

This book is out of print. For current reviews, visit www.thecommunityguide.org

The Guide to Community Preventive Services

This book is out of print. For current reviews, visit www.thecommunityguide.org

The Guide to Community

This book is out of print. For current reviews, visit www.thecommunityguide.org

Preventive Services

What Works to Promote Health?

Task Force on Community Preventive Services

Stephanie Zaza, Project Co-Director

Peter A. Briss, Project Co-Director

Kate W. Harris, Managing Editor

OXFORD
UNIVERSITY PRESS

2005

OXFORD
UNIVERSITY PRESS

This book is out of print. For current reviews, visit www.thecommunityguide.org

Oxford New York
Auckland Bangkok Buenos Aires Cape Town Chennai
Dar es Salaam Delhi Hong Kong Istanbul Karachi Kolkata
Kuala Lumpur Madrid Melbourne Mexico City Mumbai Nairobi
São Paulo Shanghai Taipei Tokyo Toronto

Copyright © 2005 by Oxford University Press

Published by Oxford University Press, Inc.
198 Madison Avenue, New York, New York 10016
<http://www.oup.com>

Oxford is a registered trademark of Oxford University Press

The format and design of this publication may not be reproduced
by any means without the prior permission of Oxford University Press.
The text was produced by the Centers for Disease Control and Prevention,
U.S. Department of Health and Human Services, and is in the
public domain.

Library of Congress Cataloging-in-Publication Data

The guide to community preventive services : what works to promote health? / Task Force
on Community Preventive Services ; edited by Stephanie Zaza, Peter A. Briss, Kate W. Harris.
p. cm.

Includes bibliographical references and index.

ISBN-13 978-0-19-515108-4; 978-0-19-515109-1 (pbk.)

ISBN 0-19-515108-9; 0-19-515109-7 (pbk.)

1. Community health services—United States. 2. Preventive health services—United States.

3. Health promotion—United States. I. Zaza, Stephanie. II. Briss, Peter A.

III. Harris, Kate W. IV. Task Force on Community Preventive Services (U.S.)

RA445.G785 2005

362.1'0425'0973—dc22 2004050129

9 8 7 6 5 4 3 2 1

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

Task Force on Community Preventive Services

CHAIR

Jonathan E. Fielding, MD, MPH, MBA (Member since 1996;
Chair since 2001)
Los Angeles Department of Health Services
Los Angeles, California

MEMBERS

Ross Brownson, PhD (1996–2003)
St. Louis University School of Public Health
St. Louis, Missouri

Patricia A. Buffler, PhD, MPH (1996–2001)
School of Public Health
University of California, Berkeley

Noreen Morrison Clark, PhD (2003–present)
University of Michigan School of Public Health
Ann Arbor, Michigan

John Clymer (2002–present)
Partnership for Prevention
Washington, D.C.

Mary Jane England, MD (1996–2001)
Regis College
Weston, Massachusetts

Caswell A. Evans, Jr., DDS, MPH (Chair of the Task Force, 1996–2001)
National Oral Health Initiative, Office of the U.S. Surgeon General
Rockville, Maryland

David W. Fleming, MD (1996–2000)
The Gates Foundation
Seattle, Washington

Mindy Thompson Fullilove, MD (1996–2004)
New York State Psychiatric Institute and Columbia University
New York, New York

Fernando A. Guerra, MD, MPH (1996–2002)
San Antonio Metropolitan Health District
San Antonio, Texas

Alan R. Hinman, MD, MPH (1996–present)
Task Force for Child Survival and Development
Atlanta, Georgia

George J. Isham, MD (1996–2004)
HealthPartners
Minneapolis, Minnesota

Robert L. Johnson, MD (2003–present)
New Jersey Medical School, Department of Pediatrics
Newark, New Jersey

Garland H. Land, MPH (1997–present)
Missouri Department of Health
Jefferson City, Missouri

Charles S. Mahan, MD (1996–2002)
University of South Florida College of Public Health
Tampa, Florida

Patricia Dolan Mullen, DrPH (1996–2004)
University of Texas–Houston School of Public Health
Houston, Texas

Patricia A. Nolan, MD, MPH (2001–present)
Rhode Island Department of Health
Providence, Rhode Island

Dennis E. Richling, MD (2002–present)
Union Pacific Railroad
Omaha, Nebraska

Barbara K. Rimer, DrPH (2003–present)
School of Public Health, University of North Carolina
Chapel Hill, North Carolina

Susan C. Scrimshaw, PhD (1996–2003)
University of Illinois School of Public Health
Chicago, Illinois

Steven M. Teutsch, MD, MPH (2001–present)
Merck & Company, Inc.
West Point, Pennsylvania

Robert S. Thompson, MD (1996–2003)
Group Health Cooperative of Puget Sound
Seattle, Washington

CONSULTANTS

Robert S. Lawrence, MD (1996–present)
Bloomberg School of Public Health
Johns Hopkins University
Baltimore, Maryland

J. Michael McGinnis, MD (1996–present)
Robert Wood Johnson Foundation
Princeton, New Jersey

Lloyd F. Novick, MD, MPH (1996–present)
Onondaga County Department of Health
Syracuse, New York

Sylvie Stachenko, MD, Msc (1996–1999)
Health Canada
Ottawa, Ontario

Steven M. Teutsch, MD, MPH (1998–2001)
Merck & Company, Inc.
West Point, Pennsylvania

This book is out of print. For current reviews, visit www.thecommunityguide.org

Foreword

It is a great pleasure to present this landmark first edition of *The Guide to Community Preventive Services (Community Guide)*. This *Community Guide* is the product of eight years of work by the Task Force on Community Preventive Services. At its inception in 1996, the Task Force was charged with developing recommendations for interventions that promote health and prevent diseases in our nation's communities and healthcare systems. These recommendations were to be based on systematically derived scientific evidence of their effectiveness. At that time, some deemed the task impossible and maintained that complex community-based interventions could not be evaluated systematically, would not stand up to scientific scrutiny, and could not benefit from focusing on what works. In contrast to those reservations, the *Community Guide's* research into scientific studies has illuminated and helped clarify what we know about what works to promote health and prevent disease, and what we still need to learn. The *Community Guide* is a credible, practical, and essential reference. It is important for helping public health, healthcare provider, academic, business, community planning and advocacy, and research audiences select effective interventions for their communities and for expanding the science base underlying public health practice.

The work of this Task Force follows in the footsteps of the U.S. Preventive Services Task Force, which developed and continues to update the *Guide to Clinical Preventive Services*. The *Clinical Guide* is an important reference providing recommendations for clinical (i.e., individual) prevention interventions. The *Community Guide* complements this work and recommends interventions to improve the performance of healthcare systems; interventions implemented in community settings such as schools, worksites, and community organizations; and interventions applied to entire communities (e.g., laws, regulations, enforcement, mass media, and environmental changes). Together, these two guides provide recommendations that address the needs of both our health and public health systems.

