

Editorial

The Academic Cup: Part II

Robert O. Jacoby

My concerns about the future of academic comparative medicine were illustrated in the October editorial (1), which highlighted an informal tabulation of advertisements for laboratory animal specialists placed by academic institutions during the past year. The count implied that institutional priorities were about equally divided between those favoring academically oriented applicants and those preferring only service providers. This pattern demonstrates current divergence regarding the role of laboratory animal specialists at academic institutions, and adds to uncertainties about future hiring trends. I framed the issue metaphorically as the well-known cup at mid-volume, at once half full and half empty. The point I hoped to make, and re-emphasize here, is that the relationship between cup and contents is likely to be kinetic rather than static—where complacency on our part will result in evaporation, but where focused energy and creativity can lead to replenishment.

I suspect that a key factor favoring prospective attrition in faculty appointments for laboratory animal specialists is incomplete or inaccurate perception of the benefits such specialists provide to research centers. If this is so, edification of institutional leaders should be a high priority and one we should address assertively, collectively and soon. Because a collective voice will produce the best case for academic models, the following thoughts should be construed only as preliminary offerings. They consider, briefly, how academically oriented specialists enhance animal-related research through service, research and training, compared to the service pathway alone.

I acknowledge at the outset, and in light of membership in an academic group that has had many of the characteristics touched on below for the past 35 years, that any model of animal health care must be highly knowledgeable, comprehensive and affordable. A program that fails to deliver these attributes opens contemporary animal experimentation to unnecessary risk. During a substantial part of the past century, these responsibilities were placed, in many institutions, on general practitioners of laboratory animal medicine, whose multi-hatted repertoires may have been adequate to meet basic health care needs. The explosive entry of animal genomics has, however, raised the bar and changed the rules of engagement. The biological and clinical problems of genetically altered animals require great sophistication and teamwork in the clinic and diagnostic laboratory to ensure informed analysis, interpretation and response in a highly competitive research environment. Layered into this equation are emerging initiatives in animal use ranging from gene therapy to bioengineering that will re-

quire progressive depth and diversity in service programs. Put somewhat differently, if the mission of laboratory animal medicine had centered on primary care, demands for secondary and tertiary care must be added to the mix to meet the needs of novel and diversifying animal experimentation. One size no longer fits all in institutional searches for animal health professionals—by a long shot. The service obligations within comparative medicine have become decidedly interdisciplinary; the requisite shoes are best filled by academically oriented clinician-scientists, comparative pathologists and basic scientists in genetics, microbiology and other specialties. Faculty appointments in a programmatically and infrastructurally coherent core are a proven way to recruit and retain such expertise.

While programmatic depth and diversity should be non-controversial qualities, they must share center stage in the practical world of institutional finances. After all, salaries for service staff come primarily or solely from per diem charges and/or institutional funds. Therefore, both administrators and investigators rightfully demand the biggest achievable bang for the laboratory animal medicine buck. If an animal health care program devoted to service is limited by the budgets these funding sources can bear, it may fall short of meeting institutional goals for depth and diversity. By contrast, an academically capable staff contributes financial leverage by garnering salary support from extramural sources. Research funding can evolve from scientific interests of individual comparative medicine faculty members amplified by exploitation of case material. Further leverage is offered by collaborative research with investigators in other departments who value the special knowledge of animal biology and disease provided by a comparative medicine faculty. Thus, synergistic knowledge and skill can lead to greater coverage for an animal health program without incremental cost. It is not unusual (from personal experience) for an academically successful department of comparative medicine to cover 30 to 50 percent of its faculty salaries through these means—a boost which contributes measurably to an institution's scientific and infrastructural wealth.

Apart from pragmatic considerations related to intramural health care, an academically oriented faculty provides significant benefits for the scientific community-at-large. The foundations of modern animal health care are primarily and understandably the fruits of basic and clinical research by academic comparative medicine. As in human medicine, these activities are vital to cutting edge clinical practice. Without them, the edge will dull and animal-related research will ultimately feel the pinch. Continued support for research in laboratory animal biology and health, while primarily a federal responsibility, requires institutional encouragement

through complementary faculty appointments and infrastructure. In a related matter of equal importance, academic groups furnish the best milieu to train future laboratory animal specialists. Training is, by definition, at the epicenter of the academic mission. Further, trainees add immeasurably to a department's intellectual vitality. Academic institutions are, arguably, among the most important beneficiaries of training in comparative medicine and laboratory animal science and should have a vested interest in contributing to its continuity.

Academic programs of any stripe are not born or sustained without risk, but thoughtful planning and investment in academic comparative medicine can keep risk manageable while nurturing scientific benefits for animal-related research. I am not aware of a manifesto that lays out and quantifies for institutional planners the strengths, risks, options and strategies associated with program development, but suggest that such a contribution from players in the center of the action would be exceptionally fitting.

1. **Jacoby, R. O.** 2000. The academic cup. *Comp. Med.* **50**:478.