Don't Teach Preventive Medicine: A Contrary View

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I HAVE BEEN ASKED TO PROVIDE a thought-provoking argument critical of teaching preventive medicine in medical schools; that is, I am supposed to be a devil's advocate. The Department of Health and Human Services searched all over for a devil with full board certification and fellowship status, and they found me. I suppose I should be flattered, but I was appalled . . . at first. But the more I thought about it, the more I realized that maybe they had my number. However, I am obliged to state that what I say is not the approved position of my academic department which is at least emotionally, if not rationally, deeply committed to the virtues of preventive medicine.

Primary prevention is avoiding the disease altogether, for example, by not smoking, avoiding air pollution, putting air bags in cars, and immunizing the population. It is estimated that a large number of deaths from cancer could be avoided by not smoking and by making other changes in the environment, that is, by primary prevention. Despite this statistic, the National Cancer Institute has in the past devoted relatively little attention to this area. It spends its research dollars elsewhere, and the medical schools and their entrepreneurial faculties go where the money is. However, that's only part of the problem. There are not many cancer preventers but thousands of cancer treaters in this country. Therefore there are lots of treaters who can and do write grant proposals to the National Institutes of Health. Thus, study sections in the National Cancer Institute, even with the best preventive will in the world, can be confronted with more research proposals related to treatment and less related to prevention.

In the 1960s it was the fashion to be interested in leftist socialist ideas. Friedrich Engels pointed out in 1845 in "The Condition of the Working Class in England" that capitalist exploitation caused the ill health of the British proletariat (*1*). I would be embarrassed to ask an average medical school faculty how many of them have read this classic work in primary preventive medicine, much less how many of them ask their students to read it.

Things have changed since the radical 1960s. We are now in the 1980s, in this era of Margaret Thatcher, and we have different ideas. Engels is out and Milton Friedman is in, as the current economic idealogue-savant for the right. His "Free to Choose" should now be required reading in preventive medicine (*2*). If we are to teach prevention in this new enlightened age, we should be showing how the lack of pure economic competition causes ill health.

Applying Friedman to Health Matters

If we apply Friedman's ideas to health, we must conclude that the minimum wage law has destroyed an

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entire generation of American youth in general, and black youth in particular, by denying them the opportunity to develop employable skills. By setting a high minimum wage, it has made unskilled youths unemployable so that they cannot learn the skills needed to justify even minimum wages. The resultant impact of teenage unemployment on mental health is of epidemic proportions. Harvey Brenner would concur (*3–5*).

How many medical schools teach about the association between these economic failures and ill health? How many medical schools teach the political action skills needed to change the laws that Friedman so vividly criticizes? Lessons in civil disobedience could be required. In the old days no medical student should have graduated until he or she spray-painted a skull and crossbones on a billboard advertising cigarettes. Today they should be spending required days in Washington assuring that the vested interests do not distort the free market. They should all have spent several days lobbying their State legislatures to develop pollution taxes, to eliminate monopolistic licensure laws, and to repeal laws that fix prices and limit choice.

The overwhelming problem in the world today that calls for primary prevention is a nuclear apocalypse—as does the epidemic of murder in the United States. If asked, how many medical faculty, to say nothing of students, could answer the following final examination question?

Reduce the murder rate in the area served by your medical school by 10 percent. Develop a step-by-step strategy for doing so, providing documentation showing that the measures you plan to take will be effective, using citations from the relevant literature.

Students must be warned, however, that there is not a single position available anywhere in our economy for a physician who wishes to spend his or her life reducing the murder rate. We cannot train physicians for nonexistent jobs, and therefore education in primary prevention can only play a miniscule role in medicine.

Second, many primary prevention measures conflict with the Friedman philosophy of "free to choose." Although Friedman is as appalled as physicians are by the personal disaster of alcoholism, he would say that forcing people to do what they do not want to do, like prohibiting the use of alcohol, conflicts with freedom and, without the individual person's commitment to abstinence, such efforts would be more harmful than helpful.

He would not be greatly enthusiastic about such government projects as that in North Karelia, Finland, managed by Prof. Pekka Puska of Kuupio Medical School (*6*). The North Karelia Project is a grassroots effort to change entrenched behavior related to heart disease, including blood pressure control, reduction of cholesterol, and reduce smoking. Why have almost no American medical schools taken on similar efforts at community-wide behavior change, just as they manage teaching hospitals?

