HEALTH PROGRAM PLANNING AND EVALUATION

FIFTH EDITION

A Practical, Systematic Approach for Community Health

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Preface to the Fifth Edition

The fifth edition of *Health Program Planning and Evaluation* has stayed true to the purpose and intent of the previous editions. This advanced-level text is written to address the needs of professionals from diverse health disciplines who find themselves responsible for developing, implementing, or evaluating health programs. The aim of the text is to assist health professionals to become not only competent health program planners and evaluators but also savvy consumers of evaluation reports and prudent users of evaluation consultants. To that end, the text includes a variety of practical tools and concepts necessary to develop and evaluate health programs, presenting them in language understandable to both the practicing and novice health program planner and evaluator.

Health programs are conceptualized as encompassing a broad range of programmatic interventions that span the social-ecological range, from individual-level to population-level programs. Examples of programs cited throughout the text are specific yet broadly related to improving health and reflect the breadth of public health programs. The examples have been updated once again to reflect current best practices. Maintaining a public health focus provides an opportunity to demonstrate how health programs can focus on different levels of a population, different determinants of a health problem, and different strategies and interventions to address a health problem. In addition, examples of health programs and references are selected to pique the interests of the diverse students and practicing professionals who constitute multidisciplinary program teams. Thus, the content and examples presented throughout the text are relevant to health administrators, medical social workers, nurses, nutritionists, pharmacists, public health professionals, physical and occupational therapists, and physicians.

This textbook grew from teaching experiences with both nurses and public health students and their need for direct application of the program planning and evaluation course content to their work and to their clients and communities. Today, programs need to be provided through community-based healthcare settings to address broad public health issues and expand the individual to population focus. The distinction between individual patient health and population health is a prerequisite for the thinking and planning—in terms of aggregates and full populations—by students from clinical backgrounds.

In most graduate health professions programs, students take a research methods course and a statistics course. Therefore, this evaluation text avoids duplicating specialized content related to research methods and statistics while addressing and extending that content into health program development, implementation, and evaluation. In addition, because quality improvement and related methodologies are widely used in healthcare organizations, areas of overlap between these and traditional program evaluation approaches are discussed. This includes ways that quality improvement methodologies complement program evaluations. Sometimes evaluations are appropriate; sometimes they are not. Enthusiasm for providing health programs and performing evaluation is tempered

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with thoughtful notes of caution in the hope that students will avoid potentially serious and costly program and evaluation mistakes.

Unique Features

The *Fifth Edition* has retained the three unique features that distinguish this text from other program planning and evaluation textbooks: use of the public health pyramid, consistent use of a model of the program theory throughout the text, and role modeling of evidence-based practice.

The public health pyramid explains how health programs can be developed for individuals, aggregates, populations, and service delivery systems. Use of the pyramid is also intended as a practical application of the social-ecological perspective that acknowledges a multilevel approach to addressing health problems. The public health pyramid contains four levels: direct services to individuals; enabling services to aggregates; services provided to entire populations; and, at the base, infrastructure. In this textbook, the pyramid is used as an organizing structure to summarize the content of each chapter in the "Across the Pyramid" sections. In these sections, specific attention is paid to how key concepts in a given chapter might vary across each pyramid level. Summarizing the chapter content in this manner reinforces the perspective that enhancing health and well-being requires integrated efforts across the levels of the public health pyramid. Health program development and evaluation is relevant for programs intended for individuals, aggregates, populations, and service delivery systems, and this fact reinforces the need to tailor program plans and evaluation designs to the level at which the program is conceptualized. Using the pyramid also helps health professionals begin to value their own and others' contributions within and across the levels and to transcend disciplinary boundaries.

The second unique feature of this text is that one conceptual model of program planning and evaluation is used throughout the text: the program theory. The program theory is like a curricular strand, connecting content across the chapters, and activities throughout the planning and evaluation cycle. The program theory, as a conceptual model, is composed of elements. Articulating each of the component elements of the program theory sharpens the student's awareness of what must be addressed to create an effective health program. One element of the program theory is the effect theory, which focuses on how the intervention results in the program effects. The effect theory had its genesis in the concepts of action and intervention hypotheses described by Rossi and Freeman; those concepts were dropped from later editions of their text. We believe these authors were onto something with their effort to elucidate the various pathways leading from a problem to an effect of the program. Rossi's and colleagues' ideas have been updated with the language of moderating and mediating factors and an emphasis on the intervention mechanisms.

