Veterinary Research News

Biosecurity

Syndromic surveillance tracks signs, symptoms of disease

Experts say syndromic surveillance, an early warning system for discovering outbreaks of disease even before establishing a diagnosis, could be a valuable adjunct to traditional surveillance—especially for detecting bioterrorism or emerging diseases.

Syndromic surveillance is the tracking of syndromes—groups of symptoms or signs of disease—rather than the tracking of specific diseases. A system for syndromic surveillance might track influenzalike illness, among other syndromes. A spike in cases of influenzalike illness in humans or other animals could indicate an outbreak of a respiratory illness such as influenza itself or another disease.

Funding for syndromic surveillance systems became available more widely after the terrorist attacks of Sept. 11 and the anthrax cases of the same year. Most programs function at a local level rather than nationally, so far, and more of them track symptoms in humans than signs of disease in animals.

BioSense is the new, national system for human syndromic surveillance through the Centers for Disease Control and Prevention. The BioSense strategy is to collect data about symptoms and indications of disease from hospitals, laboratories, pharmaceutical companies, and other sources.

The National Companion Animal Surveillance Program at Purdue University's School of Veterinary Medicine draws on the database of Banfield, The Pet Hospital, which stores the medical records of pets from hundreds of hospitals across the country. The program has been the basis for other research as well as syndromic surveillance.

The Rapid Syndrome Validation Project–Animal is an electronic system for enhancing communication between veterinarians and officials about unusual signs of disease in livestock. A pilot project for cattle includes participation by more than two dozen veterinarians in Kansas and New Mexico.

Research in Progress

Reagent network to benefit veterinary immunologists

The Department of Agriculture has announced a $2.15 million grant for a Veterinary Immune Reagent Network to develop tools for veterinary immunologists.

The network will develop disease-fighting compounds and molecules into diagnostic and research reagents—biologic tools for characterizing and treating disease.

Researchers with the network will focus on diseases in cattle, swine, poultry, horses, and several species of fish. Each species group has a goal of producing 20 new reagents in the next four years.

The principal investigator is Cynthia Baldwin, PhD, a professor of virology and microbiology at the University of Massachusetts-Amherst, who is also the leader for the cattle group. The group leaders will identify proteins and genes specific to their species and submit genetic material to a central laboratory in Amherst.

Funding Announced

Auburn receives $1 million for diabetes research

The Auburn University College of Veterinary Medicine has received $1 million from the Diabetes Trust Foundation of Birmingham, Ala., for study of a disease that affects humans and other animals.

Auburn will add $900,000 of the donation to the Boshell Diabetes and Metabolic Diseases Research Program Endowment at the veterinary college. Interest from the account supports the study of diabetes. The university will apply the remaining $100,000 toward research equipment and supplies.

Buris R. Boshell, MD, established the Diabetes Trust Foundation in 1964. He was a 1947 Auburn agriculture graduate who attended the veterinary college for two years before transferring to Harvard Medical School.

Research Results

Combination vaccines developed for avian influenza, Newcastle disease

Two research groups have developed combination vaccines for limiting both avian influenza and Newcastle disease in poultry, according to articles that appeared in the May 22 edition of the Proceedings of the National Academy of Sciences.

Researchers genetically engineered HPAI and Newcastle disease viruses to express proteins from both. Vaccines from these chimeric viruses successfully immunized chickens against avian influenza and Newcastle disease.

Most chickens worldwide already receive a live vaccine for Newcastle disease, and the H5N1 highly pathogenic avian influenza virus has become a global threat.

The group from Mount Sinai School of Medicine and the Department of Agriculture's Agricultural Research Service provided results in the report "Engineered viral vaccine constructs with dual specificity: Avian influenza and Newcastle disease." The group from Friedrich-Loeffler-Institute

Federal Research Institute for Animal Health in Germany and Intervet Inc. authored "Newcastle disease virus expressing H5 hemagglutinin gene protects chickens against Newcastle disease and avian influenza."

Purdue researchers find genetic switch for muscle atrophy

Researchers at Purdue University's School of Veterinary Medicine have found that the mouse ether-a-go-go– related gene Merg1a likely initiates skeletal muscle atrophy, according to a study appearing in the journal of the Federation of American Societies for Experimental Biology.

The group also found that the drug astemizole, an antihistamine, inhibited atrophy in mice by blocking the Merg1a channel. Signals through the potassium channel can tell the muscle cells' ubiquitin proteasome system to break down proteins in response to injury, disuse, disease, or normal aging.

