

Taking On the Social Determinants of Health

A Framework for Action

In order to improve health, we have to address poverty, poor nutrition, physical inactivity, and other big concerns. Here's how to start.

By Thomas E. Kottke, M.D., M.S.P.H., and Nicolaas P. Pronk, Ph.D.

Health is both a personal good and a public good. Without health, it is difficult to achieve either emotional or financial well-being. Yet, the United States, which expends more resources per capita and spends a higher proportion of its gross domestic product on health care than any other country, ranks among the bottom of industrialized nations in many measures of good health.

Since British epidemiologist Sir Michael Marmot first studied British civil servants in the 1970s and found that people in high-status jobs tended to be healthier than those in low-status jobs,¹ we have become increasingly aware of the fact that socioeconomic factors are powerful determinants of health. Marmot has since identified the 10 most important social determinants of health: low social status, relentless stress, adversity in early life, social exclusion, stress at work, unemployment, absence of social support, addiction, poor nutrition, and an environment that promotes physical inactivity (Table).² Access to health care is not among the top 10.

Many have since pointed out that health care alone cannot counteract the effects of these factors and, thus, our nation's large health care expenditures don't promote health. The authors of the 2002 Institute of Medicine report "The Future of the Public's Health in the 21st Century" observed that "social and environmental factors create unnecessary health risks for individuals and entire communities," and because of the nature of these risks, "the nation's heavy investment in the personal health care system is a limited future strat-

egy for promoting health."³

Others have made similar observations. University of California San Francisco professor Steven Schroeder, M.D., recently asserted that "the pathways to better health do not generally depend on better health care."⁴ Schroeder pointed out that although the United States spends more per capita and assigns a higher proportion of its gross domestic product to health care than any other industrialized nation, it ranks 25th among Organization for Economic Co-operation and Development countries in infant mortality, 22nd in maternal mortality, 23rd and 22nd in life expectancy for women and men, respectively, from birth, and 10th and 9th in life expectancy for women and men from age 65.⁴ Limiting the comparison to whites does little to change the rankings.

We recently developed a statistical model that shows the limited effect of cardiac care. The model shows that offering optimal, evidence-based treatment at the time of an acute cardiac event would only prevent or postpone 8% of all deaths among middle-aged Americans. By comparison, 47% of all deaths among this group could be prevented or postponed if everyone met dietary and physical activity guidelines and did not smoke.⁵

Clearly, if we want to improve the health of individuals, we need to address the real determinants of their health. But how do we accomplish such an enormous task? Where do we begin? It's a significant challenge, but there are strategies that will help us make headway.

Measure Health Determinants

It has been observed that measurement is a prerequisite for organizational action. Thus, we suggest the prerequisite for improving health in Minnesota is measuring the impact of various things that influence it. This would help us figure out where our greatest needs lie.

Our next-door neighbor, Wisconsin, has already begun such an undertaking. With the goal of encouraging everyone to work together on improving health in the state, the University of Wisconsin Population Health Institute developed a way to assess the health effects (premature mortality and self-reported health status) associated with various determinants (Figure).⁶ Through this assessment, they have learned that mortality, measured by years of potential life lost, varies more than 3-fold among Wisconsin counties and that the reasons for loss of life years differ among the counties. The institute issues briefs on topics emerging from the data. Recent briefs have addressed the health effects of a proposal to lower the legal drinking age to 18 and of increasing physical activity among children. Their hope is that the information will encourage leaders from all sectors to partner with public health departments and health care providers in order to take action on specific determinants. The institute recently received a grant from the Robert Wood Johnson Foundation that extends the monitoring program throughout the United States.

Another way to measure the effect of various determinants on health is with the State of the USA (SUSA) metrics. State

