

# Veterinary Research News

## Market improving, but value of veterinary degree unclear

AVMA economists predict an improving market for veterinary services over the next several years.

But they also released results of analyses indicating the typical veterinary college graduate will earn less during his or her career than the typical bachelor's degree holder, once educational costs are considered.

The AVMA Veterinary Economics Division's latest estimates project a decline in the excess capacity for veterinary services, a measure that is related to underemployment and refers to unused but available ability for veterinarians to deliver services. The number of veterinary college graduates also is expected to level off by 2018, while pet populations are expected to grow over at least the next decade.

Michael Dicks, PhD, director of the Economics Division, said during the AVMA Economic Summit Oct. 28 in Rosemont, Illinois, that the figures presented during the meeting were preliminary, and the AVMA plans to publish a refined report in January.

Just 6 percent of veterinary services in the United States will go unused by 2016 and continuing through 2025, according to estimates in an update of the AVMA workforce model. The previous workforce model estimated excess capacity for veterinary services was 12.5 percent for 2012, but it projected a dip down to 10 percent before an increase back to 12.5 percent for 2025.

Ross Knippenberg, PhD, economic analyst in the AVMA Veterinary Economics Division, said veterinary service prices have increased faster than inflation, gross domestic product per capita has risen slower than the long-term trend, and the supply of new veterinarians has increased faster than the long-term trend.

"But the outlook is actually pretty good," Dr. Knippenberg said.

The excess capacity estimates improved because of changing assumptions that include lower than expected current excess capacity in private practice, a projected increase in the number of veterinarians in military and civil service, higher projections for livestock numbers, a correction to an underestimation of faculty at veterinary colleges, and a projection that the growth in the number of new veterinarians will level off after 2018.

AVMA capacity surveys in 2012 and 2014 found that the percentage of U.S. veterinary practices working at full capacity increased from 35 percent in 2012 to 51 percent in 2014. Excess capacity at practices decreased from 17 percent for 2012 to 13 percent for 2014, although by only one percentage point for companion animal practices.

Bridgette Bain, PhD, a statistical analyst in the AVMA Veterinary Economics Division, said about 3.4 percent of U.S. veterinarians are unemployed. Figures from the Bureau of Labor Statistics indicate the overall national unemployment rate was 6.1

percent in the third quarter of 2014 and about 3.1 percent during the same period for individuals who have at least a bachelor's degree.

Some of the figures the AVMA presented during the meeting indicate that veterinarians graduating today can expect lower career earnings than the typical bachelor's degree holder once educational costs and debt are considered. Dr. Dicks said the return on investment for veterinary education will become increasingly negative.

For female veterinarians, who are the majority in the veterinary profession, the net present value of career earnings is \$70,000 less than for bachelor's degree holders. Male veterinarians can expect a net present value career total of about \$40,000 more than that of bachelor's degree holders.

The number of veterinary school graduates entering the U.S. workforce is expected to rise from about 3,600 in 2014 to 4,300 yearly in 2018, when the total is expected to level off, Dr. Dicks said. He expects the cost to each student will continue rising.



Michael Dicks, PhD

Photo by Katie Burns

## Guidance issued on Ebola exposure in pets

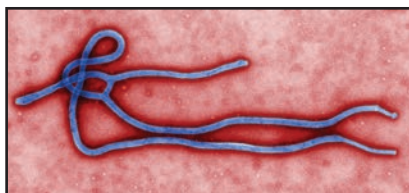
The AVMA has issued several guidance documents on handling the pets of people exposed to the Ebola virus.

This past November, the AVMA released two documents related to pets and Ebola exclusively for AVMA members. The Checklist for Practicing Veterinarians is designed to help practitioners determine how to proceed if they are confronted with a patient or client who has potentially been exposed to the Ebola virus. It is based on the AVMA's understanding of the currently available science and will be updated as needed. The Pet Owner's Guide to Ebola Exposure is a flowchart veterinarians can give to clients to provide basic guidance about the virus.

Later in November, the AVMA, in partnership with the Centers for Disease Control and Prevention, Department of Agriculture, and other health agencies and experts, issued two additional documents.