The article, "Merg1a K+ channel induces skeletal muscle atrophy by activating the ubiquitin proteasome pathway," appears in the July issue of The FASEB Journal.

Fortified plasma helps sick foals

Critically ill foals are seven percent more likely to survive if they receive plasma with higher concentrations of antibodies as opposed to treatment with traditional plasma, according to a study conducted at the University of Wisconsin-Madison School of Veterinary Medicine's Large Animal Hospital. Both versions of the plasma were produced by the same manufacturer.

"The most critically ill foals, those with septicemia, were most likely to benefit," said Dr. Simon Peek, who worked on the study, which was published in the May-June 2006 issue of the Journal of Veterinary Internal Medicine.

The study also evaluated more than 40 other measurable variables in sick foals. On the basis of the results, those measures can now be used to more accurately predict which sick newborn foals are more likely to survive, according to the researchers.

"Some foals survive even if the odds are against them," Peek said. "But we can inform owners whether the foal has a lot going against it from the start."

The project was funded by a grant from the School of Veterinary Medicine's Companion Animal Fund.

The Veterinary Community

Lautner leading National Veterinary Services Laboratories

On May 7, Dr. Elizabeth Lautner became the new director of the National Veterinary Services Laboratories in Ames, Iowa, a component of the Department of Agriculture's Animal and Plant Health Inspection Service.

Dr. John R. Clifford, APHIS deputy administrator, said he selected Dr. Lautner to lead the laboratories because of her knowledge and experience. He said the NVSL faces increasing demands and scrutiny in meeting critical challenges such as avian influenza and bovine spongiform encephalopathy.

Most recently, Dr. Lautner was director of the Plum Island Animal Disease Center within the Department of Homeland Security's Science and Technology Directorate. She also chaired the group that coordinates onsite diagnostic and research programs for the DHS, APHIS, and the USDA Agricultural Research Service.

Previously, Dr. Lautner served as vice president for science and technology at the National Pork Board. She was also in practice for more than 12 years, opening Swine Health Services in 1986 in LeMars, Iowa.

She graduated from Michigan State University in 1978.

Iowa State, Nebraska pursuing cooperative veterinary program

A new agreement would allow Nebraskans studying veterinary medicine to take their classes through the University of Nebraska-Lincoln's Institute of Agriculture and Natural Resources for the first two years and Iowa State University's College of Veterinary Medicine for the final two years.

The cooperative program has won most necessary approvals at the college, university, and state levels. Iowa State also has been consulting with the AVMA Council on Education, which considers all of a college's programs during accreditation.

Iowa State is in the midst of seeking full accreditation status from the council, which downgraded the college to limited accreditation in 2004. Dean John U. Thomson said the cooperative program would fit into a five-year plan to expand veterinary facilities and faculty while improving finances.

Dr. Thomson said the program would combine the strengths of two universities. Iowa State has programs in swine and dairy cattle, while the University of Nebraska's agriculture institute focuses more on beef cattle in its Department of Veterinary & Biomedical Sciences and Department of Animal Science.

The cooperative program could raise the class size to as many as 145 students in each of the clinical third and fourth years at Iowa State, where the class size now averages 120 students. Along with the increase in students, the five-year plan includes renovating laboratories and lecture halls while adding 30 faculty positions. The college also is spending $51 million to expand its teaching hospital, partially in response to Council on Education recommendations after a 2003 site visit.

Michigan State alumnus starts research scholarship

A new scholarship will allow students at Michigan State University's College of Veterinary Medicine to learn more about research careers through laboratory programs.

The Joan E. and Richard L. Witter Veterinary Research Scholarship Fund will provide support for students to train at the Department of Agriculture's Avian Disease and Oncology Laboratory in East Lansing, Mich., or to study infectious diseases of poultry or other production animals at other laboratories.

Dr. Witter, a 1960 alumnus of Michigan State, worked at the Avian

Disease and Oncology Laboratory for 38 years and served as the laboratory's research director for more than two decades.

Kansas veterinary students can work off debt in rural practice

A new Veterinary Training Program for Rural Kansas aims to benefit veterinary students and rural communities.

The program will allow veterinary students at Kansas State University to receive $20,000 annually for educational expenses in exchange for each year they spend practicing full time in any Kansas county with a population of 35,000 or less. The state's legislature and governor recently approved the law and funding to establish the program.

