
Improving the Population's Health: The Affordable Care Act and the Importance of Integration

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I. Introduction

Health care and public health are typically conceptualized as separate, albeit overlapping, systems. Health care's goal is the improvement of individual patient outcomes through the provision of medical services. In contrast, public health is devoted to improving health outcomes in the population as a whole through health promotion and disease prevention. Health care services receive the bulk of funding and political support, while public health is chronically starved of resources. In order to reduce morbidity and mortality, policymakers must shift their attention to public health services and to the improved integration of health care and public health. In other words, health care and public health should be treated as two parts of a single integrated health system (which we refer to as the health system throughout this article). Furthermore, in order to maximize improvements in health status, policymakers must consider the impact of all governmental policies on health (a Health in All Policies Approach).

The Patient Protection and Affordable Care Act of 2010 (ACA or the Act)¹ reflects the dominance of health care over public health. As its name suggests, the statute's primary goal is to improve access to health care services through insurance system reforms. In contrast, politicians neglected the goal of improving the population's health in this monumental overhaul of our health system. Although the ACA does little to mandate health system integration, various opportunities exist within the Act's implementation for decision makers to improve coordination between health care and public health.

In the first part of this article, we argue that the key purpose of health reform should be the improvement of health. Evidence indicates that public health efforts — health promotion and disease prevention — contribute more to reductions in morbidity and mortality than improved access to health care services. We then argue that optimal gains in health status will

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occur through effective and efficient integration of public health and health care services. In the third part of the article, we explore the ACA's contribution to the goal of improving the population's health. Specifically, we critically analyze the extent to which the Act facilitates integration between public health and health care. Drawing from the health policy literature, we discuss strategies for advancing integration, with a view to guiding the Act's implementation and future health care debates. We conclude by advocating for a broad approach to integration — a Health in All Policies Approach — which would integrate health considerations into all areas of government policy.

An effective health system must be public health oriented in order to eliminate the underlying causes of disease, thereby avoiding unnecessary costs and morbidity.

II. The Importance of Public Health

A health system's primary objective should be the improvement of the population's health. To advance this goal, policymakers must concentrate on disease prevention and health promotion, rather than on health care services, which largely address the symptoms of diseases that have already manifested. In other words, an effective health system must be public health oriented in order to eliminate the underlying causes of disease, thereby avoiding unnecessary costs and morbidity.

Health promotion and disease prevention have a far greater impact on health status than do health care services. Inadequate access to medical interventions are not the primary cause of premature morbidity and mortality.² Rather, "nine preventable conditions are responsible for more than 50% of all deaths in the United States."³ Diseases result from a combination of individual behavioral factors (e.g., smoking, diet, physical activity, and sexual behavior), the environment in which people live (e.g., pollution, toxic chemical exposure, and contaminated food), and the social determinants of health (e.g., education, income, and housing). Evidence indicates that preventive interventions targeting these root causes of disease account for approximately 80 percent of the reduction in morbidity and mortality we have achieved, whereas health care is responsible for less than 20 percent.⁴

Instead of upfront investments in prevention and wellness, the nation spends billions of dollars on high technology interventions to treat conditions that might otherwise have been prevented or lessened in severity. Effective public health "reduces the need for medical services to treat conditions that can be prevented, thereby helping to control costs and making personal health care affordable."⁵ Patients with complex chronic conditions (which now represent the majority of the disease burden) cause very high, potentially avoidable medical costs. For example, in 2002, heart disease and trauma accounted for the largest share of health care spending.⁶ Individual behaviors — e.g., helmet and seatbelt use, firearms safety mechanisms and accessibility, intoxicated machine operation, exposure to toxic agents, physical activity, and dietary habits — directly contribute to these conditions. Public health policies seek to modify these behaviors, thereby avoiding unnecessary expenditures.

In terms of the relative costs of public health and health care services, numerous studies demonstrate the cost-effectiveness of public health strategies such as smoking cessation, weight control, and dental preventive care.⁷ Evidence consistently shows a correlation between public health spending and improved mortality rates.⁸ Although many health care services also have demonstrable cost-effectiveness, the cumulative effect of our country's sizeable investment in health care is limited. Even the most optimistic statistics estimate that health care has contributed less than four percent to the decline in mortality since 1900.⁹ Furthermore, future investments in medical research and development will produce many more "half way technologies," which "add small increments to health at large cost."¹⁰ Because policymakers have deprived public health of stable and adequate funding, there are still substantial gains to be made from investments in health promotion and disease prevention. In contrast, continuing to preferentially fund health care "perpetuates a system that does more and more for fewer people."¹¹

Data indicate that individual behavioral risk factors — e.g., smoking, poor diet, sedentary lifestyle, excessive alcohol consumption, risky sexual behavior, firearms, motor vehicle accidents, and illicit substance abuse — account for nearly 50 percent of all premature deaths in the U.S. each year.¹² It is not surprising then that public health interventions targeting behavior modification have dramatically improved the population's health. For example, although tobacco still contributes to approximately 18 percent of prema-

ture deaths,¹³ tobacco-related mortality has been significantly reduced through policies such as cigarette taxes, packet warnings, advertising restrictions, and smoking bans.¹⁴

Similarly, evidence suggests that policies targeting the built environment have a greater effect on health than do investments in health care.¹⁵ The built environment encompasses everything in our surroundings that affects health status including indoor and outdoor spaces, workplaces, roads and vehicles, consumer products, and contaminants.¹⁶ Numerous public health interventions have improved the built environment, thereby protecting the public from injuries (e.g., occupational safety and traffic rules) and infections (e.g., sewage control and housing codes).¹⁷ Despite this progress, public health still has much work to do in mitigating environmental health risks. For example, exposures to microbial or toxic agents are among the leading causes of preventable premature death, causing fatal infections, cancer, neurological problems, or cardiovascular, lung, liver, kidney, and bladder diseases.¹⁸ Similarly, lack of access to appropriate nutrition and safe outdoor space impedes healthy lifestyles.¹⁹

