

National Center for Health Statistics

Jack R. Anderson, *Acting Director*

Jennifer H. Madans, Ph.D., *Acting Deputy Director*

Jacob J. Feldman, Ph.D., *Associate Director for Analysis, Epidemiology, and Health Promotion*

Gail F. Fisher, Ph.D., *Associate Director for Planning and Extramural Programs*

Peter L. Hurley, *Associate Director for Vital and Health Statistics Systems*

Robert A. Israel, *Associate Director for International Statistics*

Stephen E. Nieberding, *Associate Director for Management*

Charles J. Rothweil, *Associate Director for Data Processing and Services*

Monroe G. Sirken, Ph.D., *Associate Director for Research and Methodology*

Preface

On May 18-20, 1994 the National Center for Health Statistics (NCHS) convened the first symposium of the International Collaborative Effort (ICE) on Injury Statistics. This symposium was co-sponsored by the National Institute of Child Health and Human Development (NICHD), National Institutes of Health.

The mission of the Injury ICE is to identify the problem(s) and propose solutions aimed at improving the quality and reliability of international statistics related to injury. In order to achieve the maximum benefits for participating researchers, the symposium brought together leading researchers from the United States and from 13 other countries to address the multiple issues related to the comparability of injury data.

The members of the ICE on Injury steering committee are from: the NCHS, Lois A. Fingerhut, Bob Hartford, Harry Rosenberg, Sue Meads; the National Center for Injury Prevention and Control (NCIPC), Lee Annet; the NICHD, Mary Overpeck; the Johns Hopkins Injury Prevention Center, Gordon Smith; and the WHO Working Group on Injury Surveillance and the Consumer Safety Institute in Amsterdam, Netherlands, Wim Rogmans.

This volume contains the papers presented at the symposium as well as the deliberations that took place in the various workshops.

Acknowledgments

Overall responsibility for planning and coordinating the content of these Proceedings was assumed by Lois A. Fingerhut, Special Assisumt for Injury Epidemiology, Office of Analysis, Epidemiology and Health Promotion, and Bob Ill,ford, Deputy Director, Office of International Statistics, National Center for llealth Statistics.

Many thanks to the individual authors and workshop chairs for their contributions to this volume. Each of the presentations is included as submitted by the respective authors. Individual comments should be addressed to them.

Publications management was provided by Thelma Sanders.

Participants

Interests are included after the address for those who provided the information.

*Anders ;kberg
Principal Administrative Officer
Centre for Epidemiology
National Board of Health and Welfare
S-106 30 Stockholm
SWEDEN

Interests: Surveillance, data analysis

*Duane Alexander, M.D.
Director
National Institute of Child Health and Human
Development
Building 31, Room 2A03
Bethesda, MD 20892

Jean Athey, Ph.D.
Director
Injury Prevention and EMSC Programs
Maternal and Child Health Bureau
Room 18-A-39
5600 Fishers Lane
Rockville, MD 20857

Tim Baker
621 North Washington Street
Baltimore, MD 21205

*Vita Barell
Head, Health Services Research Unit
Ministry of Health
The Gertner Institute
The Chaim Sheba Medical Center
Tel Hashomer 52621
ISRAEL

Interests: Injury surveillance; emergency room
information systems; Trauma registries; *outcome*
evaluation; Registry of effective prevention
programs; consumer product safety programs

*Henning Bay-Nielsen, M.D.
Syndhedsstyrelsen
National Health Council
P.O. Box 2020
1012 Copenhagen
DENMARK

Les R. Becker
Evaluation Manager
Division of Injury and Disability Prevention and
Rehabilitation
Department of Health and Mental Hygiene
State of Maryland
201 West Preston Street
Baltimore, MD 21201

BECK103W@WONDER.EM.CDC.GOV

Interests: Program Evaluation and data
needs: E-Coding; GIS

*Gerry Berenholz
Berenholz Consulting Associates
27 Locke Lane
Lexington, MA 02173

Interests: ICD-9-CM all disease, injury and
external cause codes; Coding rules and
guidelines; Perform coding validations and
analyze coded information; insurance billing
processes and DRG reimbursement

*Lars Berg, M.D.
Research Unit in Primary Health Care
Tibro Health Center
S-543 81 Tibro
SWEDEN

Interests: Surveillance, linkage, database design

Kathie Binysh, M.D.
Senior Medical Officer
Department of Health
Room 527
Wellington House
133-155 Waterloo Road
London SE1 8UG
ENGLAND