The Interim Guidance for Public Health Officials on Pets of Ebola Virus Disease Contacts provides guidance for public health officials on the management of pets, specifically dogs and cats, owned by people who have had contact with human patients with Ebola. The Interim Guidance for Dog or Cat Quarantine After Exposure to a Human with Confirmed Ebola Virus Disease provides guidance for public health officials on conducting a risk assessment for exposure of dogs and cats that had contact with a human with laboratory-confirmed evidence of Ebola, and it describes how to implement quarantine of dogs or cats if deemed appropriate by state and federal human and animal health officials.

The guidance documents and other resources are available at [www.avma.org/Ebola](http://www.avma.org/Ebola).



## Veterinarians elected to Congress

Drs. Ted Yoho and Kurt Schrader will continue representing their respective Florida and Oregon congressional districts in the House of Representatives following their victories in the Nov. 4 general election. After winning a runoff election, Dr. Ralph Abraham will join his veterinary colleagues in the upcoming 114th Congress as a representative from Louisiana.

Dr. Yoho, a Republican from Gainesville, bested two challengers with 65 percent of the vote to claim a second term as Florida's 3rd District representative to Congress. Dr. Schrader, a Democrat from Canby, prevailed over four challengers with nearly 54 percent of the vote and won a fourth term as Oregon's 5th District representative.

Dr. Ralph Abraham, a Republican from Alto, won a Dec. 6 runoff election for Louisiana's 5th District with 64 percent of the vote. He is a veterinarian (Louisiana State '80) and physician. He practiced as a veterinarian from 1980-1990 and has been a general family practitioner since 1995.

Dr. Yoho is a 1983 University of Florida College of Veterinary Medicine graduate. He owned several practices and worked as a large animal veterinarian prior to being elected to Congress in 2012. Dr. Yoho serves on several House committees and subcommittees on agriculture, livestock, and foreign affairs.

Dr. Schrader earned his DVM degree in 1977 from the University of Illinois and spent more than three decades as a farmer and veterinarian before winning a seat in Congress in 2008. He is a member of House committees and subcommittees on agriculture, small business, and research.



Dr. Ted Yoho



Dr. Kurt Schrader

## Former AVMA officer elected WVA president

Dr. René Carlson, an AVMA past president, was elected president of the World Veterinary Association during the first electronic balloting of the WVA's member-association representatives, this past September. Former AVMA executive Dr. Lyle Vogel was also re-elected to a second full term as one of two North American councilors to the association.

The WVA is a federation of more than 80 national VMAs and is the internationally recognized representative of global veterinary medicine.

In recent years the AVMA has turned to the global stage to advance its strategic goals, particularly in the areas of animal welfare, food safety, public health, and veterinary education, and has worked to ensure that the U.S. veterinary profession's voice is heard in international settings.

Drs. Carlson's and Vogel's terms on the WVA Council run from November 2014 through 2017.

Dr. Carlson was AVMA president from 2011-2012. She previously served in the AVMA House of Delegates, on the AVMA Council on Education, and as AVMA vice president. Dr. Carlson currently serves as the AVMA director of international affairs and as chair of the Association's Committee on International Veterinary Affairs.

Dr. Vogel joined the AVMA staff in 1993. He served as the assistant director of the Division of Membership and Field Services, director of both the Scientific Activities and Animal Welfare divisions, and as assistant executive vice president before retiring in 2010.

In his role as a WVA councilor, Dr. Vogel also serves as a member of the AVMA CIVA.



Dr. René Carlson



Dr. Lyle Vogel

## Lenhart named chief marketing officer for AVMA

Mark Lenhart, a seasoned professional with more than a decade of marketing and communications experience, has been named chief marketing officer of the AVMA, the Association announced Nov. 5, 2014.



Mark Lenhart

Lenhart will be responsible for leading the AVMA's marketing and communications functions, including positioning the AVMA brand and implementing marketing programs across the organization.

