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# PLANNING HEALTH PROMOTION PROGRAMS

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## An Intervention Mapping Approach

L. Kay Bartholomew  
Guy S. Parcel  
Gerjo Kok  
Nell H. Gottlieb



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Guy S. Parcel  
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A Wiley Imprint  
989 Market Street, San Francisco, CA 94103-1741 [www.josseybass.com](http://www.josseybass.com)

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### **Library of Congress Cataloging-in-Publication Data**

Planning health promotion programs: an intervention mapping approach/L. Kay  
p.; cm.

Includes bibliographical references and index.

ISBN-13 978-07879-7899-0

ISBN-10 0-7879-7899-X (cloth)

1. Health promotion. 2. Health promotion—Planning—Methodology. 3. Health education.

[DNLM: 1. Health Education. 2. Health Promotion. 3. Evidence-Based Medicine. 4. Planning techniques. 5. Program Development—methods. WA 590 P712 2006] I.

Bartholomew, L. Kay.

RA427.8.P553 2006

362.1—dc22

2005036844

*HB Printing*

# **PREFACE**

The practice of health promotion (used synonymously here with health education) involves four major program-planning activities: conducting a needs assessment, developing the program, implementing the program, and evaluating the program's effectiveness. Since the 1980s, significant enhancements have been made to the conceptual base and practice of health education and promotion, especially in needs assessment (Green & Kreuter, 2005), program evaluation (Windsor, Clark, Boyd, & Goodman, 2003), adoption and implementation (Rogers, 2003), and the use of theory (Glanz, Lewis, & Rimer, 2002; DiClemente, Crosby, & Kegler, 2002). However, the health education community has been slow to specify the processes involved in program design and development. Applications of behavioral and social science theories to intervention design are given important consideration, but even in this regard, the processes involved are not typically made explicit in the research or practice literature. Researchers often discuss intervention development and design in only a few sentences.

This book and the Intervention Mapping process are the products of our frustration in teaching health education students the processes involved in planning an intervention. Although the literature provides helpful models for conducting a needs assessment and program evaluation, as well as ecological models for conceptualizing the multiple levels of health education intervention (Simons-Morton, Green, & Gottlieb, 1995; McLeroy, Bibeau, Steckler, & Glanz, 1988), it lacks comprehensive frameworks for program development. In our experience, students have been able to

understand theories of behavior and social change but have not been able to use them to design a coherent, practical health education intervention. Students frequently ask the following questions:

- When in the planning process do I use theory to guide my decisions?
- How do I know which theory to use?
- How do I make use of the experience of others and the results of other program evaluations?
- How do I decide which intervention methods to use?
- How can I get from program goals and objectives to the specific intervention strategies for the program participants?
- How do I link program design with planning for program implementation?
- How do I address changing the behavior of other people in the environment when they are not at risk for the health problem but are important to changing conditions that affect those at risk?

Motivated by these questions, we began to examine programs we had developed through our work as researchers and practitioners and to identify general principles and procedures in intervention design that were common to most of our work. One of our early case examples was the Cystic Fibrosis Family Education Program, an intervention designed to improve self-management skills, the interaction between patient and health care provider, and the health and quality of life of children with cystic fibrosis and their families (Bartholomew et al., 1997; Bartholomew et al., 2000; Bartholomew et al., 1991; Bartholomew, Parcel, Swank, & Czyzewski, 1993; Bartholomew, Seilheimer, Parcel, Spinelli, & Pumariega, 1989; Bartholomew et al., 1993).



To substantiate the steps of Intervention Mapping and to further delineate the tasks required for each, we then conducted a retrospective review of several large demonstration projects in the United States (Mullen & Bartholomew, 1991; Mullen & Diclemente, 1992; Parcel, Eriksen, et al., 1989; Parcel, Taylor, et al., 1989; Perry et al., 1992; Perry et al., 1990) and the Netherlands (De Vries & Dijkstra 1989; Mesters, Meertens, Crebolder, & Parcels, 1993; Schaalma, Kok, Poelman, & Reinders, 1994; Siero, S., Boon, Kok, & Siero, F., 1989). This review led to a working framework for health education program development, the process of Intervention Mapping. Analogous to geographic mapping, Intervention Mapping enables the planner to discover relations, locate desired destinations, plan a route for getting from one place to another, and execute a plan for covering distance. Intervention Mapping also has a visual component, including numerous diagrams and matrices that are used as landmarks to logical program development.

