

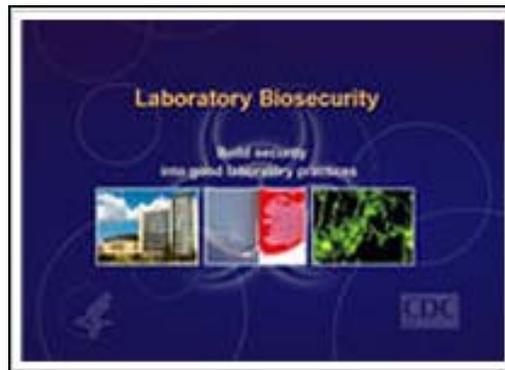
Centro de Documentación / Documentation Center

Objetivos/ Objectives

Identificar y atender las necesidades de información, adquisición, organización, almacenamiento, generación, uso y difusión de la información en salud pública veterinaria y proveer recursos bibliográficos técnicos-científicos al equipo de profesionales de la unidad y a los usuarios externos.

Identify and take care of the needs of information, acquisition, organization, storage, generation, use and diffusion of the information in veterinary public health and provide technical scientific bibliographical resources to the professional staff of the unit and to the users external.

Temas de interés general / Subjects of general interest



Laboratory Biosecurity Training

The purpose of this training course is to provide key principles for securing biological agents in research laboratories and biomedical facilities where loss, theft, release or intentional misuse of the agent might have significant public health or economic consequences. This module defines the term biosecurity, delineates differences and similarities between biosafety and biosecurity, and discusses components of a laboratory biosecurity program.

This training is based on the 5th Edition of the *Biosafety in Microbiological and Biomedical Laboratories* (BMBL), published by the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, and the National Institutes of Health.

<http://www.cdc.gov/biosafety/training/>

Bioseguridad / Biosafety



Biosafety in Microbiological and Biomedical Laboratories

U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institutes of Health
5th Edition
December 2009

This edition of the Biosafety in Microbiological and Biomedical Laboratories (BMBL) includes additional sections, expanded sections on the principles and practices of biosafety and risk assessment; and revised agent summary statements and appendices.

Text in English

<http://www.cdc.gov/biosafety/publications/bmb15/index.htm>

<http://www.cdc.gov/biosafety/publications/bmb15/BMBL.pdf>

Enfermedades Desatendidas / Neglected Diseases



First WHO report on neglected tropical diseases 2010: working to overcome the global impact of neglected tropical diseases
WHO, 2010

Neglected tropical diseases blight the lives of a billion people worldwide and threaten the health of millions more. These close companions of poverty weaken impoverished populations, frustrate the achievement of health in the Millennium Development Goals and impede global public health outcomes. Wider recognition of the public health significance of neglected tropical diseases and better knowledge of their epidemiology have stimulated necessary changes in public health thinking to approach and achieve control.

This report presents evidence to demonstrate that activities undertaken to prevent and control neglected tropical diseases are producing results – and that achievements are being recognized. By 2008, preventive chemotherapy had reached more than 670 million people in 75 countries.

Text in English

http://www.who.int/neglected_diseases/2010report/NTD_2010report_web.pdf

Enfermedades Transmitidas por Vectores / Vector-Borne Diseases



Environmental monitoring to enhance comprehension and control of infectious diseases

Carver S, Kilpatrick AM, Kuenzi A, Douglass R, Ostfeld RS, Weinstein P
J Environ Monit. 2010 Nov; 12 (11): 2048-55

In a world of emerging and resurging infectious diseases, dominated by zoonoses, environmental monitoring plays a vital role in our understanding their dynamics and their spillover to humans. Here, we

critically review the ecology, epidemiology and need for monitoring of a variety of directly transmitted (Sin Nombre virus, Avian Influenza) and vector-borne (Ross River virus, West Nile virus, Lyme disease, anaplasmosis and babesiosis) zoonoses. We focus on the valuable role that existing monitoring plays in the understanding of these zoonoses, the demands for new monitoring, and how improvements can be made to existing monitoring. We also identify the fruitful outcomes which would result from implementation of the monitoring demands we have highlighted. This review aims to promote improvements in our understanding of zoonoses, their management, and public health by encouraging discussion among researchers and public health officials.

