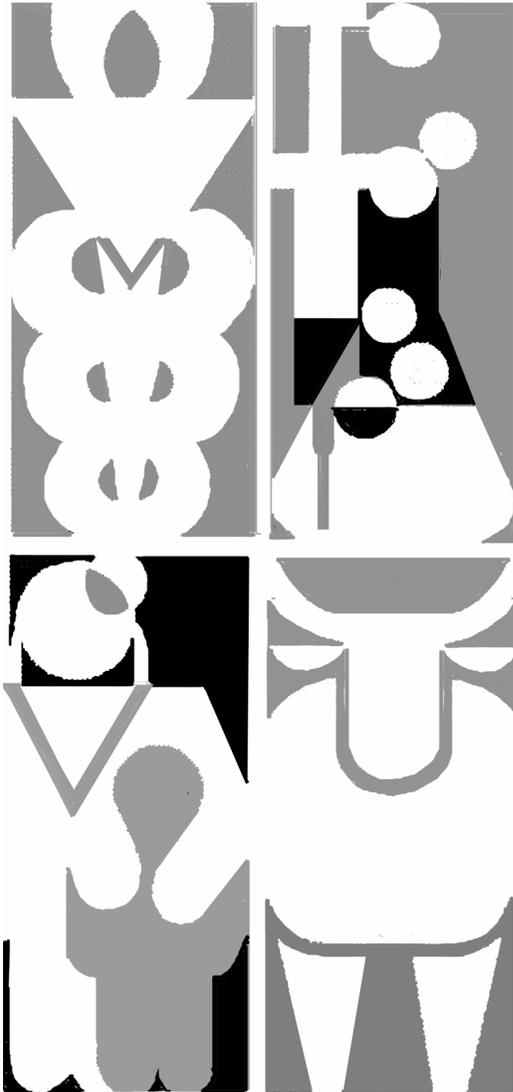


NEWSLETTER



Association for Veterinary Epidemiology and Preventive Medicine

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AVEPM is committed to developing and fostering the academic base for veterinary epidemiology and preventive medicine

Visit the AVEPM Web site at...

<http://www.cvm.uiuc.edu/avepm/>

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Important: Please take a moment to look at your mailing label on the envelope. The number (e.g. 06) in the lower right corner of the mailing label is the last year for which a dues payment has been recorded. Membership dues are \$20 US annually and are payable to AVEPM on January 1 of each year. If, for example, your dues payment year is indicated to be 05, then to become current you should remit two years dues or \$40. The AVEPM Constitution and By-Laws require that members two years in arrears in payment of dues shall be dropped from membership (Article VI)

ASSOCIATION NEWS

AVEPM Board of Directors Conference Call - Minutes

AVEPM President Tom Wittum called the meeting to order at 10:00 a.m. CDT, May 24 2006. Those present were President Tom Wittum, President-Elect Paul Morley, Secretary-Treasurer Jim Thorne, Past-President Laura Hungerford and Directors Randy Singer and H. Morgan Scott.

- 1) ISVEE Student Travel Award Competition.
 - a. Morgan Scott led the discussion on the ISVEE student travel award competition. He is compiling the abstract viewer's ratings and will be sending that to the board for their perusal.
 - b. Secretary-Treasurer Thorne will ascertain whether applicants are current AVEPM members.
- 2) Schwabe Symposium
 - a. Paul Morley led a discussion on the Schwabe Symposium. There were 5 nominees for the 2006 Award. The Board selected Dr. Wayne Martin of Guelph as the 2006 recipient.
 - b. Consensus of the board was to have the AVEPM President and Vice-President to chair the annual Schwabe Symposium.
 - c. An editor for the Schwabe Symposium proceedings will be solicited from the membership.
 - d. Discussion ensued concerning the publication of the 2004 and 2005 proceedings.
 - e. One statue was broken in transit to the Symposium in St Louis. It may not be repairable.
 - f. AVEPM has an oral commitment from Bayer to partially sponsor the 2006 Schwabe Symposium.
 - g. Laura Hungerford will send Jim Thorne addresses for presenters at the 2005 Symposium so that he can reimburse them for expenses.
- 3) AVEPM fall officer elections
 - a. Needed are; Secretary-Treasurer and 2 board members. Yvette Johnson of University of Illinois CVM and Paivi Rajala-Schultz of The Ohio State University CVM have consented to be candidates.

Meeting adjourned at 10:55 a.m. CDT.

Respectfully submitted,
James G. Thorne, Secretary-Treasurer

Wayne Martin to Receive 2006 Schwabe Award

The Association for Veterinary Epidemiology and Preventive Medicine (AVEPM) is pleased to announce that in November, 2006, Dr. S. Wayne Martin will be awarded the Calvin W. Schwabe Award for Lifetime Achievement in Veterinary Epidemiology and Preventive Medicine. This award will be presented at the 2006 Conference of Research Workers in Animal Diseases to be held in Chicago. A special half-day symposium will also be held on Sunday, Dec 3, 2006 to honor Dr. Martin for his achievements and contributions to veterinary preventive medicine. Please make plans to attend this important event, which is made possible by generous donations from Bayer Animal Health. Further information about the Schwabe Symposium will be sent via the Epivet listserv and posted at the following websites:

<http://www.cvm.uiuc.edu/avepm/> and

<http://www.cvmb.colostate.edu/microbiology/crwad/crwad.htm>.

