Conference Proceedings

Charting the Course for the Future of Veterinary Medicine

FOCUS-FORWARD WEEKEND

August 12–14, 2010
The Ohio State University

vet.osu.edu
Greetings:

Few can argue that the pace of global change has never been more rapid than in the dawning years of the new millennium. I am often labeled a fierce advocate for change of many varieties, and it is a label I cherish. Why? *Because change is inevitable in every aspect of life.*

When I returned to Ohio State in 2007, I established a set of goals for effectively guiding the university through the transition into a global knowledge economy. One of these goals is for us to recast our research agenda in light of major changes facing the world. With the Focus-Forward Weekend in August 2010, Dean Lonnie King did just that. By bringing together Ohio State faculty, staff, and students with friends and leaders in the veterinary industries, Dean King began the process of recasting the college’s agenda. I commend my good friend for demonstrating so well the leadership needed for our College of Veterinary Medicine to succeed in a new world.

This will be no small challenge, but I have full faith and confidence in Dean King and his colleagues. I also believe that it is our time to assume global leadership in veterinary education and research. The entire university family stands firmly behind the college as it takes the first steps to create a bold, new future in its critically important field.

Sincerely,

E. Gordon Gee
President
The Ohio State University

The College of Veterinary Medicine’s Focus-Forward Weekend conference brought together faculty, staff, alumni, students, and industry leaders to discuss critical issues and chart bold strategies for veterinary medicine.
Dear friends and stakeholders:

Focus-Forward Weekend was conceived and convened out of my firm belief, and that of my colleagues, that veterinary medicine stands today at the most significant crossroads in its 250-year-old history. Population growth, food safety and security, human and animal health concerns, and a host of other global forces are changing the needs of society with respect to our profession.

Consequently, our inaugural Focus-Forward Weekend examined five of the top challenges facing veterinary medicine in 2010: global food systems, service and veterinary care for animals, public health/one health, ecosystem management, and biomedical and agricultural research. This report summarizes the discussions that took place during the conference, as well as the recommended next steps by conference participants.

Our college, now 125 years old, will use the results and recommendations from Focus-Forward Weekend to chart a new course for ourselves and our profession. Our college’s core values and principles are firmly in place, and I suspect that most of our past will bear little resemblance to our future.

I believe that the profound changes on the horizon for veterinary medicine will be led by a handful of academic institutions that have the capacity, the vision, and the commitment to lead transformation. The Ohio State College of Veterinary Medicine will be one of those institutions.

We now move forward in the firm belief that the most exciting thing about the future of veterinary medicine is that, to a large extent, it still can be created.

Respectfully,

Lonnie J. King
Dean and Ruth Stanton Chair in Veterinary Medicine
College of Veterinary Medicine
Situation Analysis

When most people hear the word “veterinarian,” they most likely conjure up an image of the gentle doctor who takes care of their pet. This reaction is easily understood. More than 7.8 million Ohioans, for example, are pet owners. Farmers and others involved in agriculture also know that veterinarians are vital in the care of horses and food-producing farm animals.

In truth, veterinarians always have worked in a variety of other areas. These include ensuring the wholesomeness of food and understanding the basic mechanisms that cause disease. However, rapid global change today compels the field of veterinary medicine and its practitioners to consider a future of sweeping, transformational change to meet new and evolving societal needs.

Joerg Ohle, president and general manager of Bayer Animal Health of North America, offered an insightful look at the future of veterinary medicine in his keynote remarks during Focus-Forward Weekend. He said:

“Global forces are shaping economics, food production, and health. The veterinary profession must prepare for a future that demands greater engagement in public health, with a shared responsibility for animal welfare, food safety, and disease surveillance. National economics, public health systems, food systems, ecosystems, and animal welfare management are all intertwined. The importance of animal health and ecosystem management in our society has never been greater, and global economic and nutrition trends will only increase the importance of the veterinary profession in the next decade. The crisis we face—and yes, it is a crisis—is that academic veterinary centers are not preparing graduates for this new world….

“There will be an enormous need for veterinarians educated in the agents that can cause disaster, who are crisis managers in food safety and security within federal governments, who are integrated as public health care professionals across all species, and who are skilled in the epidemiology of food-related diseases and allergies, environmental health risk, and production processes and traceability. In short, the world will need veterinarians with an entirely different skill set than those being trained today by the world’s veterinary colleges.”

