

Training Bovine Health Professionals for the Future

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Abstract

Livestock production systems have changed dramatically in the last several decades and continue to evolve. This has led to a much greater diversity in the potential demands for animal health care delivery, assurance of production animal well-being, and delivery of safe food products to the consuming public. One response to these changes is the current discussion about the potential need for more food animal veterinarians. It seems highly desirable to improve the supply of well-trained and highly skilled food animal professionals. Looking at the analogous problem of the need to provide primary health care and rural health systems in human medicine, maybe we need to rethink the nature of the challenge. Perhaps the salient question is how to provide for appropriate livestock health and well-being in a changing agricultural production environment. The veterinary profession needs to consider not just how to improve the supply of veterinarians but also how to incorporate animal health paraprofessionals into a more diversified health care delivery system.

Résumé

Au cours des dernières décennies, les systèmes de production du bétail ont changé de façon spectaculaire et continuent d'évoluer. Cela a diversifié considérablement les besoins potentiels en services sanitaires et pour le bien-être des animaux, et dans la production d'aliments sains et sécuritaires pour les consommateurs. En réaction à ces changements, on discute actuellement de la demande potentiellement accrue en vétérinaires spécialisés en animaux destinés à l'alimentation. Il semble très désirable d'améliorer l'offre en professionnels bien formés et hautement compétents, spécialisés dans ces animaux d'élevage. Quand on voit le problème analogue vécu par la médecine humaine à fournir des soins de santé primaire à la population, et notamment en région rurale, il nous faut peut-être repenser la nature du défi. Peut-être la question fondamentale est-elle de savoir comment garantir de façon appropriée la santé et le bien-être du bétail dans une agriculture en pleine évolution? La profession vétérinaire doit considérer non seulement l'amélioration de l'offre en médecins vétérinaires, mais aussi la façon d'intégrer des professionnels auxiliaires spécialisés en santé animale dans un système de services plus diversifié.

Introduction

Increasingly over time we see articles and other publicity about the shortage of food animal veterinarians in practice, industry, government, education, and research. This topic can stir considerable emotion and discussion about the magnitude of the problem and the means to resolve it. The issue has even reached the mainstream media such as *USA Today* and the United Press International (UPI), particularly when the media can put a human interest spin on the story, such as the plight of rural practitioners or the needs of farmers for livestock health care. Many articles in the *Journal of the American Veterinary Medical Association (JAVMA)* and the *Journal of Veterinary Medical Education* have been devoted to various aspects of the needs for training of food supply veterinarians.

All of these discussions take place against the backdrop of changes in our society and our livestock production and food supply systems. During the latter part of the 20th century, dramatic changes began to take place in our agricultural production systems. Traditional diversified family farms declined in number as agribusinesses developed larger and more efficient production systems. Rural economies and the locations of livestock production operations have changed. Food processing, transportation, delivery, and demand have changed. Human demographics, human experiences with animals, societal expectations about food, and livestock production have changed. The role of the food animal practitioner has continued to change, as has the need and the supply of professionals who fill these roles.

The purpose of this presentation is to stimulate some thought about expanding our view of how to provide for the health and well-being of our production livestock within the context of these significant ongoing changes.

The Shortage of Food Animal Veterinarians

Is there a shortage of food animal veterinarians? Ten years ago the AVMA, American Animal Hospital Association (AAHA), and American Association of Veterinary Medical Colleges (AAVMC) commissioned a study by market experts that was commonly called the "mega-study" and reported as "The current and future market for veterinarians and veterinary medical services in the United States" in the July 15, 1999 issue of

JAVMA. These marketing experts analyzed numerous issues affecting supply and demand of veterinary services. Overall, they concluded that the future demand for food animal veterinarians was relatively flat. It is interesting to note how sharply this contrasts with some of the current concerns about a shortfall in the supply of food animal veterinarians that have received so much attention. Perhaps the difference between the conclusions of that study and the conviction that there is a real shortage deserves some further thought.

The analysis for the mega-study was based on perceived market forces and demand for veterinary services. Definitions of the services veterinarians provide and the alternative sources of such services can make a big difference in how much demand is perceived as needing to come from veterinarians. For example, in food safety research some people may believe that veterinary training would be useful to help determine the nature and direction of the research. On the other hand, in the absence of veterinarians trained to do this type of research, and with the availability of other well-trained food safety researchers, there may be little demand for veterinarians. As another example, we may believe that veterinarians with appropriate training would be ideal dairy nutrition consultants. But if there are few such veterinarians available, and there are well-trained PhD level dairy nutrition specialists, then dairy producers will easily move towards seeing that service need provided by non-veterinarians, and there will be little market demand for veterinary nutritionists.

What other opportunities for food animal veterinarians are we currently missing? There are numerous examples of pursuits that many food animal veterinarians could agree should logically be included as part of a veterinarian's work. These might include the development, implementation, and monitoring of detailed infectious disease control programs for livestock populations, or the development and conduct of livestock worker training programs. Perhaps also programs for animal welfare monitoring or monitoring of livestock housing and its influence on animal well-being. There appear to be many places where we see the 'need' for more food animal veterinarians, and chafe about the lack of adequate supply of appropriately trained individuals. Is it possible we are spending time doing some less-important tasks and missing the opportunity to do some more important work? Are we in some cases spending a lot of time doing routine technical tasks when we see the need to perform more influential roles, but have run out of time to fill those roles? Is the development and supply of more food animal veterinarians the only way to fill these gaps?

