Emerging Infectious Diseases

Tracking trends and analyzing new and reemerging infectious disease issues around the world

Globalization, International Law, and Emerging Infectious Diseases
David P. Fidler

Epidemiology and Geographic Information Systems
Keith C. Clarke

Evolution and Maintenance of Virulence in Microparasites
Bruce R. Levin

Infectious Diseases Impact Statement
Edward McSweegan

Fungal Pathogens and HIV Infection
Neil M. Ampel

Ross River Virus in Australia
Michael Lindsay

Penicillin-Resistant Pneumococcal Infections
Crystal B. Kronenberger

MDRTB in Spain
John V. Rullán

Pulsed-Field Gel Electrophoresis and Salmonella agona
E. John Threlfall

Dengue-3 in Mexico
Baltasar Briseño-García

Serodiagnostic Testing for Lyme Disease
Robert B. Craven

Bartonella quintana among the Homeless
Lisa A. Jackson

Visceral Leishmaniasis in Brazil
Jorge R. Arias
Emerging Infectious Diseases is published four times a year by the National Center for Infectious Diseases, Centers for Disease Control and Prevention (CDC), 1600 Clifton Rd., Mailstop C-12, Atlanta, GA 30333, USA. Telephone 404-639-3697, fax 404-639-3039, e-mail eidhelp@cidod1.em.cdc.gov.

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of CDC, Centers for Disease Control and Prevention (Atlanta, Georgia, USA).

Liaison Representatives

Anthony I. Adams, M.D.
Chief Medical Adviser
Commonwealth Department of
Human Services and Health
Canberra, Australia

David Brandling-Bennett, M.D.
Deputy Director
Pan American Health Organization
World Health Organization
Washington, D.C., USA

Gail Cassell, Ph.D.
Liaison to American Society for Microbiology
University of Alabama at Birmingham
Birmingham, Alabama, USA

Richard A. Goodman, M.D., M.P.H.
Editor, MMWR
Centers for Disease Control and Prevention (CDC)
Atlanta, Georgia, USA

William Hueston, D.V.M., Ph.D.
Acting Leader, Center for Animal Health
Monitoring Centers for Epidemiology and Animal Health
Veterinary Services, Animal and Plant Health Inspection Service
U.S. Department of Agriculture
Fort Collins, Colorado, USA

James LeDuc, Ph.D.
Advisor for Arboviral Diseases
Division of Communicable Diseases
World Health Organization
Geneva, Switzerland

Joseph Losos, M.D.
Director General
Laboratory Center for Disease Control
Ontario, Canada

Gerald L. Mandell, M.D.
Liaison to Infectious Diseases Society of America
University of Virginia Medical Center
Charlottesville, Virginia, USA

Philip P. Mortimer, M.D.
Director, Virus Reference Division
Central Public Health Laboratory
London, United Kingdom

Robert Shope, M.D.
Professor of Research
University of Texas Medical Branch
Galveston, TX

Natalya B. Sipachova, M.D., Ph.D.
Scientific Editor
Russian Republic Information & Analytic Centre
Moscow, Russia

Bonne Smoak, M.D.
Chief, Dept of Epidemiology
Division of Preventive Medicine
Walter Reed Army Institute of Research
Washington, D.C., USA

Robert Swanepoel, B.V.Sc., Ph.D.
Head, Special Pathogens Unit
National Institute for Virology
Sandringham 2131, South Africa

Roberto Tapia-Conyer, M.D.
Director General de Epidemiologia
Dirección General de Epidemiología
Secretaría de Salud
México

Emerging Infectious Diseases receives editorial and computer support from the Office of Planning and Health Communication, National Center for Infectious Diseases.

Emerging Infectious Diseases is published four times a year by the National Center for Infectious Diseases, Centers for Disease Control and Prevention (CDC), 1600 Clifton Rd., Mailstop C-12, Atlanta, GA 30333, USA. Telephone 404-639-3697, fax 404-639-3039, e-mail eidhelp@cidod1.em.cdc.gov.

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of CDC or the institutions with which the authors are affiliated.

All material published in Emerging Infectious Diseases is in the public domain and may be used and reprinted without special permission; proper citation, however, is appreciated.

Use of trade names is for identification only and does not imply endorsement by the Public Health Service or by the U.S. Department of Health and Human Services.

Electronic Access to Emerging Infectious Diseases

If you have Internet access, you can retrieve the journal electronically through file transfer protocol (FTP), electronic mail, or World-Wide Web (WWW). The journal is available in three file formats: ASCII, Adobe Acrobat (.pdf), and PostScript (.ps). The ASCII version of the journal does not contain figures. Both the .pdf and .ps files, however, contain graphics and figures and are true representations of the hard copy of the journal. The Adobe Acrobat format requires an Adobe Reader. This reader is available in DOS, Windows, UNIX, and Macintosh versions. Installation instructions come with the Adobe software.