Ruth Brenner, M.D.
NICIID
6100 Executive Blvd. Room 7B03
Bethesda, MD 20892

Bill Carl
injury Prevention Unit
Minnesota Department of Health
717 SE Delaware Street
P.O. Box 9441
Minneapolis, MN 55440--9441

Interests: Suicide, child mat--treatment, sports
injury

*Erich M. Daub
Injury Prevention Program
Baltimore County Dept of Health
One Investment Place, 10th floor
Towson, MD 21204--4111

Interests: Surveillance (intentional/unintentional);
coding; mapping/geog.; Prevention

John Delargy, M.D.
Consumer Safety Unit
10/18 Victoria Street
London SW11 0NN
ENGLAND

Interests: Home and leisure accident prevention,
Special Studies

Alan Dellapenna
Injury prevention Specialist
Phoenix Area IHS
3738 N. 16th Street, Suite A
Phoenix, AZ 85016--5981

*Patricia C. Dischinger, Ph.D.
University of MD at Baltimore
MD Institute for Emergency Medical Services
National Study Center for Trauma
22 South Greene Street
Baltimore, MD 21201

Benjamin C. Duggar
Center for Health Policy Studies
9700 Patuxent Woods Drive, Suite 100
Columbia, MD 21046

John H. Ferguson, M.D.
Director, Office of Medical Applications of
Research
Office of the Director
National Institutes of Health
Federal Building, Room 618
Bethesda, MD 20892

Samuel Nana Fourjuoh
Center for Injury Research and Control
200 Lothrop Street - Room NE-560 MUII
Pittsburgh, Pa 15213

*Birthe Frimodt-Moller, M.D.
Syndhedsstyrelsen
National Health Council
P.O. Box 2020
1012 Copenhagen
DENMARK

Interests: Classifications, surveillance, utilization
of injury data for prevention

*Sue Gallagher
Children's Safety Network
Education Development Center, Inc.
55 Chapel Street
Newton, MA 02160

E-mail: SLrSANG@EDC.ORG

Interests: Surveillance, coding, minimum data
sets, child and adolescent injury prevention,
evaluation

*Herbert Garrison, M.D.
Center for injury Research and Control
University of Pittsburgh, MUH, Rm. NE-560
200 Lothrop Street
Pittsburgh, PA 15213-3170

Rosa Gofin, M.D.
Department of Social Medicine
Hadassah School of Public Health and Community
Medicine
P.O.B. 1172
Jerusalem 91010
ISRAEL

Interests: Injury surveillance; Outcome of
Injuries; Prevention program evaluation

Cathy Gotschall
National Children's Medical Center
Washington, DC 20010

*Yossi Harei, Ph.D.
Head, Medical Sociology Program
Bar Ilan University
Ramat Gan, 52900
ISRAEL

Interests: Childhood and adolescent injury; risk behavior; psychosocial cross-national comparisons; survey methodology in injury research

*Keith D. Harries, Ph.D.
(?hair
Department of Geography
University of MD
Social Sciences Building, Room 211
5401 Wilkens Avenue
Baltimore, MD 21228-5398

Joan Harris
National Highway Traffic Safety Administration
400 Seventh Street, SW
NPP-32
Washington, D.C., 20590

*James Harrison, Ph.D.
National Injury Surveillance Unit
Mark Oliphant Building
Laffer Drive, Science Park
5042 Bedford Park
AUSTRALIA

E-mail: NIJEIt@lq~INDERS.EDI_I.AU

Interests: Minimum data set for injury surveillance; Improved mortality surveillance, (through work with coroners); Technical aspects of inpatient morbidity (standards; definitions; achieving state to state comparability; etc.); Emergency room surveillance; Linkage (esp. of police mid hospital data for road injury); Severity measures; Injury inlonnation reporting methods(how to get the information to the right people, in useable forms); Special purpose injury registers (spinal cord injury); Monitoring national injury targets.

*Michael Hayes, Ph.D.
Project Director
Child Accident Prevention Trust
Clerks Court, 4th lqoor
18-20 Farringdon Lane
London EC1R 3AU
ENGLANI)

*Yvette Holder
PAHO/WHO Caribbean
Caribbean Epldemiology Center (CAREC)
P.O. Box 164
16,-18 Jmnai~t Blvd.
Port of Spain
TRINII(AI)

Interests: Surveillance, injury economics; quality of data

David It. Janda, M.D.
Director
Institute for Preventative Sports Medicine
P.O. Box 7032
Ann Arbor, MI 48107

Interests: Sports Injuries/Prevention

Lt. (7ol. Bruce tl. Jones, M.D.
Chief, Occupational Medicine Division
U.S. Army Research Institute of Environmental
Medicine
Natick, MA 01760--5007

