

**Implications of the 2013 US Veterinary Workforce Study**  
**and Recommendations for Future Actions**

**Prepared by the AVMA Workforce Advisory Group**

**April 8, 2013**



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**Introduction**

In June 2011, the AVMA Executive Board approved a new strategic plan that included as one of its goals enhancing the veterinary workforce in the United States such that veterinary employment opportunities would be identified and the demands of society with respect to the supply of veterinarians would be better

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understood. Later in 2011, the Executive Board approved the establishment of a Veterinary Economics Strategy Committee to advise the board and a Veterinary Economics Division to manage economics programs of the AVMA.

In response to AVMA member desires for reliable information about the status of the veterinary profession, the Executive Board commissioned a study of the current and future supply of and demand for veterinarians and veterinary services by employment sector and geographic region, and established the AVMA Workforce Advisory Group to oversee the study. In April 2012, IHS Healthcare & Pharma in partnership with the Center for Health Workforce Studies at the State University of New York, Albany, was chosen to conduct the study.

The overall goal of the study was to provide relevant veterinary workforce information to veterinarians, prospective veterinary students, educational institutions, and policymakers. Integral to this effort was the development of a computer simulation model of the veterinary workforce that could be used to estimate future supply and demand under alternative scenarios and allow the AVMA to periodically update projections as additional information became available.

The final report of the workforce study, the 2013 US Veterinary Workforce Study,<sup>1</sup> has recently been released. Having overseen the study process from beginning to end and having thoroughly assessed the data, analytic procedures, and associated findings, the Workforce Advisory Group is confident that the Veterinary Workforce Study is credible and based on sound analytic methods. In reviewing the report, the Workforce Advisory Group identified 11 important implications of the study and developed recommendations for future actions.

### **Implication 1—Excess Capacity of Veterinarians and Veterinary Services**



Results of the Veterinary Workforce Study concur with findings of previous studies in indicating that there is excess capacity (ie, the ability to provide services in excess of the quantity demanded at a price that consumers are willing to pay) in certain geographic areas and certain sectors of the veterinary profession and further suggest that this excess capacity will likely persist through 2025.

Results of the Veterinary Workforce Study indicated that the supply of veterinarians in the United States in 2012 (90,200) exceeded the demand for veterinarians (78,950) by approximately 11,250 (ie, an excess capacity of 12.5%) at current pricing levels for services. Further, results indicated that excess capacity ranging from 11% to 14% (ie, from 9,300 to 12,300 full-time equivalents) would persist each year from 2012 through 2025. This supports a finding of “little evidence of widespread workforce shortages in veterinary medicine” in the 2012 report “Workforce Needs in Veterinary Medicine” by the National Research Council<sup>2</sup>. Importantly, however, because of limitations in the available veterinary workforce data, it must be emphasized that the reported excess capacity is an estimate, and that additional study is needed to understand the true excess capacity in the veterinary profession.

**Recommendation**—The AVMA should identify and implement strategies to increase the demand for veterinarians and veterinary services and provide an annual update on the estimated current and projected supply of and demand for veterinarians and veterinary services.

**Implication 2—Workforce and Economic Data:**

In studying the supply and demand for veterinarians and veterinary services, the AVMA embarked on an initiative of great importance to the veterinary profession and those needing veterinary services. The absence of some needed data was notable and considerable effort was made to collect all applicable information available. Nonetheless, some conclusions are based on opinion surveys and assumptions where data were not available. The 2013 US Veterinary



Workforce Study should be considered a starting point, not an ending of efforts, to better understand the supply and demand for veterinarians and veterinary services and overall veterinary economics.

The Veterinary Workforce Study highlights areas where additional research could potentially improve the understanding of trends affecting the veterinary workforce, and a list of potential research opportunities was developed as a result of data limitations and research gaps identified during the study.

Similarly, the National Research Council report<sup>2</sup> was delayed several times in part because of inconsistencies in the way various segments of the veterinary profession have compiled veterinary workforce data, making it difficult to analyze long-term trends or make predictions for the future.

