in HMOs. These studies did not share the same conceptual framework as GMENAC. They were not normative attempts to evaluate population health needs and relate these needs to physician supply. Rather, these demand-based studies were more akin to market forecasting reports, attempting to project where the new wholesale physician market was heading.

A dilemma arises when demand-based and needs-based physician requirement