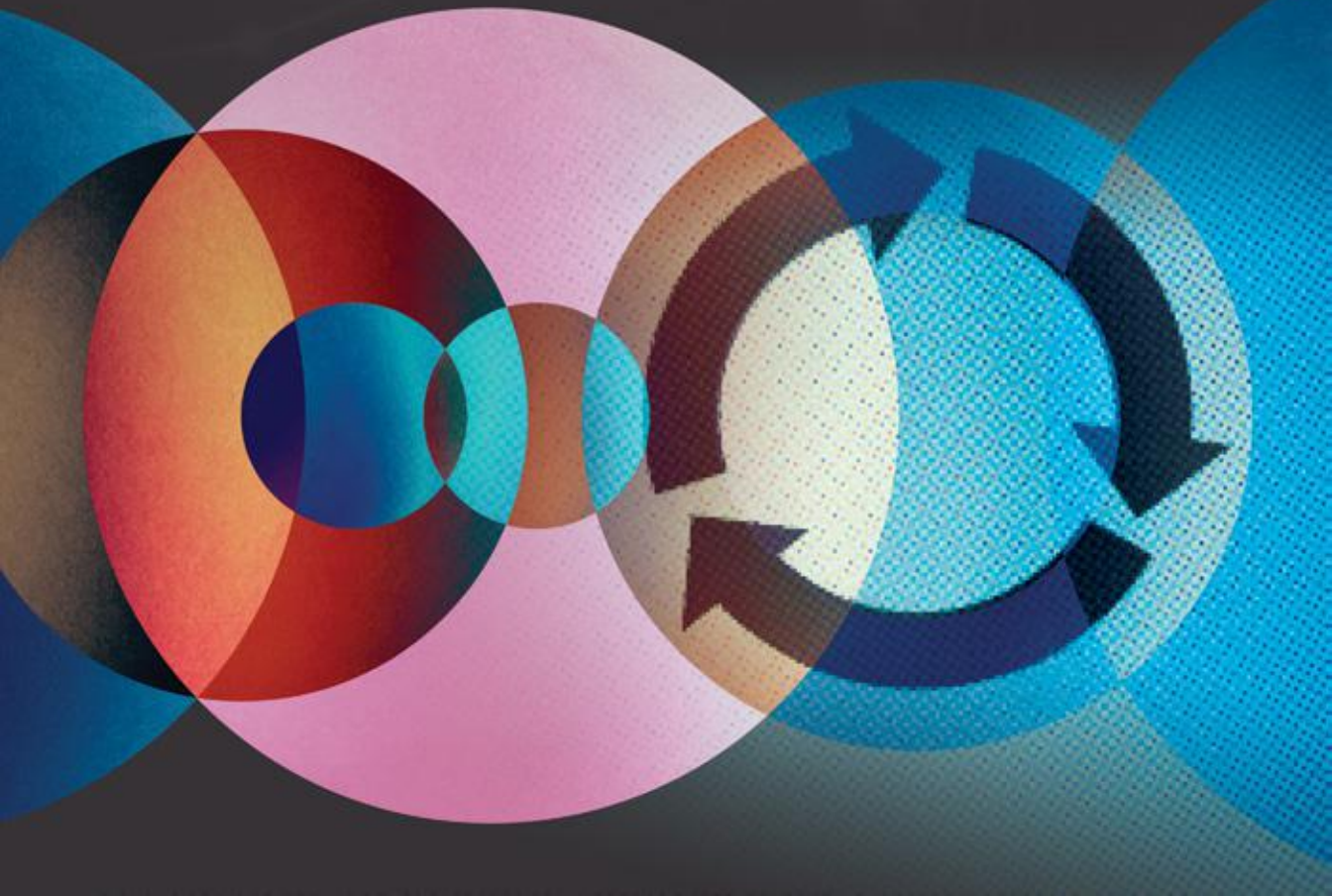
L. MICHELE ISSEL | REBECCA WELLS | MOLLIE WILLIAMS

HEALTH PROGRAM PLANNING AND EVALUATION

FIFTH EDITION

A Practical, Systematic Approach for Community Health



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A Practical, Systematic Approach for Community Health

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Printing and Binding: LSC Communications

Library of Congress Cataloging-in-Publication Data
Names: Issel, L. Michele, author. | Wells, Rebecca, 1966- author. | Williams, Mollie, author.
Title: Health program planning and evaluation : a practical, systematic approach for community health / L. Michele Issel, PhD, RN, Professor of PhD Program, University of North Carolina at Charlotte, College of Health and Human Services, Charlotte, North Carolina, Rebecca Wells, PhD, MHSA, Professor, Department of Management, Policy, and Community Health at The University of Texas, School of Public Health, Houston, Texas, Mollie Williams, DrPH, MPH, Executive Director, The Family Van, Mobile Health Map, Harvard Medical School, Boston, Massachusetts.
Description: Fifth edition. | Burlington, MA : Jones & Bartlett Learning, [2022] | Includes bibliographical references and index.
Identifiers: LCCN 2020041906 | ISBN 9781284210057 (paperback)
Subjects: LCSH: Community health services. | Health planning.
Classification: LCC RA394.9 .I87 2022 | DDC 362.12—dc23
LC record available at https://lccn.loc.gov/2020041906

6048

Printed in the United States of America
25 24 23 22 21 10 9 8 7 6 5 4 3 2 1

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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

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

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

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

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

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.

Acknowledgments

We are indebted to the many people who supported and aided us in preparing this Fifth edition of *Health Program Planning and Evaluation: A Practical, Systematic Approach for Community Health*. We remain grateful to the numerous students over the years who asked questions that revealed the typical sticking points in their acquiring and understanding of the concepts and content, as well as where new explanations were needed. Through their eyes, we have learned there is no one way to explain a complex notion or process. Their interest and enthusiasm for planning and evaluating health programs was a great motivator for writing this book.

Several additional colleagues helped fine-tune this text. We are especially indebted to Arden Handler at the School of Public Health, University of Illinois at Chicago, for taking time to contribute to this textbook. Her devotion to quality and clarity has added much to the richness of otherwise dry material. We remain deeply indebted to Deborah Rosenberg, also at the School of Public Health University of Illinois at Chicago, for sharing her innovative and quintessentially useful work on developing targets for program objectives. Last, but not least, thanks to Mike Brown, former publisher at Jones & Bartlett Learning, for his encouragement and patience over the years.

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

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

SECTION I

The Context of Health Program Development

CHAPTER 1

Context of Health Program Development and Evaluation

Health is not a state of being that can be achieved through isolated, uninformed, individualistic actions. *Health* of individuals, of families, and of populations is a state in which physical, mental, and social well-being are integrated to enable optimal functioning. From this perspective, achieving and maintaining health across a life span is a complex, complicated, intricate affair. For some, health is present irrespective of any special efforts or intention. For most of us, health requires, at a minimum, some level of attention and specific information, as well as living conditions that support health, such as access to healthy food, decent housing, and safe communities. It is through health programs that attention is given focus and information is provided or made available, but that does not guarantee that the attention and information are translated into actions or behaviors needed to achieve health. Thus, those providing health programs, however large or small, need to understand both the processes whereby those in need of attention and health information can receive what is needed, and also the processes by which to learn from the experience of providing the health program.

The processes and effects of health program planning and evaluation are the subjects of this text. The discussion begins here with a brief overview of the historical context. This background sets the stage for appreciating the considerable number of publications on the topic of health program planning and evaluation, and for acknowledging the professionalization of evaluators. The use of the term *processes* to describe the actions involved in health program planning and evaluation is intended to denote action, cycles, and open-endedness. This chapter introduces the planning and evaluation cycle, and the interactions and iterative nature of this cycle are stressed throughout the text. Because health is an individual, aggregate, and population phenomenon, health programs need to be conceptualized across those levels. The public health pyramid, introduced in this chapter, is used throughout the text as a tool for conceptualizing and actualizing health programs for individuals, aggregates, and populations.

History and Context

An appropriate starting point for this text is reflecting on and understanding what "health" is, along with having a basic appreciation for the genesis of the fields of health program planning and evaluation. A foundation in these elements is key to effectively conduct health program planning and evaluation.

