



AVMA 2015 Report on the Market for Veterinary Education: Summary

As with every market, the market for veterinary education responds to demand. In this case, it's a combination of potential students who wish to attend veterinary school, as well as the public's demand for veterinary services.

Veterinary schools compete with each other to attract potential students to fill their available seats, but, at the same time, the colleges have become highly differentiated by cost, which is a relatively recent phenomenon. As a result, and especially for those applicants who understand the basics of financial management, the comparison of the debt they will obtain to get that education to projected income once they enter the profession has become a serious component of their selection of a veterinary school to attend.

The market for veterinary education is the beginning of the supply side for the vertically related veterinary markets: the market for veterinarians and the market for veterinary services. As this 2015 Report on the Market for Veterinary Education explores, this is the market where society's willingness to support education meets its willingness to consume veterinary medical services. More importantly, this market represents the economic future of the profession.

The applicants represent the demand for available seats that are now available in the 30 U.S. colleges, 19 foreign colleges that have met U.S. accreditation standards and additional foreign colleges that require graduates to follow additional processes for U.S. certification to practice veterinary medicine in the United States.

The number of veterinary school applicants is holding steady, as the ratio of available seats to applicants currently stands at 1:1.6. In recent years, much has been made about the overall quality of the veterinary applicant pool, and those concerns have largely been rooted in the veterinary colleges' ability to fill the increasing number of seats with qualified applicants who are capable of successfully completing the rigorous academic program.

Nearly 6,700 applicants applied in 2014 for about 4,200 seats in the Class of 2019. Roughly 3,200 of those seats are available in the U.S., with the remainder being seats at U.S. accredited international schools of veterinary medicine. They applied through the Association of American Veterinary Medical Colleges' Veterinary Medical College Application Service, the central distribution, collection and processing service for applications to the veterinary medical colleges and the primary source of data about the veterinary college applicant pool. Women comprise nearly 87 percent of the applicant pool, and the number of men applying to veterinary school continues to decline modestly each year. Efforts to racially and ethnically diversify the applicant pool have improved in the last decade, with the percentage of historically racially and ethnically

underrepresented applicants now at 16.8 percent, slightly more than the 15.9 percent of currently enrolled students.

The changes in the applicant pool, and the broader availability of seats, have led the ratio of applicants to seats to slowly decline in recent years. American students continue to explore the availability of seats at institutions outside of the United States. In 2014, approximately 1,200 individuals applied to AAVMC member institutions outside the U.S., thus spreading the quality of the applicant pool more thinly as colleges compete for talented students. While the ratio changes suggest the need for colleges to admit less-qualified applicants to fill their seats, admissions data and practices do not support this hypothesis. While the pool is being stretched, a historical analysis of the applicant pool suggests that, despite its shallowness in terms of numbers, there are still many qualified applicants who bear the markers of future successful students.

For more than 10 years, the average grade point average (GPA) for admitted applicants has remained over 3.5 in a pool where 48 percent of recent veterinary school applicants reported GPAs of 3.5 and above. Another 22 percent of applicants have GPAs between 3.3 and 3.5, suggesting competitive depth in the pool. Similarly, applicants' mean science GPAs, representing some of the most rigorous courses pre-veterinary students take during their undergraduate careers, have remained consistent at 3.3, with those offered admission having an average GPA of 3.5. These distributions are similar to those seen in applicants to and admitted students of human medical and dentistry programs (AAMC, 2014; ADEA, 2014). Scores for the GRE verbal, quantitative and written exams have also remained consistent over the last decade.

Today, applicants approach the application process with more course work and hours of experience than ever before. Would-be veterinary students present applications with the equivalent of nearly 4.5 years of undergraduate study. Applicants to the class of 2019 reported an average of 2,200 veterinary hours (or 55, 40-hour work weeks) and nearly 500 research hours (or 12 work weeks). With the average applicant reporting an interest in the veterinary profession at ages younger than 10, applicants routinely report animal contact hours into the hundreds of thousands. Applicants are serious about their pursuit of admissions and spend great amounts of time, energy and money (often in terms of lost income through volunteering) building a competitive dossier.