III. The Importance of Integration

Public health and health care are traditionally regarded as separate, albeit overlapping, systems. Health care seeks to improve individual health outcomes through the delivery of personal medical services, while the public health system focuses on identifying and preventing the underlying causes of illness and the effect of disease on the broader community. In short, “Medicine is commonly associated with the care and treatment of the individual, while public health’s central focus is on populations.”²⁰ We are critical of this dichotomy and argue that public health and health care should be conceptualized as two interconnected parts of a single health system. A well-integrated system with interdependent parts fosters continuity and comprehensiveness of care and improves cost-effectiveness. Conversely, a lack of integration causes duplication, gaps, inconsistencies, and wasteful spending on treating preventable conditions.²¹

At their broadest level, public health and health care confront the same challenges (injury and disease) and act in furtherance of the same overarching goal (improving health). Despite their differences in methodologies, goals, and organizational structures, these disciplines share more similarities than differences. As Allan Brandt and Martha Gardner argue, “Observers have often highlighted the distinctions between these two areas of knowledge and practice precisely because so much is shared.”²² Depending on the lens

through which a health service is viewed, the same activity can be conceptualized as either a public health or a health care service. For example, a throat swab for strep throat is a health care service insofar as it is performed to diagnose and treat a patient. The provision of the same service has public health dimensions. The doctor addresses public health issues by advising the patient on behavior modification to avoid the spread of the disease. In addition, by confirming the diagnosis before prescribing antibiotics, the doctor helps to avoid antibiotic resistance, an issue with implications for the population as a whole.

There are a number of advantages to the integration of public health and health care, including greater efficiency, cost savings, and improved health outcomes for patients and populations. First, policy decisions that address one component of the health system may have unintended consequences for the other. Policies that benefit health care, which are generally the focus of legislators, are frequently detrimental to public health. For example, fee-for-service reimbursement models that encourage primary care providers to see as many patients as possible negatively affect public health by creating a disincentive to spend time educating patients on the health impacts of their lifestyle decisions.²³ Similarly, the 1946 Hill-Burton Act,²⁴ which provided sizable resources for hospital construction,²⁵ shifted services and providers out of the community and into facilities that were isolated from public health professionals. During the health reform debate, policymakers decided not to reclassify the tax-exempt status of employer contributions to employee health insurance plans. Because the poorest workers are less likely to receive employer health benefits, this change would have been a progressive tax measure.²⁶ From a public health perspective, which recognizes the importance of socio-economic status on health, government failed to take steps that would have ameliorated health disparities. In order to appreciate all of the potential costs and benefits of a potential health policy, decision makers must consider the proposal’s impact on both components of the health system.

Second, integration improves quality of care for patients. According to Mylaine Breton et al., a high performing health system is one in which “preventive interventions are planned across the continuum of care delivery and where care provision is a source of health promotion.”²⁷ Many patients do not regularly see primary care providers; rather their only contact with the health system is an emergency room visit. A patient whose entry point into the continuum of care is the health care side of the health system should still have seamless access to health promotion and preventive services.

Third, the integration of public health and health care avoids duplication and the resulting unnecessary costs. For example, information technology systems are crucial to both public health (e.g., for disease sur-

edge — is likely to be the most effective strategy to respond to the complex, multi-factorial chronic conditions that now represent the majority of our disease burden. Chronic diseases result from a combination

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veillance) and health care (e.g., for ensuring continuity of patient care and patient safety within hospitals). Compatible, fully integrated information systems have the potential to maximize financial investments and improve health as they can “provide a shared situational awareness of public health threats, available resources, and options for rapid and effective health protections efforts.”²⁸ Independent databases, in contrast, “are ‘silos’ — disconnected repositories of information.”²⁹ Due to the scarcity of health resources, when funds are invested in one component of the health system, policymakers should consider their compatibility with and potential benefits for the other component of the health system.

Fourth, public health and individual health care services complement, but cannot replace, each other. In other words, public health resources should not compensate for inadequate access to health care services. Effective health care with universal coverage “virtually frees public health from playing the role of medical care provider to the poor and uninsured, thereby freeing resources to pursue population-based disease prevention and health promotion activities.”³⁰ The literature suggests that the majority of public health resources are currently devoted to individual health care services, such as preventive care, despite calls to improve community-based programs.³¹ For instance, one study concluded that 68.7 percent of Florida’s public health resources fund individual services.³² Public health agencies would not feel compelled to expend scarce resources on safety net health care clinics if the health care system were accessible and affordable for the entire population. When public health and health care are both viewed as priorities, and resources are allocated accordingly, each is better equipped to fulfill its mandate, thereby advancing their collective goal of improving health.

Fifth, integrating health care and public health — each with its own methodologies and bodies of knowl-

of individual behavioral and lifestyle factors, most effectively addressed at both the individual and community levels. Thus, these conditions “belong just as much to the public domain as to the private space that is the doctor-patient relationship.”³³ For example, strides in reducing tobacco consumption are the combined result of public health and health care strategies, including behavioral therapy, smoking cessation aids, educational campaigns, and marketing and packaging restrictions.³⁴ As Brandt and Gardner argue, “No single approach...adequately accounts for significant changes in many health-related behaviors.”³⁵ In other words, the activities of health care and public health are worth more than the sum of their parts. Public health and health care have collaborated successfully to respond to infectious disease outbreaks, temporarily mobilizing resources to respond to an acute threat; however, the response to chronic diseases requires “a tight intertwining of practices.”³⁶

Finally, integration is crucial due to the weak political and economic support that has plagued public health for many years. Medical interventions generally provide a recognizable and immediate benefit for identifiable patients, whereas public health is undervalued as it affects future “statistical lives.”³⁷ While health care has the support of powerful provider and industry interest groups, public health is often met with political or societal disinterest or outright opposition.³⁸ This lack of political support is reflected in our meager investment in public health services. The Centers for Disease Control and Prevention estimate that less than five percent of health care spending is devoted to disease prevention.³⁹ While health care expenditures have increased, public health spending has remained stagnant or, in some areas, decreased.⁴⁰ Public health should emphasize its connections with health care to take advantage of the latter’s well-developed infrastructure, prominent position in policy discussions, and importance in the minds of the public.

