The Growing Family of NIH Institutes

HAROLD VARMUS SUGGESTS THAT TOO many institutes exist at the National Institutes of Health (NIH) and that this problem might be solved by consolidating the institutes and independent centers into six units of about equal size (*Science*'s Compass, Policy Forum, "Proliferation of National Institutes of Health," 9 Mar., p. 1903). He cites the recent establishment of the National Institute of Biomedical Imaging and Bioengineering (NIBIB) as an example of the problem he perceives.

Varmus served with distinction as director of the NIH for 6 years. At no point during his tenure did he or the Administration formally propose a reorganization of the NIH along the lines he suggests. I point this out not to criticize the specifics of his current proposal, but to make clear that this was an unlikely alternative to H.R. 1795, the National Institute of Biomedical Imaging and Bioengineering Establishment Act.

As the author of H.R. 1795, I disagree with Varmus's view that creation of NIBIB was ill conceived and that the legislative process did not address questions about the impact of the new institute on the NIH and biomedical research. In fact, the establishment of NIBIB was a response by Congress (which passed H.R. 1795 in both houses) to compelling evidence that the previous structure of the NIH did not accommodate basic scientific research in biomedical imaging and bioengineering, research fields that are increasingly critical to improving health care and advancing medical research.

Varmus says, "At no point were congressional hearings or public debates held..." But in fact, on 13 September 2000, the House Commerce Subcommittee on Health and Environment, on which I serve, held a public hearing on H.R. 1795. Three academic radiologists testified in support of the bill and were questioned extensively, and the NIH submitted a written statement in lieu of providing a witness. The full Commerce Committee amended and approved H.R. 1795 by voice vote in open session on the following day, and the full House of Representatives debated and passed the bill by voice vote on 27 September. At that point the bill had the support of a bipartisan group of 171 co-sponsors in the House and 11 in the Senate.

Varmus also says that only a "few" bioengineers and radiologists were interested in this proposal. This statement is also off the mark. On the basis of testimony at the 13 September hearing, more than 40 professional societies in biomedical imaging and bioengineering, with a combined membership of well over 100,000, actively supported the proposed institute (see *Science* Letters, 2 Mar., p. 1701). Members of Congress received thousands of letters and e-mails from individuals in these disciplines, providing evidence of a strong consensus in support of the new institute among radiologists, imaging scientists, bioengineers, radiologic technologists, and manufacturers.

The NIBIB will provide an organization to support basic research in fields that transcend the individual missions of the current disease- and organ-based institutes. The results are likely to include more rapid technology development and transfer of new ideas to clinical practice, and the public will benefit through the availability of better detection, diagnosis, and treatment of disease. I am confident that the NIH will be strengthened by the addition of NIBIB, and the unique promise of imaging and bioengineering can best be realized through the new institute.

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VARMUS WARNS ABOUT THE PROLIFERATION of NIH's institutes. The problems he lists (inflexibility, administrative complexity, and defects in program coordination) are well known; however, the alternative he suggests (five institutes and "NIH Central") seems somewhat restrictive—it does not cover all areas fairly. Specifically, basic biomedical research should be given a prominent, separate status in addition to institutes committed to major disease groups.

An alternative to Varmus's plan is to assign the predominantly disease-oriented NIH activities (basic and applied) to four institutes of different sizes and budgets to be determined by need. These four "clinical" units could, for example, administer and conduct research on cancer, neurologic and psychiatric diseases, internal medicine, and infectious diseases. Any activity that does not fit into these categories would then be delegated to a fifth unit for general medical research. The latter would perhaps encompass 40 to 50% of NIH's research activities and could be organized into six divisions: genomics (or genetics) and organismic development, basic biology, environmental health sciences, general medicine (which would include activities not covered by the four clinical institutes), technical development and resources, and social issues. A unit having authority over policies and programs across NIH, as proposed by Varmus, would be an additional essential component of the overall structure.

How might such a major change of the NIH structure be implemented? One idea

Letters to the Editor

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would be to ask extramural grant applicants in the fiscal year preceding the change to indicate in their applications which of the future institutes or divisions best reflects the work proposed. The total dollar amount attributed in this way to a specific unit would be combined with funds granted for intramural activities. Such a procedure could then be used to determine the relative distribution of funds to the individual units. Separate funding would be provided to NIH Central and other administrative functions.

