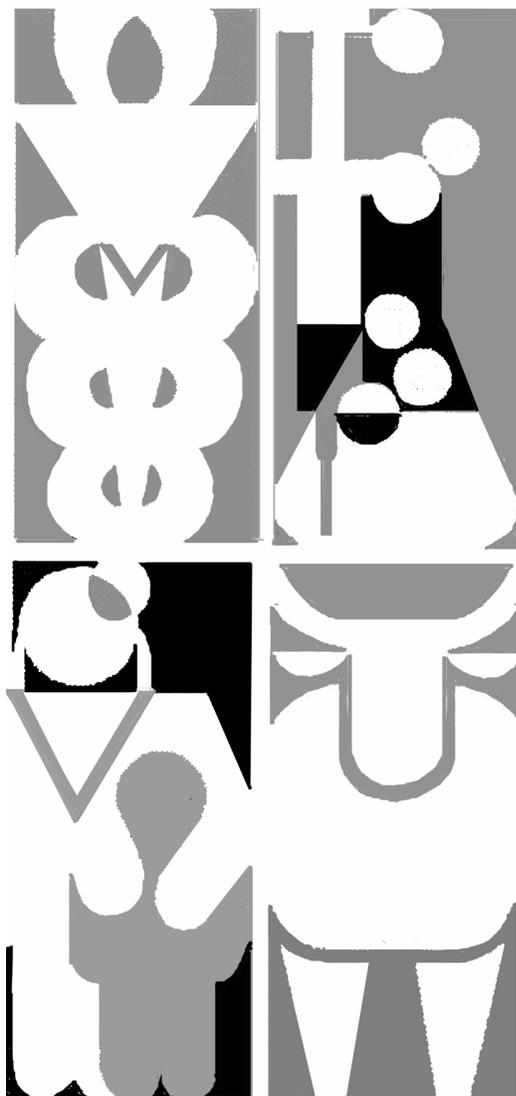


NEWSLETTER



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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. 04) 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 03, 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

Fifth International Veterinary Epidemiology Course in Spanish

The fifth International Veterinary Epidemiology Course in Spanish was held in Fort Collins, CO from August 8-19. 28 participants from 12 countries in Latin America attended. The instructors for the course were:

- Jorge Hernández - University of Florida
- David Hird - University of California-Davis
- Vitor Gonçalves - University of Brasilia
- Mo Salman - Colorado State University
- Santiago Urcelay - University of Chile
- Cristóbal Zepeda - USDA-APHIS-VS Centers for Epidemiology and Animal Health

The course is coordinated by the Association for Veterinary Epidemiology and Preventive Medicine and CEAH with funding from APHIS-IS and the Cochran fund.

National Council on Pet Population Study and Policy

The AVEPM has been a founding member (since 1993) of the National Council on Pet Population Study and Policy <<http://www.petpopulation.org>>. This Council is a coalition of 12 animal-related groups including the AVMA, AAFP, AAHA, AHA, HSUS, and others. We have 2 representatives on the board; at the moment, the representatives are myself and Janet Scarlett at Cornell. The board meets in person or by telephone twice a year. The Council has a strong commitment to research and data driven action and policy which fits well with the focus of the AVEPM.

The Council has conducted studies regarding animal entry and exit numbers from shelters nationally and the characteristics of animals and humans involved in relinquishment of animals to shelters. A national household survey served as a control group for the relinquishment study to help indicate which characteristics of animals and humans were really significant risk factors for failed human/animal relationships.

These studies have resulted in publications in peer-reviewed journals. The significance of these publications is their effect of legitimizing the field of pet population research, and therefore encouraging other scientists to address this issue in their work.

Presently, the Council has funded a project on free-roaming cat population dynamics which I and Roel Lopez at Texas A&M University are co-principal investigators. There is a field work component looking at home ranges, mortality and fertility of owned and unowned cats as well as a questionnaire component examining owned cat management in the same small Texas town. We have some preliminary data and hope to have the articles submitted for both components by early summer.

The Council has also just approved a project to develop a national shelter "index" which would provide representative data on live animal release rates from key shelters adjusted for human populations. The pilot part of this project is scheduled to start shortly.

The Council is also interested in hearing about studies that have not been published in the scientific literature but which are of interest for those working to reduce the numbers of homeless animals. They are also interested in hearing about ideas for future work.

If you have any questions about the work of the Council, see their website or contact me.