Access Methods

FTP: Download the journal through anonymous FTP at ftp.cdc.gov. The files can be found in the pub/Publications/EID directory in each of the file types listed above.

WWW: Launch WWW browser for the Internet and connect to the following address: http://www.cdc.gov. Your WWW software will allow you to view, print, and retrieve journal articles.

LISTSERV (e-mail lists): You may have the table of contents sent to your e-mail box by subscribing to the EID-TOC mailing list. When you subscribe to this list, you automatically receive the table of contents and will be able to receive individual journal articles by FTP or e-mail.

If you choose to receive the entire journal, you may subscribe to one of three other lists. EID-ASCII sends the journal in ASCII format. EID-PDF sends the journal in Adobe Acrobat format. You can get the free Adobe Acrobat Reader by subscribing to the list.

To subscribe to a list, send an e-mail to lists@list.cdc.gov with the following in the body of your message: subscribe listname (e.g., subscribe EID-ASCII). Once you have requested a subscription, you will receive further instructions by e-mail.

For more information about receiving Emerging Infectious Diseases electronically, send an e-mail to eidhelp@cidod1.em.cdc.gov.

Emerging Infectious Diseases

Emerging Infectious Diseases is indexed in Current Contents and in several electronic databases.

Editor

Joseph E. McDade, Ph.D.
National Center for Infectious Diseases
Centers for Disease Control and Prevention (CDC)
Atlanta, Georgia, USA

Perspectives Editor

Stephen S. Morse, Ph.D.
The Rockefeller University
New York, New York, USA

Synopses Editor

Philip J. Baker, Ph.D.
Division of Microbiology and Infectious Diseases
National Institute of Allergy and Infectious Diseases
National Institutes of Health (NIH)
Bethesda, Maryland, USA

Dispatches Editor

Stephen Ostroff, M.D.
National Center for Infectious Diseases
Centers for Disease Control and Prevention (CDC)
Atlanta, Georgia, USA

Managing Editor

Polyxeni Potter, M.A.
National Center for Infectious Diseases
Centers for Disease Control and Prevention (CDC)
Atlanta, Georgia, USA

Editorial Support

Maria T. Brito
Anne D. Mather
Carol D. Snavely, M.A.

Production

Rita M. Furman, M.S.

Electronic Distribution

Carol Y. Crawford
Editorial Policy and Call for Articles

The goals of the Emerging Infectious Diseases (EID) journal are to promote the recognition of emerging and reemerging infectious diseases and improve the understanding of factors involved in disease emergence, prevention, and elimination.

Emerging infections are new or newly identified pathogens or syndromes that have been recognized in the past two decades. Reemerging infections are known pathogens or syndromes that are increasing in incidence, expanding into new geographic areas, affecting new populations, or threatening to increase in the near future.

EID has an international scope and is intended for professionals in infectious diseases and related sciences. We welcome contributions from infectious disease specialists in academia, industry, clinical practice, and public health as well as from specialists in economics, demography, sociology, and other disciplines whose study elucidates the factors influencing the emergence of infectious diseases. Inquiries about the suitability of proposed articles may be directed to the editor at 404-639-3967 (telephone), 404-727-8737 (fax), or eideditor@cidod1.em.cdc.gov (e-mail).

EID is published in English and features three types of articles: Perspectives, Synopses, and Dispatches. The purpose and requirements of each type of article are described in detail below.

Instructions to Authors

Manuscripts should be prepared according to the “Uniform Requirements for Manuscripts Submitted to Biomedical Journals” (JAMA 1993;269[17]: 2282-6).

Begin each of the following sections on a new page and in this order: title page, abstract, text, acknowledgments, references, each table, figure legends, and figures. On the title page, give complete information about each author (full names and highest degree). Give current mailing address for correspondence (include fax number and e-mail address). Follow Uniform Requirements style for references. Consult List of Journals Indexed in Index Medicus for accepted journal abbreviations. Tables and figures should be numbered separately (each beginning with 1) in the order of mention in the text. Double-space everything, including the title page, abstract, references, tables, and figure legends. Italicize scientific names of organisms from species name all the way up, except for vernacular names (viruses that have not really been speciated, such as coxsackievirus and hepatitis B; bacterial organisms, such as pseudomonads, salmonellae, and brucellae).

All articles are reviewed by independent reviewers. The Editor reserves the right to edit articles for clarity and to modify the format to fit the publication style of Emerging Infectious Diseases.