Each of the veterinary schools has become highly differentiated by cost, a recent phenomenon. While there have always been differences in tuition and fees, as well as living expenses, the rapid increase in costs relative to income-earning potential has increasingly become an important factor in the school selection decision. State assisted schools (public institutions of higher education) offer significantly lower-cost seats to the applicants who reside in that state, but their costs for nonresident applicants match those that private institutions charge. And the number of nonresidents as a percent of all students in the U.S. veterinary colleges continues to increase, with the current allocation of approximately 47 percent nonresident students enrolled in the 30 U.S. veterinary colleges – a 25 percent increase in just the last four years.

The average difference between resident and nonresident tuition at the U.S. colleges of veterinary medicine was \$23,904 in the 2014/15 academic year. The average four-year cost of resident and nonresident seats for the 2015 graduates was \$103,327 and \$191,710, respectively. But not all nonresidents pay the nonresident tuition and fees, nor do all residents pay the total

resident tuition and fees charged by the colleges. Many of the colleges have contracts and arrangements with states and other colleges that lower the nonresident fees, and some colleges allow nonresidents to enjoy resident status after the first year. In addition, each of the colleges offer tuition and fee offsets to some or all of their students through scholarships, endowments and other sources. While the average nonresident tuition exceeds resident tuition by 70 percent, the average debt of nonresident students is only 34 percent greater than that of residents who attend U.S. colleges.

The costs of veterinary education have not only become a more important distinguishing characteristic of the veterinary colleges among applicants, but have added to the increasing public concern over the costs and benefits of higher education in general. The recent implementation of new “gainful employment” rules by the U.S. Department of Education may well be the beginning of government regulation to attempt to bring education costs in line with the value of the education to future earnings. If the new gainful employment standards were to be applied to the U.S. veterinary colleges, few would be in compliance.

The willingness of applicants to pay the cost for available seats is less than equilibrium. That is, the number of applicants found acceptable and willing to pay for a seat at a U.S. college is likely less than the number of seats available at the costs that the colleges are willing to provide those seats. While the number of applicants continues to exceed the number of available seats, the ratio of applicants to available seats continues to decline and more importantly the willingness of these applicants to pay for veterinary college (or acquire debt) is less than what it will cost many of them to attend. Thus, as the cost for available seats continues to increase in excess of the growth in wages, the economic returns to education will continue to decline, eroding the applicant-to-seat ratio. Evidence of this is beginning to appear in the veterinary profession.

From our data on veterinary compensation and veterinarians’ self-reported perception of veterinary competencies, we have been unable to find any major statistically significant differences of outcomes between the U.S. veterinary colleges. However, we have not analyzed the performance of graduates in individual specialties, leadership or other unique characteristics of the profession. And, there are certainly differences between the colleges in various components of their programs. But no college has yet been found to be superior across a wide range of outcomes or activities. However, debt stands as a differentiator of outcomes among colleges.

Applicants generally have low levels of undergraduate debt at the time of application. Nearly half of applicants (46.9 percent) finish their undergraduate degrees with no debt, while another 32 percent anticipate having less educational debt at the time of graduation than the \$30,000 national average (Bidwell, 2014). Debt levels are low because applicants finance undergraduate education primarily through family support, merit scholarships and working full or part time. Only 24 percent of applicants reported receiving need-based aid.

Research conducted by the AAVMC shows no significant differences in the level of financial literacy between the average undergraduate student and pre-veterinary students. Applicants believe themselves to be good personal finance managers; they maintain checking and savings accounts, modest investments, and emergency funds. One in four applicants carry revolving credit balances and make only minimum monthly payments.

Despite the ongoing discourse and the numerous articles about the student debt crisis, most applicants do not report high levels of concern about servicing their debt. Of the 83 percent of all applicants who report having some level of concern about their ability to service their debt, less than 30 percent report being moderately or extremely concerned about servicing their debt. Similarly, applicants report being concerned about finding employment after completing their veterinary medical degrees. However, only 23 percent of applicants expressed being moderately or extremely concerned about finding a job after graduation. At the time of publication, it is unclear whether the levels of concern about debt servicing and employment change during the course of the admissions process.

A recent AVMA survey receiving responses from over 900 current veterinary students reports that 71.5 percent of veterinary students feel more than moderately concerned about their ability to repay their student loans, 30.3 percent indicate they are extremely concerned with their ability to repay their loans, 10.5 percent indicate moderate concern and 7.9 percent indicated no level of concern with their ability to repay their student loans. This is in sharp contrast to the concern with debt indicated by veterinary school applicants.

