Health education: theoretical concepts, effective strategies and core competencies

A foundation document to guide capacity development of health educators

World Health Organization
Regional Office for the Eastern Mediterranean

Health education: theoretical concepts, effective strategies and core competencies

A foundation document to guide capacity development of health educators

World Health Organization
Regional Office for the Eastern Mediterranean

WHO Library Cataloguing in Publication Data

World Health Organization. Regional Office for the Eastern Mediterranean
Health education: theoretical concepts, effective strategies and core competencies: a foundation document to guide capacity development of health educators/World Health Organization. Regional Office for the Eastern Mediterranean
p.
ISBN: 978-92-9021-828-9
ISBN: 978-92-9021-829-6 (online)
1. Health Education - methods - Eastern Mediterranean Region 2. Health Promotion - Eastern Mediterranean Region 3. Health Literacy 3. Competency-Based Education I. Title II. Regional Office for the Eastern Mediterranean
(NLM Classification: WA 590)

© World Health Organization 2012
All rights reserved.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.
All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Publications of the World Health Organization can be obtained from Distribution and Sales, World Health Organization, Regional Office for the Eastern Mediterranean, PO Box 7608, Nasr City, Cairo 11371, Egypt (tel: +202 2670 2535, fax: +202 2670 2492; email: PAM@emro.who.int). Requests for permission to reproduce, in part or in whole, or to translate publications of WHO Regional Office for the Eastern Mediterranean—whether for sale or for noncommercial distribution—should be addressed to WHO Regional Office for the Eastern Mediterranean, at the above address: email: WAP@emro.who.int .

Printed by WHO Regional Office for the Eastern Mediterranean, Cairo

Contents

Preface 5

Acknowledgements 6

Executive summary 7

1. Background and purpose 11

2. Definition of key terms 13

3. Examining the relationships: health education, health promotion and health literacy 15
   Health education and health promotion 15
   Relationship between health education and health literacy 17

4. Health behaviour theories, models and frameworks 19
   How are health behaviour theories useful? 19
   What are the most common behaviour theories that health educators use? 21

5. Health education planning, implementation and evaluation: examples of effective strategies and barriers to success 39
   Examples of effective health education initiatives and strategies—systematic reviews 40
   Challenges to implementing health education and prevention programmes 45

6. Health education core competencies 48
   Health education settings 48
   Health education responsibilities and competencies 49

7. Health education code of ethics 52

8. Conclusion 53

Annex 1. Explanation of key definitions 54

Annex 2. Complete list of health educator competencies 66

Annex 3. Code of ethics for the health education profession 72

References 76

Preface

Health education as a tool for health promotion is critical for improving the health of populations and promotes health capital. Yet, it has not always received the attention needed. The limited interest stems from various factors, including: lack of understanding of health education by those working in this field; lack of knowledge of and consensus on the definitions and concepts of health education and promotion; and the difficulty health educators face in demonstrating the efficiency and showing tangible results of the practice of health education. Of course, there are many success stories relating to health education, particularly in the settings approach, such as health-promoting schools, workplaces, clinics and communities. However, where boundaries are not well defined, implementing health education becomes more challenging.

The WHO Regional Office for Eastern Mediterranean conducted a situation analysis to assess the health education capacity, programmes and activities in Member States of the Region. The findings of the assessment showed a number of persisting challenges. These include access to and knowledge of up-to-date tools that can help educators engage in effective health education practice, and confusion about how health education can meaningfully contribute to the goals of health promotion.

This publication is intended to fill the gaps in knowledge and understanding of health education and promotion and provide Member States with knowledge of the wide range of tools available. As a health education foundation document, it provides a review of the various health education theories, identifies the components of evidence-based health education, outlines the competencies necessary to engage in effective practice, and seeks to provide a common understanding of health education disciplines and related concepts. It also offers a framework that clarifies the relationship between health literacy, health promotion, determinants of health and healthy public policy and health outcomes. This can be useful in understanding better the assets and gaps in the application of health promotion and education. It is targeted at health promotion and education professionals and professionals in related disciplines.

Acknowledgements

This publication is the product of contributions by many individuals. The publication was written and revised by Wayne Mitic, Victoria University, Canada and Faten Ben Abdelaziz and Haifa Madi, WHO Regional Office for the Eastern Mediterranean, Cairo. The draft was reviewed by a technical committee comprising representatives of technical partners and Member States, including Jaffar Hussain and Akihiro Seita, WHO Regional Office for the Eastern Mediterranean, Cairo. Technical contributions were also received from Abdelhalim Joukhader, Senior Consultant, Mayada Kanj, American University of Beirut, Gauden Galea, WHO Regional Office for Europe and Stephen Fawcett, WHO Collaborating Centre for Community Health and Development, University of Kansas.

Executive summary

Health education forms an important part of the health promotion activities currently occurring in the countries that make up the WHO Eastern Mediterranean Region. These activities occur in schools, workplaces, clinics and communities and include topics such as healthy eating, physical activity, tobacco use prevention, mental health, HIV/AIDS prevention and safety. Staff who are recognized as "health educators" are hard-working, enthusiastic and dedicated. However, a number of challenges exist, including having access to appropriate up-to-date tools on how to engage in effective health education practice and confusion as to how health education can meaningfully contribute to the goals of health promotion. In response to these challenges, a number of ministry of health staff within the Region have expressed a need for more clearly defined roles and updated skills in health education practice. The purpose of this foundation document is to fill those gaps. It reviews health education theories and definitions, identifies the components of evidence-based health education and outlines the abilities necessary to engage in effective practice.

Much has been written over the years about the relationship and overlap between health education, health promotion and other concepts, such as health literacy. Attempting to describe these various relationships is not easy; discussion of these concepts can be intense since the professional affiliation associated with them is often strong and entrenched and the concepts are either still evolving or have evolved at different times from separate disciplines.

Health promotion is defined by the Ottawa Charter as the process of enabling people to increase control over and to improve their health. For the purposes of this document, health promotion is viewed as a combination of health education activities and the adoption of healthy public policies. Health education focuses on building individuals' capacities through educational, motivational, skill-building and consciousness-raising techniques. Healthy public policies provide the environmental supports that will encourage and enhance behaviour change. By influencing both individuals' capacities and providing environmental support, meaningful and sustained change in the health of individuals and communities can occur. Health literacy is an outcome of effective health education, increasing individuals' capacities to access and use health information to make appropriate health decisions and maintain basic health.

Each year vast resources are spent in the Eastern Mediterranean Region trying to modify human behaviour. While some interventions are successful, many fall short of their goals. Research shows that those interventions most likely to achieve desired outcomes are based on a clear understanding of targeted health behaviour and the environmental context in which they occur. For help with developing, managing and evaluating these interventions, health education practitioners can turn to several planning models that are based on health behaviour theories. The major planning theories and models currently being used by health educators include the following.

- **The rational model** This model, also known as the "knowledge, attitudes, practices model" (KAP), is based on the premise that increasing a person's knowledge will prompt a behaviour change.
- **The health belief model** One of the earliest behaviour change models to explain human health decision-making and subsequent behaviour is based on the following six constructs: perceived susceptibility, severity, benefits and barriers, cues to action and self-efficacy.

- **The extended parallel process model** Based on the health belief model, this model proposes that people, when presented with a risk message, engage in two appraisal processes: a determination of whether they are susceptible to an identified threat and whether the threat is severe; and whether the recommended action can reduce that threat (i.e. response efficacy) and whether they can successfully perform the recommended action (i.e. self-efficacy).
- **The transtheoretical model of change** Behaviour change is viewed as a progression through a series of five stages: pre-contemplation, contemplation, preparation, action and maintenance. People have specific informational needs at each stage, and health educators can offer the most effective intervention strategies based on the recipients' stage of change.
- **The theory of planned behaviour** The theory holds that intent is influenced not only by the attitude towards behaviour but also the perception of social norms (the strength of others' opinions on the behaviour and a person's own motivation to comply with those of significant others) and the degree of perceived behavioural control.
- **The activated health education model** This is a three-phase model that actively engages individuals in the assessment of their health (*experiential phase*); presents information and creates awareness of the target behaviour (*awareness phase*); and facilitates its identification and clarification of personal health values and develops a customized plan for behaviour change (*responsibility phase)*.
- **Social cognitive theory** According to this theory, three main factors affect the likelihood that a person will change health behaviour: self-efficacy, goals and outcome expectancies. If individuals have a sense of self-efficacy, they can change behaviour even when faced with obstacles.
- **Communication theory** This theory holds that multilevel strategies are necessary depending on who is being targeted, such as tailored messages at the individual level, targeted messages at the group level, social marketing at the community level, media advocacy at the policy level and mass media campaigns at the population level.
- **Diffusion of innovation theory** This theory holds that there are five categories of people: *innovators*, *early adopters*, *early majority adopters*, *late majority adopters* and *laggards*; and the numbers in each category are distributed normally: the classic bell curve. By identifying the characteristics of people in each adopter category, health educators can more effectively plan and implement strategies that are customized to their needs.

Given the numerous health education initiatives that have occurred over the past 30 to 40 years, the multiple target groups and issues that have been addressed, and the differing evaluation methods that have been used, one is left with the question: what are the core ingredients of success? The following methods have stood the test of time and appear to be essential components of health education programmes and services aimed at enhancing an individual's and a community's health.

- **Participant involvement** Community members should be involved in all phases of a programme's development: identifying community needs, enlisting the aid of community organizations, planning and implementing programme activities, and evaluating results.
- **Planning** This involves identifying the health problems in the community that are preventable through community intervention, formulating goals, identifying target behaviour and

environmental characteristics that will be the focus of the intervention efforts, deciding how stakeholders will be involved, and building a cohesive planning group.

- **Needs and resources assessment** Prior to implementing a health education initiative, attention needs to be given to identifying the health needs and capacities of the community and the resources that are available.
- **A comprehensive programme** The programmes with the greatest promise are comprehensive, in that they deal with multiple risk factors, use several different channels of programme delivery, target several different levels (individuals, families, social networks, organizations, the community as a whole) and are designed to change not only risk behaviour but also the factors and conditions that sustain this behaviour (e.g. motivation, social environment).
- **An integrated programme** A programme should be integrated: each component of the programme should reinforce the other components. Programmes should also be physically integrated into the settings where people live their lives (e.g. worksites).
- **Long-term change** Health education programmes should be designed to produce stable and lasting changes in health behaviour. This requires longer-term funding of programmes and the development of a permanent health education infrastructure within the community.
- **Altering community norms** In order to have a significant impact on an entire organization or community, a health education programme must be able to alter community or organizational norms and standards of behaviour. This requires that a substantial proportion of the community's or organization's members be exposed to programme messages or, preferably, be involved in programme activities in some way.
- **Research and evaluation** A comprehensive evaluation and research process is necessary, not only to document programme outcomes and effects, but to describe its formation and process and its cost-effectiveness and benefits.

The US National Commission for Health Education Credentialing (NCHEC) has identified seven major responsibilities for the health educator as well as the competencies and sub-competencies that demonstrate competency under each responsibility. The major responsibilities for health educators are:

- assessing individual and community needs for health education
- planning effective health education programmes
- implementing health education programmes
- evaluating the effectiveness of health education programmes
- communicating health and health education needs, concerns and resources
- coordinating the provision of health education services
- acting as resource people in health education.

The NCHEC has proposed a profession-wide standard code of ethics for health educators. A code of ethics provides a framework of shared values within which health education is practised. The responsibility of each health educator is to aspire to the highest possible standards of conduct and to encourage the ethical behaviour of all those with whom they work. Regardless of job title, professional affiliation, work setting or population served, health educators should abide by these guidelines when making professional decisions.

- **Responsibility to the public** A health educator's ultimate responsibility is to educate people for the purpose of promoting, maintaining and improving individual, family and community health.
- **Responsibility to the profession** Health educators are responsible for their professional behaviour, for the reputation of their profession and for promoting ethical conduct among their colleagues.
- **Responsibility to employers** Health educators recognize the boundaries of their professional competence and are accountable for their professional activities and actions.
- **Responsibility in the delivery of health education** Health educators promote integrity in the delivery of health education. They respect the rights, dignity, confidentiality and worth of all people by adapting strategies and methods to the needs of diverse populations and communities.
- **Responsibility in research and evaluation** Health educators contribute to the health of the population and to the profession through research and evaluation activities.
- **Responsibility in professional preparation** Those involved in the preparation and training of health educators have an obligation to accord learners the same respect and treatment given other groups by providing quality education that benefits the profession and the public.

In conclusion, health education, as one component to the broader area of health promotion, provides a valuable contribution to the betterment of individual and community health. This foundation document provides a thorough review of theories and tools in the areas of health education and health promotion and related disciplines. The ultimate goal is to provide a common understanding. The health educator who uses targeted, theory-based interventions, embraces concepts of participation and voluntary change, and includes health literacy and individual capacity-building within health programmes and services, is a valuable and essential member of the health promotion team.

1. Background and purpose

Throughout the WHO Eastern Mediterranean Region many health education-related activities occur in schools, workplaces, clinics and communities. A wide range of topics is covered, including healthy eating, physical activity, tobacco use prevention, mental health, HIV/AIDS prevention and safety. Staff who are recognized as "health educators" are hard-working, enthusiastic and dedicated even though they often work with limited budgets and lack the kind of recognition given to those serving in other parts of the health services system.

Health educators are hard-working, enthusiastic and dedicated professionals

The path to a comprehensive health education initiative in the Region is filled with additional significant challenges.

- Health education activities are taking place throughout the Region but much of this effort appears to be restricted to the production of materials and presentations for the purpose of raising public awareness of health-related issues. Not only is this approach limiting but its effectiveness has, to date, not been thoroughly assessed or reported in the Region.
- Many health educators are often expected to divide their time between their own work and projects involving the broader aspects of health promotion (i.e. public policies, healthy environments, cross-government initiatives).
- Many health educators have limited specialized training and therefore have, in some cases, restricted their activities to social marketing and information-dissemination strategies. Often they lack an understanding of the theoretical foundations of health education and the ways in which these theories and concepts can be applied.
- Many health educators do not have access to the tools required to be effective practitioners; to engage in needs/capacity assessments, plan comprehensive health behaviour change initiatives and assess programme impacts.
- Confusion exists in the relationship between health education and the broader area of health promotion. The ways in which health educators can meaningfully contribute to the goals of health promotion are not well defined.

Confusion exists in the relationship between health education activities and the broader area of health promotion

In response to these challenges, a number of ministry of health staff within the countries of the Region have started expressing a need for more clearly defined roles and updated skills in health education practice.

The purpose of this foundation document is to begin a process of reviewing and strengthening health education capacity in the countries of the Region. Specifically, the document will focus on the following:

- the role of health educators and their importance
- key health behaviour change theories and models
- examples of evidence-based health education initiatives

- core health education skills and competencies
- the relationship among health education and other components of the health-promoting system.

2. Definition of key terms

Definitions provide people with a common foundation for understanding. Most people recognize, for example, the importance of adopting "healthy behaviour" and living in "healthy environments". However, the difficulty arises in the interpretation of health-related terms, which can vary greatly among different professional groups and segments of society. The following definitions are presented to enhance effective communication and therefore the understanding of the models and frameworks presented later. A more detailed description of each of these terms is provided in Annex 1.

Health

Definitions provide people with a common foundation for understanding

The WHO Constitution of 1948 defines health as a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity. In addition, the Ottawa Declaration states an "individual or group must be able to identify and realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities". (*1*)

Health education

"Consciously constructed opportunities for learning involving some form of communication designed to improve *health literacy*, including improving knowledge, and developing *life skills*, which are conducive to individual and *community health*." (*2*) The WHO health promotion glossary describes health education as not limited to the dissemination of health-related information but also "fostering the motivation, skills and confidence (self-efficacy) necessary to take action to improve *health*", as well as "the communication of information concerning the underlying social, economic and environmental conditions impacting on *health*, as well as individual *risk factors* and *risk behaviours*, and use of the health care system". A broad purpose of health education therefore is not only to increase knowledge about personal health behaviour but also to develop skills that "demonstrate the political feasibility and organizational possibilities of various forms of action to address social, economic and environmental *determinants of health*".

Health literacy

"The degree to which people are able to access, understand, appraise and communicate information to engage with the demands of different health contexts in order to promote and maintain good health across the life-course." (*3*)

Health promotion

"The process of enabling people to increase control over, and to improve, their health." (*1*)

Lifestyle (lifestyles conducive to health)

"A way of living based on identifiable patterns of behaviour which are determined by the interplay between an individual's personal characteristics, social interactions, and socioeconomic and environmental living conditions." (*2*)

Population risk continuum

The health of all people in a community can be considered as a health continuum between optimal health and death. Where ones lies on the continuum is related to many risk factors and conditions often referred to as the determinants of health (i.e. social and economic environment, individual capacity and coping skills, personal health practices, health services, biology and genetics). The quality of our lives and therefore our health is influenced by our physical, economic and social environments. As well, personal behaviour that places us at risk (e.g. eating few fruits and vegetables) increases the chance of developing health problems (e.g. many types of cancer).

