COMMENTARY

Perspectives

Even the "Maytag Repairman" must know how to repair appliances

Eliot A. Phillipson, MD

Sir John and Lady Eaton Professor and Chair, Department of Medicine, University of Toronto, Toronto, Ont.

Clin Invest Med 2002;25(5):191-3.

One of the ironies of modern-day medicine is that although its ability to treat, and in some cases cure, disease has never been greater, the value of medical care is increasingly challenged by experts in the field of public policy. The essence of the argument is that medical care is of relatively minor importance as a determinant of the health of the population compared with socioeconomic conditions, such as levels of income and education, occupation, housing and nutrition.[1] This argument is supported by a large body of literature. One of the earliest and most frequently cited studies, for example, is that of civil servants in London, in whom cardiovascular-related mortality over a period of 7 years was 4 times higher among unskilled workers than among administrators.[2] This difference could not be explained by differences in known risk factors, including cholesterol levels, blood pressure or smoking; nor was it related to any differences in access to medical care. Based on this type of study, it can be argued that the health of the population will be better served by investing resources in improving social conditions rather than increasing access to medical services. Further, it can be argued that physicians have a responsibility to serve as advocates for improved social conditions, general and health education and public policy initiatives rather than simply to serve as advocates for improved access to medical care.

Given the compelling body of knowledge linking the health of the population to socioeconomic conditions rather than to the level of medical care, the potential exists for the public to become skeptical about the value of medical interventions. Although this skepticism may be well founded in the case of specific interventions, it has spread to include much of the entire medical enterprise, leading to what has been termed "therapeutic nihilism,"[3] and providing the "justification" for cutting health care budgets. As pointed out, however, the problem is that health care resources are often consumed by interventions of unproven efficacy. The solution is not to dismiss all medical care but to improve the allocation of resources by giving priority to those medical services that are effective.[3] The latter concept is, of course, the essence of evidence-based medicine.

The importance of evidence-based medicine to medical practice and as a guide to the allocation of health care resources is now beyond dispute. For this reason, evidence-based medicine has become one of the central dogmas of medical education, providing physicians with a framework within which they can deliver appropriate care to their patients, on the one hand, and spend public resources in a responsible manner, on the other hand. However, the point has been made that even evidenced-based medical care may have little effect at the "macro" level on the aggregate health status of the entire population, notwithstanding that specific medical interventions may have an impact at the "micro" level in improving health outcomes for particular groups.[3] Thus, it remains likely that it will not be possible to demonstrate that even well-focused, evidence-based medical interventions improve the overall health of the population or prolong life expectancy. Perhaps it is unrealistic to expect otherwise, and in this regard a simple analogy may be useful. The "life expectancy"

of a particular model or class of automobile probably depends most on the quality of its original design, engineering, parts and construction (i.e., its "genetic" endowment) and on how well it is driven, maintained and serviced, the quality of fuel used and the frequency of protective maintenance it receives (i.e., its "environmental" conditions). It probably depends least on how well individual cars in the series are repaired when they break down or malfunction (i.e., the "medical" care they receive). In other words, whereas the quality of repairs may be of considerable importance to the "life expectancy" of an individual automobile (and perhaps even its owner!), it is unlikely to have much impact on the overall performance or "life expectancy" of the entire model or class of automobile. So, too, in the case of medical care. For example, even optimal treatment of patients with myocardial infarction is unlikely to have anywhere near the same impact on the health of the population as would changes in socioeconomic conditions and behaviours that contribute to the development of hypertension and atherosclerosis; or, eventually, as would manipulation of the gene mutations or gene products that predispose to hypertension or atherosclerosis in the first place.

It is important that physicians and medical organizations recognize and acknowledge the limited capacity of medical care to change the overall health of the population. To argue otherwise is not only futile but undermines the credibility of medicine in pursuing its fundamental mission of treating individual patients and alleviating their pain and suffering. This mission stands on its own merits, even in the absence of evidence that it results in an improvement in overall health of the population. Indeed, the 2 missions — treating the individual and improving the overall health of the population — are not mutually exclusive nor in opposition; rather they are 2 related, but nevertheless distinct, enterprises. Problems arise when the differences in the 2 missions are not appreciated and when unrealistic expectations are placed on the value of medical care. All too frequently public policy debates use as an argument for restricting health care budgets the fact that medicine has somehow "failed to deliver" on the expectation that it should impact on the overall health of the population.