It is, indeed, evident that strong global forces are shaping both a new reality for the veterinary medicine profession and new responsibilities as well. Those forces certainly include emerging infectious diseases, food safety and security, foreign animal diseases, antimicrobial resistance, and even bioterrorism. Veterinarians will be needed in ever-increasing numbers on the front lines to help protect society from these threats.

This forecast presents a clear and significant challenge for colleges of veterinary medicine, an overwhelmingly large percentage of whose debt-ridden graduates continue to matriculate to small animal practices, where salaries are higher. The typical veterinary curriculum almost certainly must change to produce a new wave of graduates to pursue other types of careers, both in the industrial sector and in government agencies at all levels, specifically in the public health arena.

Charles Darwin said that “it is not the strongest of the species that survive, nor the most intelligent, but the ones most responsive to change.” Those words ring true for the veterinary medicine profession generally, and for The Ohio State University College of Veterinary Medicine specifically, as they seek to create an entirely new future driven by the forces of global change.

Did You Know?

- Ohio State’s College of Veterinary Medicine was ranked 5th in U.S. News & World Report’s “Best Graduate Schools.”
- Approximately 2,500 new veterinarians graduate from the nation’s 28 veterinary medical schools each year.
- 7.8 million Ohioans, living in 3.4 million households, are pet owners.
- Most disease epidemics of the last 15 years were of animal origin.
The Ohio State University College of Veterinary Medicine, founded 125 years ago in 1885, consists of more than 1,000 faculty, staff, and students in the Departments of Veterinary Biosciences, Veterinary Clinical Sciences, and Veterinary Preventive Medicine. The college is located on a six-acre mini-campus and includes three academic and research buildings, one of the country’s largest veterinary medical centers, and affiliated off-campus facilities.

Degrees offered include Doctor of Veterinary Medicine (DVM); Master's and PhD in Comparative and Veterinary Medicine; and Master of Public Health with a specialization in Veterinary Public Health (in partnership with the College of Public Health), as well as a variety of residency programs leading to specialty board certification.

Approximately 70 percent of the college’s graduates enter some form of private practice. The remainder enters other fields, including preventive medicine, regulatory veterinary medicine, military veterinary medicine, laboratory animal medicine, industrial research and development, and teaching and research in a variety of basic science and clinical specialty disciplines.

In addition:
• 35,000 companion animals, farm animals, and equine patients are treated at college facilities every year;
• 7,200 alumni practice in all 50 states and 29 countries; and
• Leading-edge research is taking place at the college in oncology, food safety, avian influenza, infectious diseases, and advanced orthopedic procedures, to name a few.

The college was ranked fifth among the nation’s 28 veterinary medical schools by U.S. News & World Report’s “Best Graduate Schools.” It is home to approximately 560 professional students, the largest such contingent in the nation. In addition, the college is just one of only two veterinary schools in the country to be co-located on the same campus with a complete health sciences center, including colleges of nursing pharmacy, optometry, dentistry, medicine, and public health.

Historically, the college has enjoyed a strong tradition of developing leaders in both its faculty and graduates. It is also part of one of the nation’s largest and most comprehensive universities.

All of these characteristics and factors combine to make the Ohio State College of Veterinary Medicine an ideal candidate to lead transformational change in veterinary medical education as the profession prepares to deal with significant global change and evolving societal expectations. Moreover, the five Focus-Forward Weekend areas of concentration are fields that present both the greatest challenges and greatest opportunities to the profession—and the college has world-renowned experts already working and researching in those fields.

The SARS epidemic of 2003 cost $50 billion worldwide and was started when one individual brought an infected bat into a marketplace in China.
• Among 153 diseases that are considered “emerging,” 114, or 73 percent, are zoonoses.
• Almost 25 million food animals were produced in 2009 to feed the world’s 6.8 billion people.
• Forecasters predict a 50 percent increase in demand for proteins from animal sources by the year 2020.
Focus-Forward Weekend
Charting the Course for the Future of Veterinary Medicine

Conference Overview
The Ohio State University College of Veterinary Medicine held its inaugural Focus-Forward Weekend on August 12–14, 2010. College faculty, staff, students, friends, university administrators, and leaders in veterinary-related industries gathered for thought-provoking discussions on critical issues and a serious look at the future of veterinary medicine. The conference kicked off on Thursday, August 12, with a reception and dinner, and keynote remarks presented by Joerg Ohle (top photo), president and general manager of Bayer Animal Health Division, North America.

