Letters

Nuclear Testing

Neild and Ruina (14 Jan., p. 104) provide a valuable background and thoughtful commentary on the issue of a comprehensive ban on nuclear testing, but the authors touch too briefly on possibly the most vexing issue, at least from the U.S. viewpoint.

If the Soviet Union were to agree to a comprehensive test ban (CTB) solely as a temporary expedient to allow time for a gradual disintegration of U.S. nuclear weapon design teams and laboratories (while secretly keeping their own weaponeers busy, knowing that they would abrogate the treaty 20 years hence), the consequences could be serious.

Why not consider a "gradual CTB" in which the United States and the Soviet Union would agree to conduct no more than, say, 20 underground nuclear tests per year for the first 5 years, with the number dropping to 10 during the next 5 years, and so on, until a complete CTB is reached in 20 years.

This would provide time for each country to check not only the effectiveness of its monitoring techniques, but, more importantly, the good faith and intent of the other party.

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Health-Care Delivery

I read the editorial by William Bevan "The topsy-turvy world of health-care delivery" (10 Sept., p. 985) with some distress. I agree that the situation is a complex one. However, it is not made less complex by the generalities contained in the editorial.

No one disagrees that physicians' fees and hospital charges have risen relative to the Consumer Price Index. However, if one analyzes the price index for service fees of all types, one finds that physicians' fees have risen less rapidly than those of other service occupations. A large portion of the increase in hospital charges may be attributed to the fact that now many hospital service personnel are better paid than in the past, when salaries were minimal and often inadequate. In addition, many more complicated procedures are available now than there were 10 years ago. There is also an increasing number of complex cases. Little rational basis exists for the comparison of present charges with those of a decade ago.

I cannot agree that there is a trend toward the use of higher-cost facilities and services in preference to outpatient care. Today many people with problems such as pneumonia are no longer treated in the hospital. Many operative procedures, such as herniorrhaphy, appendectomy, or delivery of a child, require much less time in the hospital then they did 10 years ago. The relative cost of many specific problems is now less, and probably in some cases the absolute cost may be less. On the other hand, new procedures, such as coronary artery surgery, require expensive equipment run by expensive people. It is difficult to make an estimate of the value of such care in a patient who would have died without it 10 years ago. Society can with reason have almost any amount and kind of medical care it desires. However, it must decide where the point of diminishing return is. Huge sums can be spent on a few patients, such as those who receive heart transplants. Of course, a significant amount of knowledge about many aspects of myocardial and other diseases has been gained from the study of these relatively few cases.

Although Bevan does not mention which health-care systems other countries are using, he does refer to a number of alternative systems, many of which are being or have been tried. The real problem today is not the type of health-care delivery, but rather the complexity of new approaches to a variety of diseases now treatable by medical science.

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Neither Senator Beall's speech (*1*) nor William Bevan's editorial adequately addresses the question, Why isn't strengthening the existing National Center for Health Services Research and Development an adequate approach to the study of the changes required to improve health-care delivery?

Major problems sometimes require new agencies, but no evidence has been presented that this is true in the case of health-care delivery. The program of the national center is broad, encompassing political science, economics, operations research, computer and information science, social and survey research, administration, planning, health maintenance organizations, computers, intervention studies, basic research, development, health statistics, and a variety of other areas. Although it operates within the Health Services and Mental Health Administration (HSMHA), its research programs are administratively independent of most other HSMHA functions. This appropriately places the national center leadership in constant contact with men whose problems involve health-care delivery. An independent agency would not seem to offer any advantage.

Only a pittance of funds is being spent on understanding how health care is being delivered and what new delivery methods can improve it. The need for more money and the continued existence of the problems, however, do not in themselves make a new agency necessary. Senator Beall should investigate the record of the existing national center before proposing a new agency. If it does have defects that are critical, then these should be brought to public attention. If not, then the existing national center should be strengthened, to perform for health-care delivery what the National Institutes of Health have tried to perform for organic disease.

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Reference

1. J. G. Beall, Jr., "A proposed institute of health-care delivery," *Congr. Rec.*, 15 June 1971, p. S9086.

. . . William Bevan's suggestions and Senator Beall's proposal encompass much of what the Department of Health, Education, and Welfare (HEW) is attempting to achieve today. We currently have an institutional focus for health-care-delivery research. It is found in the National Center for Health Services Research and Development, an agency that has a broad congressional mandate to carry out most of the activities suggested by Beall and Bevan. Currently, the national center spends $34 million on health-services re-

search, excluding its expenditure for the training of researchers. This $34 million, plus the other $25 million currently spent by other HEW agencies in health-care-delivery research, amounts to a total expenditure of $59 million. This figure is substantially larger than the $18 million mentioned in Bevan's editorial. These funds are being utilized to support a variety of research efforts including the development and evaluation of experimental health-services delivery systems, new types of manpower (including those specially trained for working in rural communities), and a systems analysis of alternative national health-care plans. We expect to learn a great deal from the endeavors now under way. Moreover, a subcommittee of the President's Advisory Committee on Science is looking at the entire question of the future needs of health-services research, and we look forward to incorporating their thoughts into our long-range planning activities.

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Cancer Research

Many lay people believe that if we can put a man on the moon, we can also conquer cancer, if only we spend enough money. Let me point out the fallacy.

NASA and its Soviet counterpart are accomplishing fantastic feats. However, these feats are nothing other than the construction of machinery that is physically powerful and precise enough to reach specified velocities and directions. They have been accomplished with the help of Newton's celestial mechanics, which are two and a half centuries old, plus some more modern, but previously known devices. Man's ability to reach far into interplanetary space captures the admiration of the public. Space probes are scientific instruments comparable to telescopes. One can always build bigger and better instruments if one has enough money and trained manpower. The space probes have served us well; they have brought us much observational information, but to my knowledge no fundamental new concepts have been discovered.

Cancer is a horse of a different color. The nature of cancer is—let us admit it—still unknown. Certainly, much money and trained manpower are required to conquer cancer. But these are not the most important ingredients. We are in search of new ideas and concepts. They can only be gained by totally unprejudiced human brains.

Two of the greatest discoveries of our century, the theory of relativity and the genetic code, were achieved by brains without the help of machinery. The discovery of antibiotics, as that of x-rays, was due to an accidental observation. Other basic, novel concepts, such as the period-luminosity relationship of cepheids on which intragalactic distance estimates are based, and the concept of the expanding universe, which resulted from patient accumulation of observational data with powerful instruments, were unexpected results arrived at by unprejudiced persons. In all these cases, it took an unusually alert mind to notice a totally unknown phenomenon.

So, likewise, it will be necessary in the conquest of cancer for an individual biomedical scientist, unprejudiced by previously learned doctrines, to notice and correctly interpret a hitherto unknown property of malignant tissue. The best environment for this discovery is that of freedom of investigation. The more highly the new cancer agency is organized administratively, the less likely it is for the "breakthrough" to occur within its framework. The National Institutes of Health (NIH) possess a high degree of flexibility. Funding of research at academic institutions through NIH offers the atmosphere in which cancer may be conquered.

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Price Advantage

Readers of the review (11 Feb., p. 621) of the book *Cosmic Gamma Rays* by Stecker might be interested to know that an edition of this book was published by the National Aeronautics and Space Administration and is available from the Superintendent of Documents, Washington, D.C., for $1.25. This edition is paperback, it is true, but that deficiency may not outweigh the tenfold price advantage, compared to the edition published in Baltimore. The NASA edition has the same name, and is further identified by "NASA SP-249."

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