Throughout the current edition of this textbook, emphasis is given to the effect theory portion of the program theory. The effect theory describes relationships among health antecedents, causes of health problems, program interventions, and health effects. The hypotheses that comprise the effect theory need to be understood and explicated to plan a successful health program and to evaluate the "right" elements of the program. The usefulness of the effect theory throughout the planning and evaluation cycle is highlighted throughout this text; for example, the model is used as a means of linking program theory to evaluation designs and data collection. The model becomes an educational tool by serving as an example of how the program theory is manifested throughout the stages of planning and evaluation, and by reinforcing the value of carefully articulating the causes of health problems and consequences of programmatic interventions. Students and novice program planners may have an intuitive sense of the

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connection between their actions and outcomes, but they may not know how to articulate those connections in ways that program stakeholders can readily grasp. The effect theory and the process theory—the other main element of the program theory—provide a basis from which to identify and describe these connections.

The third unique feature of this text is the intentional role modeling of evidence-based practice. Use of published, empirical evidence as the basis for practice—whether clinical practice or program planning practice—is the professional standard. Each chapter of this book contains substantive examples drawn from the published scientific health and health-related literature. Relying on the literature for examples of programs, evaluations, and issues is consistent with the espoused preference of using scientific evidence as the basis for making programmatic decisions. Each chapter offers multiple examples from the health sciences literature that substantiate the information presented in the chapter.

Organization of the Book

The book is organized into six sections, each covering a major phase in the planning and evaluation cycle. Chapter 1 introduces the fictitious city of Layetteville and the equally fictitious Bowe County. Among the five illustrative health problems in this case, congenital anomalies have now been replaced with adult suicide, which have been rising in recent years. In subsequent chapters, chapter content is applied to the health problems of Layetteville and Bowe County so that students can learn how to use the material on an ongoing basis. In several chapters, the case study is used in the "Discussion Questions and Activities" section to provide students with an opportunity to practice applying the chapter content. In recognition of the availability of parts of the text in digital format, each use of the Layetteville case stands on its own in reference to the chapter's content.

Section I explores the context in which health programs and evaluations occur. Chapter 1 begins with an overview of definitions of health, followed by a historical context. The public health pyramid is introduced and presented as an ecological framework for thinking of health programs. An overview of community is provided and discussed as both the target and the context of health programs. The role of community members in health programs and evaluations is introduced, and emphasis is given to community as a context and to strategies for community participation throughout the program development and evaluation process. Chapter 2 addresses the role of diversity of both health professionals and the people they seek to serve. Although a discussion of diversity-related issues could have been added to each chapter, the importance of these dynamics in ensuring a successful health program warranted it being covered early in the text and as a separate chapter. Cultural competence is discussed, as well as the recent emphases on cultural humility and ongoing shared learning.

Section II contains two chapters that focus on the task of defining the health problem. Chapter 3 covers planning perspectives and the history of health program planning. Effective health program developers understand that approaches to planning are based on assumptions. These assumptions are exemplified in six perspectives that provide points of reference for understanding diverse preferences for prioritizing health needs and expenditures and therefore for tailoring planning actions to fit the situation best. Chapter 3 also reviews perspectives on conducting a community health assessment as foundational to decision making about the future health program. Essential steps involved in conducting a community health assessment are outlined as well.

Chapter 4 expands on key elements of a community needs assessment, beginning with a review of the data collection methods

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appropriate for a community needs assessment. This discussion is followed by a brief overview of key epidemiological statistics. Using those statistics and the data, the reader is guided through the process of developing a causal statement of the health problem. This causal statement, which includes the notion of moderating and mediating factors in the pathway from causes to outcomes, serves as the basis for the effect theory of the program. Once the causal statement has been developed, prioritization of the problem is needed; four systems for prioritizing in a rational manner are reviewed in Chapter 4.

Following prioritization comes planning, beginning with the decision of how to address the health problem. In many ways, the two chapters in Section III form the heart of planning a successful health program. Unfortunately, students generally undervalue the importance of theory for selecting an effective intervention and of establishing target values for objectives. Chapter 5 explains what theory is and how it provides a cornerstone for programs and evaluations. More important, the concept of intervention is discussed in detail, with attention given to characteristics that make an intervention ideal, including attention to intervention dosage. Program theory is introduced in Chapter 5 as the basis for organizing ideas related to the selection and delivery of the interventions in conjunction. The effect theory element of the program theory is introduced and the components of the effect theory are explained. Because the effect theory is so central to having an effective program intervention and the subsequent program evaluation, it is discussed in conjunction with several examples from the Layetteville and Bowe County case.

