PLANNING HEALTH PROMOTION PROGRAMS

An Intervention Mapping Approach

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CONTENTS

LIST OF FIGURES AND TABLES

Figures

Tables

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 a1., 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.

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- *Patricia Dolan Mullen,* professor of Health Promotion and Behavioral Sciences at the School of Public Health, University of Texas Health Science Center at Houston, teaches classes on program evaluation and on systematic review and meta-analysis. She has served on many review groups, expert panels, and most recently on the U.S. Community Preventive Services Task Force to produce the new *Guide to Community Preventive Services.* She contributed to sections in Chapter Two on evidence reviews.

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- *Christine Markham* is assistant professor in Health Promotion and Behavioral Sciences at the University of Texas Health Science Center at Houston. Her research area is child and adolescent health with emphasis on sexual and reproductive health and substance use prevention. She has been instrumental in demonstrating the use of Intervention Mapping as an effective approach for adapting existing programs to meet the needs of a new target population and has taught Intervention Mapping in the United States and the Netherlands.

- *Helen Clark* is a doctoral student at the School of Public Health, University of Texas Health Science Center at Houston. She managed the references for the second edition and provided unflagging support and goodwill to the authors.

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PART ONE

FOUNDATIONS