Text in English



Modeling Transmission Dynamics and Control of Vector-Borne Neglected Tropical Diseases

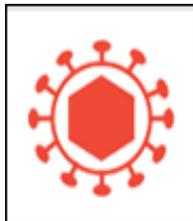
Luz PM, Struchiner CJ, Galvani AP
PLoS Negl Trop Dis. 2010; 4 (10): e761

Neglected tropical diseases affect more than one billion people worldwide. The populations most impacted by such diseases are typically the most resource-limited. Mathematical modeling of disease transmission and cost-effectiveness analyses can play a central role in maximizing the utility of limited resources for neglected tropical diseases. We review the contributions that mathematical modeling has made to optimizing intervention strategies of vector-borne neglected diseases. We propose directions forward in the modeling of these diseases, including integrating new knowledge of vector and pathogen ecology, incorporating evolutionary responses to interventions, and expanding the scope of sensitivity analysis in order to achieve robust results.

Text in English

<http://www.plosntds.org/article/info:doi/10.1371/journal.pntd.0000761>

Fiebre Aftosa / Foot and Mouth Disease



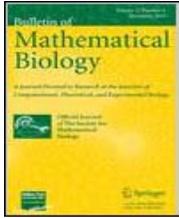
Alternative way to test the efficacy of swine FMD vaccines: measurement of pigs median infected dose (PID50) and regulation of live virus challenge dose

Li D, Lu ZJ, Xie BX, Sun P, Chen YL, Fu YF, Liu ZX
Virol J. 2010 Sep; 7: 215

Foot-and-mouth disease to pigs is serious recently around the world. "Vaccination prevention" is still an important policy. OIE specifies 10,000 TCID₅₀ (0.2 ml) of virulent virus for challenge test in pigs to test the potency of FMD vaccine by intradermal route inoculating the virus in the heel bulbs of one foot or by intramuscular route administering into one site of the neck behind the ear. Convenience and speediness are available in the process of potency test of commercial FMD vaccine. We selected the route of "administering into one site of the muscular part of the neck behind the ear" because of convenience and speediness. However, it was difficult to infect control pigs even up to 100,000TCID₅₀, so we changed the challenged virus from cell-passaged strain to suckling mice-passaged one, measured its PID₅₀ (pigs median infected dose) and defined the virus challenge dose as 1000PID₅₀. Meanwhile, we arranged the number of control pigs from two to three for easy evaluation.

Text in English

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2944167/pdf/1743-422X-7-215.pdf>



Modelling foot-and-mouth disease virus dynamics in oral epithelium to help identify the determinants of lysis

Schley D, Ward J, Zhang Z
Bull Math Biol. 2010 Aug

Foot-and-mouth disease virus (FMDV) causes an economically important disease of cloven-hoofed livestock; of interest here is the difference in lytic behaviour that is observed in bovine epithelium. On the skin around the feet and tongue, the virus rapidly replicates, killing cells, and resulting in growing lesions, before eventually being cleared by the immune response. In contrast, there is usually minimal lysis in the soft palate, but virus may persist in tissue long after the animal has recovered from the disease. Persistence of virus has important implications for disease control, while identifying the determinant of lysis in epithelium is potentially important for the development of prophylactics. To help identify which of the differences between oral and pharyngeal epithelium are responsible for such dramatically divergent FMDV dynamics, a simple model has been developed, in which virus concentration is made explicit to allow the lytic behaviour of cells to be fully considered. Results suggest that localised structuring of what are fundamentally similar cells can induce a bifurcation in the behaviour of the system, explicitly whether infection can be sustained or results in mutual extinction, although parameter estimates indicate that more complex factors may be involved in maintaining viral persistence, or that there are as yet unquantified differences between the intrinsic properties of cells in these regions.

Text in English (article in press)

<http://www.springerlink.com/content/u84378514571n26p/fulltext.pdf>

Influenza Aviar / Avian Influenza



Combining Spatial-Temporal and Phylogenetic Analysis Approaches for Improved Understanding on Global H5N1 Transmission

Liang L, Xu B, Chen Y, Liu Y, Cao W, Fang L, Feng L, Goodchild MF, Gong P
PLoS One. 2010 Oct; 5 (10): e13575

BACKGROUND: Since late 2003, the highly pathogenic influenza A H5N1 had initiated several outbreak waves that swept across the Eurasia and Africa continents. Getting prepared for reassortment or mutation of H5N1 viruses has become a global priority. Although the spreading mechanism of H5N1 has been studied from different perspectives, its main transmission agents and spread route problems remain unsolved.