Given these considerations, it is important that academic medicine be clear regarding its mandate. To be sure, the mandate includes a focus on the health of the population. Thus, through the training of scientists and investigators and through the conduct of original research, academic medicine plays an important role in enhancing population health by identifying the underlying mechanisms of disease (e.g., the viral cause of poliomyelitis) and by devising better approaches to preventing the emergence of disease (e.g., the polio vaccine). In addition, academic medicine plays an important role in improving the health of the population and preventing illness by training public health physicians who will be advocates for and participants in public health initiatives (e.g., polio immunization programs). However, it should be noted that, in large part, the major socioeconomic factors that impact on population health (education, income, housing and nutrition) are beyond the purview of even public health physicians. It is one thing to understand the determinants of health, it is quite another to be in a position to change them.

Notwithstanding its contributions to overall population health, the most important responsibility of academic medicine is to ensure that its major "product," practising physicians, can deliver high-quality, science-based and evidence-based medical care to individual patients, whether this care impacts on the overall health of the population, or not. To do so requires an educational curriculum that is committed to the production of physicians who understand the etiology and pathogenesis of disease and who are capable of diagnosing and treating illness and injuries. The individual patient who consults a physician seeks, first and foremost, to have a diagnosis established and treatment initiated, and is not really concerned, in the first instance, with either the biological or socioeconomic determinants that resulted in the disease process or contributed to its expression (despite the importance of the physician understanding these determinants). For this reason, the physician products of academic medicine must, above all, be trained to be doctors. While this conclusion may be self-evident, there is a perception that although the graduates of current medical curricula emerge with several enhanced attributes (a more balanced understanding of the determinants of health and ill-

ness, improved communication skills and a better approach to self-directed learning), their clinical skills may be somewhat less well developed than was the case previously. Whether this perception is valid needs to be determined. If it is correct, academic medicine will either have to address the problem or decide that somewhat weaker clinical skills is the price that must be paid for the enhanced attributes noted above. In either case, the issue is too important to be ignored.

In conclusion, even though medical care may not demonstrably improve the overall health of the population, academic medicine must continue to ensure that its highest priority is training physicians to provide expert medical care to patients. No amount of socioeconomic manipulation of society or of health maintenance initiatives will eliminate disease and injury. Even the most affluent, educated, privileged and health-conscious members of society become sick. And when they do, their greatest priority is to consult a physician who is trained to manage their problem and to care for them. In the final analysis, it may be true (as implied in the commercial) that because of the superior design ("genetic endowment") and maintenance ("environmental manipulation") of their products, the "Maytag Repairman" is called upon only infrequently to provide his services ("medical care"); but when called, even he must know how to repair the appliance!

Acknowledgement: This text is adapted from one previously published in *MediNews*, The Newsletter of the Department of Medicine, University of Toronto, vol. 11, no. 1, September 1998.

References

1. Pincus T, Esther R, DeWalt DA, Callahan LF. Social conditions and self-management are more powerful determinants of health than access to care [review] [see comments]. *Ann Intern Med* 1998;129:406-11. Comments in: *Ann Intern Med* 1998;129:419-20; *Ann Intern Med* 1999;130:452-3.
2. Marmot MG, Rose G, Shipley M, Hamilton PJ. Employment grade and coronary heart disease in British civil servants. *J Epidemiol Community Health* 1978; 32:244-9.
3. Frenk J. Medical care and health improvement: the critical link [comments]. *Ann Intern Med* 1998;129:419-20. Comments on: *Ann Intern Med* 1998;129:406-11; *Ann Intern Med* 1998;129:412-6.

Medical subject headings: education, medical; evidence-based medicine; health status; quality of health care; socioeconomic factors

Correspondence to: Dr. Eliot A. Phillipson, Department of Medicine, University of Toronto, Ste. 3–805, 190 Elizabeth St., Toronto ON M5G 2C4; fax 416 978-7230; eliot.phillipson @utoronto.ca