A Population Health Framework for Setting National and State Health Goals

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With the appointment of the US Department of Health and Human Services Advisory Committee on National Health Promotion and Disease Prevention for 2020, the process for setting national health goals in 2009 for the coming decade is under way. The Healthy People 2010 goals and objectives have served as the framework for establishing outcomes for virtually every public health planning process in the United States from National Institutes of Health grants to federal health programs and to state and local health plans. Although an initial process produced a Draft Model with 4 guiding principles and a proposal for a smaller number of objectives for Healthy People 2020, a specific framework has not yet been decided and will be established after a series of public hearings.[1]

This Commentary proposes a population health guiding framework for national and state planning processes, including both broad overall goals as well as a prioritized set of policies and interventions aligned with the multiple determinants of health.

The ultimate purpose of population health policy is to improve the health of individuals and populations by investments in the determinants of health through policies and interventions that influence these determinants.[2] Without careful attention to the outcomes, attention to determinants and policies could proceed without reference to the ultimate goals and become ends instead of means to an end. A shortcoming of this step of broader goal setting is that it is often framed in general terms without quantification, so it is not likely that the impact of making progress on some objectives can be assessed. Healthy People 2010[3] devoted significant attention to the 467 objectives in 28 focus areas, but the 2 broad goals of "increasing quality and years of healthy life" and "eliminating disparities" did not have specified quantitative targets. Although the "Healthy People in Healthy Communities" model in Healthy People 2010 contains health determinant categories, the focus areas are presented alphabetically rather than by determinant.

The Figure is a model that could be a starting point for a framework more precisely aligned to a population health perspective. The right side represents a way of conceptualizing broad population health outcomes. Previous health improvement frameworks have identified both increasing the overall population mean, as well as reducing and eliminating disparities within the population. Within disparities, multiple domains could be policy targets such as race/ethnicity, socioeconomic status, sex, and geographic location. In addition, such outcomes should include both length of life (mortality) and health-related quality of life.

Although it is possible to combine all 4 quadrants into a single summary measure, considering them separately is important because different patterns of determinants will probably produce different changes in each of them. Each quadrant in the Figure is arbitrarily sized equally, and similarly the domain bars within the disparity quadrants are depicted as equal. It is probably not the case that each quadrant or domain should receive equal weight. This is not an empirical issue but rather one of social valuation for different nations, states, or other population groups to decide. The point of presenting them this way is to encourage such consideration as a component of goal setting, which has been done occasionally. For example, the World Health Report 2000 weighted the mean and disparity equally based on a survey of about 1000 respondents.[4] Similarly in a State Health Report Card for Wisconsin,[5] equal weighting was primarily used, although the method used for summarizing disparities across domains resulted in slight variation from equality.

The Figure's left-hand side represents the determinants of the population health outcomes represented on the Figure's left side. Based on the Evans-Stoddart model,[6] these determinants are divided into 5 categories. For example, medical care includes prevention, treatment, and management of disease. Examples of individual behaviors are smoking, exercise, and eating habits. The social environment includes socioeconomic factors, most often measured by income, educational level, and occupation, while the physical environment consists of air and water quality as well as the built environment, ie, the constructed structures such as buildings, roads, parks, and other physical infrastructure that make up communities. Genetics refers to inher-

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ited characteristics that determine health outcomes, most of which are unmodifiable at this time although genomics holds some promise for future intervention.

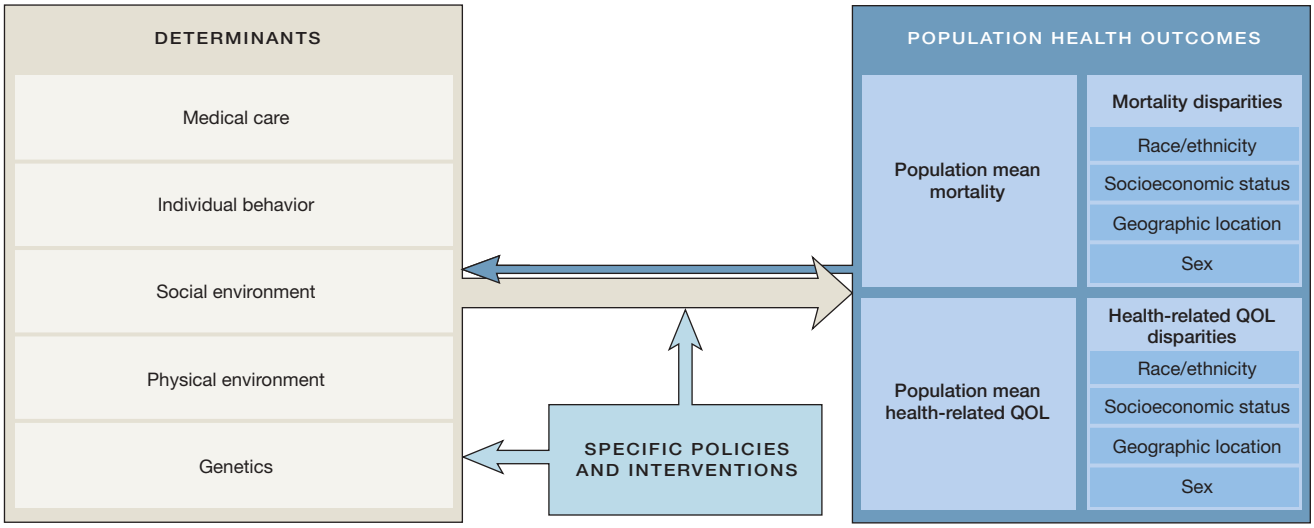
Although these determinant categories are listed independently, they have substantial and complex interactions with each other over the life course. The Figure also contains a small arrow going from outcomes to the determinant categories. This is a reminder that some outcomes also have a "reverse causality" on determinants; an example is that certain social determinants, like income, have an impact on outcomes, yet the health outcome of being unhealthy also can have a negative effect on income.

