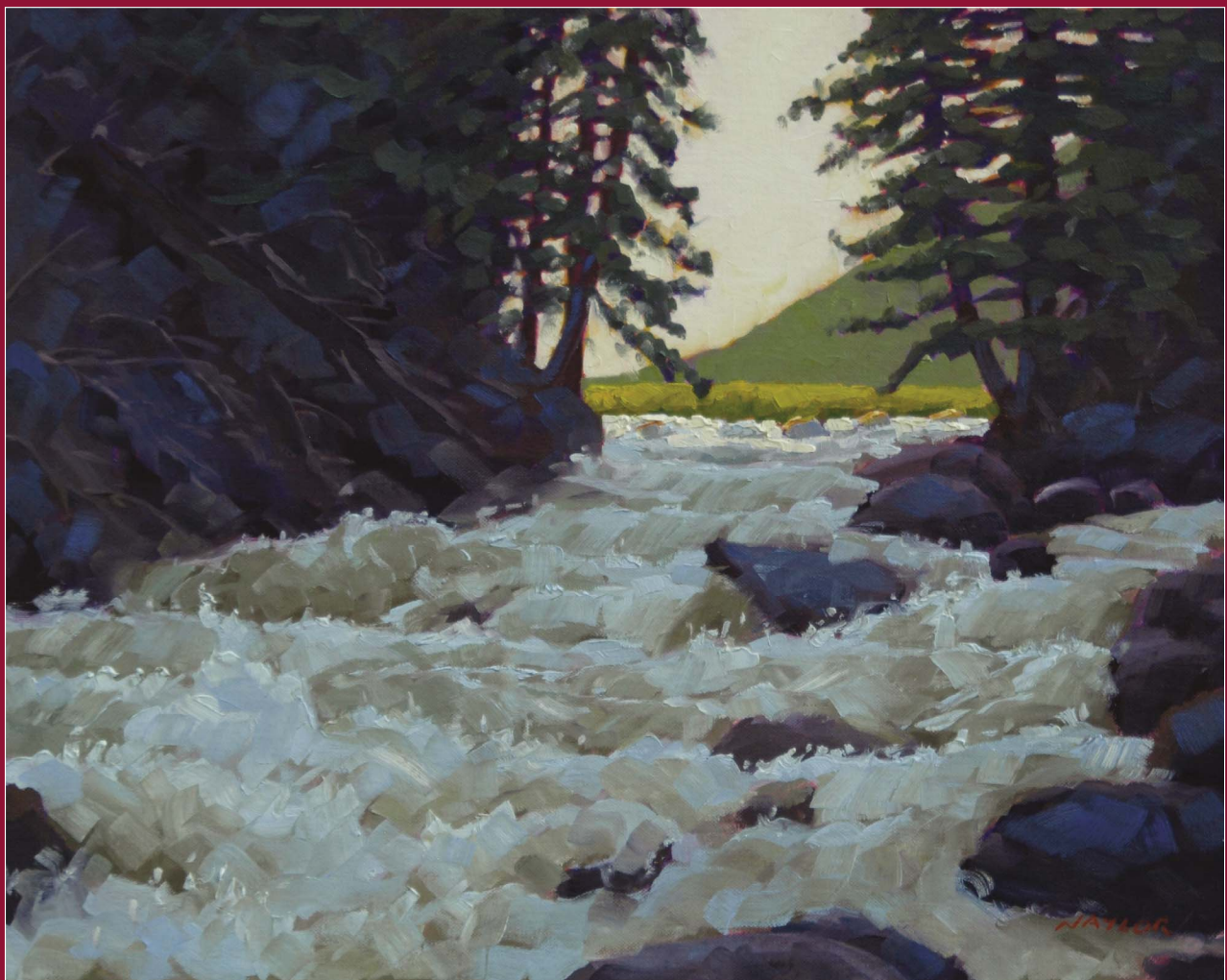


PREHOSPITAL and DISASTER MEDICINE

Volume 29, Number 2

April 2014



WADDEM

CAMBRIDGE
UNIVERSITY PRESS

The Official Journal of the
World Association for Disaster and Emergency Medicine