Please contact Dr. Paul Morley (see below) for more information.

Dr. S. Wayne Martin, DVM, MSc, MPVM, PhD, served on faculty of the Ontario Veterinary College at the University of Guelph from 1974 until June 2006. As a Professor at that institution, he was the founding Chair of the Department of Population Medicine. Dr. Martin received his DVM degree and MSc from the University of Guelph, and his MPVM and PhD from the University of California at Davis. Dr. Martin's strong belief in the value and role of epidemiology for promoting health in animals and humans, his commitment to advancing the discipline, and his dogged determination in upholding rigorous standards for design and implementation of epidemiological studies have inspired an entire generation of scientists. There are very few peers that can match Dr. Martin's global influence on veterinary epidemiology. He authored on more than 175 peer reviewed manuscripts, numerous conference proceedings, as well as 2 influential books on

veterinary epidemiology and epidemiological research. He has supervised the training of 50 masters and doctoral students at the University of Guelph, in addition to being serving as an external examiner or committee member for numerous graduate students at that institution and elsewhere. Dr. Martin has also had tremendous influence on the discipline through his teaching. He is an accomplished speaker and teacher, and his effective communication has benefited undergraduates, veterinary students, graduate students, scientists, and government officials from throughout the world.

Dr. Martin served as the Secretary and Chairman for the International Society of Veterinary Epidemiology and Economics, as well as the Scientific Committee Chairman for the 6th ISVEE conference in Ottawa. He is one of the few veterinarians elected to the prestigious Canadian Academy of Health Sciences, and was a Fellow in the Medical Research Council of Canada from 1972-1974. He is an Associate Editor of Preventive Veterinary Medicine. He has been an invited lecturer for several prestigious lecture series including the inaugural Schwabe Symposium.

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ISVEE XI AVEPM Travel Awardees

Below is a list of recipients of the ISVEE XI AVEPM \$1,000 Travel Award, their advisors, and title of papers:

1) Dennis, Michelle
School - Colorado State University
Advisor - Salman, Mo
Paper - Thermal and time-dependent reduction in Prp detectability by Western immunoblotting

2) Torres, Audrey
School -Ohio State University
Advisor -Schultz, Rajala
Paper -Udder Health and Selective Dry Cow Therapy

3) Alali, Walid
School -Texas A&M University
Advisor -Scott, Morgan
Paper -Identifying Groups among Binary and Ordinal Phenotypic Antimicrobial Resistance Data Using Cluster Analysis Techniques

4) Vieira, Antonio
School-The Royal Veterinary and Agricultural University
Advisor-Houe, Hans
Paper-Salmonella Contamination in Soya-Based Animal Feed - A Food Safety Issue?

5)Highfield, Linda
School-Texas A&M University
Advisor-Ward, Michael
Paper-A Linked Epidemic and Transportation Modeling Environment for Foreign Animal Disease Events

How to Contact AVEPM

Applications for membership, accompanied by a check for \$20 payable to the AVEPM, should be sent to:

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3310 Cheavens Rd
Columbia, MO 65201-9383

Phone: 573/443-0157
FAX: 573/884-5050
E-mail: AVEPM@centurytel.net

Membership application forms are available online at:

<http://www.cvm.uiuc.edu/avepm/>

Newsletter items can be sent to:

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Current and past issues of the AVEPM Newsletter are also available online at:

<http://www.cvm.uiuc.edu/avepm/>

NEWS & COMMENTARY

Tackling the Animal-to-Human Link in Illness

March 25, 2006
The New York Times
Lawrence K. Altman

ATLANTA ÷ International health officials were cited as saying at a meeting here that stronger ties between veterinarians and physicians are needed to prevent further outbreaks of the animal diseases that have caused deaths and serious illness among humans in many countries in recent years.

The story says that the spread of new and emerging diseases can be a two-way street as people occasionally transmit human diseases like tuberculosis to elephants in captivity in the United States and Sweden and mongooses in Africa.

The latest and most visible zoonosis is A(H5N1) avian influenza. Through illness and culling, the virus has led to the death of an estimated 200 million birds worldwide. In Asia and Europe, the virus has caused 185 human cases of which 104 have been fatal.

Experts at the three-day International Symposium on Emerging Zoonoses were cited as saying they had no way of predicting what human disease would emerge next from an animal source.

Preventing further outbreaks, participants said, will require a variety of measures, including more education about zoonoses among veterinarians and physicians; more integration of animal diseases into health plans; the creation of more laboratories to detect animal diseases; and possibly changes in the foods people eat and the animals they keep as pets.

Breaking down barriers among government agencies, academia and special interest groups will be needed as scientists seek new ways to collect reliable evidence to protect the health of animals and humans, participants said.

Dr. Pierre Formenty, a veterinarian and epidemiologist at the World Health Organization in Geneva was quoted as saying, "no single institution has the capacity to do all this."