Prevention

"Measures not only to prevent the occurrence of disease, … but also arrest its progress and reduce its consequences once it is established." (*4*)

Primary health care

"Essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford." ([5]) In many countries primary health care involves incorporating curative treatment given by the first-contact provider along with promotional, preventive and rehabilitative services provided by multidisciplinary teams of health care professionals working collaboratively. (*6,7*)

Quality of Life

"An individual's perceptions of their position in life in the context of the culture and value system where they live, and in relation to their goals, expectations, standards, and concerns." (*8*)

Wellness

The *optimal* state of health of individuals and groups; involves the realization of the fullest physical, psychological, social, spiritual and economical potential of an individual: the fulfilment one's role expectations in the family, community, place of worship, workplace and other settings. (*9*)

3. Examining the relationships: health education, health promotion and health literacy

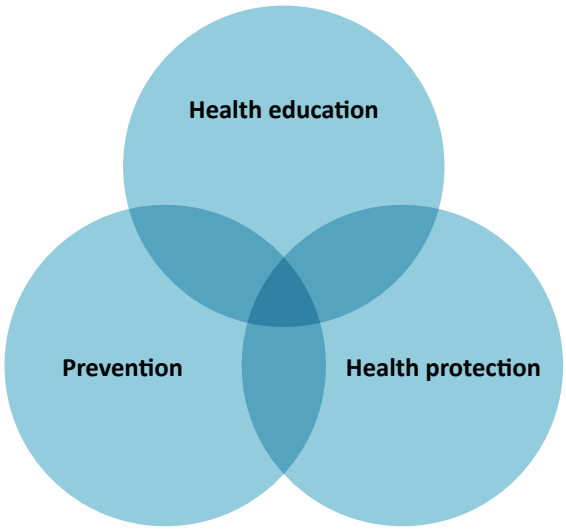
Much has been written over the years about the relationship, uniqueness and overlap between health education, health promotion and other concepts, such as health literacy, primary health care, community development and mobilization, and the role of empowerment. Attempting to describe these various relationships is not easy; findings and consensus will not fall neatly into place like the pieces of a jigsaw puzzle. Furthermore, discussion around these concepts can be intense since the professional affiliation associated with them is often strong and entrenched. Another hurdle is the frequent lack of consistency in the terminology used, which is because the concepts themselves are either still evolving or have evolved at different times from separate disciplines such as psychology, sociology, medicine and the field of social justice.

Nonetheless, the purpose of this section is to build upon the definitions of health promotion, health education and health literacy given in the previous section and in Annex 1 and to review the ways in which these concepts relate to one another.

Health education and health promotion

Health promotion is concerned with improving health by seeking to influence lifestyles, health services and, above all, environments (which are not limited to the physical environment but encompass as well the cultural and socioeconomic circumstances that substantially determine health status). There are several recognized definitions of health promotion, most of which embrace the tenets of health, community participation and individual empowerment. The most prominent, from the Ottawa Charter for Health Promotion, (*1*) proposes a framework for action that sets out five priority areas: building healthy public policy; creating supportive environments; strengthening community action; developing personal skills; and reorienting health services.

Health promotion has its roots in many different disciplines. Over time it incorporated several previously separate components, one of which was health education. Some authorities hold the view that health promotion comprises three overlapping components: health education, health protection and prevention. (*10,11*) These overlapping areas, as illustrated in Figure 1, are potentially substantial: health education, for example, includes educational efforts to influence lifestyles that guard against ill-health as well as efforts to encourage participation in prevention services. Health protection addresses policies and regulations that are preventive in nature, such as fluoridation of water supplies to prevent dental caries. Health education aimed at health protection champions positive health protection measures among the public and policy-makers. The combined efforts of all three components stimulate a social environment that is conducive to the success of preventive health protection measures such as intensive lobbying for seat-belt legislation.



Source: (10)

Figure 1. A model of health promotion

But there are broader viewpoints. Green and Kreuter maintain that the defining characteristic of health education is the voluntary participation of learners in determining their own health practices. (*12*) WHO (*2*) describes health education as not being limited to the dissemination of health-related information but also "fostering the motivation, skills and confidence (self-efficacy) necessary to take action to improve *health*" as well as "the communication of information concerning the underlying social, economic and environmental conditions impacting on *health*, as well as individual *risk factors* and *risk behaviours*, and use of the health care system." A broad purpose of health education therefore is not only to increase knowledge about personal health behaviours but also to develop skills that "demonstrate the political feasibility and organizational possibilities of various forms of action to address social, economic and environmental *determinants of health*." (*2*)

O'Byrne (*13*) makes a distinction between the aspects of an individual's environment that are within one's control, such as individual health-related behaviour and the *use* of health services, and aspects outside of one's control – social, economic and environmental factors and the *provision* of health services. Health promotion, says O'Byrne, encompasses both areas. Through health education it provides "individuals and groups with the knowledge, values and skills that encourage effective action for health". Through healthy public policy it "generates political commitment for health supportive policies and practices, the provision of services and increased public interest, and demand for health".

Tones (*14*) developed the following formula to illustrate O'Byrne's distinction:

health promotion = health education × healthy public policy

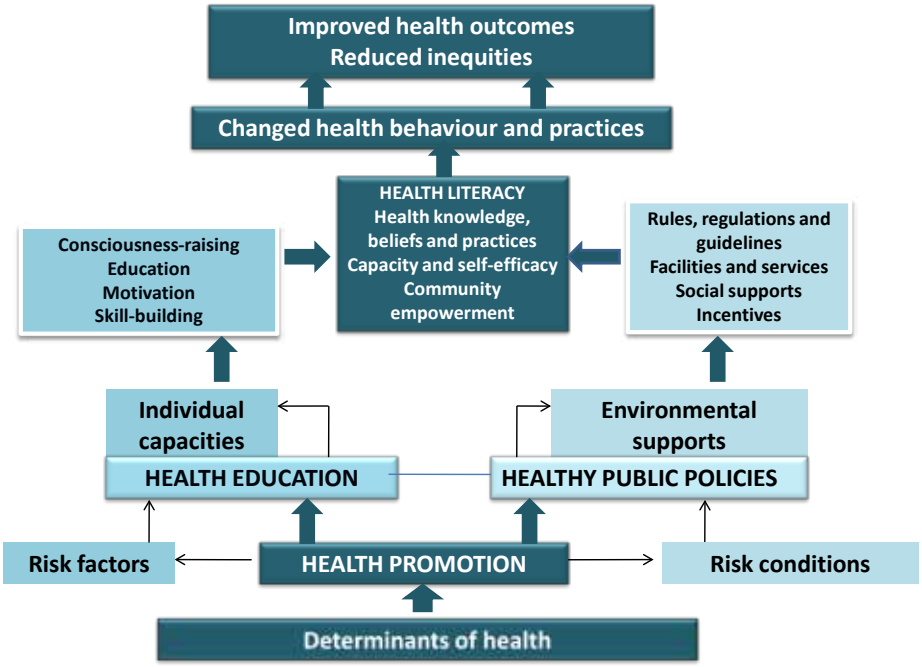


Figure 2. Relationship between major health concepts

Health education, according to this formula, focuses on building individuals' capacities through educational, motivational, skill-building and consciousness-raising techniques. Healthy public policies provide the environmental supports that will encourage and enhance behaviour change. By influencing both these intrinsic and extrinsic factors, meaningful and sustained change in the health of individuals and communities can be realized. This relationship is illustrated in greater detail in Figure 2.

Relationship between health education and health litracy

Controversy still exists as to what constitutes "health literacy", how to measure it, and what methods are most effective and cost-effective in modifying health literacy levels

According to Ratzan, (*15*) the term "health literacy" was first used in the health education context about 30 years ago. Today it is considered an important concept not only among health education practitioners but also among those involved in the broader aspects of health promotion. A definition of the term "health literacy" appeared in the WHO glossary, where it was suggested that "health literacy represents the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good *health*". (*2*) As well, "health literacy means more than being able to read pamphlets and make appointments. By improving people's access to health information, and their capacity to use it effectively, health literacy is crucial to *empowerment*".

People with low literacy have poorer overall health

Low literacy leads to misuse of medication and misunderstanding of health information

Low literacy leads to preventable use of health services, including emergency care

People with low literacy skills often wait longer to seek medical help so health problems reach a crisis state

This definition represents a considerable expansion of the earlier definitions including "being able to apply literacy skills to health related materials such as prescriptions, appointment cards, medicine labels, and directions for home health care", (*16*) and "the degree to which people have the capacity to obtain, process, and understand basic health information and services needed to make acceptable health decisions". (*17*)

Rootman (*18*) identified several reasons for accepting the expanded definition of health literacy:

- health literacy is a "key outcome from health education" (*19*) and one that health promotion could legitimately be held accountable for
- it "significantly broadens the scope and content of health education and communication", (*19*) both of which are critical operational strategies in health promotion
- it helps strengthen the links between the fields of health and education. (*20*)

Health literacy, therefore, can be viewed as an outcome for effective health education by increasing individuals' capacities to access and use health information to make appropriate health decisions and maintain basic health.

Public health must base its messages on the theories and principles of health education (e.g., what the message says,) health communication (e.g., how the message is delivered), and the health literacy of the intended audience (e.g., whether the message is accessed and understood).

Source: Gazmararian J, Curran JW, Parker RM, Bernhardt JM, DeBuono BA. Public health literacy in America: an ethical imperative. *American journal of preventive medicine,* 2005, 28(3):317–22.

4. Health behaviour theories, models and frameworks

The mandate of most health education, public health, and chronic disease management programmes is to help people maintain and improve their health, reduce disease risks, and manage chronic illness. (*21*) Ultimately the goal is to improve the well-being and self-sufficiency of individuals, families, organizations, and communities. Often this will require behaviour change at every level.

In the Eastern Mediterranean Region chronic diseases are estimated to account for almost half of the total burden of disease

Each year vast resources are spent trying to modify human behaviour. While some intervention strategies are successful, many fall short of their goals. Research shows that those interventions "most likely to achieve desired outcomes are based on a clear understanding of targeted health behaviours, and the environmental context in which they occur". (*21*) For help with developing, managing and evaluating these interventions, health education practitioners can turn to several strategic planning models that are based on health behaviour theories.

How are health behaviour theories useful?

A health behaviour theory offers a number of benefits and can be seen: (*21*)

- as ***a toolbox*** for moving beyond intuition to designing and evaluating health education interventions that are based on an understanding of why people engage in certain health behaviour;
- as ***a foundation*** for programme planning and development that is consistent with the current emphasis on using evidence-based interventions;
- as ***a road map*** for studying problems, developing appropriate interventions, identifying indicators and evaluating impacts;
- as ***a guide*** to help explain the processes for changing health behaviour and the influences of the many forces that affect it, including social and physical environments;
- as ***a compass*** to help planners identify the most suitable target audiences, methods for fostering change and outcomes for evaluation.

The following section presents a synopsis of some of the major health behaviour theories currently in use. (*22*) Three points must first be mentioned to provide context.

- **No one theory dominates health education practice** Rather, some theories focus on individuals while others examine change within families, institutions, communities and cultures. Addressing a health issue may require more than one theory, and no one theory is suitable for all cases. (*21*)
- **The contexts in which health behaviour occurs are evolving** Some theories have converged over the years while others have uncovered constructs that are central to multiple theories (e.g. self-efficacy). (*23*)

- **A theory should be chosen based on the topic and target population** Choosing a theory should start with a "thorough assessment of the situation: the units of analysis or change, the topic, and the type of behaviour to be addressed". (*21*) The theory should be:

  √ logical

  √ consistent with everyday observations

  √ similar to those used in previous successful programmes

  √ supported by past research in the same area or related ideas. (*23*)

Researchers and practitioners use theory to investigate answers to the questions of "why," "what," and "how" health issues should be addressed

Source: Rimer B, Glanz K. *Theory at a glance. A guide for health promotion practice,* 2nd ed. Bethesda, Maryland, US Department of Health and Human Services, 2005. http://www.cancer.gov/cancertopics/cancerlibrary/theory.pdf. Accessed 30 March 2011.

Health educators commonly use planning models when developing their programmes. Planning models are used for planning, implementing and evaluating health education programmes and for providing a framework on which to build a plan. A number of planning models have been developed over the years; many consist of the six basic components presented in Figure 3. (*24*)

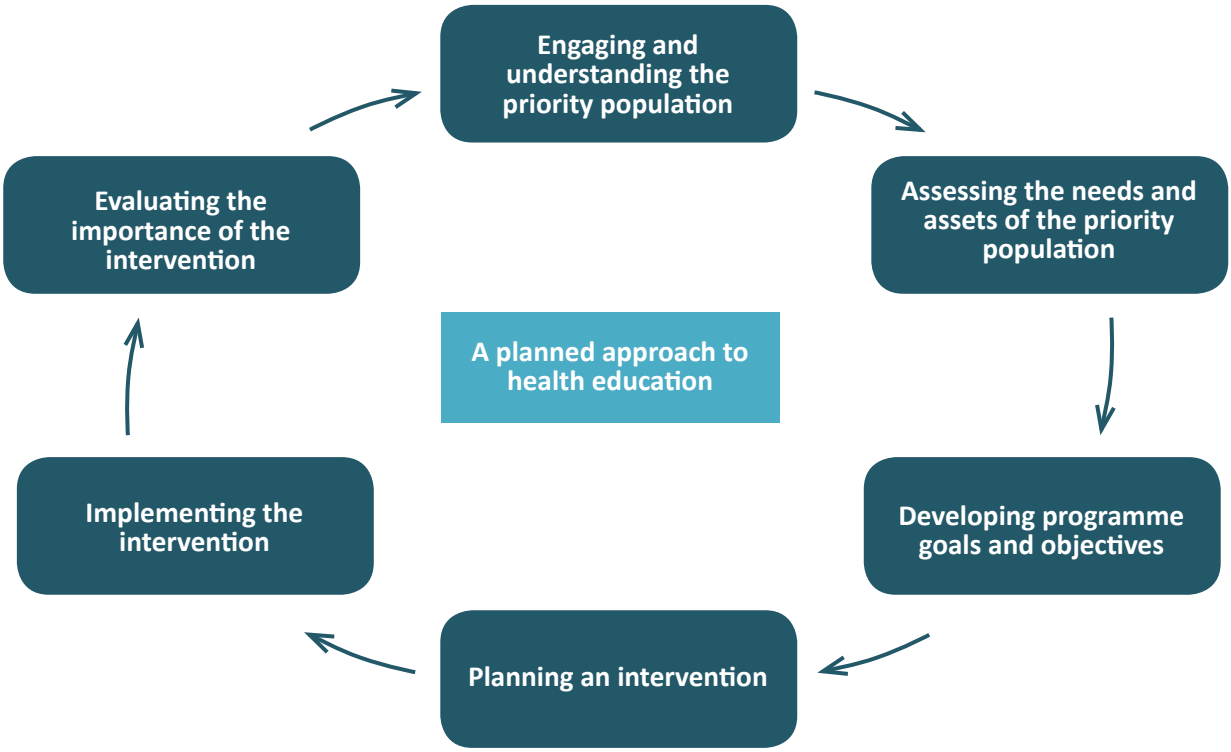


Figure 3. Common components of health education planning models

What are the most common behaviour theories that health educators use?

There are many models and frameworks that attempt to predict or explain the nature and intensity of intervening variables on human behaviour. But out of the vast body of literature on health behaviour, three general themes emerge: those that focus on individual capacity – intrapersonal; those that focus on interpersonal relationships and supports; and those that examine environmental supports and contexts. The last sphere of influence is further divided into institutional or organizational factors, community factors, and public policy factors (see Table 1). (*25*) Health education's greatest focus is concentrated on the first and second themes – intrapersonal and interpersonal – and to a lesser extent on the third theme – environmental supports – which is more within the broader realm of health promotion.

Table 1. Spheres of influence: an ecological perspective

Concept	Definition
Intrapersonal capacity →	Individual characteristics that influence behaviour, such as knowledge, attitudes, beliefs and personality traits
Interpersonal supports →	Interpersonal processes and primary groups, including family, friends and peers that provide social identity, support and role definition
Environmental contexts	
Institutional factors →	Rules, regulations, policies and informal structures, which may constrain or promote recommended behaviour
Community factors →	Social networks and norms, or standards, which exist formally or informally among individuals, groups and organizations
Public policy →	Local, state and federal policies and laws that regulate or support healthy actions and practices for disease prevention, early detection, control and management

Intrapersonal capacity

The following are six theories/concepts that examine and attempt to modify individual characteristics at the intrapersonal capacity level: awareness and knowledge, beliefs, opinions and attitudes, self-efficacy, intentions, and skills and personal power.

A. The rational model

Within this model education strategies target individuals and groups and strive to encourage positive and prevent negative health behaviour choices. This is done by presenting relatively unbiased information. This model, also known as the knowledge, attitudes, practices model (KAP), is based on the premise that increasing a person's knowledge will prompt a behaviour change. It assumes that the only obstacle to acting "responsibly" and rationally is ignorance, and that information alone can influence behaviour by "correcting" this lack of knowledge:

change in knowledge → change in attitudes/beliefs → change in behaviour

Example: Rational model

Efforts to encourage people to adopt health practices rely heavily on persuasive communications in health education campaigns. In such health messages, appeals to fear by depicting the ravages of disease are often used as motivators, and recommended preventive practices are provided as guides for action. People need enough knowledge of potential dangers to warrant action, but they do not have to be scared out of their wits to act. Rather, what people need is sound information on how disease is transmitted, guidance on how to regulate their behavior, and firm belief in their personal efficacy to turn concerns into effective preventive actions. Responding to these needs requires a shift in emphasis from trying to scare people into healthy behavior to empowering them with the tools for exercising personal control over their health habits.

Source: Bandura A. Social cognitive theory and exercise of control over HIV infection. In: DiClemente RJ, Peterson JL, eds. *Preventing AIDS: theories and methods of behavioral interventions*. New York, Plenum Press, 1994:25–59.