CAMBRIDGE

JOURNALS

Now included in the
Thomson Reuters Social Sciences Citation Index

Health Economics, Policy and Law

Published in association with LSE Health

Editor-in-Chief

Adam Oliver, *London School of Economics and Political Science, UK*

International trends highlight the confluence of economics, politics and legal considerations in the health policy process. *Health Economics, Policy and Law (HEPL)* provides a forum for inter-disciplinary health policy studies, and will be of use to academics, policy makers, health care managers and professionals. *HEPL* is international in scope, publishing both theoretical and applied work, with articles on all aspects of health policy. *HEPL* is particularly interested in publishing innovative ideas that promise to contribute to improving health and healthcare policy. Considerable emphasis is placed on rigorous conceptual development and analysis, and on the presentation of empirical evidence that is relevant to the policy process. Review articles and debate sections bring readers in touch with current research developments and issues.



Health Economics, Policy and Law
is available online at:
<http://journals.cambridge.org/hep>

To subscribe contact Customer Services

in Cambridge:

Phone +44 (0)1223 326070
Fax +44 (0)1223 325150
Email journals@cambridge.org

in New York:

Phone (845) 353 7500
Fax (845) 353 4141
Email
subscriptions_newyork@cambridge.org

Free email alerts

Keep up-to-date with new
material – sign up at
journals.cambridge.org/register

For free online content visit:
<http://journals.cambridge.org/hep>



CAMBRIDGE
UNIVERSITY PRESS

Table of Contents

Editorial

- The Columbia Mall Shooting: Reflections of a Physician Responder** 113
Matthew J. Levy, DO, MSc, FACEP

Original Research

DISASTER HEALTH AND MEDICINE

- Education and Training Initiatives for Crisis Management in the European Union: A Web-based Analysis of Available Programs** 115

Pier Luigi Ingrassia, MD, PhD; Marco Foletti, MD; Ahmadreza Djalali, MD, PhD; Piercarlo Scarone, MD; Luca Ragazzoni, MD; Francesco Della Corte, MD; Kubilay Kaptan, PhD; Olivera Lupescu, MD, PhD; Chris Arculeo; Gotz von Arnim, Dipl.-Ing; Tom Friedl; Michael Ashkenazi, MPhil, PhD; Deike Heselmann, MA; Boris Hreckovski, MD; Amir Khorram-Manesh, MD, PhD; Radko Komadina, MD, PhD; Kostanze Lechner, Dipl., PhD; Cristina Patru, MD, PhD; Frederick M. Burkle, Jr., MD, MPH, DTM; Philipp Fisher, MD

- A Mixed-methods Pilot Study of Disaster Preparedness and Resiliency Among Faith-based Organizations** 127
Valerie M. Muller, MPH; Rita V. Burke, PhD, MPH; Bridget M. Berg, MPH; Ann C. Lin; Jeffrey S. Upperman, MD

- General Household Emergency Preparedness: A Comparison Between Veterans and Nonveterans** 134
Claudia Der-Martirosian, PhD; Tara Strine, PhD, MPH; Mangwi Atia, MEd; Karen Chu, MS; Michael N. Mitchell, PhD; Aram Dobalian, PhD, JD

- The Swine Flu Emergency Department: The Relationship Between Media Attention for the Swine Flu and Registrations in an Emergency Medicine Unit** 141
Sara Nelissen, MA; Kathleen Beullens, PhD; Marc Sabbe, MD, PhD; Jan Van den Bulck, PhD, DSc

- Water and Power Reserve Capacity of Health Facilities in the Greek Islands** 146
Lykourgos-Christos G. Alexakis, MD, DTM, EMDM; Tudor A. Codreanu, MD, MSc (Med), EMDM; Samuel J. Stratton, MD, MPH

PREHOSPITAL CARE

- A Paramedic Field Supervisor's Situational Awareness in Prehospital Emergency Care** 151
Teija Norri-Sederholm, RN, MS; Rauno Kuusisto, PhD; Jouni Kurola, MD, PhD; Kaija Saranto, RN, PhD; Heikki Paakkonen, RN, PhD