Dr. Ralph Richardson, dean of Kansas State's College of Veterinary Medicine, said the program will provide an incentive and opportunity for graduates to practice in rural communities and serve the livestock industry.

Hoblet to head Mississippi veterinary college


Dr. Kent Hoblet

Mississippi State University's College of Veterinary Medicine recently appointed Dr. Kent Hoblet as dean, effective June 16. Dr. Gregg Boring had served as interim dean since 2004.

Dr. Hoblet had been a faculty member at The Ohio State University's College of Veterinary Medicine in the Department of Veterinary Preventive Medicine since 1983 and chair since 1991.

Under his leadership, the department expanded in all three of its locations—Columbus, Wooster, and Marysville. The department also created a joint degree program with Ohio State's School of Public Health.

Dr. Hoblet has been active in international outreach, including working with the Agricultural Exports and Rural Income Linkage project in Egypt through the Midwest Universities Consortium for International Activities. He has also served as the university's extension veterinarian for dairy cattle.

He is a member of the AVMA Council on Education and a diplomate of the American College of Veterinary Preventive Medicine.

Previously, Dr. Hoblet worked in private practice for 12 years in Ashland, Ohio. He graduated from Ohio State in 1971.

Dean retires at Louisiana State

Louisiana State University's School of Veterinary Medicine recently announced the retirement of Dean Michael G. Groves, effective June 30, and the appointment of Dr. Peter F. Haynes as interim dean. A search committee has been appointed.

Dr. Groves became dean in 1999. He joined the faculty in 1990 as head of the Department of Epidemiology and Community Health and later also served as director of the Louisiana Veterinary Medical Diagnostic Laboratory. He is a diplomate of the American College of Veterinary Preventive Medicine and the American College of Veterinary Microbiologists.

Dr. Haynes became executive associate dean in 2000. He joined the faculty in 1974 as an equine surgeon. Dr. Haynes also has represented the American Association of Equine Practitioners in the AVMA House of Delegates, and he has represented the HOD on the AVMA Task Force on Animal Welfare Governance and the AVMA Long-Range Planning Committee. He is a diplomate of the American College of Veterinary Surgeons.

From the AVMA

Seven resolutions slated for House of Delegates action

The House of Delegates will consider seven resolutions at its 143rd annual session, July 14-15 in Honolulu—five of them submitted by state veterinary medical associations and two by petition of AVMA members.

The resolutions were submitted to Executive Vice President Bruce W. Little by the May 1 deadline. When the Executive Board meets in June and the House Advisory Committee meets in July, each will make recommendations on whether to approve the resolutions.

AVMA financial policy is the subject of the first three resolutions, all of them submitted collectively by the California, Oregon, and Wisconsin VMAs.

Resolution 1 states:

> Resolved, that the American Veterinary Medical Association (AVMA) determine if charitable giving is part of the organization's mission. If so, resolved that the AVMA define charitable giving and establish a charitable giving policy.

In 2005, the AVMA donated $500,000 in matching funds to Heifer International for tsunami-relief efforts in Asia, followed last September by another half-million dollars in matching funds for Hurricane Katrina relief efforts. In their statement about the resolution, the submitters note that no AVMA funds were directed for other worldwide natural disasters, and they question whether charitable giving is within the mission of a professional association.

In **Resolution 2**, the submitters call for establishment of an AVMA reserve policy, as follows:

> Resolved, that the American Veterinary Medical Association (AVMA) establish a reserve policy with regard to liquid assets, with a goal of maintaining 20 percent of the organization's annual budget in cash reserves.

Although the resolution calls for 20 percent, the amount of the AVMA's liquid assets (cash, government funds, and investments) at press time was approximately $29 million, which equates to 118 percent of operating expenses at the end of 2005.

Current AVMA fiscal policy specifies that a level of reserves must be maintained equal to an amount between 50 percent and 150 percent of the annual operating expenses. At year-end 2005, the fund balance was 101 percent of operating expenses.

Developing a policy on nonbudgeted spending is the subject of **Resolution 3**, which states:

Resolved, that the American Veteri-

nary Medical Association (AVMA) is encouraged to develop a policy that places a limit on non-budgeted spending for the annual budget. A five percent limit would be considered prudent if preservation of cash reserves is deemed important.

Animal welfare-related resolutions 4 and 7 were each submitted by petition of at least 50 active AVMA members. **Resolution 4** states:

Resolved, that the American Veterinary Medical Association (AVMA) hereby declares animal welfare to be a higher priority than economic considerations.