More than 200 individuals participated in the three-day conference, representing the following categories:

- faculty
- staff
- students
- private practitioners
- industry
- government
- nonprofit
- clients/donors

Focus-Forward Weekend was driven by four primary objectives:

- Review and explore critical issues facing the profession;
- Generate ideas about how to respond to and address those issues;
- Recommend action for the Ohio State College of Veterinary Medicine that will position it to be successful in this new environment; and
- Link these recommendations and ideas with a new college vision.

All plenary sessions were facilitated by Daniel J. Stone, principal, WholeSystem Consulting (second photo, top right).

Discussion Topics
Five discussion topics, identified as preeminent challenges facing the profession of veterinary medicine, were selected for Focus-Forward Weekend. Each conference participant received a personalized conference agenda for Friday, August 13, that included morning attendance at one of the full (two-hour) presentations of the five discussion topics. Attendees then attended four 45-minute afternoon mini-presentations of the remaining four discussion topics. Throughout the course of the day, recommendations for future action were collected for each of the five discussion topics.

At the Saturday wrap-up session, participants received a printed list of the chief recommendations for each discussion topic. The list included a sixth category of “Cross-Cutting Issues” that emerged during the Friday sessions as common to several, or even all, of the five primary discussion topics. Participants then voted by electronic keypad on their choices for the most important recommendations under each topic. Attendees were asked to cast their ballots based on the following criteria:

- Significant contribution to the issue;
- Appropriate to a college of veterinary medicine;
- Will attract faculty/student interest;
- Can make progress over the next three to five years.
The 21st-century food and fiber system is global, complex, and critical. Almost 25 billion food animals were produced last year to help feed almost seven billion people. The FAO (Food and Agricultural Organization, United Nations) estimates that there will be a demand for a 50 percent increase in proteins from animal sources by the year 2020. The veterinary profession must be prepared to meet the challenges of caring for these animals and address issues of environmental sustainability.

Highlights

- The earth’s global food system consists of production, processing, and distribution. It evolved over the last 10,000 years in three broad phases: Primitive utilization of vegetative plants, livestock domestication, and large-scale precision farming operations.
- The food supply has tripled in the last 30 years and presently can supply 3,500 calories of food daily—enough to cause obesity—for each of the 6.8 billion people alive today on earth.
- 1.6 billion people exist on less than $1 a day, and 3 billion live on less than $3 a day.

- There are several key drivers of change that affect and define the global food system. They are Climate Change and Water; Energy; Natural Resource Management; Human Health and Safety; Population Growth; Policy and Governance; Market Access; Integration of Food Systems; Technology; Human Capacity; and Animal Law and Legal Rights and Welfare.

- The global food system must expand significantly to be able to feed an estimated 3 billion more people by the year 2050. Accordingly, large numbers of new veterinarians will be needed in areas such as crops, livestock, wildlife, and aquaculture.

Recommendations

- Offer a professional one-year master’s degree program to transition food animal medicine to veterinary agribusiness.
- Develop long-term partnerships with international institutions to provide continuing opportunities for student exposure to global food systems.
- Identify an appropriate role for para-professionals in animal health care delivery.
Service and Veterinary Care for Animals
Presenter: Todd Tams, DVM, Chief Medical Officer, VCA Animal Hospitals

Overview
We have a new appreciation of the human-animal bond and the wonderful benefits of pet ownership. In Ohio, more than 3.4 million households and more than 7.8 million people wake up every day and interact with their pets. There are now 43 different clinical specialties. Veterinary education must focus on DVM, graduate students, interns, and residents, in addition to ensuring a supply of food animal and equine practitioners. The demand for new hospital services and expanded teaching is a growing challenge.