The Task Force on Community Preventive Services is ably supported by staff at the Department of Health and Human Services (led by HHS's Centers for Disease Control and Prevention), other federal agencies, major health organizations, state and local health departments, managed care and other healthcare delivery organizations, academic centers, and voluntary organizations. These broad collaborations are essential to ensure that the approach taken in each chapter—the interventions selected for review, the reviews of

evidence, and the recommendations—are accurate, meaningful, and useful. I congratulate the Task Force for this productive collaboration and the example it sets for all of us as we work to improve our nation’s health and well-being.

As a nation, we have set challenging goals for improving the health of all Americans. Only by working together—as clinicians, healthcare executives, employers, public health professionals, researchers, policymakers, and community health workers—will we meet those sweeping goals. *The Guide to Community Preventive Services* will surely help us move toward a healthier nation and world, and I recommend this report to all of you.

Julie Louise Gerberding, MD, MPH
Director, Centers for Disease Control and Prevention

Preface

What do we know, how do we know it, and how can we use what we know to improve the public's health? These questions sparked the creation of the Task Force on Community Preventive Services.

Anybody who makes or influences decisions that can affect the health of populations deserves ready access to the best evidence on what works, for what purpose, and at what cost, in order to make good choices among policies and to consider alternative uses of resources. This perceived need in personal healthcare led to the establishment of the U.S. Preventive Services Task Force and similar efforts to make available the best scientific evidence to support decisions in various fields of medicine. Fundamental to all of these efforts was the development of standard approaches to search the literature for evidence; to identify and synthesize the subset of best evidence; and to translate it into specific recommendations for practitioners.

Despite the success of this approach in improving medical care, some doubted whether a complementary effort to assess interventions aimed at populations could succeed. Did high quality evidence exist in the broad domain that constitutes public health? If so, could that evidence be harnessed to support decision making?

In 1996, the Department of Health and Human Services (HHS) acknowledged these concerns and committed to assessing and improving the quality of knowledge about what works to improve population health by establishing the Task Force on Community Preventive Services. This action placed a solemn responsibility in the hands of a 15-member panel of experts and established a special relationship between the Task Force and the Centers for Disease Control and Prevention (CDC), an agency of HHS. CDC provides the research teams that gather and evaluate evidence on the effectiveness of a wide array of public health interventions; the Task Force reviews this evidence and uses it to make decisions and recommendations. Other federal agencies, voluntary organizations, and many national experts also make important contributions to fulfilling the charge of the Task Force. CDC and other partners also are working to ensure the wide dissemination and use of the results.

This book, a milestone reflecting important new work, is but one aspect of the combined work of the Task Force, CDC, and our many partners. Over the past eight years, we have learned much about which public health interventions are effective, but to do this we had to develop credible, reproducible methods to amass and weigh evidence. First, we developed, tested, and re-

fined a standard methodology to search for and sift through evidence from a wide range of studies reflecting many disciplinary perspectives. Second, the Task Force determined which topics and interventions to address initially, according to the perceived value to practitioners and decision makers. Third, we applied the methods to topics as diverse as immunization, physical activity, diabetes, motor vehicle occupant safety, and housing. Fourth, we developed an approach to translating the evidence into recommendations. Not only were we interested in reaching conclusions, we also wanted to help provide methods that others could use in similar pursuits.

The material found in this guide, in related publications, and on our website, provides a transparent record that allows users to evaluate, from their own perspectives, the credibility and prudence of the recommendations.

The Task Force makes recommendations when enough good quality evidence is available. Unfortunately, in many areas the available evidence is sparse. A major benefit of our efforts in developing the guide has been our ability to identify the gaps in our knowledge. Expanding public health research is critical to improving health and reducing health disparities in the future. The research needs reflected by this process assist CDC and others in deciding what kinds of research to support. Over time, use of this research agenda can lead to better evidence and can provide answers that support sound public health policy.

This first edition of the guide summarizes an enormous body of work, yet it is just the beginning of a longer journey. Continued investment will be needed, as we move ahead in our exploration of the topics already chosen, addressing new interventions and, as evidence becomes available, updating our findings.

The authors wish to acknowledge the enormous contributions of all who have participated in this collective effort. We thank you, and hope that you will continue to work with us as we pursue our goals of contributing to improving the health of all Americans and reducing the persistent health disparities that affect our communities.

Jonathan E. Fielding, MD, MPH, MBA
Chair, Task Force on Community Preventive Services

Acknowledgments

This book is the result of years of research, conducted by many people. From those who first proposed the idea of a Guide to Community Preventive Services in the early 1990s to those who continue to work every day to expand the science base of the *Community Guide*, we express our thanks. If we left anyone off this list, our sincere apologies.

EARLY CONTRIBUTORS TO THE FORMATION OF THE COMMUNITY GUIDE

Claude Earl Fox, MD, MPH—Johns Hopkins Urban Health Institute, Baltimore, MD

Kristine M. Gebbie, DrPH, RN—Columbia University, New York, NY

Catherine Gordon, MD—Centers for Disease Control and Prevention, Washington, DC

William Harlan—National Institute of Mental Health, Bethesda, MD

Alan R. Hinman, MD, MPH—Task Force for Child Survival and Development, Atlanta, GA

Douglas B. Kamerow, MD, MPH—Editor, *BMJ USA*

Douglas S. Lloyd, MD, MPH—Health Resources and Services Administration, Bureau of Health Professions, Rockville, MD

J. Michael McGinnis, MD—Robert Wood Johnson Foundation, Princeton, NJ

David Satcher, MD, PhD—National Center for Primary Care, Morehouse School of Medicine, Atlanta, GA

Steven M. Teutsch, MD, MPH—Merck & Co. Inc., West Point, PA

Randy Wykoff, MD, MPH, TM—Project HOPE, Millwood, Virginia (formerly Deputy Assistant Secretary for Health—Disease Prevention and Health Promotion)

INTERNAL CDC EXECUTIVE ADVISORY COMMITTEE

Edward L. Baker, MD, MPH—Current affiliation, Public Health Leadership Institute, University of North Carolina

