



# Process Evaluation

for Public Health  
Interventions and Research

Allan Steckler  
Laura Linnan  
Editors



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# PROCESS EVALUATION FOR PUBLIC HEALTH INTERVENTIONS AND RESEARCH

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Foreword by Barbara A. Israel



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# **PROCESS EVALUATION FOR PUBLIC HEALTH INTERVENTIONS AND RESEARCH**

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## FOREWORD

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The need for systematic evaluations of public health interventions aimed at promoting health and preventing illness has been recognized for many years. Emphasis has been placed on conducting multiple types of evaluation, including outcome evaluation, which focuses on the results, health effects, or outcomes of an intervention, impact evaluation, which focuses on changes in targeted mediators or intermediate objectives considered essential to achieving the outcome, and process evaluation, which focuses on the extent to which the intervention was implemented with the content, accuracy, coverage, and quality that was planned. Although there has been growing emphasis on the combined use of these multiple types of evaluation within any given intervention, there remains in the literature a dearth of conceptual underpinnings and methodologies for conducting process evaluations.

Over the last several decades, there has also been increasing research evidence of the complex set of factors associated with health status—for example, individual behaviors, social, economic, cultural, ethnic, political, and physical environmental factors, and genetic and biologic characteristics, as well as the growing health disparities that exist between rich and poor and white and nonwhite populations. Accompanying these research findings, there have been increasing calls for more comprehensive approaches to public health interventions that address this complex set of determinants at multiple levels of practice—for example, the individual, family, organization, community, and policy levels. The

implementation and evaluation of such comprehensive approaches has a number of challenges, and it is particularly important to gain a better understanding not only of the outcomes and effectiveness of the interventions involved but also of how and why they have had the effects that they have had. This increased understanding is best attained through conducting process evaluations.

This diverse set of determinants of health and comprehensive approaches to public health interventions necessitates the use of multiple conceptual and methodological approaches for carrying out process evaluations. There is no one set of process evaluation questions or evaluation methods that is going to be the most appropriate for all situations. However, the editors of this volume recommend following a *systematic* approach for developing a process evaluation effort that can be applied to most research and practice settings. Each process evaluation question must be selected because it is feasible and useful for addressing an important implementation issue. Each question suggests different methods—both quantitative and qualitative—that can be used to collect the information needed. In addition, the context, nature of the health problem, staffing, program participants, and many other factors need to be taken into account in designing and conducting a process evaluation.

Thus, process evaluation data provide information that is critical to helping intervention researchers and public health practitioners better understand how, why, and among which participants intervention aims have been achieved. Process evaluations can be conducted *formatively*—that is, either as part of the development of an intervention or to ensure that an intervention is implemented as intended, or they can be conducted *summatively*—that is, to examine the extent to which an intervention was implemented as it was intended. In the former instance, process evaluation data need to be collected on an ongoing basis and fed back regularly to the staff and participants involved in order to identify the strengths of the program and to determine the areas of the program that are not working well and therefore need to be improved. In this way, the program staff members can take advantage of opportunities to make changes in the intervention that will enhance program effectiveness. The results of process evaluations are also useful for dissemination of information that can be applied in replicating interventions that are deemed worthy. Here again, although outcome evaluations do provide information about whether intervention objectives have been met, they do not provide information on what produced the identified results—or lack of results. Therefore, process evaluations are most helpful when carried out in conjunction with impact and outcome evaluations.

Process evaluations need to be an ongoing and integral part of the evaluation of any public health intervention, whether it is conceived as intervention research or as public health practice. Funding sources need to recognize the benefits of process evaluations and should provide the resources necessary to conduct them.

Researchers and practitioners alike need the knowledge and skills necessary to conduct process, as well as impact and outcome, evaluations. This volume, *Process Evaluation for Public Health Interventions and Research*, provides a valuable resource both for those just beginning to learn about process evaluation and for those in the field who have been engaged in conducting process evaluations and want to enhance their expertise.

