COMMENTARY

Forsaking Reassurance: A Prescription for Physician Leadership on the Environment

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We must reestablish a basis for physician leadership of the environmental movement, for no one doubts the gravity of environmental problems or the pressing need for leadership. The profession dedicated to the health of people must return to protecting people from the hazards of their environments and to protecting the environment from people who would make it even more dangerous.

Physicians may have been the world's first environmentalists. What we did most effectively, centuries before we were equipped to diagnose and treat the diseases of our patients, was to counsel people to live in safe environments and keep their living environments safe. For 2,000 years, Western medicine relied on the teachings of the Hippocratic book *Airs, Waters and Places* to understand endemic and epidemic diseases. Climate, soil, water, lifestyles, and nutrition were the essential factors. At the height of Greek civilization, when city-states established colonies as distant as the far shores of the Black Sea, and maybe here in Malta, knowledge of the relationship of the environment to disease was used to supplement religious and military considerations in choosing the right spot for settlement [1]. To find a healthy location, a physician was to be consulted. For example, doctors knew that swamps and marshy lowlands were to be avoided.

Right through the Middle Ages, even minimal knowledge of the relationship between the environment and disease—notice I don't say *causal* relationship—was probably more useful than what we physicians had to offer the individual patient. The doctor's function had evolved from that of the priest. For the patient already stricken with an ailment, the doctor gave attention and comfort. For that handful of diseases (diphtheria and scarlet fever, for example) that had been described and their natural course charted, the doctor might be able to predict whether a particular patient would recover. This rare reassurance must have been most welcome. But at our scientific best, we physicians used our knowledge of disease and the environment to offer advice on prevention [1].

The environmentalist tradition remained strong up through the last century. The intellectual elite of medicine and public health attended to environmental causes of disease and prevention. Sanitary reform, endorsed by a few visionary public health physicians, brought a revolutionary improvement in the health of people even before we doctors understood the causes of the common diseases that were prevented. The elimination of crowded living conditions—five to ten urban dwellers to a room was common—yielded magnificent results. Yet, only after Pasteur and Koch did physicians begin to understand the microbial causes of infectious diseases. And with this understanding came the power to affect the course of disease—first vaccines and then antibiotics.

The scientific advances of this century in our

0051-2438/1992/0202-0111$03.00/0

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ability to diagnose and treat specific diseases in individual patients have eclipsed the role of the physician as environmentalist. Today, doctors strive with great vigor to diagnose every ailment in the hope that it is treatable, and then we work even harder to see that our patients receive appropriate treatment. Through the entire process, physicians call on the priestly tradition to provide solace and reassurance. When a patient seeks attention to the signs and symptoms of disease, he or she can expect to receive benefit from contact with a physician.

That is where our triumph ends and the problems begin, for the training, self-image, and social role of the modern physician appear imperfectly suited to challenge the environmental dangers in today's world.

What does the doctor have to offer the family that suffers from overcrowded living conditions? The physician's advice on what constitutes a healthy life-style and appropriate living conditions may be entirely correct, but the doctor is unlikely to be able to provide housing or a decent wage. Thus, in the medical role, the doctor probably can provide little but comfort, reassurance, and advice that the patient is powerless to act upon.

What does the doctor have to offer the worker who suffers from pneumoconiosis but must continue to work to feed his or her family? After years of exposure to dust, the patient, unable to breathe, is seen by the physician. At this stage the malady cannot be cured. After the symptoms have appeared, dust control in the patient's workplace is most useful to protect fellow workers with shorter periods of exposure. The physician, who lacked the means or failed to take the opportunity to prevent occupational exposures in the past, has been defeated by the long latency period that characterizes environmental disease. Thus, the practitioner has little to offer but palliation.

What does the doctor have to offer the patient who has been exposed to toxic and carcinogenic wastes? Again latency separates by a long interval the exposure and the opportunity to prevent disease from the development of signs and symptoms of cancer in the patient. There is little for clinicians to do but wait to see if cancer develops and reassure the patient that a malignancy is statistically unlikely.

In the future, clinicians will see more patients with skin cancer caused by ultraviolet rays that passed though the ozone layer depleted by chlorofluorocarbons. Tomorrow's doctor will wish we had organized to stop ozone depletion. And because we, today, seem to lack such prescience, the doctor of the future will be able to offer his or her patient only treatment of the cancer, likely to be expensive and less than fully effective.

We can and must understand how pollution and environmental damage will affect people. If we do not anticipate future harm, who will? If we physicians do not predict the human consequences of environmental degradation and advise and counsel our patients and the public, we must live with the results. We doctors will be the ones who will see the extent of human harm up close and when it is too late.

As long as physicians try to cope with diseases caused by environmental hazards only by attending to individual patients and only in the context of diagnosis and treatment, their role will remain limited and ineffective. The very traditions and instincts that guide our medical practice will prove to be a disservice rather than a boon to the public. For the people of the world threatened by environmental hazards, comfort and reassurance not only are inadequate measures but are dead wrong!

But this does not disqualify physicians as environmentalists. Those of us who see patients recognize the growing concern about the environment in our communities. We live and work in hospitals and universities and organize ourselves in powerful associations. We have links to the rich and powerful. Medical journals spill over into newspapers, magazines, and television. And most important, physicians can be environmental leaders because increasingly medical science--principally the application of toxicology to predict the effects of environmental pollution on people on the basis of laboratory studies--will learn to anticipate the human consequences of environmental pollution.