As was mentioned previously, the average four-year cost of resident and nonresident seats for the 2015 graduates was \$103,327 and \$191,710, respectively. Average four-year debt of the 2015 graduates who filled those seats was \$132,560 and \$187,379, respectively. These mean values of costs and debt suggest that, on average, the 2015 graduates were financially frugal. Considering a four-year living allowance of \$50,000, the amount of loans needed to cover all tuition and living expenses would be 1.48 times the cost of the seat for residents, and 1.26 times the cost for nonresidents. Debt-to-cost levels above this indicate a problem with personal financial management.

There is a small group of graduates who have debt levels that are excessive. These debt levels have a large impact on the average level of reported debt for the profession. When we break down the percentage of 2015 graduates by debt-to-cost ratio, we have identified 27.2 percent of resident graduates with greater than a 1.75 debt-to-cost ratio and 16.1 percent of nonresident graduates with greater than a 1.5 debt-to-cost ratio. We believe that better financial management on behalf of and by these individuals during their veterinary college years would reduce their level of debt.

A student that attended a veterinary medical school in their own state, or a state in which their state of residence contracts for in-state tuition rates, accumulated an average of 20.3 percent less debt than their out-of-state counterpart, holding all else equal. An increase in the age of a graduating student by one year is associated with a 1.6 percent greater level of loan debt. While this isn't much of a difference for those students who have matriculated to veterinary schools immediately following their undergraduate education, it is significant for students pursuing a veterinary degree at a later date. Also, male students, on average, accumulate 4.3 percent less debt than their female counterparts. This difference is noteworthy as the share of female students attending veterinary schools in the study period is greater than 50 percent and has risen to nearly 80 percent as of 2014.

Throughout this and the other reports in the 2015 AVMA Economic Report series, there are strong indications that the level of debt that veterinary students are acquiring relative to their income is beginning to affect their decisions. As more veterinarians with substantial debt

problems enter the profession, pre-veterinary students will be more likely to come into contact with these veterinarians in work settings. Additionally, in response to the increasing costs of education relative to income, both AVMA and AAVMC are more aggressively informing pre-veterinary students about the need for better financial management and planning.

As in most markets, better information will change tastes and preferences, and these changes will affect demand. As the debt-to-income ratio continues to increase for new graduates, veterinarians' lifestyle satisfaction will be reduced, the demand for veterinary education will decline and filling the expensive seats at veterinary colleges will become more difficult. Our current estimates of willingness to pay and real costs of seats require further refinement to improve accuracy. However, current estimates suggest that excess capacity in the market for veterinary education may be on the near horizon without significant changes in the market.

From a purely economic perspective, neither debt nor the numbers of seats are in and of themselves a problem. Rather, these are two factors that are involved with the very real problem of "satisfaction." Consider the following: The United States Federal Government has a debt of roughly \$18 trillion and income of \$3.5 trillion, or a debt-to-income ratio of just over 5:1. Current veterinary graduates have an average debt-to-income ratio of roughly 2:1. While there is grave concern about the debt of veterinary graduates, whether the size of the U.S. national debt is a problem or not is still very much debated. And, just like the federal government, veterinarians have been meeting their debt obligations.

Nearly 20 percent of dogs and 40 percent of cats do not see a veterinarian annually, which means that there are millions of pets that don't receive proper vaccinations or health screening. Zoonotic diseases, and the damage they cause in the human population, are on the rise, and there are numerous other needs for veterinary services that are unmet. These facts make it difficult to argue that supply of veterinary services is sufficient to meet society's need for these veterinary services.

Satisfaction is dependent upon how well expectations are met, or how expectations relate to performance. When expectations exceed performance, satisfaction suffers and the symptoms of low satisfaction, discontent, depression and declining health increase. Our hypothesis is that the major problem in the veterinary profession is that the expectations about lifestyle exceed what actually occurs. This is a function of both income and debt.

To improve satisfaction will require both changing expectations and developing strategies to enhance the income earning path of veterinarians relative to debt. This can be achieved by raising income, lowering debt, or both, but lowering debt will require not only better financial management from veterinary students, but a collective effort by the veterinary profession to identify what the role of veterinarians is to be in the future and transform the current model of education into one that provides a more efficient means to ready veterinary students to meet the vision of the profession.