These determinants are drawn as making equal contributions to outcomes. Although this is ultimately an empirical question rather than one of social valuation, it is unlikely that the equality depicted is correct. For example, McGinnis et al[7] indicated that about 40% of deaths are caused by behavioral factors and assigned 30% to genetics, 15% to social circumstances, 10% to medical care, and 5% to physical environmental exposures. In contrast, Cutler et al[8] assigned a 50% weight to medical care while including sensitivity analysis varying this weight from 25% to 75%. These differences exist because such cross-sectoral economic analysis is complicated by issues of interactions between determinants and the latency over time of their effects; Stoddart[9] has called understanding the balance of determinants the "fantasy equation," reflecting the difficulty of such analysis.

However, recognizing the complexities involved should not deter further investigation, and at the very least specific policy and intervention objectives should be grouped under these or similar determinant categories. Evidence from growing literature on multiple determinants of health and health disparities should be combined with expert opinion to rank policy and intervention objectives within determinant categories, as well as perhaps ranking the determinant categories themselves. Wherever possible, economic evaluation information should be included so that the relative cost-effectiveness of a policy or intervention (such as quality-adjusted life-years gained per dollar invested) beyond simple effectiveness is considered. It would also be useful to have estimates of current levels of investment in the different determinant and specific objective categories while discussing 2020 goals and objectives. Given current knowledge, the accuracy of such rankings will be imperfect, although it is equally imperfect to imply that each of the 467 objectives in Healthy People 2010 would have had equal impact on population health outcome goals however specified.

An additional consideration involves target setting. In ranking processes such as those used in *The World Health Report 2000*[10] and *America's Health Rankings 2007*,[11] progress is implied by moving up in the rankings over some period. Such ranking improvement is relative to the performance of other nations or states and not articulated as specific absolute improvement (it is possible to improve a rank while declining if all others are decreasing more rapidly). Because Healthy People 2010 is not a comparative process, no targets or goals for overall mean improvement and disparity reduction outcomes were specified, although they were for many specific objectives. It is useful for such planning processes to at least consider setting 5- to 10-year targets for broad outcomes, even if only looking at past trends in

Figure. A Schematic Framework for Population Health Planning



The right side conceptualizes broad population health outcomes. The left side represents the determinants of population health outcomes. The quadrants in the outcomes component are arbitrarily sized equally, as are both the disparity domains within outcomes and the determinant categories. QOL indicates quality of life.

comparison to other nations or states and set a range of goals from minimal to achievable to challenging. Target setting is particularly useful when considering a balanced set of health outcomes such as those proposed herein. For example, the possibility that improving the population mean might actually increase disparities in subpopulations[12] can become more apparent in such a target-setting process.

The processes used for such goal setting require care if the results are to become useful in guiding policy makers at all levels and in the public and private sectors. Although experts play an important role in supplying data and evidence where it exists, policy makers at all levels need to be actively involved, particularly when value choices are required.[13] There is no right answer to the relative importance of the outcome cells in the Figure, and full discussions are likely to produce different estimates in different settings for different populations. But only with such combination of top-down and bottom-up approaches will such goals and objectives be owned by the populations in question and serve as active guidance for multisectoral investment choices in an era of limited resources.[14]

Only once in a decade does the United States invest significant time and energy in seriously thinking about health goals and objectives for the nation. Every decade the Healthy People process has changed and matured. Incorporating priority setting tied to investment choices could make the process much more useful to policy makers in the coming decades as they try to make the most cost-effective decisions from a modern population health perspective.

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A Clinical Blueprint to Accelerate the Elimination of Tobacco Use

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On May 7, 2008, the US Public Health Service (PHS) released the Clinical Practice Guideline *Treating Tobacco Use and Dependence: 2008 Update*.[1] This guideline describes how clinicians and health care systems can significantly reduce tobacco use prevalence by delivering evidence-based treatments to their patients who smoke.

The story of tobacco control efforts over the last half-century is one of remarkable progress and promise. In 1965, current smokers outnumbered former smokers 3 to 1. During the past 40 years, the rate of quitting has so outstripped the rate of initiation that, today, there are more former smokers than current smokers.[2] Since tobacco use rates peaked in the 1960s, smoking prevalence among adults has decreased by half, to about 20% today.[2] Moreover, 40 years ago smoking was viewed as a habit rather than as a chronic disease, and smokers had no access to scientifically validated treatments.

Today numerous effective treatments exist and progress in the war against tobacco is accelerating. For instance, remarkable advances have been made in the scant dozen years

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