



NAVMEC Meeting #2

April 29-May 1, 2010 • Kansas City, Mo.

Executive Summary

INTRODUCTION

The North American Veterinary Medical Education Consortium (NAVMEC) was launched in July 2009 by the American Association of Veterinary Medical Colleges (AAVMC) "to ensure that veterinary medical education meets the needs of our changing society." At NAVMEC #1, the Consortium's first meeting in February 2010, participants explored what society will need from the veterinary profession over the next 5-to-10 years, and subsequently defined the foundational veterinary skills/competencies needed to meet those societal needs. They also discussed that implementation of the recommendations included in the final NAVMEC report is critical for the NAVMEC initiative to be considered successful.

More than 160 veterinary professionals and other stakeholders participated at the second NAVMEC meeting in May 2010, which focused on evaluating enhanced veterinary education models (VEMs) that will graduate veterinarians with the skills, knowledge and competencies to meet the changing needs of society. During the opening session, Dean Bennie Osburn, DVM, PhD, University of California, Davis School of Veterinary Medicine and Chairman of the NAVMEC Board of Directors, acknowledged numerous requests made by NAVMEC participants that the Consortium develop a plan to *implement the recommendations* resulting from the three national meetings. He announced that the NAVMEC Board *will* include a recommendation on implementation in the Consortium's final report to be submitted to the AAVMC Board of Directors in the fall of 2010.

NAVMEC #2 began with an overview of previous initiatives and studies (Pew 1989, KPMG 1999, Brakke 2000, AVMA-Pfizer 2005, AAVMC Foresight 2007). The following are highlights from these presentations.

- **The Foresight Report was a call for change.** The launch of NAVMEC is the first step in developing an actionable national plan to ensure that veterinary medicine continues to meet the needs of a changing society.

- **The Foresight Report advocated expanding the contributions of veterinary medicine in food supply veterinary medicine, biomedical research, and public health (possibly 'One Health').** This was suggested to be achieved through an integrated network of Centers of Excellence/Emphasis.
- **There is need for a renewed focus** on animal health, a core of biological expertise with elective specialization, and the inclusion of public sector veterinary needs in the curriculum
- **There is urgent necessity to address the economic challenges** facing colleges/schools of veterinary medicine, the debt load of new graduates, and the viability of veterinary medicine – particularly in the private practice environment (the KPMG Mega-Study resulted in the formation of NCVEI).

Focus on Core Competencies

During NAVMEC #2, the core or foundational competencies needed by all veterinary graduates identified at NAVMEC #1 were reinforced as the drivers. These competencies were identified as follows:

1. Multi-species clinical expertise
2. Interpersonal communication and education
3. Collaboration
4. Management (self, team, systems)
5. Public health/One Health
6. Lifelong learning/scholarship
7. Ethical professional leadership

Environmental Scan

The majority of Day #1 of NAVMEC #2 was designated as a “conference day,” with multiple knowledge-based presentations informing participants on a spectrum of educational topics such as adult education, technology advancement, and change management (the “how” of education). Other presentations provided opportunity for insights from other health professions, including an example of how dental education curriculum reform has been based on the Association of Dental Educators’ CCI-defined Competencies for the new General Dentist.

The dental competencies echo and confirm the seven (7) core/foundational competencies defined during NAVMEC #1. Michigan State University College of Human Medicine takes the same outcomes-oriented approach to curricular reform that surfaced during NAVMEC #1. A presenter from the National Board of Medical Examiners provided perspectives on ways to improve licensing examinations. He explained that human medicine has adopted a multi-step assessment program, with the first exam at the end of Year Two in medical school (pre-clinical training) and the second exam (assessing clinical skills) taking place during the third or fourth year. He also indicated that there was no likelihood of moving toward limited licensure in human medicine for the foreseeable future.

Presenters challenged participants to innovate and quickly adapt to changing environments. Different methodologies and technologies included:

- **Hybrid instruction** – Blending technology with human interfacing, and a focus on learner-centered instruction (“digital natives”).
- **Using outcomes assessments** for acquisition of skills, knowledge, and aptitudes (SKAs).
- **Expanded application of problem-based learning and case-reinforced learning.**
- **Use of technology** to build collaboration among learning communities, to empower learners, and to increase the flexibility of curricula (including integration of paraprofessionals).
- **Increased sharing** of learning materials among CVMs (“recycling”), enabled by technology (e.g. webcasts and podcasts).