MASS-GATHERING MEDICINE

- Understanding the Characteristics of Patient Presentations of Young People at Outdoor Music Festivals** 160
Alison Hutton, RN, MACN, Dip App Sci (Nsg), BN, MN, Paed. Cert., PhD; Jamie Ranse, RN FACN, FCENA, BN, G Cert Clin Ed, G Cert Clin Epi, M Crit Car Nurs; Naomi Verdonk, Dip Lang (French), LLB, B Oenol (Hons), G Dip Legal Prac.; Shabid Ullah, BSc (Hons), MSc, PhD; Paul Arbon, RN, BSc, Dip Ed, Grad Dip Health Ed, MEd, PhD

Comprehensive Review

- A Systematic Review of Noncommunicable Health Issues in Mass Gatherings** 167
Ahmed H. Alquthami, MD, MHSA; Jesse M. Pines, MD, MBA, MSCE

Special Report

- High-fidelity Human Patient Simulators Compared with Human Actors in an Unannounced Mass-Casualty Exercise** 176
Christian M. Schulz, MD; Matthias Skrzypczak; Stefan Raith; Dominik Hinzmänn, MD; Veronika Krautheim, MD; Fabian Heuser, MD; Valentin Mayer; Christoph Kreuzer, MD; Meike Himsl, MD; Michael Holl; Christina Lipp, MD; Eberhard F. Kochs, MD; Klaus J. Wagner, MD
- The Need for a Systematic Approach to Disaster Psychosocial Response: A Suggested Competency Framework** 183
Robin S. Cox, PhD; Taryn Danford, MA

Brief Report

- Dextrose 10% in the Treatment of Out-of-Hospital Hypoglycemia** 190
Matthew V. Kiefer, MD; H. Gene Hern, MD, MS; Harrison J. Alter, MD, MS; Joseph B. Barger, MD
- Medical and Psychosocial Needs of Olympic and Pan American Athletes after the 2010 Earthquake in Haiti: An Opportunity to Promote Resilience Through Sports Medicine and Public Diplomacy** 195
Eugene S. Yim, MD, MPH; Robert D. Macy, PhD; Gregory Ciottoni, MD
- Use of Point-of-Care Lactate in the Prehospital Aeromedical Environment** 200
Marie Mullen, MD; Gianluca Cerri, MD; Ryan Murray, MD; Angela Talbot, RN; Alexandra Sanseverino, MD; Peter McCabill, MD; Virginia Mangolds, FNP-C; Jesse Volturo, BA; Chad Darling, MD; Marc Restuccia, MD
- Reliability of Telecommunications Systems Following a Major Disaster: Survey of Secondary and Tertiary Emergency Institutions in Miyagi Prefecture During the Acute Phase of the 2011 Great East Japan Earthquake** 204
Daisuke Kudo, MD, PhD; Hajime Furukawa, MD; Atsubiro Nakagawa, MD, PhD; Yoshiko Abe, RN; Toshikatsu Washio, PhD; Tatsuhiko Arafune, PhD; Dai Sato; Satoshi Yamanouchi, MD; Sae Ochi, MD, PhD, MPH; Teiji Tominaga, MD, PhD; Shigeeki Kushimoto, MD, PhD

Case Report

- Early Diagnosis and Treatment of a Posttraumatic Pseudoaneurysm/Dissection of the Innominate Artery** 209
Fernando Azarcon, MD; Melhelm Ghaleb, MD
- Use of a Gum Elastic Bougie in a Penetrating Neck Trauma** 212
Yann Daniel, MD; Stanislas de Regloix, MD; Eric Kaiser, PhD
- School Interventions After the Joplin Tornado** 214
Robert K. Kanter, MD; David Abramson, PhD, MPH

Conference Report

- Report and Session Summary from the 18th World Congress on Disaster and Emergency Medicine** 218

Editorial Office
World Association for Disaster and Emergency
Medicine (WADEM), Madison,
Wisconsin USA

Editor-in-Chief
Samuel J. Stratton, MD, MPH

Managing Editor
Mona C. Johnson, MBA

Editorial Assistant
Ellen Johnson

Publisher
Cambridge University Press
32 Avenue of the Americas
New York, NY 10013-2473 USA

Prehospital and Disaster Medicine (ISSN 1049-023X) is published bimonthly in the months of February, April, June, August, October, December, by Cambridge University Press for the World Association for Disaster and Emergency Medicine. Prehospital and Disaster Medicine incorporates the Journal of the World Association for Emergency and Disaster Medicine and the Journal of Prehospital Medicine.