This model has its weaknesses, however. "Knowledge is a necessary but usually not sufficient factor in changing individual or collective behaviour." (*12*) Motivation usually must come from sources other than, or in addition to, factual knowledge. For example, most smokers are aware of the hazards associated with cigarette smoking, yet continue this behaviour. The facts are not what people find disenchanting or boring but rather, the moralization, superficial coverage of the subject matter, scare tactics, jargon and tedious methods of presentation. (*12*)

B. The health belief model

The health belief model was one of the earliest behaviour change models to explain human health decision-making and subsequent behaviour. Social psychologists during the 1950s wanted to explain why some people refused chest X-rays for detecting tuberculosis even though the service was free. What they discovered was that people's beliefs about the severity of a disease and their susceptibility to it influenced their willingness to take preventive action. Over the next few years this theory was modified to include six constructs to help predict whether people will take action to prevent, screen for, and control illness. These constructs, their definitions and sample strategies are described in Table 2.

Table 2. The health belief model

Concept	Definition	Examples	Potential change strategies
Perceived susceptibility	Beliefs about the chances of getting a condition	Individual perceptions of personal susceptibility to specific illnesses or accidents often vary widely from the realistic appraisal of their statistical probability. The nature and intensity of these perceptions may significantly affect their willingness to take preventive action	• Define what population(s) are at risk and their levels of risk • Tailor risk information based on an individual's characteristics or behaviour • Help the individual develop an accurate perception of his or her own risk
Perceived severity	Beliefs about the seriousness of a condition and its consequences	People may not respond to suggestions that they obtain flu shots because they do not view influenza as a serious disease. The person must perceive the potential seriousness of the condition in terms of pain or discomfort, time lost from work, economic difficulties, etc.	• Specify the consequences of a condition and recommended action
Perceived benefits	Beliefs about the effectiveness of taking action to reduce risk or seriousness	Individuals generally must believe that the recommended health action will actually do some good if they are to comply. Some long-time cigarette smokers, for example, seem to believe that, "I've smoked for so many years that it's too late to quit. It couldn't help now anyway, so why bother?"	• Explain how, where, and when to take action and what the potential positive results will be
Perceived barriers	Beliefs about the material and psychological costs of taking action	If the change is perceived as difficult, unpleasant or inconvenient and outweighs the perceived benefits, it is less likely to occur	• Offer reassurance, incentives, and assistance; correct isinformation
Cues to action	Factors that activate "readiness to change" – a trigger mechanism	A reminder note from a dentist that it is time for a check-up may be sufficient to prompt action	• Provide "how to" information, promote awareness and employ reminder systems
Self-efficacy	Confidence in one's ability to take action	One's opinion of what one is capable of doing is based largely on experience with similar actions or circumstances encountered or observed in the past	• Provide training and guidance in performing action • Use progressive goal setting • Give verbal reinforcement • Demonstrate desired behaviour
Source: adapted from (*21*)			

Example: Health belief model

Dengue fever/dengue haemorrhagic fever is a growing pandemic health problem. Source reduction of Aedes mosquito breeding sites is critical for its control. These larval mosquito breeding sites include many human-made items (trash) such as cans and tires. The source reduction of these mosquito breeding sites are related to human behaviour. … Health behaviour theory may be used as a framework to design a health education–health behavioural change intervention, a means of testing or evaluating whether a programme works, and also used to create educational materials and health messages.

The Foundation University Radio Station, together with the Foundation University College of Education, conducted a dengue communication campaign during September–October 2003 in Dumaguete, Philippines, a dengue endemic city. … Health messages based on HBM constructs (were) formatted in the style of a one line or short public service announcement (PSA) or as a dialogue public service announcement especially for radio use. … Examples of dengue health issues related to their corresponding HBM constructs, as well as health communication messages to address these health issues based on the HBM constructs used in the university's radio campaign (were as follows).

Construct	Message example
Perceived susceptibility	"So, you don't think dengue is a real problem. It is here in our community now. Young and old get sick with dengue"
Perceived severity	"It's (dengue) a killer!"
Perceived barriers	"Little time to do a clean-up to reduce mosquito breeding sites. No problem. Use the action plan checklist. Use it once a week"
Perceived benefits	"If everyone spends just a few minutes each week to clean-up stagnant water, throw away unneeded containers, or cover them, it will … reduce dengue fever

Source: Lennon J. The use of the health belief model in dengue health education. *Dengue bulletin*, 2005, 29.

C. The extended parallel process model (EPPM)

Some persuasive strategies try to bring about particular health decisions or behaviour by presenting a message that is biased or emotionally loaded. Such strategies may use reasoning, urging and inducement, and base their message on rational and/or emotional appeals. Persuasive communications also commonly use "fear tactics" to raise the arousal level of recipients and to make them feel more susceptible to specific risks. Most mass advertising is persuasive in nature.

The EPPM (*26*) has its roots in the health belief model. It proposes that people, when presented with a risk message, engage in two appraisal processes. (*27*)

- First, they perceive whether they are susceptible to an identified threat and whether the threat is severe. (Perceived susceptibility is the extent to which one feels at risk for a particular health threat. Perceived severity is the degree to which one believes the threat to be serious or harmful.) If the threat is perceived as trivial or irrelevant, they generally ignore the risk message and the urging to take the recommended action.

- Second, if people believe they are susceptible to a severe threat and their level of fear is aroused, they are motivated to assess whether the recommended action can reduce that threat (i.e. response efficacy) and whether they can perform the recommended action (i.e. self-efficacy). When they feel capable of taking action, they will control the risk accordingly (e.g. "I'm at risk for HIV infection but know that I am able to use condoms which will protect me against getting HIV"). However, when they doubt their ability to minimize the threat, perhaps because of personal, social or physical barriers, they focus instead on controlling their fear (e.g. "I'm at-risk for HIV infection but don't think I can use condoms and I don't think condoms work anyway"). They will also go into a state of denial, or defensive avoidance (e.g. "I'm just not going to think about it"). In sum, perceived threat (i.e., perceived susceptibility and severity) motivates action. Perceived efficacy (i.e. recommended response efficacy and self-efficacy) determines whether individuals control the danger and make behavioural changes or control their fear through psychological defence mechanisms. Table 3 presents a synopsis of the major constructs of this model.

People who have extreme anxiety about heart disease but doubt their ability to alter eating habits (low self-efficacy) may justify eating high-fat foods by rationalizing that they may die tomorrow in a car accident. In another scenario, people who have extreme anxiety about heart disease but believe heredity, not diet, determines risks (low response efficacy) may continue eating a high-fat diet, rationalizing that poor health is predetermined genetically

Table 3. The extended parallel process model

Concept	Sub-concept	Example	Potential strategies
Threat (danger/harm)	Susceptibility (likelihood)	"Am I at-risk for HIV infection?"	Emphasize the severity of the threat and the audiences' or clients' susceptibility to the threat
	Severity (magnitude or seriousness)	"Is HIV infection a serious health threat?"	Messages should emphasize or illustrate how the health threat occurs to people who are demographically similar to the audience or target
Efficacy (effectiveness)	Response efficacy (perceived effectiveness in averting threat)	"Will condoms work in preventing HIV infection?"	Emphasize that the recommended response works and is effective in averting the threat or decreasing one's chances of experiencing the health threat
	Self-efficacy Perceived ability to perform recommended behaviour	"Can I use condoms?"	Performance accomplishments (i.e. role playing, participant modelling), vicarious experience (watching live or symbolic modelling)

Example: Extended parallel process model

A computer-based intervention was designed to change perceived threat, perceived efficacy, attitudes, and knowledge regarding pregnancy, STD, and HIV prevention in rural adolescents. The intervention, which was guided largely by the extended parallel process model, was implemented and evaluated in nine rural high schools using an institutional cycle pretest–posttest control-group design. Eight-hundred eighty-seven ninth-graders completed the survey at both points in time. Process evaluation results indicated that the intervention was implemented as intended, and that over 91% of students in the treatment group completed at least one of the six computer-based activities (M = 3.46, SD = 1.44 for those doing at least one activity). Two-way mixed-model repeated-measures analysis of variance revealed that students in the treatment group outperformed students in the control group on knowledge, condom self-efficacy, attitude toward waiting to have sex, and perceived susceptibility to HIV. These results suggest that computer-based programs may be a cost-effective and easily replicable means of providing teens with basic information and skills necessary to prevent pregnancy, STDs, and HIV.

Source: Roberto AJ, Zimmerman RS, Carlyle KE, Abner EL, Cupp PK, Hansen GL. The effects of a computer-based pregnancy, STD, and HIV prevention intervention: a nine-school trial. *Health communication*, 2007, 21(2):115–24.

D. The transtheoretical model of change

One of the most extensively researched behavioural change models developed in recent years is the transtheoretical model of change. (*28*) Behaviour change is viewed as a progression through a series of five stages: precontemplation, contemplation, preparation, action and maintenance. This model recognizes that people have specific informational needs at each stage of behavioural change and is able to offer the most effective intervention strategies at each of these stages. Self-efficacy and balanced decision-making are central to the theory. Table 4 presents a description of each of the stages and potential change strategies that could be considered. (*21*)

Table 4. The transtheoretical model of change

Stage	Definition	Examples	Potential change strategies
Precontemplation	Has no intention of taking action within the next six months	"It isn't that I can't see the solution; I just can't see the problem"	Increase awareness of need for change; personalize information about risks and benefits
Contemplation	Intends to take action in the next six months	"I want to stop feeling so stuck"	Motivate; encourage making specific plans
Preparation	Intends to take action within the next 30 days and has taken some behavioural steps in this direction	"I just took out a membership to a fitness facility"	Assist with developing and implementing concrete action plans; help set gradual goals
Action	Has changed behaviour for less than six months	"I've started exercising and while I enjoy it, sometimes I find it a chore"	Assist with feedback, problem-solving, social support and reinforcement
Maintenance	Has changed behaviour for more than six months	"Exercising three times a week has become a part of my lifestyle"	Assist with coping, reminders, finding alternatives, avoiding slips/relapses (as applicable)

Example: Transtheoretical model of change

Managing diabetes continues to be a major public health challenge. This pilot study tested the stages of change model to interpret diabetic patients' readiness to change and tailor interventions based on the psychological processes of change. A group of health educators was trained in how to support patients' efforts at self-management and plan culturally appropriate activities that provide patients with an opportunity to meet goals. Diabetic patients were assessed on their movement through the stages of change on the following:

- diet: following a meal plan of the patient's choice
- exercise: 30 minutes of moderate intensity exercise five days a week
- medications: taking them 90% of the time
- self-monitoring of blood glucose: minimum one time each day

Therefore the model served two purposes: it was employed to help understand the stage at which each participant was located and it was used to develop a comprehensive diabetes risk reduction programme to help patients change their diet and physical activity behaviour and maintain that change. For example, individuals at the precontemplation phase were engaged in discussions of the importance of meal planning and barriers to change while those at the preparation phase were encouraged to do so (i.e. eat healthy meals, start a physical activity walking programme) and moved to the next stage, "action."

Results demonstrated that the transtheoretical model can be successfully integrated into medical management for diabetes; intervention needs to be customized to the patients' stage of readiness; and health educators are successful in staging patients and facilitating movement through the stages of change.

Source: Thompson J. *Use of the transtheoretical model for change and peer support to manage poorly controlled diabetes in Mexican-Americans GP13*. Presented at the 32nd annual meeting of the American Association of Diabetes Educators, Washington DC, 2005. http://www.diabetesinitiative.org/documents/18-LAC-TTMstoryboard.AADE2005.pdf. Accessed 4 April 2011.

E. The theory of planned behaviour

The theory of planned behaviour asserts that achieving and maintaining behaviour change requires intent to adopt a positive behaviour or abandon a negative one. (*29*) The theory holds that intent is influenced not only by the attitude toward the behaviour but also the perception of social norms (the strength of others' opinions on the behaviour and the person's own motivation to comply with those significant others) and the degree of perceived behavioural control. Table 5 provides an overview of this theory and examples of how it might be applied.

Table 5. Theory of planned behaviour

Concept	Definition	Example statements	Measurement approach
Behavioural intention	Perceived likelihood of performing behaviour	"I am going to quit smoking this Monday"	Are you likely or unlikely to perform the behaviour?
Attitude	Personal evaluation of the behaviour	"You know what? I think smoking is dangerous for my health"	Do you see the behaviour as good, neutral or bad?
Subjective norm	Beliefs about whether key people approve or disapprove of the behaviour; motivation to behave in a way that gains their approval	"I wonder if my friends would like me to quit smoking?"	Do you agree or disagree that most people approve of/ disapprove of the behaviour?
Perceived behavioural control	Belief that one has, and can exercise, control over performing the behaviour	"I can quit smoking, even if I'm hooked on cigarettes"	Do you believe performing the behaviour is up to you or not up to you?

Example: Theory of planned behaviour

The aim of road safety education campaigns is to deter drivers from speeding via means of persuasion (e.g. by providing information on the consequences of speeding). Such campaigns are widespread in many countries but drivers continue to regard speeding as a socially acceptable behaviour, and driving in excess of the legal speed limit continues to be the norm on most roads. The apparent ineffectiveness of many road safety initiatives is that they are often based on intuition rather than being grounded in the principles of sound behavioural theory. According to the theory of planned behaviour changes in attitudes and subjective norm (and perceived control) should lead to corresponding changes in intentions and ultimately behaviour. Researchers in this study tested how well the theory of planned behaviour predicted the driving and specifically the speeding behaviour of a group of people in the UK.

At Time 1, participants completed questionnaires designed to measure theory of planned behaviour variables with respect to complying with speed limits while driving over the next week. At Time 2, one week after being sent the questionnaires, participants drove on one of three routes in a driving simulator. The three routes together covered four road types: urban distributor roads with 30 mph speed limits, village through-roads with 30 mph speed limits, rural single carriageways with 60 mph speed limits and a motorway (70 mph speed limit). Participants were instructed to drive as they would do normally in real life. After completing the driving routes, participants' self-reported compliance with speed limits over the last week was measured.

The study demonstrated that the theory of planned behaviour (attitude, subjective norm and perceived behavioural control) accounts for large proportions of variance in intentions, self-reported behaviour and mean levels of observed driving behaviour. In addition, the theory of planned behaviour predicted the timing of drivers' breaking of the speed limit. Interventions to influence drivers' speeding behaviour need to consider driving attitude, subjective norms and perceived control.

Source: Elliott M, Armitage C, Baughan C. Using the theory of planned behaviour to predict observed driving behaviour. *British journal of social psychology*, 2007, 46:69–90.

F. The activated health education model

The activated health education model is a three-phased model. (*30,31*) The phases of the model are as follows. (*32*)

- *The experiential phase* actively engages individuals in the assessment of their health. Through activities such as field study, laboratory testing/screening and surveys of the target behaviour, individuals become aware of their actual health behaviour. This phase establishes baseline measures and identifies observable behaviours for future goals setting.
- *The awareness phase* presents information that provides a rationale for including the previously completed experiential activity and creates awareness of the target behaviour. This phase focuses on increasing feelings of susceptibility and creating tension between actual and ideal behaviour.
- *The responsibility phase* involves participants in the change process, facilitates their identification and clarification of personal health values, and develops a customized plan for behaviour change. Self-management strategies are introduced and participants develop their own plans of action such as: self-monitoring, setting measurable goals, stimulus control, use of social support systems and visual imagery in goal achievement. (*33*)
- The model, as illustrated in Figure 4, assumes that phase one precedes the other phases and that phase two will decrease in emphasis as phase three increases in emphasis.

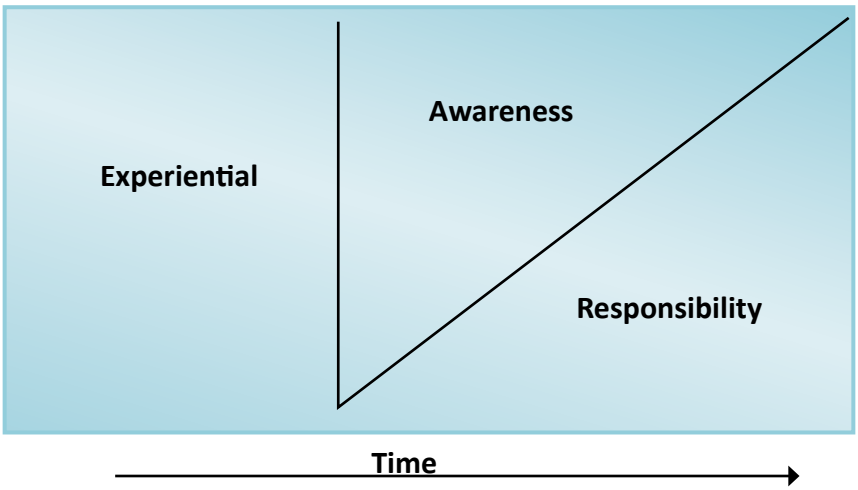


Figure 4. The activated health education model

Example: Activated health education model

Older adults need the same nutrients as younger people, but in differing amounts. As a person gets older, the number of calories needed is usually less than when they were younger. This is because basic body processes require less energy when there is a decline in physical activity and loss of muscles. However, contrary to popular belief, basic nutrient needs do not decrease with age. In fact, some nutrients are needed in increased amounts. The challenge is to develop an eating plan that supplies plenty of nutrients but not too many calories.

The purpose of this study was to develop and test the effectiveness of a nutrition instruction module (NIM) based on the Activated Health Education Model to improve the dietary habits of a group of older adults. Participants consisted of 34 older adults between the ages of 67 to 74. Only persons classified as ingesting inadequate diets (deficient in one or more of the major nutrients based on a 24-hour dietary recall) were participants in the study.

