

Acknowledgments

Unless otherwise noted, the affiliation is the Washington State Department of Health. Affiliations are at the time the individual wrote or reviewed the report.

Overall Lead:

Juliet VanEenwyk, PhD MS
State Epidemiologist, Non-Infectious
Conditions Epidemiology

Lillian Bensley, PhD

Acting State Epidemiologist, Non-
Infectious Conditions Epidemiology

Editors

Christiane Hale, PhD MPH
Contractor

Alice Porter, MSc
Contractor

Maps

Craig Erickson

Graphics, Report Layout, Web Design

Catherine O'Connor
Gary Brame
Sandra Moon

Administrative Assistance

Ramona Nelson

Section Coordinators/Chapter Authors and Reviewers

(First person noted is the primary author.)

The Context of Health

Section Lead: Juliet VanEenwyk, PhD MS

Section Overview

Authors:

Christiane Hale, PhD MPH
Kitsap County Health District
Juliet VanEenwyk, PhD MS

Reviewers:

Stephen Bezruchka, MD MPH
University of Washington
Isaac W. Eberstein, PhD
Florida State University
Nancy Krieger, PhD
Harvard School of Public Health

Washington: The State and Its People

Authors:

Christiane Hale, PhD MPH
Kitsap County Health District
Juliet VanEenwyk, PhD MS

Reviewers:

Stephen Bezruchka, MD MPH
University of Washington
Isaac W. Eberstein, PhD
Florida State University

Nancy Krieger, PhD
Harvard School of Public Health

Social and Economic Determinants of Health

Authors:

Marilyn Sitaker, MPH MS
Juliet VanEenwyk, PhD MS
Christiane Hale, PhD MPH
Kitsap County Health District

Reviewers:

Stephen Bezruchka, MD MPH
University of Washington
Isaac W. Eberstein, PhD
Florida State University
Nancy Krieger, PhD
Harvard School of Public Health

Socioeconomic Position in Washington

Authors:

Christiane Hale, PhD MPH
Kitsap County Health District
Juliet VanEenwyk, PhD MS

Reviewers:

Stephen Bezruchka, MD MPH
University of Washington
Isaac W. Eberstein, PhD
Florida State University
Nancy Krieger, PhD
Harvard School of Public Health

General Health Status

Section Lead: Mary LeMier, MPH

Section Overview

Author:

Mary LeMier, MPH
Juliet VanEenwyk, PhD MS
Joe Campo, MPH

Self-reported Health Status

Author:

Katrina Wynkoop Simmons, PhD MA

Reviewers:

Ruth B. Jiles, MS MPH PhD
Centers for Disease Control and Prevention
Melanie M. Payne, MPH
Clark County Public Health

Hospitalization

Authors:

Gary Blair, PhD
Mary LeMier, MPH
Ann Lima

Reviewers:

Dee Hahn
Washington State Department of Labor and
Industries
Denise Love
National Association of Health Data
Organizations

Mortality and Life Expectancy

Authors:

Joe Campo, MPH
Mary LeMier, MPH
Phyllis Reed, BA

Reviewers:

Frank James, MD
San Juan County Public Health
Mike Smyser, MPH
Public Health – Seattle & King County

People with Disabilities

Authors:

Tabitha Harrison, MPH
Susan Kinne, PhD
University of Washington

Reviewers:

Donald Lollar, EdD
Centers for Disease Control and Prevention
Paul Steven Miller, JD
University of Washington
Donald L. Patrick, PhD MSPH
University of Washington

Mental Health

Authors:

Mickey Kander, MPH MSW
Tory Henderson, BA
M. Patricia deHart, ScD
Cathy Wasserman, PhD

Internal Reviewer:

Lillian Bensley, PhD

External Reviewers:

Christopher Blodgett, PhD
Washington State University at Spokane
Judy Hall, PhD
Washington State Department of Social and
Health Services
Ron Jemelka, PhD
Mental Health Transformation Project

Oral Health

Authors:

Chara Chamie, MPH
Divesh Byrappagari, DDS MSD

Reviewers:

Forrest Peebles, DDS
DHHS/HRSA/OPR/Seattle Regional Division
Peg Terp, RDH MPH
Public Health – Seattle & King County

Major Risk and Protective Factors

Section Lead: Juliet VanEenwyk, PhD MS

Section Overview

Author:

Juliet VanEenwyk, PhD MS

Tobacco Use

Authors:

Mike Boysun, MPH
Cathy Wasserman, PhD

Internal Reviewers:
Susan Richardson, More Voices Inc.
Polly Taylor, CNM MPH ARNP
Nguyet Tran, MPH
Cathy Wasserman, PhD

External Reviewers:
Laurie Cawthon, MD MPH
Washington State Department of Social and Health Services
Paul Hunting, MPH
Centers for Disease Control and Prevention
Julie E. Maher, PhD
Multnomah County Health Department and Oregon Department of Human Services

Obesity and Overweight

Authors:
Kyle Unland, MS RD
Marcelle Thurston, MS RD CDE
Marilyn Sitaker, MPH MS
Cathy Wasserman, PhD

Internal Reviewers:
Polly Taylor, CNM MPH ARNP
Cathy Wasserman, PhD

External Reviewers:
S. Louise Carter, PhD
University of Washington

Heleen E. Dewey
Spokane Regional Health District
Laura Streichert, PhD MPH
University of Washington

Physical Activity

Authors:
James Kisse, BS
Kyle Unland, MS RD
Marilyn Sitaker, MPH MS

Reviewers:
Jane A. Moore, MD FACSM FAAP
Washington Coalition for Promoting Physical Activity

Robert D. Weathers, EdD
Seattle Pacific University

Nutrition

Authors:
Gaill Brandt
Amy Ellings
Marilyn Sitaker, MPH MS
Cathy Wasserman, PhD

Internal Reviewers:
Noelle Hartwick, MPH
Cynthia Huskey, RD CD
Angela Kemple, MS
Jean O'Leary, MPH
Diane Pilkey, RN MPH
Cathy Wasserman, PhD

External Reviewers:
Sue Nicholson Butkus, PhD RD
Washington State University
Donna B. Johnson, PhD RD
University of Washington

Alcohol Abuse and Dependence

Author:
Lillian Bensley, PhD

Reviewers:
Dennis M. Donovan, PhD
University of Washington
Barbara A. Lucenko, PhD
Washington State Department of Social and Health Services
David E. Nelson, MD MPH
Centers for Disease Control and Prevention
Felix I. Rodriguez, PhD
Washington State University

Drug Abuse and Dependence

Author:
Lillian Bensley, PhD

Internal Reviewer:
Polly Taylor, CNM MPH ARNP

External Reviewers:
Dennis M. Donovan, PhD
University of Washington
Barbara A. Lucenko, PhD
Washington State Department of Social and Health Services

David E. Nelson, MD MPH
Centers for Disease Control and Prevention
Felix I. Rodriguez, PhD
Washington State University

Sexual Behavior

Authors:
Maria Courogen, MPH
Todd Rime, MA

Reviewers:
Anne Meegan, MPH(c)
University of Washington
Hanne Thiede, DVM MPH
Public Health – Seattle & King County

Infectious Disease

Section Lead: Maria Courogen, MPH

Section Overview

Author:
Maria Courogen, MPH

Sexually Transmitted Infections

Author:
Mark R. Stenger, MA

Reviewers:
Maya Bhat, MPH
Clark County Public Health

David Fine, PhD
Center for Health Training

HIV/AIDS

Author:
Jason Carr, MPH

Reviewers:
Nigel Turner, RS MPH
Tacoma-Pierce County Health Department

Robert W. Wood, MD FACP
Public Health – Seattle & King County

Hepatitis (Focus on Hepatitis C)

Author:
Tom Jaenicke, MPH MBA MES

Reviewers:
Mark Springer
Spokane Regional Health District

Hanne Thiede, DVM MPH
Public Health – Seattle & King County

Childhood and Adult Immunizations

Author:
M. Patricia deHart, ScD

Reviewers:
Jay Fathi, MD
Swedish Medical Center
University of Washington
Edgar Marcuse, MD
Seattle Children's Hospital and Regional Medical Center