IV. The ACA and Integration

The ACA initiates a number of reforms related to public health, focusing primarily on improving access to effective preventive services. In this section, we discuss the major provisions affecting public health under five main subject headings: organization, funding, insurance reforms, human resources, and infrastructure. In

particular, we assess these provisions through the lens of their impact on integration. Although the Act does little to compel integration, there are numerous provisions in the ACA that can be interpreted in a manner that facilitates integration between public health and health care. In implementing the Act, policymakers must exploit these opportunities in order to realize the benefits of integration — improved health outcomes and more efficient use of resources.

A. Organizational Reforms

The first set of reforms establishes an organizational framework for advancing the goal of prevention. The Act creates two new bodies within the Department of Health and Human Services — a Preventive Services Task Force (Task Force) charged with evaluating the clinical and cost-effectiveness of preventive services,⁴¹ and a National Prevention, Promotion, and Public Health Council (Council) tasked with making recommendations for a national prevention and health promotion strategy and funding.⁴² The federal government's increased attention to prevention and promotion is a significant step in improving health outcomes. In addition, the creation of these bodies may establish greater national consensus on effective preventive strategies and draw attention to the importance of health promotion and disease prevention. However, policymakers and providers must remain politically and financially committed to implementing the recommendations of the Task Force and the Council, rather than allowing health care demands to take precedence over public health.

Health care and public health have developed in separate, disjointed structures, resulting in organizational barriers to integration.⁴³ The ACA creates distinct organizational entities to address public health issues and does not provide any explicit linkages with health care actors or any clear mandate to improve integration. Although the Act does little to require integration, the Task Force and the Council can improve the coordination between public health and health care in carrying out their responsibilities under the Act. For example, these bodies could incorporate the perspectives of both components of the health system into their recommendations by including health care and public health providers in their decision-making processes.

B. Funding Reforms

The second set of ACA reforms relates to public health funding. The law creates a Prevention and Public Health Fund, to which government allocated \$500 million in 2010 and \$750 million in 2011.⁴⁴ Despite these increased resources, the Fund is insufficiently

resourced,⁴⁵ with weak promises to address unmet needs through additional “sums as may be necessary,” provided by “any monies in the Treasury not otherwise appropriated.”⁴⁶ Moreover, the Fund is politically fragile, as recent attempts to divert funding to other programs have occurred.⁴⁷

The ACA also authorizes funding for state-based demonstrations to improve vaccination rates⁴⁸ and creates state-level grants for the development and evaluation of Medicaid initiatives promoting behavioral change.⁴⁹ A Creating Healthier Communities grant program will fund health departments implementing community-based preventive initiatives deemed potentially effective by the federal task force.⁵⁰ Although the ACA signifies an increased federal financial commitment to public health, policymakers must allocate these funds carefully in order to maximize their investment through improved health system coordination.

The creation of separate funding streams for preventive activities fails to consider the importance of integration. However, the existing framework can be implemented in a way that encourages integration. For example, in allocating funds to federally funded state demonstration projects, the government should give preference to projects that foster health system integration.

We are also critical of the ACA's focus on gathering and disseminating information, with limited attention to implementing those findings. For example, a recent government press release announced that \$133 million of the 2011 Prevention Fund will be devoted to monitoring the impact of the ACA on health and disseminating public health recommendations.⁵¹ No specific mention was made of funding the implementation of those recommendations. The literature is rife with examples of promising public health/health care collaborations that suffered from inadequate implementation efforts. The 1995 Medicine and Public Health Initiative initially yielded a number of impressive accomplishments.⁵² For example, public health and health care providers worked together in designing initiatives that led to improvements in New York's infectious disease reporting system (which assisted in the early identification of the first outbreak of West Nile Virus), and a bicycle helmet campaign in Washington State increased usage rates over 300 percent. Despite early promising results, other states “lurched forward in halting steps,” there was no widespread multi-state implementation of the project's isolated successful collaborations, and the Initiative ultimately lost momentum.⁵³ Although researchers can identify solutions to pressing problems and disseminate their results, “only politics can turn most of those solutions

into reality.”⁵⁴ The challenge is not in generating evidence but in implementing that evidence. As with previous collaborations, ACA-funded state success stories risk merely resulting in health policy journal articles unless the government provides financial incentives for other states to implement those reforms. Ongoing implementation of successful reforms generated by demonstration projects will require stable and adequate federal funding beyond that currently provided for in the ACA.⁵⁵

C. Insurance Reforms

The third set of reforms addresses the demand for public health services by eliminating financial barriers to preventive services. Medicare, Medicaid, and qualified health plans can no longer impose costs on patients for services deemed beneficial by the Preventive Services Task Force or for immunizations recommended by the Advisory Committee on Immunization Practices.⁵⁶ Preventive care for infants, children, adolescents, and women recommended by the Health Resources and Services Administration will similarly be free of charge to patients. The ACA also encourages employers to implement “wellness plans” — incentive packages that reward smoking cessation, weight loss, blood pressure reduction, and diabetes management.⁵⁷ Specifically, the ACA eases the limits on incentives an employer may offer and sets aside grant money for small employers implementing wellness initiatives for the first time.⁵⁸

Reducing financial barriers to preventive care has the obvious benefit of improving utilization of those vital services. This policy may also mitigate health disparities, as co-payments are more likely to deter poor patients from seeking preventive care, despite the fact that their health needs are the most acute.⁵⁹ The RAND Health Insurance Experiment correlated copayments with a reduced usage of health services by the poor which, in some cases, had measurable negative health effects.⁶⁰ For example, the study showed that low-income children enrolled in co-insurance dental plans were 56 percent as likely to receive care as children enrolled in the free plan.⁶¹ Although the removal of financial barriers to preventive services is crucial, optimal utilization of these services will only occur if providers have sufficient time and the correct incentives to counsel patients on the broader behavioral determinants of health. A failure to integrate public health policy goals with health care provider financial incentives may hinder the beneficial effect of removing barriers to preventive services.