Chapter 6 goes into detail about developing goals and objectives for the program, with particular attention devoted to articulating the interventions provided by the program. A step-by-step procedure is presented for deriving numerical targets for the objectives from existing data, which makes the numerical targets more defendable and programmatically realistic. We focus on distinguishing between process objectives and outcome objectives through the introduction of two mnemonics: TAAPS (**T**ime frame, **A**mount of what **A**ctivities done by which **P**articipants**/**program **S**taff) and TRACE (**T**imeframe, what portion of **R**ecipients experience what **A**mount of which type of **C**hange or **E**ffect).

Section IV deals with the task of implementing a health program. Chapter 7 provides an in-depth review of key elements that constitute the process theory element of the program theory—specifically, the organizational plan and services utilization plan. The distinction between inputs and outputs of the process theory is highlighted through examples and a comprehensive review of possible inputs and outputs. Budgeting for program operations is covered in this chapter as well. Chapter 8 is devoted to fiscal data systems, including key aspects of budgeting, and informatics. Chapter 9 details how to evaluate the outputs of the organizational plan and the services utilization plan. The practical application of measures of coverage is described, along with the need to connect the results of the process evaluation to programmatic changes. Program management for assuring a high-quality program that delivers the planned intervention is the focus of Chapter 10.

Section V contains chapters that are specific to conducting the effect evaluations. These chapters present both basic and advanced research methods from the perspective of a program effect evaluation. Here, students' prior knowledge about research methods and statistics is brought together in the context of health program and services evaluation. Chapter 11 highlights the importance of refining the evaluation question and provides information on how to clarify the question with stakeholders. Earlier discussions about program theory are brought to bear on the development of the evaluation

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question. Key issues, such as data integrity and survey construction, are addressed with regard to the practicality of program evaluation. Chapter 12 takes a fresh approach to evaluation design by organizing the traditional experimental and quasi-experimental designs and epidemiological designs into three levels of program evaluation design based on the design complexity and purpose of the evaluation. The discussion of sampling in Chapter 13 retains the emphasis on practicality for program evaluation rather than taking a pure research approach. However, sample size and power are discussed because these factors affect the credibility of program evaluations. Chapter 14 reviews statistical analysis of data, with special attention to variables from the effect theory and their level of measurement. The data analysis is linked to interpretation, and students are warned about potential flaws in how numbers are understood. Chapter 15 provides a review of qualitative designs and methods, especially their use in health program development and evaluation.

The final section, Section VI, includes just one chapter. Chapter 16 discusses the use of evaluation results when making decisions about existing and future health programs. Practical and conceptual issues related to the ethics issues that program evaluators face are addressed. This chapter also reviews ways to assess the quality of evaluations and the professional responsibilities of evaluators.

Each chapter in the book concludes with a "Discussion Questions and Activities" section. The questions posed are intended to be provocative and to generate critical thinking. At the graduate level, students need to engage in independent thinking and to foster their ability to provide rationales for decisions. The discussion questions are developed from this point of view. In the "Internet Resources" section, links are provided to websites that support the content of the chapter. These websites have been carefully chosen as stable and reliable sources.

Additions to and Revisions in the Fifth Edition

The Fifth edition of *Health Program Planning and Evaluation* represents continuous improvement, with corrections and updated references. Classical references and references that remain state of the art have been retained.

The *Fifth Edition* has retained the original intent—namely, to provide students with the ability to describe a working theory of how the intervention acts upon the causes of the health problem and leads to the desired health results. Some content has been condensed in order to allow enough room to describe current evaluation approaches adequately for both new and experienced practitioners. For instance, Chapter 1 now includes health goals of international organizations such as the World Health Organization (WHO) and the United Nations, including the vital issue of sustainability. Chapter 2 has been updated to reflect evolving understanding of relevant concepts, including shifting from a focus on health disparities to health equity and from cultural competence to cultural humility. Chapter 3 reflects the continuing emergence of online as well as physically proximate communities, a trend accelerated by the coronavirus pandemic. Chapter 4 notes the health evaluation potential of rapidly increasing availability of "big" data on population health. Chapter 5 expands attention to the interacting factors affecting health. Chapter 6 includes a new acronym, TRACE, for examining public health intervention effect objectives: what Timeframe, what portion of Recipients experience what Amount of which type of Change/Effect. Discussion of budgets in Chapter 8 now includes more attention to the importance of justifying expenditures to internal as well as external stakeholders. Chapter 9 includes updated content on implementation, including the need in some instances to stop programs

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that are not working as intended. Chapter 12 has been streamlined and updated to make its meaty methodological content more accessible and maintain topical relevance. Chapter 13 notes the ever-expanding potential of "big data," but with the caution that these analyses require substantial resources. Finally, Chapter 16 retains its focus on the ethical responsibilities of health evaluation, including the particular need to listen actively to members of populations that have been disadvantaged.