Concept of Health

To begin the health program planning and evaluation cycle requires first reflecting on the meaning of health. Both explicit and implicit meanings of health can dramatically influence what is considered the health problem and the subsequent direction of a program. The most widely accepted definition of *health* is that put forth by the World Health Organization (WHO), which, for the first time, defined health as more than the absence of illness and as the presence of well-being (WHO, 1947).

Since the publication of the WHO definition, health has come to be viewed across the health professions as a holistic concept that encompasses the presence of physical, mental, developmental, social, and financial capabilities, assets, and balance. This idea does not preclude each health profession from having a particular aspect of health to which it primarily contributes. For example, a dentist contributes primarily to a patient's oral health, knowing that the state of the patient's teeth and gums has a direct relationship to his or her physical and social health. Thus the dentist might say that the health problem is caries. The term *health problem* is used, rather than *illness*, *diagnosis*, or *pathology*, in keeping with the holistic view that there can be problems, deficits, and pathologies in one component of health while the other components remain "healthy." Using the term *health problem* also makes it easier to think about and plan health programs for aggregates of individuals. A community, a family, and a school can each have a health problem that is the focus of a health program intervention. The extent to which the health program planners have a shared definition of health and have defined the scope of that definition influences the nature of the health program.

Health is a matter of concern for more than just health professionals. For many people, the concept of health is perceived as a right, along with civil rights and liberties. The right to health is often translated by the public and politicians into the perceived right to have or to access health care. This political aspect of health is the genesis of health policy at the local, federal, and international levels. The extent to which the political nature of health underlies the health problem of concern being programmatically addressed also influences the final nature of the health program.

Health Programs, Projects, and Services

What distinguishes a program from a project or from a service can be difficult to explain, given the fluidity of language and terms. The term *program* is fairly generic but generally connotes a structured effort to provide a specific set of services or interventions. In contrast, a *project* often refers to a time-limited or experimental effort to provide a specific set of services or interventions through an organizational structure. In the abstract, a *service* involves interaction between a provider and client where something is provided.

A *health program* is a totality of an organized structure designed for the provision of a fairly discrete health-focused intervention, where that intervention is designed for a specific intended audience. By comparison, *health services* are the organizational structures through which providers interact with clients or patients to meet the needs or address the health problems of the clients or patients. Health programs, particularly in public health, tend to provide educational services, have a prevention focus, and deliver services that are aggregate or population-focused. In contrast,

health services exist exclusively as direct services. Recognizing the distinction between health programs and health services is important for understanding the corresponding unique planning and evaluation needs of each.

History of Health Program Planning and Evaluation

The history of planning health programs has a different lineage than that of program evaluation. Only relatively recently, in historical terms, have these lineages begun to overlap, with resulting synergies. Planning for health programs has the older history, if public health is considered. Rosen (1993) argued that public health planning began approximately 4,000 years ago with planned cities in the Indus Valley, which had covered sewers. Particularly since the Industrial Revolution, planning for the health of populations has progressed, and it is now considered a key characteristic of the discipline of public health.

Blum (1981) related *planning* to efforts undertaken on behalf of the public well-being to achieve deliberate or intended social change as well as providing a sense of direction and alternative modes of proceeding to influence social attitudes and actions. Others (Dever, 1980; Rohrer, 1996; Turnock, 2015) have similarly defined planning as an intentional effort to create something that has not occurred previously for the betterment of others and for the purpose of meeting desired goals. The purpose of planning is to ensure that a program has the best possible likelihood of being successful, defined in terms of being effective with the least possible resources. Planning encompasses a variety of activities undertaken to meet this purpose.

The quintessential example of planning is the development and use of the *Healthy People* goals. In 1979, *Healthy People* (U.S. Department of Health, Education, and Welfare [DHEW], 1979) was published as a response to the need to establish an illness prevention agenda for the United States. The companion publication, *Promoting Health/Preventing Disease* (U.S. Department of Health and Human Services [DHHS], 1980), marked the first time that goals and objectives regarding specific areas of the nation's health were made explicit, with the expectation that these goals would be met by the year 1990. *Healthy People* became the framework for the development of state and local health promotion and disease prevention agendas. Since its initial publication, the U.S. goals for national health have been revised and published every 10 years. (DHHS, 1991; DHHS, 2000; DHHS, 2011; DHHS, 2020).

The evolution of *Healthy People* goals also reflects the accelerating rate of emphasis on nationwide coordination of health promotion and disease prevention efforts and a reliance on systematic planning to achieve this coordination. The development of the *Healthy People* publications reflects the underlying assumption that planning is a rational activity that can lead to results. However, at the end of each 10-year cycle, many of the U.S. health objectives were not achieved, reflecting the potential for planning to fail. Given this failure potential, this text emphasizes techniques to help future planners of health programs be more realistic in setting goals and less dependent on a linear, rational approach to planning.

The *Healthy People 1990* objectives were developed by academics and clinical experts in illness prevention and health promotion. In contrast, development of the goals and health problems listed in more recent iterations of *Healthy People* incorporated public commentary; these ideas were later revised and refined by expert panels before the final publication of the objectives. Greater participation of the public during the planning stage of health programs has become the norm. In keeping with the emphasis on participation, the role and involvement of stakeholders are stressed at each stage of the planning and evaluation cycle.

Other nations also set health status goals, and international organizations such as the World Health Organization (WHO) and Pan American Health Organization (PAHO), develop health goals applicable across nations. The United Nation's Sustainable Development Goals are an example of a broader set of goals that include health. They aim to "ensure healthy lives and promote well-being for all at all ages" with nine specific targets that address a variety of health issues, including maternal, infant, and child mortality; infectious diseases like HIV and malaria; mental health; traffic accidents; and sexual and reproductive health (United Nations, n.d.).

The history of evaluation, from which the evaluation of health programs grew, is far shorter than the history of planning, beginning roughly in the early 1900s, but it is equally rich in important lessons for future health program evaluators. The first evaluations were done in the field of education, particularly as student assessment and evaluation of teaching strategies gained interest (Patton, 2008). Assessment of student scholastic achievement is a comparatively circumscribed outcome of an educational intervention. For this reason, early program evaluators were drawn from the discipline of education, and it was from the fields of education and educational psychology that many methodological advances were made and statistics developed.

Guba and Lincoln (1987) summarized the history of evaluations by proposing generational milestones or characteristics that typify distinct generations. Later, Swenson (1991) built on their concept of generations by acknowledging that subsequent generations of evaluations will occur. Each generation incorporates the knowledge of early evaluations and extends that knowledge based on current broad cultural and political trends.

Guba and Lincoln (1987) called the first generation of evaluations in the early 1900s "the technical generation." During this time, nascent scientific management, statistics, and research methodologies were used to test interventions. Currently, evaluations continue to incorporate the rationality of this generation by using activities that are systematic, science-based, logical, and sequential. Rational approaches to evaluations focus on identifying the best-known intervention or strategy given the current knowledge, measuring quantifiable outcomes experienced by program participants, and deducing the degree of effect from the program.

The second generation, which lasted until the 1960s, focused on using goals and objectives as the basis for evaluation. Second-generation evaluations were predominantly descriptive. With the introduction in the 1960s of broad innovation and initiation of federal social service programs, including Medicare, Medicaid, and Head Start, the focus of evaluations shifted to establishing the merit and value of the programs. Because of the political issues surrounding these and similar federal programs, determining whether the social policies were having any effect on people become a priority. Programs needed to be judged on their merits and effectiveness. The U.S. General Accounting Office (GAO; now called the Government Accountability Office) had been established in 1921 for the purpose of studying the utilization of public finances, assisting Congress in decision making with regard to policy and funding, and evaluating government programs. The second-generation evaluation emphasis on quantifying effects was spurred, in part, by reports from the GAO that were based on the evaluations of federal programs.

Typically, the results of evaluations were not used in the "early" days of evaluating education and social programs. That is, federal health policy was not driven by whether evaluations showed the programs to be successful. Although the scientific rigor of evaluations improved, their usefulness remained minimal. Beginning in the 1980s, however, the third generation of evaluations—termed "the negotiation generation" or "the responsiveness generation"—began. During this generation, evaluators began to acknowledge

that they were not autonomous and that their work needed to respond to the needs of those being evaluated. As a result of this awareness, several lineages have emerged. These lineages within the responsiveness generation account for the current diversity in types, emphases, and philosophies related to program evaluation.