To further develop the steps of the process, we applied Intervention Mapping prospectively to ongoing projects that involved health education and promotion program development. The following projects are among those that we used to test, revise, and refine our proposed Intervention Mapping steps and tasks:

- *Long Live Love*, an HIV prevention program for Dutch adolescents that is described in Chapter Eleven (Schaalma & Kok, 1995; Schaalma, Kok, Bosker, et al., 1996; Schaalma, Kok, & Paulussen, 1996)
- The *Partners in Asthma Management Program*, a self-management program for children with asthma that is described in Chapter Twelve (Bartholomew, Gold, et al., 2000; Bartholomew, Shegog, et al., 2000; Shegog et al., 2001)
- *Five a Day*, a nutrition education program for nine- to twelve-year-old girls (Cullen, Bartholomew, & Parcel,

1997; Cullen, Bartholomew, Parcel, & Kok, 1998)

Additional experience with and refinement of the Intervention Mapping process has occurred throughout the course of ten years of graduate instruction in health promotion planning and implementation at the School of Public Health, University of Texas Health Science Center at Houston; at the Schools of Health Sciences and Psychology, University of Maastricht, the Netherlands; and elsewhere.

After the first edition of *Intervention Mapping* appeared in 2001, a number of new projects have applied the Intervention Mapping process to patient adherence (Heinen, Bartholomew, Wensing, Van de Kerkhof, & Van Achterberg, in press), diet (Hoelscher, Evans, Parcel, & Kelder, 2002), screening (Hou, Fernandez, & Parcel, 2004), stroke treatment (Morgenstern et al., 2002; Morgenstern et al., 2003), HIV prevention (Van Empelen, Kok, Schaalma, & Bartholomew, 2003), and the new application in Chapter Fourteen of this 2006 edition. Other recent publications have described the usefulness of applying Intervention Mapping to various topics (Brug, Oenema, & Ferreira, 2005; Kok, Schaalma, Ruiter, Brug, & Van Empelen, 2004; Van Bokhoven, Kok, & Van der Weijden, 2003).

We present Intervention Mapping as an additional tool for the planning and development of health education and promotion programs. It serves as a way to map the path of intervention development from recognizing a need or problem to identifying and testing potential solutions. The steps and tasks included in Intervention Mapping provide a framework for making and documenting decisions about how to influence change in behavior and conditions to promote health and to prevent or improve a health problem. This documentation provides a means to communicate to everyone involved in the process a logical and conceptual basis for how the intervention is intended to work to make

change possible. The level of specificity included in each of the products of Intervention Mapping enhances the possibility that a planned program will be effective in accomplishing its goals and objectives. In addition, by making explicit the pathways and means by which change is expected to occur and by examining the assumptions and decisions made in each step and task of the Intervention Mapping process, program planners, users, and participants can better explain why a program succeeds or fails. It is our hope that this new tool will contribute to more effective health promotion programs and better explication of these programs and will result in an enhanced knowledge base for research and practice.

Chapter One presents the perspective from which Intervention Mapping was conceived, as well as its purpose. Before using Intervention Mapping, a planner should have at least an elementary grasp of the use of behavioral science theory in planning. Chapters Two through Four offer an overview of methods for accessing appropriate behavioral science theories and empirical evidence in the planning process and a review of applicable social and behavioral science theories. Chapters Five through Ten present a step-by-step guide to Intervention Mapping, and Chapters Eleven through Fourteen provide detailed case examples of the application of Intervention Mapping to public health programs.