In this book, the editors provide a helpful history and review of the process evaluation literature, identifying what is known and where the gaps are in knowledge, theory, and practice. They discuss the key considerations that need to be addressed when conducting process evaluations—for example, the types of questions that need to be asked as well as the conceptual, methodological, and resource issues that need to be resolved.

Based on the firsthand experiences of the contributing authors, each of the chapters provides a wealth of knowledge on a specific case example of a process evaluation. These chapters are particularly useful in their diversity of settings (such as community, worksite, and school settings), levels (local, state, and national), participants (such as adolescents, adults, blue-collar or rural women, and elementary school-age children), health concerns (such as skin cancer prevention, injury prevention, prevention and cessation of drug and tobacco use, and the consumption of healthy foods), methods of data collection and analysis (quantitative and qualitative), and reporting mechanisms (such as presentations, published writings, and feedback documents). Each chapter has a section titled “Lessons Learned About Process Evaluation,” which makes an important contribution to the process evaluation literature. The descriptions of the process evaluation cases involved, the inclusion of, for example, specific documentation forms, interview protocols, observation tools, tracking databases, and questionnaires, and the analysis of lessons learned all provide a much-needed addition to the process evaluation literature.

The editors and authors of this book have provided information and materials that are useful to researchers and practitioners alike who are engaged in conducting process evaluations. At a time when public health interventions are becoming more complex and comprehensive, with much still unknown about their implementation strategies and effectiveness, this volume serves to foster their value, offering multiple approaches to the conducting of process evaluations. The enhanced understanding gained through such evaluations will in turn serve to improve the quality and success of interventions aimed at promoting health, preventing disease, and reducing the health disparities that exist throughout the world.

September 2002

Barbara A. Israel  
Ann Arbor, Michigan

Thanks to Stephen for bringing great joy to my life! *L.L.*

Thanks to Barbara, Tim, and Adam for putting up with me. *A.S.*



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## PREFACE

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*We have learned that solving social problems is difficult and exacting and calls for large resources of money, time, will, and ideas. Most social problems that this nation and other nations face are beyond the reach of easy solutions. No magic bullet is going to end crime, poverty, illness, or the degradation of the environment. People will continue to worry about education, violence, and community cohesiveness. Progress will be made in gradual stages, by incremental improvements, and it will take careful, systematic evaluation to identify which modes of intervention have better outcomes. With the information and insight that evaluation brings, organizations and societies will be better able to improve policy and programming for the well-being of all.*

—CAROL H. WEISS (1998)

We take comfort and direction in reflecting on these wise words from a true leader in evaluation research. As coeditors of this book, we each have had the experience of collaborating on large, multisite, public health intervention trials. Specifically, each of us has had the good fortune to work on transdisciplinary teams that plan, implement, and analyze process evaluation efforts undertaken as part of these large multisite trials. As subcontractors, we have worked together to create process evaluation components for studies in which colleagues wanted to work with “outside” evaluators. In addition, we both teach about research and evaluation methods as well as advise public health graduate students in the School of Public Health at the University of North Carolina (UNC), Chapel Hill.

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## Why This Book Now?

Through these activities and through our collaboration with a number of excellent colleagues—both at UNC and nationally, we have been inspired to create a resource for those who might want to benefit from what we (and others) have learned about process evaluation over the years. The resource we have created is this book focused on process evaluation applied to public health interventions and research.

Over the past two decades, interest in evaluation applied to public health interventions (generally) and process evaluation (specifically) has grown. We trace the expanded interest in process evaluation in the first chapter of this book. We argue that an increase in the complexity of public health interventions has been a primary driver of an increased interest in process evaluation. Clearly, improvements in the knowledge and skills to do theory-driven intervention planning have led to the desire to evaluate more systematically why these intervention efforts are effective (or ineffective), for whom they are effective, and under what conditions they are effective. Process evaluation is integral to understanding why interventions achieve the results they do, and it also gives important insights into the quality and fidelity of the intervention effort.