The statement about the resolution notes that in some instances, the economic priorities of animal industries may be in conflict with the welfare of animals, that the AVMA is considered a leader on matters relating to animal welfare, and that veterinarians have an ethical obligation to promote animal welfare.

The animal rights organization Farm Sanctuary generated the AVMA member petition for Resolution 4.

Resolution 7 is a proposed position statement on force-feeding ducks and geese to produce foie gras. This delicacy is made by force-feeding the birds mostly corn to create lipidosis, which expands their livers to several times their normal size.

The 2005 HOD disapproved two resolutions on foie gras. Defeated Resolution 1 (2005) had been submitted in 2004 by petition of AVMA members and referred to the Animal Welfare Committee for study until 2005. The Association of Veterinarians for Animal Rights had helped generate the petition supporting that resolution. The other, Resolution 3 (2005), had been developed by the AWC.

The wording of this year's Resolution 7, submitted by an AVMA member petition generated by AVAR, is identical to that of Resolution 3 (2005) and states:

Resolved, that the American Veterinary Medical Association (AVMA) opposes the practice of mechanical force feeding of ducks and geese to produce foie gras because of the adverse effects on the birds' health and welfare associated with this practice.

One of the key differences between Resolution 7 (2006) and Resolution 1 (2005) is the inclusion of the word "mechanical" in 7.

The training of accredited veterinarians is addressed in **Resolution 5**, which states:

Resolved, that the American Veterinary Medical Association (AVMA) urges the USDA-APHIS to implement ongoing training programs for accredited veterinarians in the United States.

In their statement about the resolution, the Indiana and Wisconsin VMAs emphasize the importance of modernizing the accreditation training and providing for periodic reaccreditation of veterinarians.

Holding an additional HOD business session at the AVMA Veterinary Leadership Conference is requested in **Resolution 6**, submitted by the Wisconsin, Indiana, Iowa, Oregon, Kentucky, Ohio, and Illinois State VMAs. Currently, the HOD convenes its two-day session the day before the AVMA Annual Convention begins each July. Resolution 6 states:

Resolved, that beginning in January 2008, the American Veterinary Medical Association (AVMA) House of Delegates holds an official business session at the AVMA Veterinary Leadership Conference.

According to their statement about the resolution, the sponsors cite the enhanced timeliness of addressing issues and serving as a conduit from the membership to the board twice a year, the availability of time during the leadership conference for both informal sharing and official business, and the fiscal sensibility of adding a business meeting to the conference.

Education council schedules site visits

The AVMA Council on Education has scheduled site visits to five colleges or schools of veterinary medicine for the remainder of 2006.

Site visits are planned for Ross University School of Veterinary Medicine in St. Kitts, Sept. 17-21 (consultative site visit); University College Dublin Veterinary School in Ireland, Oct. 8-12; The Ohio State University College of Veterinary Medicine, Oct. 22-26; St. George's University School of Veterinary Medicine, Oct. 29-Nov. 2 (consultative site visit); and Tuskegee University School of Veterinary Medicine, Nov. 5-9.

The council welcomes written comments on these plans or the programs to be evaluated. Comments should be addressed to Dr. Donald G. Simmons, Director, Education and Research Division, AVMA, 1931 N. Meacham Road, Suite 100, Schaumburg, IL 60173-4360. Comments must be signed by the person submitting them to be considered.

Comments Invited

Proposal separates accreditation for companion animals, all species

The Department of Agriculture recently published a proposal, long in the works, to create two tiers of accreditation under the National Veterinary Accreditation Program.

Accreditation allows veterinarians to perform regulatory tasks to prevent or control the spread of disease. The USDA Animal and Plant Health Inspection Service proposes to amend existing regulations to establish separate accreditation categories for companion animals and for all species, to add requirements for supplemental training and renewal of accreditation, and to offer accreditation specializations.

The full text of the proposal to change the NVAP appeared in a June 1 notice in the Federal Register, which is available at www.gpoaccess.gov/fr/.

Parties may submit comments until July 31 electronically by visiting www.regulations.gov, searching under Agency for APHIS, then looking under Docket ID for APHIS-2006-0093; or by mailing four copies of the comments to Docket No. APHIS-2006-0093, Regulatory Analysis and Development, PPD, APHIS, Station 3A-03.8, 4700 River Road Unit 118, Riverdale, MD 20737-1238.