Tuberculosis

Author:
Alexa Exarchos, MPH

Reviewers:
Scott Lindquist, MD MPH
Kitsap County Health District
Christopher Spitters, MD MPH
Yakima County Health District

Emerging Infectious Disease

Author:
Marcia Goldoft, MD

Reviewers:
David Harrowe, MD
Tacoma-Pierce County Health Department

Diana T. Yu, MD MSPH
Thurston County Public Health and Social Services Department

Chronic Disease

Section Lead:
Amira El-Bastawissi, MBChB PhD

Section Overview

Author:
Amira-El-Bastawissi, MBChB PhD

Internal Reviewer:
Juliet VanEenwyk, PhD MS

External Reviewers:
William Likosky, MD
Swedish Medical Center
Cornelia (Neli) Ulrich, PhD
Fred Hutchinson Cancer Research Center

Coronary Heart Disease

Authors:
Miriam Patanian, MPH
Marilyn Sitaker, MPH MS

Reviewers:
William Murray, MD
Wenatchee Valley Medical Center
B. Fendley Stewart, MD
University of Washington

Stroke

Authors:
Miriam Patanian, MPH
Karen Krueger, RN MN MBA
Marilyn Sitaker, MPH MS

David Tirschwell, MD MSc
Harborview Neurology
University of Washington

Reviewers:
William Likosky, MD
Swedish Medical Center

W. T. Longstreth, Jr., MD MPH
University of Washington
Harborview Medical Center

Asthma

Authors:

Linda Gunnells, MSPH
Karen Krueger, RN MN MBA

Reviewers:

Robin Evans-Agnew, RN MN
American Lung Association of Washington

James Krieger, MD MPH
Public Health – Seattle & King County

Jim Stout, MD MPH
University of Washington
Odessa Brown Children's Clinic

Female Breast Cancer

Authors:

Cobie Whitten, PhD
Mahesh Keitheri Cheteri, PhD
Juliet VanEenwyk, PhD MS

Reviewers:

Michael A. Hunter, MD
Evergreen Radiation Oncology Center
Virginia Mason Medical Center

Dennis Peck, MD
CellNetix Pathology

Invasive Cervical Cancer

Authors:

Cobie Whitten, PhD
Mahesh Keitheri Cheteri, PhD
Juliet VanEenwyk, PhD MS

Reviewers:

Vivien Hanson, MD
University of Washington

Dennis Peck, MD
CellNetix Pathology

Colorectal Cancer

Authors:

Richard E. Hoskins, PhD MPH
Amira El-Bastawissi, MBChB PhD

Reviewers:

Peggy Hannon, PhD MPH
University of Washington

Cornelia (Neli) Ulrich, PhD
Fred Hutchinson Cancer Research Center

Lung Cancer

Author:

Kathryn Hughes, MPH

Reviewers:

David H. Au, MD MS
University of Washington
VA Puget Sound HCS, Seattle Division

Albert Brady, MD FACP
Cancer Institutes of Washington/
Washington Hematology-Oncology

Bruce Buchanan, MD
American Lake VA

Robin Evans-Agnew, RN MN
American Lung Association of Washington

H. Thomas Robertson, II, MD
University of Washington

Melanoma of the Skin

Authors:

Richard E. Hoskins, PhD MPH
Amira El-Bastawissi, MBChB PhD

Reviewers:

Robin L. Hornung, MD MPH
Seattle Children's Hospital and Regional
Medical Center

Emily White, PhD
University of Washington

Diabetes

Authors:

Sara Eve Sarliker, MPH
Marilyn Sitaker, MPH MS

Reviewers:

Heather Devlin, MA
Minnesota Department of Health

Linda B. Haas, PhD RN CDE
VA Puget Sound HCS, Seattle Division
University of Washington