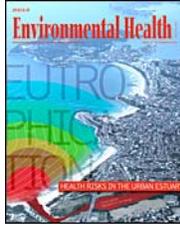
METHODOLOGY/PRINCIPAL FINDINGS: Based on a compilation of the time and location of global H5N1 outbreaks from November 2003 to December 2006, we report an interdisciplinary effort that combines the geospatial informatics approach with a bioinformatics approach to form an improved understanding on the transmission mechanisms of H5N1 virus. Through a spherical coordinate based analysis, which is not conventionally done in geographical analyses, we reveal obvious spatial and temporal clusters of global H5N1 cases on different scales, which we consider to be associated with two different transmission modes of H5N1 viruses. Then through an interdisciplinary study of both geographic and phylogenetic analysis, we obtain a H5N1 spreading route map. Our results provide insight on competing hypotheses as to which avian hosts are responsible for the spread of H5N1.

CONCLUSIONS/SIGNIFICANCE: We found that although South China and Southeast Asia may be the virus pool of avian flu, East Siberia may be the source of the H5N1 epidemic. The concentration of migratory birds from different places increases the possibility of gene mutation. Special attention should be paid to East Siberia, Middle Siberia and South China for improved surveillance of H5N1 viruses and monitoring of migratory birds.

Text in English

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0013575>

Inocuidad de los Alimentos / Food Safety



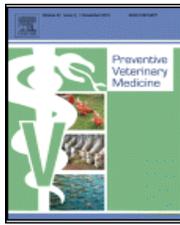
Using the Electronic Foodborne Outbreak Reporting System (eFORS) to improve foodborne outbreak surveillance, investigations, and program evaluation

Middaugh JP, Hammond RM, Eisenstein L, Lazensky R
J Environ Health. 2010 Sep; 73 (2): 8-11

Challenges exist in comparing foodborne disease outbreaks (FBDOs) across states due to important differences in reporting practices and investigations. Variables such as FBDO size, population size, number of tourists, and suspected etiology are important to consider when interpreting FBDO data. Analysis of eFORS data can be valuable in improving state FBDO investigations. From 2000 to 2005, Florida reported a greater proportion of FBDOs, with two cases per outbreak, than the U.S. as a whole (40.4% in Florida vs. 17.2% in the U.S.). Reporting a higher rate of small FBDOs provided more opportunities for public health interventions but contributed to a lower agent confirmation rate (17.0% in Florida vs. 42.2% in the U.S.). While the Electronic Foodborne Outbreak Reporting System's (eFORS) database brought great improvements in national FBDO surveillance, as with any complex surveillance system, considerable knowledge and specialized expertise is required to properly analyze and interpret the data, especially because there is a large variation in state reports to eFORS.

Text in English

Medicina Veterinaria Basada en Evidencia / Evidence Based Veterinary Medicine



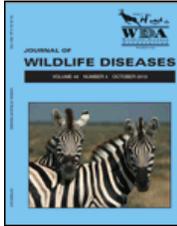
Epidemiological research and evidence based medicine: How do they fit and for whom

Slater MR
Prev Vet Med. 2010 Oct

Evidence based medicine involves using the best current information to inform patient care. In veterinary medicine, evidence based veterinary medicine (EBVM) has been discussed for about 15 years. Epidemiology and EBVM are closely linked and epidemiologists can provide crucial support for the practice of EBVM. The secondary literature which summarizes important research into more accessible and applied work could benefit from additional involvement by epidemiologists. Epidemiologists have a broad range of stakeholders for their work and should consider who the specific audience is and what the important endpoints are for that audience. More work on reporting guidelines for observational studies and on issues relating to external validity are needed to facilitate EBVM. Epidemiologists should consider teaching veterinary, graduate and post-graduate students how to perform EBVM. Getting credit for efforts which support EBVM can be difficult but creative presentation of work, publications and grants relating to EBVM should help. Quite a few veterinary journals are actively soliciting manuscripts relating to EBVM.