One lineage is utilization-focused evaluation (Patton, 2012), in which the evaluator's primary concern is with developing an evaluation that will be used by the stakeholders. Utilization-focused evaluations are built on the following premises (Patton, 1987): Concern for use of the evaluation pervades the evaluation from beginning to end; evaluations are aimed at the interests and needs of the users; users of the evaluation must be invested in the decisions regarding the evaluation; and a variety of community, organizational, political, resource, and scientific factors affect the utilization of evaluations. Utilization-focused evaluation differs from evaluations that are focused exclusively on outcomes.

Another lineage is participatory evaluation (Whitmore, 1998), in which the evaluation is merely guided by the expert and is actually generated by and conducted by those invested in the health problem. A participatory or empowerment approach invites a wide range of stakeholders into the activity of planning and evaluation, providing those participants with the skills and knowledge to contribute substantively to the activities and fostering their sense of ownership of the product (**Table 1-1**).

The fourth generation of evaluation, which emerged in the mid-1990s, seems to be meta-evaluation, that is, the evaluation of evaluations done across similar programs. This trend in program evaluation parallels the trend in social science toward using meta-analysis of existing studies to better understand theorized relationships and the trend across the health professions toward establishing evidence-based practice guidelines. This new generation became possible due to a pervasive culture of evaluation in the health services and because of the availability of huge data sets for use in the meta-evaluations. An early example of the evaluation culture was the mandate from United Way, a major funder of community-based health programs, for their grantees to conduct outcome evaluations. To help grantees meet this mandate, United Way published a user-friendly manual

Table 1-1 Comparison of Outcome-Focused, Utilization-Focused, and Participatory-Focused Evaluations

	Outcome-Focused Evaluations	Utilization-Focused Evaluations	Participatory-Focused Evaluations
Purpose	Show program effect	Get stakeholders to use evaluation-findings for decisions regarding program improvements and future program development	Involve the stakeholders in designing programs and evaluations, and utilizing findings
Audience	Funders, researchers, other external audience	Program people (internal audience), funders	Those directly concerned with the health problem and program
Method	Research methods, external evaluators (usually)	Research methods, participatory	Research methods as implemented by the stakeholders

(United Way of America, 1996) that could be used by nonprofessionals in the development of basic program evaluations. More broadly, the culture of evaluation can be seen in the explicit requirement of federal agencies that fund community-based health programs that such programs include evaluations conducted by local evaluators.

Most people have an intuitive sense of what evaluation is. The purpose of evaluation can be to measure the effects of a program against the goals set for it and thus to contribute to subsequent decision making about the program (Weiss, 1972). Alternatively, evaluation can be defined as "the application of social research methods to systematically investigate the effectiveness of social intervention programs in ways that are adapted to their political and organizational environments and are designed to inform social action to improve social conditions" (Rossi, Lipsey, & Henry, 2019, p. 6). Others (Herman, Morris, & Fitz-Gibbon, 1987) have defined evaluation as judging how well policies and procedures are working or as assessing the quality of a program. These definitions of evaluation all remain relevant.

Inherently, these definitions of evaluation have an element of being judged against certain criteria. This implicit understanding of evaluation leads those involved with the health program to feel that they will be judged or found not to meet those criteria and that they will subsequently experience some form of repercussions. They may fear that they as individuals or as a program will be labeled a failure, unsuccessful, or inadequate. Such feelings must be acknowledged and addressed early in the planning cycle. Throughout the planning and evaluation cycle, program planners have numerous opportunities to engage and involve program staff and stakeholders in the evaluation process. Taking advantage of these opportunities may alleviate the concerns of program staff and stakeholders about the judgmental quality of the program evaluation.

Evaluation as a Profession

A major development in the field of evaluation has been the professionalization of evaluators. The American Evaluation Association (AEA) serves evaluators primarily in the United States. Several counterparts to the AEA exist, such as the Society for Evaluation in the United Kingdom and the Australian Evaluation Society. The establishment of these professional organizations, whose members are evaluators, and the presence of health-related sections within these organizations demonstrate a field of expertise and of specialized knowledge regarding the evaluation of health-related programs.

As the field of evaluation has evolved, so have the number and diversity of approaches that can guide the development of evaluations. Currently, 23 different approaches to evaluation have been identified, comprising three major groups (Stufflebeam & Coryn, 2014). One group of evaluations is oriented toward questions and methods such as objective-based studies and experimental evaluations. The second group of evaluations is oriented toward improvements and accountability and includes consumer-oriented and accreditation approaches. The third group of evaluations includes those that have a social agenda or advocacy approach, such as responsive evaluations, democratic evaluations, and utilization-focused evaluations. They also acknowledge pseudo-evaluations and quasi-evaluations as distinct groups, reflecting the continuing evolution of the field of evaluation.

Several concepts are common across the types of evaluations: pluralism of values, stakeholder constructions, fairness and equity regarding stakeholders, the merit and worth of the evaluation, a negotiated process and outcomes, and full collaboration. These concepts have been formalized into the standards for evaluations that were established by the

Joint Commission on Standards for Educational Evaluation in 1975 (American Evaluation Association, 2011). Currently, this Joint Commission includes many organizations in its membership, such as the American Evaluation Association and the American Educational Research Association.

The five standards of evaluation adopted by the American Evaluation Association are utility, feasibility, propriety, accuracy, and evaluation accountability (**Table 1-2**; American Evaluation Association, 2018).

The utility standard specifies that an evaluation must be useful to those who requested the evaluation. A useful evaluation shows ways to make improvements to the intervention, increase the efficiency of the program, or enhance the possibility of garnering financial support for the program. The feasibility standard denotes that the ideal may not be practical. Evaluations that are highly complex or costly will not be done by small programs with limited capabilities and resources. Propriety is the ethical component of the standards. Evaluations can invade privacy or be harmful to either program participants or program staff members. The propriety standard also holds evaluators accountable for upholding all of the other standards. Accuracy is essential and is achieved through the elements that constitute scientific rigor. These established and accepted standards for evaluations reflect current norms and values held by professional evaluators and deserve attention in health program evaluations. The existence and acceptance of standards truly indicate the professionalism of evaluators.

Achieving these standards requires that those involved in the program planning and evaluation have experience in at least one aspect of planning or evaluation, whether that is experience with the health problem; experience with epidemiological, social, or behavioral science research methods; or skill in facilitating processes that involve diverse constituents, capabilities, and interests. Program planning and evaluation can be done in innumerable ways, with no single "right way." This degree of freedom and flexibility may cause discomfort for some individuals. As with any skill or activity, until they have experience, program planners and evaluators may feel intimidated by the size of the task or by the experience

Table 1-2 Evaluation Standards Established by the Joint Commission on Standards for Educational Evaluation

Principles	Description
Utility	To increase the extent to which program stakeholders find evaluation processes and products valuable in meeting their needs.
Feasibility	To increase evaluation effectiveness and efficiency.
Propriety	To support what is proper, fair, legal, right, and just in evaluations.
Accuracy	To increase the dependability and truthfulness of evaluation representations, propositions, and findings, especially those that support interpretations and judgments about quality.
Evaluation Accountability	To encourage adequate documentation of evaluations and a meta-evaluative perspective focused on improvement and accountability for evaluation processes and products.

Data from American Evaluation Association Guiding Principles Task Force (2018). https://www.eval.org/p/cm/ld/fid=51

of others involved. To become a professional evaluator, therefore, requires a degree of willingness to learn, to grow, and to be flexible.

Who Does Planning and Evaluations?

Many different types of health professionals and social scientists may be involved in health program planning and evaluation. At the outset, some trepidation revolves around who ought to be the planners and evaluators. Anyone with an interest and a willingness to be an active participant in the planning or evaluation process could be involved, including health professionals, businesspersons, paraprofessionals, and advocates or activists.

Planners and evaluators may be employees of the organization about to undertake the activity, or they may be external consultants hired to assist in all phases or just a specific phase of the planning and evaluation cycle. Internal and external planners and evaluators all have their advantages and disadvantages. Regardless of whether an internal or external evaluator is used, professional stakes and allegiances should be acknowledged and understood as factors that may affect the decision making.