D. Human Resources

In terms of the supply of public health services, the ACA’s main goal is to increase primary care capacity. In 2010, half of the \$500 million fund supported primary care by funding residency program capacity, physician assistant training, and nurse practitioner-led clinics.⁶² In addition, the Act creates incentives for medical residents to enter into primary care in underserved areas⁶³ and funds primary care delivery in mental health centers.⁶⁴ A National Health Care Workforce Commission and National Center for Health Care Workforce Analysis advises Congress on worker supply and demand.⁶⁵ In contrast, the financial commitment to the public health workforce was only \$23 million in 2010.⁶⁶ Specifically, the Act increased loan repayment programs for public health practitioners, created new loan and scholarship options for graduates entering government agencies or seeking continuing education, and established a public health sciences track within the U.S. Public Health Service.⁶⁷

While primary care workers are essential, public health workforces have dwindled due to deteriorating federal tuition assistance and disparate reimbursement rates among health care providers.⁶⁸ Furthermore, while we do not oppose the increased availability of primary care services, these providers do not engage exclusively in preventive services, but devote a significant portion of their time to the provision of health care services. Indeed, primary care providers are likely to continue to focus on the provision of health care services rather than on preventive services, due to financial incentives, medical education centered around the biomedical model, a culture that is preoccupied with access to health care services, and patient demand.⁶⁹

We are cautiously optimistic that some of the Act’s funding allocations will foster integration. For example, depending on the allocation of loans or scholarships or continuing education grants, these may also improve integration if the funds are primarily directed towards joint degrees, such as M.D./M.P.H. programs, or continuing education outside of one’s discipline (for example, physicians attending public health conferences or seminars). Furthermore, nurse practitioner-led clinics may be well-situated to deliver integrated health services as nursing reimbursement models do not discourage preventive care.⁷⁰ In addition, nurse practitioner education conceptualizes health more holistically than medical education, thus bringing a more integrated perspective to the treatment of patients. Data on the services provided in nurse-managed clinics reveal a significant emphasis on primary care services (such as health education, health promotion, and wellness care), as nurse practitioner train-

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ing and practice emphasize the importance of these services.⁷¹

Various projects, such as the Medicine and Public Health Initiative, discussed above, brought together stakeholders from health care and public health to work together towards a common goal.⁷² These types of projects use language like “collaboration,” or “engaging other perspectives.” This wording belies a fundamental change in attitude that must occur for public health and health care to be truly integrated. Participants in joint public health/health care initiatives, while respectful of the other’s perspectives and willing to learn from one another, are still very cognizant of the differences between the two parts of the health system. Furthermore, collaborative efforts are often temporary, rather than permanent, partnerships. Integration must be so ingrained in the health system culture that providers and policymakers intuitively consider the perspectives of both parts of the health system without having to make a conscious effort to do so.

Because providers must have an integrated perspective from the start of their involvement in the health system, it is essential that medical and public health schools also embrace health system integration. When public health is taught in medical school, it is treated as a separate topic and, with students “overwhelmed by the large volume of factual material they are required to learn,” it is “hardly surprising that a largely non-clinical subject is often regarded as an irritating distraction from the real business of medical training.”⁷³ Merely including public health in the medical school curriculum is insufficient: its seamless integration is crucial. David Stone argues that the processes of clinical diagnosis and treatment contain algorithms dependent upon insights from epidemiology and other public health disciplines and that diagnosis requires the integration of data from both clinical assessment and epidemiology. By emphasizing this indivisibility between public health and clinical skills, he argues that medical students are more likely to embrace the importance of population health.⁷⁴ Although there is nothing in the Act to address the lack of integration or cross-disciplinary training in provider education, policymakers may facilitate integration, for example,

through incentivizing students to pursue joint M.D./M.P.H degrees. In addition, federal support for demonstration projects (and the subsequent implementation of successful projects) aimed at facilitating integration in provider education should be a priority in future funding allocations.

E. Infrastructure

The federal government made a limited investment in modernizing outdated public health information technology, surveillance, and laboratory capacity, allocating only \$137 million of the 2011 fund to strengthening infrastructure.⁷⁵ Public health departments must access medical records to track injuries, diseases, and health disparities, and to enable a timely response to health hazards. With respect to integration, a significant missed opportunity was the Act’s failure to authorize state and federal agencies to collect data from electronic health records, and its failure to empower health plans to track benchmarks in health outcomes and preventive care. Stimulus legislation authorized incentive payments in Medicare and Medicaid for providers that exhibited “meaningful use” of electronic health records,⁷⁶ which includes valuable public health measures to track diagnoses, smoking, weight trends, and disparities.⁷⁷ The potential for integration was weakened by the failure of the stimulus law to mandate the collection of this data or to require the submission of reportable laboratory results to public health agencies.⁷⁸

Successful integration between health care and public health necessitates interoperability between data systems.⁷⁹ This would build the evidence base in public health without requiring substantial increased investment.⁸⁰ In allocating state grants to modernize public health information technology systems, the federal government could make funding conditional upon their interoperability with health care data systems. This would position computer systems for greater information sharing if government later revisits the issue of data-sharing from electronic medical records.