Claire V. Broome, MD

Jeffrey R. Harris, MD, MPH—Current affiliation, University of Washington

Dixie E. Snider, Jr., MD, MPH

Stephen B. Thacker, MD, MSc

CDC WORKGROUP ON THE *COMMUNITY GUIDE*

Lynda A. Anderson, PhD
Sevgi O. Aral, PhD
Peter A. Briss, MD, MPH
Blake Caldwell, MD, MPH
Nancy E. Cheal, PhD
José F. Cordero, MD, MPH
Scott D. Deitchman, MD, MPH
Alan R. Hinman, MD, MPH
Deane A. Johnson
Wilma Johnson, MS
Alison Kelly, MPA
Richard Keenlyside, MD
Kenneth G. Keppel, PhD
Raymond M. (Bud) Nicola, MD, MHSA
Phil Nieburg, MD, MPH
Marguerite Pappaioanou, DVM, PhD
Joseph A. Reid, PhD
John S. Santelli, MD, MPH
Steven L. Solomon, MD
Daniel M. Sosin, MD, MPH
Janet Stansell
Terrie Stirling, PhD

SENIOR ADVISORS

Michael H. Hennessey, PhD, MPH
David V. McQueen, ScD—National Center for Chronic Disease Prevention and Health Promotion, CDC
Lance E. Rodewald, MD—National Immunization Program, CDC
David A. Sleet, PhD, MA—National Center for Injury Prevention and Control, CDC
Michael A. Stoto, PhD—RAND, Arlington, VA
Steven M. Teutsch, MD, MPH—Merck & Co., Inc., West Point, PA

TASK FORCE LIAISONS CURRENT AND PAST

Jacqelyn Admire-Borgelt, MSPH—American Academy of Family Physicians, Leawood, KS
J. Frederick Agel—National Association of Local Boards of Health, Atlanta, GA

- David Atkins, MD, MPH—Agency for Healthcare Research and Quality, Rockville, MD
- Ronald Bialek, MPP—Public Health Foundation, Washington, DC
- Hudson H. Birden, Jr., MPH—Northern Rivers University Department of Rural Health, University of Sydney, Australia
- Daniel S. Blumenthal, MD, MPH—Association of Teachers of Preventive Medicine
- Mary B. Burdick, PhD, RN—Department of Veterans Affairs, Durham, NC
- Bill Calvert, MS, MPH, MBA—U.S. Navy Environmental Health Center, Portsmouth, VA
- Joseph Chin, MD, MS—Centers for Medicare and Medicaid Services, Baltimore, MD
- Nathaniel Cobb, MD—Indian Health Service, Albuquerque, NM
- Arthur B. Elster, MD—American Medical Association
- Jessie Gruman, PhD—Center for the Advancement of Health, Washington, DC
- Tom Houston, MD—American Medical Association
- James D. Leeper, PhD—American Public Health Association
- Rose Martinez, ScD—Institute of Medicine, Washington, DC
- Robert J. McNellis, MPH, PA-C—American Academy of Physician Assistants, Alexandria, VA
- Emmeline Ochiai, MPH—Office of Disease Prevention and Health Promotion, Washington, DC
- Bob Rehm, MBA—American Association of Health Plans, Washington, DC
- Jordan H. Richland, MPH—American College of Preventive Medicine, Washington, DC
- Elizabeth S. Safran, MD, MPH—American Association of Public Health Physicians
- Ruth Sanchez-Way, PhD—Substance Abuse and Mental Health Services Administration, Rockville, MD
- James H. Scully, Jr., MD—National Association of State Mental Health Program Directors
- Harrison Spencer, MD—Association of Schools of Public Health, Washington, DC
- Col. Linda Spencer, PhD, RN—U.S. Army
- Kristy Straits-Troster, PhD—V.A. National Center for Health Promotion and Disease Prevention, Durham, NC
- Jonathan B. VanGeest, PhD—American Medical Association
- Martina Vogel-Taylor, MT(ASCP)—National Institutes of Health, Bethesda, MD
- Deborah Willis-Fillinger, MD, MPH—Health Resources and Services Administration, Rockville, MD
- Steven H. Woolf, MD, MPH—American College of Preventive Medicine, Fairfax, VA

OTHER COMMUNITY GUIDE PARTNERS

Scott Grosse, PhD—Centers for Disease Control and Prevention

Kenji Hayashi, MD—Institute of Public Health, Japan

Hazel K. Keimowitz, MA—retired from Agency for Healthcare Research and Quality

Sally Herndon Malek, MPH—North Carolina Department of Health and Human Services, Raleigh

James L. Nichols, PhD—retired from National Highway Transportation Safety Administration, Washington, DC

C. Tracy Orleans, PhD—Robert Wood Johnson Foundation

Deborah S. Porterfield, MD, MPH—Department of Social Medicine, University of North Carolina at Chapel Hill

CONSULTANTS FOR THE SYSTEMATIC REVIEWS

Each team of consultants is listed at the end of the chapter to which they lent their expertise.

COMMUNITY GUIDE STAFF—CURRENT

Peter A. Briss, MD, MPH (Branch Chief—*Community Guide*)

Sajal K. Chattopadhyay, PhD (Branch Chief—Prevention Effectiveness)

Brad Myers, MPH

Laurie M. Anderson, PhD, MPH

Roy C. Baron, MD, MPH

Carolyn Beeker, PhD

Dawna S. Fuqua-Whitley, MA

Robert A. Hahn, PhD, MPH

Kate W. Harris, BA

David P. Hopkins, MD, MPH

Gail R. Janes, PhD, MS

Stella Kozlova, MPH

Amy Lovvorn, MPH

Angela K. McGowan, JD, MPH

Tarra K. McNally, MA, MPH

Tony Pearson-Clarke, MS

Cornelia K. White, PhD

Gail A. Wilson

**OTHER AUTHORS, RESEARCHERS, AND STAFF WHO HAVE BEEN
PART OF THE COMMUNITY GUIDE INITIATIVE**

Georgina Agyekum, MPH
 Femi Alao, PhD
 Tara J. Balsley, MPH
 Oleg Bilukha, MD, PhD
 Rosalind Breslow, PhD, MPH
 S. Scott Brown, MPH
 William Callaghan, MD
 Vilma G. Carande-Kulis, PhD, MS (Branch Chief—Prevention Effectiveness:
 2001–2004)
 Linda Carnes, DrPA
 Juanita Chukwara
 Joan Cioffi, PhD
 Phaedra Corso, PhD
 Debjani Das, MPH
 Tanisha Denny, MPH
 Tho Bella Dinh-Zarr, PhD, MPH
 April Dixon
 Erica Dunbar, MPH
 Randy W. Elder, PhD
 Erin Finley, BA
 Adele Franks, MD
 Nisha Gandhi, MPH
 Prethibha George, MPH
 Lynn Gibbs, MPH
 Kathleen Green-Raleigh, PhD
 Kathy W. Grooms, BS
 Prakash L. Grover, PhD, MPH
 Donna Higgins, PhD
 Krista Hopkins, MPH
 Angela B. Hutchinson, PhD
 Kimberly Jackson-Smith, PhD
 Lisa Jeannotte, MA
 Evelyn Johnson, PhD
 Ping Johnson, MD, PhD, CHES
 Emily B. Kahn, PhD, MPH
 Karol Kumpfer, PhD
 Amy Levinson
 Jessica Lowy, MPH, CHES