"We are excited to have Mark join us at the AVMA during a time when we are refocusing our efforts both internally and externally so that we can continue to build a stronger AVMA that is focused on delivering the products and services most relevant to our 85,000 members," said AVMA CEO Ron DeHaven.

Lenhart has served in a variety of executive-level positions, with veterinary industry experience as distribution marketing manager at Abbott Animal Health. He's a member of the President's Advisory Council of the Chicago Chapter of the American Marketing Association and served as the Chicago AMA's president from 2005-2007.

He earned his master's degree in communications systems and strategy management from Northwestern University and his bachelor's degree in communications from the University of Iowa.

Also new to the AVMA staff is Steve Mlodoch, who joined the Membership and Field Services Division as a member services and recruitment representative in October. Mlodoch previously worked as a veterinary technician in the Chicagoland area.

His responsibilities include responding to member inquiries, assisting in the development and implementation of member recruitment campaigns, generating and analyzing member reports, supporting various student initiatives, and providing staff support to the Early Career Development Committee.



Photo by R. Scott Nolten

AVMA's Got Talent finalist Dr. Rosemary LoGiudice performs "You Can't Get a Man With a Gun" during the 2011 AVMA Annual Convention in St. Louis. She owns two revolvers engraved with the image of Chief Illiniwek, the former, longtime symbol of the University of Illinois.

## Veterinarians stay true to their school

Dr. Rosemary LoGiudice (Illinois '81), rehabilitation veterinarian at Integrative Pet Care in Hanover Park, Illinois, is so devoted to the University of Illinois that, if there's something with Chief Illiniwek (the former, longtime symbol of the University of Illinois) on it, Dr. LoGiudice probably has it—from her doormat to hats to her golf bag to the towel she wears when shooting sporting clays. Not to mention that she has two customized, single-action revolvers engraved with Chief Illiniwek's image. "And I'm not at all embarrassed about it," she adds.

Her story illustrates just how loyal veterinarians can be to their institutions. Their dedication shouldn't be so surprising, considering many practitioners have wanted to join the profession since they could talk. Reaching veterinary college, then, is their dream come true. That loyalty to their institution lasts a lifetime, according to recent graduates and longtime practitioners who spoke with *JAVMA* about their veterinary college experiences.

Veterinarians' allegiance to their alma mater manifests in three ways, according to Dr. Charles M. Hendrix (Georgia '74), a professor of parasitology at Auburn. There's a love of athletic prowess; a bricks-and-mortar love, or the love of the school and its

people; and their appreciation of getting a good education, that is, actually learning to be a veterinarian.

Dr. Scott Dudis (Cornell '14) summed up veterinarians' love for their schools this way: "Everyone talks about how they wanted to be a veterinarian since they were a little kid, and you finally get into veterinary school, and you meet the people who make your dreams come true. It's hard not to fall in love with that. The people at Cornell have helped my dreams come true, and I will be grateful to them forever, and I think everyone can tell that story."

## The toll it takes to earn a veterinary degree

By their own admission, veterinary colleges say that while their current health and wellness programs are doing some good, they have substantial room for improvement. That's according to an August 2014 survey by the Association of American Veterinary Medical Colleges.

The 23 institutions that participated acknowledged it is very important that they offer health and wellness programs to students. And yet, the consensus was that the current health and wellness offerings are less than adequate. In fact, the mean annual health and wellness budget at these colleges reportedly was between \$25,000 and \$50,000.

But it seems veterinary academia is willing to make changes, as evidenced by the second AAVMC Health and Wellness Summit, held Oct. 8-9 at The Ohio State University campus in Columbus and sponsored by Zoetis. At the summit, 72 people from 32 veterinary colleges heard students as well as wellness and education experts talk about what's working and what's not when it comes to helping students, and why it matters.

The limited data available make it clear veterinary students are suffering.

McArthur Hafen Jr., PhD, director of counseling services at Kansas State University College of Veterinary Medicine, surveyed three classes from 2008-2011 once a semester throughout their four years. This included having students fill out the Center for Epidemiologic Studies Depression Scale.

Dr. Hafen found that 32 percent of first-year students met the criteria for clinical depression (*JVME* 2008;35:102-109). In fact, each time the students were surveyed, a minimum of 28 percent had scores indicative of clinical depression.