Editorial Information: All manuscripts must be submitted through the Journal's online submission platform, ScholarOne Manuscripts: <http://mc.manuscriptcentral.com/pdm>.

2014 Subscription Information: Institutions print and electronic: US\$599.00 in the USA, Canada, and Mexico; UK£365.00+VAT elsewhere. Institutions electronic only: US\$442.00 in the USA, Canada, and Mexico; UK£270.00+VAT elsewhere. Individuals print and electronic: US\$182.00 in the USA, Canada, and Mexico; UK£111.00+VAT elsewhere. Individuals electronic only: US\$132.00 in the USA, Canada, and Mexico; UK£75.00+VAT elsewhere. Single Part: US\$109.81 in the USA, Canada, and Mexico; UK£66.91+VAT elsewhere. Prices include postage and insurance. Airmail or registered mail is extra. Back volume prices are available upon request. Claims of non-receipt or damaged issues must be filed within three months of cover date.

Comprehensively indexed by the National Library of Medicine (MEDLINE), Cumulative Index to Nursing and Allied Health (CINAHL) and Health Star Cumulative Index. The database is available online via BRS, Data-Star, and DIA-LOG, and on CD-ROM through CD Plus, Compact Cambridge and Silver Platter. Abstracts and search capability available on the Internet at <http://journals.cambridge.org/PDM>.

Copyright © 2014 by the World Association for Disaster and Emergency Medicine.

Cover Artwork

Spring Flow Geneva Creek, oil painting on canvas by Rodgers Naylor

Rodgers Naylor finds a rich array of painting subjects close to home in Colorado and also throughout the US and abroad, especially in the Mediterranean region of Europe. He works in an "alla prima" manner, usually beginning with a warm-tone underpainting and completing a painting in one session when possible. This method, since it involves painting directly into wet paint, allows great flexibility in mixing colors and attaining soft edges, and fosters a fresh, spontaneous approach to painting. Mr. Naylor takes a strong interest in the effects of light/shadow and warm/cool colors, and is intrigued by the interplay between the landscape and its human inhabitants. He paints both in the studio and en plein air.

Mr. Naylor studied art at Minneapolis (Minnesota USA) College of Art and Design, The Atelier (Minneapolis) and the Art Students League of Denver, Colorado (USA). His recent awards include Best of Painting, Sun Valley Art Festival, Ketchum, Idaho 2012; First Place, Gilpin County (Colorado) Art Association Juried Show 2010; and Best of Show, Spring Art Show, Evergreen, Colorado, 2009.

Mr. Naylor's work can be viewed at RNaylorStudio.com.

EDITOR-IN-CHIEF

Samuel J. Stratton, MD, MPH
University of California-Los Angeles
Los Angeles, California, USA

EMERITUS**EDITOR-IN-CHIEF**

Marvin L. Birnbaum, MD, PhD
University of Wisconsin-Madison
Madison, Wisconsin, USA

MANAGING EDITOR

Mona C. Johnson, MBA

SECTION EDITORS*Emergency Medical Services*

**Darren Walter, FRCS(Ed)
FCEM, FIMC**
University Hospital South
Manchester
Manchester, UK

Humanitarian Affairs

**Frederick M. Burkle, MD,
MPH, DTM**
Harvard Humanitarian Initiative
Harvard University
Cambridge, Massachusetts, USA

Mass Gathering Medicine

Paul Arbon, PhD
School of Nursing and Midwifery
Flinders University
Adelaide, South Australia

