

DETAILED CONTENTS

About the Author	xiii
Acknowledgments	xv
Preface	xvii
1. Public Health Practice and the Best Available Evidence	1
Chapter Objectives	2
Evidence-Based Public Health Practice: Definitions, Purposes, and Methods	2
Characteristics of Evidence-Based Public Health Practice: Community Health and Service Needs, Evidence, Programs, and Evaluation	3
Evidence-Based Medicine and Evidence-Based Public Health	5
Current Best Available Evidence for Public Health Programs and the Role of Evaluation Research	9
Evaluation and Effectiveness Research: Definitions and Methodological Considerations	11
Program Costs and Program Effectiveness	15
Evaluation Researchers and Other Evaluators and Researchers	16
Summary of Chapter 1: Public Health Practice and the Best Available Evidence	23
<i>Words to Remember</i>	23
The Next Chapter	24
Exercises	24
References	28
2. Community Health and Health Service Needs and Evidence-Based Programs	31
Chapter Objectives	31
Identifying Health and Health Care Risks or Needs, Preferences, and Values	32
Methods for Assessing Community Health Care and Health Services Needs	34

<i>Large Databases and Data Sets</i>	34
<i>Why Evidence-Based Public Health Practice</i>	
<i>Uses Secondary Data</i>	39
<i>What Evidence-Based Public Health Practice</i>	
<i>Should Watch For</i>	39
<i>Key Informants</i>	40
<i>Public or Community Forums</i>	41
<i>Focus Groups</i>	41
<i>Nominal Group Process</i>	41
<i>Delphi Technique</i>	43
<i>The RAND/UCLA Appropriateness Method</i>	45
<i>Surveys</i>	48
<i>Asset Mapping</i>	50
<i>Consensus Panels</i>	51
<i>Online Program and Practice Databases: Where to</i>	
<i>Find and How to Evaluate Them</i>	57
<i>Search Engines and Online Health Information</i>	58
Summary of Chapter 2: Identifying Community Needs	
and Programs	61
<i>Words to Remember</i>	61
The Next Chapter	62
Exercises	62
References	65
3. Finding the Best Available Evidence: Questions,	
Practical Concerns, and Ethics	67
Chapter Objectives	67
The Evidence and the Research Literature	68
<i>Eight Literature Reviewing Tasks</i>	69
<i>Choosing an Online Bibliographic Database</i>	69
<i>Online Journals</i>	71
<i>What Are Your Questions? PICO or Problem (Need),</i>	
<i>Interventions, Comparison, and Outcome</i>	72
<i>Research Questions, Descriptors, and Key Words</i>	74
<i>More Search Terms: Authors, Titles, Title Words, and</i>	
<i>Journals and Then Some—Limiting the Search</i>	75
<i>Searching With Boolean Operators</i>	79
<i>Online Search</i>	81
<i>Reviewing References</i>	82
<i>Is Everything Worthwhile Published?</i>	82
<i>Calling in the Experts</i>	83

The Practical Screen, Part 1: Language, Research Design, the Program, Timeliness, and Sponsorship	84
<i>Checklist of Criteria to Make Research Literature Reviews</i>	
<i>Practical: The Practical Screen</i>	84
The Practical Screen, Part 2: Outcomes, Population, Costs, and Ethics	90
The Practical Screen, Part 3: Ethics	91
<i>Research and the Institutional Review Board</i>	91
<i>Three Guiding Principles of Ethical Research</i>	92
<i>Informed Consent</i>	94
<i>Limits to Confidentiality</i>	95
<i>Research Misconduct</i>	95
<i>Evidence-Based Public Health Research and Ethics</i>	95
The Practical Screen and Limits	98
Summary of Chapter 3: Finding the Best Available Evidence: Questions, Practical Concerns, and Ethics	99
<i>Words to Remember</i>	99
The Next Chapter	100
Exercises	101
References	105
4. Research Design, Validity, and Best Available Evidence	107
Chapter Objectives	107
Research Methods and Research Design	108
<i>The Randomized Controlled Trial: Going for the Gold</i>	108
<i>Factorial Designs</i>	118
<i>Doing It Randomly</i>	119
<i>Random Clusters</i>	120
Ensuring Baseline Equivalence: What Evidence-Based Public Health Practice Should Watch For	122
<i>Improving on Chance</i>	122
<i>Blinding</i>	124
<i>Quasi-Experimental Research Designs</i>	127
<i>Nonrandomized Controlled Trials:</i>	
<i>Concurrent Controls</i>	127
<i>Time-Series Designs</i>	130
<i>Historical Controls</i>	131
<i>Interrupted or Single Time-Series Designs</i>	132
<i>Observational Designs</i>	132
<i>Cohort Designs</i>	132
<i>Case-Control Designs</i>	135

