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The Food Supply Veterinary Medicine Coalition

Future Demand, Likely Shortages, and Strategies for Creating a Better Future In Food Supply Veterinarian Medicine

Rick Sibbel, DVM, Schering Plough Animal Health

Fact Sheet

“Future Demand, Likely Shortages, and Strategies for Creating a Better Future in Food Supply Veterinarian Medicine” was published July 1, 2006, in *Journal of the American Veterinary Medical Association*. It examined factors influencing supply and demand, as well as the impact of those factors on projected supply and demand of food supply veterinarians. The study concluded that between 2004 and 2016, demand for food supply veterinarians would increase

12 percent to 13 percent but supply would fall short of that demand by 4 percent to 5 percent per year. The study results are consistent with anecdotal evidence within the industry in recent years and with similar veterinarian food supply studies published in Britain and Australia in 2003.

At the same time, the results are in direct conflict with a KPMG study published in the United States in the late 1990s, which projected zero growth in demand and projected surpluses of food supply veterinarians. This new study on food supply veterinarian medicine (FSVM) was conducted by the College of Business Administration at Kansas State University. The study also evaluated potential strategies for increasing the number of veterinarians entering this important field.

Study Methodology

The study was conducted using a Delphi expert judgment-based forecasting method. In contrast to the KPMG study, which used economic modeling, the Delphi technique draws on the insights of experts from within different sectors to provide unique and accurate projections of the FSVM profession. A total of 303 experts were recruited to participate on panels representing

13 different industry sectors, including:

- **Six Practice Areas** — Dairy, swine, poultry, beef cattle, small ruminants, and mixed food animal practitioners in rural settings
- **Five Areas of Government** — State and provincial government service, three sectors of U.S. Federal government service (public health, animal health, and food safety/security), and Canadian federal government service
- **Two Specialty Areas** — Food supply veterinarians serving in industrial roles with pharmaceutical companies and in academic roles in university settings

Opinions were gathered from panelists using a structured feedback process involving three different surveys over a four-month period. Panelists responded individually but had the opportunity to consider the views of other experts before completing subsequent surveys. Each of the three surveys had a similar design and required experts to:

- Rate the influence of 25 different factors on future demand in their sector

- Predict the expected changes in demand in their sector in each of five time periods between 2004 and 2016
- Rate the influence of 17 different factors on the expected supply of veterinarians within the FSVM discipline
- Forecast the expected future shortages or surpluses of veterinarians for five time periods between 2004 and 2016
- Rate the effectiveness of 18 different strategies for eliminated projected shortages within their particular sector

Study Findings

The comprehensive study summarized survey responses in five key areas: factors influencing demand, future demand, factors influencing supply, future supply, and strategies for addressing shortfalls or surpluses.

- **Factors Influencing Demand.** The highest-rated factor influencing future demand was “public concern over food safety”, which had a mean of 5.96 on a 7-point scale. In fact, five of the top seven demand factors related to general public concerns: “food safety” (1), “zoonotic disease” (2), “bio-terrorism” (4), “animal welfare” (5), and “animal health” (7). A second cluster of influencers related to client demand and included “animal tracking” (3), “certifications or verification of standards” (6), “herd management services” (11), “non-DVMs not giving prescriptions” (12), “service agreements for loans” (13), and “part-time farmers” (17).
- **Future Demand.** Based on those factors, panelists predicted an overall increase in demand of 12.46 percent over the 12-year forecast period. The projected increase in demand in the poultry sector, at 4.11 percent over the 12-year period, was the lowest of all sectors while the projected increase in the state/provincial government, at 20.8 percent, was highest, followed by the federal sectors (ranging from 15.44 percent to 17.46 percent), academic and industrial (12.83 percent), and mixed animal (10.7 percent). Panelists were asked to be conservative in their demand forecasting.
- **Factors Influencing Supply.** Panelists said the factor exerting the greatest negative pressure on supply was “less emphasis on food animal practice in veterinary colleges”, which had a mean score of 2.34 on a 4-point scale, with 1 representing the greatest downward pressure on supply. Three factors related to negative student experiences during vet school: “less emphasis on food animal practice” (1), “little exposure to food supply career options” (2), and “lack of food supply practiced-related externships” (6). A second set of supply-reducing factors related to rural economic and cultural constraints and included “lack of spousal career options” (4), “limited lifestyle and career opportunities” (11), and “lack of cultural and recreational opportunities” (13). Other negative influences included “poor income opportunities” (3) and “poor role models” (5). Overall, panelists felt that controllable factors, such as what students experience during vet school, are more likely to negatively affect future supply than non-controllable factors, such as the economic and lifestyle opportunities posed by rural job locations. The authors noted that there were some differences within the sectors. For example, sectors that projected more severe shortages also gave more weight to factors such as “more women veterinarians entering the workforce” and “physical demand of large animal veterinary work”.