Dr. Lonnie King, the dean of Michigan State University's veterinary school who is soon joining the C.D.C., which is expected to become a laboratory and

epidemiology reference center for the animal organization, was cited as saying the meeting was the first between the World Animal Health Organization, a cooperative of chief veterinary officers from 167 countries, based in Paris, and the federal Centers for Disease Control and Prevention, based in Atlanta.

Dr. Bruno Chomel, a professor of zoonoses at the University of California, Davis, was quoted as saying, "We are creating the conditions for the spread of these viruses" that cause zoonoses and human illness through tourism, hunting and farming.

Dr. Chomel was further cited as saying that the corn mouse that carries the virus that causes Argentine hemorrhagic fever has spread its range with changes in farming, leading to outbreaks of the bleeding disease.

The liver infection caused by the hepatitis E virus, which has been detected mainly in poor countries, is being increasingly recognized in wealthy countries in small numbers. Two outbreaks of hepatitis E occurred recently in Japan after people ate raw liver from infected wild boar and deer, Dr. Chomel said.

Health Risks Associated with Raising Chickens

April 2, 2006
Center for Disease Control
http://communitydispatch.com/artman/publish/article_4440.shtml

Many families raise a small number of chickens, particularly in rural areas. In recent years, however, raising chickens has become a popular hobby for people who live in urban areas as well. Information that promotes raising chickens touts the birds as being good pets, stress relievers, and easy to keep. Most people though, choose to keep flocks because they believe the meat and eggs they grow will be safer and less expensive than store purchased products. Whether they are pets or a source of food, there are some issues that need to be considered before deciding to raise chickens. In addition to the fact that many urban areas will not allow chickens to be raised within city/town limits, keeping chickens poses a potential health risk.

Chickens, turkeys, ducks, and other poultry frequently carry bacteria that can cause illness to you and your family. Baby chicks may be especially prone to shed these germs and cause human illness. Young birds are

often shipped several times before they reach a permanent home. Shipment and adapting to new locations causes stress on birds and makes them more likely to shed bacteria in their droppings. While anyone can become ill from exposure to these germs, the risk of infection is especially high for children, the elderly, and persons with weakened immune systems; for example, people receiving chemotherapy or who are HIV-infected. One of the most important bacteria you need to be aware of is Salmonella.

Birds infected with Salmonella do not usually appear sick. Salmonella lives in the intestine of infected chickens, and can be shed in large numbers in the droppings. Once shed, bacteria can spread across the chicken's body as the bird cleans itself and throughout the environment as the chicken walks around. Therefore, it is especially important to carefully wash hands with soap and water after handling young birds or anything that has come in contact with them. If you ingest Salmonella, you may become ill. People accidentally ingest Salmonella in many ways, including eating after handling chickens or by touching their hand to their mouth while working with the birds. Typical symptoms of Salmonella infection are nausea, vomiting, diarrhea, and abdominal pain. These symptoms generally develop within one to three days of exposure and may last for up to a week. Individuals with weaker immune systems commonly have more severe infections.

There have been several outbreaks of human Salmonella infections resulting from handling baby chicks. See our CDC website: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4914a1.htm> Many of the outbreaks involved young children and most occurred in the spring around Easter. Some outbreaks have been associated with keeping chicks in the classroom.

I still want to raise chickens. How can I reduce the risks to myself and my family?

1. Keep baby chicks and adult chickens away from persons with weaker immune systems, including the elderly, pregnant women, diabetics, patients receiving chemotherapy, and people who are infected with HIV.
2. Do not keep chickens if a household has children less than five years of age.
3. Make sure that any interaction between chicks or chickens and small children is supervised and that children wash their hands afterwards. Children less than five years of age tend to put their hands and other potentially contaminated objects into their mouths.

4. Supervise hand washing for small children to make sure that it is adequate. See our CDC website for proper hand washing guidelines:

5. Always wash your hands with soap and water after touching chickens or anything in their environment. If soap and water are not available, use an alcohol based hand sanitizer. Bacteria on your hands can be easily transferred to objects and other people in your home.

6. Wash contaminated items with hot soapy water or with a mild bleach solution.

7. Do not eat or drink around your chickens.

8. Keep chickens away from food preparation areas.

9. Do not wash items from chicken coops like water and food dishes in the kitchen sink.

10. Do not allow chickens to roam freely around the house.

11. Frequently clean the area where chickens are kept.

12. Visit your physician if you experience abdominal pain, fever, and/or diarrhea.

Additional resources:

Salmonellosis associated with chicks and ducklings --- Michigan and Missouri, Spring 1999. Morbidity and Mortality Weekly Report. April 14, 2000; 49(14):297-29.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4914a1.htm>

Salmonella serotype Montevideo infections associated with chicks - - Idaho, Washington, and Oregon, Spring 1995 and 1996. Morbidity and Mortality Weekly Report. March 21, 1997 / 46(11):237-239.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/00046940.htm>

Salmonella hadar associated with pet ducklings - - Connecticut, Maryland and Pennsylvania, 1991. Morbidity and Mortality Weekly Report. March 20, 1992 / 41(11):185-187.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/00016299.htm>

http://www.cdc.gov/healthypets/pdf/intown_flocks.pdf

Study: Animal Vet Shortage May Affect Food

June 1, 2006
Associated Press
Dave Skretta

KANSAS CITY, Mo. -- A study commissioned in 2004 by a coalition of veterinary organizations and conducted by Kansas State University's College of Business Administration, was cited as projecting a major shortfall in the vets, which specialize in handling livestock, by 2016, threatening food safety and America's ability to handle outbreaks of catastrophic animal diseases.