In sum, we have worked hard to sustain this book's conceptual and empirical rigor and currency in the *Fifth Edition* while maintaining accessibility for a range of health evaluators. Above all, we hope this book is useful to our readers' vitally important efforts to improve health.

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List of Acronyms

ABCD	Asset-based community development
ACA	Affordable Care Act
AEA	American Evaluation Association
AHRQ	Agency for Healthcare Research and Quality
ANOVA	Analysis of variance
APHA	American Public Health Association
BPRS	Basic priority rating system
BRFSS	Behavioral Risk Factor Surveillance System
BSC	Balanced Score Card
CAHPS	Consumer Assessment of Health Plans
CARF	Commission on Accreditation of Rehabilitation Facilities
CAST-5	Capacity Assessment of Title-V
CBA	Cost–benefit analysis
CBPR	Community-based participatory research
CDC	Centers for Disease Control and Prevention
CEA	Cost-effectiveness analysis
CER	Cost-effectiveness ratio
CFIR	Consolidated Framework for Implementation Research
CFR	Code of Federal Regulations
CHIP	Community Health Improvement Process
CI	Confidence interval
CPT	Current Procedural Terminology
CQI	Continuous quality improvement
CUA	Cost–utility analysis
DALY	Disability-adjusted life-year
DHHS	U.S. Department of Health and Human Services
DSM-5	*Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition
EBM	Evidence-based medicine
EBP	Evidence-based practice
EHR	Electronic health record
EMR	Electronic medical record
FTE	Full-time equivalent
GAO	U.S. Government Accountability Office
GNP	Gross Product
GPRA	Government Performance and Results Act
HEDIS	Healthcare Effectiveness Data and Information Set
HIPAA	Health Insurance Portability and Accountability Act
HIT	Health information technology
HMOs	Health maintenance organizations
HRQOL	Health-related quality of life
HRSA	Health Resources and Services Administration (part of DHHS)
i-APP	Innovation–Adolescent Preventing Pregnancy (Program)
ICC	Intraclass correlation
IRB	Institutional review board
JCAHO	Joint Commission on the Accreditation of Healthcare Organizations
MAPP	Mobilizing for Action through Planning and Partnership
MBO	Management by objectives
MCHB	Maternal and Child Health Bureau (part of HRSA)
NACCHO	National Association of City and County Health Officers
NAMI	National Alliance on Mental Illness
NCHS	National Center for Health Statistics
NCQA	National Commission on Quality Assurance
NFPS	National Family Planning Survey

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NHANES	National Health and Nutrition Examination Survey
NHIS	National Health Interview Survey
NIH	National Institutes of Health
NPHPS	National Public Health Performance Standards
OHRP	Office for Human Research Protections
OMB	Office of Management and Budgeting
OR	Odds ratio
PACE-EH	Protocol for Assessing Excellence in Environmental Health
PAHO	Pan American Health Organization
PDCA	Plan-Do-Check-Act
PEARL	Property, economic, acceptability, resource, legality system
PERT	Program Evaluation and Review Technique
PPIP	Putting Prevention into Prevention
PRECEDE	Predisposing, Reinforcing, and Enabling Factors in Community Education Development and Evaluation (model)
PSA	Public service announcement
QALY	Quality-adjusted life-year
RAR	Rapid assessment and response
RARE	Rapid assessment and response and evaluation
RE-AIM	Reach, Effectiveness, Adoption, Implementation, and Maintenance model
RR	Relative risk
SAMHSA	Substance Abuse and Mental Health Services Administration
SCHIP	State Child Health Insurance Program
SES	Socioeconomic status
SMART	Specific, measurable, achievable, realistic, and time (objective)
TAAPS	**T**ime frame, **A**mount of what **A**ctivities done by which **P**articipants**/**program **S**taff
TQM	Total quality management
TRACE	Time frame, what portion of Recipients experience what Amount of which type of Change or Effect
UOS	Units of service
WHO	World Health Organization
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children
YHL	Years of healthy life
YLL	Years of life lost
YPLL	Years of potential life lost

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