Highlights
- Animals play vital roles in our lives in capacities ranging from pets to service animals to bomb squad dogs and military dogs.
- In the realm of companion animals, 77 percent of pet owners classify their pets as a child or family member, with another 19 percent viewing them as friends. They expect great care for their pets.
- There is an increasing need for “street savvy” or “society ready” veterinarians.
- Veterinarians need to focus more on wellness care and specifically on early disease detection, improved communication skills, and increased advocacy for their patients (since they cannot speak for themselves).
- There are a number of emerging trends in veterinary medicine. They include larger private practices, greater demand for advanced care (24-hour care centers, ICU units, pain management, specialty medicine, etc.), the pursuit by graduates of intern training, the need for more collaboration between universities and large private hospitals, growing awareness of the importance of the psychological dimension of the profession, and increased continuing education opportunities.

Recommendations
- Form an Ohio State satellite outpatient clinic for underprivileged/at-risk clients in Columbus.
- Establish an Ohio State large animal ambulatory service presence in the Appalachian region of Ohio.
- Model sound financial practices for students at the Veterinary Medical Center.
- Improve outreach to elementary and secondary schools and 4-H organizations to improve awareness of the scope and range of careers in veterinary medicine.

“You hear about how we need more business training in veterinary schools. To me, this also means we need more communication skills, sales skills, and social skills.”

Todd Tams
Public Health/One Health

Presenter: Rear Admiral Ali S. Khan, MD, Director, Office of Public Health Preparedness and Response, Centers for Disease Control and Prevention

Overview
As one of the health sciences, veterinary medicine offers both the expertise and responsibility to improve the public’s health. Among the 156 diseases considered “emerging,” 114 are zoonoses (infectious diseases that can be transmitted from animals to humans)—a stunning 73 percent. The driving forces of emerging infectious diseases, food safety and security, global health, antimicrobial resistance, and bioterrorism are all now part of the reality and new responsibility of the profession.

Highlights
- The One Health movement seeks to promote better animal health, better human health, and better environmental stewardship, emphasizing collaborations among veterinarians, physicians, and other scientific health-related disciplines including microbiologists, ecologists, climatologists.
- One Health offers a holistic approach to health that uniquely spans numerous non-health sectors, including agriculture, wildlife, and the environment. It is especially important in this area of the growing need to deal with emerging and re-emerging infectious diseases.
- A key tenet of the One Health strategy is engaging new partners, including the Wildlife Conservation Society, National Park Service, and American Veterinary Medical Association.
- Barriers to incorporating the One Health perspective include inertia, poor communication among disciplines, organizational mandates, and lack of cross-disciplinary funding.
- Key points for the future of One Health include the needs for culture change, increased visibility, designated funding, and improved coordination.

Recommendations
- Establish a university-wide initiative to make The Ohio State University the premier academic leader in One Health.
- Create a joint curriculum with other students in professional schools and other areas such as agriculture, ecology, and the physical sciences.
- Provide opportunities for exposure to the One Health movement for elementary and secondary students and college undergraduates through such activities as shadowing, career days, summer jobs, and camps.

“The key question to me is how do you take the vision of ‘One Health’ and translate it into what this means, day-to-day, in my community, my nation, and abroad?”

Ali Khan
Ecosystem Management
Presenter: Peter Daszak, President, Wildlife Trust

Overview
The convergence of human and animal health, and the remarkable changes at the interface of animals and people embedded in a rapidly changing environment, place veterinary medicine in the middle of addressing a global triple threat to health—to animals, people, and our environment. The management of our ecosystems is vital, as is the maintenance of biodiversity. Resolution of these immense problems is a new frontier for veterinary medicine.

Highlights
- An ecosystem is a habitat and everything in it—the dynamic interaction among different species of wildlife and plants.
- A healthy ecosystem can deal with stress rapidly, has a diversity of native species, and has sustainable reproduction rates and appropriate levels of disease.
- Ecosystems have to deal with stresses that can include land use changes (primarily deforestation), pollution, climate change and wildlife trade, which can lead to the spread of pathogens.
- Veterinarians can and should play a key role in ecosystem management, working with ecologists to further our understanding of how diseases emerge. They can also participate in “smart surveillance” of selective wildlife species to better determine the most likely places for emerging diseases.
- A survey of likely future trends yields additional areas for engagement by veterinarians, including increasing meat protein production and consumption, expansion of fish and wildlife farming, and the introduction of new species (and their pathogens).