Arthur L. Kellermann, M.I.).
Emory University
School of Public Health
Center for Injury Control
1462 Clifton Road, NE
Atlanta, GA 30322

Eilcen Kessler
U.S. Consumer Produce Safety Coinmission
Washington, DC 20207

Interests: Injuries and deaths (unintent., intent.);surveillance systems;in--depth investigation of injury events

*Jess Kraus, Ph.I.).
University of California, Los Angeles
School of Public Health
10833 I_e Conte Avenue
Los Angeles, CA 90024-1772

*John Langley, Ph.D.
Director, Injury Prevention Research Unit
University of Otago Medical School
P.O. Box 913
Dunedin
NEW ZEALANI)

*Jean A. Langlois, ScD
National Institute on Aging
Gateway Building
7201 Wisconsin Avenue, Suite 3C-309
National Institutes of Health
Bethesda, MD 20892

Liana Lescohier, Ph.D.
Assistant Director
Harvard Injury Control Center
Harvard School of Public Health
718 Huntington Avenue
Boston, MA 02115

*Andre L'Hours
Strengthening of Epidemiological and Statistical
Services
World Health Organization
1211 - Geneva - 27
SWITZERLAND

*Johan Lund
Director
Norwegian Safety Forum
P.O. Box 2473, Solli
N-0202 Oslo
NORWAY

Ronald Maio, M.D.
University of Michigan
Section of Emergency Medicine
Taubman Center, TC-B 1354.-.0303
1500 East Medical Center Drive
Ann Arbor, MI 48109.-.0303

Interests: Motor Vehicle Injury (Regional variation
and Medical care outcome), Alcohol and Injury;
Injury Control; Injury Severity Scoring/Scaling

*Sue Mallonee
Director, Injury Program
Oklahoma State Department of Health
Injury Epidemiology Division
1000 NE 10th Street
Oklahoma City, OK 73117-1209

Interests: Injury Surveillance, epidemiology and
program evaluation data linkage

Elizabeth McLoughlin, ScD
Director, San Francisco Injury Center
San Francisco General Hospital
Building 1, Room 400
San Francisco, CA 94110

Interests: Domestic violence, helmet laws,
cigarettes and fated fires

Angela Mickelaide
Safe Kids Campaign
111 Michigan Avenue, N.W.
Washington, DC 20010--2970

Nancy Macrina
The University of Alabama at Birmingham
School of Medicine
403 Community Health Services Building
Birmingham, AL 35294

Interests: Rehabilitation, E-coding, head injuries

Ted Miller, Ph.D.
NPSRI
8201 Corporate Drive
Landover, MD 20785

Martha Moore
Department of Health and Social Services
Emergency Medical Services
PO Box 110616
Juneau, Alaska 99811.--0616

Interests: Surveillance, data linkage, utilization of
injury data for prevention

*Mary Overpeck, Dr.P.H.
Epidemiologist
NICHD
6100 Executive Blvd. Room 7B03
Bethesda, MD 20892

Victoria Ozonoff, Ph.D.
Director of Health Resources Statistics
MA Department of Public Health
Bureau of Health Statistics and Research
150 Tremont Street
Boston, MA 02111

Juana Palma-Ulloa
Health Situation Analysis Program
Pan American Health Organization
525 23rd St. NW
Washington, DC 20037-2895

Donna Pickett
American Hospital Association
Central Office on ICD-9--CM
840 North Lakeshore Drive
Chicago, IL 60611

Louis Quatrano, Ph.D.
Chief
Center for Rehabilitation Medicine
Room 2A03
NICHD
Building 6100
Bethesda, MD 20892

Michael Rand
Bureau of Justice Statistics
633 Indiana Avenue, N.W.
Washington, DC 20531

Interests: Intentional injury, firearm injury,
mortality

Susan Reed
Department of Veterans Affairs
810 Vermont Avenue, NW
Washington, DC 20420

FAna Roberts
Pan American Health Organization
525 23rd St. NW
Washington, DC 20037-2895

Interests: Comparability of international statistics
(Mortality and morbidity); minimum data sets;
indicators

*Ian Rockett, Ph.D.
Department of Health Leisure and Safety
University of Tennessee at Knoxville
1914 Andy Holt Avenue
Knoxville, TN 37996--2700

Interests: Surveillance, mortality, data linkage

*Wim Rogmans, Ph.D.
Consumer Safety Institute
P.O. Box 75169
1070 AD Amsterdam
THE NETHERLANDS