Veterinary Education Models (VEMs)

Day #1 continued with descriptions of eight current Veterinary Education Models, including how these models have been adapted to meet changing technological, societal, and economic conditions. Successful elements in these current educational models included:

- Increased emphasis on non-clinical skills and teamwork throughout the curriculum, but starting in the first year.
- More flexibility and innovation in defining pre-veterinary and pre-clinical options.
- Curriculum design driven with “the end in mind.”
- A focus on graduating veterinarians who have acquired the valued Day #1 technical and non-technical competencies for their selected career paths.

- Partnerships with industry and other stakeholders.
- Exposure to animals and animal health in the first year – hands-on, outside the lecture hall.
- Use of specialized teachers vs. specialized veterinarians.
- More integration of courses, forming a more coherent curriculum and body of knowledge – learning in parallel, not in series.

Additionally, a new conceptual model was presented and discussed. Its primary attributes were:

- ✓ Streamlined pre-veterinary education.
- ✓ Accelerated, learner-centered veterinary curriculum, with the possibility of reducing the cost of education (and potentially reducing student debt).
- ✓ More exposure to underserved and non-traditional career opportunities.
- ✓ Increased collaboration among CVMs, supported by distance-learning technologies.
- ✓ Post-NAVLE training and assessment in specialty areas.

Following stimulus presentations on Day #2 covering communications, adult learning, the Veterinary Internet Content Exchange (VetICE), and SKAs, participants formed Innovation Teams to analyze the strengths and weaknesses of, create improvement concepts for, and re-construct their designated VEMs. The VEMs were: Tracking, Non-Tracking, Caribbean, European, U.S. and Canadian Distributive, 2+2, Veterinary Teaching Hospital, and New Concept.

After reviewing these diverse Veterinary Education Models, it became clear that once the foundational competencies of the veterinary graduate are clarified and finalized, multiple methods, approaches, and educational techniques will allow institutions to embed those competencies into the curriculum regardless of the model chosen. An outcomes orientation should also be implemented through which foundational competencies can be assessed, ensuring that graduates will be better prepared to face the multiple demands which society expects of the profession.

Veterinary Education Models (Re-Modeled)

On the meeting's third day, each Innovation Team presented an overview of its improved VEM. Details of these analyses are included in the full Meeting Report. Successful elements/improvement concepts which appeared in multiple VEMs include:

- Consideration of problem-based learning (PBL) and learner-managed, self-paced delivery.
- More visibility and emphasis on the importance of non-private practice areas of specialty.
- Non-technical and technical skills should be better integrated and not taught in separate discrete courses.
- There was some discussion on using the admissions process to select students with “desirable” SKAs, although the evidence from human medicine does not confirm the efficacy of this strategy.
- Improve the teaching competencies of faculty, particularly in the use of technologies in the “blended” learning environment.
- More emphasis on primary care and wellness.
- Improved use of distance learning, specifically to accelerate and reduce the cost of completing pre-requisites
- Base student team selection based on learning styles.
- Provide mini-sabbaticals to refresh and develop faculty.
- Place greater value on teaching outcomes in evaluating the performance of faculty and CVMs. (However, the concern was raised that emphasizing teaching would result in weakening the research role of CVMs.)
- Use flexible programming to allow for career changes and second-career students.
- Standardize prerequisites and entrance exams in North America.
- Encourage broader adoption of VetICE concepts.
- Increase use of stakeholder partnerships (e.g. industry, state VMAs).

In most cases, the costs of delivering re-modeled VEMs were perceived to be somewhat higher, due to faculty training and technology investments and because the length of the educational process was unchanged. Teams recommended that changes be implemented incrementally, suggesting that CVMs would be unlikely to completely switch over to a new model

Finally, at the close of the meeting, a presentation on Human Medical Education identified some parallels and offered some suggestions for Veterinary Medical Education:

- Ensure stakeholder participation in the design of assessment systems.
- Consider a single pathway for licensure for North American and international graduates.
- Consider multi-step NAVLE exams to accommodate early foundation and late specialization.

Conclusion

NAVMEC #2 demonstrated that while there is consensus among stakeholders that veterinary medicine will need to continue to evolve to meet the needs of a changing society, there are many different methods, technologies, and curricular approaches to consider. The competencies or roles approach explored at NAVMEC #1 will need to be revisited in NAVMEC #3 in order to synthesize the conclusions being reached by the Consortium and to move forward with an action plan based on core competencies/roles to be applied across the veterinary continuum.

At NAVMEC #3 in Las Vegas (July 14-16, 2010), participants will review and discuss the relationship between education, accreditation, testing, and licensure. They will identify specific recommendations for education curricula and delivery model, testing/licensure, and accreditation that will advance veterinary medical education in meeting future societal needs. The July 2010 meeting will also provide an opportunity for participants to develop a plan for how the recommendations in the final NAVMEC report could be implemented.

SUBMITTED BY:

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