Will veterinary medicine be relevant to society 50 years from now? Today, the profession enjoys broad public support and veterinarians are consistently ranked among the most trusted members of society, but there is no guarantee that this will always be the case. Although we cannot know what societal needs will be in 2050, we can be certain that they will be different from those of today, just as the needs of 1930 were vastly different from those of today. If the veterinary medical profession fails to adapt to these changing needs, we can be assured of becoming irrelevant to the society we serve.

Last year, the Association of American Veterinary Medical Colleges conducted a long-range planning study to prepare for the inevitable changes that will be necessary to educate veterinarians. The objective of the study was to determine a direction for academic veterinary medicine that will prepare veterinarians for opportunities and possibilities that may emerge within the next 20 years. A process known as foresight technology was used to help study participants consider various plausible future scenarios affecting veterinary medicine over a 20- to 25-year horizon. The process enabled study participants to discuss future opportunities and challenges for the veterinary medical profession without being constrained in their thinking by today’s issues. Approximately 95 professionals, representing more than a dozen areas of professional expertise, participated in the study. The foresight study report concluded that it is imperative to change the way we educate tomorrow’s veterinary medical students.

Study participants recognized that changes in expectations for veterinary medicine are occurring rapidly. Some of the plausible future scenarios and potential challenges that were considered in the study included the following:

- A world in which pandemic zoonoses are persistent, and conversely, an era in which such disease threats are largely overcome.
- A world in which the genome of animal species is explored and tapped for animal modification, cloning, drug development, genetically created novelty pets, and in vitro development of animal-based food supplies.
- A world in which global warming and its consequences for domestic and wild animal populations dramatically change health care requirements and food supply and result in the emergence of new animal diseases.

Several other equally plausible and sobering future scenarios were considered. The implications for potential new challenges, in terms of the impact on veterinary medical education, were obvious: veterinary school curricula must become more adaptive and responsive to change.

Change is not new to our profession. At the beginning of the 20th century, the horse was being supplanted by the internal combustion engine as the primary source of power for transportation and agriculture production. Many veterinary medical colleges closed their doors because they failed to see the potential for veterinarians to do more than provide care for horses. They failed to see that veterinarians would identify the causes of important diseases of livestock and develop the framework to control and eradicate these diseases. They failed to anticipate that people would bring companion animals into their homes, come to value them as important members of their families, and demand high-quality medical care for them. These dramatic changes occurred over long time horizons and were accompanied by gradual changes in curricula.

In today’s world, change occurs at a faster pace and on a global scale. The potential challenges explored in the foresight study will require a more rapid response if the profession is to continue to be relevant at the interface of human and animal health. In various sectors of the profession, for example, veterinarians are expected to provide expertise in food safety from production to consumption; leadership in regard to animal husbandry and welfare concerns; executive-level knowledge about economics, business, and personnel management; fundamental client communication and media skills; and ethical and moral guidance in the care and use of animals. Are today’s graduates adequately prepared to meet these challenges? Do they understand that these expectations exist even if the appropriate learning opportunities are not available in the curriculum?

Today’s new graduates are expected to be knowledgeable and able to function effectively in a changing environment. They are challenged with many emerging issues including new diagnostic technology; rapidly changing pharmaceutical modalities; antimicrobial resistance to drugs and transference of resistance; an
expanding range of health care options, from primary entry-level services to those requiring secondary or tertiary referral; regulations and policies pertaining to drug residues; restrictions on use of agents for products being prepared for natural or organic foods and those intended for export; diagnosis, prevention, and control of emerging and reemerging infectious diseases; and application of state-of-the-art therapeutic and surgical procedures that owners discover on the Internet. All of these challenges pertain to companion, equine, and food animal practice and, to some extent, to wildlife, exotic pet, zoo, logic, and laboratory animal medicine as well. In addition, graduates should have had sufficient learning opportunities to prepare them to at least consider careers in public health, biomedical research, and teaching.

All this is a general description of what today’s schools and colleges of veterinary medicine are expected to offer students. Are all sectors of employment satisfied with the preparation of our new graduates in these multiple areas of professional focus? Whether satisfied or not, how can we rapidly add new areas of professional focus, adjust curricula to meet new challenges, or add new subjects in existing areas of professional focus? For a number of reasons, foresight study participants strongly believed that the four-year time period required to achieve a veterinary medical degree should not be lengthened. What can be done in curricular development, therefore, to better prepare tomorrow’s new graduates in the current four-year time frame?

A proposed model for the professional curriculum was developed in the foresight study report. The model suggests that the first 2 to 2.5 years of veterinary medical education should consist of a core curriculum that would provide education in the basic sciences and general medicine and surgery and maintain the comparative aspects of veterinary medical education, which are unique to the veterinary profession. This core curriculum would be followed by immersion in a chosen area of professional focus for the remaining 1.5 to 2 years, culminating in the veterinary medical degree.

