

Closing the Supply vs. Demand Gap for Veterinary Pathologists: A Multifaceted Problem in Need of a Multifaceted Solution

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A 2002 survey conducted by the American College of Veterinary Pathologists (ACVP) and the Society of Toxicologic Pathology (STP) confirmed what employers and trainers of veterinary pathologists have experienced over the past decade: not enough of these specialized biomedical scientists are being trained to meet the demand (submitted for publication, *Veterinary Pathology*). Results of the survey indicated almost 150 open positions for veterinary anatomic or clinical pathologists at that time, about half of which were in the industrial sector. The deficit in supply was projected to increase to more than 400 by 2007, due to a combination of increased demand and the impending retirement of a whole “generation” of pathologists. Neither the rate at which the academic programs are training new pathologists, nor the number of currently enrolled trainees is sufficient to meet the demand. This conclusion is in keeping with results of a recent National Research Council workshop on the need for veterinarians with a range of advanced research training, especially as relates to their contributions within the pharmaceutical industry (R. J. Kinkler. “National Needs in Research for Veterinary Science: An Industry Perspective,” National Needs for Research in Veterinary Science Workshop. National Academies of Science. Washington, D.C. July 19-20, 2004).

The continued increase in the demand for veterinary pathologists, especially in industry, is understandable considering the key roles they play in the discovery and development of modern biopharmaceuticals. Contemporary anatomic and clinical veterinary pathologists describe, diagnose, quantify, interpret and determine reversibility of gross, microscopic and ultrastructural changes in tissues of animals following exposure to drugs/biologicals; they define clinical pathological parameters and identify novel biomarkers to monitor toxicity; they establish hypotheses and utilize specialized methods to design/manage experiments to elucidate the pathogenesis of toxicity; they extrapolate risks from animals to humans; they utilize animal models to confirm targets for therapeutic intervention; they localize cellular receptors and other targets in tissues using immunologic and molecular methodologies; they present critical data to regulatory agencies; and they provide leadership and administrative guidance for scientific units.

The reasons for the inability to meet the demand for veterinary pathologists are multifaceted. The most obvious reasons include the need to (1) better inform high school, pre-veterinary and veterinary students about rewarding career opportunities in veterinary pathology, (2) attract more highly qualified candidates to pursue post-DVM training, (3) attract and retain faculty to train residents and PhD-graduate students, and (4) create additional training positions.

The “**ACVP/STP Coalition for Veterinary Pathology Fellows**” is one step of a multifaceted approach needed to address the underlying causes of the problem. This unique

partnership between ACVP and STP was formed in late 2004 to address the primary factor cited in the 2002 survey responsible for the limited number of training positions; lack of funding. Traditional funding to train veterinary pathologists, especially from federal government sources such as National Institutes of Health (NIH)-sponsored training grants and state funds granted to academic institutions, has been drastically reduced over the last decade. Individual industrial sponsors and professional organizations have attempted to replace these vanishing funds; unfortunately, these efforts have not been coordinated, resulting in overlapping or conflicting goals, confusion amongst targeted trainees and funding sponsors, lack of a centralized clearinghouse for funding opportunities, and insufficient communication between the training institutions and employers of veterinary pathologists. The Coalition provides a unified mechanism to solicit and allocate funds to establish new positions to train veterinary anatomic and clinical pathologists by integrating the common interests of three groups:

- a. Academic training institutions, to increase the number of positions for training veterinary pathologists, to communicate the goals of their programs and opportunities for academic careers;
- b. Industry, to increase the supply of well trained veterinary pathologists, to fund new training positions, to demonstrate their commitment to science and opportunities for industrial careers;
- c. The ACVP and STP, to promote programs that enhance candidates' preparation to pass the ACVP Certification Examination and to complete pathology-related PhD dissertation research, and to assist training programs and industry achieve their goals.

The Coalition will solicit financial support from pharmaceutical, biotechnology and chemical companies, contract research organizations, private diagnostic laboratories, and philanthropic health and education foundations. Funding for new training positions will be awarded on the basis of competitive review of applications submitted by North American institutions that train veterinary pathologists as one of their primary functions. Funds will support residency training in either veterinary anatomic or clinical pathology or PhD dissertation research for a maximum of three years each, and will include stipends, tuition and medical benefits, travel and miscellaneous educational supplies. Training will focus on core principles of diagnostic and experimental veterinary pathology common to the goals of both ACVP and STP. A close interaction will be established between training institutions and industrial sponsors to enhance trainees' programs and to cross-communicate programmatic goals. Trainees will be expected to successfully complete the ACVP Examination and/or the PhD degree within two years of the end of funding, and to pursue careers as veterinary pathologists, but otherwise will have no pay back obligation.

In summary, the ACVP/STP Coalition for Veterinary Pathology Fellows combines the strengths of two highly influential professional comparative pathology organizations to respond to the widening gap between the supply and demand for veterinary pathologists. The Coalition will result in multiple benefits, including an increased number of well trained veterinary pathologists, a unified mechanism for ACVP/STP to solicit and distribute funds to

train veterinary pathologists, and a conduit for enhanced interaction between academic and industrial veterinary pathologists. This program will provide high-level recognition for sponsors with the foresight to provide financial support, and for selected training institutions for the excellence of their programs.

More information can be obtained by visiting the websites of either ACVP (<http://www.acvp.org/training>) or STP (<http://www.toxpath.org>, select “For Students and Student Information from the pull-down menu), or by contacting the Coalition Director, Dr. Gary Cockerell (alliances@cockerell.org) or the Chair of the Coalition Board of Governors, Dr. Reid Patterson (reidpattersonconsulting@comcast.net).