Cynthia C. Lyons
Mike V. Maciosek, PhD
Rika Maeshiro, MD, MPH
Julie M. Magri, MD, MPH
Melissa McPheeters, PhD, MPH
Wasseem Mina, MA
Gerald A. Mumma, PhD
Serigne Ndiaye, PhD
Phyllis J. Nichols, MPH
Enrique Nieves, MS (Deputy Branch Chief—*Community Guide*: 2001–2003)
Susan L. Norris, MD, MPH
Marguerite Pappaioanou, DVM, PhD (Branch Chief, *Community Guide*: 1996–
1999)
Jeri D. Pickett, MS
Mummy Warda Rajab, MS
Leigh T. Ramsey, PhD
Vicki Rathel
David Rebanal, MPH, CHES
Connie Ricard, MPH, CHES
Kristi Riccio, CHES
Idania Rodriguez
J. Niels Rosenquist, BS
Joseph (Jay) Roth, MPH
Joseph St. Charles, MPA
Elena Saldanha, BS
Mona Saraiya, MD, MPH
Amanda Schofield, MPH
Julie Schuitema, MPH, MSW
Cheryl L. Scott, MD, MPH
Detrice Sherman, MPH
Carolynne Shinn, MS
Ruth A. Shults, PhD, MPH
Pomeroy Sinnock, PhD
Lynne T. Smith, PhD, MPH, RD
Nancy Smith, MHPA
S. Jay Smith, MIS, MS
Susan R. Snyder, PhD
Jonathan Stevens
Glenda A. Stone, PhD
Iddrisu Sulemana, MPH
Bernice Tannor, MPH
Craig Thomas, PhD

This book is out of print. For current reviews, visit www.thecommunityguide.org

Benedict I. Truman, MD, MPH

Karen Taylor Valverde, MA

Julie A. Wasil

Carla D. Waye

Lori L. Westphal, MA, MPH

Linda Wright-De Agüero, PhD, MPH

Linda C. Yarbrough, BS

Patrice Young-Curtis, MSHCA

Stephanie Zaza, MD, MPH (Branch Chief—*Community Guide*: 1999–2003)

This book is out of print. For current reviews, visit www.thecommunityguide.org

Contents

Conventions Used in This Book	xxiii
Introduction: How to Use <i>The Guide to Community Preventive Services</i>	xxv

Part I: Changing Risk Behaviors and Addressing Environmental Challenges

1	Tobacco	3
	<i>Reducing Initiation, Increasing Cessation, Reducing Exposure to Environmental Tobacco Smoke</i>	
2	Physical Activity	80
	<i>Increasing Physical Activity through Informational Approaches, Behavioral and Social Approaches, and Environmental and Policy Approaches</i>	
3	The Social Environment	114
	<i>Early Childhood Development Programs, Housing, Culturally Competent Health Care</i>	

Part II: Reducing Disease, Injury, and Impairment

4	Cancer	143
	<i>Preventing Skin Cancer, Promoting Informed Decision Making</i>	
5	Diabetes	188
	<i>Disease Management, Case Management, Diabetes Self-Management Education</i>	
6	Vaccine-Preventable Diseases	223
	<i>Improving Vaccination Coverage through Increasing Community Demand, Enhancing Access to Vaccination Services, and through Provider- and System-Based Interventions</i>	
7	Oral Health	304
	<i>Dental Caries, Oral and Pharyngeal Cancers, Sports-Related Craniofacial Injuries</i>	

8	Motor Vehicle Occupant Injury	329
	<i>Child Safety Seats, Safety Belts, Alcohol-Impaired Driving</i>	

9	Violence	385
	<i>Home Visitation, Therapeutic Foster Care, Firearms Laws</i>	

Part III: Methodological Background

10	Methods Used for Reviewing Evidence and Linking Evidence to Recommendations	431
----	--	-----

11	Understanding and Using the Economic Evidence	449
----	---	-----

12	Continuing Research Needs	464
----	---------------------------	-----

	Glossary	477
--	----------	-----

	Appendix	483
--	----------	-----

	Index	493
--	-------	-----

Conventions Used in This Book

What do you want to find in this book? Here's where to look.

FIND RECOMMENDED INTERVENTIONS IN A TOPIC AREA

Chapters 1–9 each cover a specific topic area. Each chapter follows this pattern:

- *Title page*, listing all interventions and findings included in the chapter, when the research was conducted, and where this information has been published.
- *Introduction* to the topic area, including the public health burden it poses.
- *Recommendations from other advisory groups*, including *Healthy People 2010* goals and objectives in this topic area, as well as information from other groups and agencies.
- *Methods*: a brief summary of methods used in this topic area to evaluate the effectiveness of interventions.
- *Economic efficiency*: a brief summary of methods used to determine the economic efficiency of all recommended interventions.
- *Recommendations and findings*: the bulk of the chapter is in this section.
- Interventions are grouped under strategies (e.g., in Tobacco, the three strategies reviewed are Reducing Tobacco Use Initiation, Increasing Tobacco Use Cessation, and Reducing Exposure to Environmental Tobacco Smoke).
- One or two paragraphs give a general introduction to the strategy.
- A summary of the published findings is provided for each intervention (see Table C-1).
- *Using these recommendations*: additional considerations for deciding if use of a particular intervention is appropriate to your situation.
- *Conclusion*: summary of the interventions reviewed in this area and the recommendations or findings.

SEE ALL RECOMMENDATIONS AND FINDINGS OF THE TASK FORCE LISTED ALPHABETICALLY BY TOPIC

The Appendix provides this list.

GET A BETTER UNDERSTANDING OF *COMMUNITY GUIDE* METHODS AND PROCESSES

The Introduction, “How to Use *The Guide to Community Preventive Services*,” serves as an orientation to the *Community Guide*, discussing various aspects of this book, as well as related publications and our website, www.thecommunityguide.org.

Table C–1. How Reviews of Interventions Are Presented in This Book*Intervention Name, Recommendation or Finding, and Strength of Evidence for Recommended Interventions*

One or two short paragraphs describing this type of intervention

- Bulleted list of key findings on effectiveness and, as appropriate, applicability, other effects, economic efficiency, and/or barriers to implementation

One or two paragraphs describing specific characteristics of the interventions studied for this review

Findings of the systematic review in the following order:

Effectiveness

Applicability to other populations and situations^a

Other (positive or negative) effects of the intervention^b

Economic findings^a

Potential barriers to implementation^a

Conclusion—summary of key findings

^aInformation on applicability, economic efficiency, and potential barriers to implementation is included only for recommended interventions.