Flexibility and adaptability of the proposed model are implied by the potential to add, delete, or adjust the areas of professional focus provided in the terminal years. For example, as societal needs or expectations change or new subjects become necessary, new areas of professional focus could be offered within a relatively short period, perhaps one to two years. The content of the curricular material in any area of professional focus could be adjusted, as needed, through consultation with members of the particular employment sector in which graduates would be expected to work. The subjects of certain areas of professional focus are obvious, such as companion animal, equine, food animal, and poultry medicine. Others might include public health, laboratory animal medicine, zoo animal medicine, and biomedical research. Not every school or college of veterinary medicine would be expected to offer every area of professional focus. On the other hand, some schools and colleges would likely continue to offer a traditional curriculum, including preparation for general community or mixed animal practice. Consortia of academic institutions and nonacademic organizations would be required to offer the curriculum for some areas of professional focus. The many students who know they will enter companion animal practice would be given the opportunity to focus their interests during the last years of their training, to the advantage of their patients, clients, and employers.

Today’s veterinary curricula are not adequately adaptive and responsive to change. Consider a current issue. In the early 1990s, veterinary medical schools and colleges heard the message that too few new graduates were entering careers in the public health area of professional focus, and a model program of study was prepared by the American College of Veterinary Preventive Medicine. Some institutions responded by adopting a model whereby students entered a dual-degree program and completed both the veterinary medical degree and master of public health degree in four years. Other institutions adopted programs that required at least one additional year of education to obtain the veterinary medical and master of public health degrees. In either instance, an opportunity was created for interested students to add public health credentials to their veterinary medical degree. Today, about 16 schools and colleges of veterinary medicine offer this type of learning opportunity, and the number of veterinary medical students pursuing professional education in public health has increased about 10-fold. This is a laudable achievement, but it has come nearly two decades after the call for additional training in public health. Is that time frame sufficient for adaptive and responsive change? In today’s world, in which rapid change to meet emerging challenges is often necessary, we believe not. If the proposed curricular reforms of the foresight study report had been adopted and combined with the model program of study suggested for students to prepare for a career in public health, we believe the deficiency in the number of public health veterinarians may have been addressed more quickly.

The idea to provide more in-depth education in selected areas of professional focus, beyond that offered in today’s curricula, is not particularly new. The Purdue University School of Veterinary Medicine considered implementing a European model in the early 1990s. The first four years were to include preveterinary and core veterinary medical courses leading to a baccalaureate degree; the following two years were intended to provide in-depth study in selected areas of professional focus and culminate with the veterinary medical degree. Primarily because of concerns that too many students would not complete the final two years of study, this model was not adopted, but Purdue University did adopt tracking within its standard veterinary medical curriculum. More recently, a model of education based on the model for the engineering profession, whereby students choose a career area of focus early in their academic experience, was espoused for veterinary medical education.

The proposed curricular model in the foresight study report builds on progress in curricular development over the past several decades. Much of this progress was based on recommendations made nearly 20 years ago in the Pew report. Today, nearly all schools and colleges of veterinary medicine offer elective areas of emphasis, or tracking, to students. We believe this should be further refined to allow more intense education in chosen areas of professional focus. Greater
In contrast, adoption of enhanced licensure would like all practitioners are qualified to practice on all species. That is, current licenses imply that the public would begin offering companion animal services without ob not the license. If a licensed equine practitioner were to in this case is fulfilled via the integrity of the practitioner, nonclinical administrative positions, the answer would complying with continuing education requirements of the authors, both former deans, until recently held does our current system provide public assurance? Two of the authors, both former deans, until recently held general reluctance to accept so-called “limited licensure.” Perhaps we should refer to a new scheme of “enhanced licensure” under which a general examination would be administered to reflect competence in core areas of veterinary medical knowledge and the “enhancement” notation would be added to indicate completion of training in a particular area of professional focus. This might be accomplished by simply adding the notation of major emphasis to the degree or by use of a certifying examination.

Licensing is not designed to protect veterinarians’ options, although some have come to see it that way. Licensing requirements exist to assure the public of competency in the provision of health care services. But does our current system provide public assurance? Two of the authors, both former deans, until recently held licenses to practice in several states, but were we truly competent to practice medicine and surgery? Despite compliance with continuing education requirements and because nearly half of our careers were spent in nonclinical administrative positions, the answer would clearly be no. Similarly, consider a longtime practitioner in equine medicine who, for reasons of health or injury, wants to change to small animal practice. This practitioner would undoubtedly need to pursue continuing education to prepare to manage diabetic dogs and cats, diagnose and treat gastric dilatation-volvulus, and so on before offering services to clients. The public protection in this case is fulfilled via the integrity of the practitioner, not the license. If a licensed equine practitioner were to begin offering companion animal services without obtaining relevant continuing education, the public would be at risk of receiving incompetent services. But the current licensing structure does not protect the public from this scenario. That is, current licenses imply that all practitioners are qualified to practice on all species. In contrast, adoption of enhanced licensure would like-