V. A Broader View of Integration

Our vision of integration extends beyond conceptualizing health care and public health as two parts of the same system. A fully integrated health system requires that all government policies reflect the ultimate goal of improving the health of the population, which necessitates the adoption of a Health in All Policies (HiAP) approach. The fundamental insight of HiAP is that health is not solely a function of the health system

but is the cumulative result of decisions from many sectors, including agriculture, the economy, housing, the environment, transportation, urban planning, and the justice system.⁸¹ A HiAP approach requires that government consider the impact of all of its policies on the population's health status, and the impact of health on other sectors of society.⁸²

The importance of a HiAP approach is illustrated by obesity, which is typically conceptualized as a health system issue. Although the health care system significantly contributes to the reduction of obesity (e.g., through patient education and pharmaceutical interventions), this complex health problem necessitates the

that the determinants of health are addressed in a more systematic and effective manner.

A HiAP approach requires integration between health and other sectors through cross-disciplinary collaboration and cooperation, shared and compatible data systems, and new organizations, partnerships, and initiatives that transcend traditional boundaries. Incorporating a Health Impact Assessment as part of the policy development process for all sectors of government is a crucial step toward embracing a HiAP approach. A Health Impact Assessment is "a combination of procedures, methods and tools by which a policy, program, or project may be judged as to its

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cooperation of all sectors of governmental policy. For example, agricultural subsidies designed to support farmers resulted in the overproduction of corn. This had the unintended effect of significantly increasing food manufacturers' use of high-fructose corn syrup, contributing to consumption of calorie-dense foods.⁸³ Recently proposed budgetary cuts, which would lead to agricultural subsidy cuts, may affect the future production of corn.⁸⁴

Urban planning decisions similarly contribute to obesity. Half of Americans now live in suburban settings, increasing reliance on automobiles, thereby facilitating sedentary lifestyles and weight gain. Despite the close connection between health and urban planning, public health officials have been largely absent from urban planning policy development.⁸⁵ As we argued earlier with respect to public health and health care, two integrated fields are worth more than the sum of their parts. Thus, "reconnecting public health and [urban] planning will do more than simply add 'biology' to 'social' analyses; it will provide an understanding of health as a continual and cumulative interplay between exposure, susceptibility, and resistance, all of which occur at multiple levels (e.g., individual, neighborhood, national) and in multiple domains (e.g., home, work, school, community)."⁸⁶ Assessing the impact of all policies on health ensures

potential effects on the health of a population, and the distribution of those effects within the population."⁸⁷

The ACA makes some progress towards integrating health care and public health, mainly through fostering prevention in the primary care setting. However, the Act fails to take a broad view of prevention (for example, by addressing health risks in the built environment or health disparities), preferring to facilitate utilization of existing preventive services. Moreover, the Act does not address the intersection between health and other policy portfolios. Although health impact assessments in all sectors of government activity are essential to comprehensively address health risks, the perspectives of other disciplines can be integrated within the existing framework of the Act. For example, in allocating funds to the Council or to state demonstration projects, the federal government can give preference to projects that cut across traditional disciplinary boundaries and engage other government departments. In addition, in appointing members to new bodies tasked with public health responsibilities, policymakers should include individuals from other disciplines. For example, government could appoint an urban planner to the Preventive Services Task Force and an expert in occupational health and safety to the National Health Care Workforce Commission.

VI. Conclusion

The core purpose of a health system ought to be the improvement of the population's health status, which is most effectively and cost-efficiently achieved through a focus on disease prevention and health promotion. The integration of health care and public health is also essential to improving health status. Instead of conceptualizing health care and public health as distinct systems, policymakers should organize and fund them as two components of a single, integrated health system. A failure to integrate "is costly both directly in terms of operating inefficiencies of the health care system and indirectly in terms of lost opportunities to reduce the personal and social burdens of illness as well as medical care costs by improving the health of the population."⁸⁸

The ACA made significant steps in facilitating access to preventive services, but legislators failed to make public health the primary goal of the reform or to take a broad view of public health that includes, for example, the built environment or the social determinants of health. Although the Act did little to mandate the integration of health care and public health, policymakers can implement the legislation in a way that encourages integration — in particular, through new administrative structures, building infrastructure, and the allocation of funds. Specific attention should be devoted to facilitating the implementation of successful integration projects and fostering a culture of integration within provider educational programs. However, policymakers should not be satisfied with capitalizing on integration opportunities within the ACA. In order to maximize gains in the population's health status, government must adopt a broader view of integration that extends beyond the health system: a Health in All Policies Approach.