Nursing

**Elaine Daily, RN, BSN,
FCCM, FAHA**
Madison, Wisconsin, USA

Oceania

Graeme McColl
Christchurch, New Zealand

Psychosocial

Gloria Leon, PhD
University of Minnesota
Minneapolis, Minnesota USA

ASSOCIATE EDITORS

David A. Bradt, MD, MPH
Royal Melbourne Hospital
Melbourne, Australia

Wolfgang F. Dick, MD, PhD
Mainz, Germany

Kimball Maull, MD, FACS

Department of Surgery
Hamad General Hospital
Doha, Qatar

Steven Rottman, MD

University of California-Los Angeles
Los Angeles, California, USA

Geert Synaeve, MD

Brussels, Belgium

EDITORIAL BOARD

Carol Amaratunga, PhD

School of Child and Youth
Development
University of Victoria Research
Association of the Justice
Institute of British Columbia
Victoria BC, Canada

Frank Archer, MD

Department of Community
Emergency Health &
Paramedic Practice
Monash University
Melbourne, Australia

Jeffrey Arnold, MD

Department of Emergency
Medicine
Santa Clara Valley Medical
Center
San Jose, California, USA

Yaron Bar-Dayam, MD, MHA

Israeli Defense Forces Home
Front Command
Or-Yehuda, Israel

Joost Bierens, MD, PhD

Amsterdam, The Netherlands

Tareq Bey, MD

Saudi Arabia

Richard A. Bissell, PhD

Center for Emergency Education
and Disaster Research
University of
Maryland-Baltimore
Baltimore, Maryland, USA

Felipe Cruz-Vega, MD

Office of Social Security
Mexico City, Mexico

**Robert A. DeLorenzo, MD,
MSM, FACEP**

Medical Corps
United States Army
San Antonio, Texas, USA

Claude de Ville de Goyet, MD

Brussels, Belgium

Judith Fisher, MD

Washington, DC, USA

Erik S. Gaull

George Washington University
Washington, DC, USA

Michael Gunderson

Integral Performance Solutions
Lakeland, Florida, USA

Pinchas Halpern, MD

Critical Care and Emergency
Medicine
Tel Aviv University
Tel Aviv, Israel

Keith Holtermann, MD

George Washington University
Washington, DC, USA

Mark Johnson, MPA

Juneau, Alaska, USA

Mark Keim, MD

Centers for Disease Control and
Prevention
Atlanta, Georgia, USA

Todd J. LeDuc, EMT-P

Broward Sheriff Fire Rescue
Ft. Lauderdale, Florida, USA

Lidia Mayner, PhD

School of Nursing and Midwifery
Flinders University
Adelaide, South Australia

**Andrew Milsten, MD, MS,
FACEP**

University of Massachusetts
Emergency Medicine
Worcester, Massachusetts, USA

Jerry Overton

IAED Emergency Clinical
Advice System & Standards
Board
Salt Lake City, Utah, USA

Paul Paris, MD

Center for Emergency Medicine
University of Pittsburgh
Pittsburgh, Pennsylvania, USA

**Lynda Redwood-Campbell,
MD, MPH**

Department of Family Medicine
McMaster University
Hamilton, Ontario, Canada

Edward Ricci, PhD

Behavioral and Community
Health Sciences
University of Pittsburgh
Pittsburgh, Pennsylvania, USA

Leonid Roshal, MD

Institute of Pediatrics
Academy of Medical Sciences
Moscow, Russia

Don Schramm

Disaster Management Center
University of Wisconsin-Madison
Madison, Wisconsin, USA

James M. Shultz, PhD

Center for Disaster & Extreme
Event Preparedness
University of Miami
Miami, Florida, USA

**Wayne Smith, BSC, MChB,
EMDM, FCEM(SA)**

Division of Emergency Medicine
University of Cape Town
Cape Town, South Africa

Knut Ole Sundnes, MD

Baerum Hospital
Solo, Norway

Takashi Ukai, MD

Hyogo Emergency Medical
Center
Hyogo, Japan

Michael Van Rooyen, MD

Harvard Humanitarian Initiative
and Department of Emergency
Medicine, Brigham and
Women's Hospital
Boston, Massachusetts, USA