^bIf no other effects have been found, this section is not included.

Chapter 10, “Methods Used for Reviewing Evidence and Linking Evidence to Recommendations in the *Community Guide*,” explains the basics of the methodology used to select topic areas for review, as well as the systematic review methods used to evaluate interventions and the ways in which evidence is linked to Task Force recommendations.

Chapter 11, “Understanding and Using the Economic Evidence Provided in the *Community Guide*,” provides an orientation to the kinds of economic analyses used in the *Community Guide* to evaluate public health interventions, as well as general information about how the economic reviews for the *Community Guide* are conducted.

Chapter 12, “Continuing Research Needs: Scientific Challenges and Opportunities,” discusses the implications of the finding that available evidence is insufficient to determine the effectiveness of an intervention and that additional research is needed.

UNDERSTAND OUR TERMINOLOGY

In the Glossary, we define terms as they are used in the *Community Guide*.

Introduction: How to Use *The Guide to Community Preventive Services*

WHAT IS THE *COMMUNITY GUIDE*?

The *Community Guide* (our shorthand for *The Guide to Community Preventive Services*) is a resource to help you select interventions to improve health and prevent disease in your state, community, community organization, business, healthcare organization, or school. It is designed to answer three questions:

1. What has worked for others and how well?
2. How can I select among interventions with proven effectiveness?
3. What might this intervention cost, and what am I likely to achieve through my investment?

The *Community Guide* is also a resource for researchers and research funders to identify important gaps in what we know and to determine how to allocate scarce research funds.

The *Community Guide* reviews evidence about interventions designed to improve health across a wide range of topics. Interventions that combat such risky behaviors as tobacco use, physical inactivity, and violence are included. Other reviewed interventions address specific health conditions such as cancer, diabetes, vaccine-preventable diseases, and motor vehicle injuries. Interventions that address the broad social determinants of health such as education, housing, and access to care are also reviewed in the *Community Guide*. Even with this broad scope, the *Community Guide* is not comprehensive. These initial topics were chosen because together they address the health behaviors, diseases, injuries, and social factors that impose the greatest burden of suffering and that offer the broadest range of intervention opportunities.¹ Intervention reviews are underway for a number of additional topics including nutrition, improving pregnancy outcomes, and reducing depression. In addition, we are updating and expanding most of the chapters in this book.

For each of these broad topics, interventions that promise to improve important health outcomes are reviewed. (For criteria used to select interventions for review, see Chapter 10, *Methods Used for Reviewing Evidence and Linking Evidence to Recommendations in the Community Guide*.) The interventions are applicable to groups, communities, or other populations and include strategies such as healthcare system changes, public laws, workplace and school programs and policies, and community-based programs. All of the

interventions are intended to improve health directly; prevent or reduce risky behaviors, disease, injuries, complications, or detrimental environmental or social factors; or promote healthy behaviors and environments. Diagnostic and treatment interventions are not covered in the *Community Guide*, nor are the clinical preventive services provided by a healthcare professional to an individual patient. Clinical preventive services are reviewed in the *Guide to Clinical Preventive Services*.² Together, the *Clinical Guide* and the *Community Guide* provide information on a broad range of preventive services applicable to individuals and populations.

WHO DEVELOPS THE *COMMUNITY GUIDE*?

The *Community Guide* is part of the Department of Health and Human Services' committed effort to strengthen the scientific basis for public health practice. The *Community Guide* is led by the independent Task Force on Community Preventive Services (the Task Force), composed of nonfederal experts from diverse backgrounds. The work of the Task Force is supported by staff at the Centers for Disease Control and Prevention and by numerous other federal and nonfederal experts.

NOT JUST ANY SET OF GUIDELINES

The *Community Guide* uses a technique known as a *systematic review* to provide scientific evidence of the effectiveness of interventions. Recommendations are explicitly linked to this evidence and are therefore evidence-based. Systematic reviews are conducted according to methods and processes intended to be comprehensive and to minimize bias in the review process. The methods, processes, and rationale for *Community Guide* systematic reviews are provided in Chapter 10. Systematic reviews have undergone considerable development in the social sciences, statistics, epidemiology, medicine, and other disciplines since the 1960s as tools to improve the quality of scientific literature synthesis.³ They are increasingly popular for summarizing information on the efficacy of medical treatments⁴ and clinical preventive services,^{2,4} and are sometimes used as the foundation for developing clinical practice guidelines. The systematic review is also a useful methodology for summarizing the effectiveness of public health and population-based interventions. The *Community Guide* initiative is a large, high-profile, well-regarded example of the application of systematic review methods to population-oriented health interventions in the United States. The use of systematic reviews to support decision making for population health is an important step in bringing "public health to the same level of scientific scrutiny" as clinical care.⁵

A FAMILY OF PRODUCTS

The *Community Guide* is a family of products that provides systematic review findings, recommendations, and other types of information in different formats.

The Guide to Community Preventive Services: What Works to Promote Health?

This book provides a snapshot of the information available through late 2003. Following this chapter, the intervention reviews are organized into two parts: (1) Changing Risk Behaviors and Addressing Environmental Challenges and (2) Reducing Disease, Injury, and Impairment. Each part contains chapters about specific topics, and each chapter covers about 5–20 different interventions.

As mentioned, all topics of importance in public health are not yet addressed directly (e.g., cardiovascular disease or HIV/AIDS). However, many chapters contain information directly relevant to these two and other critical health issues (e.g., the chapters on tobacco and physical activity are relevant for reducing cardiovascular disease). As you consult this book, keep in mind that interventions in one or more chapters might be useful to achieve related objectives (e.g., the chapters on tobacco, cancer, and physical activity might be used together to achieve a cancer reduction goal).

Journal Articles

Because book publications can provide information available at only one point in time, *Community Guide* reviews are published in journals as they are completed. In addition, journal publication has allowed for rapid dissemination of the Task Force's findings in advance of publication in book format. Summaries of *Community Guide* reviews and recommendations are published in the *Morbidity and Mortality Weekly Report (Recommendations and Reports Series)*. Detailed scientific information about each systematic review is published in the *American Journal of Preventive Medicine (AJPM)*. Accompanying the *AJPM* articles are editorial commentaries from a variety of experts describing how different audiences can use the *Community Guide* (e.g., managed care, public health, or voluntary organizations). Finally, various articles about the *Community Guide*, specific recommendations, and other aspects of the initiative occasionally appear in other journals.

