Letters

NIH Budget Growth

We disagree with Barbara J. Culliton's interpretation (News and Comment, 29 Mar., p. 1562) of the Institute of Medicine's (IOM's) recent report (*1*) on the organizational structure of the National Institutes of Health (NIH). Culliton cites the report as evidence of a correlation between high visibility and increased funding. In fact, the committee found no evidence that establishing new institutes has consistently led to increased budgets for NIH as a whole or for a new institute.

In all of the cases examined save one, new institutes grew at about the same rate as the rest of NIH. The National Institute on Aging, cited by Culliton, is the one exception the committee found. The National Eye Institute (NEI) and the National Institute of Environmental Health Sciences (NIEHS) are more typical. In its first years as an institute, between 1969 and 1976, NEI increased its share of the NIH budget from 2.0 to 2.4 percent. In the same period, NIEHS stayed at a constant 1.6 percent. In fact, Congress dramatically increased the budget of all three of these institutes between 1976 and 1979, but only one was "new" at that time. Congress regularly alters the distribution of funds among the NIH institutes. The IOM committee, however, found "no evidence of a consistent, sustained causal effect of organizational changes on the distribution of the budget."

Between 1943 and 1968 the NIH budget grew by 24 percent per year, adjusting for inflation, and there were relatively few major organizational changes. Between 1968 and 1984, the budget grew by about 2 percent per year, and there were many organizational changes (*2*). Rather than supporting the case that new institutes bring more funds to NIH as a whole, the data suggest that calls for new institutes are a response to slow growth.

Culliton's second quotation from the IOM report, that "establishing a new institute at least has not hampered the scientific effort and may have helped it considerably," refers to the nonfinancial effects of establishing a new institute, such as better science and management of science. The IOM committee found that less extreme measures (such as the establishment of the Lung Division within the National Heart Institute) had similar beneficial effects but lower costs.

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References and Notes

1. Institute of Medicine, *Responding to Health Needs and Scientific Opportunity: The Organizational Structure of the National Institutes of Health* (National Academy Press, Washington, D.C., 1984).
2. Calculated from *Basic Data Relating to the National Institutes of Health 1981* (National Institutes of Health, Bethesda, Md., 1981).

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Ebert and Stoto are correct in stating that the IOM committee found no evidence that establishing a new institute consistently leads to increased funding. However, the report of the committee clearly indicates that there is a correlation between increased funding and new or renewed congressional interest in a particular disease or area of research.

For example, the report notes that funding for cancer and heart research increased substantially after Congress conferred new status on those institutes at NIH. Likewise, as Ebert and Stoto reiterate, congressional attention also resulted in substantially increased funding for the aging, eye, and environmental institutes. The emphasis in the article, and in the IOM report, belongs on congressional interest and support rather than on the creation of a new institute per se.

The fact that NIH's budget declined in 1968 after 25 years of dramatic budgetary growth, and has suffered budgetary ups and downs since then, is an issue separate from the question of budgetary increases for specific programs that find congressional favor. Indeed, it has been argued that if the growth rate that characterized NIH's early years continued unabated, the institutes would have more money than could be allocated constructively.—BARBARA J. CULLITON

Cost of Superconducting Super Collider

In his briefing "House committee questions SSC" (News and Comment, 19 Apr., p. 309), Mark Crawford refers to an observation by a House Science and Technology Committee aide that the Tevatron superconducting magnets at Fermilab cost $50,000 each. Crawford then goes on to say that "at this level, the [Superconducting Super Collider's] magnet system would cost more than $5 billion." He is in error.

In the "A" design option, for example, the total number of magnets (dipoles and quadrupoles) is 4674. Each contains two apertures, so one can multiply this number by two, even though two-in-one magnets are somewhat less expensive than two separate magnets. This yields a total of 9348 magnets. At $50,000 each, the magnet system would cost approximately $500 million. However, these magnets are about 2.5 times as long as the Tevatron magnets. Magnet costs do not increase linearly with length, but if one assumes a pessimistic factor of two for length alone, the SSC system would cost only $1 billion. Thus, extrapolation of Tevatron costs yields an SSC magnet system cost very close to the $750 million given by the existing detailed cost estimate for design A. Similar arguments can be made for all of the design options, with similar results. Under no conceivable scenario could the magnet system cost anything like $5 billion.

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The estimated cost of the SSC's magnet system was in fact overstated because of a bad calculation. It is correct that magnet costs are projected at about $500 million. Nevertheless, the House Science and Technology Committee continues to be concerned about magnet performance and costs as well as total project outlays. The Department of Energy estimates that the SSC will cost $6 billion (inflated 1984 dollars) when completed.—MARK CRAWFORD