The story says that the projected shortfall comes as Americans are increasingly aware of bird flu and foot-and-mouth disease, and meat exports have been curtailed by skeptical nations like Japan, which has twice cited concerns over mad cow disease in closing its lucrative market to U.S. beef.

Dr. Lyle Vogel, director of the Animal Welfare Division of the American Veterinary Medical Association, was quoted as saying, "Not having enough veterinarians in rural communities, out in the field, to do adequate disease surveillance threatens our food security. For the first time, this study has scientifically documented there is a shortage and shown the shortage is going to get worse."

The study, released Thursday and the most comprehensive of its kind, found that while demand for food animal veterinarians is projected to increase 12 to 13 percent over the next decade, four out of every 100 jobs will go unfilled.

The shortfall is also expected to affect government agencies like the U.S. Agriculture Department's Animal

and Plant Health Inspection Service, which is entrusted with protecting U.S. agricultural health.

USDA officials declined to comment without seeing the report. Spokesman Jim Rogers was cited as saying disease response teams can be on the ground anywhere in the U.S. within four hours.

The study also debunked the myth that food animal veterinarians earn less than small-animal practices. According to 2003 data from the AVMA, only 4 percent of all veterinarians worked exclusively on large animals. But their median income was about \$6,000 per year more than those working exclusively on small animals.

Dr. Ralph Richardson, dean of the College of Veterinary Medicine at Kansas State University, one of the nation's top agricultural and veterinary schools, was quoted as saying, "It's a national trend. I've tracked the job opportunities for veterinary graduates and it's fairly consistent. It's clearly an increasing problem."

The study suggested improved recruiting strategies emphasizing food animal careers, loan forgiveness and other incentives, and improving the image of rural veterinarians as the most promising ways to attract students.

Congress in 2003 approved legislation to provide college loan forgiveness for newer veterinarians, although Vogel said the program has not received adequate funding, and states like Kansas have implemented similar programs to retain students willing to work in underserved areas and disciplines such as large animal care.

On the Net:
American Veterinary Medical Association:
<http://www.avma.org/>
Kansas State University: <http://www.cba.k-state.edu/>

MEETINGS, WORKSHOPS & COURSES

See the AVEPM Web site at <http://www.cvm.uiuc.edu/avepm/> for details and the most current listings.

CRWAD - 2006 Call For Abstracts

The 2006 CRWAD Meeting will be held December 3-5, at the Chicago Marriott, Downtown Magnificent Mile, Chicago, Illinois. The meeting will begin with the Researchers Reception, Sunday evening. The first poster session will coincide with the Researchers Reception. Presentations will conclude by 1 pm Tuesday afternoon, December 5.

FOR THOSE WHO NEED A UNITED STATES VISA IN ORDER TO ATTEND THE CRWAD MEETING PLEASE START YOUR APPLICATION PROCESS NO LATER THAN EARLY JULY.

DEADLINE FOR ELECTRONIC ABSTRACT RECEIPT - September 8, 2006.

Please place your hotel sleeping room reservations at the following custom site for the special CRWAD group

rate. You must make your reservations by November 1 to insure that you obtain a room before our block is released. (To click on the following link please make sure the entire link is highlighted)

<http://marriott.com/property/propertypage/chidt?groupCode=crwcrwa&app=resvlink>

CHECK LIST REQUIREMENTS FOR ABSTRACT FORMAT AND SUBMISSION and the ON-LINE FORM are available on the CRWAD web site at:

http://www.cvms.colostate.edu/microbiology/crwad/aut_hinst.htm

REQUIRED: Electronic Abstract submission using an attached PC (not Mac) Word document to an e-mail and submitting an on-line form will be required for the 2006 meeting. New this year: Abstract Section Preference and Graduate Student Competition Entry must accompany the abstract attachment in the body of the e-mail. See instructions on our web site at the following URL:

http://www.cvms.colostate.edu/microbiology/crwad/aut_hinst.htm

FAILURE to submit the on-line form will omit your author information from the index of the Proceedings and your abstract title from the Program.

ALL oral presentations must be PowerPoint presentations.

CREDIT CARDS (Only Visa and MasterCard) are accepted.
<http://www.cvms.colostate.edu/microbiology/crwad/credit.htm>

Sincerely, Robert P. Ellis, Executive Director

ISVEE XI - Provisional Program Now Available

Innovation: Reshaping Veterinary Epidemiology
6-11 August 2006
Cairns Convention Centre, Queensland, Australia

A provisional program is now available at:
http://www.isveexi.org/docs/isvee_program.pdf. The document includes the scheduling of Keynote Speakers, Lead Papers and Standard Oral Presenters. Please note the program is current as 17 May 2006 and is subject to change.