The Website

The website www.thecommunityguide.org is the most comprehensive and up-to-date collection of *Community Guide* information. It includes access to

all *Community Guide* reviews, short (one- or two-page) summaries of chapters and interventions, additional intervention reviews and updates completed after the publication of this book, and slide sets for use in presentations or training. For each review, details on each study included are provided in tables. Finally, links from the home page provide access to resources that link the *Community Guide* interventions to related *Healthy People 2010*⁶ objectives, to related *Guide to Clinical Preventive Services*² interventions, and to some helpful information about how to implement interventions recommended in the *Community Guide*.

HOW DIFFERENT AUDIENCES CAN USE THE *COMMUNITY GUIDE*

The *Community Guide* can be used by decision makers in a variety of settings. Public health professionals can use the *Community Guide* for program planning and to encourage the use of effective interventions through grant guidance and planning criteria. They can also focus research on the knowledge gaps identified through the *Community Guide* systematic review process or seek resources for additional studies. Healthcare service providers can implement effective healthcare system interventions (e.g., provider reminder systems) to improve the delivery of effective clinical preventive services (e.g., advising patients to quit using tobacco products). Purchasers of health care (e.g., employers or state Medicaid officials) can use the *Community Guide* to construct and select benefit plans (e.g., reducing patients' out-of-pocket costs for vaccines or tobacco cessation therapies). In addition, employers can use the *Community Guide* to implement workplace interventions and to participate in community planning efforts. Legislators and other elected officials can support population health by enacting effective legislation (e.g., smoking bans, child safety seat laws, vaccination requirements for school admission, water fluoridation). Table I-1 provides an example of how a *Community Guide* recommendation influenced lifesaving legislation. Community-based organi-

Table I-1. Evidence-Based Recommendations at Work

An example of successful implementation of recommended interventions from the *Community Guide* illustrates the power and importance of evidence-based information. In 2001, the *Community Guide* recommendation for reducing the legal blood alcohol concentration (BAC) limit for adult drivers from 0.10% to 0.08% was influential in the decision of the U.S. Congress to include a requirement that all states pass such legislation or risk losing some federal highway construction funds. At the time the law was passed, 17 states had 0.08% BAC laws on their books. By the end of 2004, all 50 states, the District of Columbia, and Puerto Rico had enacted 0.08% BAC laws. Although most states had multiple laws aimed at reducing alcohol-impaired driving, this change should save at least 400–600 lives each year.

zations can select effective interventions for their populations and advocate for adoption of effective interventions by their local governments. Researchers can use the *Community Guide* to identify research gaps and advocate for funding to conduct research to fill those gaps. In addition, researchers can implement the *Community Guide* evaluation criteria (see Chapter 10) to ensure that their studies and reports are of the highest quality and eligible for inclusion in subsequent *Community Guide* reviews. Educators and students in all of these arenas can use the *Community Guide* as part of comprehensive training in evidence-based public health and prevention decision making.

THE COMMUNITY GUIDE IS PART OF COMPREHENSIVE PREVENTION PLANNING

Comprehensive program planning involves a series of activities: assessment, priority setting, objective setting, intervention selection, implementation, and evaluation.^{7,8} The *Community Guide* primarily assists with intervention se-

Table I–2. Selected Resources for Comprehensive Prevention Planning

Assessment

- National Public Health Performance Standards (www.naccho.org/project48.cfm)
- MAPP: Mobilizing for Action through Planning and Partnerships (www.naccho.org/project77.cfm)
- APEX-PH: Assessment Protocol for Excellence in Public Health (www.naccho.org/project47.cfm)

Objective Setting

- *Healthy People 2010* objectives (www.healthypeople.gov)
- *In most states, Healthy People objectives have been tailored for state-level priorities. Your state health department will be able to provide you with state-specific objectives.*
- *Healthy People 2010* Leading Health Indicators (www.healthypeople.gov/LHI/)
- HEDIS: Health Plan Employer Data Set performance measures (www.ncqa.org/Programs/HEDIS/)

Intervention Selection

- *Guide to Clinical Preventive Services* (www.ahrq.gov/clinic/uspstfix.htm)
- *Guide to Community Preventive Services* (www.thecommunityguide.org)
- National Guideline Clearinghouse (www.guideline.gov)

Intervention Implementation and Evaluation

- www.PreventionInfo.org has links to resources for intervention implementation
 - Framework for Program Evaluation in Public Health can be found at www.cdc.gov/mmwr/PDF/RR/RR4811.pdf
 - Resources for implementing interventions are available in the Community Tool Box, <http://ctb.ku.edu>
 - Approaches to help you plan, link, act, and network with evidence-based tools are available at Cancer Control PLANET (<http://cancercontrolplanet.cancer.gov>)
-

lection. Other resources assist planners and decision makers with the other steps (see Table I–2). Together, these resources can help you develop a comprehensive prevention plan for your patients, workers, students, or community members. Four key steps are briefly described below. At each step, involvement of stakeholders, recognition of intermediate objectives, monitoring of the process, and feedback of results are critical.

Assess the Primary Health Issues within Your State, Community, Workplace, School, or Health System

Evidence-based decision making requires data at each step in the process. For this first step, it is important to know which health problems and risk factors are prevalent in the community or population of interest and which health outcomes are frequent, severe, or costly. Understanding which health issues are a priority for the population, the local human and financial resources, and the political acceptability of addressing certain topics in a community is also important.

Identifying stakeholders and soliciting and incorporating their input at this and all steps in the prevention process is crucial for successfully identifying and addressing health issues. Planning tools are available to help in identifying and addressing priority health areas, and to work effectively with stakeholders (see Table I–2).

Develop Measurable Objectives to Assess Progress in Addressing Primary Health Issues

Once you identify which health issues are priorities to address, it is helpful to set specific objectives. Objectives should be reasonably attainable and must be measurable. Again, stakeholder input is important in selecting objectives so that measuring progress toward objectives will be enthusiastically endorsed by community members. Objective-setting resources for public and private entities are available (see Table I–2).