Fortunately, the AVMA, as the umbrella organization for the veterinary profession, is well positioned to serve as a repository of workforce and economic data, perform analyses of these data, and conduct additional research. This is particularly true owing to the establishment of the Veterinary Economics Division and Veterinary Economics Strategy Committee, the designation of a National Economics Strategy Reserve Fund within the AVMA budget, and the development of a veterinary workforce computer simulation model as a component of the Veterinary Workforce Study.

Even so, the AVMA cannot develop a robust workforce and economics research program on behalf of the profession without the active participation of key veterinary stakeholders. Veterinary medicine is a small profession and a substantial effort will be critical in maximizing opportunities to better understand the complex dynamics and trends associated with veterinary workforce and economics.

**Recommendation**—The AVMA should maintain and build on available veterinary workforce and economic databases to ensure the accuracy and completeness of the information and allow for the



development of data-driven conclusions. Other associations and organizations, such as the Association of American Veterinary Medical Colleges, American Animal Hospital Association, American Association of Equine Practitioners, and American Association of Bovine Practitioners should be encouraged to contribute data.

**Implication 3—Individuals Entering the Workforce:**

Sufficient information to calculate statistically valid long-term trends for the number of individuals entering the US veterinary workforce on an annual basis is not available.

According to data from the Association of American Veterinary Medical Colleges, mean annual growth in the number of new graduates from colleges of veterinary medicine in the United States has been 1.6% over the past 33 years. However, annual growth has fluctuated over this period. From 1980 through 1987, annual growth averaged 3.9%, whereas growth from 1987 through 2004 was essentially flat, and annual growth from 2004 through 2013 averaged 2.6%.

In addition, information on the number of new graduates entering the US veterinary workforce from veterinary schools outside the United States during this period is not available. However, data from the National Board of Veterinary Medical Examiners indicate that the mean annual growth in the number of candidates who applied for licensure through the various licensing boards in the United States and passed the North American Veterinary Licensing Exam from the 2001–2002 test cycle through the 2011–2012 test cycle was 3.4%.

Further, projected mean annual growth for 2012 through 2015 in the combined number of individuals expected to graduate from colleges of veterinary medicine in the United States and number of US citizens expected to graduate from the 20 colleges of veterinary medicine outside the United States that are members of the Association of American Veterinary Medical Colleges is 4.5%.



Because a statistically valid trend in projected mean annual growth in the number of individuals expected to enter the US veterinary workforce could not be developed from the available data, the Veterinary Workforce Study assumed a baseline projected future growth rate for entrants into the US veterinary workforce of 2% per year as well as an alternative scenario with an annual growth rate of 4%.

**Recommendation**—A program should be implemented to collect and analyze data that provide reliable information on the number of veterinarians entering the US workforce each year including specific data related to geographic region and practice sector.

**Implication 4—Workforce Assessment:**

A systematic method to assess the number of veterinarians changing employment sectors or becoming temporarily or permanently inactive in veterinary medicine and their reasons for doing so is not available.

While data on historical trends in the percentages of US veterinarians engaged in various employment sectors are available, meaningful information on the numbers of veterinarians changing employment sectors and their reasons for doing so is not available.

In an analysis of the AVMA member database, it was found that approximately 18% of veterinarians self-identified as active were 65 or older. Following consideration of additional information, this figure was adjusted to 10% for the purposes of the study. Nevertheless, this difference highlights the need to regularly collect data on the number of veterinarians becoming inactive in veterinary medicine, both temporarily and permanently, and their reasons for doing so.



**Recommendation**—A system should be developed to assess the number of veterinarians changing employment sectors or becoming temporarily or permanently inactive in veterinary medicine and their reasons for doing so.

**Implication 5—Demand for Veterinary Services and Consumer Spending:**

The effects of the overall US economy on the demand for veterinary services are unclear.

