Are We There Yet? Seizing the Moment to Integrate Medicine and Public Health

Multiple promising but unsustainable attempts have been made to maintain programs integrating primary care and public health since the middle of the last century. During the 1960s, social justice movements expanded access to primary care and began to integrate primary care with public health concepts both to meet community needs for medical care and to begin to address the social determinants of health. Two decades later, the managed care movement offered opportunities for integration of primary care and public health as many employers and government payers attempted to control health costs and bring disease prevention strategies in line with payment mechanisms. Today, we again have the opportunity to align primary care with public health to improve the community's health. (*Am J Public Health.* 2012;102:S312–S316. doi: 10.2105/AJPH.2012.300724)

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> For scientific progress has greatly modified his ethical responsibility. His relation was formerly to his patient—at most to his patient's family; and it was almost altogether remedial. . . . But the physician's function is fast becoming social and preventive rather than individual and curative. Upon him society relies to ascertain . . . the conditions that prevent disease and make positively for physical and moral well-being.
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> —*Abraham Flexner*[1(p26)]

ALTHOUGH THE AMERICAN EDUCATOR Abraham Flexner (1866–1959) made this observation more than a century ago in his assessment of the state of US medical schools, the United States remains one of the few developed economies in which public health and medical care exist in isolation from each other. It was not always this way; physicians and their organizations once nurtured and developed the public health system. The divergence in the two disciplines, according to Starr, occurred at the turn of the 20th century, when the direct care of mothers and children by public health clinics prompted concerns that public health would begin to compete with physicians for the direct provision of medical care services.[2] This divergence continued with medical specialization and was likely further enhanced by the Rockefeller Foundation's 1916 decision to create schools of public health that are separate from schools of medicine.[3] The ultimate consequences of this schism were the failure to attract physicians to public health, with a concomitant decline in the numbers of preventive medicine physicians, and the failure of most other physicians to understand or appreciate the population (or public health) perspective.[4]

Multiple attempts have been made since the 1916 decision to reconnect primary care and public health; however, these innovations never expanded far beyond the site where they began, and even fewer were sustained. Today, new opportunities, needs, and tools offer us another opportunity to reintegrate public health and medicine—specifically primary care—in a way that improves population health outcomes and enhances quality of life in the United States. By integration of primary care and public health we mean "the linkage of programs and activities to promote overall efficiency and effectiveness and achieve gains in population health."[5(p1)] However, if we are to seize the opportunity to bring primary care and public health together successfully, we must learn the lessons of past attempts.

HISTORICAL CONTEXT

After the first half of the 20th century realized a dramatically increased life span resulting from potable water, infectious disease control, and increased access to medical care, the 1960s experienced new social justice movements and efforts to expand access to primary care, with a focus on working with communities to design and plan services that worked best for the underserved and uninsured. Experiments in community medicine and family medicine were derived from the community-oriented primary care (COPC) movement Kark and Cassel developed in South Africa that integrated public health concepts with clinical medicine.[6] These early efforts led to the development of community health centers, clinical epidemiology, and multidisciplinary teams. Physicians, nurses, health educators, and community lay health workers provided integrated medical and public health care to communities, often led by the community.[6] The COPC movement emerged in the United States subsequently and contained many of these elements. In fact, those who Kark and his colleagues trained in these concepts provided leadership, in some measure, of this movement in the United States. These experiments demonstrated how primary care and public health can intertwine to meet an obvious need for medical care and address the socioecologic determinants of health problems in underserved communities.

COMMUNITY HEALTH CENTERS

Both Geiger[7] and Gibson[8]—the initial advocates of community health centers and of ensuring access to primary care services—came from a medical perspective, albeit one infused with public health notions of concern for the denominator, a focus on the patients enrolled in the community health center's panel, and the