Injury and Violence

Section Lead: Jennifer C. Sabel, PhD

Section Overview

Author:

Jennifer C. Sabel, PhD

Internal Reviewers:

Lillian Bensley, PhD
Mary LeMier, MPH
Ilene F. Silver, MPH
Kathy Williams, MS

External Reviewers:

Sue Eastgard, MSW
Youth Suicide Prevention Program
Beth Ebel, MD MSc MPH
Harborview Injury Prevention and
Research Center

Keri M. Lubell, PhD
Centers for Disease Control and Prevention
Sally York, MN RNC
NorthWest Orthopaedic Institute

Motor Vehicle Crashes

Authors:

Jennifer C. Sabel, PhD
Kathy Williams, MS

Internal Reviewer:

Diane Pilkey, RN MPH

External Reviewers:

Beth Ebel, MD MSc MPH
Harborview Injury Prevention and
Research Center

Tony Gomez, RS
Public Health – Seattle & King County

Steve Lind
Washington Traffic Safety Commission

Traumatic Brain Injury

Author:

Jennifer C. Sabel, PhD

Reviewers:

Traci Adair, MA
Aging and Disability Services Administration
Home and Community Services

Kathleen Bell, MD
University of Washington

Falls Among Older Adults

Authors:

Jennifer C. Sabel, PhD
Ilene F. Silver, MPH

Reviewers:

Anne Shumway-Cook, PT PhD
University of Washington

Judy A. Stevens, PhD
National Center for Injury Control and
Prevention

Sally York, MN RNC
NorthWest Orthopaedic Institute

Poisoning and Drug Overdose

Author:

Jennifer C. Sabel, PhD

Internal Reviewer:

Diane Pilkey, RN MPH

External Reviewers:

Caleb Banta-Green, MPH MSW
University of Washington

Leonard Paulozzi, MD MPH
National Center for Injury Control and
Prevention

Diana T. Yu, MD MSPH

Thurston County Public Health and Social
Services Department

Drowning

Authors:

Jennifer C. Sabel, PhD
Mary Borges

Reviewers:

Elizabeth Bennett, MPH CHES
Seattle Children's Hospital and Regional
Medical Center

Linda Quan, MD
Seattle Children's Hospital and Regional
Medical Center

Suicide

Authors:

Jennifer C. Sabel, PhD
Mary LeMier, MPH
Deborah Ruggles, MBA

Reviewers:

Sue Eastgard, MSW
Youth Suicide Prevention Program
Effie Malley, MPA
Education Development Center

Paul Quinnett, PhD
The QPR Institute, Inc.

Homicide

Authors:

Jennifer C. Sabel, PhD
Mary LeMier, MPH
Deborah Ruggles, MBA

Reviewers:

Steven J. Eckstrom, MSW
Washington State Department of Corrections

Keri M. Lubell, PhD
Centers for Disease Control and Prevention

Mary Miller
Families and Friends of Violent Crime Victims

Jenny Wieland
Families and Friends of Violent Crime Victims

Youth Violence

Author:

Lillian Bensley, PhD

Internal Reviewer:

Diane Pilkey, RN MPH

External Reviewers:
Roxanne Lieb, MPA
Washington State Institute for Public Policy
James A. Mercy, PhD
National Center for Injury Control and Prevention

Domestic Violence

Author:
Lillian Bensley, PhD
Internal Reviewer:
Diane Pilkey, RN MPH

External Reviewers:
Margaret Hobart, PhD
Washington State Coalition Against Domestic Violence
Leigh Nachmann Hofheimer, MA
Washington State Coalition Against Domestic Violence
Mary A. Kernic, PhD MPH
Harborview Injury Prevention and Research Center

Child Abuse and Neglect

Author:
Lillian Bensley, PhD
Internal Reviewer:
Diane Pilkey, RN MPH

External Reviewers:
Colette McCully, MEd
Childrens Administration
Joan Sharp, MNPL
Children's Trust of Washington