Richard Zoraster, MD, MPH

Kaneohe, Hawaii, USA

Aims and Scope: The mission of *Prehospital and Disaster Medicine* (PDM) is the distribution of information relevant to the practice of out-of-hospital and in-hospital emergency medical care, disaster health, and public health and safety. PDM provides an international forum for the reporting and discussion of scientific studies, both quantitative and qualitative, that have relevance to the above practices. The major objectives are: (1) the improvement of the types and quality of the care delivered to patients with perceived medical emergencies and to victims of multi-casualty accidents or disasters, including the public health and safety aspects of such events; and (2) the prevention and/or mitigation of the occurrence of such events and of the effects of these events upon the human population and environment.

Editorial Office: Prehospital and Disaster Medicine, 3330 University Avenue, Suite 130, Madison, Wisconsin 53705, USA. Telephone: (+1) (608) 819-6604; Facsimile (+1) (608) 819-6055; E-mail: pdm@wadem.org

Publishing, Production, and Advertising Office: Cambridge University Press, 32 Avenue of the Americas, New York, NY 10013-2473, United States; USAdSales@cambridge.org.

Subscription Offices: (for USA, Canada, and Mexico) Cambridge University Press, 32 Avenue of the Americas, New York, NY 10013-2473, United States; (for UK and elsewhere) Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, UK.

2014 Subscription Information: *Prehospital and Disaster Medicine* (Print ISSN 1049-023X; Electronic ISSN 1945-1938) is published bimonthly in the months of February, April, June, August, October, and December by Cambridge University Press, 32 Avenue of the Americas, New York, NY 10013-2473, United States/Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, UK for the World Association for Disaster and Emergency Medicine. 2014 Annual subscription rates: Institutions print and electronic: US\$599.00 in the USA, Canada, and Mexico; UK£365.00+VAT elsewhere. Institutions electronic only: US\$442.00 in the USA, Canada, and Mexico; UK£270.00+VAT elsewhere. Individuals print and electronic: US\$182.00 in the USA, Canada, and Mexico; UK£111.00+VAT elsewhere. Individuals electronic only: US\$132.00 in the USA, Canada, and Mexico; UK£75+VAT elsewhere. Single Part: US\$109.81 in the USA, Canada, and Mexico; UK£66.91+VAT elsewhere. Prices include postage and insurance. Airmail or registered mail is extra. Back volume prices are available upon request.

Submissions: All manuscripts must be submitted through the Journal's online submission platform, ScholarOne Manuscripts, at <http://mc.manuscriptcentral.com/pdm>. Please review the Author Instructions and Author Checklist available online before finalizing a submission.

Indexing: National Library of Medicine (MEDLINE), Cumulative Index to Nursing and Allied Health (CINAHL), and Health Star Cumulative Index.

© World Association for Disaster and Emergency Medicine 2014. All rights reserved. No part of this publication may be reproduced, in any form or by any means, electronic, photocopying, or otherwise, without permission in writing from Cambridge University Press. Policies, request forms, and contacts are available at: <http://www.cambridge.org/rights/permissions/permission.htm>. Permission to copy (for users in the United States) is available from Copyright Clearance Center Transactional Reporting Service, 222 Rosewood Drive, Danvers, MA 01923, USA. <http://www.copyright.com>, email: info@copyright.com.

Printed in United States of America on acid-free paper.

Postmaster: Send address changes in the USA and Canada to *Prehospital and Disaster Medicine*, Subscription Department, Cambridge University Press, 100 Brook Hill Drive, West Nyack, NY 10994-2133, USA.

Periodical postage rate paid at New York, NY and additional mailing offices.

Call for Artwork

The cover design of *Prehospital and Disaster Medicine* calls for a photograph of relevant artwork.

If you have access to artwork that you think may be appropriate, please submit a high-resolution .TIF or .EPS file to:

Mona Johnson, Managing Editor
E-mail: mjohnson@wadem.org

All submissions will be evaluated by a panel of judges.
Items not selected will be returned to the sender.