Cordially,

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

NEWS & COMMENTARY

Rabies, Human - USA 1990-2004 (abridged)

Source: Morbidity and Mortality Weekly Report, Fri 12
Aug 2005 /54(31);767-769
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5431a2.htm>

Of the 47 cases of human rabies reported in the United States since 1990, 4 occurred in organ transplant recipients and were associated with an undetected case of rabies in a single organ donor (3); the remainder apparently were acquired from contact with animals with rabies virus infections. 38 (81 percent) of the infections were acquired in the United States. Among the 9 infections acquired elsewhere, 2 were acquired in Haiti (the 2004 case described in this report and a 1994 case), 2 in Mexico (1993 and 1994), and one each in India (1992), Southeast Asia (1996), Ghana (2000), the Philippines (2001), and El Salvador (2004).

The greatest risk for naturally acquired rabies in the United States is from encounters with and bites from insectivorous bats (4). In particular, a rabies-virus variant associated with 2 small-bodied bats, the eastern pipistrelle bat (*Pipistrellus subflavus*) and silver-haired bat (*Lasiurus noctivagus*) was identified in 20 (69 percent) of 29 persons with samples tested.

Human rabies is preventable if the exposure is recognized and the patient receives appropriate wound care and postexposure prophylaxis before clinical signs of rabies are evident. Postexposure prophylaxis consists of rabies immune globulin infiltrated at the site of the exposure and 1 dose of rabies vaccine administered in the deltoid (or anterolateral thigh of infants and small children) on days 0, 3, 7, 14, and 28 (1). When applied appropriately, this combination has been effective in preventing death after an exposure.

However, the continued availability of rabies vaccine currently relies upon only one licensed manufacturer in the United States; a 2nd manufacturer suspended and has not resumed production after a voluntary recall of its rabies vaccine in March 2004 (5).

In the United States, mandatory vaccination and stray-dog control programs have virtually eliminated circulation of any canine rabies virus variant among dogs (6). In comparison, occurrence of rabies in dogs remains a problem in Haiti and other developing countries (7). Because of the risk for rabies exposure in these countries, travelers are advised to avoid contact with dogs and other animals, and rabies pre-exposure prophylaxis (consisting of 3 intramuscular doses of rabies vaccine on days 0, 7, and 21 or 28) is recommended for persons planning to stay longer than 30 days in remote areas without access to medical facilities (1). The patient described in this investigation reportedly was bitten by a dog in Haiti 8 months before clinical signs of rabies became evident. This was the longest incubation period among 12 U.S. rabies cases with exposure history reported since 1997 (median: 39 days; range: 21 to 240 days); however, longer incubation periods of 11 months to 6 years were suggested by findings in 3 cases previously described (8).

Although human rabies is rare in the United States, it should be considered in the postmortem differential diagnosis of fatal viral encephalitis cases with short morbidity periods if no cause of disease has been established. Hospitalized patients with encephalitis of unknown etiology should be on contact precautions, and rabies should be part of antemortem differential diagnosis in these patients. Both antemortem and postmortem testing for rabies are available at CDC and can be arranged through state health departments. Antemortem diagnostic samples consist of a full-thickness skin biopsy (4 to 6 mm in diameter) from the nape of the neck, fresh saliva, serum, and cerebrospinal fluid. Although postmortem rabies diagnosis can be performed on formalin-fixed brain material, fresh brain material provides the optimal sample for maximum sensitivity, specificity, and time efficiency.

With the recent report from Wisconsin of a survivor of clinical rabies (9), rapid diagnosis of rabies is even more critical to managing a patient's clinical course, despite a poor prognosis. In addition to enabling consideration of novel interventions, advantages of early diagnosis

include prompt implementation of appropriate infection-control measures, thereby limiting the number of persons exposed or potentially exposed who require postexposure prophylaxis. Retrospective detection of 4 transplant-associated rabies cases (3) and retrospective identification of an additional case in California in an immigrant from El Salvador, brought the total number of 2004 cases in the United States to eight, the highest number of human rabies cases reported since 1956, when 10 cases were reported.

