

Editorial

Whither Clinical Investigation?

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Clinical reports have been a journal staple for more than 50 years and continue to highlight the central role of laboratory animal medicine in biomedical research. It was natural, therefore, that the transition of *Laboratory Animal Science* to *Comparative Medicine* several years ago sought to sustain and encourage clinical reporting, as stated in the journal's mission statement and Information for Authors. Within this realm, I have been particularly enthusiastic about clinical investigations which, when elegantly done, epitomize the fruitful synergy between clinical expertise and basic research that underpins first-rate clinical scholarship. This attribute is especially evident in the superb clinical investigations that grace top-flight periodicals such as the *New England Journal of Medicine*. Therefore, let me attempt a contemporary definition, offered in expectation of improvement rather than applause. Clinical investigation is in-depth clinical study, through the concepts and tools of applied and basic science, which reveals significant new information about the causes, pathogenesis, epidemiology, treatment, and prevention of disease. In other words, it is clinical medicine pursued with the knowledge, vision, and gusto to swing for the scientific fences.

Clinical investigation has had a highly positive impact on the health and welfare of laboratory animals. Significant advances have sprung from rigorous studies on subjects from anesthesia to zoonoses. And benefits from initial studies have often reached their richest expression after transformation into independently funded research projects. The value of this conversion has been shown convincingly through discovery of animal models as well as through insights into animal biology and disease—all originating in thoughtful and persistent clinical curiosity. Advances in the causes, diagnosis, and prevention of rodent infectious diseases are well-known examples of this process. Looking ahead, opportunities for clinical investigation are at least as promising as those demonstrated by past achievement. One source of this optimism stems from the need to meet health care challenges presented by genetically engineered animals.

Despite the laudable history and potential of clinical investigation, its pace in laboratory animal medicine appears to have slowed. Using *Comparative Medicine* accessions as a rough measure of this perception, only about 10 percent of original articles in any given volume qualify, even by lenient criteria, as clinical investigations. More to the point, case reports with the capacity for expansion seem to take that option less often than they should. Further, there are disappointingly few federally funded research projects based on clinical issues in laboratory animal medicine.

These trends merit concern because they are one barometer of

the intellectual health of laboratory animal medicine and, by extension, the value of the discipline to biomedical science. To its credit, the American College of Laboratory Animal Medicine (ACLAM), perhaps taking this concern into account, recently revised eligibility requirements for its certifying examination to include demonstrable competence in hypothesis-driven research. Clinical investigation is an obvious and outstanding training component to meet this qualification. Further, it introduces developing specialists to career opportunities as clinician-scientists essential to the modern mission of laboratory animal medicine.

The factors contributing to reduced clinical investigation are surely headed by lack of time (and, by inference, inadequate staffing) and money. Despite the best intentions, many laboratory animal medicine programs are hard-pressed to meet basic clinical and regulatory mandates, leaving precious little time and energy to develop clinical findings beyond basic necessity. Not too many years ago, the U.S. government had an active and vital role in decompressing this constraint through support for clinical research and training. With the lamentable and short-sighted elimination of those resources, animal health care programs have to scramble for funds to keep clinical scholarship afloat or, unfortunately, to shelve clinical activity beyond the delivery of basic services. It is quite common nowadays, for example, to fund clinical training at biomedical centers through animal resource budgets or through collaborative arrangements with pharmaceutical companies. Thus, academic programs in laboratory animal medicine appear to be compensating, to some degree, for the loss of federal training funds by convincing beneficiaries of training to contribute to its viability. This approach can be extended to clinical investigation. For example, it is possible to build discretionary funds for clinical investigation into animal resource budgets or through fees for professional services

Editor's note:

We are pleased to offer, in this issue, five timely reviews based on presentations by the authors at the Spring 2002 Forum of the American College of Laboratory Animal Medicine entitled "Genetics, Genomics, and Gene Therapy." The journal extends sincere thanks to the College and the presenters for helping to disseminate this information to the wider scientific community. I am especially grateful to Dr. Linda Toth, recent chair of the Comparative Medicine Editorial Advisory Committee, for recommending publication of selected forum proceedings. If the articles are well received by the readership, we will solicit contributions again this year.

incremental to per diem charges. Such funds can be targeted to provide clear and immediate benefit to local animal-based experimentation while cultivating, at small financial risk, a more sophisticated view of laboratory animal medicine than is currently held by many senior institutional officials. These approaches have been used at my institution to improve animal health through pilot clinical and diagnostic laboratory research, which also has been leveraged into extramural funding. Thus, local investment is helping to pay for itself, and then some, by

protecting biomedical research while encouraging clinicians to follow cases beyond basic levels.

There are other creative ways to sell and underwrite clinical investigation in these financially constrained times. I know, after speaking with well-versed colleagues, that a forum to explore cogent options, perhaps under ACLAM sponsorship, would be well received. Collective strategy and voice could provide the right stimuli to keep critical clinical scholarship at the heart of contemporary laboratory animal medicine.