community the center served. Of note, these leaders in the community health center movement, although trained in both medicine and public health, operated from a medical school environment. They maintained primary appointments in schools of medicine and not in schools of public health, and medical schools primarily supported these efforts. Rarely were schools of public health engaged in leading the development of community health centers; and other programs focused on direct service to the poor and uninsured or on broader concerns of the communities that surrounded those community health centers. Few if any schools of public health applied for support for these community health centers; the majority of applicants were medical schools because academic medical centers often believed the needs of the residents in surrounding communities were not being addressed in those medical centers. Governmental health entities (e.g., city hospital and health department units) did get involved in this effort. This particularly applied to large urban entities that included hospitals, local primary care clinics, and public health clinics under one organization's structure that had the capacity to pursue the development of such community health centers. One of the first community health centers was centered at a local health department that collaborated with a university medical center, but public health leaders, both academic and governmental, regarded this as a provision of medical care and not the purview of public health. In certain cases, the entry of public health into community clinic sponsorship revived the concern Starr laid out: that the health department was in the business of competing with the private practice of medicine, a philosophical and financial concern for medicine.[2] Meanwhile, health departments were concerned that the provision of illness services might detract from the population services only the health department could provide, whereas others could serve a patient care role. The schism remained.

Although these initiatives focused primarily on the uninsured, the broader problems of financial access to medical care for older and poor persons resulted in the creation and growth of Medicare and Medicaid. Those two major social insurance programs greatly expanded access to care for the underserved. However, the programs' incentives were to treat rather than prevent illness, and, consequently, they focused less on primary and preventive services than on procedures and hospital care. Notably, the nature of this initial foray into social insurance set the tone for the continued estrangement of medical and public health through the financial incentives that were provided. Payment was made for procedures and major illness more than for primary care or community interventions that address the underlying etiologies of illness, much less payment for quality of care or the health of a population. In fact, in the initial legislation, Medicare was precluded specifically from paying for clinical preventive services.

The interest in primary care grew in parallel with or was the result of the community health center movement. The specialty of family medicine developed and gained popularity in the United States, achieving American Board of Medical Specialties specialty recognition in 1969. A focus on individuals, families, and communities and on treatment, prevention, and community medicine was part of the initial scope of the new discipline, reflecting the social movement that supported its establishment.[9]

These movements—community health centers, primary care (especially family medicine), and community medicine—were infused and supported by the larger COPC movement in the United States in the 1970s and 1980s, which brought together the notions of primary care and the practice of epidemiology to examine the health of the population of enrollees in a particular practice (e.g., that of the community health center) and to design, implement, and evaluate efforts to address broader community health problems.[10] Disciplines of public health, particularly epidemiology, health behavior, and health education, were leveraged to the benefit of both the individual patient and the community. However, the movement soon faltered as attention shifted to growing national concerns about escalating costs. Community health centers came under pressure to increase their self-support through increased volumes of medical services at the expense of other direct nonmedical roles for the health of the population they served, but financial incentives to continue these efforts were lacking.[11] These pressures led to constraints on innovations designed to bridge the schism and went so far as to require community health centers to deliver clinical services only. Philosophical and ideological concerns existed about the expanded role of community health centers, and support for efforts other than the provision of direct patient service declined. Once again, progress in population health was suppressed and gains rarely were sustained.

This development included certain ironies. One was the key role of medical schools. Departments of preventive, social, and community medicine in medical schools led the community health center movement. The initial involvement of schools of public health faculty was limited despite the role that epidemiology and the emerging sciences of medical care organization and administration could play in this new effort. Some suggested that public health knowledge and education should not be focused solely in schools of public health but also contained in schools of medicine because the public health sciences were as integral to medicine as were the basic sciences of anatomy and physiology.[12]

In a similar way, these same medical school departments became home to the growing family medicine movement. Community, social, and preventive medicine departments were subsumed by that movement and morphed into departments of community and family medicine. However, as family medicine turned its attention to establishing legitimacy with traditional medical specialties[12] and as medical schools placed increasing emphasis on practice income, the community medicine portion of these departments withered and, in certain cases, disappeared.

By 1982, when Deuschle reviewed the problems of maintaining primary care and public health innovation in COPC and community health centers that he was responsible for founding, the dominance—philosophically and financially—of the traditional medical practice and discomfort with organizational innovations

clearly had become major obstacles to maintaining that effort.[13]

MANAGED CARE

The 1980s and 1990s experienced another opportunity for the integration of medicine, primary care, and public health as employers and government payers turned to managed care health plans to attempt to control escalating health costs. One of the promises of managed care was to realize cost savings through a focus on prevention and attempts to bring more disease prevention strategies in line with payment mechanisms.[14] The emphasis on value, quality, and cost and the improvement in population health, measured by the health status of subscribers, were regarded by many as the sine qua non of effective managed care organizations. Unfortunately, the management and implementation of certain forms of managed care became concerned primarily with cost. The phrase "We are only saving Medicare money with prevention" was heard in the discussions of many managed care organizations. To echo Stephens' comments, efficiency trumped equity.[11] On the positive side, settings in which the promise of managed care continues still exist—notably the Kaiser Foundation Health Plans in California—and they appear to be effective in achieving those goals.