However, despite the growth in published process evaluation literature in recent years, barriers to creating effective process evaluation efforts remain. For example, the political will to conduct a comprehensive process evaluation effort is often lacking. Specifically, funders (and some investigators) may be more interested in the outcomes of the work (for example, did the intervention achieve the desired effects?) than they are in how well the planned interventions were developed or implemented. Process evaluation may be an afterthought in a comprehensive evaluation effort. In some cases, process evaluation efforts are undertaken *after* data collection instruments have been created or, worse, after the intervention has been developed and implemented. A lack of commitment to doing process evaluation early in a project or study is a serious barrier to effective process evaluation.

Another important barrier to effective process evaluation is a lack of expertise in planning, developing, implementing, and assessing process evaluation efforts. Where do public health professionals and researchers learn how to do effective process evaluation? In our view, there is clearly a need for more comprehensive training in process evaluation methodology. We believe that when more individuals are adequately trained, they will not only serve an important role in public health intervention programs and research but will also become advocates for removing the barriers that exist.

A single book cannot hope to overcome all of these barriers, but it is not unrealistic to believe that the chapters included in this text will at least shed some light on a particularly important issue—process evaluation, which is needed if we are to advance our understanding of how and why public health interventions work effectively.

This book was also inspired by the fact that though a number of excellent resources are available that focus on both the planning and the evaluation of a wide range of health, education, and social programs, we were unable to identify a resource that addresses the issue of process evaluation specifically. We believe that as the complexity of our intervention efforts increases, planning for, implementing, and assessing process evaluation efforts are critical to moving the field forward. In other words, we agree with Weiss (1998) that progress will be made gradually, “and it will take careful, systematic evaluation to identify which modes of intervention have better outcomes.” This book should help fill a gap in resources for those who are interested in looking specifically at the issue of process evaluation and the contribution it can make to progress in applied public health intervention research and practice.

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## Who Should Read This Book?

This book should appeal to several audiences. First, a primary intended audience for this book is students, especially those at the graduate level. We have had the experience of recruiting and orienting students to get involved in process evaluation efforts that we have under way for various intervention studies or other practice-based work. Most students have had a course in planning and evaluation, but we have yet to find a student who has had more than a lecture or two on process evaluation. Typically, students are asked to join the evaluation team and learn “on the job.” We think this book will give students an additional, important resource to help guide their learning about process evaluation. It will give them a brief history of process evaluation and a review of the many purposes of process evaluation, and it will recommend an approach for designing an effective process evaluation effort. We believe that this book will facilitate the learning process and will serve as a useful reference for students who are invited to be involved in process evaluation efforts. To that end, faculty members who teach about evaluation (generally) or process evaluation (specifically), or who advise students who are involved in process evaluation efforts, are another important audience for this book.

We also believe that this book will prove useful to experienced researchers and practitioners who evaluate behavioral and social interventions in public health. For experienced researcher-practitioner-evaluators, we expect the contributed

chapters to serve as practical guides for creating the next generation of process evaluation efforts. We have learned a great deal from the authors contributing to this book. They have generously shared their successes with process evaluation but have also shared key lessons learned from their experiences. We have found these insights to be extremely helpful. It is rare that we have the opportunity to learn from each other about what we should avoid (not just about the things that have worked). In each chapter, our contributing authors have laid out a series of practical, useful lessons that they have learned. Moreover, they have each shared key forms, sample reports, and other tools that both experienced and novice evaluators will find helpful. Rather than reinventing the forms and systems each time a new process evaluation effort is designed, readers should look carefully at the examples provided in this book. Each form will need to be modified to fit the context and audience of a new study, but the time and resources saved in starting with a proven tool can be impressive. We hope readers find these sample tools and forms useful and cost-effective.