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Anthrax, Bison, Bovine - USA (South Dakota)

Wed 17 Aug 2005

From: Sam Holland <Dr.Holland@state.sd.us>

A ProMED-mail post
<<http://www.promedmail.org>>

Anthrax cases cause cattle raisers to act

This year's [2005] anthrax season started on 18 Jul 2005 with a diagnosis of anthrax in a buffalo and beef herd. To date, there have been 38 herds with anthrax diagnosed by laboratory testing. Total death losses have reached 330 head of beef cattle and bison. Livestock producers are vaccinating animals in the affected locales, and some producers have vaccinated animals, as a precautionary measure, in areas of the state where anthrax has not been active for a number of years.

Please access our website at <http://www.state.sd.us/aib> for a map of the anthrax affected counties in South Dakota.

Dr. Sam Holland, DVM
State Veterinarian
South Dakota Animal Industry Board
Pierre, SD

Quietly, Invisibly, Ominously Getting Healthier and Healthier

October 8, 2005

American Council of Science and Health
Thomas R. DeGregori

http://www.acsh.org/factsfears/newsID.645/news_detail.asp

Modern life has buffered us from so many of the constant dangers of pre-modern life that few of us fear them. Unfortunately, the removal of the constant threat of disease and starvation seems to cause us to fill in the vacuum with new fears. Instead of fear-mongering, though, the happy story of the last half-century should be told in terms of the cancer epidemics or other dark, unseen forces that didn't strike us.

The story is often told of the famous Harvard economic history professor who would tell his students - many of whom no doubt took the comfort of modern living for granted - to look to their left and to their right and then consider that had it not been for the Industrial Revolution, two out of every three of them would not have been alive. Based on the research of Kevin M. White and Samuel H. Preston (1996), I do the same in my classes, informing them that if 1900 birth and death

rates had prevailed throughout the century, half of them would not be here. Or for students from the developing world, that without the changes in mortality in just the last half century, one quarter of them would not be alive (Heuveline 1999).

Stated differently, most of us are the beneficiaries of life-saving forces that have emerged over the last century that are to a large degree imperceptible. We now take factors such as clean water and immunization for granted - except when scares arise about their alleged dangers. Our children can be immunized with up to eleven injections at an age that they can no longer remember when they become adults - thus making most of them unappreciative or even unaware of the resulting benefits. It is the imperceptible absence of micro-organisms from our food or water (or at least concentrations of them too low to be life-threatening) that allows us to safely partake of the food and drink that sustain our lives. Carcinogenic smoke no longer fills our homes because we are not cooking and heating with open wood fires. In other words, our lives are sustained by all the things that are unseen because they are no longer there or life-saving items such as immunization and antibiotics that are not always visible.

The Example of Folate

A recent article and editorial in the American Journal of Clinical Nutrition illustrated the quietly life-saving character of modern life (Pfeiffer et al 2005 and Rosenberg 2005). It concerned the results of the 1998 mandating of folic acid fortification. "Mandatory folic acid fortification of cereal grain products was introduced in the United States in 1998 to decrease the risk that women will have children with neural tube defects" (Pfeiffer et al. 2005). The study demonstrated that "every segment of the U.S. population appears to benefit from folic acid fortification" (Pfeiffer et al 2005). The earlier scientific study "of folic acid fortification as an approach to prevent neural tube defects is a latter-day example of the application of meticulously controlled scientific trials to insightful previous hypotheses and observational studies. These controlled trials led the FDA to mandate folic acid fortification of the diet" (Rosenberg 2005).

It should be noted that the decision for the folate mandate was taken in a very open, democratic way. There was plenty of opportunity for informed support or criticism. As with so many aspects of modern life, unless some interest groups decide to make it a broader public issue, few outside those professionally involved (and informed) either know about it or in learning about it do anything other than file the knowledge far back in their minds. One can guess, and it is only a guess on my part, that those most in need of the folate supplementation are likely to be the poor and least-

educated, who might be the least aware of the mandate or the quiet addition to their daily bread.

A bit of historical background is in order: Vitamins were first identified in 1912, and the first vitamin was not commercially available until the 1920s. "The synthesis of folic acid by Lederle Labs in 1947 was one of the milestones achieved during the era of discovery of vitamins in the first half of the twentieth century. This stable and unreduced form of folate has served wonderfully in preventing and treating folate deficiency and for much of the study of folate biology" (Rosenberg 2005). And those who think their vitamins should be "all-natural" should know that "folic acid is not the natural form of the vitamin as it exists in food" (Rosenberg 2005). In a sense, most all vitamins in pill form are unnatural (to the extent that term has any meaning), since we get most of our vitamin intake as part of complex proteins. "Although folic acid is not the natural food form of this vitamin, folic acid fortification has resulted in a profound improvement in nutritional status and has had a substantial effect on the original target - neural tube defects" (Rosenberg 2005). (It should be noted, though, that excessive intake can be harmful, which should be of interested to those who pop megadoses of vitamins and other substances in the belief that they are following Nature's path to a longer life.)