*C.J. Romer, M.D.
Chief, Injury Prevention Program
World Health Organization
20, Avenue Appia
1211 Geneva
SWITZERLAND

Cleone Rooney, M.D.
Office of Population Censuses and Surveys
Medical Statistics Division
10 Kingsway
London WC2B 6JP
ENGLAND

Interests: Comparability and accuracy of mortality
data; suicide; international comparisons- cure
and prevention; record linkage and followback

Beatrice Rouse, M.D.
Substance Abuse and Mental Health Services
Administration
16--105 Parklawn Building
5600 Fishers Lane
Rockville, MD 20857

phone-301--443-8005
fax 301--443--9847
BROUSE@AOA2.SSW.DHHS.GOV

Interests: Injuries and deaths associated with
substance abuse, mental disorders, and violence;
epidemiology; and methodological issues such as
classification and coding rules and guidelines.

Carol W. Runyan, Ph.D.
Director, IPRC
University of North Carolina
Chapel Hill- CB 7505
Chapel Hill, NC 27599-7505

*George Rutherford, M.S.
U.S. Consumer Product Safety Commission
Epidemiology
Washington DC 20207

Interests: Unintentional injuries

Sue Ryan
Chief
Emergency Medical Services Division
National Highway Traffic Safety Administration
400 Seventh Street, SW
Washington, DC 20590

Interests: Out-of-hospital data, data linkage, GIS

Nancy Rytina
Division of Hazard Analysis
U.S. Consumer Product Safety Commission
Washington DC 20207

*Peter Scheidt, M.D.
Director
Department of General Pediatrics
National Childrens Medical Center
111 Michigan Avenue
Washington, DC 20010

Robert Schwartz, M.D.
Department of Medicine
Hartford Hospital
80 Seymour Street
Hartford, CT 06115

Interests: Ed surveillance; Documentation issues
(data acquisition); Computers in medicine
(computer based patient record); the clinician as
injury prevention specialist

*Greg Sherman, Ph.D.
Chief, Diseases of Infants and Children Division
Health Canada
46-LCDC Building
Tunney's Pasture
Ottawa ON KIA 0L2
CANADA

Interests: GIS, data analysis, database
design/linkage

*Gordon Smith, M.B., M.P.H.
Associate Professor
The Johns Hopkins University
Injury Prevention Center
624 North Broadway
Baltimore, MD 21205

*Richard J. Smith, M.S.
Injury Prevention Program Manager
Indian Health Service
610 Twinbrook Plaza Suite
12300 Twinbrook Parkway
Rockville, MD 20852

*Lorann Stallones, Ph.D.,
Associate Professor
Colorado State University
Department of Environmental Health
B120 Microbiology Building
Fort Collins, CO 80523

E-mail:
LSTALLONF~S@VINES.COLOSTATE.EDU

Interests: Rural/farm injuries (intentional and
unintentional); GIS

*David Stone, Ph.D.
Public Health Research Unit
University of Glasgow
Greater Glasgow Health Board
1 Lilybank Gardens
Glasgow G12 8RZ
SCOTLAND

Interests: GIS, data analysis, database
design/linkage

*Imif Svanstrom, Ph.D.
Karolinska Institute/Kronan Health
Centre, Department of Social Medicine
17283 Sunbyberg - Stockholm
SWEDEN

Alvin R. Tarlov, M.D.
The Health Institute
New England Medical Center, Box 345
750 Washington Street
Boston, MA 02111

Roger Trent, Ph.D.
Chief, Injury Surveillance and Epidemiology
Emergency Preparedness and Injury Control
Program
601 North 7th Street
PO Box 942732
Sacramento, CA 94234-7320

Internet RTRENT@I1W1.CAIIWNET.GOV

Interests: Injury surveillance; central nervous
system trauma; drowning; violence

Ann Trumbull, Ph.D.
Epidemiology Branch
Room 7B03
National Institute of Child Health and Human
Development
Building 6100
Bethesda, MD 20892

*Anne "l'ursz, M.D.
Scientific Director
International Children's Center
Chateau de Longchamps--Bois de Boulogne
F 75016 Paris
FRANCE

Interests: Childhood injury; long term
consequences of injuries; sports related injuries

Elinor Walker
Health Science Administrator
Agency for Health Care Policy and Research
Division of Technology and Quality Assessment
Center for General Health Services Extramural
Research
2101 East Jefferson Street
Suite 502
Rockville, MD 20852-4908

Craig Zwerling, M.I., Ph.D.
Deputy Director
Injury Prevention Research Center
University of Iowa
100 Oakdale Campus, #126 AMRF
Iowa City, IA 52242-5000

