

**Executive Summary, Anatomic Pathology  
ACVP/STP/ASVCP Supply and Demand Survey 2007  
Demographics Subcommittee, Recruitment Committee, ACVP**

As a follow up to the 2002 Survey to identify and characterize the shortage of veterinary pathologists in the workplace, a second survey, supported by the American College of Veterinary Pathologists, Society of Toxicologic Pathology and American Society for Veterinary Clinical Pathology, was performed in 2007. The 2007 survey was similar to the 2002 survey, with some modification, so that meaningful comparisons could be drawn between the two surveys and trends and issues more accurately defined. As in 2002, surveys were sent to veterinary pathology training programs (“supply”) and to employers of veterinary pathologists (“demand”). As with the 2002 survey, the goals were to obtain an idea of the current and future demand for veterinary pathologists to assess the challenges associated with recruiting veterinary pathologists. The survey was also used to determine if the goals of training programs had shifted, the number of trainees entering and completing programs had changed and if the challenges associated with recruiting had changed. The summary below is for the anatomic pathology portion of the survey.

Attempts were made to be more “concise” with identifying the survey populations and a concerted effort was made before the survey was done to accurately identify training programs actually in existence, to avoid duplication of contacts both within in training programs and among employers and to be more accurate in identification of programs and employers. Hence the survey numbers are somewhat different than in 2002. Thirty-seven out of 39 total questionnaires sent to training programs were filled out and returned, a 94.9% response rate, while 122 institutions employing pathologists out of 248 surveyed returned information for a response rate of 56.9%.

**“Supply” Summary (Survey of Training Programs in Anatomic Pathology)**

Thirty-seven programs responded to the 2007 survey, a 94.9% response rate; this is comparable to 2002, in which there were approximately the same number of responses (38) although a lower response rate (70%). There were 34 responses for anatomic pathology (which this summary addresses) – this number is identical to the 2002 survey.

Types of programs represented included training institutions offering combined residency/PhD programs (53% of those responding) and institutions offering three year residency only programs (65% of those responding); these numbers are different than 2002, in which 76% of responding institutions offered combined residency/PhD programs and 55% offered three year residency only programs. This reflects a significant change in training priorities, although PhD training still appears to remain important for some institutions.

Board certification/eligibility as a major goal of training programs was 64%, the same as in 2002.

The number (#) of trainees enrolled in training programs was 196 in 2007; this compares with 162 in 2002. Most of the increase was associated with an increase in the # of enrollees in three year residency only programs (113 in 2007 vs. 72 in 2002). The number of trainees enrolled in combined programs increased slightly (about 14%) between 2002 and 2007. In 2002, there were 82 individuals enrolled in combined programs (MS and PhD) while in 2007 there were 95, with the increase mostly due to trainees in combined residency/MS programs.

Minority enrollment was the same in both 2002 and 2007, 20 total for both survey years. Non-citizen enrollment showed the same trend -- 43 in 2007 and 40 in 2002.

Respondents to questions regarding funding sources indicated that the training institution itself provided funding for 53% and 23% of their residency only and residency/MS positions, respectively, with industry sources funding 15% and 6%. The home state provided 21% and 15% while the Federal government provided funding for only for 6% of residency/MS programs. With regards to combined residency/PhD programs, institutions themselves provided support for 24%, the home state for 12%, the federal government provided support for 26% and Industry provided for 9% of these types of programs. These types of data were not collected in the 2002 survey, so no comparisons or assessments of changes can be made.

Changes in # of enrollment positions since 2002 were 60 positions gained, 6 lost, for a net gain of 54; most of these new positions were funded by the institution (19) and by Industry (16). Some of this reflects the efforts of the ACVP/STP Coalition to attract more support from Industry for residency training.

With regards to the perceived adequacy of positions to meet the individual programs' service and teaching needs, 26% replied that there were too few positions (55% in 2002), 65% thought that the # of positions was just right (42% in 2002) and 9% replied that there were too many positions (3% in 2002). This is a substantial improvement in perceptions.

Difficulties with recruiting have eased since 2002, with 62% responding that it was not very or not at all difficult to recruit candidates (compared to 18% in 2002).