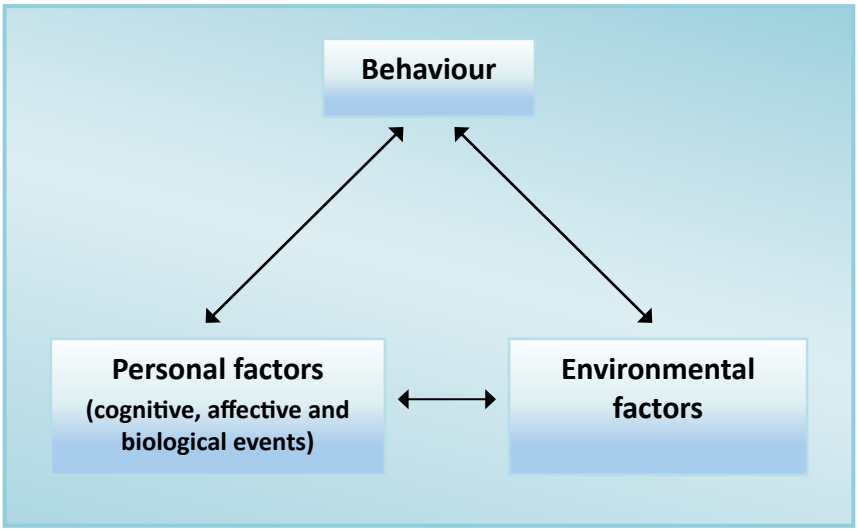
Phase I (skills experiences) of the model involved having participants evaluate their present eating habits by categorizing their dietary intake into four groups. Upon mastering this, participants were shown methods of preparing nutritionally balanced meals. Phase II (Cognitive Nutrition Instruction) involved increasing participant awareness of the relationship of nutrition to health and the importance of positive dietary habits. Participants were introduced to the various nutrients required by the body, myths and misconceptions concerning nutrition, and economical methods of shopping. Phase III (Affective Instruction) involved having participants engage in small group discussions that were intended to encourage participants to reveal their dietary habits and discuss the barriers to dietary change.

At post test 1, 62% of the intervention group vs. 9% of a control group were eating adequately and by post test 2 (6 weeks later), 73% of the intervention group vs. 9% of the control group were eating adequate levels of all nutrients.

Source: Mitic W. Nutrition education for older adults: implementation of a nutrition instruction program. *Health education*, 1985, 16(1):7–9.

Interpersonal supports

Social learning theory is based on the idea that people not only self-regulate their environments and actions, they are also acted upon by their environments. In other words, they create their surroundings and are influenced by their surroundings. (*34*) Social learning theory operates under the belief that "the opinions, thoughts, behaviour, advice, and support of the people surrounding an individual influence his or her feelings and behaviour, and the individual has a reciprocal effect on those people". (*21*) This concept of "reciprocal determinism" is what differentiates social learning theory from the belief that all behaviour is a one-way product of the environment (*12*). "The social environment includes family members, co-workers, friends, health professionals, and others. Because it affects behaviour, the social environment also impacts health" (*21*) (see Figure 5).



Source: (*35*)

Figure 5. Social learning theory: concept model

While many social learning theories focus at the interpersonal level, this document highlights one of the most frequently used and robust theories, known as social cognitive theory. (*21*)

Social cognitive theory

Social cognitive theory incorporates the basic parts of social learning theory but adds the principles of observational learning and vicarious reinforcement (watching and learning from the actions of others). (*36*) According to social cognitive theory, three main factors affect the likelihood that a person will change a health behaviour: self-efficacy, goals and outcome expectancies. If individuals have a sense of self-efficacy, they can change behaviour even when faced with obstacles. If they feel unable to exercise control over their health behaviour, they remain unmotivated and unable to persist through challenges. (*23*) As an individual adopts new behaviour, this causes changes in both the environment and the individual. (*21*) Table 6 presents the main concepts of social cognitive theory and possible change strategies for each. (*37*)

According to this theory, self-efficacy is considered the most important personal factor in behaviour change and an important construct in other health behaviour theories as well. (*21*) Strategies for increasing self-efficacy include: setting incremental goals (e.g. exercising for 10 minutes each day); behavioural contracting (a formal contract, with specified goals and rewards); and monitoring and reinforcement (feedback from self-monitoring or record keeping).

Table 6. Social cognitive theory

Concept	Definition	Potential change strategies
Reciprocal determinism	The dynamic interaction of the person, behaviour, and the environment in which the behaviour is performed	Consider multiple ways to promote behaviour change, including making adjustments to the environment or influencing personal attitudes
Behavioural capability	Knowledge and skill to perform a given behaviour	Promote mastery learning through skills training
Expectations	Anticipated outcomes of a behaviour	Model positive outcomes of healthful behaviour
Self-efficacy	Confidence in one's ability to take action and overcome barriers	Approach behaviour change in small steps to ensure success; be specific about the desired change
Observational learning (modelling)	Behavioural acquisition that occurs by watching the actions and outcomes of others' behaviour	Offer credible role models who perform the targeted behaviour
Reinforcements	Responses to a person's behaviour that increase or decrease the likelihood of reoccurrence	Promote self-initiated rewards and incentives

Example: Social cognitive theory

Children and their caregivers are prime candidates for intervention to curb the rising incidence of skin cancer. Preschools provide a unique opportunity to influence the sun protection practices of parents and teachers on behalf of young children. Sun Protection is Fun!, a comprehensive skin cancer prevention program … was introduced to preschools in the greater Houston area. The program's intervention methods are grounded in Social Cognitive Theory and emphasize symbolic modeling, vicarious learning, enactive mastery experiences, and persuasion. Program components include a curriculum and teacher's guide, videos, newsletters, handbooks, staff development, group meetings designed to encourage school-wide changes to support the program, and sunscreen.

Source: Tripp M, Herrmann N, Parcel G, Chamberlain R, Gritz E. Sun Protection is fun! A skin cancer prevention program for preschools. *Journal of school health*, 2000, 70(10):395–401.

Environmental context

Some initiatives move beyond attempting to reach individuals and small groups and instead focus on influencing communities and larger populations. Models that explore how social systems function and change, and how community members and organizations are mobilized begin to move beyond the scope of health education to encompass the broader aspects of health promotion. While beyond the scope of this paper, it is nonetheless important to recognize the role of the broader health promotion techniques of community development, social planning and social action in organizing communities and enabling them to have greater control over those factors and conditions that predict and influence health and well-being.

While the environmental context as discussed above falls mostly within the realm of health promotion, health education does have a role to play at the community level. Two community level health education theories will be described in this section: communication theory, which describes how different types of communication affect health behaviour; and diffusion of innovations theory, which addresses how new ideas, products and social practices spread within a community.

A. Communication theory

Communication theory explores "who says what, in which channels, to whom, and with what effects". (*21*) Creating messages that attempt to reach larger numbers of individuals can range from the simple—disseminating a pamphlet—to the complex—producing and airing a series of television broadcasts that are supported by an interactive website and phone-in resource. The communications medium is used by health educators primarily to inform the public of health compromising and health protecting behaviour, to influence attitudes, perceptions and beliefs, to prompt action and to describe services of a preventive nature that are available. (*38*)

Bernhardt (*39*) defines public health communications as the "scientific development, strategic dissemination, and critical evaluation of relevant, accurate, accessible, and understandable health information, communicated to and from intended audiences to advance the health of the public". Public health communications should represent an ecological perspective and foster multilevel strategies, such as tailored messages at the individual level, targeted messages at the group level, social marketing at the community level, media advocacy at the policy level, and mass media campaigns at the population level. (*39*) Without supports in the social and physical environment, however, health communications alone may not be enough to sustain individual-level behaviour changes, may not be effective for relaying complex health messages, and cannot compensate for lack of access to health care or healthy environments. (*40*)

How often do people need to hear a message before it influences their beliefs or behaviour? This depends on several factors. Characteristics of target audiences (e.g. their readiness for change, the ways they process information), the complexity of the health issue, the presence of competing messages and the nature of the health message influence the relationship between exposure to a health message and an outcome effect. (*21*) Repeated exposure to a message, especially when it is delivered through multiple channels, may intensify its impact on audience members. (*40*)

Planners often assume that a certain percentage of the target audience will be exposed to a message and that a fraction of those who receive the message will be engaged by it. (*21*) Yet there are several possible paths through which a health communications message can influence someone's beliefs and/or behaviour. These include: (*21*)

- *immediate learning* people learn directly from the message
- *delayed learning* the impact of the message is not processed until some time after it has been conveyed
- *generalized learning* in addition to the message itself, people are persuaded about concepts related to the message
- *social diffusion* messages stimulate discussion among social groups, thereby affecting beliefs
- *institutional diffusion* messages instigate a response from public institutions that reinforces the message's impact on the target audience.

Example: Communication theory

Since 1995, FOSREF, a nongovernmental organization, has provided programmes in the field of sexual and reproductive health and HIV/AIDS prevention programs for youth and adolescents in Haiti. In 2000, FOSREF initiated an entertainment–education programme as a strategy for behavioural change with young people and adolescents in the fight against HIV/AIDS. The strategy consists of using theatre, dancing and singing to sensitize young people and disseminate health messages in regard to the prevention of HIV/AIDS. After each theatre presentation, the specialized youth troupes have a sensitization session with the young people present in order to address the information portrayed in the theatre sketch. This approach is nationwide and allows FOSREF to reach schoolchildren and even those that are out of school through the strong community outreach component of this approach. The strategy is culturally well adapted – theatre, dancing and singing as art forms play a very important role in Haitian culture. Using young people to sensitize other young people through this entertainment- education approach has been shown to be an effective tool in changing health behaviour of young people.

Source: *Fosref's experience in "entertainment–education" as an HIV/AIDS prevention program as a best practice for behavioral change among youth and adolescents*. Bangkok, International Conference on AIDS, 2004. http://gateway.nlm.nih.gov/MeetingAbstracts/ma?f=102277487.html. Accessed 6 April 2011.

B. Diffusion of innovations

Health education practitioners who want to make efficient use of resources must attend to the reach, adoption, implementation and maintenance of programmes. (*21*) Diffusion of innovations is the "process by which an innovation is communicated through certain channels over time among the members of a social system". (*41*) Diffusion can be thought of as a special type of communication in which messages are about a new idea, product or service. (*42*) If a health education programme is viewed as an innovation, this theory could describe the pattern the target population would follow in adopting the programme.

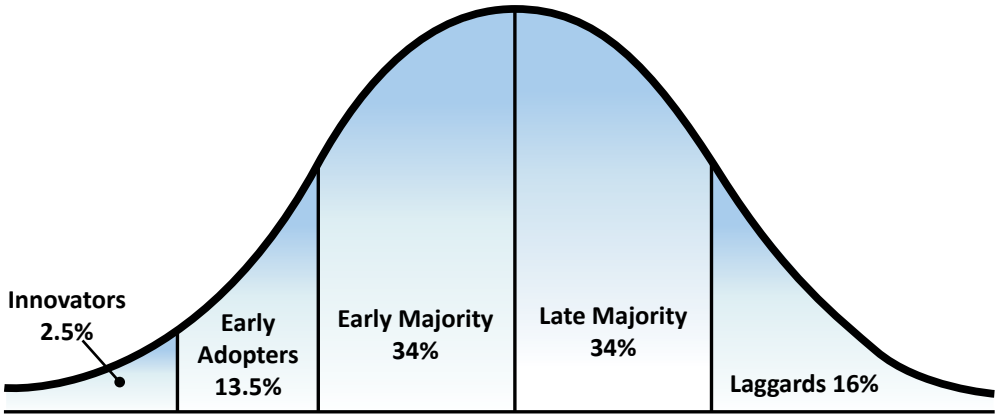
The process of adoption is viewed as a classic bell curve, with five categories of people as adopters: innovators, early adopters, early majority adopters, late majority adopters, and laggards (see Figure 6). The categories are characterized as follows:

- *innovators* are active information seekers of new ideas
- *early adopters* are very interested in the innovation but not the first to sign up
- *early majority* need external motivation to get involved

- *late majority* are sceptics and will not adopt an innovation until most people in the social system have done so
- *laggards* typically have limited communication networks and are the last to become involved, usually with the help of a mentoring programme or through constant exposure.

When an innovation is introduced, the majority of people will either be early majority adopters or late majority adopters; fewer will be early adopters or laggards, and very few will be innovators (the first people to use the innovation). By identifying the characteristics of people in each adopter category, practitioners can more effectively plan and implement strategies that are customized to their needs. (*21*)

Another aspect of time considers the *rate of adoption*, which is the speed with which an innovation is adopted by members of a social system. When the number of individuals adopting a new idea is plotted on cumulative number or percentage of adopters over time (the prevalence), the result is an s-shaped curve, as illustrated in Figure 7. Most innovations have this s-shaped rate of adoption. However, the slope can be very steep, as when a new idea diffuses rapidly, or more gradual in a slower rate of adoption.



Source: (*41*)

Figure 6. Diffusion of innovations: process of adoption

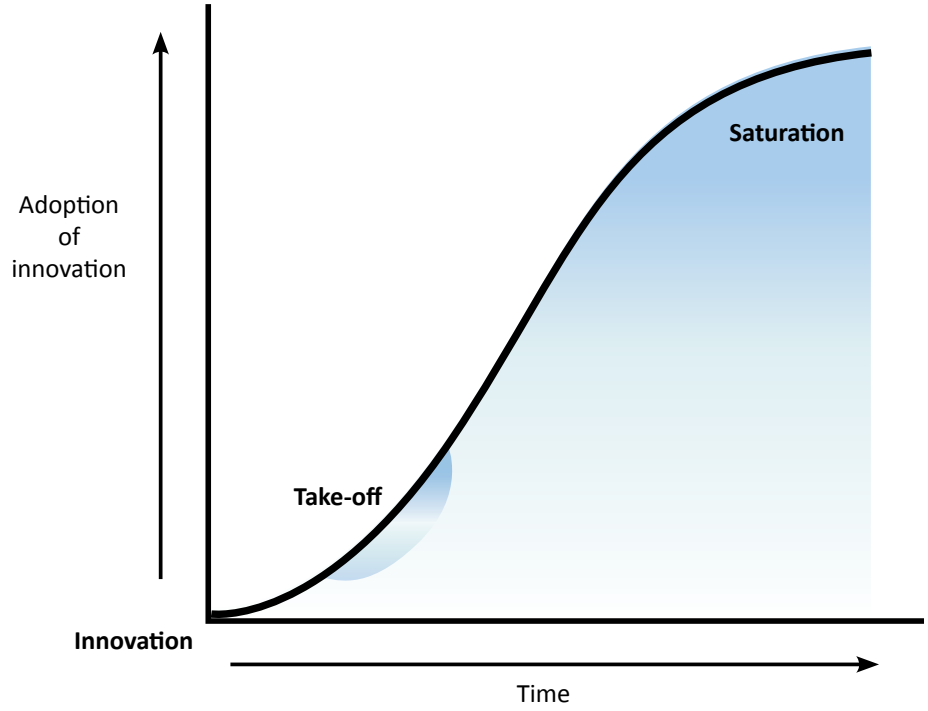


Figure 7. The innovation adoption curve

A number of factors determines how quickly, and to what extent, an innovation will be adopted and diffused. By considering the benefits of an innovation, health educators can position it effectively, thereby maximizing its appeal. Specifically:

- *relative advantage* of an innovation shows its superiority over whatever it has been designed to replace. Is the innovation perceived as better than the idea it attempts to replace?
- *compatibility* refers to the appropriateness of the fit with the intended audience. Is the innovation consistent with the existing values, past experiences and needs of the potential adopters?
- *complexity* is concerned with the ease of implementing the innovation
- *trialability* asks whether the innovation can be tried on an experimental basis
- *observability* examines whether the innovation will produce tangible results. Can the results be seen by others? (*41*)

Example: Diffusion of innovations

In taking a community approach to change, a UCLA mammography programme used a diffusion of innovations model. Community analysis showed that women who were early adopters (leaders) already had a heightened awareness of the value of mammography. To reach middle adopters, the programme mobilized the social influence of the early adopters by using volunteers who had breast cancer to provide mammography information. The programme also provided highly individualized educational strategies linked to social interaction approaches to reach late adopters. A social marketing framework influenced the programme's planning approach, and media materials incorporated the health belief model to promote individual behaviour change.

Source: Rimer BK. Audiences and messages for breast and cervical cancer screenings. *Wellness perspectives: research, theory, and practice*, 1995, 11(2): 13–39.

5. Health education planning, implementation and evaluation: examples of effective strategies and barriers to success

Given the numerous health education initiatives that have occurred over the past 30 to 40 years, the multiple target groups and issues that have been addressed, and the differing evaluation methods that have been used, one is left with the question: what are the core ingredients of success? What methods have stood the test of time and appear to be essential components of health education programmes and services aimed at enhancing an individual's and a community's health?

Evidence-based health education interventions are those that are most likely to be based on theory and have been shown through empirical study to be effective. The use of theory-based interventions, evaluated through appropriate designs, contributes to the understanding of why interventions do or do not "work" under particular conditions. (*43*) Using the definitions of evidence-based medicine (*44*) and evidence-based public health (*45*) and the work of Rimer and her colleagues, (*43*) evidence-based health education practice is the "process of systematically finding, appraising and using … qualitative and quantitative research findings as the basis for decisions in the practice of health education". (*46*)

Increasingly, health education professionals are using a concept born out of the continuous quality improvement discipline called "best practices". For the purposes of this document, this notion has been slightly altered and renamed "leading practices". Our intent is to identify solid practices that can be of assistance to decision-makers and service providers. The logic behind leading practices is that by sharing non-proprietary ideas/applications/processes in an organized fashion, the diffusion of successful practices will be hastened, and thus the need to learn by trial and error (with a high price for failure) is minimized.