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13. *Id.*, at 1240, table 2 (finding that tobacco contributed to 435,000 deaths, poor diet and inadequate activity to 365,000, alcohol to 85,000, motor vehicle accidents to 43,000, firearms to 29,000, risky sexual behavior to 20,000, and illicit substance abuse to 17,000).
14. For example, see D. E. Peterson, S. L. Zeger, P. L. Remington, and H. A. Anderson, "The Effect of State Cigarette Tax Increases on Cigarette Sales," *American Journal of Public Health* 82, no. 1 (1992): 94-96.
15. See generally Booske et al., *supra* note 4, at 4, noting that a comprehensive literature review reveals that social and environmental circumstances account for 28% of health outcomes, whereas health care accounts for only 14%.
16. S. Srinivasan, L. R. O'Fallon, and A. Dearry, "Creating Healthy Communities, Healthy Homes, Healthy People: Initiating a Research Agenda on the Built Environment and Public Health," *American Journal of Public Health* 93, no. 9 (2003): 1446-1450, at 1446. See also F. Khan, "Combating Obesity through the Built Environment: Is There a Clear Path to Success?" *Journal of Law, Medicine & Ethics* 39, no. 3 (2011): 387-393.
17. L. O. Gostin, J. I. Boufford, and R. M. Martinez, "The Future of the Public's Health: Vision, Values, and Strategies," *Health Affairs* 23, no. 4 (2004): 96-107, at 107 note 29 (citing studies relating to the built environment); Centers for Disease Control and Prevention, "Ten Great Public Health Achievements – United States, 1900-1999," *Morbidity and Mortality Weekly Report* 48, no. 12 (1999): 241-248, at 241, available at <<http://www.cdc.gov/mmwr/PDF/wk/mm4812.pdf>> (last visited June 22, 2011) (noting that 25 years of a 30-year increase in average lifespan was attributable to public health measures).
18. In 2000, exposure to microbial or toxic agents resulted in 130,000 deaths. See Mokdad et al., *supra* note 12, at 1240 table 2.
19. For a more detailed discussion of the importance of public health, see L. O. Gostin, P. D. Jacobson, K. L. Record, and L. E. Hardcastle, "Restoring Health to Health Reform: Integrating Medicine and Public Health to Advance the Population's Well-Being," *University of Pennsylvania Law Review* 159 (2011): 101-147.
20. A. M. Brandt and M. Gardner, "Antagonism and Accommodation: Interpreting the Relationship between Public Health and Medicine in the United States during the 20th Century," *American Journal of Public Health* 90, no. 5 (2000): 707-715, at 708.
21. R. Axelsson and S. B. Axelsson, "Integration and Collaboration in Public Health: A Conceptual Framework," *International*

- Journal of Health Planning and Management* 21, no. 1 (2006): 75-88, at 78.
22. See Brandt and Gardner, *supra* note 20, at 708.
 23. R. F. Kushner, "Barriers to Providing Nutrition Counseling by Physicians: A Survey of Primary Care Practitioners," *Preventive Medicine* 24, no. 6 (1995): 546-552, at 551 (finding that low reimbursement rates incentivize physicians to spend five or fewer minutes discussing the importance of nutrition with patients).
 24. Hospital Survey and Construction Act, ch. 958, 60 Stat. 1040 (1946).
 25. J. M. McGinnis, "Can Public Health and Medicine Partner in the Public Interest?" *Health Affairs* 25, no. 4 (2006): 1044-1052, at 1048.
 26. J. Gruber, "A Win-Win Approach to Financing Health Care Reform," *New England Journal of Medicine* 361, no. 1 (2009): 4-5, at 4.
 27. M. Breton, J. F. Levesque, R. Pineault, L. Lamothe, and L. J. Denis, "Integrating Public Health into Local Healthcare Governance in Quebec: Challenges in Combining Population and Organization Perspectives," *Healthcare Policy* 4, no. 3 (2009): 159-178, at 169.
 28. S. J. Leischow and B. Milstein, "Systems Thinking and Modeling for Public Health Practice," *American Journal of Public Health* 96, no. 3 (2006): 403-405, at 404.
 29. *Id.*, at 404.
 30. See Rundall, *supra* note 5, at 15.
 31. R. G. Brooks, L. M. Beitsch, P. Street, and A. Chukmaitov, "Aligning Public Health Financing with Essential Public Health Service Functions and National Public Health Performance Standards," *Journal of Public Health Management Practice* 15, no. 4 (2009): 299-306; C. Atchison, M. A. Barry, N. Kanarek, and K. Gebbie, "The Quest for an Accurate Accounting of Public Health Expenditures," *Journal of Public Health Management Practice* 6, no. 5 (2000): 93-102.
 32. *Id.* (Brooks et al.), at 299.
 33. M. St-Pierre, D. Reinharz, and J. B. Gauthier, "Organizing the Public Health-Clinical Health Interface: Theoretical Bases," *Medicine, Health Care and Philosophy* 9, no. 1 (2006): 97-106, at 99.
 34. For example, see D. B. Abrams, C. T. Orleans, R. S. Niaura, M. G. Goldstein, J. O. Prochaska, and W. Velicer, "Integrating Individual and Public Health Perspectives for Treatment of Tobacco Dependence Under Managed Care: A Combined Stepped-Care and Matching Model," *Annals of Behavioral Medicine* 18, no. 4 (1996): 290-304.
 35. See Brandt and Gardner, *supra* note 20, at 712.
 36. See St-Pierre et al., *supra* note 33, at 99.
 37. D. Hemenway, "Why We Don't Spend Enough on Public Health," *New England Journal of Medicine* 362, no. 18 (2010): 1657-1658, at 1657.