Secondary prevention includes screening for disease, early detection, and treatment. Screening and treatment for cancer and hypertension are as good examples as any.

What Ought To Be Taught

I think that teaching categorical topics like prevention is the wrong way to approach medical education. What is needed is to teach medical students how to think. In this regard, medical education is markedly backward when compared to graduate education in law, management, and engineering; in those professional schools, the faculty pay attention to problem solving and the memorization of facts is secondary.

Medicine is the only graduate school to rely on multiple choice examinations. After long study of second year education at my medical school, it was discovered that the half-life of a retained factual item is about 3 weeks. More than 90 percent of the factual items students are stuffed with are retained for the true-false examination and then lost to recall by the time of graduation. Why should anyone use an engine that runs at 10 percent efficiency?

What ought to be taught is what works; that is, what is proven cost effective. According to Plisken and co-workers (*7*), the cost per quality-adjusted years of life saved by bypass surgery can be as low as $1,500 while for early detection of hypertension it is, at best, about $2,000 (*8*).

The new American Cancer Society decision rules are an extraordinary landmark in the application of computer-based, cost-effective decision modeling (*9*). Basically, they reduced the recommended enthusiasm for screening to more sensible levels. I doubt, however, if a single medical school faculty member, much less a student, could replicate that model (*10*).

Tertiary prevention is halting the further deterioration of people with existing disease. How large are the departments of rehabilitation medicine in our medical schools? How many hours are students required to spend in them?

Why is there an overwhelming indifference to prevention in medical schools? I suggest these four reasons:

1. Physicians relate to one patient at a time. Thus,

primary societal prevention seems irrelevant to the student's view of his future social role.

2. Physicians see themselves as agents for their patients. They therefore try to do what their patients want, and people do not always want to buy a lot of prevention.

3. Given the coming physician glut, a lot of MDs will be more concerned with what pays rather than what works. Now you may think that this will not be the case in HMOs (health maintenance organizations), but given that many have a patient enrollee turnover of 30 percent a year, they have no rational reason to invest in preventive efforts with long-term payoffs except for public relations puffery.

4. Medical schools have committed themselves to assure excellent care in their tertiary care teaching hospitals. No medical school in the United States that I know of has taken a similar mandate to assure the good health of the people in the geographic area that they serve. The Rockefeller Foundation has promoted a consortium of such innovative network medical schools worldwide, and not one U.S. medical school belongs to it.

Now there must be good reasons to minimize prevention in medical schools as is now the case. It is not individual weakness or lack of wisdom, but Darwinian evolution at work where only the economically fittest survive.

But don't despair, there is a lot to be done.

For example, at Case Western Reserve University Medical School we have two projects in prevention underway. Instead of instituting a new course in prevention, we started a required year-long, second-year course on clinical logic. It will focus on case problem solving that cuts across specialty boundaries with the aid of decision analysis and, possibly, computers.

We teach facts about prevention, but at the first-year residency level the effect at one of our teaching hospitals has been disappointing. At Cleveland Metropolitan General Hospital, the General Internal Medicine Service is divided into four similar teams of physicians called firms. New patients are assigned to a firm using a table of random numbers.

In one trial, 70 residents and faculty internists were given a pretest questionnaire on their knowledge of appropriate preventive measures based on the Canadian task force report (*11*). The two experimental firms were provided an extra dose of education about prevention and a reminder page in the medical record. The control firms were left on their own.

The percentages of appropriate patients actually receiving immunizations and mammography were as follows:

Prevention measure	*Control firms*	*Experimental firms*
Pneumonia immunization	5	41.6
Influenza immunization	4	36
Mammography	3	31

The experimental firms showed a significant increase in knowledge, but the control firms did not (*12*). Faculty members were amazed at the low previous level of knowledge and the massive change as the result of a very modest intervention.

I will conclude with a comment from a superb and timely article in the Journal of the American Medical Association.

> The system of remuneration makes the physician's income dependent on the amount of sickness. Our system's philosophy might be condensed in the motto "Millions for Care and Not One Cent for Prevention." It seems to me that the weakness of our system lies in this one fact, that it gives (physicians) such exceedingly limited opportunity for what has been called the practice of preventive medicine.

This article appeared on October 30, 1886 (*13*).

Why has so little changed in the practice of medicine in 95 years?

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