Maternal and Child Health

Section Lead:
Cathy Wasserman, PhD

Section Overview

Author:
Cathy Wasserman, PhD
Reviewer:
Riley Peters, PhD

Adolescent Pregnancy and Childbearing

Authors:
Diane Pilkey, RN MPH
Cynthia Harris, BA
Marla Russo, MPH
Katie B. Hutchinson, PhD MPH

Reviewers:
Laurie Cawthon, MD MPH
Washington State Department of Social and Health Services
Dennis McBride, PhD
University of Washington
Beth Reis
Public Health-Seattle & King County
Safe Schools Coalition

Unintended Pregnancy

Authors:
Cathy Wasserman, PhD
Cynthia Harris, BA
Todd Rime, MA

Reviewers:
Laurie Cawthon, MD MPH
Washington State Department of Social and Health Services

Jane Hutchings, MPH
Program for Appropriate Technology in Health (PATH)

Dana L. Zaichkin, RN MN MHA
Pacific Lutheran University

Singleton Low Birth Weight

Authors:
Cathy Wasserman, PhD
Jeanette Zaichkin, RNC MN

Reviewers:
Laurie Cawthon, MD MPH
Washington State Department of Social and Health Services
Michael D. Neufeld, MD MPH
Providence Everett Medical Center NICU
University of Washington
Charles R. Torrence, RNC NNP MS CCRN
Southwest Washington Medical Center

Infant Mortality

Authors:
Cathy Wasserman, PhD
Diane Pilkey, RN MPH
Jeanette Zaichkin, RNC MN

Reviewers:
Kathy Carson, RN
Public Health – Seattle & King County
Laurie Cawthon, MD MPH
Washington State Department of Social and Health Services
Thomas P. Strandjord, MD
University of Washington

Children and Youth with Special Health Care Needs

Authors:
Teresa Vollan, MPH
Stacey De Fries, MSW

Reviewers:
Laurie Cawthon, MD MPH
Washington State Department of Social and Health Services
John M. Neff, MD
Seattle Children's Hospital and Regional Medical Center
University of Washington
Debra Read, MPH
Oregon Health and Science University
Glenn C. Tripp, MD FAAP
Mary Bridge Children's Hospital and Health Center

Environmental Health

Section Leads:
Judy Bardin, ScD MS BSN RN
Laurie M. Anderson, PhD MPH

Section Overview

Author:
Jim VanDerslice, PhD

Drinking Water Quality

Authors:
Jim VanDerslice, PhD
Linda Waring, MS BS
Richard Pedlar, BA RS
Chris McCord, BS

Reviewers:
Barbara A. Sullivan, BA
City of Redmond, Washington
Public Works Department of Natural Resources
Janet Sailer, MA BS
Sammamish Plateau Water and Sewer District

Foodborne Illnesses

Author:
Dave Gifford, BS RS
Reviewers:
Charles A. Bartleson, BS MPH
Bartleson Food Safety Consultants, Inc.
L. Darrell Cochran, RS MES
Thurston County Public Health and Social Services Department

Shellfish Safety

Author:
Bob Woolrich, BS RS
Reviewers:
Michael Antee, MS RS
U.S. Food and Drug Administration
Pacific Region
Gregg W. Langlois, MS BS
California Department of Health Services

Pesticide-Related Illness and Injury

Author:
Glen Patrick, MPH BS
Reviewers:
Ann Wick
Washington State Department of Agriculture
Alice C. Larson, PhD
Work Group on Pesticide Health and Safety

Outdoor (Ambient) Air Quality

Author:
Judy Bardin, ScD MS BSN RN
Reviewers:
Matthew Kadlec, PhD BS
Washington State Department of Ecology
Jane Q. Koenig, PhD MS BS
University of Washington

Indoor Air Quality

Authors:
Denise Laflamme, MS MPH
Laura White, BS RS
Steven C. Macdonald, PhD
Mike Boysun, MPH
Reviewers:
Harriet Ammann, PhD DABT
University of Washington
Washington State Department of Ecology (retired)
David L. Blake, MSc BS
Northwest Clean Air Agency
Eric E. Dickson, BS
ESD 101
Aileen Gagney, MA MFA
American Lung Association of Washington