The elimination of existing NIH units will be a difficult task. The biomedical community needs to unite to provide grassroots support. We as scientists and as U.S. citizens will win if the result is a better, less fragmented, and more efficient NIH.

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ALTHOUGH VARMUS ARGUES AGAINST FURTHER proliferation of institutes (he estimates a total of 50 by 2040), his real agenda appears to be to cut the current number of institutes receiving independent appropriations from about 24 to 6. He is concerned that the larger numbers mean "less flexibility, less managerial capacity, less coordination, and more administrative burden." Varmus's reasoning for why other institutes were created seems somewhat naïve. Surely, most came about because new or rising health problems were perceived by the public and by health professionals, and Congress responded.

Contrary to Varmus's thesis, flexibility in tackling these new health problems is probably enhanced by independent budgets for the new NIH components. Varmus says that "[i]t is highly unlikely that any major industrial firm would ever choose to be organized and managed in this way." Not so. Just look at General Motors. Their divisions are not of equal size or equal budgets. They even start new divisions (such as "Saturn") with their own budgets, managers, and infrastructure.

To move to a specific area, surely the public would suffer if the National Institute of Dental and Craniofacial Research were to disappear. History has shown that when similar events occurred in other countries (for example, in Canada and Great Britain), the research work simply did not get done. How sad it would be if a small number of "mega-chiefs" set the entire NIH agenda. Would the public really be served, rather than the managerial "efficiency" of a group of bureaucrats? To use a widely revered example, has there ever been a better return on biomedical science investment than fluoride? Would it have happened without a dental institute?

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Response

REPRESENTATIVE BURR IS CORRECT THAT HIS committee held a hearing on H.R.1795 last September, but no reader of the transcript is likely to call it a real debate. NIH was invited to testify just 6 days before the hearing and offered a written statement strongly opposing the measure; all of the witnesses who appeared were representatives of the disciplines that had been lobbying for it; and no hearing was held by the Senate. It is difficult to know how many individuals actually supported the measure. The same few people regularly appeared at my door to argue for it. These few represented societies with thousands of members, but that might be different from thousands of informed opinions. Moreover, one of the points of my Policy Forum was the importance of having a broader consensus, including support beyond the affected disciplines, before creating more institutes.

"... my experience in Washington taught me the frustrations and dangers of resisting the creation of new units at the NIH."

Burr suggests that I might have offered my reorganizational plan as an alternative to earlier versions of his bill when I was working at the NIH. My experience in Washington taught me the frustrations and dangers of resisting the creation of new units at the NIH. All three that I opposed, at significant cost to my relationships with some important constituencies, were ultimately created. Unless there is widespread support for a new reorganizational plan, perhaps achievable through the National Academy study now requested by Congress, any single advocate is likely to be ineffective and subject to the displeasure of even well-intentioned legislators like Burr.

Randerath suggests that a large fraction of basic medical research should be supported by a large institute without any nominal link to disease. This is a point that surely warrants further discussion in any study of the future organization of the NIH, but it is important to bear in mind the possible consequences to this institute of a return to times of fiscal constraint. Randerath's ideas about how a transition to a new structure might be achieved are interesting and provide a useful warning about the difficulty of making changes, even if they can be agreed to.

The letter from Goldhaber and colleagues illustrates the obstacles that will be faced by any proposals to change the structure of the NIH in ways that might reduce the influence or autonomy of special interests. Goldhaber *et al.* do not want to consider nuances in this complex situation. I acknowledged that there are legitimate arguments on both sides of the organization issues, but maintained that continued expansion presents a significant danger; and I emphasized that attention needs to be given to solutions now, before the situation becomes worse, not that it was already unworkable. Furthermore, I support the idea of having flexible divisions within large institutes, an idea entirely consistent with several automotive divisions of General Motors and very different from separate companies with separate budgets of different but relatively inflexible sizes, as currently exists at the NIH.

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The Yanomamo and the 1960s Measles Epidemic

THE PORTRAYAL OF JAMES V. NEEL AND THE measles epidemic among the Yanomamo in Charles C. Mann's News Focus article "Anthropological warfare" (19 Jan., p. 416), for which I was interviewed and quoted, is disappointing. Mann's discussion could leave readers with doubts and questions where few or none exist. There-