BOOK REVIEWS

DOI: 10.1377/hlthaff.2010.1149

The 'Brilliant, Persistent' Pursuit Of Health Care As A Complex Social System

BY DAVID MECHANIC

TRACKING MEDICINE: A RESEARCHER'S QUEST TO UNDERSTAND HEALTH CARE
By John E. Wennberg
New York (NY): Oxford University Press, 2010
319 pp., $29.95

Despite its significant strengths, the US health care system suffers from unequal access, disorganization, and waste, and the value it provides does not match its enormous cost. Research conducted over many decades has documented large disparities in the use of health care and in its cost from one location to another. These differences cannot be explained by contrasting rates or varying severity of illness among population groups. Furthermore, it is increasingly apparent that higher rates of health care use do not necessarily lead to better care. In fact, they sometimes lead to worse outcomes.

When it comes to documenting geographical variations in patterns of health care use and cost, few physicians or researchers come close to matching John Wennberg, who, with many colleagues over the years, has made groundbreaking contributions. Their work has helped explain the organizational and behavioral practices that contribute to these outcome realities.

Beginning with a 1973 paper published in *Science*, coauthored with Alan Gittelsohn, about small-area variations in health care delivery, Wennberg has brilliantly and persistently pursued this story in its many aspects for decades. He has built an impressive, cumulative body of knowledge of critical importance to the future of health care.

In *Tracking Medicine*, Wennberg gives us both an intellectual biography and a well-told narrative of how this important body of research advanced throughout the years. The research was built on data resources and theoretical ideas that encouraged testing explanations. Wennberg describes the way in which his ideas evolved and how he systematically collected data to test them, so he could bring his skeptical medical colleagues around to his way of thinking.

This approach provides a comprehensive synthesis of the research that goes beyond a summary of the contents of his many individual publications. The result is a book that is as valuable to colleagues in clinical effectiveness and health services research and policy as it is to any thoughtful layperson concerned with the future of the US health care system.

Wennberg clearly depicts different patterns of "effective or necessary care"; of "preference-sensitive care," which he defines as "interventions for which there is more than one option and where the outcomes will differ according to the option used"; and of "supply-sensitive care," or "the frequency with which everyday medical care is used," depending on clinician decisions and the available care resources. He analyzes data to show that variation in the practice of both surgery and medicine increases when knowledge is more contested.

Using data from the *Dartmouth Atlas of Health Care* and additional studies by his group and others, Wennberg makes a convincing case that most of the variation in both health care and waste comes from varying management of major chronic diseases. In care for these conditions, more is not necessarily better—or even good.

He skillfully explains how health care supply influences use. It is not so much because providers cynically abuse the system for their own profit, although some obviously do. Rather, it is because of the uncertainty intrinsic to medicine and the absence of essential knowledge about appropriate norms for providing services. Wennberg's work highlights the central importance of local professional culture and its influence on variation.

Although I was aware that Wennberg brought a sophisticated sociological perspective to his work, before I read this book I had not known that he had been in the doctoral program in sociology at the Johns Hopkins University. There he had been exposed to the work of James Coleman, one of America's most distinguished sociologists and the lead author of the important 1966 report *Equality of Educational Opportunity.* Coleman influenced Wennberg's thinking about complex social systems and his drive empirically to test ideas about how health care functions.

Those of us who did health research in those early years—the 1960s and 1970s—remember the paternalism of many physicians at the time, and their resistance to population studies. It is not surprising, for example, that the now-classic 1973 paper by Wennberg and Gittelsohn appeared in *Science*; the leading medical journals of the day were not interested in that kind of research.

Although resistance to new ideas persists in many medical quarters—in no small way because of the ideas' potential threat to physicians' money, authority, and autonomy—in the years since 1973 there has been a remarkable change in the medical profession's receptivity to population-based evidence. The work

of Wennberg and his colleagues contributed to increasing acceptance of such research and is central to present and future deliberations about the US health care system and health policy.

As Wennberg considers health reform today in his book, four goals are central to his analysis: developing the science behind providing health care; promoting organized systems of health care provision; disciplining growth in health care capacity and spending; and, perhaps most challenging of all, making informed patient choice central to the ethical and legal standards of medical care decisions.

Wennberg estimates that most care falls in one of two categories: preference-sensitive care, which he calculates accounts for 25 percent of the care provided, and supply-sensitive care, which he estimates makes up 60 percent. The patterns of care provided in both of these categories are determined by local practice styles. These patterns are influenced by ideologies, physicians' enthusiasm for particular tools and interventions, and the supply and availability of medical resources.

He finds little variability among hospitals in their treatment of medical conditions for which there are no alternatives to hospitalizing patients, as in the case of hip fractures. But there are large variations when decisions are influenced by clinician and patient preference or resource capacity.

His work suggests that the health care system tends to overuse services, with little evidence that areas with more modest resources are rationing their effective services. He concludes that if waste can be rationally contained, the nation would have ample resources to provide high-quality care for its entire population.

Wennberg believes that physicians exercise undue influence on decisions about preference-sensitive care. Based on his own and others' research, he maintains that informed patients not subject to that undue influence would make quite different decisions and would commonly opt out of more invasive and costly options.

He and his colleagues have invested much effort in developing shared decision-making aids for patients and doctors, and these are clearly useful and important. But many questions remain about the feasibility of making these aids as central to the caregiving process as he would like them to be. Specifically, they would require time and additional costs, as well as changes in physician culture and attitudes. It would be difficult and expensive to keep the decision-making aids up to date. And established interests such as medical specialty societies and pharmaceutical companies would be likely to develop competing aids, as has been the case with practice guidelines for patient care.

One of the great strengths of *Tracking Medicine* is that it considers the type of research Wennberg does in the context of the recent health reform legislation and its implementation. Another is that the book presents many useful approaches to reducing practice variations and costs. Wennberg has been at the forefront of reform efforts for decades and has no illusions about the challenges or sources of resistance. But he is heartened by his experiences in working with medical groups that seek to reduce irrational patterns of providing care, and he is convinced that with greater knowledge and realigned incentives focusing on quality rather than magnitude of services, we can achieve meaningful change.

Wennberg is correct that such change will require the active participation of clinicians; it cannot be imposed on them from outside. And he knows that this change will not be quick or easy. It will happen only through the thoughtfulness, persistence, and leadership of people like John Wennberg. ■

David Mechanic (mechanic@rci.rutgers.edu) is director of the Institute for Health, Health Care Policy, and Aging Research and the René Dubos Professor of Behavioral Sciences at Rutgers University, in New Brunswick, New Jersey. He has long been a frequent contributor to *Health Affairs*.