Further, the relationship between consumers' disposable income and the demand for veterinary services is not well understood and readily available means to directly assess consumer demand for veterinary services are not available.

According to a 2010 survey from the Pew Research Center,<sup>3</sup> more than half of all adults in the US labor force have reported a spell of unemployment, a cut in pay, a reduction in hours, or an involuntary shift to part-time work since the Great Recession began in December 2007. The Pew survey also found that since December 2007, spending and borrowing habits of Americans were characterized by a new frugality, with 62% of respondents reporting having cut back on their spending, and that Americans had diminished expectations for their financial futures and those of their children. Without question, some of the data used for the Veterinary Workforce Study<sup>1</sup> and the National Research Council report<sup>2</sup> was influenced by changes in the broader US economy, but the extent to which these changes will impact the future of the veterinary workforce and economic conditions for the various sectors of the veterinary profession in the United States is uncertain.

The Veterinary Workforce Study makes note of an inability to directly measure demand for veterinary services and the need to use other indicators of a shortfall or excess in capacity. The National Research Council report recommends that future actions be informed by reliable national data on consumer demand for veterinary care and the economics of private practice.



Conducting research on the price sensitivity of animal owners for veterinary services is included among the suggested areas for further research in the Veterinary Workforce Study. The 1999 KPMG study<sup>4</sup> indicated that the demand for veterinary services was not very responsive to price changes, with every 10% increase in price estimated to decrease demand by only 4.3%. However, the cost of veterinary care in clinical practice has increased substantially since 1999, and it remains to be seen whether the relative price elasticity for veterinary care has changed.

**Recommendation**—Research should be performed to better understand how demand for veterinary services is related to the overall US economy, consumers' disposable income, and the price of veterinary services. In addition, methods to more directly assess consumer demand for veterinary services and identify factors that influence this consumer demand need to be developed.

**Implication 6—Demand for Veterinary Services and Societal Needs:**

Given the current and projected rates of growth in the number of veterinarians entering the US workforce and the rate of growth in demand for veterinary services, excess capacity of veterinarians in some employment sectors and geographic areas is likely to persist into the future. At the same time, the need for veterinary services, not only to provide optimal care of animals but also to provide veterinary expertise to address broader societal needs such as public health, exceeds the demand for these services.

The Veterinary Workforce Study did not directly assess veterinary education, but the study findings are expected to help inform decisions by veterinary schools regarding what sort of courses to offer and how many students to admit to their programs. Colleges of veterinary medicine are faced with several basic driving forces, including meeting the demand by the public for veterinary education, meeting the colleges' responsibility to train graduates who can fulfill societal needs, producing career-ready graduates who are



astute relative to the potential opportunities and challenges associated with the veterinary profession, and operating within a balanced budget.

The veterinary colleges are actively involved in internal discussions about recruitment, budgeting, class sizes, and how veterinary college can help students understand the full range of career opportunities and train them for and guide them toward additional opportunities. The colleges are challenged to balance considerations of excess capacity in some sectors of the veterinary profession, unmet needs for veterinary care and expertise, geographic imbalances in the distribution of veterinarians, the increasing cost of veterinary education, and the educational demand of prospective veterinary students.

Fortunately, graduates with a veterinary degree are well-positioned to contribute to society both within and beyond the veterinary profession, because of the breadth, quality, and comparative medicine basis of their education, coupled with the outstanding nature of veterinary students. Veterinary medicine is the only health profession that provides a broad foundation in comparative medicine. All AVMA Council on Education–accredited veterinary colleges are actively applying North American Veterinary Medical Education Consortium recommendations<sup>5</sup> to alter their curricula to better meet societal needs and graduate career-ready veterinarians.

**Recommendation**—Research should be performed to better understand the differences between needs and demands for veterinary services, the factors that influence these differences, and the means by which needs for veterinary services can be converted to greater demand in the major employment sectors. In addition, the AVMA and Association of American Veterinary Medical Colleges, along with other stakeholders, should continue discussions and forge even stronger collaborations focused on improving the ability of veterinarians to meet societal demands for veterinary medicine and expanding the breadth of services veterinarians can provide to society.



