Letters

Physician-Investigators

As a Ph.D. director of a clinical research laboratory, I would like to suggest that mourning for the lack of physician-investigators and developing specific training programs to increase their number (News and Comment, 13 Jan., p. 149) reveals a basic misunderstanding of career objectives for these two professions and does a disservice to Ph.D. research personnel. Academic physicians who derive satisfaction from their clinical responsibilities will not, by definition, have available as much laboratory time as their scientist counterparts for the persistent experimentation, reflective data analysis, and consideration of topical literature which is necessary for high-quality research contributions. Technical laboratory skills, along with the patience and time to use and improve them, can be developed within the province of the Ph.D. However, consideration by the National Institutes of Health (NIH) of ways to retrain M.D.'s for part-time research careers seems to assume that basic scientists, without ward or operating room experience, cannot understand disease processes or coordinate clinical problems with experimental results. The history of advances in medical research shows that this assumption is not true. I would much rather see the "toe-in-the-water" training moneys used to support solid, clinical research proposals arising through the peer review process from a realistic collaboration between academic physicians and research scientists.

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Barbara J. Culliton cites a report by an Institute of Medicine/National Academy of Science committee which "expressed concern about the lack of interest in research careers on the part of young physicians." Her article goes on to describe the limited success that the NIH fellowship and training grant programs have had encouraging recent medical school graduates to seek training in laboratory research.

I agree with Wyngaarden that investigators with training in both clinical medicine and laboratory research are a valuable asset, and the decline in the number of such people in the recent past is a justifiable concern. There is, however, an obvious alternative to the incentives already in place. Incentives for recent graduates of Ph.D. programs to pursue medical training would also address the problem. This would facilitate the development of young investigators with a proven interest in research. It is also likely that many promising candidates could be attracted by significantly less money than the generous stipends NIH is willing to offer young physicians.

If the long-term goal of the incentives discussed in the article truly is to increase the number of investigators with laboratory and clinical experience, this alternative should be considered.

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Journal Prices

In his letter "Growth of scientific journals" (23 Dec., p. 1280), Helmut A. Abt states that "most societies offer their journals to members at considerably below cost." This statement requires clarification because the cost of scientific journals to individuals is a matter of substantial concern in society councils and in contention between librarians and society publishers.

One should not simply divide the annual budget of a journal by the number of subscribers to obtain a unit cost and then judge the viability of a particular subscription rate by that cost. Journal publication costs are separable into fixed costs—those that are essentially independent of the number of subscribers—and variable costs—those that are roughly proportional to the number of subscribers. Fixed costs are often several times the total variable costs; thus, the average per unit cost is likely to be well above the per unit variable cost. Contrary to what Abt implies, if the price paid by the member exceeds the per unit variable cost, there is a financial benefit to the publisher from that subscription. This benefit takes the form of a contribution to the fixed costs and overhead, a contribution that would not be made if the member did not subscribe. Since few, if any, members would subscribe at the average unit cost of a journal, the lower member rate is clearly a benefit to everyone using the journal. Without the contribution from the member subscriptions, institutional subscribers would be paying a higher price.

Herring (*1*) showed that pricing journals below the per unit variable cost is counterproductive. His economic argument in general terms is that the potential net benefit to society as a whole of a particular scientific journal can be measured by the total amount that enlightened purchasers are willing to pay for it less the cost of publishing it. There is a reduction in net benefit if copies are circulated at less than the per unit variable cost, since income does not rise as fast as costs in this case. There is also a loss in net benefit if copies are not circulated near the per unit variable cost, since users willing to pay the minimum and no more may be cut off from the information benefit.

Page charges should not be ignored in this discussion. If they covered the fixed costs, all copies could be sold at the per unit variable cost and the benefit to society as a whole maximized. In any case page charges permit lowering the highest subscription rates and, therefore, enhance dissemination.

Society journals with low subscription rates are frequently the most widely circulated and highly cited journals in their fields. Page charges and multilevel subscription rates are intimately linked to circulation patterns (*2*). In society journal finances, there are no subsidies to authors, to institutions, or to individual readers; there is a system of charges that attempts to reflect the value to the authors and to different classes of subscribers. The objective is to maximize value to the scientific community.

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References

1. C. Herring, *Report of the Task Group on the Economics of Primary Publication* (NTIS PB 194-400, National Academy of Sciences, Washington, D.C., 1970).
2. A. F. Spilhaus, Jr., in *Proceedings of the Fifth Annual Meeting of the Society for Scholarly Publishing* (Society for Scholarly Publishing, Washington, D.C., 1983), pp. 107–110.