"Folic acid supplementation during the periconceptional period for the prevention of spina bifida and related neural tube defects" has been demonstrated to be wise, as has "food fortification as the most feasible approach to increasing folic acid intakes in women before conception" (Rosenberg 2005). One often encounters other studies that find that increased folate intake during the periconceptional period leads to a reduction in childhood leukemia and other studies that indicate that increased folate intake may help in delaying the onset of Parkinson's disease. How many of the beneficiaries of this intervention even know that they are receiving the benefit and how many of the rest of us know that a "silent" life-saving product has been added to our daily bread? How many parents of a healthy baby know that the nutritional status of the mother would have resulted in a newborn with "spina bifida and related neural tube defects" if it had not been for the mandated folate fortification?

Almost within days of the publication of the study showing the benefits of the 1998 folate fortification mandate came another peer-reviewed report arguing that still more lives would be saved from deadly disease with a larger dose of folate in flour. I have yet to see a response to it, but it is a reminder that there is room in science for improvement, refinement, new ideas, disagreement, and productive argument, without rejecting the underlying principles of the scientific method.

Failure to Appreciate the Process that Makes It All Possible

Unfortunately, the foes of science will point to legitimate disagreements about how best to implement plans such as folate supplementation as evidence the benefits and risks are completely unpredictable and unknown and thus that retreat from new advances is the only option.

It may not qualify as an airtight scientific theory, but it is a fact that we humans have obviously done something right in the twentieth century. In the twentieth century in the U.S. we added nearly thirty years of life expectancy and reduced infant mortality by over 90%. Other advanced countries did even better, in some cases much better than we did. In developing countries, about twenty years of life expectancy has been added in the last fifty years. Changes of these magnitudes don't just happen for no reason at all. We must be doing something right. We therefore have a right to ask critics of modern technology whether or not they are opposing the very processes that brought us these gains. We might ask them a couple related questions: If, for instance, there is a problem such as an adverse reaction to an immunization that is otherwise beneficial, are critics who point this out seeking a solution to the problem or simply demanding that we abandon the process, benefit and all? Do they have an alternative that produces more benefit with less risk and what is their evidence for it? In other words, we have as much right to demand answers from the critics as the critics have to demand answers from the rest of us (see ACSH's new report on the related topic of *Weighing Benefits and Risks* in pharmaceutical use).

It is comforting to believers to hear activists declare the entirety of some aspect of modern life such as agriculture or pharmaceuticals a "failure" and call for a "new paradigm" or "more holistic understandings." In practical terms, such advocacy at best means a return to older, less productive forms of agriculture or a variety of herbs, tonics, or purgatives and other medical practices that were associated with shorter, less healthy lives. One final question to ask the critics is whether they are operating under the assumption that we were better off in some prior time? If so, we have a right to be more than a little dismissive of their advocacy.

Even the boy who cried wolf could on occasion be right, and even a crackpot might make a lucky guess, but in a world of legitimate competing demands on our time, we have every right to give such critics low priority for our attention. Unfortunately, their skill at public relations and fear-mongering forces us to respond and give their claims vastly more attention than they deserve. This diverts scientific talent and resources to the task of

publicly refuting them rather than to advancing knowledge - through the silent and underappreciated but life-enhancing advancement that undergirds all modern human endeavors.

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Origins of the Organic Agriculture Debate ; The Environment, Our Natural Resources, and Modern Technology ; Agriculture and Modern Technology: A Defense (all from Blackwell); and Bountiful Harvest: Technology, Food Safety, and the Environment (from the Cato Institute) . His homepage is <http://www.uh.edu/~trdegreg> and his e-mail address is [trdegreg\[at\]uh.edu](mailto:trdegreg[at]uh.edu) .

See also: ACSH,s booklet Good Stories, Bad Science: A Guide for Journalists to the Health Claims of “ Consumer Activist “ Groups.