Table

Social Determinants of Health

The social gradient	People further down the social ladder usually run at least twice the risk of serious illness and premature death as those near the top.
Stress	Continuing anxiety, insecurity, low self-esteem, social isolation, and lack of control over work and home life have powerful effects on health.
Early life	Slow growth and poor emotional support raise the lifetime risk of poor physical health and reduce physical, cognitive, and emotional functioning in adulthood.
Social exclusion	The unemployed, many ethnic minority groups, guest workers, disabled people, refugees, and homeless people are at particular risk. Those living on the streets suffer the highest rates of premature death.
Work	Evidence shows that stress at work plays an important role in contributing to the large social status differences in health, sickness absence, and premature death.
Unemployment	Evidence from a number of countries shows that, even after allowing for other factors, unemployed people and their families suffer a substantially increased risk of premature death.
Social support	Belonging to a social network makes people feel cared for, loved, esteemed, and valued. This has a powerful protective effect on health.
Addiction	Drug use is both a response to social breakdown and an important factor in worsening the resulting inequalities in health. Smoking is a major drain on poor people's incomes and a huge cause of ill health and premature death.
Food	A shortage of food and lack of variety cause malnutrition and deficiency diseases. Excess intake (also a form of malnutrition) contributes to cardiovascular diseases, diabetes, cancer, degenerative eye diseases, obesity, and dental caries.
Transport	Cycling, walking, and the use of public transport promote health in four ways. They provide exercise, reduce fatal accidents, increase social contact, and reduce air pollution.

Source: Wilkinson R, Marmot M. *Social Determinants of Health. The Solid Facts*. Copenhagen: WHO Regional Office for Europe, 2003.

of the USA (<http://stateoftheusa.org>) is a nonprofit institution developed by the Institute of Medicine that makes key health and economic indicators available to the public online. Each of the 20 SUSA health indicators is based on data collected by the federal government at the county level.⁷

Mobilize Stakeholders

The Tobacco Wars taught us that evidence of harm is necessary but not sufficient for mobilizing action to improve health.⁸ Leadership and advocacy are also required if we are to make improvements in nutri-

tion, transportation, housing, and other conditions that undermine the health and prosperity of populations.

Ultimately, every individual and every institution in a community has a stake in health. Poor health is costly to individuals trying to hold down a job, employers who pay for sickness in high rates of absenteeism or higher health insurance costs, and entire societies, which suffer economic losses when citizens are ill. Thus, all individuals and institutions benefit by addressing the social, environmental, and behavioral determinants of health. The IOM Commit-

tee on Assuring the Health of the Public in the 21st Century observed that government cannot do this alone and that public health officials, leaders of community organizations, health care providers, employers and business leaders, members of the media, academics, and individuals all have a role to play.³ But how do we engage everyone?

Four questions may help people understand the importance of these issues and their role in facing them: 1) What value does participation bring to them? 2) What is one expected to do? 3) How does one go about making change? and, 4) How is success measured?⁹ The Itasca Project, a coalition of Twin Cities CEOs and education leaders, asked the questions of people from a variety of sectors to encourage them to get involved in reducing socioeconomic disparities.¹⁰ Then, rather than framing disparities purely as a social justice issue, it promoted employment and education as a business value proposition that increases the size and quality of the workforce, increases the size and strength of the local market, and improves the financial health of the region. The materials provided by the Itasca Project define specific actions that employers can take to better the economic position of their employees. For example, employers are encouraged to educate employees about eligibility for tax credits and promote financial literacy.

Similarly, rather than framing social and other determinants of health as a medical issue, we could talk about them in terms of value to business and industry. Success could be measured using the indices of the University of Wisconsin Population Health Institute or the State of the USA project that focus on employment rates, the proportion of children in poverty, or other measures of community prosperity.^{6,7}