### Training in foreign diseases opens students' eyes

A unique program has provided hundreds of veterinary students with hands-on training in foreign animal diseases since starting in the 1990s.

Veterinary Services within the Department of Agriculture's Animal and Plant Health Inspection Service puts on the program for students, in conjunction with training for veterinarians in government and academia to become FAD diagnosticians.



Courtesy of PIADC  
Visual Information Services

Carolyn Crochet, Barrett Huggins, and Amber Lassiter examine a sheep with foot-and-mouth disease at the Plum Island Animal Disease Center during the 2014 session of the Department of Agriculture's annual program to acquaint veterinary students with foreign animal diseases.

Both courses involve spending time at the Plum Island Animal Disease Center at Plum Island, New York, working with animals that have been experimentally infected for instructional purposes with organisms that cause important foreign animal diseases such as foot-and-mouth disease.

The annual student program began entirely at Plum Island. After a lapse, the course started again in 2003 as a two-part course. Students spend three days on the mainland learning about foreign animal diseases, epidemiology, and public health. Then they spend two days at Plum Island. The first part of the course was at Cornell University and now is at APHIS headquarters.

Dr. Jason Baldwin, an APHIS training specialist and coordinator of the student program, said the course emphasizes the impact of foreign animal diseases more than their diagnosis. He said another goal is to expose students to the variety of careers in veterinary medicine.

Ashley Hagauer, a fourth-year veterinary student at Texas A&M University, participated in the program in 2013. She said the course was one of her best experiences as a veterinary student and helped persuade her to continue in the direction of public health and regulatory veterinary medicine for her career.

### USDA awards \$4.6 million for farm, public service

The Department of Agriculture will help 51 veterinarians repay about \$4.6 million worth of student loans in exchange for working in underserved rural areas or in shortage areas of public practice.

This year's awards through the Veterinary Medicine Loan Repayment Program include 39 new awards and 12 renewals for veterinarians. They will work in 22 states. Each has to commit to work at least three years in a designated area with a shortage of veterinary services.

The USDA National Institute of Food and Agriculture will give a mean of \$90,000 to each award winner, a figure that includes taxes paid on the

award amounts. Veterinarians can receive up to \$75,000 after taxes for loan repayment.

Among this year's winners, 45 will need to provide food animal services and six must work in public practice.

An NIFA announcement published in October states that the nation has substantial shortages of food animal veterinarians in some areas as well as shortages of veterinarians in fields such as food safety, epidemiology, diagnostic medicine, and public health. It cites the cost and debt associated with earning a veterinary medical degree as a leading cause of the shortages.

The AVMA is working to eliminate the 39 percent withholding tax on each award, a change intended to let the USDA provide more awards and provide service in more high-priority areas. The AVMA has also noted that a counterpart in human medicine, the National Health Service Corps loan repayment program, is exempt from federal taxation.

### Major retrovirus study awarded \$8.6 million

Thanks to an \$8.6 million program project grant from the National Cancer Institute, experts at The Ohio State University College of Veterinary Medicine's Center for Retrovirus Research are investigating retroviral forms of cancer in a five-year study, "Retrovirus Models of Cancer."

The multidisciplinary and multi-institutional team, led by the center's director and the project's principal investigator, Dr. Patrick Green, aims to reach a greater understanding of the viral, cellular, and microenvironmental factors that influence the development of cancer, which could possibly lead to new diagnostic methods and treatment options.

Dr. Green will lead the first project of the center's initiative, which is investigating various methods by which specific RNA and proteins—alone or in combination—contribute to the survival and malignant transformation of human T-cell leukemia virus type 1.

The second project hypothesizes that tax activation of NF- $\kappa$ B expres-

sion, particularly through the alternative NF- $\kappa$ B pathway, is critical for tumorigenesis. This project will test this hypothesis and identify and characterize tax-interactive proteins that mediate alternative NF- $\kappa$ B activation.