There is another, perhaps less obvious, audience who might benefit from this book. We are referring to authors who write about applied research and evaluation methodology. For this group, we hope the book serves as a snapshot of the current state of the art of process evaluation that will be useful in the further development of this methodology. We see this book as extending the dialogue about process evaluation and we invite readers to share their questions, experiences, and opinions with us.

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## Why Did We Invite These Contributors?

Many colleagues have made generous, thoughtful contributions to this book, being willing to give detailed descriptions of their process evaluation efforts and to share their lessons learned about what has worked and about what has not worked very well in the planning and implementation of their process evaluation projects. We specifically invited these contributors for several reasons. First, we pursued process evaluation efforts that had variation in size, setting, and scope. In this book are chapters about process evaluation efforts that were staged at the local level, the state level, and the national level. This variation reflects the kind of process evaluation that typically occurs in the “real world” of program evaluation efforts. Although the approach to process evaluation is often the same at each of these levels, the resources available (people and money), as well as the complexity, may vary dramatically.

For this book, in addition to variation in the size of process evaluation efforts, we specifically looked for process evaluation efforts that vary in the scope of the

work undertaken as part of the process evaluation. Thus, we pursued chapter contributions that feature variation in the types of questions being answered, in the methods being used (qualitative and quantitative), and in the analytic procedures being adopted. Some chapters focus on formative research efforts and some focus on summative research. We also pursued process evaluation “stories” that varied with regard to participants—focusing in turn on children, teens, adults, and health professionals. We also sought diversity in populations, to include minority, low-income, and rural populations. And we pursued variation in the type of setting. We have included three projects that took place in schools, two that were situated in worksites, and seven that were carried out in various other community settings, such as local cities, churches, and parks and recreation departments. The book is divided into four sections, according to the settings in which process evaluations took place. Because all evaluation is context-specific, variation in projects by setting seems essential. As readers appreciate the nuances of working in a particular setting, they will benefit from looking within each section to see how setting-specific projects overcame certain obstacles. Moreover, readers can look across settings in this book to see how a particular issue—such as data collection strategies or the encouragement of high response rates—was successfully handled in worksite settings and how this handling might also be applicable to a community or school setting. Wrestling with the intricacies of conducting process evaluations within and across settings has provided us with interesting insights, and we hope that this wisdom will benefit readers working across a variety of public health settings.

In selecting the authors contributing to this book, we chose researchers who were doing state-of-the-art work on process evaluation, had already published (or were close to publishing) the final results of their particular intervention study, were able to write clearly about their successes and difficulties in process evaluation efforts, and were generous about sharing specific tools and resources that they found particularly useful.

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## Chapter Features

There are thirteen chapters in this book, with an overview chapter and four sections that address community, worksite, school, and national or state process evaluation efforts. The introductory chapter, written by the coeditors, gives an overview and brief history of process evaluation linked to public health interventions. It attempts to clarify some common terms and offers a stepwise approach to designing a process evaluation effort. Each section of the book begins with a summary that clarifies the key highlights of the process evaluation efforts as reported in each

chapter in that section. Each chapter provides background on the project or study, describes the intervention efforts, identifies the staff members involved in the process evaluation, and summarizes the strengths and limitations of the overall effort.

Another important feature of each of the chapters is the section entitled “Lessons Learned About Process Evaluation,” in which the contributing authors detail what they believe are the most important lessons they have learned from their process evaluation efforts. And we invited authors to include as an appendix one to three process evaluation instruments that they used in their study, which most of them have done. It is our hope that readers will be able to use some of these instruments in their future process evaluation efforts.