To correct the environmental problems of the world requires social action. Social action requires leadership. And the first goal for leaders of the environmental movement must be to assure that the public has an understanding of environmental problems and their consequences. This is a role for physicians but no place for reassurance. Any leader who pulls his punches and carefully understates or minimizes danger to avoid fear or anxiety will never again be trusted by the public.

Those leaders who are quick to offer a rationali-

zation for environmental hazards will fail as well. How many times have you heard that it is more dangerous to cross the street than to be exposed to a particular pollutant over years of breathing? The public senses that this assertion is a scam. There is a difference between a danger you choose to endure for your benefit and one that is unnecessary and imposed by someone else for his or her benefit alone.

The lesson is clear, and physicians have the potential to regain the leadership of the environmental movement if they will expand their understanding and, in their public role, abandon the instinct to reassure. Only when doctors are both more knowledgeable and more concerned about preventable environmental hazards than the public can they be effective leaders in the environmental movement. This is a tall order, for the public is very concerned and remarkably knowledgeable.

The largest and most immediate environmental hazard in the world today is nuclear war and the preparations for it. Throughout the world the public perceives the danger of extermination and is beginning to understand the dangers of producing and testing nuclear weapons even if they are never used in war. In my view, physicians have played a central role in alerting the public to the dangers of nuclear weapons and in pressing their nations to set a course for disarmament. Thus, there is an established model for physician leadership.

When the physicians' antinuclear war movement began in the 1960s, the public had been duped. Certainly the public was never consulted when the U.S., Soviet Union, Britain, and France decided secretly to launch nuclear weapons programs during and after World War II. When the runaway growth of the nuclear arsenal was disclosed, nuclear weapons, citizens were told, provided security. The dangers were played down. Shelters would protect most people. Doctors and hospitals would treat the others.

In 1962, the *New England Journal of Medicine* published a first paper on the medical consequences of nuclear weapons. Ervin and colleagues described the results of a hypothesized attack on Boston [2]. Only after we studied the true human consequences of a nuclear attack on a city, the physical aspects of which the military could describe in exquisite detail, did we realize that there would be no doctors, no hospitals, and only suffering remnants of the population.

The physicians' antinuclear movement took an independent position: nuclear war and nuclear weapons were indefensible. Our strong moral position evolved from the tradition of medicine and our concern for our patients. We criticized every nuclear weapons maker alike. Today, International Physicians for the Prevention of Nuclear War claims to have 200,000 physician members in 78 national affiliates around the world. (Physicians for Social Responsibility, the U.S. affiliate, has 25,000 members in chapters in 120 cities.) As the cold war ends, we are poised to press the case for total abolition of nuclear weapons.

Similar action is needed by physicians on other environmental issues. The struggle may be even more difficult. Unlike nuclear weapons, which everyone recognizes as ultimate health hazards, pollution has its defenders and minimizers. Frequently, the scientific and political defenders of pollution and polluters receive the financial support of those who profit from polluting. Thus, physicians will need to remain independent and call on for support the public they seek to protect. Physicians must protect and enhance their reputation for independence, so that they may counsel their societies on these issues.

Obviously, such public engagement is different from counseling patients, because effective action against environmental hazards requires concerted local, national, and global efforts to abate and remedy the damage from pollution. But concerted action against environmental hazards may succeed where protecting individual patients fails. Environmental exposures constitute the cause of the largest group of preventable diseases. Societies can act to protect health by reducing pollution rather than seeking to change the behavior of each and every individual.

Yet, in another sense, attacking environmental hazards is similar to medical practice. The doctor must communicate with individuals. A citizen must see the risks of environmental pollution in his or her own world. The global risks must be translated into the pervasive and particular local hazards that can be comprehended by every man and woman. For this job, a physician who understands how the environment affects people and who can impart this knowledge to patients and the public is ideal.

There is a special urgency as I speak today. Democracy, people reasserting their right to control their own destinies, is epidemic. Countries that have neglected and mistreated their people to build ex-

travagant military establishments have seen revolutionary change—some peaceful, others violent. Other countries, only apparently unchanged, face similar problems. Even my own country cannot solve its domestic problems and care for its people if it continues profligate spending on the military. It is not an exaggeration to say that cost containment in medical care in the United States is an unfortunate product of the cold war and military spending.

In the near future, societies everywhere have the opportunity to revert to caring for their people and protecting the environment. And here doctors should lead. To achieve this goal, first, we must rapidly complete the job of eliminating nuclear weapons and weapons of mass destruction, returning the world's military establishment to a small and subordinate role. Then every country must begin to repair the damage of an extended era during which over 5% of the world's productivity has been spent on weapons and the military, far more in places like the former Soviet Union. An average of $36,000 per year has been spent on each member of the armed forces. This has meant that almost 20% of government spending goes to military purposes—triple the budget for education and eight times the housing budget [3]. This understates the real damage, for research on military subjects has captured the brightest engineers and scientists. Not only resources but the world's ingenuity has been spent on the military.

When the nuclear and other military threats are controlled, population growth, poverty, and environmental degradation, neglected in a century of outrageous military growth and development, will constitute the greatest risks facing humankind. The prescription is social action against these hazards. And for the social action required to ameliorate these dangers, physicians can be leaders. And to lead they require knowledge, independence, and the same will to protect people that galvanized their efforts against nuclear weapons. ❧

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