Take Behavior Change to Work

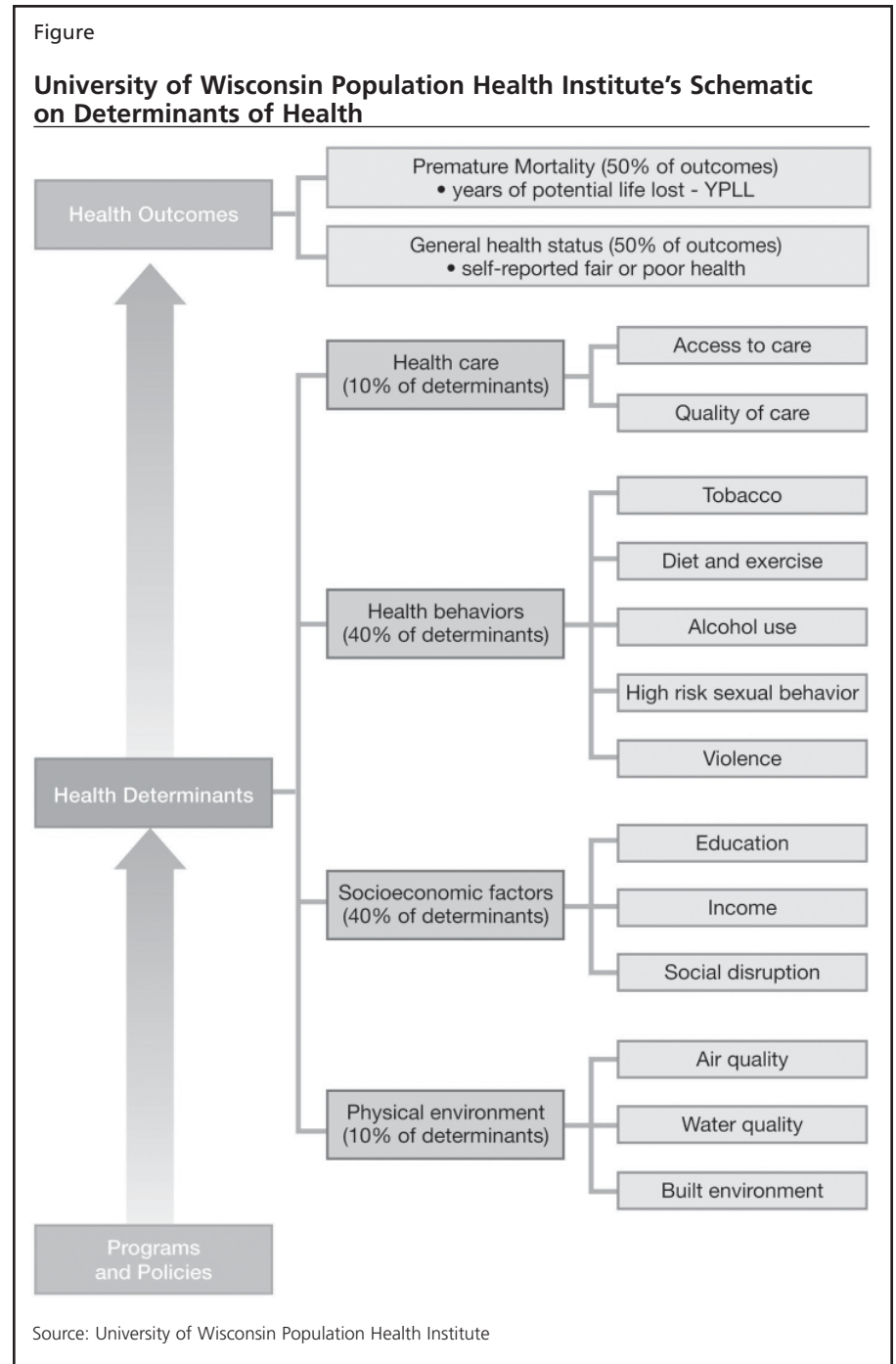
If we are to promote health by addressing social determinants, we must be able to communicate the needs, goals, and methods of change to the largest number of people in ways that encourage behavior change. Because 141 million Americans

are employed, the worksite is a logical place to do this. The following is an example of how it can be done.

In June of 2003, BAE Systems, a defense and aerospace firm with facilities in Minneapolis, and HealthPartners initiated a worksite health-promotion program called Setting our Sights on Fitness. The health and wellness initiative comprised 4 components: a multimedia communications campaign; participation incentives; access to health assessments and disease-management programs; and onsite health promotion activities.¹¹ The goal of the program was to improve the overall health of BAE employees and their families in a cost-effective manner and, thus, curb the employer's health care cost increases. The program provided information, self-help tools, and support for changing behavior such as increasing physical activity, ceasing smoking, and healthful eating.

To initiate the program, BAE established a wellness steering committee led by a dedicated program manager and hired an external consultant to engage in strategic planning. During health plan open enrollment in the fall of 2003, a new benefit design was introduced. Employees could choose a copay plan or a deductible/coinsurance plan and were offered 2 different benefit options within each type of plan—a richer option that offered a lower copay or deductible and a leaner one that required a higher copay or deductible. To be eligible for the richer benefit packages, BAE employees and their spouses needed to complete a health assessment prior to the end of the open enrollment period. If they had been diagnosed with a chronic condition or found to be at high risk for disease development, they would be required to complete at least 1 qualifying health-improvement activity that year in order to continue receiving the enhanced benefit package the following year.