Planners and evaluators from within the organization are susceptible to biases, consciously or not, in favor of the program or some aspect of the program, particularly if their involvement may affect their work. On the positive side, internal planners and evaluators are more likely to have insider knowledge of organizational factors that can be utilized or may have a positive effect on the delivery and success of the health program. Internal evaluators may experience divided loyalties, such as between the program and their job, between the program staff members and other staff, or between the proposed program or evaluation and their view of what would be better.

Sources of internal evaluators may include members of quality improvement teams, particularly if they have received training in program development or evaluation as they relate to quality improvement. The use of total quality management (TQM), continuous quality improvement (CQI), and other quality improvement methodologies by healthcare organizations and public health agencies can be integral to achieving well-functioning programs.

External evaluators can bring a fresh perspective and a way of thinking that generates alternatives not currently in the agencies' repertoire of approaches to the health problem and program evaluation. Compared to internal evaluators, external evaluators are less likely to be biased in favor of one approach—unless, of course, they were chosen for their expertise in a particular area, which would naturally bias their perspective to some extent. External program planners and evaluators, however, can be expensive consultants. Some organizations that specialize in health program evaluations serve as one category of external evaluator. These research firms receive contracts to evaluate health program initiatives and conduct national evaluations that require sophisticated methodology and considerable resources.

The question of who does evaluations also can be answered by looking at who funds health program evaluations. From this perspective, organizations that do evaluations as a component of their business are the answer to the question: Who does evaluations? Most funding agencies prefer to fund health programs rather than stand-alone program evaluations, although some exceptions do exist. For example, the Agency for Healthcare Research and Quality (AHRQ) funds health services research about the quality of medical care, which is essentially effect evaluation research. Other federal agencies, such as the National Institutes of Health and the bureaus within the Department of Health and Human Services, fund evaluation research of pilot health programs. However, the funding priorities of these federal agencies change to be consistent with

federal health policy, serving as a reminder that organizations funding and conducting health program evaluations evolve over time.

Roles of Evaluators

Evaluators may be required to take on various roles, given that they are professionals involved in a process that very likely involves others. For example, as the evaluation takes on a sociopolitical process, the evaluators become mediators and change agents. If the evaluation is a learning–teaching process, evaluators become both teacher and student of the stakeholders. To the extent that the evaluation is a process that creates a new reality for stakeholders, program staff members, and program participants, evaluators are reality shapers. Sometimes, the evaluation may have an unpredictable outcome; at such times, evaluators are human instruments who gauge what is occurring and analyze events. Ideally, evaluations are a collaborative process, and evaluators act as collaborators with the stakeholders, program staff members, and program participants. If the evaluation takes the form of a case study, the evaluators may become illustrators, historians, and storytellers.

These are a few examples of how the roles of the professional program evaluator evolve and emerge. The individual's role in the planning and evaluation activities may not be clear at the time that the project is started. Roles will develop and evolve as the planning and evaluation activities progress.

Planning and Evaluation Cycle

Although planning and evaluation are commonly described as linear, they actually constitute a cyclical process. In this section, the cycle is described with an emphasis on factors that enhance and detract from that process being effective.

Interdependent and Cyclic Nature of Planning and Evaluation

A major premise in the current thinking about programs and evaluation is that the activities constituting program planning and program evaluation are cyclical and interdependent, (**Figure 1-1**) and that the activities usually occur in stages or sets of activities. The stages are cyclical to the extent that the end of one program or stage flows almost seamlessly into the next program or planning activity. The activities are interdependent to the extent that the learning, insights, and ideas that result at one stage are likely to influence the available information and thus the decision making and actions of another stage. Interdependence of activities and stages ideally results from information and data feedback loops that connect the stages.

Figure 1-1 shows the idea flow of program planning and evaluation. Ideally, evaluations in reality, the cyclical or interactive nature of health program planning and evaluation exists in varying degrees. Interactions, feedback loops, and reiterations of process are not always reflected in this text. For the sake of clarity, the cycle is presented in a linear fashion, with steps and sequences covered in an orderly fashion across the progression of chapters. This pedagogical approach belies the true messiness of health program planning and program evaluation. Because the planning and evaluation cycle is susceptible to and affected by external influences, to be successful as a program planner or evaluator requires a substantial degree of flexibility and creativity in recovering from these influences.

The cycle begins with a trigger event, such as awareness of a health problem; a periodic strategic planning effort; a process required by a stakeholder, such as a 5-year strategic planning process or a grant renewal; or newly available funds for a health program. An indirect trigger for planning could be information

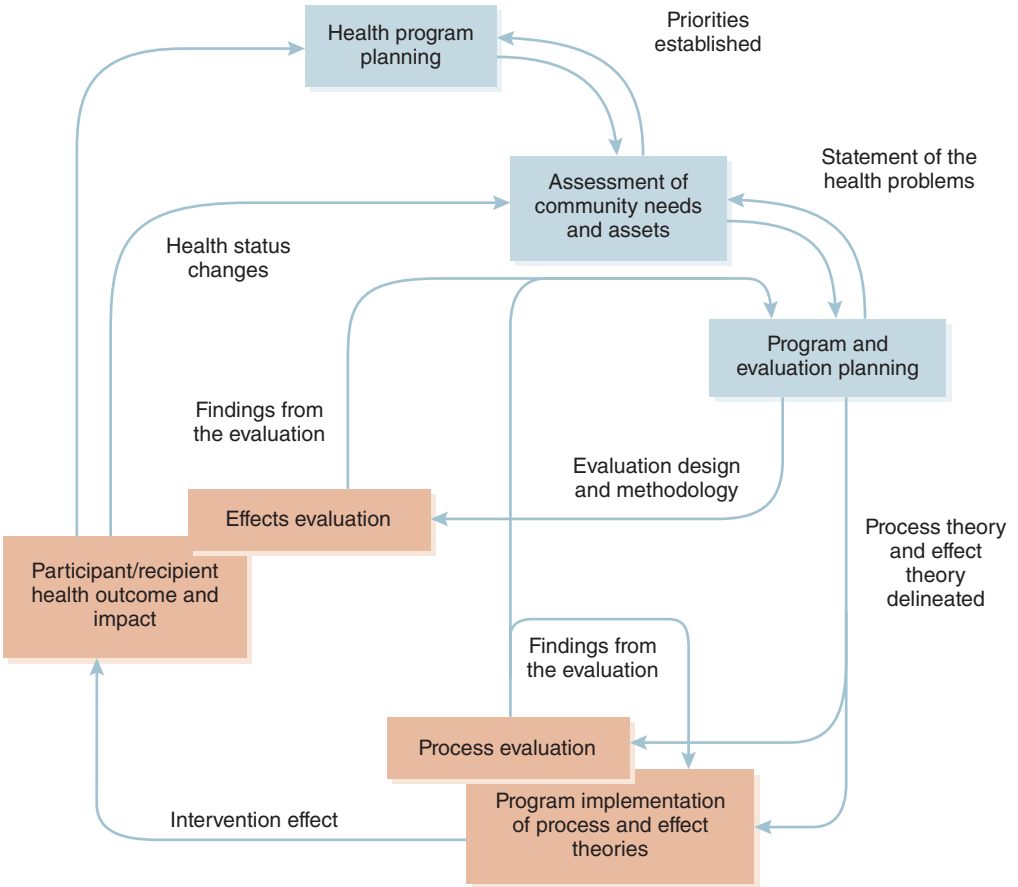

Figure 1-1 The Planning and Evaluation Cycle.

generated from an evaluation that reveals either the failure of a health program, extraordinary success of the program, or the need for additional programs. The trigger might also be a news media exposé or legal action. For those seeking to initiate the planning process, getting the attention of influential individuals requires having access to them, packaging the message about the need for planning in ways that are immediately attractive, and demonstrating the salience of the issue. Thus, to get a specific health problem or issue "on the table," activists can use the salient events to get the attention of influential individuals. The importance of having a salient trigger event is to serve as a reminder for key individuals to sort through and choose among competing attention getters. This trigger event or situation leads to the collection of data about the health problem, the characteristics of the people affected, and their perceptions of the health problem. These data, along with additional data on available resources, constitute a community health assessment.