Africans Meet to Improve Food Safety on the Continent

October 4, 2005
FAO Newsroom

<http://www.fao.org/newsroom/en/news/2005/107908/index.html>

Experts and officials from 50 countries work to establish safer food systems Geneva/Rome - Food-borne diseases are a serious threat to people in Africa, especially Africans already weakened from devastating conditions such as malaria and HIV/AIDS, two UN agencies warned today at the first-ever Regional Food Safety Conference for Africa.

Some 200 food safety officials and experts from 50 countries are attending a 4-day conference held under the auspices of FAO and the World Health Organization (WHO).

Safer food for better health

The meeting of food experts is expected to agree on ways and means to strengthen existing food safety systems to ensure safer food for better health and agricultural trade opportunities. Food being precious and difficult to access for many of Africa 's poor, it must be safe for human consumption.

"Many African countries do not have adequate food security, resulting in a situation where at least 60 percent of the food supply is imported to supplement local production," according to a report prepared for the Food Safety Conference.

Because there is not an effective food safety regime in place in most countries of the region, the safety of imported food cannot always be assured, adding to the risk of widespread food contamination. Improved food safety would help reduce the 2 000 deaths estimated to occur every day in Africa from food and waterborne diseases.

Addressing the globalization of agricultural trade and the increasing threat of ill-health from contaminated food, the report calls on "governments, the private sector, consumers and others to work in a concerted manner in this shared responsibility of assuring food safety from farm to fork".

A plan of action for Africa

With this goal, the Regional Conference on Food Safety for Africa is expected to discuss an Africa-wide Strategic Plan of Action for Food Safety in an effort to reduce future threats to public health and international trade caused by contaminated food and food products that do not meet international quality and safety standards.

Focusing on the complete food production chain, the plan will devote special attention to areas where intervention can significantly lower the risk from food-borne disease. The Conference will include discussions on prevention and control of mycotoxins in staple African crops such as maize, groundnuts and dried fruits.

"Food and water transmit a variety of disease-causing agents which are at the origin of the high burden of diarrhoea cases. In Africa , these are estimated at up to four episodes per child per year," says Dr Chris Ngenda Mwikisa, Director of the Division of Healthy Environment and Sustainable Development at the WHO Regional Office for Africa .

"Several devastating outbreaks of foodborne diseases such as cholera, salmonellosis, entero-haemorrhagic Escherichia coli (EHEC), hepatitis A and acute aflatoxicosis have occurred in a number of African countries recently. Already this year 34 000 cases of cholera due to contaminated water and food have been reported in 30 countries with more than 1 000 deaths. And we should remind that outbreaks are only the tip of the iceberg since many more sporadic cases go unrecorded," Mwikisa says.

"Building an effective food safety and quality regime throughout Africa has become an urgent necessity in order to save lives and create economic opportunity across the continent," says Hartwig de Haen, FAO Assistant Director-General.

"The failure of many African produced food products to meet international food-safety and quality standards hampers the continent's efforts to increase agricultural trade both intra-regionally and internationally, locking many farmers out of a chance to improve their economic well-being. Establishing pan-African food safety standards will not only save lives and improve the health of African people, it will go a long way towards helping Africa join in international trade and raise African living

standards, particularly in rural areas where most of the poor are subsisting," de Haen says.

"Exchange of routine information on food safety and rapid access to information in case of emergencies is imperative" warns a report for the Conference. Systems ensuring this have proved to be very useful for an appropriate and timely management of food risks.

According to the UN agencies "the recently established International Food Safety Authorities Network (INFOSAN) enables member states to exchange key information and be alerted when international food safety events occur; while the International Portal on Food Safety, Animal and Plant Health facilitates the access to existing standards and other official food safety-related information".

Participants in the Regional Conference on Food Safety for Africa held in Harare, Zimbabwe, come largely from regulatory bodies for food safety in the Ministries of Agriculture and Health in countries that are members of FAO and WHO. Representatives of independent food safety agencies and other ministries with responsibilities for food safety, and international non-governmental organizations (NGOs) representing industry, producers, trade and retail associations, and consumer groups are also attending.

Lilly to Invest in E. coli Drug to Replace Antibiotics

September 27, 2005
Meetingplace.com
Pete Hisey

Eli Lilly and India's Gangagen Biotechnologies are joining forces and investing millions of dollars to convert large quantities of a drug that kills E. coli bacteria in cattle into an animal feed supplement.