ISVEE XI

Innovation: Reshaping Veterinary Epidemiology

6-11 August 2006

Cairns Convention Centre, Queensland, Australia

My Program! All abstracts for accepted oral presentations are now available on-line and a new interactive program and search facility have been added to the website. You can build your own personalised conference program,

http://www.isveexi.org/content.php?page=my_program

click here to be taken to the site. The table shows those papers you have marked for inclusion in your program. Click on the theme number to see the abstract and add or remove the paper from your program. To add papers, click the 'Add to my program' check box when viewing an abstract. Please note the program is always subject to change, and is kept current on the website.

Experience the Great Barrier Reef ^ be quick - only 30 places left ! All participants are invited for an unforgettable day exploring the coral and tropical fish of the Great Barrier Reef. This trip is intended to help you get over the jet-lag (nothing like a day in the sun to reset your body clock), catch up with friends, and experience one of the world's great natural wonders. For more information click on the following link
<http://www.isveexi.org/content.php?page=events#reef>
and contact the Event Manager if you wish to book a place.

Pre and Post Workshops ^ limited places available: Nine workshops are being offered before and after ISVEE (four before and five after), all in Cairns. If you are interested in attending any of the Pre and Post Workshops, please indicate this when registering online for the Symposium. If you are registering by hard copy form, or have already registered for the Symposium, please send an email to isveexi@ozacomm.com.au noting which workshop/s you wish to attend and how payment will be provided (credit card, cheque, bank transfer).

Tjapukai by Night ! - Experience the uniqueness of Australia's aboriginal heritage and tradition at the optional dinner function. Tjapukai Aboriginal Cultural Park offers a showcase of culture and cuisine, celebrating the life, beliefs and traditions of the Tjapukai, the people of the Rainforest. <http://www.tjapukai.com.au> Relax with your fellow delegates and enjoy a welcome ceremony, a sumptuous buffet meal and the amazing dance performance that is "Tjapukai by Night"! Tickets are at additional cost, contact the Event Manager for more information.

Delegate Checklist: Have you booked...

Accommodation: If you haven't booked yours yet and wish to take advantage of the special Conference rates, please indicate your accommodation requirements when you register or email isveexi@ozacom.com.au to add accommodation to your registration.

Visas: A reminder that visas are required for most international visitors entering Australia. The application can take some time, so please visit <http://www.immi.gov.au> for more information if you haven't yet made arrangements.

Transport: Please ensure you read the information on the website -

<http://www.isveexi.org/content.php?page=transfersl> - before arriving in Cairns. This page provides information you could need about getting to and from the airport/your hotel and around Cairns during your stay!

For more information please contact:
Symposium Manager
OzAccom Conference Services
Telephone: +61 (0) 7 3854 1611
Facsimile: +61 (0) 7 3854 1507
Email: isveexi@ozacom.com.au
Website: <http://www.isveexi.org/>

POSITIONS

Space does not permit a listing of the many opportunities for graduate study and employment. Please visit the AVEPM Web site at <http://www.cvm.uiuc.edu/avepm/> for the most current listings.

SUGGESTED READING

Molecular Typing to Trace *Listeria Monocytogenes* Isolated from Cold-Smoked Fish to a Contamination Source in a Processing Plant

(A nice example of the application of molecular epidemiology techniques in tracking the movement of a pathogen through the environment – Editor).

April 2006
Journal of Food Protection, Volume 69, Number 4,
April 2006, pp. 835-841(7)
Nakamura, Hiromi et al
<http://www.foodprotection.org/QuickLinks.htm>

Abstract:

In this study, *Listeria monocytogenes* contamination in a cold-smoked fish processing plant in Osaka, Japan, was examined from 2002 to 2004. A total of 430 samples were collected and divided into five categories: raw fish, materials during processing, processing equipment, environment, and finished products. A total of 59 finished products were examined throughout this study. *L. monocytogenes* was isolated from four of these samples during summer and autumn but was not found during winter or spring. During the warmer seasons, *L. monocytogenes* was more prevalent on processing

equipment, especially slicing machines (8 of 54 samples in summer and autumn versus 1 of 50 samples in winter and spring). *L. monocytogenes* was not detected on whole skins removed from 23 frozen raw fish. *L. monocytogenes* strains isolated from 56 samples were characterized by serotyping, pulsed-field gel electrophoresis, and three PCR-based methods. Seventy-seven *L. monocytogenes* strains were recognized as contaminants of the samples: 2 distinguishable strains were identified in each of 13 samples, 3 strains were identified in 2 samples, 5 strains were identified in 1 sample, and the other 40 strains were identified in 40 samples. Combining the results from these techniques, 77 strains were classified into 13 different types. Three of these types prevailed throughout the plant, and two of the three were also isolated from final products. The DNA subtype found in the product was also found on the slicing machines. Our findings suggest that the slicing machines at this plant were the source of the product contamination. Implementing an appropriate cleaning regime for the slicing machines was effective in preventing contamination.