Framing the Right Questions

If it is indeed true that we need more food animal

veterinarians, then there are many questions to resolve and some of them are very complicated. There is not a single simple reason that relatively few new veterinary trainees choose to go into food animal or rural livestock veterinary practice. Therefore, it is also true that there is not a simple way to increase the supply of these individuals. Do we need more recruits with the right historical background, more exposure of veterinary students to livestock experiences, more training of students while at school, more postgraduate training to enhance their capabilities, more debt relief for these students, a higher proportion of males in the veterinary classes? Do we need more good food animal university programs, more food animal role models, more externships during vet school, more food animal teachers? Do we need higher salaries for new graduates, larger group practices with less emergency work, more responsive communities to lure new graduates there?

These types of questions address some of the things we might need to do to increase the number of rural large animal veterinarians. We should also address many other things we might need to do to increase veterinary involvement in food animal research, government programs, work with allied industries, work with global trade, developing economies and food safety.

There are key questions to ask about teaching programs. When we say there is a shortage of food animal veterinarians, are we talking about people who do exclusively dairy or beef or feedlot or small ruminant work? Does a suburban practitioner with 4H clients and small acreage landowners qualify as a food animal practitioner? What different preparations do these individuals need in their veterinary curriculum?

I believe all of these are good questions worthy of discussion, consensus building, and directed action. There are many stakeholders who rely on our profession and who should expect that we can continue to educate and train competent individuals to fill a variety of employment niches that involve livestock production.

I also believe that our counterparts in human medicine have had similar problems in the training and supply of primary care and rural family physicians for multiple decades. It is noteworthy that our human medicine counterparts have dealt with human health care delivery not only by trying to increase the number of physicians but by redefining the roles that various health care professionals fill.

Perhaps we are trying to solve a valid and important problem, but are failing to address our most important challenge. I believe the question we should be asking is, "How do we provide for appropriate livestock health and well-being in a changing agricultural production environment?" This question needs to be asked in a context of a variety of geographic regions, and a variety of different livestock production styles.

Providing Health Care for Optimal Livestock Health and Well-being

Most food animal veterinarians would agree that it would be a worthwhile effort to increase the supply of competent and well-trained food animal veterinarians. I would personally love to see the day that we find sufficient resources to hire more food animal teachers, provide a better university teaching infrastructure, support a more robust food animal curriculum in veterinary schools, develop and attract a more robust group of food animal training recruits, provide more veterinary food animal researchers, and develop great job markets for these trainees in the private and public sectors. I do not, however, believe this is the only, or even the best, way to provide for optimal livestock health and well-being.

There are many places that we could employ animal health paraprofessionals, much as our colleagues in human medicine do, and substantially improve the delivery of livestock health care. We need to reconsider the roles of veterinarians and the roles of paraprofessionals and develop a system to deliver this care.

What could paraprofessionals do in the intensive dairy and feedlot industries? Many of these animal health needs are met by untrained or poorly trained workers. Many of the issues that arise with animal health and well-being stem from inadequacies in diagnosis and treatment or other decision-making processes. A considerable amount of veterinary effort is expended in correcting problems that may not have arisen if addressed properly from the start. The industries, however, will employ non-veterinarians for these roles because it appears to be more cost-effective. What would happen if we worked with these industries to encourage a model that includes the equivalent of human nurse practitioners? Would they be employed by the operation? Would they be employed by the veterinary practice and assist in the delivery of lower-cost care? Could we develop a business model that delivers optimal care while placing the veterinarian in a role that oversees multiple aspects of animal well-being that are currently underserved?

Shouldn't a well-trained paraprofessional be far preferable to poorly trained laborers in the conduct of diagnostic sampling, on-site diagnosis, necropsy examination, some surgical procedures, reproductive manipulations, calf delivery and postpartum care?

What could paraprofessionals do in a rural, diversified mixed animal practice? Have we ever considered the advantages of the physician's assistant model in human medicine? In many regions paraprofessionals run satellite clinics that provide local health care and cooperate with physicians to cover a broader geographic range than can be managed from a single clinic. Is there room for such individuals in the world of veterinary medicine? Is it reasonable to expect livestock owners to pay call charges and professional fees sufficient to cover the costs of a veterinary practice when some of the clients are more than a half-hour or one hour away? For what services will such a livestock producer call a veterinarian? Could we develop a business model that provides more optimum accessibility at a reasonable price by employing well-trained veterinary paraprofessionals who work with the veterinary practice?

Consider all the myriad places that knowledge of animal production, animal health, and veterinary perspective could be employed for the well-being of our livestock populations and our society. Have we been too protective of the role of a licensed veterinarian and not open enough to the potential roles of other animal health professionals? Is it really true that we need more food animal veterinarians, or is it more likely that we need to carefully think through different models for how animal health care is delivered and veterinary expertise is employed? I believe there are a large number of competent, intelligent, hard-working young people who may not serve best as veterinarians but in a different professional animal health care role. I also believe we could devise training programs that would develop skills and knowledge base necessary to fill these roles. To do this will require our profession to rethink its place in a changing world of animal health and food safety needs.