 38. For example, see R. A. Cherry, "Repeal of the Pennsylvania Motorcycle Helmet Law: Reflections on the Ethical and Political Dynamics of Public Health Reform," *BMC Public Health* 10 (2010): 202-205.
 39. See A. L. Sensenig, "Refining Estimates of Public Health Spending as Measured in National Health Expenditures Accounts: The United States Experience," *Journal of Public Health Management* 13, no. 2 (2007): 103-14, at 108 table 1.1 (reporting that public health represented three percent of total health expenditures in 2004).
 40. For example, see J. Levi, R. St. Laurent, L. M. Segal, and S. Vinter, *Shortchanging America's Health: A State-by-State Look at How Public Health Dollars Are Spent and Key Health Facts, 2010*, at 1, available at <<http://healthyamericans.org/assets/files/shortchanging09.pdf>> (last visited June 22, 2011) (finding that federal public health spending has not changed in the last five years and state governments have recently cut spending).
 41. The Clinical Preventive Services Task Force (under the Agency for Healthcare Research and Quality) is charged with developing recommendations regarding the efficacy of clinical preventive services. ACA § 4003(a), 124 Stat. 119, 541-42.
 42. The Department of Health and Human Services' Advisory Group on Prevention, Health Promotion, and Integrative and Public Health will advise the National Prevention, Promotion, and Public Health Council, chaired by the Surgeon General. The Council is in the process of developing a National Prevention Strategy and will issue recommendations to Congress by 2011. *Id.* § 4001, 124 Stat. at 538-41.
 43. See St-Pierre et al., *supra* note 33, at 97.
 44. U.S. Department of Health and Human Services, *Building Healthier Communities by Investing in Prevention*, available at <<http://www.healthcare.gov/news/factsheets/prevention02092011b.html>> (last visited June 22, 2011).
 45. The Fund is the first guarantee of federal monies appropriated towards prevention on an annual basis. The amounts, however, are nominal: 1.5 billion dollars in the fiscal year 2014 and two billion per annum thereafter, ACA § 4002(b), 124 Stat. at 541. In contrast, estimates indicate that annual funding of \$4.3 billion is necessary merely to sustain support for public health activities, while the cost of a modernized system is estimated at \$18 billion annually (J. Levi, C. Juliano, and M. Richardson, "Financing Public Health: Diminished Funding for Core Needs and State-by-State Variation in Support," *Journal of Public Health Management & Practice* 13, no. 2 [2007]: 97-102, at 100).
 46. ACA § 4201(f), 124 Stat. at 566; *id.* § 4002(b), 124 Stat. at 541.
 47. Shortly after President Obama signed the ACA into law, Senators Johanns and Thune introduced an amendment to divert \$11 billion from the Prevention Fund into the general federal budget to compensate for lost tax revenue that would have resulted from the proposed repeal of small business tax reporting requirement. *Small Business Paperwork Mandate Elimination Act*, S.3578, 111th Cong. (2010).
 48. H. K. Koh and K. G. Sebelius, "Promoting Prevention through the Affordable Care Act," *New England Journal of Medicine* 363, no. 14 (2010): 1296-1299, at 1297.
 49. ACA § 4108, 124 Stat. at 561-64.
 50. ACA § 4201, 124 Stat. at 564-66.
 51. See U.S. Department of Health and Human Services, *supra* note 44.
 52. L. M. Beitsch, R. G. Brooks, J. H. Glasser, and Y. D. Coble, "The Medicine and Public Health Initiative: Ten Years Later," *American Journal of Preventive Medicine* 29, no. 2 (2005): 149-153, at 150.
 53. *Id.*, at 150.
 54. T. R. Oliver, "The Politics of Public Health Policy," *Annual Review of Public Health* 27 (2006): 195-233, at 195.
 55. Although there is a grant program to fund the implementation of efficacious strategies, this program focuses only on implementing preventive strategies from the federal task force, not the state demonstration projects. It is also given meager funding.
 56. Qualified health plans include those participating in state-based exchanges immediately, and all group plans by 2014. States cannot impose cost-sharing for annual check-ups on any Medicaid beneficiaries, and must also cover smoking cessation services free of charge for pregnant women immediately and for all beneficiaries by 2014. While states are not required to eliminate cost-sharing for other preventive services, they will receive a one percent increase in federal medical assistance for doing so. ACA § 4107, 124 Stat. at 560-61.
 57. As of 2008, fewer than 30 percent of private sector employers offered wellness incentives to employees, even though for every dollar spent on a wellness promotion, employers save approximately five times as much on health care costs and lost productivity. See E. R. Stolfus, *Access to Wellness and Employee Assistance Programs in the United States*, Bureau of Labor Statistics, 2009, at charts 2-3, available at <<http://www.bls.gov/opub/cwc/cm20090416ar01p1.htm>> (last visited June 22, 2011) (showing that 25 percent of all private sector workers had access to wellness programs in 2008); U.S. Department of Health and Human Services, *Prevention Makes*

