

Book Review

WHY ARE SOME PEOPLE HEALTHY AND
OTHERS NOT? THE DETERMINANTS OF
HEALTH OF POPULATIONS

*Edited by Robert G. Evans, Morris L. Barer, and
Theodore R. Marmor: Aldine de Gruyter
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Review by Timothy G. Evans, BSoc Sci, DPhil, MD

This is a fascinating collection of essays exploring "why some people are healthy and others not," from a variety of disciplines and theoretical perspectives. It represents the efforts of a group of researchers from diverse backgrounds who have met intermittently over the last five years as part of the Canadian Institute for Advanced Research. Their common focus was to understand the determinants of a population's health. The book's point of departure is that "factors in the social environment, external to the health care system, exert a major and potentially modifiable influence on the health of populations through biological channels that are just now beginning to be understood." (p. 23) Via this observation, the volume challenges the widespread belief that health care is the most important determinant of health and argues for a more comprehensive and coherent understanding of the determinants of health.

This thesis is lucidly presented in the introductory chapter. Evans brings together findings from a number of studies that provoke fundamental questions about our understanding of health.

Timothy Evans is Research Fellow in the Center for Population and Development Studies at the Harvard School of Public Health, 9 Bow Street, Cambridge, MA 02138 USA.

One of these is the seminal Whitehall Study which found that, in a sample of more than 10,000 civil servants in England, job hierarchy was strongly correlated with mortality: as employment grade or rank increased, mortality rates declined. This observed gradient remained when evaluating specific diseases or causes of death, and was not explained by risk factors such as smoking, diet, or access to health care. Evans also cites McKeown's historical epidemiological work, which showed large reductions in mortality from tuberculosis and many other infectious diseases prior to the development of effective medical therapy. A more recent example is the association between the economic ascendancy of post-World War II Japan and a dramatic rise in life expectancy, in the absence of measurable improvements in medical care.

Having established a strong association between social environments and health in a variety of historical and cultural settings, Evans turns his attention to the causal factors and biological pathways that may account for health differences among populations. Here, the spectrum of literature broadens: animal studies showing more severe blockage of the coronary arteries that correlate with "low status"; stress-mediated neuro-endocrine and immune responses; social support and decreased mortality; genetic predisposition and environmental expression of disease; and observations of "health without wealth" and "wealth without health," not only among individuals, but across societies. Throughout this and subsequent chapters, the authors do not claim to understand the multiple determinants of health, nor their policy implications. Rather, they attempt to pull a "thread through a vast labyrinth of particular findings," and to emphasize that "the potential for (health) improvement, in directions not addressed by conventional health care systems, is great." (p.5)

In Chapter 2, Evans and Stoddart rethink the narrow, simplistic model of health based on the relationship between disease and health care. This model was first challenged by the Canadian White Paper of 1974, also known as the Lalonde Report, which conceptualized health as the outcome of four primary factors: lifestyles, environment, human biology, and health care organization. The disproportionate public health emphasis on change in individual lifestyles and risk factor modification that subsequently emerged leads the authors to expand the Lalonde framework to include the interaction between the so-

cial environment and the individual. Furthermore, they recognize the imperative for health policy to distinguish between disease (ill health diagnosed by the doctor) and illness or function (ill health reported by the patient). Referring to a study finding that the diagnosis of high blood pressure results in the patient's increased illness even before treatment has begun, they argue that the paradox of increasing illness and alleviating disease needs to be weighed carefully in policy deliberations such as those concerning cholesterol screening.

The second section of the book (Chapters 3-7) explores the vast array of evidence emerging on the broader determinants of health. Population health is considered from a number of perspectives. In Chapter 4, Corin presents the social and cultural dimensions of health and disease in a matrix describing the complexity of being ill, emphasizing that coping strategies and social supports may—or may not—buffer or accentuate the nature of disease. Social dimensions are also detailed in Marmot and Mustard's essay, Chapter 7, which considers new theories to explain variation in coronary heart disease. The interaction between the social environment and the biological dimensions of health are probed by Baird (Chapter 5), who describes the genetic basis of health, and by Evans, Hodge, and Pless (Chapter 6) in their discussion of the new biological pathways linking the brain to immune and endocrine function.

Although each of these chapters stands on its own and is replete with interesting insights, a number of broad themes emerge, many of which are captured in Chapter 3 by Hertzman, Frank and Evans, entitled "Heterogeneities in Health Status and the Determinants of Population Health." Heterogeneities are defined as "differences in aggregate measures of health status between or among population groups which appear to be consistently associated with some defining characteristic of that group" (p. 68). A broad range of heterogeneities are identified, examples of which abound in the other chapters. For example, referring to the Alameda County Study, Corin notes gender differences in social support and its relation to health: whereas marriage is strongly related to good health for men, among women, good health is associated with friends and relatives. Baird points to the impact of various environmental factors on the expression or suppression of genetic predisposition to disease. Evans, Hodge and Pless consider new evidence on health sustaining and/or dis-

ease-producing biological responses to environmental stress. Marmot and Mustard ponder the pathways of disease emerging from strong evidence linking social structure to coronary heart disease.

In addition, Hertzman and colleagues recognize the great variation in health arising from different life-cycle stages. They cite a longitudinal study of Hawaiian children that found early childhood developmental problems associated with severe perinatal stress were overcome in stable or high socioeconomic status families, but not in unstable families or those of low socioeconomic status. Life-cycle is also related to the notion of latency, which links influences at one point in time to their manifestation in ill health at another. For example, the association between retirement and increased mortality may have a shorter latency, or time lag, than does that between low birth weight and increased risk of coronary death in mid-to-late life.