Preliminary Foodnet Data on the Incidence of Infection with Pathogens Transmitted Commonly Through Food --- 10 States, United States, 2005

April 14, 2006
Morbidity & Mortality Weekly Report
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5514a2.htm>

Foodborne illnesses are a substantial health burden in the United States (1). The Foodborne Diseases Active Surveillance Network (FoodNet) of CDC's Emerging Infections Program collects data from 10 U.S. states* regarding diseases caused by enteric pathogens transmitted commonly through food. FoodNet quantifies and monitors the incidence of these infections by conducting active, population-based surveillance for laboratory-confirmed illness (2). This report describes preliminary surveillance data for 2005 and compares them with baseline data from the period 1996--1998. Incidence of infections caused by *Campylobacter*, *Listeria*, *Salmonella*, Shiga toxin--producing *Escherichia coli* O157 (STEC O157), *Shigella*, and *Yersinia* has declined, and *Campylobacter* and *Listeria* incidence are approaching levels targeted by national health objectives (3) (Table). However, most of those declines occurred before 2005, and *Vibrio* infections have increased, indicating that further measures are needed to prevent foodborne illness.

In 1996, FoodNet began active, population-based surveillance for laboratory-confirmed cases of infection from *Campylobacter*, *Listeria*, *Salmonella*, STEC O157, *Shigella*, *Vibrio*, and *Yersinia*. In 1997, FoodNet added surveillance for cases of *Cryptosporidium* and *Cyclospora* infection. In 2000, FoodNet began collecting data on STEC non-O157 and comprehensive information on hemolytic uremic syndrome (HUS). FoodNet personnel ascertain cases through contact with all clinical laboratories in their surveillance areas. HUS surveillance is conducted through a network of pediatric nephrologists and infection-control practitioners. In addition, eight states review hospital discharge data to ascertain HUS cases. Because of the time required for review of hospital records, this report contains preliminary 2004 HUS data.

During 1996--2005, the FoodNet surveillance population increased from 14.2 million persons (5% of the U.S. population) in five states to 44.5 million persons (15% of the U.S. population) in 10 states. Preliminary incidence for 2005 was calculated using the number of laboratory-confirmed infections and dividing by 2004 population estimates. Final incidence for 2005 will be reported when 2005 population estimates are available from the U.S. Census Bureau.

2005 Surveillance

In 2005, a total of 16,614 laboratory-confirmed cases of infections in FoodNet surveillance areas were identified, as follows: *Salmonella* (6,471 cases), *Campylobacter* (5,655), *Shigella* (2,078), *Cryptosporidium* (1,313), STEC O157 (473), *Yersinia* (159), STEC non-O157 (146), *Listeria* (135), *Vibrio* (119), and *Cyclospora* (65). Overall incidence per 100,000 population was 14.55 for *Salmonella*, 12.72 for *Campylobacter*, 4.67 for *Shigella*, 2.95 for *Cryptosporidium*, 1.06 for STEC O157, 0.36 for *Yersinia*, 0.33 for STEC non-O157, 0.30 for *Listeria*, 0.27 for *Vibrio*, and 0.15 for *Cyclospora*. Substantial variation occurred across surveillance sites (Table). In 2004, FoodNet identified 44 cases of HUS in children aged <15 years (rate: 0.49 per 100,000 children); 30 (68%) of these cases occurred in children aged <5 years (rate: 0.94).

Of the 5,869 (91%) *Salmonella* isolates serotyped, six serotypes accounted for 61% of infections, as follows: Typhimurium, 1,139 (19%); Enteritidis, 1,080 (18%); Newport, 560 (10%); Heidelberg, 367 (6%); Javiana, 304 (5%); and a monophasic serotype identified as *Salmonella* I 4,[5],12:i:-, 154 (3%). Among 109 (92%) *Vibrio* isolates identified to species level, 59 (54%) were *V. parahaemolyticus*, and 15 (14%) were *V. vulnificus*. FoodNet also collected data on 145 STEC non-O157 isolates that were tested for O-antigen determination; 117 (81%) had an identifiable O antigen, including O26 (37 [32%]), O103 (36 [31%]), and O111 (23 [20%]); 28 isolates did not react with the typing antisera used.

In 2005, FoodNet sites reported 205 foodborne disease outbreaks to the national Electronic Foodborne Outbreak Reporting System; 121 (59%) were associated with restaurants. Etiology was reported for 159 (78%) outbreaks; the most common etiologies were norovirus (49%) and *Salmonella* (18%).

Comparison of 2005 Data with 1996--1998
A main-effects, log-linear Poisson regression model (negative binomial) was used to estimate statistically significant changes in the incidence of pathogens. This model accounts for the increase in the number of FoodNet sites and its surveillance population since 1996 and for variation in the incidence of infections among sites (2). The average annual incidence for 1996--1998 (1997--1998 for *Cryptosporidium*), the first 3 years of FoodNet surveillance, was used as the baseline period. For HUS surveillance, 2000--2001 was used as the baseline. The estimated change in incidence (relative rate) between the baseline period and 2005 was calculated, along with a 95% confidence interval (CI).