### **Implication 7—Excess Capacity and Efficiency in Veterinary Clinical Practice:**

On average, veterinarians in clinical practice are working overtime (ie, > 40 hours/work week) despite excess capacity in clinical practice employment sectors.

The paradoxical situation of veterinarians working > 40 hours/week at a time when there is excess capacity in veterinary clinical practice has developed to some extent because clinical practices have extended their hours of availability to provide non-emergency veterinary services. In addition, as noted in the KPMG study,<sup>4</sup> while the indivisibility of labor (ie, the inability to split some variables into fractions) is a problem in all healthcare fields, using the most efficient amount of labor is much more difficult in veterinary practices, because most practices are relatively small or, as is the case for most large animal practices, provide ambulatory services. This problem arises with facilities and equipment in veterinary practices as well.

**Recommendation**—Methods to measure and monitor capacity in the major sectors of veterinary clinical practice should be developed. In addition, systems should be identified to better match the availability of veterinary services to the demands of consumers, thereby enhancing efficiency and reducing excess capacity.

### **Implication 8—Veterinary Underemployment**

Unemployment of veterinarians appears to be quite low; however, underemployment (ie, employed workers who are not fully occupied by productive work) exists in small animal, equine, food animal, and mixed animal clinical practice. Even so, some practices are operating at full capacity.

Data from a 2013 Association of American Veterinary Medical Colleges survey of 2011 and 2012 US veterinary college graduates indicate that approximately 98% of respondents were employed in veterinary



medicine or had been admitted to an advanced education program when surveyed a minimum of 6 months after graduation.<sup>6</sup>

Of respondents to a survey conducted in conjunction with the Veterinary Workforce Study, 53% indicated that their practices were not working at full capacity and 38% indicated that their practices were working at full capacity. While working at full capacity would seem to be a worthy goal for any clinical practice, no additional characteristics can be ascribed to either set of practices from the survey data. Additional research is needed to identify characteristics of clinical practices by geographic region and practice sector that are not only operating at high levels of capacity but also providing optimal veterinary care while using good business principles.

**Recommendation**—Research should be conducted to compare and contrast the characteristics of clinical practices working at full capacity versus clinical practices with high levels of excess capacity to determine whether initiatives could be developed to enhance capacity utilization in practices with substantial excess capacity.

**Implication 9—Maldistribution of Veterinarians:**

Maldistribution of veterinarians and veterinary services exists both geographically and by employment sector resulting in excess capacity of veterinary services in some areas and excess demand in other areas.

Even though excess capacity has been identified in some areas of clinical practice, as part of the Veterinary Medicine Loan Repayment Program, the US Department of Agriculture identified 187 veterinary shortage areas in 2010, 220 shortage areas in 2011, and 198 shortage areas in 2012. These areas were nominated by state animal health officials and reviewed by a panel consisting of federal and



state animal health experts to determine whether each nominated area should be designated as a shortage area.

**Recommendation**—The AVMA and other stakeholders should continue to provide support for initiatives such as funding for the Veterinary Medicine Loan Repayment Program, authorization of the Veterinary Services Investment Act, and passage of the Veterinary Medicine Loan Repayment Program Enhancement Act, and continue to support efforts related to *One Health* in an effort to expand veterinary services and employment opportunities for veterinarians.

**Implication 10—Demographic Trends:**

Demographic trends in the United States related to age, race, and ethnicity and the lower levels of animal ownership and use of veterinary services by some demographic groups have the potential to negatively impact the future demand for veterinary services.

Data from the Veterinary Workforce Study suggest a general trend of lower levels of animal ownership and veterinary services use by certain racial and ethnic groups as well as by individuals 65 or older.