*January 2006*

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# ACKNOWLEDGMENTS

Many people have been kind enough to offer suggestions and encouragement during the development of this text. Others have contributed through their contributions to health education and promotion, from which we have greatly benefited. Still others have allowed us to steer project teams down loosely defined pathways in order to test new ideas. We offer thanks to our friends and colleagues Charles Abraham, Stuart Abramson, Robin Atwood, Tom Baranowski, Karen Basen-Engquist, Judy Bettencourt, Cor Blom, Martine Bouman, Lex Bouter, Johannes Brug, Theresa Byrd, Noreen Clark, Matt Commers, Jennifer Conroy, Karin Coyle, Karen Cullen, Sharon Cummings, Danita Czyzewski, Marijn de Bruin, Evelyne de Leeuw, Hein de Vries, Nanne de Vries, Dirk-Jan den Boer, Elia Diez, Anton Dijker, Arie Dijkstra, Margot Dijkstra, Polly Edmundson, Cees Egmond, Michael Eriksen, Alexandra Evans, María Fernández-Esquer, Amy Fetterhoff, Brian Flay, Barbara Giloth, Phyllis Gingiss, Karen Glanz, Gaston Godin, Robert Gold, Bob Goodman, Patricia Goodson, Larry Green, Merwyn Greenlick, Jan Groff, Jong Long Guo, Arada Halder, Karol Kay Harris, Paul Harterink, Amy Jo Harzke, Maud Heinen, Helen Hill, Jeffrey Hill, Deanna Hoelscher, Carole Holahan, Harm Hospers, Dorothy Husky, Aimee James, Ruud Jonkers, Jolanda Keijzers, Steve Kelder, Gerda Kraag, Doug Kirby, Connie Kohler, Marieke Kools, Marshall Kreuter, Randi Bernstein Lachter, Cheryl Lackey, Sue Laver, Alexandra Loukas, Barbara Low, Alfred McAlister, Amy McQueen, Ree Meertens, Ilse Mesters, Barbara Meyer, Anna Meyer-Weitz, Jochen Mikolajczak, Aart Mudde, Nancy Murray, Marita Murrman, Brian Oldenburg, Theo Paulussen, Cheryl Perry, Bobbie Person, Gjalt-Jorn Peters, Fred Peterson, Gopika

Ramamurthy, Priscilla Reddy, Lori Roalson, Barbara Rimer, Michael Ross, Rob Ruiter, Ann Saunders, Dale Schunk, Dan Seilheimer, Bruce Simons-Morton, Michele Murphy Smith, Gail Sneden, Marianna Sockrider, Teshia Solomon, Alan Steckler, Mary Steinhardt, Victor Strecher, Paul Swank, Peggy Tate, Wendell Taylor, Jasmine Tiro, Mary Tripp, Theo van Achterberg, Patricia van Assema, Bart van den Borne, Pepijn van Empelen, Katy van den Hoek, Angelique van der Kar, Nicole van Kesteren, Olga van Rijn, Sarah Veblen-Mortenson, Peter Veen, Sally Vernon, Rachel Vojvodic, Pjer Vriens, Marsha Weil, Henk Wilke, and Barry Zimmerman.

We are indebted to our students who allowed us to class-test the first edition of the text. We attempted to make it better each time we taught it. We also benefited from the review and class-testing by our colleagues Omowale Amuleru-Marshall, Morehouse School of Medicine; Julie Baldwin, Northern Arizona University; Michael Barnes, Brigham Young University; Dan Bibeau, University of North Carolina at Greensboro; Brian Colwell, Texas A&M University; Carolyn Crump, University of North Carolina at Chapel Hill; Debra Krummel, West Virginia University; Michael Pejsach, Central Michigan University; Rick Petosa, Ohio State University; Janet Reis, University of Illinois, Urbana-Champaign; and Ruth Saunders, University of South Carolina.

Our thanks to our colleagues who contributed case studies to the second edition: Carlo DiClemente, María Fernández, Alicia Gonzales, Chris Markham, Patricia Dolan Mullen, Sylvia Partida, Herman Schaalma, Ross Shegog, Guillermo Tortolero-Luna, and Shellie Tyrrell.

Some of our friends and colleagues provided extraordinary support. Comprehensive reviews of the first edition by John Allegrante and Kenneth McLeroy enabled us to fine-tune the manuscript. Patricia Dolan Mullen not only contributed her