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## Acknowledgments

We sincerely thank the contributing authors, whose work is represented here. The authors worked hard to represent their work in ways that are practical for the multiple audiences we are hoping to serve, and they have met rigorous deadlines without delay. Having worked on several books previously, we have been impressed with the quality and timeliness with which our contributing authors have produced these important chapters. Moreover, our contributing authors encouraged us and helped refine our ideas for the book, and a few provided support during the final editing process as well. Special thanks go to Deborah Helitzer and Erin Kobetz for providing excellent feedback on the first draft of the overview chapter, and we also thank Barbara Israel for writing a thoughtful Foreword for this book. For all of these wonderful contributions, we are very grateful.

We’d also like to thank the Health Series team at Jossey-Bass for their encouragement and help throughout the process. Editor Andy Pasternack has been a delightful and positive supporter of our initial and evolving ideas for this book. And we’d like to acknowledge our colleagues—graduate students, administrative staff members, and faculty members—in the Department of Health Behavior and Health Education at UNC, Chapel Hill, who provided encouragement for undertaking this project and have created a collegial environment that abounds with ideas and opportunities.

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*September 2002*  
*Chapel Hill, North Carolina*

Allan Steckler  
Laura Linnan

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## THE EDITORS

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*Allan Steckler* is a professor of health behavior and health education in the School of Public Health at the University of North Carolina (UNC), Chapel Hill. He teaches qualitative evaluation methods, models of health education practice, organizational change, and diffusion of innovations to graduate students. For the past twenty years, Steckler has been involved in research and evaluation of school and community health promotion programs. He was coinvestigator for a federal rural health initiative-funded study to evaluate school and community medical self-care programs in Appalachian West Virginia, and he was principal investigator for a four-year project to evaluate drug and pregnancy prevention curricula in middle schools in North Carolina, funded by the Centers for Disease Control and Prevention and North Carolina's health department. He was also principal investigator for a five-year National Cancer Institute (NCI) funded project to study the process of disseminating smoking prevention curricula to middle schools. With his colleague Robert Goodman, he conducted an evaluation of the NCI's Data-Based Intervention Research program in state health departments. Recently, Steckler was involved in a National Heart, Lung, and Blood Institute (NHLBI) project that studied, through schools, obesity prevention among Native American youth. Currently, he is a coinvestigator for Trial of Activity for Adolescent Girls, an NHLBI-funded project to develop and test interventions for increasing physical activity among adolescent girls. In addition, Steckler is a coinvestigator for the Youth Empowerment Study, which is evaluating



youth empowerment as an approach to reducing smoking among adolescents. He is also a coinvestigator for the Reconnecting Youth (RY, 2001–2006) study, a five-year National Institute on Drug Abuse-funded project designed to study methods of alcohol and drug prevention among high school students. Steckler is the codirector of TARGET, a reproductive health training program in association with the School of Public Health at Mahidol University in Bangkok, Thailand.

*Laura Linnan* is a certified health education specialist and assistant professor of health behavior and health education in the School of Public Health at UNC, Chapel Hill. She earned her doctorate from Harvard University's School of Public Health and served for six years as a research associate faculty member at Brown University in Providence, Rhode Island. Linnan has conducted applied worksite and community-based intervention research for more than thirteen years at Memorial Hospital of Rhode Island, working with the Pawtucket Heart Health Program in Pawtucket, Rhode Island, from 1988 to 1990 and with Miriam Hospital's Center For Behavioral and Preventive Medicine from 1990 to 1999. From 1989 to 1994, Linnan was project director/coinvestigator for the Brown Study Center of the Working Well Trial—the largest federally funded worksite-based intervention trial—and was co-principal investigator for Working Healthy Project 2, a five-year, NCI-funded follow-up study. As part of the Working Well Trial, Linnan was an active member of the Working Well Process Evaluation Working Group, which developed the tracking system that has been the basis of process evaluation systems adapted for use in several subsequent worksite and community-based trials. Prior to her research career, she planned, delivered, and evaluated health promotion programs in both private and public settings—at Metropolitan Life Insurance Company, at the NCI's Office of Cancer Communications, at the Massachusetts Department of Public Health, and at Michigan's Macomb County Health Department.