A Populist Movement for Health?

ONE OF THE MOST EFFECTIVE SCIENCE-BASED MOVEMENTS TO RAISE PUBLIC AWARENESS OF a global problem has been Al Gore’s efforts, complementing the science-based work of the Intergovernmental Panel on Climate Change, to expose the perils of global warming. Through decades of commitment, Gore and his team have laid out the science and consequences of unmitigated consumption of fossil fuels and the irredeemable impact this will have on the planet if unchecked. More than ever, this message is now resonating with the public.

Human health presents a similarly massive global problem. Globalization is accelerating the spread of AIDS, drug-resistant forms of tuberculosis, and other infectious agents. Industrialization, with its accompanying sedentary life-styles and extended life spans, is creating new epidemics of obesity, diabetes, cancer, and heart disease, among others. When a life-altering medical condition is diagnosed, too often even the best in the medical community have few clues as to the molecular mechanism at work, far less the ability to produce a cure or prevent others from experiencing a similar fate. Despite increased attention to health promotion, we focus on crisis and symptom management, as opposed to prevention and cure, reflecting a limited understanding of the molecular basis for disease.

Consider this: We now know that we are encoded by about 25,000 human genes and their products, many of which represent potential new drug targets. Yet we have drugs for fewer than 200 of these gene products. Moreover, of the approximately 20 to 30 new drug entities that the U.S. Food and Drug Administration has been approving each year, only 3 to 5 address a new molecular target or novel mechanism. At this rate, it will require hundreds of years to fully exploit our knowledge of human biology to develop robust medical treatments. Despite the tools and technologies of modern medical science, we are still in the Dark Ages of understanding our own biology and discovering agents that can provide cures.

How can we stimulate innovation and enlightened public policy? Is a Gore-like populist movement possible for global health? Although the science community has advocated more funding to support the basic science that is crucial to understand disease and develop cures, recent efforts have had little impact. In part, the science community is responsible because we have not effectively helped the public realize that without a higher national and international priority for basic research, a crisis in human health is not far off.

It is time for the scientific community to launch a bold combination strategy, the most important element of which is to identify the “Al Gore(s)” of basic science. This requires increased efforts and funding from scientific societies and advocacy organizations that are empowered to deliver compelling messages to media and elected officials and can identify and provide financial support for communicators for basic science. The research community needs champions who can articulate a compelling long-term vision for research that can accelerate the needed transition from a crisis/symptom mode to a prevention/cure mode of health care.

The second part of the strategy involves scientists’ own time and, yes, money, to support such advocacy groups. Both are scarce resources, but if scientists want to spur basic science that underlies improving society, they must take personal responsibility to make it happen. Championing research in situations such as social gatherings does not come easily to many researchers, who may feel that their area of science is too complex for nonscientists to understand (or frankly don’t feel a need to help them understand). Many community events and meetings now include discussions of carbon footprints and alternative energy. Scientists need to take or create more occasions to explain to the public how far we are from really understanding the basis of disease and our consequent vulnerability.

Now is the time to take bold actions both personally and through advocacy groups to accelerate public awareness in support of basic research. By failing to do so, we consign ourselves and future generations to a world with little hope for dramatically improving human health and well-being.

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