Based on the data from the community health assessment, program development begins. Problems and their solutions are prioritized. The planning phase includes developing the program theory, which explicates the connection between what is done and

the intended effects of the program. Another component of the planning phase includes assessment of organizational and infrastructure resources for implementing the program, such as garnering resources to implement and sustain the program. Yet another major component of program planning is setting goals and objectives that are derived from the program theory.

After the resources necessary to implement the program have been secured and the activities that make up the program intervention have been delineated, the program can be implemented. The logistics of implementation include marketing the program to the intended audience, training and managing program personnel, and delivering or providing the intervention as planned. During implementation of the program, it is critical to conduct an evaluation of the extent to which the program is provided as planned; this is the process evaluation. The data and findings from the process evaluation are key feedback items in the planning and evaluation cycle, and they can and ought to lead to revisions in the program delivery.

Ultimately, the health program needs to have an effect on the health of the individual program participants or on the recipients of the program intervention if provided to the community or a population. The evaluation can be an outcome evaluation of immediate and closely causally linked programmatic effects or an impact evaluation of more temporally and causally distal programmatic effects. Both types of evaluations provide information to the health program planners for use in subsequent program planning. Evaluation of the effects of the program provides data and information that can be used to alter the program intervention. These findings can also be used in subsequent assessments of the need for future or other health programs.

The model used throughout this text as a framework (Figure 1-1) generically represents the steps and processes. It is one of many possible ways to characterize the planning and evaluation cycle. As a generic representation, the planning and evaluation cycle model used in this text includes the essential elements, but it cannot provide detailed instructions on the "whens" and "hows" because each situation will be different.

Using Evaluation Results as the Cyclical Link

Before embarking on either a process or an effect evaluation, it is important to consider who will use the results. The usefulness of an evaluation depends on the extent to which questions that need to be answered are answered. Different stakeholder groups that are likely to use evaluation findings will be concerned with different questions.

Funding organizations, whether federal agencies or private foundations, constitute one stakeholder group. Funders may use process evaluations for program accountability and effect evaluations for determining the success of broad initiatives and individual program effectiveness. Project directors and managers, another stakeholder group, use both process and effect evaluation findings as a basis for seeking further funding as well as for making improvements to the health program. Another stakeholder group, the program staff members, are likely to use both the process and the effect evaluation as a validation of their efforts and as a justification for their considerations about their success with program participants or recipients. Scholars and health professionals constitute another stakeholder group that accesses the findings of effect evaluations through the professional literature. Members of this group are likely to use effect evaluations as the basis for generating new theories about what is effective in addressing a particular health problem and why it is effective.

Policy makers are another stakeholder group that uses both published literature and final program reports regarding process and effect evaluation findings when formulating health policy and making decisions

about program resource allocation. Community action groups, community members, and program participants and recipients form another group of stakeholders. This group is most likely to advocate for a community health assessment and to use process evaluation results as a basis for seeking additional resources or to hold the program accountable.

Program Life Cycle

Feedback loops contribute to the overall development and evolution of a health program, giving it a life cycle. In the early stages of an idea for a health program, the program may begin as a pilot. At this stage, program development occurs and involves use of literature and community health assessment data (Scheirer, 2012). The program may not rely on any existing format or theory, so simple trial and error is used to determine whether it is feasible as a program. It is likely to be small and somewhat experimental because a similar type of program has not been developed or previously attempted. As the program matures, it may evolve into a model program. A *model program* has interventions that are formalized and explicit, with protocols that standardize the intervention, and the program is delivered under conditions that are controlled by the program staff members and developers. Model programs can be difficult to sustain over time because of the need to follow the protocols. Evaluations of programs at this stage focus on identifying and documenting the effects and efficacy of the program (Scheirer, 2012). Successful model programs become *institutionalized* within the organization as an ongoing part of the services provided. Successful programs can be institutionalized across a number of organizations in a community to gain wide acceptance as standard practice, with the establishment of an expectation that a "good" agency will provide the program. At this last stage, the health program has become institutionalized within health services. Evaluations tend to focus on quality and performance improvements, as well as sustainability. The last life cycle stage is the dissemination and replication of programs shown to be effective.

Regardless of the stage in a program's life cycle, the major planning and evaluation stages of community health assessment and evaluation are carried out. The precise nature and purpose of each activity vary as the program matures. Being aware of the stage of the program being implemented can help tailor the community health assessment and evaluation.

This life cycle of a health program is reflected in the evolution of hospice care. Hospice—care for the dying in a home and family setting—began in London in 1967 as a grassroots service that entailed trial and error about caring for dying patients (Kaur, 2000). As its advocates saw the need for reimbursement for the service, they began systematically to control what was done and who was "admitted" to hospice. Once evaluations of these hospice programs began to yield findings that demonstrated their positive benefits, they became the model for more widespread programs that were implemented in local agencies or by new hospice organizations. As hospice programs became accepted as a standard of care for the dying, the hospice programs became standard, institutionalized services for the organization. Today, the availability and use of hospice services for terminally ill patients are accepted as standard practice, and most larger healthcare organizations or systems have established a hospice program. The evolution of hospice is but one example of how an idea for a "better" or "needed" program can gradually become widely available as routine care.

The Fuzzy Aspects of Planning

We like to think of planning as a rational, linear process, with few ambiguities and only the rare dispute. However, this is not the reality of health program planning. Many paradoxes exist inherently in planning as well as implicit

assumptions, ambiguities, tensions, and the potential for conflict. In addition, it is important to be familiar with the key ethical principles that underlie the decision making that is part of planning.

Paradoxes

Several paradoxes pervade health planning. Those involved can hold assumptions about planning that complicate the act of planning, whether for health systems or programs. Being aware of the paradoxes and assumptions can, however, help program planners understand possible sources of frustration.

One paradox is that planning is shaped by the same forces that created the problems that planning is supposed to correct. Put simply, the healthcare, sociopolitical, and cultural factors that contributed to the health problem or condition are very likely to be same factors that affect the health planning process. The interwoven relationship of health and other aspects of life affects health planning. For example, housing, employment, and social justice affect many health conditions that stimulate planning. This paradox implies that health planning itself is also affected by housing, employment, and social justice.

Another paradox is that the "good" of individuals and society experiencing the prosperity associated with health and well-being is "bad" to the extent that this prosperity also produces ill health. Prosperity in our modern world has its own associated health risks, such as higher cholesterol levels, increased stress, increased risk of cardiovascular disease, and increased levels of environmental pollutants. Additionally, as one group prospers, other groups often become disproportionately less prosperous. Therefore, to the extent that health program planning promotes the success of a society or a group of individuals, health issues for others will arise that require health program planning.

A third paradox is that what may be easier and more effective may be less acceptable. An example of this paradox stems from decisions about active and passive protective interventions. Active protection and passive protection are both approaches to risk reduction and health promotion. *Active protection* requires that individuals participate in reducing their risks—for example, through diet changes or the use of motorcycle helmets. *Passive protection* occurs when individuals are protected by virtue of some factor other than their behavior—for example, water fluoridation and mandates for smoke-free workplaces. For many health programs, passive protection in the form of health policy or health regulations may be more effective and efficient. However, ethical and political issues can arise when the emphasis on passive protection, through laws and communitywide mandates, does not take into account cultural trends or preferences.

Another paradox is that those in need ideally, but rarely, trigger the planning of health programs; rather, health professionals initiate the process. This paradox addresses the issue of who holds the knowledge and power to resolve the problem. The perspective held by health professionals often does not reflect broader, more common health social values (Reinke & Hall, 1988), including the values possessed by those individuals affected by the health issue. For example, public health leaders strongly supported policies enacted by New York City in 2009 and 2010 that limited access to sugar sweetened beverages, although the general public criticized the policies (Kelly, Davies, Grieg, & Lee, 2016).

Because persons in need of health programs are most likely to know what will work for them, community and stakeholder participation becomes not just crucial but, in many instances, is actually mandated by funding agencies. This paradox also calls into question the role of health professionals in developing health programs. The health professional's perspective and scientific knowledge needs to be considered within the context of individuals' choices and constraints.