Documents sent in hardcopy should also be sent on diskette, or by e-mail. Acceptable electronic formats for text are ASCII, WordPerfect, AmiPro, DisplayWrite, MS Word, MultiMate, Office Writer, WordStar, or Xywrite. Send graphics documents in Corel Draw, Harvard Graphics, Freelance, .TIF (TIFF), .GIF (CompuServe), .WMF (Windows Metafile), .EPS (Encapsulated Postscript), or .CGM (Computer Graphics Metafile). The preferred font for graphics files is Helvetica. If possible, convert Macintosh files into one of the suggested formats. Submit photographs as glossy, camera-ready photographic prints.

Send all manuscripts and correspondence to the Editor, Emerging Infectious Diseases, National Center for Infectious Diseases, Centers for Disease Control and Prevention, 1600 Clifton Road, Mailstop C-12, Atlanta, GA 30333, USA, or by e-mail to eideditor@cidod1.em.cdc.gov.

Perspectives: Contributions to the Perspectives section should provide insightful analysis and commentary about new and reemerging infectious diseases or related issues. Perspectives may also address factors known to influence the emergence of infectious diseases, including microbial adaption and change; human demographics and behavior; technology and industry; economic development and land use; international travel and commerce; and the breakdown of public health measures. Articles should be approximately 3,500 words and should include references, not to exceed 40. Use of additional subheadings in the main body of the text is recommended. If detailed methods are included, a separate section on experimental procedures should immediately follow the body of the text. Photographs and illustrations are optional. Provide a short abstract (150 words) and a brief biographical sketch.

Synopses: Submit concise reviews of infectious diseases or closely related topics. Preference will be given to reviews of emerging and reemerging infectious diseases; however, timely updates of other diseases or topics are also welcome. Synopses should be approximately 3,500 words and should include references, not to exceed 40. Use of subheadings in the main body of the text is recommended. If detailed methods are included, a separate section on experimental procedures should immediately follow the body of the text. Photographs and illustrations are optional. Provide a short abstract (150 words) and a brief biographical sketch.

Dispatches: Provide brief updates on trends in infectious diseases or infectious disease research. Include descriptions of new methods for detecting, characterizing, or subtyping emerging or reemerging pathogens. Developments in antimicrobial drugs, vaccines, or infectious disease prevention or elimination programs are appropriate. Case reports are also welcome. Dispatches (1,000 to 1,500 words of text) should not be divided into sections. Provide references, not to exceed 10, and figures or illustrations, not to exceed two.
Emerging Infectious Diseases

Perspectives
Globalization, International Law, and Emerging Infectious Diseases 77  David P. Fidler
On Epidemiology and Geographic Information Systems: A Review and Discussion of Future Directions 85  Keith C. Clarke, Sara L. McLafferty, and Barbara J. Tempalski
The Evolution and Maintenance of Virulence in Microparasites 93  Bruce R. Levin
The Infectious Diseases Impact Statement: A Mechanism for Addressing Emerging Infectious Diseases 103  Edward McSweegan

Synopsis
Emerging Disease Issues and Fungal Pathogens Associated with HIV Infection 109  Neil M. Ampel

Dispatches
An Outbreak of Ross River Virus Disease in Southwestern Australia 117  Michael Lindsay, Nidia Oliveira, Eva Jasinska, Cheryl Johansen, Sue Harrington, A. E. Wright, and David Smith
Invasive Penicillin-Resistant Pneumococcal Infections: A Prevalence and Historical Cohort Study 121  Crystal B. Kronenberger, Richard E. Hoffman, Dennis C. Lezotte, and William M. Marine
Application of Pulsed-Field Gel Electrophoresis to an International Outbreak of Salmonella agona 130  E. John Threlfall, Michael D. Hampton, Linda R. Ward, and Bernard Rowe
Emergence of Bartonella quintana Infection among Homeless Persons 141  Lisa A. Jackson and David H. Spach
The Reemergence of Visceral Leishmaniasis in Brazil 145  Jorge R. Arias, Pedro S. Monteiro, and Fabio Zicker

Commentary
Molecular Epidemiology of Pneumocystis carinii Pneumonia 147  Charles B. Beard and Thomas R. Navin
Needed: Comprehensive Response to the Spread of Infectious Diseases 151  Harold M. Ginzburg

Letters
Transfusion-Associated Malaria 152  Frances Taylor
Reply to F. Taylor 152  Jane R. Zucker and S. Patrick Kachur
An Outbreak of Hemolytic Uremic Syndrome due to Escherichia coli O157:H-: Or Was It? 153  P. N. Goldwater and K. A. Bettelheim
The Dilemma of Xenotransplantation 155  Claude E. Chastel

News and Notes
BSE Meeting at CDC 157  Charlie Stokes
CDC Foundation Supports Emerging Infectious Disease Projects 157  Charlie Stokes