The estimated annual incidence of several infections declined significantly from 1996--1998 to 2005 (Figure 1). The estimated incidence of infection with *Yersinia*

decreased 49% (CI = 36%--59%), Shigella decreased 43% (CI = 18%--60%), Listeria decreased 32% (CI = 16%--45%), Campylobacter decreased 30% (CI = 25%--35%), STEC O157 decreased 29% (CI = 12%--42%), and Salmonella decreased 9% (CI = 2%--15%). Although Salmonella incidence decreased overall, of the five most common Salmonella serotypes, only the incidence of S. Typhimurium decreased significantly (42% [CI = 34%--48%]). The estimated incidence of S. Enteritidis increased 25% (CI = 1%--55%), S. Heidelberg increased 25% (CI = 1%--54%) and S. Javiana increased 82% (CI = 14%--191%). The estimated incidence of S. Newport increased compared with the baseline, but the increase was not statistically significant (Figure 2). The estimated incidence of postdiarrheal HUS in children aged <5 years decreased 45% in 2004 compared with 2000--2001; whether this trend is significant could not be determined, partly because the limited time span does not provide enough data to evaluate a Poisson regression model. The estimated incidence of Vibrio increased 41% (CI = 3%--92%) compared with the baseline, whereas the estimated incidence of Cryptosporidium infections did not change significantly.

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Editorial Note:

In 2005, compared with the 1996--1998 baseline period, significant declines occurred in the estimated incidence of Campylobacter, Listeria, Salmonella, Shigella, STEC O157, and Yersinia infections. Several important food safety initiatives (1) might have contributed to the declines, indicating progress toward meeting the national health objectives (Table) (3). However, most progress occurred before 2005. Most of the decline in Campylobacter incidence occurred by 2001, with continued small decreases since then. The incidence of Listeria infections in 2005 is higher than its lowest point in 2002. Of the five most common Salmonella

serotypes, only Typhimurium has declined, with most of the decline occurring by 2001. Most of the decline in STEC O157 incidence occurred during 2003 and 2004. The observed sustained increase in Vibrio incidence indicates that additional efforts are needed to prevent Vibrio infections. Oysters are the most important source of human Vibrio infections, and most human infections can be prevented by not eating raw or undercooked oysters. Measures that reduce Vibrio contamination of oysters also prevent illness.

Food animals are the most important source of human Salmonella infections. Transmission of Salmonella to humans can occur via various food vehicles, including eggs, meat, poultry, and produce, and via direct contact with animals and their environments. Testing by the U.S. Department of Agriculture, Food Safety and Inspection Service (FSIS) at slaughter and processing plants has demonstrated declines in Salmonella contamination of ground beef since 1998 (4). However FSIS recently announced a sustained increase in chicken-broiler carcasses testing positive for Salmonella during 2002--2005 and subsequently launched an initiative to reduce Salmonella in raw meat and poultry products (4,5). Although sources of infection with the most common Salmonella serotypes have been identified (e.g., food animals), further investigation is needed to identify sources for emerging Salmonella serotypes, such as Javiana and I 4,[5],12:i:-, a monophasic serotype that resembles S. Typhimurium except that it has no phase 2 flagellar antigen and has previously been misclassified as Group B Salmonella or S. Typhimurium (6).

Large outbreaks with multiple laboratory-confirmed cases can distort underlying trends in incidence. For example, the incidence of Cryptosporidium infections increased substantially from 2004 to 2005 because of a large outbreak associated with visits to a recreational water park in New York (P Smith, MD, New York State Department of Health, personal communication, 2006).

The findings in this report are subject to at least four limitations. First, FoodNet relies on laboratory diagnoses, but many foodborne illnesses are not diagnosed by clinical laboratories. Second, protocols for isolation of certain enteric pathogens (e.g., STEC non-O157) in clinical laboratories vary and are not uniform within and among FoodNet sites (7); others (e.g., norovirus) cannot readily be identified by clinical laboratories. Third, reported illnesses might have been acquired through nonfoodborne sources, and reported incidence rates do not reflect foodborne transmission exclusively. Finally, although the FoodNet surveillance population is similar to the U.S. population (2), the findings might not be generalizable to the entire U.S. population.

Much remains to be done to reach the national health objectives for foodborne illnesses. Enhanced measures are needed to understand and control pathogens in animals and plants, to reduce or prevent contamination during processing, and to educate consumers about risks and prevention measures. Such measures can be particularly focused when the source of human infections (i.e., animal reservoir species and transmission route) are known. The declines in the incidence of STEC O157 infections observed in recent years suggest that coordinated efforts by regulators and industry have been effective in reducing contamination and illness related to ground beef (8,9).

Consumers can reduce their risk for foodborne illness by following safe food-handling recommendations and by avoiding consumption of unpasteurized milk and unpasteurized milk products, raw or undercooked oysters, raw or undercooked eggs, raw or undercooked ground beef, and undercooked poultry (additional information on food safety for consumers is available at <http://www.fightbac.org>). Other effective prevention measures, such as pasteurization of in-shell eggs, irradiation of ground meat, and pressure treatment of oysters, can also decrease the risk for foodborne illness.