Numerous projections indicate that the US population will become increasingly more racially and ethnically diverse over time, with a higher proportion of older individuals. In 2011, the Congressional Research Service projected that these trends will continue beyond 2030, with a significantly higher percentage of Hispanics in particular, and concluded that approximately 18% of the US population will be 65 or older in 2025 (a 44% increase, compared with the percentage for 2000), while the percentages of individuals in younger age groups will decline over the same period.<sup>7</sup>

**Recommendation**—Initiatives to enhance diversity and inclusion within the veterinary profession, such as the DiVersity Matters initiative from the Association of American Veterinary Medical Colleges, and



efforts by AVMA and other organizations to provide education on cultural competency within the veterinary profession should be promoted. In addition, public awareness of the potential benefits of animal ownership and the use of veterinary services in general, but in particular for demographic groups that tend to be less likely to own animals and seek out veterinary services, should be enhanced.

**Implication 11—Balanced Perspective:**

Veterinary medicine is a fulfilling and exciting career, providing a stable source of income and a comfortable living for many people despite excess capacity in some employment sectors and geographic areas and despite the fact that salaries are not rising at the same rate as educational debt.

While income of veterinarians still lags that of other healthcare professionals with similar levels of education, data from the 2013 AVMA Report on Veterinary Compensation<sup>8</sup> indicate that private practice owners, board-certified veterinary specialists, and veterinarians working in industry have substantially higher incomes than do veterinarians overall.

Even though some US veterinary colleges still have robust applicant numbers, data from the Association of American Veterinary Medical Colleges<sup>a</sup> indicate that overall there were approximately 2 applicants for each first-year veterinary college seat during the 10-year period from 2003 through 2012.

**Recommendation**—Efforts should be made to aid in the management of educational debt, such as the Association of American Veterinary Medical College’s Student Debt Initiative; to enhance the productivity of recent graduate veterinarians, such as the AVMA Successful Graduates Initiative; and to continue to recruit the best and brightest students into the profession.

**Future Actions**



The 2013 US Veterinary Workforce Study will serve as a foundation for continued workforce analyses and discussion, and for evaluation of veterinary workforce issues by the veterinary profession, prospective students, educational institutions, and policymakers. The need for input from multiple interest groups is clear. This study differs from those done previously in that it provides a veterinary workforce forecasting model that will allow for more frequent assessments and better analyses of specific employment sectors and geographic regions, will allow trends to be followed over time, and will allow for continual improvements in forecasts of the veterinary workforce and the supply of veterinary services available to animals and the public. In addition, the study identified areas where further research might provide useful information; possible areas to pursue include evaluation of the impacts of demographics and diversity, practice models, and public policy.

Importantly, the study revealed substantial gaps in the knowledge required to fully and accurately assess veterinary workforce issues. With respect to the supply chain for veterinary services, from the time applicants enter veterinary college to the time veterinarians exit from the veterinary workforce, meaningful information is limited and unorganized. Information relative to the demand for veterinarians and veterinary services, particularly for individual employment sectors in specific geographic areas, is also scarce and unorganized. Individuals and organizations within the veterinary profession must work together to collect the data required for more robust analyses of the future supply of and demand for veterinarians and veterinary services. Together we have the potential to achieve a better understanding of the veterinary workforce and the future of the veterinary profession.

**One important final note:** the AVMA is permitted to collect, analyze, and publish veterinary workforce data, and by publishing these data, the AVMA intends to inform veterinarians, prospective veterinary students, educational institutions, and policymakers about trends in the supply of and demand for veterinarians and veterinary services. However, the marketplace, not the AVMA, determines the supply of and demand for such services, and as a professional association, the AVMA must not and will not



interfere with market forces. The AVMA Council on Education makes decisions regarding the accreditation of veterinary colleges solely on the basis of the quality of the veterinary education provided by those institutions, without influence from the AVMA, and is prohibited from considering factors related to the supply of or demand for veterinary services when making accreditation decisions.

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