The book's last two sections (Chapters 8-12) focus on the limitations of the current health care system, based on the "medical-care-equals-health" model, and how the system might change, given a shift in our understanding of health determinants. Acknowledged is the significant population health benefits gained through the medical care model, especially during the expansion of social insurance movements in the post-World War II period. At that time, the wonders of modern medical care were allocated according to need and not income. However, a faltering economy in the early 1970s, sustained increases in health care spending with evidence of decreasing health returns, and persistent inequalities in health despite equal access to medical care provoked a reassessment of the "medical" paradigm of health. The Lalonde Report heralded a new paradigm by identifying factors beyond medical care that determine health. But Marmor, Barer, and Evans (Chapter 8) suggest that this "broad" view of health led neither to structural reform nor to cost containment. Rather, prevention became part of the medical armamentarium and "the notion that cost restraint could be achieved if only everyone were a health promoter and disease preventer was revealed for what it is... a mirage" (p. 226). In fact, Renaud (Chapter 12) Marmor, Barer and Evans concur that the current focus on quality assurance, managed care and cost-effectiveness reflects the pervasive "medical" paradigm that posits *health care* as the primary determinant of health.

The assumed link between medical care and health is called into question by Roos and Roos in Chapter 9, entitled "Small Area Variations, Practice Style, and Quality of Care." Drawing on a wealth of data they find that: physician practice styles are marked by uncertainty in diagnosis and therapy and show huge variation among and within regions; "more" health care (i.e. hysterectomies, tonsillectomies, etc.) is "more" costly and may even result in net negative health effects; practice guidelines are often based on flimsy evidence; when preferences are considered, patients often choose a different course than their physicians do; and better information about appropriate treatment may not alter physician behavior. Roos and Roos argue that addressing these issues is fundamental to enhancing the contribution of the medical profession to population health, as well as to controlling costs. Lomas and Contandriopoulos agree, and advocate two changes:

- 1) the integration of population health and cost-effectiveness accountability into the self-regulating function of the medical profession; and
- 2) development of a system of local government expenditure caps on medical care, tied to population health status.

All this having been said, breaking out of the "medical-care-equals-health" mold goes beyond regulating the medical profession to ensure population health outcomes; it also requires focusing public policy makers on pathways to improving health that reach beyond medical care. Lomas and Contandriopoulos suggest intersectoral linkages among public agencies whose activities may potentially contribute to health; such as health care, social services, environment, housing, industrial development, labor and education. But "if health policy is to become more than health care policy...then corresponding statistical systems will be needed to provide the informational foundations" (p. 289). To this end, Wolfson (Chapter 11) proposes an overall measure of health status based on multiple dimensions of health and function (not only mortality), which could be referenced like other indicators such as Gross Domestic Product or the Consumer Price Index. In addition, he emphasizes the need for a coherent framework or "template" for health information, highlighting the most serious gaps in available data, and to be employed as a basis for organizing thinking.

Despite the appeal of these ideas, the authors recognize the challenge of implementing them. For one thing, the population health concept is abstract and difficult; it focuses on populations rather than individuals, such that health benefits arising from factors other than health care (e.g., lower speed limits resulting in decreased accidents) do not impact the individual and are often difficult to measure. Furthermore, experience with intersectoral planning of health policy is very limited, providing little “hard” evidence that it offers real health benefits. Finally, the pervasive public perception that “medical care equals health,” combined with the skew in research resources toward bio-medical research and commercial vested interests, constitute inertial forces for change. From Renaud’s chapter anticipating the 21st century, the future appears bleak:

The rise in biotechnology will reduce physicians to the level of technicians, being manipulated so as to secure control over a population made vulnerable to psychic exploitation by prevalent living and working conditions. (p. 330)

Renaud believes that this gloomy future is not inevitable, provided that the social debate is restructured to include a focus on population health, a participatory rationing of health care services involving community members, and a healthier balance between bio-medical and social investments in health. Factors enhancing prospects for such change include the incentive provided by the current fiscal crisis in health care funding and the threat of further third-party encroachment on the autonomy of physicians. Lomas and Contandriopoulos recognize, however, that more proactive efforts such as mass media usage, community-dialogue campaigns, and medical education reform will be vital to garnering support for public policy aimed at improving population health.

As a compendium of essays from authors with diverse backgrounds, this volume is remarkable for its extensive editorial crafting, which keeps jargon to a minimum and ensures flow from one chapter to the next. The potpourri of ideas, observations and reflections are a feast for the mind; however, some of the more lengthy contributions lead to a little indigestion. Notwithstanding, the book certainly achieves its objectives of stimulating interest in, and identifying potential for health improvement via mechanisms emerging from a greater understanding of

the multiple determinants of health. It successfully argues that the link between medical care and health is less clear-cut than is generally perceived, and recognizes the complexity in re-orienting public sector resources towards population health as opposed to the provision of medical care. One major oversight, however, appears to be the absence of a consumer perspective. An analysis of the interaction between a population health paradigm and the individual's felt need, or demand, for health care would have provided another interesting chapter.

Finally, although the authors describe important issues involved in the transformation to a population health perspective, a comprehensive "how we get there from here" chapter is absent. Corin mentions the need for coordinated, quantitative, and in-depth survey research design; Roos and Roos advocate more effective practice guidelines and outcome assessments to monitor practice; Lomas and Contandriopoulos suggest new forms of public and medical profession regulation; and Wolfson sketches the health information template. A concentrated effort to articulate how researchers, clinicians, educators, administrators, policy makers, and community members could implement a population health perspective would have granted the book a more proactive and challenging conclusion.