<i>Cross-Sectional Designs</i>	137
<i>Observational Designs and Controlled Trials:</i>	
<i>Compare and Contrast</i>	139
The Bottom Line: Internal and External Validity	140
<i>Internal Validity Is Threatened</i>	140
<i>External Validity Is Threatened</i>	142
The Problem of Incomparable Participants: Statistical	
Methods to the Rescue	145
<i>Analysis of Covariance</i>	146
<i>Propensity Score Methods</i>	147
Summary of Chapter 4: Research Design, Validity, and	
Best Available Evidence	149
<i>Words to Remember</i>	149
The Next Chapter	149
Exercises	150
References	155

5. Wanted! Valid and Meaningful Data as Proof of Best

Available Evidence	159
Chapter Objectives	160
Collecting Data: Evaluation's Main Measures	160
<i>Self-Administered Survey Questionnaires</i>	163
Why Researchers Use Self-Administered	
Survey Questionnaires	164
What Evidence-Based Public Health Practice	
Should Watch For	165
<i>Forced-Choice (Multiple-Choice) Achievement Tests</i>	165
Why Researchers Use Multiple-Choice Achievement Tests	165
What Evidence-Based Public Health Practice	
Should Watch For	166
<i>Record Reviews</i>	166
Why Researchers Use Records	167
What Evidence-Based Public Health Practice	
Should Watch For	168
<i>Observations</i>	168
Why Researchers Use Observations	170
What Evidence-Based Public Health Practice	
Should Watch For	170
<i>Interviews</i>	170
Why Researchers Use Interviews	172
What Evidence-Based Public Health Practice	
Should Watch For	172

<i>Vignettes</i>	172
Why Researchers Use Vignettes	173
What Evidence-Based Public Health Practice Should Watch For	173
<i>Physical Examinations</i>	173
Theories of Health Behavior Change: Measurement and Program Planning Guides	173
<i>Reliability and Validity: A Team Approach</i>	178
<i>Reliability</i>	179
<i>Within-Measure Reliability</i>	180
<i>Between-Measure Reliability</i>	184
<i>Intra- and Inter-Rater Reliability</i>	184
<i>Measurement Validity</i>	185
<i>Content Validity</i>	186
<i>Predictive Validity</i>	186
<i>Concurrent Validity</i>	187
<i>Construct Validity</i>	187
<i>Sensitivity and Specificity</i>	189
Needing It All or Just Needing Some of It: Reliability, Validity, Sensitivity, and Specificity	190
<i>Data Collection, Data Analysis, Statistical and Practical Significance</i>	191
What Evidence-Based Public Health Practice Should Watch For	194
<i>Missing: Where Are the Data?</i>	194
<i>In the Final Analysis, What Data Are Available?</i>	197
<i>Proximate or Surrogate Outcomes</i>	197
Data Collection and Public Health Practice	199
<i>Checklist for Evaluating the Quality of Data Collection Measures</i>	200
Summary of Chapter 5: Wanted! Valid and Meaningful Data as Proof of Best Available Evidence	201
<i>Words to Remember</i>	201
The Next Chapter	201
Exercises	202
References	207
6. The Best Available Evidence: Quality, Strength, Implementation, and Evaluation	211
Chapter Objectives	212
Synthesizing and Reporting Results of Research Reviews	212
<i>CONSORTing With the Best</i>	215

<i>Nonrandomized and Observational Studies:</i>	
<i>TREND and STROBE</i>	218
<i>Scoring and Grading: Distinguishing Good From</i>	
<i>Poor-Quality Research Articles</i>	220
Checklist for Scoring and Grading a Study's	
Methodological Quality	221
<i>Quality, Quantity, and Consistency = Strength of Evidence</i>	222
<i>Does The Evidence Make the Grade?</i>	226
Reliable and Valid Reviews	229
<i>Measuring Review Reliability: The Kappa Statistic</i>	229
<i>Reviewing Other Reviews: Narrative Reviews and</i>	
<i>Systematic Reviews</i>	231
<i>Systematic Reviews: Meta-Analysis</i>	233
<i>How Many People and What Effect?</i>	234
Odds, Risks, and Effects	235
<i>A Checklist of Questions to Guide in Evaluating the</i>	
<i>Quality of a Meta-Analysis</i>	237
<i>PRISMA Guidelines for Systematic Reviews</i>	
<i>and Meta-Analysis</i>	242
Selecting and Implementing Programs	245
Planning and Evaluating Programs	246
<i>Logic Models</i>	246
<i>Right-to-Left Logic Model</i>	247
<i>Left-to-Right Logic Model</i>	248
Improvement Evaluations: Did the Program Change	
Behavior? Do We Need to Improve?	249
Summary of Chapter 6: The Best Available Evidence	251
<i>Words to Remember</i>	251
Exercises	252
References	254
Glossary	257
Author Index	281
Subject Index	287