Recommendations
- Develop a post-DVM career program in wildlife and ecosystem health.
- Expose students to ecosystem health education at the veterinary training level.
- Create a new multidisciplinary approach within the university emphasizing ecosystems and wildlife/domestic animal interface.

“So, the question is, can we actually predict the emergence of a new infectious disease? ‘Smart surveillance’ may be key in helping us understand which species to sample.”

Peter Daszak
Biomedical Research

_Presenter:_ Michael Knopp, MD, Vice Chair, _The Ohio State University Medical Center_

**Overview**
Our biomedical and animal health research creates new knowledge and translates this knowledge to improving human and animal health and launching new technologies, drugs, and services. Our college signature programs include comparative oncology, infectious diseases, biomedical imaging, and the Center for Retrovirus Research. Veterinary medical colleges are engaged in basic, translational, and clinical research and are key partners with the other health science colleges and the private sector to improve health and advance our profession.

**Highlights**
- Biomedical research is responsible for advances that positively affect human and animal patients in ever-expanding ways.
- Collaboration by veterinary researchers with their counterparts in other health science disciplines is a key synergy that can lead to important new advances and innovations.
- New frontiers in biomedical research exist in the domains of education, research, and clinical service.
- At Ohio State, the Wright Center of Innovation in Biomedical Imaging was created for the advancement of biomedical science and technology, the growth of job opportunities, and the enhancement of medical care in the state; for leveraging research and education to expand biomedical expertise throughout the state; and for the attraction of experts and companies in biomedicine to Ohio.

**Recommendations**
- Strengthen academic and non-academic partnerships.
- Place greater emphasis on agricultural research, especially in the areas of food animal medicine and production agriculture.
- Increase marketing of research discoveries to the public in ways that can lead to increased commercialization.

“Human and veterinary medicine can and must work together on the research front—collaboration is the best way to confront challenges and solve problems.”

Michael Knopp
Conference Session

Cross-Cutting Issues

Overview
Attendees considered a number of cross-cutting issues/recommendations that were brought up throughout the day on Friday in several or all of the five discussion topic areas. They also suggested several additional issues for consideration.

Recommendations
- Address the student debt load.
- Create a marketing and public relations strategy to better promote the image of veterinary medicine and clarify how it is meeting society’s needs.
- Make veterinary students more marketable and expand their job potential by improving their leadership, communication, and business skills.

Observations by Dean Lonnie King  •  September 2010

At this writing, just a few weeks after Focus-Forward Weekend, it is too early to make absolute pronouncements about the specifics of “where we go from here” at the College of Veterinary Medicine. However, it is possible to make several observations with clear confidence in their efficacy.

- The conference was a success in the eyes of those in attendance, based on their responses to our brief “customer satisfaction” survey.
- Focus-Forward Weekend proved to be true to its name! Friday’s sessions prompted wonderfully divergent discussions. Think “forward.” And Saturday’s wrap-up triggered very targeted, convergent discussions. Think “focus.”
- There was broad and general agreement on most of the recommendations across the various “categories” of attendees. This is most encouraging. It tells us we have an emerging road map with strong consensus among our stakeholders that truly informs us on some of the compass points along the way forward.
- Probably half of the top vote-getting recommendations were ideas and concepts we at the college had already begun to entertain. This is significant. It affirms that we were already on the right track in our nascent efforts to re-envision the mission of the college.

- At least one recommendation urged that Ohio State seek to become the nation’s leader in one of the five discussion topic areas—the One Health movement. The sentiment was heartily endorsed by conference participants on Saturday. This is compelling.
- And finally, but in no way the “least,” President E. Gordon Gee is strongly aligned with the path on which Focus-Forward Weekend has placed our college. His participation in and remarks before our Thursday night dinner confirmed this fact. That we may move forward knowing we have the full support of one of the nation’s foremost universities instills confidence and confers hope that we can and will succeed.

We are committed to taking the next steps, both short- and long-term, to follow through on the recommendations from the conference and the work that is now before us. And we will keep our stakeholders informed at every important milepost along the way ahead.

“It’s been said that greatness is a matter of conscious choice. In veterinary medicine, as in any endeavor or field, we must improve what is and create what is not.”

Dean Lonnie J. King