Components that appear to be essential to effective community-based health education and prevention strategies include the following. (*47*)

- **Participant involvement** Community members should be involved in all phases of a programme's development: identifying community needs, enlisting the aid of community organizations, planning and implementing programme activities and evaluating results. Wide and comprehensive representation of community members on programme planning bodies provides for a sense of ownership and empowerment that will enhance the programme's impact.
- **Planning** Many programmes take two or three years to move from original conceptualization to the point at which services are delivered. Planning involves identifying the health problems in the community that are preventable through community intervention, formulating goals, identifying target behaviour and environmental characteristics that will be the focus of the intervention efforts, deciding how stakeholders will be involved and building a cohesive planning group.
- **Needs and resources assessment** Prior to implementing a health education initiative, attention needs to be given to identifying the health needs and capacities of the community and the resources that are available.

- **A comprehensive programme** The programmes with the greatest promise are comprehensive, in that they deal with multiple risk factors, use several different channels of programme delivery, target several different levels (individuals, families, social networks, organizations, the community as a whole) and are designed to change not only risk behaviour but also the factors and conditions that sustain this behaviour (e.g. motivation, social environment).

The tradition and culture of health education and prevention incorporates, among other virtues, a growing scientific base, a sound philosophy based on great compassion and dedication and a recognition that through planned action, improved health can be achieved and maintained

- **An integrated programme** The programme should be integrated; each component of the programme should reinforce the other components. Programmes should also be physically integrated into the settings where people live their lives (e.g. worksites) rather than solely in clinics.
- **Long-term change** Health education programmes should be designed to produce stable and lasting changes in health behaviour. This requires longer-term funding of the programme and the development of a permanent health education infrastructure within the community.
- **Altering community norms** In order to have a significant impact on an entire organization or community, the health education programme must be able to alter community or organizational norms and standards of behaviour. This requires that a substantial proportion of the community's or organization's members be exposed to programme messages, or preferably, be involved in programme activities in some way.
- **Research and evaluation** A comprehensive evaluation and research process is necessary, not only to document programme outcomes and effects, but to describe its formation and process, and its cost-effectiveness and benefits.

Examples of effective health education initiatives and strategies—systematic reviews

Systematic reviews summarize the overwhelming amount of health-related research initiatives that exist and also provide health providers and decision-makers with information on evidence-based practice. (*48*) A number of systematic reviews have been done on the effects of health, health care, education and social justice-related interventions. (*49,50*) One of the most comprehensive tools available to identify effective health education, health promotion and public health strategies is the *Guide to community preventive services: systematic reviews and evidence-based recommendations*, prepared by the Task Force on Community Preventive Services for the US Department of Health and Human Services in 1996. (*51*) The purpose of the Guide is to provide public health practitioners and decision-makers with recommendations regarding population-based interventions for promoting health and preventing disease, injury, disability and premature death in communities. Its aim is to promote evidence-based public health practice by providing best advice on which community-based health promotion and disease prevention interventions work and which do not work, based on available scientific evidence. Although the primary focus for the Guide is on interventions that have been evaluated in industrialized nations, health educators in developing nations might well find the information relevant to their situations. (*52*)

More than 200 interventions in the following topical areas have been reviewed, and the Task Force on Community Preventive Services has issued recommendations for their use in the following areas, among others:

- adolescent health
- alcohol
- asthma
- birth defects
- cancer
- diabetes
- violence
- HIV/AIDS, STIs and pregnancy
- mental health
- motor vehicle
- nutrition
- obesity
- worksite
- oral health
- physical activity
- social environment
- tobacco
- vaccines.

Among the areas covered are:

- ***What interventions have and have not worked?***
- ***In which populations and settings has the intervention worked or not?***
- ***What might the intervention cost? What should I expect for my investment?***
- ***Does the intervention lead to any other benefits or harm?***
- ***What interventions need more research before we know if they work or not?***

Three topic areas in which a great deal of health education activity is occurring are physical activity, obesity and tobacco use. For illustrative purposes, the Guide provides the following examples of health education strategies that have sufficient evidence to be designated as recommended actions.

Example 1. Physical activity (*53*)

Behavioural and social approaches to increase physical activity: individually adapted health behaviour change programmes

Individually-adapted health behaviour change programmes for increasing physical activity teach behavioural skills that help participants incorporate physical activity into their daily routines. The programmes are tailored to each individual's specific interests, preferences and readiness for change.

These programmes teach behavioural skills such as:

- goal-setting and self-monitoring of progress toward those goals
- building social support for new behaviour
- behavioural reinforcement through self-reward and positive self-talk
- structured problem-solving to maintain the behaviour change
- prevention of relapse into sedentary behaviour.

Results from the systematic reviews

Eighteen studies qualified for review.

- In all 18 studies reviewed it was found that individually adapted health behaviour change programmes were effective in increasing physical activity as measured by various indicators:
  - time spent in physical activity – median net increase of 35.4%
  - aerobic capacity (VO2 max) – median increase of 6.3%
  - energy expenditure – median increase of 64.3%.
- Other measures of physical activity, such as the percentage of people starting exercise programmes and the frequency of physical activity, also increased as a result of these programmes.
- These interventions were effective among both men and women and in a variety of settings, including communities, worksites and schools.
- If appropriately adapted to the target populations, these interventions should be applicable to diverse settings and groups.

Task force recommendations and findings

The Task Force on Community Preventive Services recommends implementing individually-adapted health behaviour change programmes, based on the strong evidence of their effectiveness in increasing physical activity and improving physical fitness among adults and children.

Example 2. Worksite programmes to control overweight and obesity (*54*)

Worksite nutrition and physical activity programmes are designed to improve health-related behaviour and health outcomes. These programmes can include one or more approaches to support behavioural change, including informational and educational; behavioural and social; and policy and environmental approaches.

About the intervention

- Informational and educational strategies aim to increase knowledge about a healthy diet and physical activity. Examples include:
  - lectures
  - written materials (provided in print or online)
  - educational software.
- Behavioural and social strategies target the individual thoughts (e.g. awareness, self-efficacy) and social factors that effect behaviour changes. Examples include:
  - individual or group behavioural counselling
  - skill-building activities such as cue control
  - rewards or reinforcement
  - inclusion of co-workers or family members to build support systems.
- Policy and environmental approaches aim to make healthy choices easier and target the entire workforce by changing physical or organizational structures. Examples include:
  - improving access to healthy foods (e.g. changing cafeteria options, vending machine contents)
  - providing more opportunities for physical activity (e.g. on-site exercise facilities).
- Policy strategies could also adjust certain rules and procedures for employees (e.g. health insurance costs or health club membership fees).
- Worksite weight control strategies may occur separately or as part of a comprehensive worksite wellness programme that addresses several health issues (e.g. smoking cessation, stress management, cholesterol reduction).

Results of the systematic review

Forty-seven studies qualified for the review and included three outcome measures: body mass index (BMI), weight and percentage body fat.

- The most common intervention strategies included both informational and behavioural skills components (32 studies). Few studies (four studies) looked at policy and environmental changes in the worksite.
- Effects on the three outcomes consistently favoured:
  - the intervention group compared to the controls (31 studies)
  - those receiving more intensive versus less intensive strategies (nine studies).

- In individually randomized controlled trials, results showed that compared with control groups after 12 months, participating employees lost an average of 2.8 pounds (1.3 kg; nine studies) and reduced their average BMI by 0.5 (six studies).
- No one focus – diet, physical activity, or combination of both – appeared to be better than others in terms of its effect on weight loss.
- Most of the studies involved a white-collar workforce that included some overweight employees or employees with other chronic disease risk conditions.
- The range of cost-effectiveness estimates from three studies (two involving weight-loss competitions and one involving a physical fitness programme) varied from US$ 1.44 to US$ 4.16 per pound (US$ 3.17 to US$ 9.15 per kg) of weight reduction.

Task Force recommendations and findings

The Task Force on Community Preventive Services recommends worksite programmes intended to improve diet and/or physical activity, based on the strong evidence of their effectiveness for reducing weight among employees.

Mass media campaigns intended to reduce tobacco initiation use brief recurring messages to

Example 3. Reducing tobacco use initiation: mass media education campaigns combined with other interventions (*55*)

inform and motivate individuals to remain tobacco free. Message content is developed through formative research, and messages may be delivered through paid broadcast time and print space, donated time and space (as public service announcements) or a combination of both. Mass media campaigns can be combined with other interventions.

Results from the systematic reviews

Twelve studies qualified for the review of this intervention.

- Studies were conducted in the United States, Norway and Finland, and interventions included state-wide and regional campaigns.
- In follow-up periods that ranged from two to five years, self-reported tobacco use was a median 2.4 percentage points lower in groups exposed to a mass media campaign (range: 0.02% to –9.5%; five studies).
- All seven studies of mass media campaigns that ran for two or more years indicated that they reduced tobacco use (seven studies).
- Nine studies evaluated interventions focused on youth; three evaluated campaigns that included youth-targeted messages within a larger anti-tobacco campaign.
- In all but one study, the mass media campaign occurred in coordination or concurrently with other interventions, including contests, school-based education programmes, community education programmes, or excise tax increases on tobacco products.

Task Force recommendations and findings

The Task Force on Community Preventive Services recommends mass media campaigns, based on strong evidence of their effectiveness in reducing tobacco use among adolescents when implemented in combination with tobacco price increases, school-based education and/or other community education programmes.

Challenges to implementing health education and prevention programmes

Prevention through evidence-based health education intuitively makes sense. Much evidence accumulated over many years of research clearly demonstrates the context in which and the groups for whom behaviour can most effectively be modified. Why, then, does so much evidence generate so little action when it comes to opportunities for prevention strategies to improve the health of our communities? Why do initiatives with proven efficacy in one area fail to be adopted in communities experiencing similar health problems in other locations? The purpose of this section is to explore the barriers and challenges that communities experience in adopting and embracing new prevention strategies. The section concludes with a description of how these obstacles can be addressed and in some cases can be viewed as opportunities.

Prevention through health education, while naturally attractive, is conceptually complex. Practised for many years in a multitude of contexts and venues, prevention has evolved today into being an integral part of the continuum of services provided within the health and other sectors. There is much to acknowledge and be proud of in the currently ongoing health education activities and those that have been tried in the past. The tradition and culture of prevention incorporates, among other virtues, a growing scientific base, a sound philosophy built on great compassion and dedication, and recognition that through concerted, planned action, improved health can be achieved and maintained. Yet, prevention continues to be a "hard sell". Why? (*56*)

- **Dramatic results** Prevention's results are often "invisible". It may involve the heart attack that doesn't occur, the lung cancer that doesn't form or the injury that does not disable. The story of individuals averting heart disease through diet and physical activity is not as sensational or dramatic as the weekly statistics on heart bypass operations. Prevention tends to be non-sensational, subtle and therefore easily ignored.
- **We tend to focus on the crisis** Within the medical care sector, patients are often "triaged", with priority given to those in greatest need or distress. Because of the moral obligation to reach out to those in greatest need, vast resources continue to be expended on rescuing people in crisis. What remains is limited time and resources to spend on ways to prevent crisis and the need for rescue. Lobby groups form if treatment services are not available on demand, while few people would demonstrate in demand of timely and accessible health education services.
- **Time** While some of the results from a preventive act may be immediate (e.g. a life saved because of wearing a seat belt), other results may take months if not years for the benefits to become apparent. This time-lag makes it difficult for the public to relate a preventive action to a positive outcome. As well, many health education initiatives are either one-time events or lack sufficient funds to develop longer-term strategies for addressing the known risk factors that are barriers to building community capacity.
- **Complex issues** To be effective, prevention needs to target multiple causes of a disease, such as dietary and physical activity patterns, peer influences and supports, and the stress of one's social circumstances. This demands that preventive services include not only those services found within the traditional health area but also those in other areas such as housing, transportation and agriculture.

Health education initiatives should be based on the needs and capacities of the local community and on an open and participative process

- **Practitioners' knowledge** Persons engaged in providing health education services are not aware of the accumulated knowledge that has been learned across many fields. Health education programmes often reinvent the wheel rather than build on advances.
- **Low tech** "We seem to take on faith that the more dazzling the technological features of an intervention–whether diagnostic or therapeutic–the greater its value to society". (*56*) Health education usually requires little technology.
- **Vested interests** One of health education's greatest challenges relates to the strong commercial forces that flex their economic muscle to stifle often meagre prevention budgets and efforts. For example, annual sales of tobacco and high-fat foods are in the millions of

Most children can easily recite jingles from advertising by fast food outlets and soft drinks makers

dollars, and advertisements are slick and targeted. Most children can easily recite jingles from advertising by fast food outlets and soft drinks companies. Extensive research is conducted by industries on ways in which to influence segments of the population to eat, drink and engage in behaviour that compromises people's health. Preventive efforts are overwhelmed by these well resourced, carefully planned and strategically marketed products.

Given these obstacles and challenges to providing prevention activities, what strategies might exist to address this imbalance and possibly take advantage of opportunities that might exist? Does this provide us with clues as to ingredients that should be included in a health education strategy?

First and foremost, the strongest ally of any health education effort is the people it serves. Raising public awareness of the issues that affect health and of how the public can influence these issues needs to be the centrepiece of any health education strategy. A noted community health worker once said that while professionals learn through data, communities learn through stories. "Stories can bring both the potential and the consequences to a personal level." (*56*) Health education initiatives should be based on the needs and capacities of the local community and on an open and participative process.

Next, attention must be focused on the most cost-effective techniques and strategies that exist. While research in this area is ongoing, with many questions still unanswered, sufficient evidence already exists on the magnitude of the health gains that could be gained across populations if certain preventive strategies were put in place.

Finally, the old saying "healthy choices should be easy choices" has never been so true. People's behaviour, for many reasons, tends to gravitate towards the avenue of least resistance. A product that is less expensive, easier to obtain or displayed in a more attractive way is the one that will be chosen. Getting active by going for a walk may be fraught with obstacles such as unsafe neighbourhoods, child support issues or simply lack of motivation. How these issues are addressed through health education and the broader area of health promotion requires creativity and often also an examination of the context in which people regularly make decisions. There are many ways to make healthy choices the easy ones. Examples include:

- priority placed by employers on opportunities for physical activity
- the information provided at the point of purchase on the nutrition content of food
- the prominence of physical activity in school programmes
- elevating the price of tobacco products to discourage potential young smokers.

6. Health education core competencies

Health education, as a social science, draws from the biological, environmental, psychological, physical and medical sciences to promote health and prevent disease, disability and premature death through education-driven voluntary behaviour change activities. Health education is the development of individual, group, institutional, community and systemic strategies and focuses specifically on ways to improve health knowledge, attitudes, skills and behaviour using various approaches, including the healthy settings approach. The purpose of health education is to positively influence, through the educational process, the health behaviour of individuals and ultimately the health of communities.

Health education settings

Health education has a long and diverse history with roots that go back hundreds of years. While an in-depth description of its history is beyond the scope of this paper, health education probably came-about as a result of the need to inform members of the community about the elementary rules of protection against diseases. Today health education occurs in many settings, including the following.

- In **schools** health educators teach health as a subject and promote and implement coordinated school health programmes, including health services and student, staff and parent health education; and promote healthy school environments and school–community partnerships. At the school district level they develop education methods and materials; coordinate, promote and evaluate programmes; and write funding proposals. Teachers form the vanguard of children's education. A health education component should be incorporated into both basic and continuing teacher training, regardless of subject.
- Working on a **college/university campus** health educators are part of a team effort to create an environment in which students feel empowered to make healthy choices and create a caring community. They identify needs; advocate and do community organizing; teach whole courses or individual classes; develop mass media campaigns; and train peer educators, counsellors and/or advocates. They address issues related to disease prevention; consumer, environmental, emotional and sexual health; first aid, safety and disaster preparedness; substance abuse prevention; human growth and development; and nutrition and eating issues. They may manage grants and conduct research.
- In **companies** health educators perform or coordinate employee counselling as well as education services, employee health risk appraisals, and health screenings. They design, promote, lead and/or evaluate programmes about weight control, hypertension, nutrition, substance abuse prevention, physical fitness, stress management and smoking cessation. They may also develop educational materials and write grants for money to support these projects. They help companies meet occupational health and safety regulations, work with the media and identify community health resources for employees.
- In **health care settings** health educators educate patients about medical procedures, operations, services and therapeutic regimens, and create activities and incentives to encourage use of services by high-risk patients. They conduct staff training and consult with other health care providers about behavioural, cultural or social barriers to health, and promote self-care. They develop activities to improve patient participation on clinical processes, educate individuals to

protect, promote or maintain their health and reduce risky behaviour, and make appropriate community-based referrals and write grants.

- In **community organizations** and **government agencies** health educators help a community identify its needs, draw upon its problem-solving abilities and mobilize its resources to develop, promote, implement and evaluate strategies to improve its own health status. Health educators do community organizing and outreach, grant-writing, coalition-building and advocacy. They develop, produce and evaluate mass media health campaigns.

Health education responsibilities and competencies

In the Eastern Mediterranean Region, the role of health education is largely confined to communication and dissemination of information. Because of the lack of understanding of the responsibilities and competencies required of health educators, in the late 1970s a growing body of individuals who called themselves health educators in the US recognized the need to more clearly define their role. This led to the development of a series of studies and job analysis surveys on health education called the Role Delineation Project. A framework for preparation and practice of entry-level health educators was a product of the Role Delineation Project.

