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LETTERS

Basic Biomedical Research

As the Ranking Republican on the House Appropriations Subcommittee on Labor, Health and Human Services, and Education, which funds the National Institutes of Health (NIH), and as a strong supporter of NIH, I was extremely pleased to read the 7 October Policy Forum "The role of biomedical research in health care reform" by M. W. Kirschner *et al.* (p. 49). Count me among those who wholeheartedly agree that basic biomedical research is vital to health care reform and that funding this research is an important responsibility of the federal government.

The Policy Forum echoes arguments I have made during consideration of the NIH budget during the last 2 years. Until the scientific community and, by extension, the American people, clearly understand and articulate the real value of biomedical research, Congress will continue to beggar NIH funding and will fail to incorporate biomedical research as a significant component of health care reform. As a result, we may miss unprecedented opportunities to dramatically improve the practice of medicine and the quality of life in the United States.

As Kirschner *et al.* demonstrate, research dramatically improves our abilities to provide better treatment and cures for patients, as well as to prevent and contain disease through behavior, vaccines, and early diagnosis. However, biomedical research also offers economic and geopolitical benefits. America's investment in this research has made us the world leader in the field. Government-funded research supports hundreds of thousands of high-paying, high-skill jobs—those most coveted in our economy. In addition, biomedical research supports a private sector industry that also leads the world in innovation and is the envy of the European Union, among others. Finally, federal research investment provided the breakthroughs in structural biology that undergird the biotechnology industry—one of the fastest growing in this country and one that provides a positive balance of trade.

The bottom line is that our investment in biomedical research provides broad support for our economy and is a key to our future world leadership and our competitiveness in an increasingly global economy.

John Edward Porter
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The Policy Forum by Kirschner *et al.* contributes little to the problem of health care reform. Investment in any industry produces growth. There is neither reason nor historical precedent for expecting the health industry to differ from consumer electronics, automobiles, or computers. Investment and innovation certainly decrease costs (the price of a 12-inch black and white TV or a simple hand calculator is dramatically less than when those products first appeared), but the industries have mushroomed nevertheless. The examples cited by Kirschner *et al.* are of the same sort; they provide no basis for expecting lower health care costs.

The effect of investment on growth may not be as inexorable as the second law of thermodynamics, but it will require far more than a few pious words about "skewed incentives" to make health care intrinsically different from other industries. Neither avarice nor villainy are required for scientific advances to result in higher total revenues. We have only the irony that industrial growth, sought in other economic sectors, is an undesireable cost in the health sector.

If we are to develop a reasonable health care system, we must accept the obvious facts. Doctors cannot cure every disease. Medicine does not save lives, it only postpones death.

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Kirschner *et al.* promote biomedical research as a key solution for the health care crisis, apparently without considering that research policy may be part of the problem. Few would argue against the value of basic research in medicine, but its organization should be examined as critically as that of medical practice. Cost savings from tuberculosis treatment may reflect general improvements in public health rather than research impact, and cost analyses must consider shifts from acute to chronic disease treatment with a "cradle to grave" perspective. Indeed, the 200,000 national deaths from AIDS, increasing numbers of resistant bacteria, and the refractory toll of cancer make this an odd time to glorify research results.

Are not new insights rather than applications the greatest gifts of research? Parallels can be drawn between a research system

that endangers innovative thinking and a health care system that ignores individual needs. There is obsession with technology in both areas, with amalgamation into large laboratories or hospital networks. There is under-appreciation of clinical perspective. Scarcity of true clinicians as grant reviewers or recipients at the National Institutes of Health (E. Marshall, News & Comment, 1 July, p. 20) is paralleled by managed care systems that allow medical triage by bureaucrats. Other parallels include increasing corruption, sacrifice of scholarship for monetary concerns, and low priorities for teaching in high-volume research institutes or care systems.

While most agree that research and development deserve a greater share of health care resources, research reforms should be considered in a nation that engages in heart-lung transplants while its unvaccinated citizens die of measles. Why are some investigators allowed to garner multiple grants with additional perquisites through center and program project awards? Would limits on the number of grants per investigator restore a focus on ideas and integrity rather than money, papers, and technology? What is the optimal balance between basic and applied biomedical research? Perhaps the hyperbole of gene therapy should receive less emphasis and delivery of existing treatments should receive more (*1*).

The view from my clinic includes many shortcomings in health care that transcend deficiencies in knowledge. I see a growing repertoire of preventive tests or treatments that patients have no means to pay for. I see parents forced to misrepresent diagnoses and even to revoke guardianship in order to retain benefits for their children. I see research benefits diverted toward procedures such as cosmetic surgery that enrich physicians and reward the privileged. I see lawyers parasitizing care for unscrupulous rewards and the erosion of science by "experts" who endorse their chicanery. And, unlike Kirschner *et al.*, I see a biomedical research industry that is enthralled by technology, infatuated with profits, disconnected from its clinical roots, and as needy of reform as the medical care system it is supposed to enlighten.

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Career Issues

I was disturbed by Constance Holden's recent article "A quick guide to job-hunting," which appeared in the Careers issue of *Science* (23 Sept., p. 1932) and featured my picture with a quote attributed to me that had been taken out of context.

In March 1994, I was contacted by Holden, who was doing research for an article to appear in the Careers issue. Holden initially contacted me because of my role as the administrator of the Young Scientists' Network (YSN). We discussed YSN at length and its role in addressing issues facing scientists and engineers who are trying to begin their careers.

This brought Holden to ask about my career. I related to Holden how and why I decided to leave physics and how I had managed to make the transition to molecular genetics. I told her about the Special Emphasis Research Career Award I received from the National Center for Human Genome Research of the National Institutes of Health, an award designed to attract people from engineering and the physical sciences to work on the Human Genome Project. During the 2 years that I had been working in the Human Genome Center at the Salk Institute, I published two papers and submitted a number of others.

Holden asked me if I would ever consider a return to physics. I told her, "I've been doing biology for the past 2 years, and everything I've published has been in biology. Who's going to offer me a job in physics? As far as physics is concerned, I haven't published anything in 2 years."

Unfortunately, what appeared was only one and one-half of the last two sentences, "Who's going to offer me a job in physics? I haven't published anything in 2 years." This is simply not a true statement and not at all representative of the conversation I had with Holden.

I am proud of my publication record both in physics and biology. I am happy to describe my experiences as a way of illustrating the difficult job market that today's young scientists face. I am, however, embarrassed by the manner in which I was portrayed in *Science*.

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I am concerned about the way career realities facing our nation's young scientists were presented in the Careers issue of *Science*. It appears that there was an attempt to minimize the bleak situation with regard to the prospects of obtaining long-term employment as a scientist after the Ph.D. is earned.