A corollary to the paradox dealing with the sources of the best ideas is the notion that politicians tend to prefer immediate and permanent cures, whereas health planners prefer long-term, strategic, and less visible interventions (Reinke & Hall, 1988). Generally, people want to be cured of existing problems rather than to think about preventing problems that may or may not occur in the future. As a consequence, the prevention and long-term solutions that seem obvious to public health practitioners may conflict with the solutions identified by those with the health issue.

One reason that the best solutions might come from those with the problem is that health professionals can be perceived as blaming those with the health problem for their problem. Blum (1981), for example, identified the practice of "blaming the victim" as a threat to effective planning. During the planning process, blaming the victim can be implicitly and rather subtly manifested in group settings through interpretation of data about needs, thereby affecting decisions related to those needs. For example, interventions for obesity are most effective when they include individual behavior change strategies, typically diet and physical activity changes, along with changes to the obesogenic environment, such as increasing access to healthy foods and limiting fast food marketing (Adams 2016). Addressing structural issues with the meaningful participation of community members helps reduce victim blaming by recognizing that behaviors are shaped by economic, social, and cultural contexts.

Yet another paradox is the fact that planning is intended to be successful; no one plans to fail. Because of the bias throughout the program planning cycle in favor of succeeding, unanticipated consequences may not be investigated or recognized. The unanticipated consequences of one action can lead to the need for other health decisions that were in themselves unintended (Patrick & Erickson, 1993). This paradox can be mitigated by giving attention to detailing the mechanisms of change, doing thought experiments to identify possible points of failure, and involving stakeholders throughout the planning and evaluation lifecycle.

A final paradox of planning, not included on Reinke and Hall's (1988) list, is that most planning is for making changes, not for creating stability. Once a change has been achieved, whether in an individual's health status or a community's rates of health problems, the achievement needs to be maintained. Many health programs and health improvement initiatives are designed to be accomplished within a limited time frame, with little or no attention to what happens after the program is completed. To address this paradox requires that planning anticipate the conclusion of a health program and include a plan for sustaining the gains achieved.

Assumptions

Assumptions also influence the effectiveness of planning. The first and primary assumption underlying all planning processes is that a solution, remedy, or appropriate intervention can be identified or developed and provided. Without this assumption, planning would be pointless. It is fundamentally an optimistic assumption about the capacity of the planners, the stakeholders, and the state of the science to address the health problem. The assumption of possibilities further presumes that the resources available, whether human or otherwise, are sufficient for the task and are suitable to address the health problem. The assumption of adequate capacity and knowledge is actually tested through the process of planning.

A companion assumption is that planning leads to the allocation of resources needed to address the health problem. This assumption is challenged by the reality that four groups of stakeholders have interests in the decision making regarding health resources (Sloan & Conover, 1996) and each group exists in all program planning. Those with the health

problem and who are members of the intended audience for the health program are one group. Another group of stakeholders is health payers, such as insurance companies and local, federal, and philanthropic funding agencies. The third group is individual healthcare providers and healthcare organizations and networks. Last, the general public is a stakeholder group because it is affected by how resources are allocated for health programs. This list of stakeholder groups highlights the variety of motives each group has for being involved in health program planning, such as personal gain, visibility for an organization, or acquisition of resources associated with the program.

Another assumption about those involved is that they share similar views on how to plan health programs. During the planning process, their points of view and cultural perspectives will likely come into contrast. Hoch (1994) suggested that planners need to know what is relevant and important for the problem at hand. Planners can believe in one set of community purposes and values yet still recognize the validity and merit of competing purposes. He argues that effective planning requires tolerance, freedom, and fairness and that technical and political values are two bases from which to give planning advice. In other words, stakeholders involved in the planning process need to be guided into appreciating and perhaps applying a variety of perspectives about planning.

Each stakeholder group assumes that there are limited resources to be allocated for addressing the health problem and is receptive or responsive to a different set of strategies for allocating health resources. The resulting conflicts among the stakeholders for the limited resources apply whether they are allocating resources across the healthcare system or among programs for specific health problems. Limited resources, whether real or not, raise ethical questions of what to do when possible gains from needed health programs or policies are likely to be small, especially when the health program addresses serious health problems.

It is interesting that the assumption of limited resources parallels the paradox that planning occurs around what is limited rather than what is abundant. Rarely is there a discussion of the abundant or unlimited resources available for health planning. In the United States, there is an abundance of volunteer hours and interest and of advocacy groups and energy, and recently retired equipment that may be appropriate in some situations. Such resources, while not glamorous or constituting a substantial entry on a balance sheet, deserve to be acknowledged in the planning process.

Another assumption about the planning process is that it occurs in an orderly fashion and that a rational approach is best. To understand the implications of this assumption, one must first acknowledge that four key elements are inherent in planning: uncertainty, ambiguity, risk, and control. The presence of each of these elements contradicts the assumption of a rational approach, and each generates its own paradoxes.

Uncertainty, Ambiguity, Risk, and Control

Despite the orderly approach implied by use of the term *planning*, this process is affected by the limits of both scientific rationality and the usefulness of data to cope with the uncertainties, ambiguities, and risks being addressed, as well as who controls the planning process. (see **Table 1-3**).

Uncertainty is the unknown likelihood of a possible outcome. Rice, O'Connor, and Pierantozzi (2008) have identified four types of uncertainty: types and amounts of resources, technological, market receptivity to the product, and organizational. Each of these uncertainties is present in planning health programs. *Uncertainty* is doubt about a course of action stemming from awareness that known and unknown factors exist that can decrease the possibility of certainty. In this sense, ambiguity results in uncertainty. Both uncertainty and ambiguity pervade the planning process

Table 1-3 Fuzzy Aspects Throughout the Planning and Evaluation Cycle

	Stages in the Planning and Evaluation Cycle			
	Community Assessment	**Planning**	**Implementation**	**Effect Evaluation**
Uncertainty	Unknown likelihood of finding key health determinants	Unknown likelihood of selecting an effective intervention, unknown likelihood of the intervention being effective	Unknown likelihood of the intervention being provided as designed and planned	Unknown likelihood of intervention being effective
Ambiguity	Unclear about who is being assessed or why	Unclear about the process, who is leading planning process, or what it is intended to accomplish	Unclear about the boundaries of the program, who ought to participate, or who ought to deliver the program	Unclear about meaning of the evaluation results
Risk	Unknown possibility of the assessment causing harm	Unknown possibility of planning touching on politically sensitive issues	Unknown possibility of the intervention having an adverse effect on participants	Unknown possibility of adverse effect from the evaluation design, or from misinterpretation of the findings
Control	Directing the process of gathering and interpreting data about the health problem	Directing the decisions about the program	Directing the manner in which the program is provided	Directing the process of data collection, analysis and interpretation

because it is impossible to know and estimate the effect of all relevant factors—from all possible causes of the health problem, to all possible health effects from program interventions, to all possible acts and intentions of individuals. A rational approach to planning presumes that all relevant factors can be accounted for by anticipating the effect of a program, but our experiences as humans tell us otherwise.

Ambiguity is the characteristic of not having a clear or single meaning. Change, or the possibility of change, may be a source of ambiguity. When ambiguity is ignored, the resulting differences in interpretation can lead to confusion and conflict among stakeholders and planners, among planners and those with the health problem, and among those with various health problems vying for resources. The conflict, whether subtle and friendly or openly hostile, detracts from the planning process by requiring time and personnel resources to address and resolve it. Openly and constructively addressing the ambiguity and any associated conflict can lead to innovations in the program.

Risk is the perceived possibility or uncertain probability of an adverse outcome in a given situation. Health planners need to be

aware of the community's perception and interpretation of probabilities as they relate to health and illness. Risk is not just about taking chances (e.g., bungee jumping or having unprotected sex) but is also about uncertainty and ambiguity (as is the case with estimates of cure rates and projections about future health conditions). Risk is pervasive and inherent throughout the planning process in terms of deciding whom to involve and how, which planning approach to use, which intervention to use, and in estimating which health problem deserves attention. The importance of understanding risk as an element both of the program planning process and of the intended audience provides planners with a basis from which to be flexible and speculative.