MEDICINE PUBLIC HEALTH INITIATIVE

A more recent effort to heal the schism between medicine and public health involved the American Medical Association and the American Public Health Association and began in 1994 amid calls for coordinated actions on shared concerns.[15] This initiative began with an agenda that called for the following:

1. engaging the community,
2. changing the educational processes of both medicine and public health,
3. joining research efforts,
4. devising a shared view of health and illness,
5. working together to provide health services,
6. developing health assessment measures, and
7. translating initiatives into action.

Despite continued concern, for example, an American Medical Association presidential address in 2007 stated that leadership turnover and the changing political agenda of the two organizations and their members had resulted in a lack of pursuit of this effort to bring medicine and public health together.[16] Against that backdrop resides the current efforts calling for the integration of primary medical care and public health.

Today, the need and opportunities have never been greater. In 1960, the Congressional Budget Office estimated that health care costs were less than 5% of the gross domestic product; by 1980, that estimate reached 8%. Now it is approaching 20%, and the Congressional Budget Office estimates that by 2025, this number will reach 25% of the gross domestic product.[17] Meanwhile, the Patient Protection and Affordable Care Act, new initiatives at the Centers for Medicare and Medicaid Services, and new information technology offer a fresh opportunity to integrate public health and medicine. Whether those attempts will be successful depends largely on our ability to learn lessons from the past, in particular, the experiences with COPC and managed care.

LESSONS

Perhaps the most striking, although not surprising, lesson learned from prior efforts to integrate medicine and primary care with public health is that efforts to improve population health require infrastructure and funding if this integration is to occur and be maintained. The medical reimbursement system supports medical piecework and provides limited support for indirect patient care activities (e.g., practice analysis or time spent on efforts to identify those in need or requiring additional support or counseling other than by physicians) to succeed. Linking medicine and public health has the potential to produce cost savings, especially through avoiding more costly hospitalizations by the tighter coordination of clinical services for populations at risk (e.g., ensuring that children with asthma and their families know how to use their medications or providing in-home clinical services for frail persons). Achieving these savings requires developing and funding an infrastructure that links practices into larger networks and provides the analytic and community intervention capacity lacking in individual practices but common to health departments. The North Carolina Medicaid program has sustained continued savings for longer than a decade by redesigning primary care services to reduce preventable admissions, often through close collaborations between primary care groups and local health departments.[18] In the process, both primary care and public health change, with primary care moving such services as health education and care coordination out of the office. Additionally, public health departments are shifting from a focus on categorical services to assistance with analysis of preventable illness and to becoming partners in service delivery to populations at risk.

A second lesson is to avoid counting on integration for major short-term cost savings. Prevention interventions alone can save money (e.g., vaccination and disease eradication), but they often do not realize cost savings in the short term. Companies that insure working-age adults illustrate the challenge of attributing savings to earlier funding for prevention. Savings from preventive services often occur after individuals retire, when that company no longer insures them. With the advent of Medicare Part C and the growth of Medicare managed care among commercial insurers, that is no longer as true as it was in the past, illustrating the alignment of incentives for today's activities with those who will reap later rewards.

A third lesson is that change in professional culture is needed, but such change is difficult. Physicians and the health care organizations for which they work have a long history of professional autonomy and personal accountability for their patients. They might find the transition to collaborative teams, especially with members of other professions and in other organizations, challenging and sometimes threatening. Bridging from the biomedical model of medicine to the social determinant and policy focus of public health is even more difficult. After a century of separation, medicine and public health no longer speak a common language, and all too often when the two come together, the medical voice is the louder. However, failure to recognize and manage the

cultural change creates considerable risks, especially for public health. Otherwise, when medicine and public health are combined, medicine dominates—financially, morally, and administratively. As an illustration of this continued problem, at this writing, the health care bill before the US House of Representatives calls for the sustained growth-rate reduction in physician Medicare reimbursement to be offset by drawing from the prevention trust fund, pitting medicine and public health against each other in the national political arena. This dramatically illustrates the difficult policy environment, prompted by the economic downturn, that threatens both public health and primary care. Yet as Abraham Flexner demonstrated, change can happen with striking speed.[1] We have reason to believe that a similar transition might be upon us.