- Common “Cents,” U.S. Department of Health and Human Services, 2003, at 23, available at <<http://aspe.hhs.gov/health/prevention/prevention.pdf>> (last visited June 22, 2011) (noting a study of nine large private employers that found their health promotion and disease management programs “with the range of benefit-to-cost ratios, ranging from \$1.49 to \$4.91 in benefits per dollar spent on the program”).
58. The ACA authorizes the Department of Health and Human Services, Department of the Treasury, or the Secretary of Labor to increase the incentive valuation cap to up to 50 percent of the value of the plan. Federal wellness program grants will distribute \$200 million between 2011 and 2015 to employers with fewer than a hundred employees. ACA § 10408, 124 Stat. at 977-78.
 59. V. Navarro, “What We Mean by Social Determinants of Health,” *International Journal of Health Services* 39, no. 3 (2009): 423-441, at 424, where the author cites evidence that in East Baltimore, a black unemployed youth has a lifespan 32 years shorter than a white corporate lawyer, and a blue-collar worker is 2.8 times more likely than a businessman to die from a cardiovascular condition.
 60. J. Gruber, *The Role of Consumer Copayments for Health Care: Lessons from the RAND Health Insurance Experiment and Beyond*, 2006, at 6, available at <<http://www.kff.org/insurance/upload/7566.pdf>> (last visited June 22, 2011). Although the study found that for most people, the presence of co-payments did not translate to adverse health effects, low-income individuals who were also in poor health assigned to the free plan performed better on various health indicators than those in the co-insurance plan.
 61. *Id.*, at 6.
 62. This is significant not only for its monetary value, but also because the Prevention Fund was created to strengthen non-clinical preventive activities. Allocating such a substantial portion of the Fund towards clinical providers defeats this goal in part. See generally U.S. Department of Health & Human Services, *Fact Sheet: Creating Jobs and Increasing the Number of Primary Care Providers*, available at <<http://www.healthreform.gov/newsroom/primarycareworkforce.html>> (last visited June 22, 2011).
 63. ACA § 10501, 124 Stat. at 1000-01.
 64. ACA § 5604, 124 Stat. at 679-80.
 65. The Commission and Center will produce a National Care Workforce Assessment. ACA § 5103, 124 Stat. at 603-06.
 66. Trust for America's Health, *Prevention and Public Health Fund to Jumpstart Community-Based Prevention Programs*, Press Release, 2010, available at <<http://healthyamericans.org/newsroom/releases/?releaseid=215>> (last visited June 22, 2011).
 67. ACA §§ 4002, 5204, 5206, 5313, 5314, 5315.
 68. For example, see Institute of Medicine, *Who Will Keep the Public Healthy?: Educating Public Health Professionals for the 21st Century*, 2002, at 51; Association of Schools of Public Health, *Creating a Culture of Wellness: Building Health Care Reform on Prevention and Public Health*, 2009, at 2, available at <<http://www.asph.org/UserFiles/Prevention-and-Public-Health-Strategies-for-HC-Reform-asph-policy-paper2009.pdf>> (last visited June 22, 2011).
 69. With respect to financial incentives, see, e.g., T. Gosden, L. Pedersen, and D. Torgerson, “How Should We Pay Doctors? A Systematic Review of Salary Payments and Their Effect on Doctor Behaviour,” *QJM: An International Journal of Medicine* 92, no. 1 (1999): 47-55 (concluding that salaries are associated with more preventive care and longer physician consultations). For a critique of medical education's focus on the biomedical model, see, e.g., D. Muller, Y. Meah, J. Griffith, A. Palermo, A. Kaufman, K. L. Smith, and S. Lieberman, “The Role of Social and Community Service in Medical Education: The Next 100 Years,” *Academic Medicine* 85, no. 2 (2010): 302-309, at 304, where the authors argue that “[t]he current focus in medical education on a biomedical model and organ-specific interventions, rather than on the characteristics of the family unit, the community, and the social and physical environment that contribute to health and disease, is inadequate.” With respect to the public's preoccupation with, and thus demand for, health care services, see Hemenway, *supra* note 37.
 70. For example, nurses are generally reimbursed by salary, while many physicians continue to be paid on a fee-for-service basis. The former is associated with longer patient consultations and the provision of more preventive services (Gosden et al., *id.*).
 71. V. H. Barkauskas, P. Schaffer, J. G. Sebastian, J. M. Pohl, R. Benkert, J. Nagelkerk, M. Stanhope, S. C. Vonderheid, and C. L. Tanner, “Clients Served and Services Provided by Academic Nurse-Managed Centers,” *Journal of Professional Nursing* 22, no. 6 (2006): 331-338, at 335.
 72. See Beitsch et al., *supra* note 52.
 73. D. H. Stone, “Public Health in the Undergraduate Medical Curriculum: Can We Achieve Integration?” *Journal of Evaluation in Clinical Practice* 6, no. 1 (2000): 9-14, at 11.
 74. *Id.*
 75. See U.S. Department of Health and Human Services, *supra* note 44.
 76. *American Recovery and Reinvestment Act of 2009*, Pub. L. No. 111-5, § 4101(a), 123 Stat. 115, 467-72 (2009).
 77. For a concise analysis of mandatory and discretionary “meaningful use” of electronic health records, see D. Blumenthal and M. Tavenner, “The ‘Meaningful Use’ Regulation for Electronic Health Records,” *New England Journal of Medicine* 363, no. 5 (2010): 501-504.
 78. *Id.*, at 501.
 79. S. Hoffman and A. Podgurski, “Improving Health Care Outcomes through Personalized Comparisons of Treatment Effectiveness Based on Electronic Health Records,” *Journal of Law, Medicine & Ethics* 39, no. 3 (2011): 425-436.
 80. For example, see B. Robinson, “Health IT Key to National Health Security Plan,” Government Health IT, 2010, available at <<http://www.govhealthit.com/newsitem.aspx?tid=74&nid=74316>> (last visited May 17, 2011) (noting that the Department of Health and Human Services' Biennial Implementation Plan for national security necessitates real time access to all electronic health records in the event of a national emergency).
 81. For a general discussion of HiAP, see T. Stahl, M. Wismar, E. Ollia, E. Lahtinen, and K. Leppä, *Health in All Policies: Prospects and Potentials*, Finland Ministry of Social Affairs and Health and the European Observatory on Health Systems and Policies, 2006.
 82. W. E. Parmet, *Populations, Public Health, and the Law* (Washington, D.C.: Georgetown University Press, 2009): at 2 (introducing her theory of “population-based legal analysis,” according to which, the “law must acknowledge the critical importance of populations”).
 83. See L. S. Elinder, “Obesity, Hunger, and Agriculture: The Damaging Role of Subsidies,” *BMJ* 331, no. 7528 (2005): 1333-1336.
 84. J. Steinhauer, “Farm Subsidies Become Target Amid Spending Cuts,” *New York Times*, May 7, 2011, at A13.
 85. See W. C. Perdue, L. A. Stone, and L. O. Gostin, “The Built Environment and Its Relationship to the Public's Health: The Legal Framework,” *American Journal of Public Health* 93, no. 9 (2003): 1390-1394, at 1393 (stating ways in which the built environment is adversely affected by laws and suggesting that the public attempt to influence legislatures).
 86. J. Corburn, “Confronting the Challenges in Reconnecting Urban Planning and Public Health,” *American Journal of Public Health* 94, no. 4 (2004): 541-546, at 544.
 87. World Health Organization, “Health Impact Assessment,” available at <<http://www.euro.who.int/en/what-we-do/health-topics/environmental-health/health-impact-assessment>> (last visited June 22, 2011); R. Quigley, R. L. den Broeder, P. Furu, A. Bond, B. Cave, and R. Bos, *Health Impact Assessment International Best Practice Principles*, Special Publication Series No. 5, International Association for Impact Assessment, 200688. S. Bondurant, “A New Chapter in an Old Story: Medicine and Public Health,” *Transactions of the American Clinical and Climatological Association* 108 (1997): 1-25, at 4.