Control, being in charge of or managing, is a natural reaction to the presence of ambiguity, conflict, and risk. It can take the form of directing attention and allocating resources or of exerting dominance over others. Control remains a key element of management. In other words, addressing the ambiguity, uncertainty, and risk that might have been the trigger for the planning process requires less—not more—control. Those who preside over and influence the planning process are often regarded as having control over solutions to the health problem or condition. They may not. Instead, effective guidance of the planning process limits the amount of control exerted by any one stakeholder and addresses the anxiety that often accompanies the lack of control.

Introduction to the Types of Evaluation

Several major types of activities are classified as evaluations. Each type of activity requires a specific focus, purpose, and set of skills. The types of evaluations are introduced here as an overview of the field of planning and evaluation.

Community health assessment is a type of evaluation that is performed to collect data about the health of a particular group. Many different approaches to conducting community health assessments exist, but they typically include partnerships, data collection and analysis, and priority-setting (Pennel, Burdine, Prochaska, & McElroy, 2017). We use the broader term, community health assessment, to be clear that the assessment addresses not just needs or deficits but also the assets and strengths of a group or population.

The data collected for this purpose are then used to tailor the health program to the distinctive characteristics of that group. A community health assessment is a major component of program planning because it is done at an early stage in the program planning and evaluation cycle. In addition, the regular completion of community health assessments may be required. For example, many states do five-year planning of programs based on state assessments.

Another type of evaluation begins at the same time that the program starts. *Process evaluations* focus on the degree to which the program has been implemented as planned and on the quality of the program implementation. Process evaluations are known by a variety of terms, such as monitoring evaluations, depending on their focus and characteristics. The underlying framework for designing a process evaluation comes from the process theory component of the overall program theory developed during the planning stage. The *process theory* delineates the logistical activities, resources, and interventions needed to achieve the health change in program participants or recipients. Information from the process evaluation is used to plan, revise, or improve the program.

The third type of evaluation seeks to determine the effect of the program—to demonstrate or identify the program's effect on those who participated in the program. *Effect evaluations* answer a key question: Did the program make a difference? The effect theory component of the program theory is used as the basis for designing this evaluation. Evaluators seek to use the most rigorous and

robust designs, methods, and statistics possible and feasible when conducting an effect evaluation. Findings from effect evaluations are used to revise the program and may be used in subsequent initial program planning activities. Effect evaluations may be referred to as outcome or impact evaluations, terms which are used interchangeably in the literature. For clarity, *outcome evaluations* focus on the more immediate effects of the program, whereas *impact evaluations* may have a more long-term focus. Program planners and evaluators must be vigilant with regard to how they and others are using terms and should clarify meanings and address misconceptions or misunderstandings.

A fourth type of evaluation focuses on the best use of resources. *Economic evaluations* encompass a variety of financially related evaluations, including cost-effectiveness evaluations, cost–benefit evaluations, and cost–utility evaluations (Rabirson, 2015; CDC, 2020). For the most part, economic evaluations are done by researchers because cost–benefit and cost–utility evaluations, in particular, require expertise in economics. Small-scale and simplified cost-effectiveness evaluations can be done if good cost accounting has been maintained by the program and a more sophisticated outcome or impact evaluation has been conducted. The similarities and differences among these three types of studies are reviewed in greater detail in the text so that program planners can be savvy consumers of published reports of economic evaluations. Because economic evaluations are performed late in the planning and evaluation cycle, their results are not likely to be available in time to make program improvements or revisions. Such evaluations are generally used during subsequent planning stages to gather information for comparing alternatives and establish priorities.

Comprehensive evaluations, the fifth type of evaluation, involve analyzing community health assessment data, process evaluation data, effect evaluation data, and cost evaluation data as a set of data. Given the resources needed to integrate analysis of various types of data to draw conclusions about the effectiveness and efficiency of the program, comprehensive evaluations are not common. A sixth type of evaluation is a *meta-evaluation*. A meta-evaluation is done by combining the findings from previous outcome evaluations of various programs for the same health problem. The purpose of a meta-evaluation is to gain insights into which of the various programmatic approaches has had the most effect and to determine the maximum effect that a particular programmatic approach has had on the health problem. This type of evaluation relies on the availability of existing information about evaluations and on the use of a specific set of methodological and statistical procedures. For these reasons, meta-evaluations are less likely to be done by program personnel; instead, they are generally carried out by evaluation researchers. Meta-evaluations that are published are useful in program planning because they indicate which programmatic interventions are more likely to succeed in having an effect on the participants. Published meta-evaluations can also be valuable in influencing health policy and health funding decisions.

Summative evaluations are done at the conclusion of a program to provide a conclusive statement regarding program effects. Unfortunately, the term *summative evaluation* is sometimes used to refer to either an outcome or impact evaluation, adding confusion to the evaluation terminology. Summative evaluations are usually contrasted with *formative evaluations*. The term *formative evaluation* is used to refer to program assessments that are performed early in the implementation of the program and used to make changes to the program. Formative evaluations might include elements of community health assessments, process evaluation, and preliminary effect evaluations.

Mandated and Voluntary Evaluations

Evaluations are not spontaneous events. Rather, they are either mandated or voluntary. A mandate to evaluate a program is always linked to the funding agencies, whether a governmental body or a foundation. If an evaluation is mandated, the contract for receiving the program funding will include language specifying the parameters and a time line for the mandated evaluation. The mandate for an evaluation may specify whether the evaluation will be done by project staff members or external evaluators, or both.

The U.S. Congress has the authority to mandate evaluations of federal programs. For example, the Centers for Medicare and Medicaid Services (CMS) allows states to test new models of service delivery, coverage, or payment. When a state implements a new model, it must be evaluated according to the standards set by CMS (Underhill, et al., 2018). In another example, recipients of funding from the Ryan White HIV/AIDS Program must monitor their performance using a set of core performance measures. In addition, each grantee must conduct outcome evaluations to assess the impact of the funding on the lives of people living with HIV/AIDS. (DHHS, 2016).

Other evaluations may be linked to accreditation that is required for reimbursement of services provided, making them *de facto* mandated evaluations. For example, to receive accreditation from the Joint Commission, a health services organization must collect data over time of patient outcomes. These data are then used to develop ongoing quality improvement efforts. A similar process exists for mental health agencies. The Commission on Accreditation of Rehabilitation Facilities (CARF) requires that provider organizations conduct a self-evaluation as an early step in the accreditation process. These accreditation-related evaluations apply predominantly to direct care providers rather than to specific programs.

Voluntary evaluations are initiated, planned, and completed by the project staff members in an effort to make improvements. They may also be requested by an organization's leadership for planning purposes or to demonstrate to external stakeholders, such as funders, that a program is effective and should be continued or expanded. Given limited resources, voluntary evaluations may be less scientifically rigorous. For example, sample sizes may be small, comparison groups may be lacking, and analytical capabilities may be limited. Leaders of public health organizations and health programs who desire useful evaluation results must ensure that these efforts are adequately funded and staffed by qualified professionals.

When Not to Evaluate

Situations and circumstances that are not amenable to conducting an evaluation do exist, despite a request or the requirement for having an evaluation. Specifically, it is not advisable to attempt an evaluation under the following four circumstances: when there are no questions about the program, when the program has no clear direction, when stakeholders cannot agree on the program objectives, and when there are insufficient resources to conduct a sound evaluation (Patton, 2008). In addition to these situations, Weiss (1972) recognized that sometimes evaluations are requested and conducted for less than legitimate purposes, namely, to postpone program or policy decisions, thereby avoiding the responsibility of making the program or policy decision; to make a program look good as a public relations effort; or to fulfill program grant requirements. As these lists suggest, those engaged in program planning and evaluation need to be purposeful in what is done and should be aware that external forces can influence the planning and evaluation processes.

Since Weiss made her observation in 1972, funders have begun to require process and effect evaluations, and conducting these evaluations to meet that requirement is considered legitimate. This change has occurred as techniques for designing and conducting both program process and effect evaluations have improved, and the expectation is that even mandated evaluations will be useful in some way. Nonetheless, it remains critical to consider how to conduct evaluations legitimately, rigorously, inexpensively, and fairly. In addition, if the AEA standards of utility, feasibility, propriety, and accuracy cannot be met, it is not wise to conduct an evaluation (Patton, 2008).