By the late 1980s the National Commission for Health Education Credentialing (NCHEC) in the United States had identified seven major responsibilities for the health educator as well as the competencies and sub-competencies that demonstrate competency under each responsibility. In In 2010 the NCHEC revised the core competencies for health education further. (*57,58*) Figure 8 illustrates the seven major responsibilities of health educators, followed by the core competencies that serve as the foundation for the Certified Health Education Specialist (CHES) examination. A complete list of the competencies and sub-competencies originally proposed appears in Annex 2.

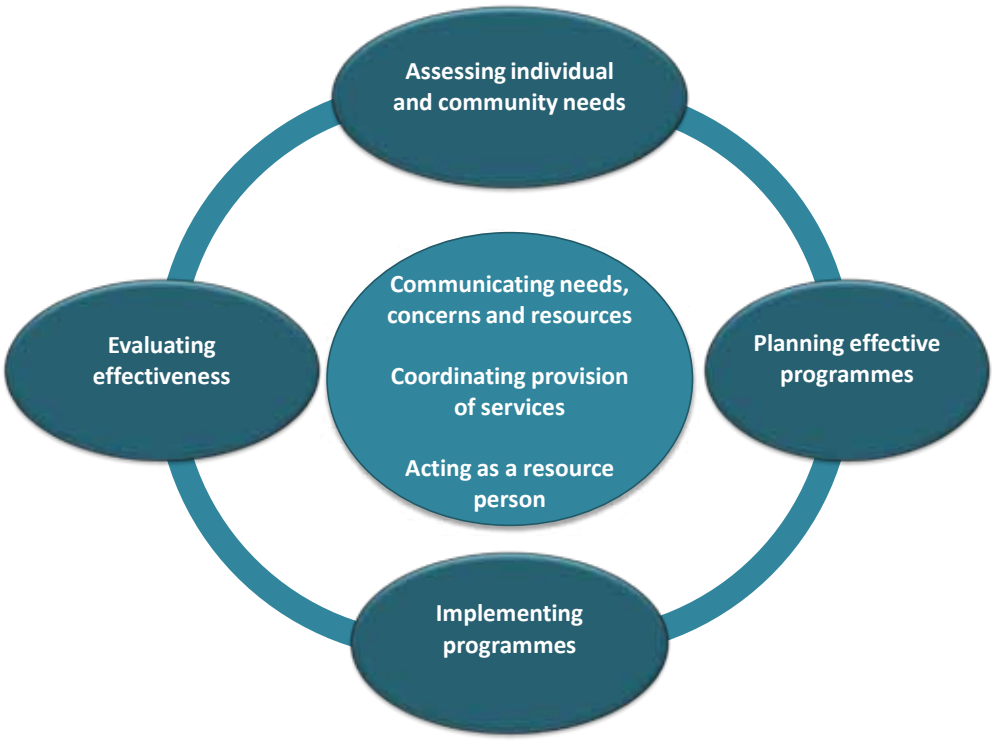


Figure 8. Major responsibilities of health educators

Responsibility 1. Assessing individual and community needs for health education

Competency A Obtain health-related data about social and cultural environments, growth and development factors, needs and interests.

Competency B Distinguish between behaviour that fosters and that which hinders well-being.

Competency C Infer needs for health education on the basis of obtained data.

Responsibility 2. Planning effective health education programmes

Competency A Recruit community organizations, resource people and potential participants for support and assistance in programme planning.

Competency B Develop a logical scope and sequence plan for a health education programme.

Competency C Formulate appropriate and measurable programme objectives.

Competency D Design educational programmes consistent with specified programme objectives.

Responsibility 3. Implementing health education programmes

Competency A Exhibit competence in carrying out planned educational programmes.

Competency B Infer enabling objectives as needed to implement instructional programmes in specified settings.

Competency C Select methods and media best suited to implement programme plans for specific learners.

Competency D Monitor educational programmes, adjusting objectives and activities as necessary.

Responsibility 4. Evaluating effectiveness of health education programmes

Competency A Develop plans to assess achievement of programme objectives.

Competency B Carry out evaluation plans.

Competency C Interpret results of programme evaluation.

Competency D Infer implications from findings for future programme planning.

Responsibility 5. Coordinating provision of health education services

Competency A Develop a plan for coordinating health education services.

Competency B Facilitate cooperation between and among levels of programme personnel.

Competency C Formulate practical modes of collaboration among health agencies and organizations.

Competency D Organize in-service training programmes for teachers, volunteers and other interested personnel.

Responsibility 6. Acting as a resource person in health education

Competency A Use computerized health information retrieval systems effectively.

Competency B Establish effective consultative relationships with those requesting assistance in solving health-related problems.

Competency C Interpret and respond to requests for health information.

Competency D Select effective educational resources materials for dissemination.

Responsibility 7. Communicating health and health education needs, concerns and resources

Competency A Interpret concepts, purposes and theories of health education.

Competency B Predict the impact of societal value systems on health education programmes.

Competency C Select a range of communication methods and techniques in providing health information.

Competency D Foster communication between health care providers and consumers.

7. Health education code of ethics

A code of ethics is a set of guidelines that is designed to set out acceptable behaviour for members of a particular group, association or profession. Many organizations govern themselves with a code of ethics, especially when they handle sensitive issues like investments, health care or interactions with other cultures. In addition to setting a professional standard, a code of ethics can also increase confidence in an organization by showing individuals who are outside the organization that members of the organization are committed to following basic ethical guidelines in the course of doing their work.

A code of ethics shows individuals who are outside an organization that members of the organization are committed to following basic ethical guidelines in the course of doing their work

The Health Education Code of Ethics in the United States has been a work in progress since 1976, begun by the Society of Public Health Education (SOPHE). Various public health and health education organizations such as the American Association of Health Education (AAHE), the Coalition of National Health Education Organizations (CNHEO), SOPHE and others collaborated year after year to devise a unified standard of ethics to which health educators would be held professionally accountable. In 1995, the National Commission for Health Education Credentialing, (NCHEC) proposed a profession-wide standard at the conference *The health education profession in the twenty-first century: setting the stage*. (*59*) After the conference an ethics task force was developed with the purpose of solidifying and unifying proposed ethical standards. The document was eventually unanimously approved and ratified by all organizations involved in November 1999 and has since that time been used as the standard for practising health educators. The code of ethics for health educators proposed by the NCHEC is given in Annex 3.

A code of ethics provides a framework of shared values

The Code of Ethics for the Health Education Profession is not seen as a completed project. Rather, it is envisioned as a living document that will continue to evolve as the practice of health education changes.

Health educators' work is directly concerned with communities and individuals. It is crucial that the rights and privacy of individuals and communities are respected, and that programmes are developed on an equitable basis, addressing the needs of the most vulnerable population groups and embracing the following principles:

- respect for human dignity and rights
- respect for individual and family independence
- client full consent
- confidentiality
- nondiscrimination or stigmatization
- equity in access, coverage and service delivery
- respect for cultural values and cultural diversity
- refraining from conflict of interest, particularly commercial interest
- integrity and good personal conduct.

8. Conclusion

- Health education, as one component to the broader area of health promotion, provides a valuable contribution to the betterment of individual and community health.
- This foundation document provides a thorough review of theories and tools in the areas of health education and health promotion and related disciplines. The ultimate goal is to provide a common understanding.
- The health educator who uses targeted, theory-based interventions, embraces concepts of participation and voluntary change, and includes health literacy and individual capacity-building within health programmes and services, is a valuable and essential member of the health promotion team.

Annex 1. Explanation of key definitions

Health

Health is defined in the WHO constitution of 1948 as "a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity". The concept of health, as a result, has been considered less as an abstract state and more as a means to an end which can be expressed in functional terms as a resource which permits people to lead an individually, socially and economically productive life.

In 1986, the Ottawa Charter for Health Promotion redefined health as the extent to which an individual or group is able to "realize aspirations and satisfy needs and to change or cope with the environment. Health is … a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities". (*1*)

In keeping with the concept of health as a fundamental human right, the Ottawa Charter emphasizes certain prerequisites for health, which include peace, adequate economic resources, food and shelter, and a stable ecosystem and sustainable use of resources. Recognition of these prerequisites highlights the inextricable links between social and economic conditions, the physical environment, individual lifestyles and health, and that all people should have access to basic resources for health. These links provide the key to a holistic understanding of health. As such, a comprehensive understanding of health implies that all systems and structures which govern social and economic conditions and the physical environment should take account of the implications of their activities in relation to their impact on individual and collective health and well-being. (*2*)

Figure A1 sets out the six dimensions of health against the World Health Organization's notion of physical, mental and social well-being. (*60*)

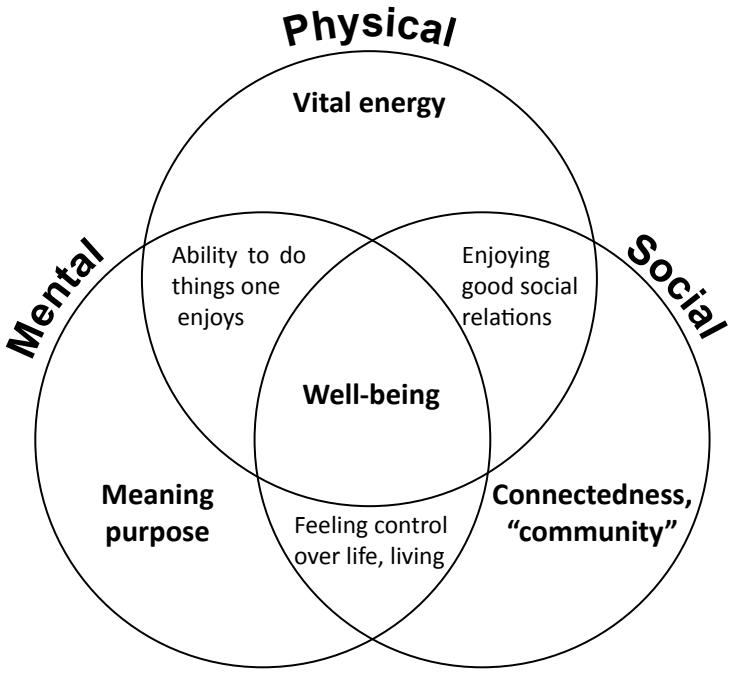


Figure A1. Dimensions of health and well-being

The concepts of wellness and quality of life are terms often used synonymously with health, and while there is substantive overlap, their meanings do differ. Wellness is the *optimal* state of health of individuals and groups and involves the realization of the fullest potential of an individual physically, psychologically, socially, spiritually and economically, and the fulfilment of one's role expectations in the family, community, place of worship, workplace and other settings. (*9*)

Risk behaviour or risk factors are specific forms of behaviour that have been shown, usually through epidemiological research, to be associated with increased susceptibility to a specific disease or ill-health. Risk conditions are aspects external to the individual (social, economic, environmental) that are associated with increased susceptibility to disease or ill-health.

Quality of life is "an individual's perceptions of their position in life in the context of the culture and value system where they live, and in relation to their goals, expectations, standards and concerns". (*8*) According to Nutbeam, quality of life has a strong subjective component in that it "reflects the perception of individuals that their needs are being satisfied and that they are not being denied opportunities to achieve happiness and fulfilment, regardless of physical *health status*, or social and economic conditions". (*9*) Objective measures of quality of life also exist, including social indicators such as unemployment rates or environmental features such as air quality or housing density. (*12*)

Prevention

Prevention is defined as "anticipatory action taken to reduce the likelihood of some future undesired event or condition, or to increase the likelihood of some future desired event or condition". Disease prevention covers measures not only to prevent the occurrence of disease, such as *risk factor* reduction, but also to arrest its progress and reduce its consequences once established. (*4*; adapted)

Prevention, as a health concept, is rooted in epidemiological method and the dramatic advances of public health that began in the 19th century. The classic public health model identifies a disease agent, a host for the disease and a means (vector) through which the agent gets to the host. Understanding of infectious disease mechanisms, development of improved sanitation and water supplies, enhanced nutritional status and widespread vaccination have had a profound effect on reducing or even eradicating infectious diseases. Today, chronic diseases such as cardiovascular disease, cancer and diabetes have replaced infectious diseases in most industrialized counties as the most prevalent causes or morbidity and mortality.

Disease prevention is sometimes used as a complementary term alongside *health promotion*; there is frequent overlap between the content and strategies. Disease prevention in this context is considered to be action which usually emanates from the *health sector*, dealing with individuals and populations identified as exhibiting identifiable *risk factors*, often associated with different *risk behaviour*. (*2*)

Population risk continuum

The health of all people in a community can be considered along a health continuum between optimal health and death. Where ones lies on the continuum is related to many risk factors and conditions often referred to as the determinants of health (e.g. social and economic environment,

individual capacity and coping skills, personal health practices, health services, biology and genetics). Clearly, the quality of our lives, and therefore our health, is influenced by our physical, economic and social environments. As well, personal behaviour that places us at risk (e.g. eating few fruits and vegetables) increase the chance of developing health problems (e.g. many types of cancer).

For any health problem or any of the factors that influence health, the level of risk can change from low to high. Fewer people at lower levels of risk will develop the health problem, while more people at higher risk levels will. To develop a plan of action with specific objectives directed at each different segments of the population, communities can design interventions at different points along the continuum, depending on those segments' health status and risk level.

This concept is illustrated below. (61)

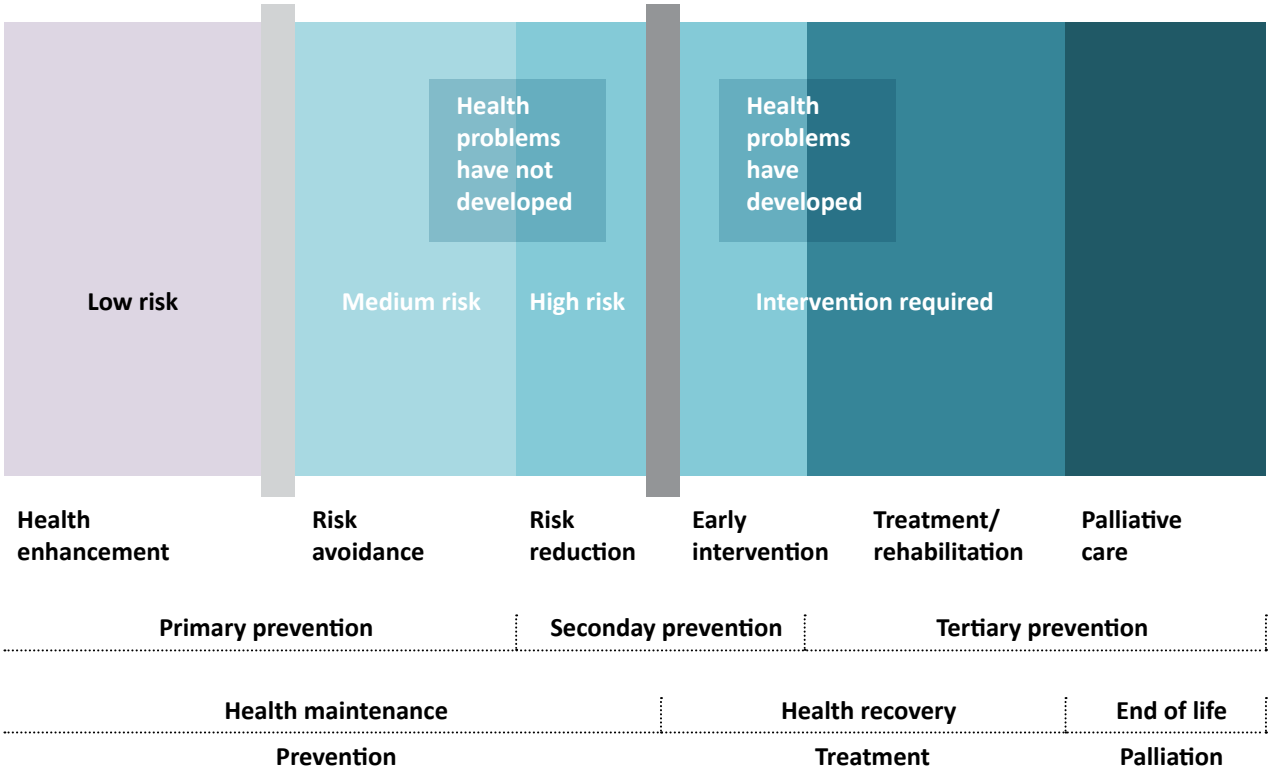
Health enhancement targets the entire community. Although the activities may help prevent disease or reduce risk, their main focus is to develop or enhance health rather than to reduce or prevent illness.

Risk avoidance targets those who are at low risk and who have not yet developed the health problems associated with the risk. The aim is to maintain good health by supporting people at low risk levels.

Risk reduction targets people who are at moderate levels of risk for health problems. It helps people in these higher risk categories (because of environmental conditions or risk behaviour) who have not yet developed the health problems associated with the risk, to reduce their risk.

Early intervention targets persons who are experiencing health problems soon after the problem occurs. The intervention is usually brief and attempts to restore the person to a state of good health or lower risk.

Treatment/rehabilitation targets persons experiencing overt illness. Treatment components are intended to prevent further deterioration and to stabilize the individual; rehabilitation components are intended to restore health and independent functioning to the extent possible. A well known three level continuum of prevention used in public health is as follows (Figure A2). (*61*)



Note: Risk is based on the statistical probability of some future condition or event. Individuals can be "at risk" for intrinsic (risk factors) or extrinsic (risk conditions) reasons.

Source: adapted from (*61*).

Figure A2. Population risk continuum for addressing health issues

Reflection/behaviour

Primary prevention

The target population is large, and it is not possible to say with certainty who will develop the problem of concern. Programmes focus on improving everyone's interest in and capacity to maximize their own health and on environmental factors that enhance or impede health. Primary prevention decreases the number of new cases of a disorder, illness and premature death (reduces incidence).