Text in English (article in press)

Rabia / Rabies



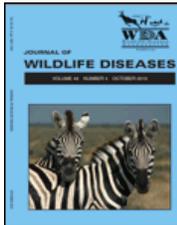
A comparative study of rabies virus isolates from hematophagous bats in Brazil

Castilho JG, Carnieli P Jr, Oliveira RN, Fahl WO, Cavalcante R, Santana AA, Rosa WL, Carrieri ML, Kotait I
J Wildl Dis. 2010 Oct; 46 (4): 1335-9

The Brazilian chiropteran fauna consists of 167 species; of which, three are hematophagous: the common vampire bat (*Desmodus rotundus*), the white-winged vampire bat (*Diaemus youngi*), and the hairy-legged vampire bat (*Diphylla ecaudata*). The aim of this study was to describe the isolation of Rabies virus from common and hairy-legged vampire bats and to report the first comparative antigenic and genetic studies of isolates from these bats. Antigenic and genetic typing of both isolates identified them as antigenic variant 3 (AgV3), the variant frequently isolated from common vampire bats. Phylogenetic analysis showed 99.3% identity between the isolates. This is the first time since 1934 that Rabies virus has been isolated from hairy-legged vampire bats in Brazil. Our analysis provides evidence that the existence of rabies-positive isolates from hairy-legged vampire bats may be the result of an interspecific rabies transmission event from common vampire bats and suggests that roost cohabitation may occur.

Text in English

<http://www.jwildlifedis.org/cqi/reprint/46/4/1335>



Detection of rabies virus antibodies in Brazilian free-ranging wild carnivores

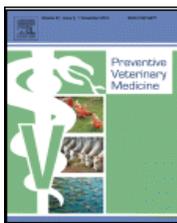
Jorge RS, Pereira MS, Morato RG, Scheffer KC, Carnieli P Jr, Ferreira F, Furtado MM, Kashivakura CK, Silveira L, Jacomo AT, Lima ES, de Paula RC, May-Junior JA
J Wildl Dis. 2010 Oct; 46 (4): 1310-5

Rabies virus is a pathogen of major concern in free-ranging wild carnivores in several regions of the world, but little is known about its circulation in Brazilian wild carnivores. Sera from 211 free-ranging wild carnivores, captured from 2000 to 2006 in four locations of two Brazilian biomes (Pantanal and Cerrado), were tested for rabies antibodies. Twenty-six individuals (12.3%) had neutralizing antibody titers ≥ 0.10 IU/ml. The four sampled locations had antibody-positive animals, suggesting that Rabies virus circulates in all of these regions. Results underscore the risk posed by rabies for conservation of Brazilian carnivores and the possibility of the animals acting as reservoirs for the Rabies virus.

Text in English

<http://www.jwildlifedis.org/cqi/reprint/46/4/1310>

Sensibilidad y Especificidad – Precisión del Teste / Sensitivity and Specificity - Test Accuracy



Quality standards are needed for reporting of test accuracy studies for animal diseases

Gardner IA
Prev Vet Med. 2010 Oct

The STARD statement (www.stard-statement.org) emphasizes complete and transparent reporting of

key elements of test accuracy studies. Guidelines for authors in many biomedical journals recommend adherence to these standards but explicit recommendations by editors of veterinary journals are limited. Adherence to standards benefits end-users of tests including doctors, veterinarians and other healthcare professionals and the human and animal patients in which the tests are used. Reporting standards also provide a structured basis for researchers and graduate students to prepare manuscripts, and subsequently can be a useful adjunct to the peer-review process. This paper discusses the purpose of STARD and its possible modification for animal disease studies, variation in reporting and design quality in human and animal disease studies, use of a different instrument (QUADAS) for assessing methodological quality, and provides some recommendations for the future. Finally, the contributions of Dr. Hollis Erb to improvements in methodological and reporting qualities of test accuracy studies in Preventive Veterinary Medicine are described.

Text in English (article in press)

Eventos / Events

IX Workshop sobre Métodos Rápidos y Automatización em Microbiología Alimentaria

23-26 Noviembre, 2010

Bellaterra (Barcelona)

<http://webs2002.uab.cat/workshopMRAMA/esp/esp.htm>



Salud Pública Veterinaria
Centro Panamericano de Fiebre Aftosa



Veterinary Public Health
Pan American Foot and Mouth Disease Center

Centro de Documentación / Documentation Center (CEDOC)

Teléfono / Phone: 55 21 3661-9045 -

<http://new.paho.org/panaftosa>

<http://bvs.panaftosa.org.br>

<http://bvs.panalimentos.org>

Se puede tener acceso a las publicaciones en el link citado bajo los resúmenes o solicitarlas a nuestro Centro de Documentación a través del correo electrónico.

It's possible to have access to publications in the mentioned link under the summaries or to ask our Documentation Center for them via e-mail.

apimente@panaftosa.ops-oms.org