Interests and the degree of influence held by stakeholders can change. Such changes affect not only how the evaluation is conceptualized but also whether evaluation findings are used. In addition, the priorities and responsibilities of the organizations and agencies providing the program can change during the course of delivering the program, which can then lead to changes in the program implementation that have not been taken into account by the evaluation. For example, if withdrawal of resources leads to a shortened or streamlined evaluation, subsequent findings may indicate a failure of the program intervention. However, it will remain unclear whether the apparently ineffective intervention was due to the design of the program or the design of the evaluation. In addition, unanticipated problems in delivering the program interventions and the evaluation will always exist. Even rigorously designed evaluations face challenges stemming from staff turnover, potential participants' noninvolvement in the program, bad weather, or any of a host of other factors that might hamper achieving the original evaluation design. Stakeholders need to understand that the evaluator attempted to address challenges as they arose if they are to have confidence in the evaluation findings.

The Public Health Pyramid

Pyramids tend to be easy to understand and work well to capture tiered concepts. For these reasons, pyramids have been used to depict the tiered nature of primary healthcare, secondary healthcare, and tertiary healthcare services (U.S. Public Health Service, 1994), the inverse relationship of effort needed and health impact of different interventions (Frieden, 2010), and nutrition recommendations (Gil, Ruiz-Lopez, Fernandez-Gonzalez, & de Victoria, 2014).

The public health pyramid is divided into four sections (**Figure 1-2**). The top, or the first section of the pyramid, contains direct healthcare services, such as medical care, psychological counseling, hospital care, and pharmacy services. At this level of the pyramid, programs are delivered to individuals, whether patients, clients, or students. Generally, programs at the direct services level have a direct, and often relatively immediate, effect on individual participants in the health program. Direct services of these types appear at the tip of the pyramid to reflect that, overall, the smallest proportion of a population receives them. These interventions, according to the Health Impact Pyramid (Frieden,

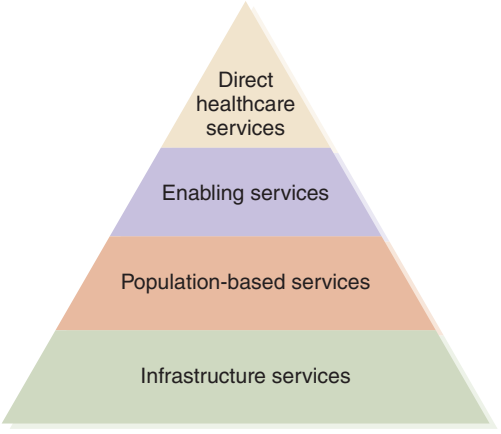

Figure 1-2 The Public Health Pyramid.

2010), require considerable effort, with minimal population effects.

At the second level of the pyramid are enabling services, which are those health and social services that support or enhance the health of aggregates. *Aggregates* are used to distinguish between individuals and populations; they are groups of individuals who share a defining characteristic, such as mental illness or a terminal disease. Examples of enabling services include mental health drop-in centers, hospice programs, financial assistance programs that provide transportation to medical care, community-based case management for patients with acquired immune deficiency syndrome (AIDS), low-income housing, nutrition education programs provided by schools, and workplace child care centers. As this list of programs demonstrates, the services at this level may directly or indirectly contribute to the health of individuals, families, and communities and are provided to aggregates. Enabling services can also be thought of as addressing some of the consequences of social determinants of health.

The next, more encompassing level of the public health pyramid is population-based services. At the population level of the pyramid, services are delivered to an entire population, such as all persons residing in a city, state, or country. Examples of population services include immunization programs for all children in a county, newborn screening for all infants born in a state, food safety inspections carried out under the auspices of state regulations, workplace safety programs, nutrition labeling on food, and the Medicaid program for pregnant women whose incomes fall below the federal poverty guidelines. As this list reflects, the distinction between an aggregate and a population can be blurry. Programs at this level typically are intended to reach an entire population, sometimes without the conscious involvement of individuals. People receive a population-based health program, such as water fluoridation, rather than actively participating in the program, as they would in a smoking-cessation class. Interventions and programs aimed at changing the socioeconomic context within which populations live would be included at this population level of the pyramid. Such programs are directed at changing one or more social determinants of health. Population-level programs contribute to the health of individuals and, cumulatively, to the health status of the population.

Supporting the pyramid at its base is the infrastructure of the healthcare system and the public health system. The health services at the other pyramid levels would not be possible unless there were skilled, knowledgeable health professionals; laws and regulations pertinent to the health of the people; quality assurance and improvement programs; leadership and managerial oversight; health planning and program evaluation; information systems; and technological resources. The planning and evaluation of health programs at the direct, enabling, and population services levels is itself a component of the infrastructure. In addition, planning programs to address problems of the infrastructure, as well as to evaluate the infrastructure itself, are needed to keep the health and public health system infrastructure strong, stable, and supportive of the myriad of health programs.

Use of the Public Health Pyramid in Program Planning and Evaluation

Health programs exist across the pyramid levels, and evaluations of these programs are needed. However, at each level of the pyramid, certain issues unique to that level must be addressed in developing health programs. Accordingly, the types of health professionals and the types of expertise needed vary by pyramid level, reinforcing the need to match program, participants, and providers appropriately. Similarly, each level of the pyramid is characterized by unique challenges for evaluating programs.

For this reason, the public health pyramid, as a framework, helps illuminate those differences, issues, and challenges, as well as to reinforce that health programs are needed across the pyramid levels if the *Healthy People 2030* goals and objectives are to be achieved.

The public health pyramid provides reminders that various aggregates of potential audiences exist for any health problem and program and that health programs are needed across the pyramid. Depending on the health discipline and the environment in which the planning is being done, direct service programs may be the natural or only inclination. The public health pyramid, however, provides a framework for balancing the level of the program with meeting the needs of the broadest number of people with a given need. Reaching the same number of persons with a direct services program as with a population services program poses additional expense and logistic challenges.

The pyramid also serves as a reminder that stakeholder alignments and allegiances may be specific to a level of the pyramid. For example, a school health program (an enabling-level program) has a different set of constituents and concerned stakeholders than a highway safety program (a population-level program). The savvy program planner considers not only the potential program participants at each level of the pyramid but also the stakeholders who are likely to make themselves known during the planning process.

The public health pyramid has particular relevance for public health agencies concerned with addressing the three core functions of public health (Institute of Medicine, 1988): assessment, assurance, and policy. These core functions are evident, in varying forms, at each level of the pyramid. Similarly, the pyramid can be applied to the strategic plans of organizations in the private healthcare sector. For optimal health program planning, each health program being developed or implemented should be considered in terms of its relationship to services, programs, and health needs at other levels of the pyramid. For these reasons, the public health pyramid is used throughout this text as a framework for summarizing specific issues and applications of chapter content to each level of the pyramid, and to identify and discuss potential or real issues related to the topic of the chapter.

The Public Health Pyramid as an Ecological Model

Individual behavior and health are influenced by the social and physical environment. This recognition is reflected in the use of the ecological approach to health services and public health programs. The ecological approach, which stems from systems theory applied to individuals and families (Bronfenbrenner, 1970, 1989), postulates that individuals can be influenced by factors in their immediate social and physical environment. This perspective has been expanded into the social determinants' perspective in public health, which has wide acceptance (Frieden, 2010). The individual is viewed as a member of an intimate social network, usually a family, which is a member of a larger social network, such as a neighborhood or community. The way in which individuals are nested within these social networks has consequences for the health of the individual.

Because it distinguishes and recognizes the importance of enabling and population services, the public health pyramid can be integrated with an ecological view of health and health problems. If one were to look down on the pyramid from above, the levels would appear as concentric circles (**Figure 1-3**)—direct services for individuals nested within enabling services for families, aggregates, and neighborhoods, which are in turn nested within population services for all residents of cities, states, or countries. This is similar to individuals being nested within the enabling environment of their family, workplace setting, or neighborhood, all of which are nested within the population environment of factors such as social norms and economic and political environments. The