The partnership between BAE Systems and HealthPartners was designed to align the interests of the employees and their spouses, the employer, and the health plan. All 3 benefited from the initiative. Documented outcomes included improved health of participants, medical



cost savings, and increased productivity. With the exception of those participants who identified themselves as being overweight, statistically significant reductions in each measured risk factor (tobacco use, physical inactivity, not eating enough fruits and vegetables, skipping breakfast, eating foods that are high in sugar, and being overweight or obese) were achieved each year. BAE saw significant cost savings on medical care that resulted in a return on investment of 3:1 and a reduction in

average medical claims of more than 3.3% a year during the first 3 years of the program. When changes in productivity were taken into account, the return on investment increased to about 6:1.

Conclusion

Health and well-being have been shown to be determined by physical, social, and behavioral factors that cannot be overcome simply by increasing access to health care. They must be dealt with directly. We have

proposed that the beginning point for addressing these factors is measurement. Specifically, we propose using the University of Wisconsin Population Health Institute's method to assess and measure various determinants and the effect they have on health. This could identify opportunities to improve the health of the people in Minnesota. We also suggest that addressing determinants of health must engage a broad range of people—from individuals themselves to business leaders, health care providers, and payer institutions. Finally, we believe that the worksite is a good place to implement effective behavior change programs.

The recession of 2008 and our state's projected budgetary shortfalls make 2009 a year of concern and opportunity. The concern is that Minnesotans will allow the programs that address preventive care and social and other determinants of health to be downsized, thereby, jeopardizing the long-term health and the long-term economic competitiveness of the state. The

opportunity is to acknowledge that the roots of health and our health care funding crisis lie to a great extent outside the current acute care system. Targeted programs to address social and other determinants of health can reduce the need for health care, thereby reducing health care costs. By using newly developed assessment tools and getting everyone engaged in the process, Minnesota can regain its reputation as a national leader in health and prosper economically.

MM

Thomas Kottke is medical director for evidence-based health and Nicolaas Pronk is vice president and health science officer for JourneyWell at HealthPartners. Thomas Kottke is also a professor in the department of medicine at the University of Minnesota.

REFERENCES

1. Marmot M. The Status Syndrome. How Social Standing Affects Our Health and Longevity. New York: Henry Holt and Company; 2004.
2. Wilkinson RG, Marmot M. Social Determinants of Health. The Solid Facts. Copenhagen: WHO Regional Office for Europe; 2003.
3. Committee on Assuring the Health of the Public

- in the 21st Century. The Future of the Public's Health in the 21st Century. Washington, D.C.: The National Academies Press; 2002.
4. Schroeder SA. Shattuck Lecture. We can do better—improving the health of the American people. *N Engl J Med.* 2007;357(12):1221-8.
5. Kottke TE, Faith DA, Jordan CO, Pronk NP, Thomas RJ, Capewell S. The comparative effectiveness of heart disease prevention and treatment strategies. *Am J Prev Med.* 2009;36(1):82-8.
6. Taylor KW, Athens JK, Booske BC, O'Connor, CE, Jones NR, Remington PL. 2008 Wisconsin County Health Rankings Full Report. Madison, WI: University of Wisconsin School of Medicine and Public Health; 2008.
7. Institute of Medicine. 2009 State of the USA Health Indicators: Letter Report. Washington, D.C.: The National Academies Press.
8. Yach D, McKee M, Lopez AD, Novotny T. Improving diet and physical activity: 12 lessons from controlling tobacco smoking. *BMJ.* 2005;330(7496):898-900.
9. Pronk NP, Peek CJ, Goldstein MG. Addressing multiple behavioral risk factors in primary care. A synthesis of current knowledge and stakeholder dialogue sessions. *Am J Prev Med.* 2004;27(2 Suppl):4-17.
10. Close the Gap: A Business Response to Our Region's Growing Disparities. Minneapolis: Itasca Project and Greater Twin Cities United Way; undated.
11. Thygeson NM, Gallagher J, Cross K, Pronk NP. Employee health at BAE Systems: An employer-health plan partnership approach. In: Pronk NP, ed. *ACSM's Worksite Health Handbook, Second Edition, A Guide to Building Healthy and Productive Companies.* Champaign, IL: Human Kinetics; 2009.

Fight back against the financial squeeze.



TFane's Accounts Receivables Teams overcome excuses, put a stop to foot-dragging, and ensure prompt payment.

TFane's skilled, accurate CPT Coding Teams obtain faster payment, fewer denials, and payment in full.

Hear more about TFane solutions—contact the MMA's George Lohmer at (612) 362-3746, or glohmer@mnmed.org

TFane
Healthcare Financial Services Inc.

TFane's solutions are endorsed by the Minnesota Medical Association and West Metro Medical Society