Barriers to recruiting have changed somewhat since 2002. In 2007 the top four barriers listed by respondents were "other" at 85%, low stipends at 46%, program location at 46% and program length and debt at 30%; this is different than 2002, in which "other," debt and low stipends were listed by 57% respondents and other specialties listed by 37%. *Primary* barriers to recruiting were listed as "other" by 50%, program length and competition from other specialties by 20% and program location by 10%; this is in contrast to 2002, when "other" was listed by 40% followed by low stipends (23%), other specialties (19%), debt (15%) and program length (4%). It should be noted that the numbers of responses to these questions in 2007 were < 50% of those in 2002, which may have skewed the data.

Factors limiting # of positions were funding for residencies (listed by 88% of respondents), numbers of faculty (62%), funding for PhDs (35%), # of applicants 15% and other 29%. This is a different pattern in some respects from 2002; although 94% listed funding as a limiting factor, only 32% listed faculty numbers as limiting, while 26% listed # applicants as a limiting factor, 41% PhD funding, and 15% other factors. As for the *primary* factor limiting positions, funding for residencies was high on the list (52% compared to 61% in 2002). Other primary limiting factors that differed substantially from 2002 were "other" factors (21% in 2007 vs. 3% in 2002) and # applicants (3% vs. 12% in 2002).

A substantial increase in the number of applicants per position was noted in the 2007 survey. According to respondents there was an average of 7.1 applicants/open position, with 38% of the positions having >7 applicants; this is in contrast to 2002, where there 3.3 applicants/position and only 3% reported >7 applicants/position.

A trend toward more qualified applicants over the past five years was also noted, with 52% reporting an increase in the # qualified applicants, 30% the same and 18% fewer; this is in great contrast to 2002, where 6% reported having an increase in # qualified applicants over a five year period, 36% reporting the same and 58% reporting fewer.

Numbers of graduates from training programs over the past five years has increased since the 2002 survey, with a total of 211 candidates reported as graduating (7.0/program) in comparison to 185 graduates (6.2/program) over a five year period in 2002.

Placement of graduates over the past five years increased in some areas, remained static in one category and decreased in others. Increases were noted for Academia (87 in 2007 vs. 51 in 2002), Contract labs (22 vs. 11), and Private labs (23 vs. 15); Pharma remained static (45 vs. 43), while Government decreased (22 vs. 31), as did self employed (2 vs. 6) and "other" (6 vs. 14).

### **"Demand" Summary (Survey of Employers of Veterinary Anatomic Pathologists)**

One hundred forty one employers replied out of 248 surveyed, for a 57% response rate; the response rate was roughly the same as that in 2002 (54%) but a greater number of employers (312) were surveyed as well (See introductory comments). The average number of anatomic pathologists employed by the respondents was 6.4/institution (compared to 5.8 in 2002). The total number of pathologists employed by the respondents was 850, compared to 939 in 2002. The numbers of anatomic pathologists working as independent consultants may be substantially underrepresented.

The range of pathologists employed was 1-70, compared to 1-34 in 2002, with 14% of employer respondents employing >10 pathologists both in 2002 and 2007. The higher numbers reported by some employers may reflect the consequences of mergers and acquisitions as well as the manner in which large multistate organizations responded.

Open positions at the time of the survey were reported by 67/122 (45%) of employers compared to 79/163 (48%) in 2002. The average number of open positions/employer was 1.73 (compared to 1.6 in 2002) though 57% employers reported having only one open position. Over the past two years 95 of 121 employers had open positions a somewhat larger percentage (78%) than in 2002 (71%).

There was, overall, a slight shift downwards in # qualified applicants per open position in the past two years compared to 2002. In 2007, 7% of employers reported 0 qualified applicants per position (5% in 2002), 52% reported 1-2 qualified applicants per position (57% in 2002) and 42% reported 3+ applicants per position (38% in 2002). The number of applicants perceived as qualified compared to five years prior shifted between 2007 and 2002, with 46% responding that there were too few qualified candidates, 50% responding that there were the same number, and 4% replying that there were more; in 2002, by contrast, the responses were 56% too few, 40% the same and 4% more.

The average time to fill positions showed a trend upward compared to 2002. Only 6% respondents reported that it took <3 months to fill a position (7% in 2002) but only 14% reported a 3-6 month time lag compared to 29% in 2002. 37% of employers responded that it took 7-12 months to fill an open position (compared to 38% in 2002) but 27% reported that it took on average 12-18 months to fill positions and another 17% replied that it took >18 months (compared to 19% and 7%, respectively, in 2002).