→ ***How do we keep ourselves well?***

Secondary prevention

The target population is more narrowly defined as some identifiable subgroup known to be likely to develop a problem. Programmes focus on characterizing these at-risk subgroups and developing early detection and intervention methods. Again, programmes attend to both individual and environmental issues. Secondary prevention reduces incidence as well as the rate of established cases in the community (reduces prevalence).

→ ***If we are getting ill, how can we detect these conditions early?***

Tertiary prevention

Reflection/behaviour

Members of the target group are demonstrating clear pathology and require immediate intervention. Programmes focus on specific therapeutic interventions, factors that affect treatment uptake and outcome and risks to the general population posed by the pathology or offending agent(s).

→

If we are ill, how can we get the best medical care?

Primary prevention spans the health enhancement/risk avoidance portion of the continuum; secondary prevention the risk reduction/early intervention segments and tertiary prevention involves the treatment/rehabilitation segment of the continuum.

Prevention and treatment are mutually enriching partners in a common enterprise

Primary, secondary and tertiary prevention are not discrete, easily defined intervention points related to the development of a condition of concern, but rather simply denote a population continuum based on risk factors and conditions. Different kinds of intervention are necessary at definable times during the development of a preventable condition. Rather than suggesting that any one part of the continuum is more or less important than another, emphasis instead should be made that any intervention can be appropriate, "depending on the nature of the problem, the state of knowledge, the availability of resources, and the purposes served by the intervention". (*62*)

Let's examine how coronary heart disease might provide an example. Downstream, curative interventions include heart transplantation, thrombolytic therapy, coronary artery surgery, angioplasty, pre-hospital resuscitation and pharmaceuticals. (*63*) Midstream secondary prevention efforts focus on smoking cessation, cholesterol lowering medications and weight and stress reduction. As the level of intervention moves upstream into primary prevention, it involves organizations (e.g. schools and worksites), entire communities and health and macro-social policies (legislating non-smoking areas, restricting the number and location of drinking outlets). No one intervention approach should be viewed as intrinsically more worthwhile than another; each makes important and complementary contributions toward improving public health. (*62*)

Health education

Health education has been defined in many ways over the years. For example Green et al. in their earlier work (*64*) concluded that health education was limited to conscious health-directed behaviour and was most effective when "people were clearly oriented to solve a discrete and immediate behavioural or health problem of importance to them" (*12*) (for example immunization programmes in which people want to avoid an imminent threat or family planning programmes in which people want to delay or avoid pregnancy).

Shortly after this definition was proposed, a growing recognition emerged that much of the more pervasive behaviour had to do more with patterns and conditions of living than the simple imparting of information directed at a specific health behaviour. Health behaviour, after all, is not based solely on isolated acts under the autonomous control of the individual, but rather is defined by patterns of living that are socially conditioned, culturally embedded and economically constrained. Controversy, as a result, emerged in the literature among health researchers as to

where the focus should lie: individual versus social responsibility for health; facilitating individual behaviour change versus broader institutional and social change; behavioural versus ecological strategies; healthy people versus healthy cities and healthy policies; blaming the victim versus blaming the manufacturers of illness.

Subsequently, Green and Kreuter (*12*) modified their definition of health education to "any combination of learning experiences designed to facilitate voluntary actions conducive to health". *Combination* emphasizes the importance of matching the multiple determinants of behaviour with multiple learning experiences or educational experiences. *Designed* distinguishes health education from incidental learning experiences as a systematically planned activity. *Facilitate* means predispose, enable and reinforce. *Voluntary* means without coercion and with full understanding and acceptance of the purposes of the action. *Action* means behavioural steps taken by an individual, group, or community to achieve an intended health effect.

What is health education?

- ***Health education is a social science that draws from the biological, environmental, psychological, physical and medical sciences to promote health and prevent disease, disability and premature death through education-driven voluntary behavior change activities***
- ***Health education is the development of individual, group, institutional, community and systemic strategies to improve health knowledge, attitudes, skills and behavior***
- ***The purpose of health education is to positively influence the health behavior of individuals and communities as well as the living and working conditions that influence their health***

Source: Coalition of National Health Education Organizations, 2009. http://www.cnheo.org/PDF%20files/health_ed.pdf. Accessed 12 May 2011.

Health education therefore provides the consciousness-raising, concern-arousing, action-stimulating impetus for public involvement and commitment to social reform. It emphasizes the imparting of accurate information to set the stage for the adoption of sound health practices or the abandonment of poor ones. It focuses on acquainting people with the causes of disease, on health practices to reduce and avoid risk and on ways to detect a developing problem. Health education is usually embedded in health promotion or other programmes such as patient education in medical care programmes, occupational health education in industrial safety programmes or school health education in school programmes. Alternative labels used for health education programmes and activities include social marketing, mass communications, behaviour modification, in-service training, patient education and some forms of health counselling.

According to Green and Kreuter, the defining characteristic of health education is the voluntary participation of learners in determining their own health practices. The authors argue that, "cognitive and behavioural changes depend on the degree of active rather than passive participation of the learner", and that by emphasizing the voluntary nature of health education, "it helps to avoid public reaction to programmes that might be perceived as propagandist, manipulative, coercive, politically or commercially directed, paternalistic, or threatening". (*12*)

WHO defines health education as "consciously constructed opportunities for learning involving some form of communication designed to improve *health literacy*, including improving knowledge,

and developing *life skills*, which are conducive to individual and *community health*". *(2)* The WHO document describes health education as not limited to the dissemination of health-related information but also "fostering the motivation, skills and confidence (self-efficacy) necessary to take action to improve *health*" as well as "the communication of information concerning the underlying social, economic and environmental conditions impacting on *health*, as well as individual *risk factors* and *risk behaviours*, and use of the health care system." A broad purpose of health education therefore is not only to increase knowledge about personal health behaviour but also to develop skills that "demonstrate the political feasibility and organizational possibilities of various forms of action to address social, economic and environmental *determinants of health*". Health education has been used as a term to encompass a wider range of actions including social mobilization and *advocacy*. These methods are now encompassed in the term *health promotion*. (*2*)

What are the goals of health education?

- ***Health education improves the health status of individuals, families, communities, states, and the nation***
- ***Health education enhances the quality of life for all people***
- ***Health education reduces premature deaths***
- ***By focusing on prevention, health education reduces the costs (both financial and human) that individuals, employers, families, insurance companies, medical facilities, communities, the state and the nation would spend on medical treatment***

Source: Coalition of National Health Education Organizations, 2009. http://www.cnheo.org/PDF%20files/health_ed.pdf. Accessed 12 May 2011.

Clarke (*65*) believes that one of the goals of health education is to produce health literacy. This occurs by fostering:

- the capacity of individuals to obtain, interpret and understand health information and services (impart knowledge)
- competence to use such information and services in ways which enhance/maintain health of self and family members (developing decision-making skills).

Health promotion

The 1974 LaLonde report, *A new perspective on the health of Canadians,* was pivotal in setting the stage for wider acceptance of behavioural and environmental influences on health. (*66*) The report stressed that future improvements in health seemed likely to come from shifting the focus to aspects of human biology, environment, lifestyle and health systems that formed the basic determinants of health. Initially there was a reluctance to support new initiatives based on LaLonde's "health field" concept, especially at the expense of the existing institutional health care structure.

A World Health Assembly resolution of 1977 proclaimed that the "main social target of governments and WHO should be the attainment by all the people of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life". (*67*) This resolution became known as Health for All by the Year 2000 and reaffirmed the major contribution of social and economic factors in determining a population's health.

Kickbusch has observed that "health promotion emerged from health education". (*68*) This occurred for many reasons, including the realization among the health education community that enhancing health and creating health potential was based on more than disease prevention and that health education could only develop its full potential if it was supported by the broader determinants of health (legal, environmental, regulatory, etc.).

In 1986, a seminal document was produced by the World Health Organization entitled the Ottawa Charter for Health Promotion. (*1*) The document defined health promotion as "the process of enabling people to increase control over, and to improve their health" and identified five categories of strategy to guide the health sector in the process of engaging in health promotion. These are as follows.

- Create supportive environments: Ensure physical and social environments support people's abilities to live healthy lives. Make healthy choices the easy choices.
- Strengthen community action: Support activities that increase groups' abilities to organize around and act upon those things in their physical and social environments that affect health.
- Develop personal skills: Enable people to learn throughout life and prepare themselves for all its stages. Skill areas may encompass personal/familial or group dynamics, organizing, political action and social analysis.
- Build healthy public policy: Most health determinants lie outside the medical/illness sector (income, housing, environmental protection, work, agriculture). These sectors must begin to take conscious accounting of the health impacts of their policies. Health must be on the agenda of all policy-makers.

The Ottawa Charter identifies three basic strategies for health promotion. These are advocacy for health to create the essential conditions for health indicated above; enabling all people to achieve their full health potential; and mediating between the different interests in society in the pursuit of health.

Since the creation of the Ottawa Charter in the mid 1980s a number of other definitions for health promotion have been adopted. These include:

- "the combination of educational and environmental and environmental supports for actions and conditions conducive to health." (*12*)
- "the science and art of helping people change their lifestyle to move toward a state of optimal health. Optimal health is defined as a balance of physical, emotional, social, spiritual and intellectual health. Lifestyle change can be facilitated through a combination of efforts to enhance awareness, change behaviour and create environments that support good health practices. Of the three, supportive environments will probably have the greatest impact in producing lasting change." (*69*)
- "a technology by which all public policies and programmes, at all levels from national to local, can be systematically and rigorously evaluated for their positive, neutral and negative impacts on health … includes a technology to strengthen communities' ability to take effective action at the local level … includes a technology to improve the ability of health care systems to practice primary prevention, provide health education, and improve the quality of informal care provided by family members … includes a technology to assist citizens to take control over and improve their own health through behaviour and lifestyle change, and also learn how to be wiser consumers of health care and preventive services." (*70*)

- "a combination of educational, organizational, economic and political actions designed with consumer participation, to enable individuals, groups and whole communities to increase control over, and to improve their health through knowledge, … attitudinal, behavioural, social and environmental changes." A health promotion practitioner is "a person who identifies themselves as being a health promotion worker and who spends 50 per cent or more of their work time in health-promotion related activities". (*71*)
- "the process of enabling people to increase control over and improve their health. This process is based on the understanding of the important influences that determinants of health (such as income and social status, social support networks, education and employment/working conditions) have on an individual's health. Health promotion activities include the three levels of disease, injury and disability prevention and move beyond health education and changes in personal behaviours to address social change, institutional change and community change." (*72*)

While these other definitions have been accepted by specific groups working on specific issues, the definition created by the Ottawa Charter appears to have withstood the test of time and is the most universally accepted.

Health literacy

Health literacy generally refers to the ability of individuals to access and use health information to make appropriate health decisions and maintain basic health. For health and education researchers, the concept is a broad one. It includes whether individuals can read and act upon written health information, as well as whether they possess the speaking skills to communicate their health needs to physicians and the listening skills to understand and act on the instructions they receive. (*73*)

Clarke (*65*) views a health literate person as being one who:

- can think things through and make health choices in solving his/her own problems as well as family member problems
- is responsible and makes health choices that benefit him/herself and family members
- is in charge of his/her own health learning and teaches family members to do the same
- can use communication skills to express needs, questions and concerns to health care providers and staff.

Studies over the years have repeatedly demonstrated a strong link between literacy, level of education and level of health. (*74*) Health and learning are closely intertwined, and the interaction between them is evident at all ages, from early childhood through to the later stages of life. The equation is a simple one: the higher a person's education status and ability to learn about health, the better that person's health. (*74*)

Researchers and policy-makers in the health and education fields consider health literacy to be a critical pathway linking education to health outcomes, as a causal factor in health disparities between different population groups and as a predictor of overall population health. (*74*)

Although the term "health literacy" was first used in health education about 30 years ago, (*15*) it has only recently been proposed as an important concept in health promotion as a whole. (19.20) WHO defines health literacy as "the cognitive and social skills which determine the motivation and

ability of individuals to gain access to, understand and use information in ways which promote and maintain good *health*" and that it "implies the achievement of a level of knowledge, personal skills and confidence to take action to improve personal and community health by changing personal *lifestyles* and *living conditions*". Therefore health literacy means more that simply reading health pamphlets and making an appointment to see one's physician, but rather it implies "improving people's access to health information, and their capacity to use it effectively, health literacy is critical to *empowerment*". (*2*)

According to Rootman, (*18*) this definition represents a considerable expansion of functional definitions of health literacy such as "being able to apply literacy skills to health related materials such as prescriptions, appointment cards, medicine labels, and directions for home health care", (*16*) or the following US National Network of Libraries of Medicine definition of health literacy: "the degree to which people can obtain, process and understand basic health information and services they need to make acceptable health decisions". (*17*)

Public health must base its messages on the theories and principles of health education (e.g., what the message says,) health communication (e.g., how the message is delivered), and the health literacy of the intended audience (e.g., whether the message is accessed and understood).

Source: Gazmararian J, Curran JW, Parker RM, Bernhardt JM, DeBuono BA. Public health literacy in America: an ethical imperative. *American journal of preventive medicine*, 2005, 28(3):317–22.

The scope and nature of the expansion becomes clearer when we consider Nutbeam's differentiation between three types or "levels" of literacy — basic/functional, communicative/interactive and critical. (*19*) His definitions are:

- basic/functional literacy: "sufficient basic skills in reading and writing to be able to function effectively in everyday situations"
- communicative/interactive literacy: "more advanced cognitive and literacy skills which, together with social skills, can be used to actively participate in everyday activities, to extract information and derive meaning from different forms of communication, and to apply new information to changing circumstances"
- critical literacy: "more advanced cognitive skills which, together with social skills, can be applied to critically analyse information, and to use this information to exert greater control over life events and situations".

In particular, the latter two types or "levels" of literacy suggest the expansion of the notion of health literacy into the domain of health promotion through their connection with the concept of "empowerment". (*18*)

Moreover, these ideas have been expanded even further as a result of a series of meetings or workshops on the conceptualization of health literacy including one at the Fifth WHO Global Conference on Health Promotion that "resolved to widen the glossary definition to include dimensions of community development and health related skills beyond health promotion, and to understand health literacy not only as a personal characteristic, but also as a key determinant of population health". (*20*)

Lifestyle (lifestyles conducive to health)

The lifestyle construct has its roots in anthropology, sociology and clinical psychology, where it is used to describe patterns of behaviour that have an enduring consistency and are based in some combination of cultural heritage, social relationships, geographic and socioeconomic circumstances, and personality. (*75,76*) Green and Kreuter (*12*) observe that the term lifestyle has been eroded by its widespread misuse in describing single acts and temporary practices and that some have gone so far as to equate lifestyle with behaviour of any kind related to health. Rather, they view lifestyle as "a complex of related practices and behavioural patterns, in a person or group, that are maintained with some consistency over time". Considering its complexity and the interdependency of each kind of behaviour related to health, they argue that a comprehensive approach to health education and health promotion requires "a combination of educational, organizational economic, or other environmental supports rather than only persuasive appeals for change in each specific behaviour".

Documentation by WHO (*2*) supports this view. "If health is to be improved by enabling individuals to change their lifestyles, action must be directed not only at the individual but also at the social and living conditions which interact to produce and maintain these patterns of behaviour." WHO defines lifestyle as "a way of living based on identifiable patterns of behaviour which are determined by the interplay between an individual's personal characteristics, social interactions, and socioeconomic and environmental living conditions". Caution is advised however, in recognizing that patterns of behaviour are continually being interpreted by the individual and therefore are not fixed and that there is no optimal lifestyle that transcends across all cultures, incomes, ages, physical abilities and environments.

Primary health care

The WHO Alma-Ata Declaration defined primary health care as "essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible … at a cost that the community and country can afford". (*77*) In many countries primary health care involves incorporating curative treatment given by the first contact provider along with promotional, preventive and rehabilitative services provided by multidisciplinary teams of health care professionals working collaboratively. (*78,79*) The Alma-Ata Declaration also emphasizes that everyone should have access to primary health care, and everyone should be involved in it. The primary health care approach "encompasses the following key components: equity, *community* involvement/participation, intersectorality, appropriateness of technology and affordable costs". (*2*)

International studies show that the strength of a country's primary care system is associated with improved population health outcomes for all-cause mortality, all-cause premature mortality and cause-specific premature mortality from major respiratory and cardiovascular diseases. This relationship is significant after controlling for determinants of population health at the macro level (gross domestic product per capita, total physicians per 1000 population, percentage of elderly) and micro level (average number of ambulatory care visits, per capita income, alcohol and tobacco consumption). Furthermore, increased availability of primary health care is associated with higher patient satisfaction and reduced aggregate health care spending. (*80*)

As a set of activities, WHO reports that "primary health care should include at the very least health education for individuals and the whole community on the size and nature of health problems, and

on methods of preventing and controlling these problems". (*2*) Other essential activities include the promotion of adequate supplies of food and proper nutrition; sufficient safe water and basic sanitation; maternal and child health care, including family planning, immunization, appropriate treatment of common diseases and injuries, and the provision of essential drugs.

Despite numerous documents oriented toward defining primary care, Hogg et al. (*81*) concluded that it "is in a state of evolution". New definitions of primary care draw upon interdisciplinary perspectives, but there appears to be some consensus that primary care is the first level of contact of individuals and families with the national health system, bringing health care as close as possible to where people live and work. As a result, "there is great scope for both planned and opportunistic health promotion through the day to day contact between primary health care personnel and individuals in their community. Through health education with clients, and advocacy on behalf of their community, PHC personnel are well placed both to support individual needs and to influence the policies and programmes that affect the health of the community". (*2*)

Annex 2. Complete list of health educator competencies

Source (*58*)

Responsibility 1. Assessing individual and community needs for health education

Competency A Obtain health-related data about social and cultural environments, growth and development factors, needs and interests.