*Patricia F. Waller, Ph.D.
Director
University of Michigan Transportation Research
Institute
2901 Baxter Road, Room 154
Ann Arbor, Michigan 48109-2150

*William Walsh
Director
National Center for Statistics and Analysis
National Highway Traffic Safety Administration
Room 6125
400 Seventh Street, SW
Washington, DC 20590

Harold B. Weiss
Center for Injury Reduction and Control
Division of Emergency Medicine
MUTI-Room NE 560
3459 Fifth Avenue
Pittsburgh, PA 15213-3241

E- mail: WEISS@VAXA.MUH.UPM(71~DU

Interests: Surveillance, emergency department

Diane Willard
American Medical Association
515 North State Street
Chicago, IL 60610

*Pnina Zadka
Director, Health Division
Central Bureau of Statistics
Hakirya--Romema
PO Box 13015
Jerusalem 91130
ISRAEL

Interests: Mortality, morbidity, coding, data linkage

Centers for Disease Control and Prevention

CDC participants, on pages 14--15, are not alphabetized.

*David Satcher, M.D., Ph.D.
Director
Centers for Disease Control and Prevention
1600 Clifton Road NE
Atlanta, GA 30333

From the National Center for Health Statistics:
6525 Belcrest Road
Hyattsville, MD 20782

Office of the Director
*Manning Feinleib, M.D., Dr.P.H.
Director

Office of International Statistics
*Robert Israel, Associate Director
*Bob Hartford, Ph.D., Deputy Director
Paul Ahmed
*Jacqueline P. Davis
Sam Notzon, Ph.D.

Office of Analysis, Epidemiology and Health
Promotion
Jacob J. Feldman, Ph.D., Associate Director
*Lois A. Fingerhut, Special Assistant for Injury
Epidemiology

Interests: Childhood injury, injury resulting from
violence; cross-national comparisons

E-mail: LAF4@NCH07A.EM.CDC.GOV

Division of Epidemiology
Jennifer Madans, Ph.D., Director

Division of Health and Utilization Analysis
Harold Lentzner, Ph.D.
Deborah D. Ingrain, Ph.D.
Laura E. Montgomery

Interests: Child health, family violence,
socioeconomic indicators

Division of Health Promotion Statistics
John F. Seitz, Ph.D.

Office of Vital and Health Statistics Systems
Division of Vital Statistics
Mortality Statistics Branch
*Harry Rosenberg, Ph.D., Chief
Hsiang-Ching Kung, Ph.D.
Jim Spider

Division of Health Care Statistics
Edward W. Bacon, Ph.D., Director

Morbidity Classification Branch
Sue Meads, Chief
Perianne Lurie, M.D.

Hospital Care Statistics Branch
*Brenda Gillum

Interests: Childhood Injury Prevention; Coding
Issues; Computerization of coding systems

Division of Health Interview Statistics
Peggy R. Barker

Office of Planning and Extramural Programs
Gall F. Fisher, Ph.D., Associate Director

Office of Research and Methodology
Chuck Croner

Office of Data Processing and Services
Sandy Smith, Public Affairs Specialist

From the National Center for Injury Prevention and Control

4770 Buford Highway
Atlanta, GA 30341 (Mailstop F36)

Office of Statistics, Programming and Graphics
*Joseph L. Annett, Ph.D., Director

Interests: Mapping, injury statistics, firearm
injuries, coding, injury surveillance

Division of Unintentional Injury Prevention
Terry Chorba, M.D.
Julie Russel, Ph.D.

Interests: Motor vehicle related injury prevention,
data linkage, childhood injury prevention

Division of Violence Prevention
*Ken Powell, M.D.

Division of Acute Care, Rehabilitation Research,
and Disability Prevention (Mailstop E4-1)
Rick Waxweiler, Ph.D., Acting Director
*Dan Pollock, M.D.
David Thurman, M.D.

**From the National Center for Environmental
Health**

Atlanta, GA 30333 MailstopF35

Division of Environmental Hazards and Health

Effect

Roy T. Ing, M.D.

Surveillance and Programs Branch

*Gib Parrish, M.D., Chief

**From the National Institute for Occupational
Safety and Health**

*Nancy Stout, Ed.D.

Chief, Injury Surveillance Section

Division of Safety Research

944 Chestnut Ridge Road

Morgantown, WV 26505-2888

E-Mail NAS5@NIOSR1.EM.CDC.GOV

Interests: Occupational safety/injury; automated
coding software; child labor

* **Co-Author of paper or Co-Chair of
workshop**