Select Effective Interventions to Help Achieve Objectives

The *Community Guide* is a primary resource for this step. Most chapters in this book include a *logic framework* or conceptual model for the topic covered in that chapter (for an example, see Figure I–1). The logic framework helps to identify the different ways in which the problem might be addressed and is essential for selecting appropriate interventions. For example, a health problem may be caused or complicated by a lack of knowledge on the part of the community members (e.g., not knowing when to get flu shots). It might be caused by the inaccessibility of health care or other resources (e.g., the ex-

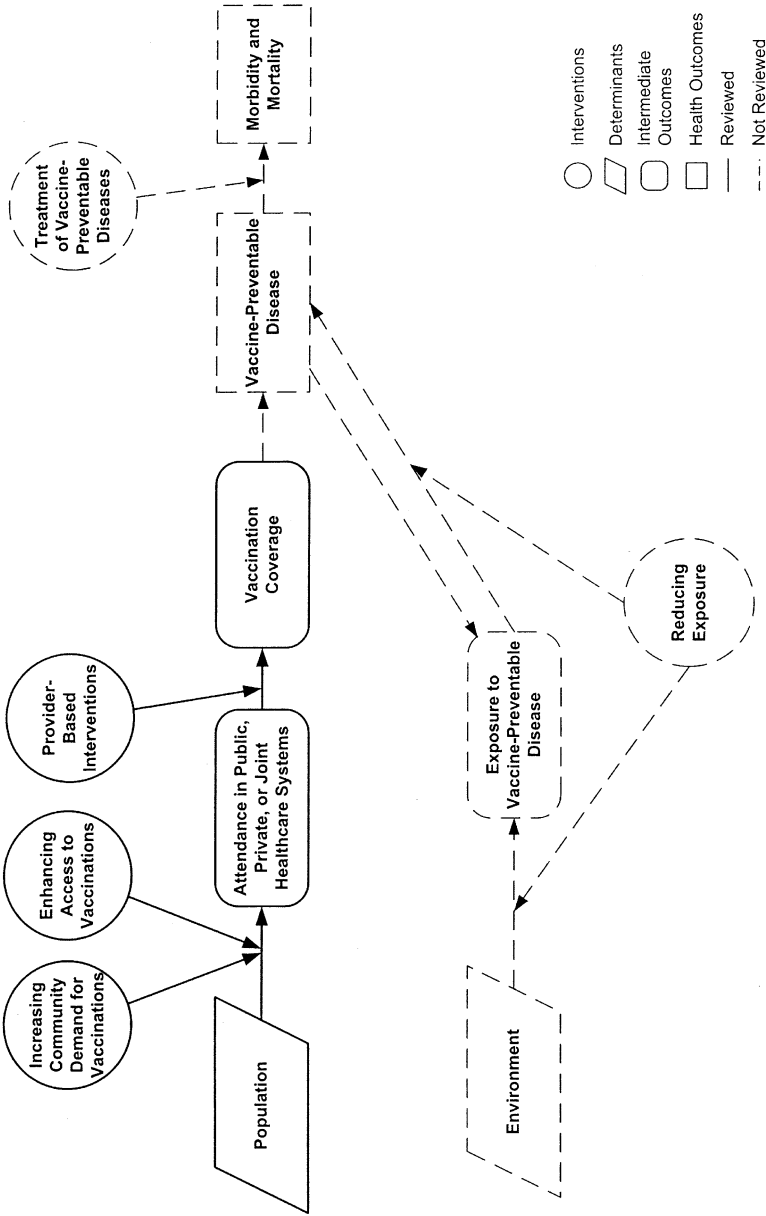


Figure 1-1. Example of a logic framework. (Reprinted from *Am J Prev Med*, Vol. 18, No. 1S, Briss PA et al., Reviews of evidence regarding interventions to improve vaccination coverage in children, adolescents, and adults, p. 99, Copyright 2000, with permission from American Journal of Preventive Medicine.)

pense of buying a child safety seat). Or it might be aggravated by missed opportunities within the healthcare system (e.g., failure to identify a patient who smokes and to provide appropriate counseling and therapy). To select an intervention, it's important to know what problems are occurring or in what proportion they are occurring. Note that the *Community Guide* does not address all of the possible interventions that could be or have been used for a particular health issue. Inclusion in the *Community Guide* is not a prerequisite for implementing an intervention, particularly if it is a new intervention being tested for its effectiveness. Some *Community Guide* chapters include lengthy lists of intervention strategies that are applicable to the topic but have not been reviewed. However, you should take into account whether or not sufficient human and financial resources exist to develop, implement, and evaluate new or untested interventions.

Once you've determined the nature of the problem you're trying to address, the remainder of the *Community Guide* chapter can be used to identify interventions designed to address these specific areas. You'll find out whether the intervention has been shown to be effective, ineffective, or if there's not enough information yet to make a decision about effectiveness. And, for most interventions, you'll find the effect size and variability that might be expected from implementing the intervention.

With the list of intervention options narrowed, the *Community Guide* also helps you assess several other issues that should be taken into account. For example, you might be interested in the applicability of various interventions to different settings and populations. Where has the intervention been implemented successfully? In which populations has the intervention worked? For all interventions for which effectiveness has been established, our applicability information addresses both questions. In addition, citations for the studies included in the review allow you to refer back to the original studies or study authors.

Whenever sufficient information is available, a systematic review of the costs, cost effectiveness, or cost–benefit of each effective intervention is provided to help you determine if you can afford to implement the intervention and what can be achieved through your investment (see Chapter 11, Understanding and Using the Economic Evidence Provided in the *Community Guide*). Each review also includes information on other possible benefits and harms of the intervention. Finally, each review includes information on barriers you might encounter in implementing the intervention.

Implement and Evaluate the Selected Interventions

Careful action planning is key to successful implementation of an intervention. Although a comprehensive treatment of action planning is beyond the

scope of the *Community Guide*, excellent resources for this step exist.⁷ Briefly, the intervention must be well constructed, well implemented, and evaluated.

Successful intervention implementation rests first with careful construction of the intervention. Be advised that *Community Guide* recommendations are based on summaries of numerous individual interventions that had similar components and were trying to achieve the same outcomes. Thus, the recommendations are for conceptual categories rather than particular intervention programs that have been implemented elsewhere. Therefore, when developing your local intervention, consider including all the components included in the studies summarized in the *Community Guide* intervention review. Because it is rarely possible to determine how each component contributed to intervention effectiveness, *Community Guide* recommendations are for the entire constellation of components. Next, consider local needs, culture, language, and political or social norms to help you adapt the intervention. Finally, consider how the intervention processes will be managed to make it sustainable over time.

Related to intervention construction is the implementation itself. Resources for implementing interventions well are available elsewhere (e.g., the Community Tool Box, <http://ctb.ku.edu>). Interventions must be implemented well to be effective. Timing, attention to detail, training of personnel, and buy-in from stakeholders are all important in ensuring success. Finally, every intervention should be evaluated over time (using formal or informal methods) to ensure that it is being implemented as intended and is achieving its desired ends. Excellent program evaluation resources are also available.^{7,9–12}

The *Community Guide* can help with objective setting (by identifying the types of outcomes and effect size that can reasonably be expected from the interventions) and with evaluation (by identifying the important outcomes to measure after an intervention is implemented). It is, however, primarily designed to provide a menu of effective population-based interventions (i.e., what to choose). The *Community Guide* itself is not a cookbook that shows you how to implement the recommended interventions, although some implementation advice is provided in each chapter and additional information is provided at www.thecommunityguide.org (see Table I–2). An example of how the *Community Guide* can be used as part of comprehensive prevention planning is provided in Table I–3.

