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## **Chapter V**

# **Behavior Change through ICT Use: Experiences from Relatively Healthy Populations**

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### **Abstract**

*New communication technologies have made an impact on several areas of our everyday life, including the areas of health and health promotion. The Internet provides opportunities for personalized interactive health communication at a much larger scale than is possible in face-to-face communication. It has been suggested that only interactive health-behavior-change Web sites that advise, assess, assist, provide anticipatory guidance, and arrange follow-up have the potential to lead to successful behavior change. Additional factors that may affect the success rate of behavior-change programs are the reach of and the exposure to such programs. This chapter elaborates on all of these factors.*

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## Introduction

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Rapid developments in information and communication technologies have made a plethora of computer-based applications affecting our everyday life available. Not surprisingly, these applications have also been taken up in health-related areas. Electronic medical records, computerized reminders for preventive services, and computer-aided diagnosis of tumors are examples of this. Examples can also be found in the area of health-behavior change. New communication technologies are increasingly used as a replacement for and supplement to traditional health education and health-behavior-change programs. In addition to searching for health information, large groups of Internet users have received information from tailored health-promotion programs through interactive health communication and/or have participated in online surveys (Sciamanna, Lewis, Tat, Napolitano, Fotheringham, & Marcus, 2002).

Evidently, the ultimate goal of Web-based health-promotion programs is to make an impact on public health. The extent to which such programs have an impact on public health is determined by two components: the reach and the efficacy (Abrams, Emmons, & Linnan, 1997). This chapter will discuss the following components in more detail: the Internet as a communication channel, potentials and minimum requirements of Web-based behavior-change programs, the delivery and reach of and exposure to Web-based behavior-change programs, and the feasibility and effectiveness of Web-based behavior-change programs. This chapter focuses specifically on relatively healthy populations as opposed to patient populations. Koelen and Van den Ban (2004) discussed that conventional mass media generally focus on new discoveries about diseases and their treatment. Much less attention is focused on disease prevention, health behavior, or early detection. This is in sharp contrast with the general idea that an ounce of prevention is worth a pound of cure, and stresses the need for a focus on applications for relatively healthy populations. This is particularly challenging because (otherwise healthy) at elevated risk for cardiovascular disease stated that they were more interested in using Web-based health-promoting programs for information when confronted with a direct medical condition than for prevention purposes (Verheijden, 2004).

## Commonly Used Behavior-Change Theories

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Changing health behavior is challenging, and it is widely assumed that to be successful one needs to understand the determinants of behavior and behavior change. To help increase this understanding, several models have been developed. It is beyond the scope of this chapter to provide a full overview of health-behavior (-change) models.

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