Finally, the third project will focus on how the bone microenvironment—in particular, the hedgehog and Wnt pathways—contributes to adult T-cell leukemia development and progression. This work takes into consideration not only the extrinsic factors in the bone microenvironment but also how the microenvironment influences, or is influenced by, tax and Hbz signal transduction.

The National Cancer Institute has awarded two other five-year grants to the veterinary college, the first being in 2003. This year's stipend brings the NCI's total contribution to more than \$29.5 million.

#### **Education council schedules site visits**

The AVMA Council on Education has scheduled site visits to 12 schools and colleges of veterinary medicine for 2015.

Site visits are planned for the University of Wisconsin-Madison School of Veterinary Medicine, Feb. 1-5; University of Tennessee College of Veterinary Medicine, March 1-5; Montana State University Cooperative Veterinary Medical Program, March 22-25 (focused site visit); Colorado State University College of Veterinary Medicine & Biomedical Sciences, April 12-16; University of Copenhagen Faculty of Health and Medical Sciences, April 26-30; University of Life Sciences in Lublin Faculty of Veterinary Medicine, May 17-21; Midwestern University

College of Veterinary Medicine in Arizona, Sept. 20-24; University of Florida College of Veterinary Medicine, Oct. 4-8; University of Guelph Ontario Veterinary College, Oct. 18-22; University of Edinburgh Royal (Dick) School of Veterinary Studies, Nov. 8-12; Texas A&M University College of Veterinary Medicine & Biomedical Sciences, Nov. 29-Dec. 3; and Lincoln Memorial University College of Veterinary Medicine in Tennessee, Dec. 13-17.

The council welcomes written comments on these plans or the programs to be evaluated. Comments should be addressed to Dr. Karen Martens Brandt, Director, Education and Research Division, AVMA, 1931 N. Meacham Road, Suite 100, Schaumburg, IL 60173. Comments must be signed by the person submitting them to be considered.

#### **Research awards conferred**

The following individuals are winners of the 2014 Zoetis Award for Veterinary Research Excellence. The Zoetis award recognizes researchers whose innovative studies have advanced the scientific standing of veterinary medicine.

Dori L. Borjesson, DVM, PhD,  
University of California-Davis  
Sue VandeWoude, DVM,  
Colorado State University  
Rodrigo Carvalho Bicalho, DVM, PhD,  
Cornell University  
Nancy D. Denslow, PhD,  
University of Florida  
Vanessa Ezeznwa, PhD,  
University of Georgia  
Timothy M. Fan, DVM, PhD,  
University of Illinois  
Johann Coetzee, BVSc, PhD,  
Iowa State University

Timothy I. Musch, PhD,  
Kansas State University  
Charles C. Lee, PhD,  
Louisiana State University  
Charles D. Mackenzie, BVSc, PhD,  
Michigan State University  
Kent M. Reed, PhD,  
University of Minnesota  
Attila Karsi, PhD,  
Mississippi State University  
Rajiv R. Mohan, PhD,  
University of Missouri-Columbia  
Judy L. Gookin, DVM, PhD,  
North Carolina State University  
Ian Davis, DVM, PhD,  
The Ohio State University  
Jean M. d'Offay, DVM, PhD,  
Oklahoma State University  
Dan Rockey, PhD,  
Oregon State University  
Charles H. Vite, DVM, PhD,  
University of Pennsylvania  
George E. Moore, DVM, PhD,  
Purdue University  
Patrick Kelly, BVSc,  
Ross University  
Keshaw Prasad Tiwari, BVSc & AH,  
St. George's University  
Linda Ann Frank, DVM,  
University of Tennessee  
Sanjay Reddy, BVSc, PhD,  
Texas A&M University  
Mohammed Sawkat Anwer, PhD,  
Tufts University  
Temesgen Samuel, DVM, PhD,  
Tuskegee University  
John H. Rossmel Jr., DVM,  
Virginia-Maryland Regional  
College of Veterinary Medicine  
Patricia A. Hunt, PhD,  
Washington State University  
David Kersey, PhD,  
Western University of Health  
Sciences  
Gordon Mitchell, PhD,  
University of Wisconsin-Madison