Sixty nine percent of respondents anticipated job openings during 2008-2009 amounting to a total of 131 open positions (average 1.6/institution). In 2002, 1.5 openings/institution were anticipated in 2002-2003, with 53% having open positions; this resulted in 120 anticipated openings. For 2010-2013, it was anticipated that there would be 1.8 openings/institution (161 total positions) with 78% institutions having openings; in 2002, by contrast, it was anticipated that there would be 1.9 openings/institution (212 total) in 2004-2007, with 75% institutions having openings.

Thirty percent of respondents anticipated job openings *due to retirement* would result in 47 total open positions (1.5 openings/institution) in 2008-2009; for 2010-2013, this increased to 1.8 openings/institution (107 total) anticipated, with 52% of employers having openings. These are roughly

the same percentages anticipated for 2002-2003 (1.3/institution, 40 total, 30% with openings) and 2004-2007 (1.5/institution, 113, 61% with openings) reported in the 2002 survey.

Minimum requirements for employment appear to have shifted somewhat from 2002. In the 2007 survey, 50% of respondents would require residency training and 54% would require ACVP board eligibility while only 37% would require ACVP board certification at the time of hiring. Only 20% would require a PhD. This is somewhat shifted from the 2002 survey, where 42% required residency training, 56% required board eligibility, 47% required ACVP board certification and 28% required a PhD. The percentage of employers who would hire a non-boarded candidate increased to 74% (compared to 68% in 2002) but 85% (vs. 81% in 2002) would require ACVP board certification after hiring. Attitudes about the importance of a PhD also shifted between 2007 and 2002. In 2007, 37% of employers responded that a PhD was very or somewhat important (compared to 52% in 2002) while 41% responded that a PhD was not very important or not important at all (compared to 39% in 2002). A substantial number of respondents (22%) chose the response "it depends on the situation;" this is in contrast to 8% in 2002.

The greatest barrier to recruiting continues to be the limited # of qualified applicants, with 76% of employers listing this as a significant factor and 42% listing this as the *primary* factor, which is roughly the same as the 2002 survey (78% a significant factor and 50% the *primary* factor). Other factors listed by more than 20% of the respondents as being significant were salary (59%) geographic location (37%), excessive job demands (24%), and other factors (21%), in contrast to 2002 where geographic location was less often a factor (28%) but salary (67%) and job demands (31%) were more often cited. Other primary factor listed by most was salary (29%) a slight increase from 2002 (25%).

Perceptions about # pathologists being trained have changed over time. In 2007, 88% of those surveyed thought there were not enough pathologists being trained, 12% thought the right number were being trained and 0% thought too many were being trained. In 2002, the percentages were 75%, 24% and 1%, respectively.

### **Summary of Supply vs. Demand in 2007**

The estimated supply of graduates (adjusted for non-responders) for the next six years was 326, 67 in 2008, 60 for 2009, 62 for 2010, 56 for 2011, 44 for 2012 and 37 for 2013; in 2002 the four year estimated supply was 197 (in comparison, 196 trainees were enrolled in programs in 2007).

The estimated demand for the next four years (2008-2011) is 368 anatomic pathologists, based in extrapolated data to account for nonresponders (43,1% of survey population) weighted to account for variability in response rates among small (1-5 employees), middle sized (6-10 pathologists employed,) and large (>11 pathologists employed) institutions. This compares to 2002, when the four year rate was 227. The estimated *six* year deficit in supply (2008-2013) is 510.

The estimated deficit of anatomic pathologists over the next four year period (2008-2011) is 123, with the highest deficit years being 46 in 2008 and 52 in 2010; the estimated deficit for the next six year period (2008-2013) is 184. In 2002 the estimated four year deficit (2002-2005) was 77.

Additional analysis of employer data to determine in which sector demand is going to be greatest (eg, Academia, Contract Labs, Diagnostic Labs) and for what reason (eg, retirements, retrenchments) is currently underway and a summary addendum will be put forward as that information becomes available.

Key participants in the survey were the ACVP Demographics Subcommittee of the Recruitment Committee – Matt Wallig (Chair), Wanda Haschek, Michael Mirsky, Dina Andrews-Cleavenger, Joanne Messick, Gary Mason and Ricardo Ochoa (ACVP Council liaison) and the team at the Survey Research Laboratory at the University of Illinois at Chicago (Kelly Marzano, Linda Owens and Evelyn Yang).