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- **Shortages.** Projected shortages ranged from -0.06 percent for the poultry sector to -6.86 percent for the Federal animal health sector, with a mean average shortage of -4.61 percent across all sectors for the 12-year forecast period.
- **Solutions to Shortages.** Panelists were asked to rate 18 different strategies for addressing shortages on a 7-point scale, with 7 being the most effective strategy. Overwhelmingly, panelists said that student debt repayment and scholarship programs were the single most important strategy in addressing future shortages. Several highly ranked strategies have implications for colleges of veterinary medicine, including “more involvement of food supply practitioners in training veterinary students” (2), “appointment of more food animal faculty” (4), “expanded postgraduate fellowships” (5), “paid externship requirements” (6), “expanded Centers of Excellence” (7), and “increased food supply coverage early in the curriculum” (13). A related idea, “mentoring initiatives”, was ranked third overall by panelists.

Implications

The study authors made several observations about the data, including:

- Even trends such as food system consolidation and the increasing size and scale of producers should be viewed as opportunities versus threats, because these trends can lead to the expansion of veterinary services and new value creation.
- Several of the highest-projected shortages are in areas related to food safety and security. This is problematic because it comes at a time when society is more aware of and concerned about these issues.
- While the academic sector is not the highest area of shortage, shortages in this sector have a ripple effect. Fewer teaching veterinarians makes it more difficult to increase the focus on recruiting and mentoring more food supply students.
- Some of the highest-ranked reasons for shortages, such as what FSVM students experience, are highly actionable and can be addressed with changes in resource allocations and programs.
- The profession should reconsider how colleges of veterinary medicine select, recruit, retain, and educate students for food supply careers. The authors noted that the words of one expert in assessing the earlier KPMG study seem to be even more relevant in light of this new study: “... if our profession doesn’t make a series of strategic and substantive changes to create a different future, it is likely that we will wind up in a state of lost opportunity. Most important, the profession will fail to meet societal needs and demands.”

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Attracting Students into Careers in Food Supply Veterinary Medicine Fact Sheet

http://www.avma.org/public_health/fsvmc/fsvmc_toc.asp

Rick Sibbel, DVM, Schering Plough Animal Health

“Attracting Students into Careers in Food Supply Veterinary Medicine” was published June 1, 2006, in *Journal of the American Veterinary Medical Association*. It investigated why veterinary students chose or did not choose a food supply specialty in veterinary medicine and what factors could influence future students to pursue food animal veterinary medicine.

Three surveys and four focus groups were conducted for this study. The following outlines the basic facts of the surveys and research conducted as part of this article.

Focus Group Methodology

The focus groups were conducted at two colleges of veterinary medicine — The College of Veterinary Medicine at Kansas State University and the University of California – Davis. Each college had two focus groups:

- **Students** — one targeting 12 students in the first month of veterinary studies
- **Faculty** — one selecting 11 veterinary school faculty members in different specialty areas

Focus Group Findings

The focus groups identified nine factors as primary issues influencing the career focus of students who entered veterinary school.