WHAT'S NEW?

An alignment of tools and incentives providing new opportunities for cost savings and system improvement exists today. Two major changes stand out. First, the Affordable Care Act has provided dollars to drive change in population health. Although the Affordable Care Act's ultimate fate will not be known for some time, it is providing new funding and new life for integrating medicine and public health. For example, the Centers for Disease Control and Prevention's Community Transformation Grants program (http://www.cdc.gov/communitytransformation) provides funding for achieving broad population-based goals by calling on all of a community's resources. Similarly, the Centers for Medicare and Medicaid Services' Innovation Center is rolling out an array of programs that bring new attention to the potential for public health and primary care partnership by supporting clinical system redesign for large populations, supporting redirection of funds from inpatient care to outpatient and from treatment to prevention, and encouraging experiments designed to achieve this aim. For the first time, sustaining a flow of funds to support continued improvements in population health is possible.

Second, the $27 billion being invested in electronic health records is moving health data from paper records to large-scale digital data warehouses, permitting the rapid analysis of changes in illness patterns in locations that can aggregate across sites of care, as well as the detection of previously unknown community illness clusters. This ability to aggregate data about individuals across care settings and to "roll up" these data to practices and neighborhoods largely obviates the long-standing problem of identifying the population served while also opening a new set of concerns regarding how to aggregate, attribute, and report accurately while respecting privacy.[19] Combining these tools with new policy mandates to bolster population health can allow direct, coordinated efforts to reduce disease burden and costs at the community level. The role of public health in identifying and focusing on population concerns, combined with a practice's ability to use these aggregate data for population health interventions, is an excellent illustration of this integration of information technology for medical care and population health. The New York City Primary Care Information Project supports the adoption and use of electronic health records among primary care providers in underserved communities and has demonstrated increases in preventive service delivery, including screenings as well as blood pressure and cholesterol control.[20] Health information exchanges (e.g., the one in Indiana) link primary care providers, hospitals, laboratories, pharmacies, and health departments to provide information exchange and two-way communication for more efficient and effective population and clinical care.[21] However, the fact that only $30 million (1%) of this investment was allotted to public health reveals that the public health perspective is once again regarded as secondary to traditional clinical medicine.

WHAT NOW?

How do we harness this moment? First, we must ensure that long-term financial support for population health is designed into new health care delivery and public health systems (optimally regarded as one health system). At the same time, we need to recognize the vagaries of the economy and government funding and seriously consider how effective collaborations can be sustained in a changing world. Second, we must optimize the use of electronic health records and the data they generate so that we understand more fully patterns of illness in the community. We then can use this understanding to improve prevention and care across the nation's disparate communities. Third, population health measures should be used more effectively in monitoring the nation's health and reporting not only to clinicians, health insurers, and other major health care actors but also to the general public and those in public health at the local, state, and federal levels. By contrast, state and local health departments should define their roles in relation to Affordable Care Act–funded organizations, medical homes, and other innovations at the intersection of population health and clinical care. Finally, and perhaps hardest of all, clinicians and public health officials should begin rebuilding their connections and collaborating to meet the needs of the communities they both serve, recognizing that the needed cultural changes are significant. If we do all these, we will have seized the moment and begun to integrate medicine and public health.

CONCLUSIONS

As we did a century ago and periodically since, we appear to have the opportunity to align clinical medicine—in particular, primary care—with community health. Our challenge will be to seize the opportunity to facilitate change; measure the changes accurately, including economic impact; and communicate the process and results effectively. However, we must retain the flexibility to adapt to local variation and to social and environmental changes that inevitably will arise. We also should bring the conversation back to something more than simply cost savings, to the fundamental questions of health, quality of life, equity, and community. Perhaps the most important message is that we have had the opportunities before, but never with the same tools or the same dire outcomes if we fail to act. The impact on the economy is one of those outcomes. In today's global economy, we simply cannot afford to let this continue. An adverse impact on the nation's health will

follow inevitably unless we act wisely as a nation. This time, we have no option but to accelerate the slow process of bridging the cultures of medicine and public health to the service of our communities and the nation. ■

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