Other Issues in Environmental Health

Authors:
Judy Bardin, ScD MS BSN RN
Denise Laflamme, MS MPH
Jim VanDerslice, PhD

Acknowledgments
updated: 07/08/2008

The Health of Washington State, 2007
Washington State Department of Health

Jim W. White, PhD
Lynn Albin, BS
Wayne Clifford, BS
Mark Soltman, BS
Gary Fraser, MS
Anne Duffy, BS

Reviewers:

Kevin Barry, BS RS
Klickitat County Public Health
Marc Marquis, JD BS REHS
Chelan-Douglas Health District
James Matsuyama, BS RS
Northeast Tri County Health District

Children's Environmental Health

Authors:

Denise Laflamme, MS MPH
Joanne Bonnar Prado, MPH
Jim VanDerslice, PhD
Eric Ossiander, MS
Jim W. White, PhD

Reviewers:

Harriet Ammann, PhD DABT
University of Washington
Washington State Department of Ecology
(retired)
Catherine Karr, MD PhD
University of Washington
Steven G. Gilbert, PhD DABT
Institute of Neurotoxicology & Neurological
Disorders

Occupational Health

(Unless otherwise noted, the authors in
this section work for the Washington State
Department of Labor and Industries)

Section Lead: David Bonauto, MD MPH

Section Overview

Author:

David Bonauto, MD MPH

Reviewers:

Marty Cohen, ScD CIH
University of Washington
Barbara Materna, PhD CIH
California Department of Health Services

Fatal Occupational Injuries

Author:

Peregrin Spielholz, PhD CPE CSP

Reviewers:

Marty Cohen, ScD CIH
University of Washington
Barbara Materna, PhD CIH
California Department of Health Services

Non-fatal Occupational Injury

Author:

David Bonauto, MD MPH

Reviewers:

Marty Cohen, ScD CIH
University of Washington
Barbara Materna, PhD CIH
California Department of Health Services

Health Care Services

Section Leads:

Linda Furkay, PhD RN
Mary LeMier, MPH

Section Overview

Authors:

Zeynep A. Shorter, PhD MPH
Mary LeMier, MPH

Health Care Services Infrastructure

Authors:

Zeynep A. Shorter, PhD MPH
Dan Rubin, MPP
CHOICE Regional Health Network

Reviewers:

Vince Schueler, MBA
Washington State Government Management
Accountability and Performance
Greg Vigdor, JD MHA
Washington Health Foundation

**Access to Primary Health Care
Services**

Authors:

Zeynep A. Shorter, PhD MPH
Dan Rubin, MPP
CHOICE Regional Health Network

Reviewers:

Vince Schueler, MBA
Washington State Government Management
Accountability and Performance
Greg Vigdor, JD MHA
Washington Health Foundation

**Medical Homes for Children and
Adults**

Author:

Teresa Vollan, MPH

Reviewers:

John M. Neff, MD
Seattle Children's Hospital and Regional
Medical Center
Kate Orville, MPH
Washington State Medical Home Leadership
Network

**Access to Prenatal and
Preconception Care**

Authors:

Cathy Wasserman, PhD
Polly Taylor, CNM MPH ARNP

Reviewers:

Thomas R. Easterling, MD
University of Washington
Sylvia Wood, MSN
Pacific Lutheran University

**Dental X-ray and Mammography
Safety**

Authors:

Ellen G. Haars, PhD
Denise Laflamme, MS MPH
Terry C. Frazee, MS

Reviewers:

Karen Farris, BS RT(R)(M)(QM)
Massachusetts Department of Public Health
David C. Spelic, PhD
U.S. Food and Drug Administration
Mary Ann Spohrer, BS MA
Illinois Emergency Management Agency

Washington's Trauma System

Authors:

Steve Bowman, PhD
Kathy Schmitt

Reviewers:

Gregory J. (Jerry) Jurkovich, MD FACS
Harborview Medical Center
Cynthia Markus, MD
Providence Everett Medical Center