The medication uses harmless viruses to attack the E. coli bacteria and prevent it from spreading to humans after the animals are slaughtered. The drug will replace antibiotics presently used to control E. coli in cattle. The two companies will conduct a trial with 400 Canadian cattle in 2006 and hope to begin marketing the feed supplement in 2007.

CDC Proposes Tracking Passengers to Prevent Pandemics

Federal Computer Week, 23 November 2005
<http://govhealthit.com/article91532-11-23-05-Web>

The Centers for Disease Control and Prevention (CDC) proposed federal regulations to electronically track more than 600 million U.S. airline passengers a year traveling on more than 7 million flights through 67 hub airports. The proposed regulations are posted on the CDC's Web site and will be available for a 60-day comment period in the Federal Register starting November 30. They would require airlines, travel agents, and global reservation systems to collect personal information beyond that now collected by the Transportation Security Administration or the Homeland Security Department. The same rules would apply to passengers on international cruise lines and ferries that dock at U.S. ports. The CDC said that frustrations with attempts to track the SARS outbreak prompted the proposal, which is intended to allow the CDC to respond quickly to signs of a new pandemic.

MEETINGS, WORKSHOPS & COURSES

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

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

Veterinary Clinical Epidemiology, Third Edition

Ronald D Smith

University of Illinois, Urbana, Illinois, USA

CRC Press: http://www.crcpress.com/shopping_cart/products/product_detail.asp?sku=1566&parent_id=&pc=

- Illustrates the relevance of epidemiology to companion animal, food animal, and population medicine
- Provides a rigorous examination of the most common tools and methods used to collect and interpret epidemiologic information
- Includes approximately 150 figures and tables that help readers understand how epidemiologic data is collected, analyzed, and presented
- Contains an extensive glossary and cross-listed index which greatly facilitates the use of the book as a reference tool With its extensive glossary and cross-listed index, this volume provides veterinary students and professionals with a superior easily accessible reference on epidemiology

While veterinary medicine has always valued the concepts and methods of epidemiology, they are virtually inseparable in today's clinical practice. With access to an ever-expanding number of journals, as well as countless Internet sources, more and more veterinarians are practicing evidence-based medicine. This is defined as the process of systematically finding, appraising, and adopting research findings as the primary basis for clinical decisions.

"An underlying premise of the book is that patient-based research is epidemiologic research. . .It logically follows that the users of this information, veterinary students and practitioners, be skilled in its application to patient care."

Veterinary Clinical Epidemiology, Third Edition focuses on developing a deeper understanding of epidemiology and exemplifies how an improved capacity for interpreting and critiquing available literature ultimately leads to improved patient care. In preparing this edition, Ronald Smith, a highly respected epidemiologist, practitioner, and educator, has entirely updated his earlier work to reflect those changes that have dramatically altered the practice of veterinary medicine over the last ten years.

New to the third edition:

- Numerous updated examples of the application of epidemiology in clinical practice
- Expanded journal representation to include a larger selection of international research
- Increased coverage of hypothesis testing, survey design, sampling and epidemiologic concepts related to the practice of evidence-based medicine
- Revised and updated information on diagnostic testing, risk assessment, causality, and the use of statistics

Veterinary Clinical Epidemiology, Third Edition provides practitioners and researchers with the knowledge and tools to understand, critically assess, and make use of the medical literature that is vital to the treatment of animal patients.

Veterinary Epidemiology, Third Edition

Michael Thrusfield

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Blackwell Publishing: <http://www.blackwellpublishing.com/book.asp?ref=0632063971&site=6>

This successful book, now in its third edition, continues to provide a comprehensive introduction to the role of epidemiology in veterinary medicine. Since the publication of the second edition there has been considerable expansion in the application of veterinary epidemiology: more quantitative methods are available, challenges such as the epidemic of foot-and-mouth disease in Europe in 2001 have required epidemiological investigation, and epidemiological analyses have taken on further importance with the emergence of evidence-based veterinary medicine.

In this edition:

- Completely revised and expanded chapters
- Increased attention given to the principles and concepts of epidemiology, surveillance, and diagnostic-test validation and performance
- Many examples are drawn from both large and small animal medicine, and from the developing as well as the developed world

Veterinary Epidemiology is an invaluable reference source for veterinary general practitioners, government veterinarians, agricultural economists and members of other disciplines interested in animal disease. It will also be essential reading for undergraduate and intermediate-level postgraduate students of epidemiology.

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