USING THE RESEARCH GAPS

The systematic review process has three possible results: we learn that an intervention is effective, that it is ineffective or harmful, or that evidence is insufficient to determine its effectiveness. Any of these findings is important information for decision making. Thus, the knowledge gaps identified through

Table I–3. Using the *Community Guide* for Strategic Intervention Selection and Implementation: Improving Influenza Vaccination Rates

Imagine that your goal is to increase influenza vaccination rates among adults aged 65 years and older. In *Community Guide* Chapter 6, “Vaccine-Preventable Diseases,” you learn that vaccine rates might be low in your population because:

1. People lack knowledge about or have attitudinal barriers to being vaccinated against a particular disease.
2. People know that they need to be vaccinated but do not have access to vaccination services.
3. People know that they need to be vaccinated and have access to services, but providers or healthcare systems are missing opportunities to vaccinate.

To select an intervention, it’s important to know which of these three problems are occurring or in what combinations they are occurring. You conduct a survey and find that vaccination rates are lower than the national average and that 80% of unvaccinated adults were seen in healthcare settings during the last vaccination year but that influenza vaccine wasn’t offered. Thus, you decide to start with an intervention to help providers and healthcare systems offer the vaccine more consistently.

Armed with this information, you turn to the *Community Guide* section on Provider- and System-Based Interventions for increasing coverage with universally recommended vaccines (vaccines, like influenza vaccine, recommended for all people in a particular age group). This section identifies standing orders programs as an effective strategy that can be implemented in clinics or managed care organizations. Together with your partners from local health plans, you collect more information about implementing such programs,¹³ and you determine that there are no local legal, regulatory, or other barriers to implementing these programs in your area. You then decide to implement a standing orders program that identifies clients needing the vaccine and allows nurses to provide the vaccine without direct physician involvement at the time of the vaccination.

The *Community Guide* recommendation for standing orders means that these programs, which allow identification of people needing vaccination and allow them to be vaccinated without direct physician involvement at the time of the visit, generally have been shown to be effective in a variety of settings. As already noted, the implementation of such a program will vary based on characteristics of the local clinical setting (e.g., inpatient or outpatient, staff model HMO versus health department clinic) and on characteristics of the local legal and regulatory environment. However, looking at the applicability of the intervention review, you find that reasonably consistent results occurred across a broad range of populations, settings, and intervention characteristics, increasing your confidence that the intervention’s effectiveness will be robust when it is adapted in your local context.

the systematic review process are an important *Community Guide* product. Chapter 12, Continuing Research Needs, can guide the organizations and government agencies that fund research to important but understudied areas. In addition, that chapter can guide researchers to important areas for developing research programs and requests for research funding.

Community Guide reviews identify promising but understudied areas with important public health implications. They can also reduce excessive repeti-

tion of research beyond that needed for appropriate replication and help allocate limited research resources more efficiently.

The *Community Guide* is an important resource for identifying research gaps, but the Task Force has purposely not established an order of priority for addressing the questions identified through their systematic review process. Research agenda setting is largely driven by the priorities and resources of the various organizations and government agencies that fund and conduct research. Thus, it is left to those groups to determine how to set priorities among the various research questions identified here.

SUMMARY

The *Community Guide* is a resource for selecting interventions to improve health and prevent disease. Systematic reviews of published literature in three key areas—changing risk behaviors; reducing specific diseases, injuries, and impairments; and addressing environmental and ecosystem challenges—provide evidence-based answers to three basic questions: What has worked for others and how well? How can I select among interventions of proven effectiveness? What might this intervention cost, and what am I likely to achieve through my investment? The *Community Guide* is also a resource for identifying areas where additional research is needed.

The *Community Guide* is really a family of products, of which this book is one part. The other parts are a website, www.thecommunityguide.org, and articles published in peer-reviewed journals. Many different audiences will find the *Community Guide* useful, including public health professionals, healthcare service providers, purchasers of health care, employers, legislators, community-based organizations, and researchers. The *Community Guide* is part of comprehensive planning for prevention activities, which includes (1) assessing needs; (2) setting objectives to measure progress; (3) selecting effective interventions (this is where the *Community Guide* is most helpful); and (4) implementing the selected interventions.

The *Community Guide* can be a valuable tool in helping you decide how to allocate limited resources and achieve desired outcomes.

Acknowledgments

This chapter was written by Stephanie Zaza, MD, MPH, Office of the Director, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia; Peter A. Briss, MD, MPH, Community Guide Branch, Division of Prevention Research and Analytic Methods (DPRAM), Epidemiology Program Office (EPO), CDC, Atlanta; Jonathan E. Fielding, MD, MPH, MBA, Los Angeles Department of Health Services, University of California School of Public

Health, Los Angeles, and the Task Force on Community Preventive Services; Bradford A. Myers, MPH, Community Guide Branch, DPRAM/EPO/CDC, Atlanta; and Steven M. Teutsch, MD, MPH, Outcomes Research and Management, Merck & Co., Inc., West Point, Pennsylvania.

References

1. Zaza S, Lawrence RS, Mahan CS, et al. Scope and organization of the Guide to community preventive services. *Am J Prev Med* 2000;18(1S):27–34.
2. U.S. Preventive Services Task Force. Guide to clinical preventive services: report of the U.S. Preventive Services Task Force. 2nd ed. Baltimore: Williams & Wilkins, 1996.
3. Glass GV. Primary, secondary, and meta-analysis. *Educ Res* 1976;5:3–8.
4. The Cochrane Collaboration. The Cochrane Library. Available at www.cochrane.org. Accessed March 26, 2004.
5. McGinnis JM, Foege W. Guide to community preventive services: harnessing the science [commentary]. *Am J Prev Med* 2000;18(1S):1–2.
6. U.S. Department of Health and Human Services. Healthy people 2010. 2nd ed. Washington, DC: U.S. Government Printing Office, 2000.
7. Brownson RC, Baker EA, Leet TL, Gillespie KN. Evidence-based public health. New York: Oxford University Press, 2003.
8. Green LW, Kreuter MW. Health promotion planning: an educational and ecological approach. 3rd ed. Mountain View, CA: Mayfield, 1999.
9. Goodman RM. Principals and tools for evaluating community-based prevention and health promotion programs. *J Public Health Manag Pract* 1998;4(2):37–47.
10. Israel BA, Cummings KM, Dignan MB, et al. Evaluation of health education programs: current assessment and future directions. *Health Educ Q* 1995;22(3):364–89.
11. Rossi PH, Freeman HE, Lipsey MW. Evaluation: a systematic approach. 6th ed. Thousand Oaks, CA: Sage, 1999.
12. Center for Disease Control and Prevention. Framework for program evaluation in public health. *MMWR* 1999;48(RR-11):1–40.