- **Life Experiences.** What they did and what they were exposed to before and during high school had a profound influence on the direction of their career path.
- **Educational Debt and Salary.** Students were concerned with substantial debt load they faced when graduating, and many sought high-paying jobs to allow them to cope. Faculty indicated that student concerns about debt load increased as they went through school, and that seniors were most concerned.
- **Important and Interesting Work.** Several students cited the desire to have work that was of special interest to them or that they felt had special recognition as a reason for selecting certain career areas.
- **Family Considerations.** Students expressed concerns about wanting a job that allowed a spouse to also find fulfilling employment. There were concerns that large animal specialties would limit options. Faculty expressed concerns that the feminization of the veterinary profession has not been addressed well by the large animal job market.
- **Job Availability.** The perception of the number of jobs available in a particular segment of veterinary medicine had an impact on career choice. Students expressed concerns that aspects of large animal medical care that had been traditionally allocated to veterinarians were increasingly being handled by animal science graduates. Others felt there were opportunities in rural practice. Large corporate farms were viewed as an opportunity for more jobs.
- **Physical Demands of the Job.** Some faculty and students expressed concern about the ability to continue to perform large animal work as they grew older, or the possibility of getting hurt on the job. These concerns were expressed even by students who enjoyed

working with large animals and considered themselves very capable at this stage of their life.

- **Lifestyle Issues.** The two primary concerns were geography — the location of the job — and amount of time on the job — the hours and days worked. Where students wanted to live (some wanted a rural community while others preferred a city) played a role. Most agreed they wanted more free time, and that more free time and less weekend work were key concerns. Faculty believed this was a generational change because the current generation of veterinarians is much more concerned about work hours and lifestyle than previous generations.
- **Animal Care Mentality.** Students who enter veterinary school with a strong interest in “fixing broken animals” are the least likely to want a career in large animal medicine. Faculty explained it as some students having a “herd” mentality, meaning a desire to treat the health of a group of animals, vs. individual patient mentality, meaning they see each animal.
- **Experiences in Veterinary School.** Faculty noted that the clinical teaching faculty had a tremendous opportunity to expose veterinary students to new areas of medicine. This exposure, if it is positive, could lead a student to a new career choice.

Survey Methodology

The online surveys sought to obtain data about veterinary students who chose food animal careers and the factors that caused them to make these choices. They also examined what students thought of a list of strategies designed to increase interest in careers in food supply medicine.

The three online surveys were approved by the FSVMC and AAVMC, and e-mailed to veterinary students in 32 veterinary schools or colleges in the United States and Canada. There were 718 first-year student respondents and 713 third- and fourth-year student respondents. Of the 713 third- and fourth-year students, 270 indicated a food animal focus. Finally, there was a survey of deans and faculty at veterinary medical schools, and 214 people responded.

The data were analyzed using a multivariate ANOVA with a between-groups design. This analysis revealed a significant ($P < 0.001$) multivariate effect for the planned occupational area. Students indicating an interest in food supply medicine expressed the following perception factors:

- A career in food animal medicine is as intellectually challenging as companion animal medicine
- It is vital to me that my veterinary job be personally meaningful
- I want to practice the type of veterinary medicine that would let me live a rural lifestyle
- The thought of caring for herds or flocks of food animals is very appealing to me
- Food animal veterinary medicine would allow me to fully utilize my medical knowledge
- I value a strong mentorship training program in my first veterinary job
- I believe that livestock producers value the services of food animal veterinarians

The other aspect of the survey was to determine how effective potential strategies would be in attracting veterinary students to a career in food supply medicine. The top-ranking strategies were overwhelmingly financial in nature. The following are the top six:

- Pay off all student loans in exchange for working in a food animal veterinary field for three years
- Offer paid eight-week summer externships in food animal medicine
- Financial assistance in purchasing equipment to begin a food animal practice
- Establishment of mentoring-shadowing program that matches high school students with food animal veterinarians
- Provide job placement services for food animal careers
- Assigning students interested in a food animal career to a faculty mentor

The top four reasons first-year students indicated an interest in a food supply veterinary medicine career were:

- Rural lifestyle
- Desire to contribute to public health or safety
- Career would provide a variety of interesting tasks
- Opportunity to work with nice, interesting people

Based on the surveys and focus group data, the authors provided a list of 13 action steps that the veterinary community could take to encourage interest in food supply medicine careers.