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Biological Disasters of Animal Origin - The Role and Preparedness of Veterinary and Public Health Services

M. Hugh-Jones (ed.)
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Since October 2001 the possibility of intended disease outbreaks has been put forward repeatedly in many countries. The history of such events and their impacts are explored and may surprise many by what is possible and yet the uncertainty of the risk. At the same time we can be sure that the old diseases will continue to occur. In our global economy, what happens in one corner of the world can threaten us all, and sooner rather than later. The events of the present H5N1 avian influenza pandemic remind us that we do have to be concerned with the threats imbedded in global trade but also with migratory birds ignorant of international boundaries and regulations.

It is the efficiency with which we plan for and confront traditional and emerging disease outbreaks that will predict our ability and confidence in tackling intentional outbreaks if, when, and where they occur. The cost of disease increases even as the incidence may decrease. And as the health and productivity of livestock have increased, the more we depend on a veterinary corps with decreasing hands-on experience in handling epidemics. This means that planning and training must depend on valid models. To prevent public panic, communications must be transparent. Laboratory support must be able to respond to surge demands as well as forensic investigations. These and other crucial dimensions such as compliance of Veterinary Services with OIE standards, early detection and rapid response to outbreaks, herd registration, rapid field diagnostics and data entry, inter-agency coordination, to take but a few of where we must go are covered by recognised experts in this publication.

Instructions and Biographical Sketches of Candidates for Spring/Summer 2006 AVEPM Elections

On the attached ballot, select ONE candidate for Secretary Treasurer and TWO candidates for Member-at-Large. Only members who are current in their dues payments are eligible to vote. Dues can be returned with the ballot or paid online through the AVEPM Web site (see URL below). The number (e.g. 06) in the lower right corner of the mailing label is the last year for which a dues payment has been recorded. Membership dues are \$20 annually and are payable on January 1 of each year.

Online dues payment instructions and AVEPM Bylaws can be found at the AVEPM Web site at <http://www.cvm.uiuc.edu/avepm/>

Candidate for Secretary Treasurer

Dr. James G. Thorne is the current AVEPM Secretary-Treasurer and is running for re-election.

Candidates for Member-at-Large

Yvette Johnson - Yvette Johnson completed her DVM in 1989 at the University of Illinois at Urbana-Champaign. She then pursued a Master's Degree in Veterinary Clinical Medicine while serving as a research scholar for a USAID funded project at Egerton University in Kenya. She completed her PhD in Epidemiology at Michigan State University in 1998. She then spent six years as a faculty member at the University of Maryland campus of the Virginia-Maryland Regional College of Veterinary Medicine. She has returned to the University of Illinois as an Assistant Professor of Clinical Epidemiology in 2004. Her research focus has been zoonotic disease specifically food safety, poultry health, and transmission of antibiotic resistant bacterial strains between humans and companion animals. She teaches Food Safety and Public Health to the second year DVM students, assists in the Intro to Epidemiology course, and offers an elective in Observational Study Design.

Päivi Rajala-Schultz - Päivi Rajala-Schultz is an Associate Professor at the Department of Veterinary Preventive Medicine at The Ohio State University, with adjunct appointments at the Department of Animal Sciences and the School of Public Health at OSU. She has also been appointed as a docent at the Faculty of Veterinary Medicine in Helsinki University in Finland. Dr. Rajala-Schultz earned her DVM from the College of Veterinary Medicine in Helsinki, Finland in 1989. After graduation she practiced as a large animal veterinarian on the Finnish countryside until the fall of 1994 when she started her graduate work at Cornell University in Ithaca, NY. In 1998 she received her PhD in veterinary epidemiology and continued her research on dairy production medicine at Cornell for another year. In the fall of 1999, Dr. Rajala-Schultz joined the faculty at the Department of Veterinary Preventive Medicine at The Ohio State University. She currently serves as the Graduate Studies Committee chair in the department and is involved in both professional and graduate teaching. Her research projects still focus on dairy production medicine.

Please detach the following section and return your completed ballot, postmarked no later than July 31, 2006, to:

Dr. James Thorne
Sec/Treas AVEPM
3310 Cheavens Rd
Columbia, MO 65201-9383

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From the AVEPM Bylaws <<http://www.cvm.uiuc.edu/avepm/bbylaws.html>>:

The affairs of the Corporation, including organization, planning, meeting preparation, shall be managed, supervised, and controlled by a self-perpetuating Board of Directors consisting of the President, the President-Elect, the Secretary-Treasurer, and Three (3) members, all elected by the members...

Each director shall be elected for a term of two (2) years at the annual membership meeting. The President-Elect, and one member shall be elected in one year while the Secretary-Treasurer and two members shall be elected in the next year. The President-Elect shall succeed directly to the Presidency for the next year without election in that year.

Secretary-Treasurer (vote for one)

- James G. Thorne
- _____ (write-in candidate)

Member-at-Large (vote for two)

- Yvette Johnson
- Päivi Rajala-Schultz
- _____ (write-in candidate)

Additional Information Request

- I am current on my dues payment
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