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Reversing the Slide in US Health Outcomes and Deteriorating Health Care Economics

The foreword of a 2013 National Research Council and Institute of Medicine (IOM) report on international comparisons of health could not be more frank:

> The United States spends much more money on health care than any other country. Yet Americans die sooner and experience more illness than residents in many other countries. While the length of life has improved in the United States, other countries have gained life years even faster, and our relative standing in the world has fallen over the past half century.[1]

Although minority populations and the poor suffer the largest gap in health status, the diversity of the US population does not explain the gap between the United States and its peer nations. Even the highly educated, wealthy, non-Hispanic white US population has poorer health than its counterparts in Europe and the United Kingdom.[2]

The United States spends nearly 18% of its gross domestic product on a clinical care system that is inefficient, is frequently ineffective, and at most can address only about 20% of the determinants of health.[3] Despite these facts, the country has yet to find the will to create and finance the programs that most strongly promote health and well-being rather than simply expand the health care sector.

In this issue of *Mayo Clinic Proceedings,* two teams of authors address the root causes of the chronic disease burden, and two other teams of authors propose solutions. Hebert et al[4] argue that sloppy science and imprecise thinking have created barriers to our understanding of the root causes of the obesity epidemic. They contend that this, in turn, has constrained the creativity and stifled the thinking that could have advanced the prevention and treatment of obesity and its complications. Shuval et al,[5] analyzing data from the Cooper Center Longitudinal Study, report that individuals with a family history of heart disease, diabetes, or cancer, even though at higher risk for adverse health outcomes, are even less likely than others to meet or exceed physical activity guidelines. Joyner and Warner[6] propose a solution to simultaneously improve health and generate revenue to pay for population health initiatives and other programs: they recommend increasing "sin taxes" on tobacco and alcohol and expanding their reach to sugared beverages and fatty foods. Finally, Arena et al[7] present data that worksite health promotion programs offer an opportunity to prevent cardiovascular disease, and that these programs should be attractive to employers because health care costs can be reduced and productivity improved within just a few years.

In their Commentary, Joyner and Warner[6] argue that sin taxes are justified to raise funds for improving population health because they are Pigovian taxes, ie, taxes that recover some of the cost burden (in this case, increased health care costs) that a private activity places on society. A modest tax on the products identified by Joyner and Warner would create a significant and sorely needed revenue stream. This past year, the IOM Committee on Public Health Strategies to Improve Health recommended a different source for the financing of population health initiatives.[8] While acknowledging that eliminating waste and making other changes to the clinical care system could save large amounts of money, the committee called attention to the need for the nation to do much more:

See also pages 536, 588, 593, and 605.

> Therefore, it is no longer sufficient to expect that reforms in the medical care delivery system (for example, changes in payment, access and quality) alone will improve the public's health. Large proportions of the U.S. disease burden are preventable. The failure of the health system (which includes medical care and governmental public health) to develop and deliver effective preventive strategies is taking a large and growing toll not only on health, but on the nation's economy.[8]

To improve the nation's health, the committee called for data collection, reporting, and action—including public policy and laws informed by data and quality metrics—to support activities that would alter the physical and social environment. As the final of 10 recommendations, the committee suggested that Congress establish a 6% tax on all medical care transactions to close the gap between currently available and needed federal funds.[8] Based on the calculations from another IOM report, this 6% tax could be offset entirely if health care waste was reduced by as little as 20%.[9]

But even if we can do all of these things, a question remains: In addition to thinking clearly about its problems and increasing revenue, what else does the country need to do to enjoy the health status that other nations have achieved?

Four broad areas determine health: clinical care, social and economic factors, the physical environment, and health behaviors.[10] Improving social and economic factors and the physical environment leads directly to improved health. These same factors can indirectly improve health by enabling healthier behaviors. As noted by Joyner and Warner,[6] making behaviors healthier could reduce health care costs because behaviors determine about 30% of health status.[11] As described in detail by Arena et al,[7] one way to promote the adoption of healthier behaviors is through worksite health and safety programs. These programs have been shown to be an effective incentive for behavior change; for every dollar spent, medical costs decrease by $3.27, and absenteeism costs decline by $2.73.[12] These benefits are attractive to employers because they accrue within as little as 3 years.[12]

None of this will happen without leadership, agenda setting, and cross-sectoral participation. For example, agricultural policymakers must participate in the initiative because agricultural policy will influence whether people can afford to buy healthy foods and, in a relative sense, are discouraged from buying the unhealthy products that Joyner and Warner[6] propose taxing. Individuals with a family history of chronic disease must be helped to understand that *much* of the familial burden of disease is due to mutable factors like behaviors practiced in common, independent of immutable genes held in common.

To advance cross-sectoral approaches, Finland promoted the concept of "health in all policies" when it held the presidency of the European Union.[13,14] The goal of health in all policies is to help "indirect" sectors (eg, agriculture, environment, education, housing, transportation, trade, treasury, labor) understand that their policies can have a large impact on health and to influence these indirect sectors to create policies that are most likely to produce and protect health. A group of thought leaders in the United States is promoting similar intersectoral action with a concept it named *accountable health communities*.[15] Because there is no well-established mechanism at the local level to discuss or manage the balance of investments in health care and other determinants of health, these leaders have proposed the creation of voluntary regional organizations. These organizations would work with community stakeholders to (1) review local data on the 3 aims of the National Quality Strategy (improve health, provide better care, and make care affordable[16]), (2) create shared goals, actions, and investments to meet the 3 aims, and (3) involve citizens in local delivery system reform and stewardship of financial resources. They envision that these accountable health communities would help cocreate a sustainable health system.[15] Supported by the Robert Wood Johnson Foundation, the Population Health Institute at the University of Wisconsin has created an interactive website that can be used to identify the opportunities and tools to improve health in every US county.[11]

Of concern for long-term health care financing, it can be imagined that programs designed to increase well-being and healthy life expectancy with population-level initiatives might increase, not reduce, overall health care costs. For example, the tobacco industry has

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suggested that reducing tobacco consumption in the Czech Republic would increase costs by increasing the country's pension and senior housing burden.[17] A standard of bridling programs aimed at short- and intermediate-term benefit to populations to avoid potential long-term costs related to enhanced longevity has never been applied to clinical medicine. Those who object to population health initiatives because they believe that patients seen in private clinical practices are somehow different than "the public" need to remember that the public consists of individuals aggregated upward through families, neighborhoods, communities, states, and countries. Unlike health care, in which a bright line divides private clinical services and public health, the public is a melding of individuals rather than a separate entity. Population health initiatives result in better health for individuals.

No single strategy—better science, more education, taxes on consumer products and health care, programs that promote personal behavior change in the worksite and community, or improved social conditions and physical environments—will reverse the United States' decline in health status relative to its peers. Likewise, no single program will relieve the economic burden of the country's health care costs. The United States is facing a systems problem that requires a systems solution. However, there is evidence that the problem can be solved if the health care system is conceptualized as a complex adaptive system and its stakeholders commit to following a few simple rules.[18] If the political will to create a system that addresses the root causes of poor health and the high cost of health care can be mustered, there is no reason to believe that the United States cannot produce the healthiest individuals and healthiest communities in the world.

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