Sub-competencies

- Select valid sources of information about health needs and interests.
- Use computerized sources of health-related information.
- Employ or develop appropriate data-gathering instruments.
- Apply survey techniques to acquire health data.

Competency B Distinguish between behaviour that fosters and behaviour that hinders well-being.

Sub-competencies

- Investigate physical, social, emotional and intellectual factors influencing health behaviour.
- Identify behaviour that tends to promote or compromise health.
- Recognize the role of learning and affective experience in shaping patterns of health behaviour.

Competency C Infer needs for health education on the basis of obtained data.

Sub-competencies

- Analyse needs assessment data.
- Determine priority areas of need for health education.

Responsibility 2. Planning effective health education programmes

Competency A Recruit community organizations, resource people and potential participants for support and assistance in programme planning.

Sub-competencies

- Communicate need for the programme to those who will be involved.
- Obtain commitments from personnel and decision makers who will be involved in the programme.
- Seek ideas and opinions of those who will affect or be affected by the programme.
- Incorporate feasible ideas and recommendations into the planning process.

Competency B Develop a logical scope and sequence plan for a health education programme.

Sub-competencies

- Determine the range of health information requisite to a given programme of instruction.
- Organize the subject areas comprising the scope of a programme in logical sequence.

Competency C Formulate appropriate and measurable programme objectives.

Sub-competencies

- Infer educational objectives that facilitate achievement of specified competencies.
- Develop a framework of broadly stated, operational objectives relevant to proposed health education programme.

Competency D Design educational programmes consistent with specified programme objectives.

Sub-competencies

- Match proposed learning activities with those implicit in the stated objectives.
- Formulate a wide range of alternative educational methods.
- Select strategies best suited to implementation of educational objectives in a given setting.
- Plan a sequence of learning opportunities building upon and reinforcing mastery of preceding objectives.

Responsibility 3. Implementing health education programmes

Competency A Exhibit competence in carrying out planned educational programmes.

Sub-competencies

- Employ a wide range of educational methods and techniques.
- Apply individual or group process methods as appropriate to given learning situations.
- Use instructional equipment and other instructional media.
- Select methods that best facilitate the practice of programme objectives.

Competency B Infer enabling objectives as needed to implement instructional programmes in specified settings.

Sub-competencies

- Pre-test learners to ascertain present abilities and knowledge relative to proposed programme objectives.
- Develop subordinate measurable objectives as needed for instruction.

Competency C Select methods and media best suited to implement programme plans for specific learners.

Sub-competencies

- Analyse learner characteristics, legal aspects, feasibility and other considerations influencing choices among methods.

- Evaluate the efficacy of alternative methods and techniques capable of facilitating programme objectives.
- Determine the availability of information, personnel, time and equipment needed to implement the programme for a given audience.

Competency D Monitor educational programmes, adjusting objectives and activities as necessary.

Sub-competencies

- Compare actual programme activities with the stated objectives.
- Assess the relevance of existing programme objectives to current needs.
- Revise programme activities and objectives as necessitated by changes in learner needs.
- Appraise applicability of resources and materials relative to given educational objectives.

Responsibility 4. Evaluating the effectiveness of health education programmes

Competency A Develop plans to assess achievement of programmes objectives.

Sub-competencies

- Determine standards of performance to be applied as criteria of effectiveness.
- Establish a realistic scope of evaluation efforts.
- Develop an inventory of existing valid and reliable tests and instruments.
- Select appropriate methods for evaluating programme effectiveness.

Competency B Carry out evaluation plans.

Sub-competencies

- Facilitate administration of the tests and activities specified in the plan.
- Use data-collecting methods appropriate to the objectives.
- Analyse resulting evaluation data.

Competency C Interpret results of programme evaluation.

Sub-competencies

- Apply criteria of effectiveness to obtained results of a programme.
- Translate evaluation results into terms easily understood by others.
- Report effectiveness of educational programmes in achieving proposed objectives.

Competency D Infer implications from findings for future programme planning.

Sub-competencies

- Explore possible explanations for important evaluation findings.
- Recommend strategies for implementing results of evaluation.

Responsibility 5. Coordinating provision of health education services

Competency A Develop a plan for coordinating health education services.

Sub-competencies

- Determine the extent of available health education services.
- Match health education services to proposed programme activities.
- Identify gaps and overlaps in the provision of collaborative health services.

Competency B Facilitate cooperation between and among levels of programme personnel.

Sub-competencies

- Promote cooperation and feedback among personnel related to the programme.
- Apply various methods of conflict reduction as needed.
- Analyse the role of health educator as liaison between programme staff and outside groups and organizations.

Competency C Formulate practical modes of collaboration among health agencies and organizations.

Sub-competencies

- Stimulate development of cooperation among personnel responsible for community health education programmes.
- Suggest approaches for integrating health education within existing health programmes.
- Develop plans for promoting collaborative efforts among health agencies and organizations with mutual interests.

Competency D Organize in-service training programmes for teachers, volunteers and other interested personnel.

Sub-competencies

- Plan an operational, competency-oriented training programme.
- Use instructional resources that meet a range of in-service training needs.
- Demonstrate a wide range of strategies for conducting in-service training programmes.

Responsibility 6. Acting as a resource person in health education

Competency A Use computerized health information retrieval systems effectively.

Sub-competencies

- Match an information need with the appropriate retrieval system.
- Access principal on-line and other database health information resources.

Competency B: Establish effective consultative relationships with those requesting assistance in solving health-related problems.

Sub-competencies

- Analyse parameters of effective consultative relationships.
- Describe special skills and abilities needed by health educators for consultation activities.
- Formulate a plan for providing consultation to other health professionals.
- Explain the process of marketing health education consultative services.

Competency C Interpret and respond to requests for health information.

Sub-competencies

- Analyse general processes for identifying the information needed to satisfy a request.
- Employ a wide range of approaches in referring requests to valid sources of health information.

Competency D Select effective educational resources materials for dissemination.

Sub-competencies

- Assemble educational material of value to the health of individuals and community groups.
- Evaluate the worth and applicability of resources materials for given audiences.
- Apply various processes in the acquisition of resource materials.
- Compare different methods for distributing educational materials.

Responsibility 7. Communicating health and health education needs, concerns and resources

Competency A Interpret concepts, purposes and theories of health education.

Sub-competencies

- Evaluate the state of the art of health education.
- Analyse the foundations of the discipline of health education.
- Describe major responsibilities of the health educator in the practice of health education.

Competency B Predict the impact of societal value systems on health education programmes.

Sub-competencies

- Investigate social forces causing opposing viewpoints regarding health education needs and concerns.
- Employ a wide range of strategies for dealing with controversial health issues.

Competency C Select a range of communication methods and techniques in providing health information.

Sub-competencies

- Use a wide range of techniques for communicating health and health education information.
- Demonstrate proficiency in communicating health information and health education needs.

Competency D Foster communication between health care providers and consumers.

Sub-competencies

- Interpret the significance and implications of health care providers' messages to consumers.
- Act as liaison between consumer groups and individuals and health care provider organizations.

Annex 3. Code of ethics for the health education profession

Source (*82*)

Preamble

The Health Education profession is dedicated to excellence in the practice of promoting individual, family, organizational, and community health. Guided by common ideals, Health Educators are responsible for upholding the integrity and ethics of the profession as they face the daily challenges of making decisions. By acknowledging the value of diversity in society and embracing a cross-cultural approach, Health Educators support the worth, dignity, potential, and uniqueness of all people.

The Code of Ethics provides a framework of shared values within which Health Education is practiced. The Code of Ethics is grounded in fundamental ethical principles that underlie all health care services: respect for autonomy, promotion of social justice, active promotion of good, and avoidance of harm. The responsibility of each health educator is to aspire to the highest possible standards of conduct and to encourage the ethical behaviour of all those with whom they work.

Regardless of job title, professional affiliation, work setting, or population served, Health Educators abide by these guidelines when making professional decisions.

Article I: Responsibility to the Public

A Health Educator's responsibilities are to educate, promote, maintain, and improve the health of individuals, families, groups and communities. When a conflict of issues arises among individuals, groups, organizations, agencies, or institutions, health educators must consider all issues and give priority to those that promote wellness and quality of living through principles of self-determination and freedom of choice for the individual.

Section 1: Health Educators support the right of individuals to make informed decisions regarding health, as long as such decisions pose no threat to the health of others.

Section 2: Health Educators encourage actions and social policies that support and facilitate the best balance of benefits over harm for all affected parties.

Section 3: Health Educators accurately communicate the potential benefits and consequences of the services and programs with which they are associated.

Section 4: Health Educators accept the responsibility to act on issues that can adversely affect the health of individuals, families, and communities.

Section 5: Health Educators are truthful about their qualifications and the limitations of their expertise and provide services consistent with their competencies**.**

Section 6: Health Educators protect the privacy and dignity of individuals.

Section 7: Health Educators actively involve individuals, groups, and communities in the entire educational process so that all aspects of the process are clearly understood by those who may be affected.

Section 8: Health Educators respect and acknowledge the rights of others to hold diverse values, attitudes, and opinions.

Section 9: Health Educators provide services equitably to all people.

Article II: Responsibility to the Profession

Health Educators are responsible for their professional behaviour, for the reputation of their profession, and for promoting ethical conduct among their colleagues.

Section 1: Health Educators maintain, improve, and expand their professional competence through continued study and education; membership, participation, and leadership in professional organizations; and involvement in issues related to the health of the public.

Section 2: Health Educators model and encourage non-discriminatory standards of behaviour in their interactions with others.

Section 3: Health Educators encourage and accept responsible critical discourse to protect and enhance the profession.

Section 4: Health Educators contribute to the development of the profession by sharing the processes and outcomes of their work.

Section 5: Health Educators are aware of possible professional conflicts of interest, exercise integrity in conflict situations, and do not manipulate or violate the rights of others.

Section 6: Health Educators give appropriate recognition to others for their professional contributions and achievements

Article III: Responsibility to Employers

Health Educators recognize the boundaries of their professional competence and are accountable for their professional activities and actions.

Section 1: Health Educators accurately represent their qualifications and the qualifications of others whom they recommend.

Section 2: Health Educators use appropriate standards, theories, and guidelines as criteria when carrying out their professional responsibilities.

Section 3: Health Educators accurately represent potential service and programme outcomes to employers.

Section 4: Health Educators anticipate and disclose competing commitments, conflicts of interest, and endorsement of products.

Section 5: Health Educators openly communicate to employers, expectations of job-related assignments that conflict with their professional ethics.

Section 6: Health Educators maintain competence in their areas of professional practice.

Article IV: Responsibility in the Delivery of Health Education

Health Educators promote integrity in the delivery of health education. They respect the rights, dignity, confidentiality, and worth of all people by adapting strategies and methods to the needs of diverse populations and communities.

Section 1: Health Educators are sensitive to social and cultural diversity and are in accord with the law, when planning and implementing programmes.

Section 2: Health Educators are informed of the latest advances in theory, research, and practice, and use strategies and methods that are grounded in and contribute to development of professional standards, theories, guidelines, statistics, and experience.

Section 3: Health Educators are committed to rigorous evaluation of both programme effectiveness and the methods used to achieve results.

Section 4: Health Educators empower individuals to adopt healthy lifestyles through informed choice rather than by coercion or intimidation.

Section 5: Health Educators communicate the potential outcomes of proposed services, strategies, and pending decisions to all individuals who will be affected.

Article V: Responsibility in Research and Evaluation

Health Educators contribute to the health of the population and to the profession through research and evaluation activities. When planning and conducting research or evaluation, health educators do so in accordance with federal and state laws and regulations, organizational and institutional policies, and professional standards.

Section 1: Health Educators support principles and practices of research and evaluation that do no harm to individuals, groups, society, or the environment.

Section 2: Health Educators ensure that participation in research is voluntary and is based upon the informed consent of the participants.

Section 3: Health Educators respect the privacy, rights, and dignity of research participants, and honour commitments made to those participants.

Section 4: Health Educators treat all information obtained from participants as confidential unless otherwise required by law.

Section 5: Health Educators take credit, including authorship, only for work they have actually performed and give credit to the contributions of others.

Section 6: Health Educators who serve as research or evaluation consultants discuss their results only with those to whom they are providing service, unless maintaining such confidentiality would jeopardize the health or safety of others.

Section 7: Health Educators report the results of their research and evaluation objectively, accurately, and in a timely fashion.

Article VI: Responsibility in Professional Preparation

Those involved in the preparation and training of Health Educators have an obligation to accord learners the same respect and treatment given other groups by providing quality education that benefits the profession and the public.

Section 1: Health Educators select students for professional preparation programmes based upon equal opportunity for all, and the individual's academic performance, abilities, and potential contribution to the profession and the public's health.

Section 2: Health Educators strive to make the educational environment and culture conducive to the health of all involved**,** and free from sexual harassment and all forms of discrimination.

Section 3: Health Educators involved in professional preparation and professional development engage in careful preparation; present material that is accurate, up-to-date, and timely; provide reasonable and timely feedback; state clear and reasonable expectations; and conduct fair assessments and evaluations of learners.

Section 4: Health Educators provide objective and accurate counseling to learners about career opportunities, development, and advancement, and assist learners secure professional employment.

Section 5: Health Educators provide adequate supervision and meaningful opportunities for the professional development of learners.

References

1. Ottawa Charter for Health Promotion. Geneva, WHO, 1986.
2. *Health promotion glossary*. Geneva, WHO 1998. http://www.who.int/hpr/NPH/docs/hp_glossary_en.pdf. Accessed 23 March 2011.
3. Kwan B, Frankish J, Rootman I. *The development and validation of measures of "health literacy" in different populations*. Vancouver, University of British Columbia Institute of Health Promotion Research and University of Victoria Centre for Community Health Promotion Research, 2006.
4. *Glossary of terms used in Health for All series*. Geneva, WHO, 1984.
5. *Alma-Ata declaration*. Geneva, WHO, 1978.
6. Andersen NA, Bridges-Webb C, Chancellor AHB. *General practice in Australia*. Sydney, Sydney University Press, 1986.
7. Crampton P, Brown MC. General practitioner funding policy: from where to whither? *New Zealand medical journal*, 1998, 111(1071):302–4.
8. The WHOQOL Group. What quality of life? *World health forum*, 1996, 17:354–6.
9. Smith B, Tang KC, Nutbeam D. WHO Health Promotion Glossary, new terms. *Health promotion international*, 2006, 21(4):340–5.
10. Downie RS, Fyfe C, Tannahill A. *Health promotion: models and values*. Oxford, Oxford University Press, 1990.
11. Kirsten, W. *Health promotion: an international phenomenon*. Washington DC, National Center for Health Fitness, American University.
12. Green L, Kreuter M. *Health promotion planning: an educational and environmental approach*. Palo Alto, California, Mayfield Publishing, 1991:20.
13. O'Byrne D. *Health promotion*. http://www.goinginternational.org/english/pdf/archive/byrne1_e.pdf. Accessed 29 March 2011.
14. Tones K. Health education, behaviour change, and the public health. In Detels R, Holland WW, McEwen J, Tanaka H, eds. *Oxford textbook of public health*, 3rd ed. New York, Oxford University Press, 1997.
15. Ratzan SC. Health literacy: communication for the public good. *Health promotion international*, 2001, 16(2): 207–14.
16. Parker RM et al. The test of functional health literacy in adults: a new instrument for measuring patients' literacy skills. *Journal of general internal medicine*, 1995, 10(10): 537–41.
17. US Department of Health and Human Services. *Healthy people 2010*. Washington DC, US Government Printing Office, 2000.
18. Rootman I. Health literacy and health promotion. *Ontario health promotion e-bulletin*, 2002, 270. http://www.ohpe.ca/node/175. Accessed 30 March 2011.
19. Nutbeam D. Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. *Health promotion international*, 2000, 15(3):259–67.
20. Kickbusch I. Health literacy: addressing the health and education divide. *Health promotion international*, 2001, 16(3):289–97.
21. Rimer B, Glanz K. *Theory at a glance. A guide for health promotion practice*, 2nd ed. Bethesda, Maryland, US Department of Health and Human Services, 2005. http://www.cancer.gov/cancertopics/cancerlibrary/theory.pdf. Accessed 30 March 2011.
22. Glanz K, Rimer B, Lewis F. *Health behavior and health education: theory, research, and practice*, 3rd ed. San Francisco, John Wiley, 2002.
23. Institute of Medicine. *Speaking of health: assessing health communications strategies for diverse populations*. Washington DC, National Academies Press, 2002.

24. McKenzie J, Neiger B, Smeltzer J. *Planning, implementing, and evaluating health promotion programs: a primer*. 4th ed. San Francisco, Benjamin Cummings, 2005.
25. McLeroy KR et al. An ecological perspective on health promotion programs. *Health education quarterly*, 1988, 15(4):351–77.
26. Witte K. Fear control and danger control: a test of the extended parallel process model. *Communications monographs*, 1994, 61(2):113–34.
27. Murray-Johnson L et al. Using the extended parallel process model to prevent noise-induced hearing loss among coal miners in Appalachia. *Health education & behavior*, 2004, 31(6):741–55.
28. Prochaska JO, DiClemente C. Toward a comprehensive model of change. In: Miller WR,Heather N, eds. *Treating addictive behaviors: processes of change: applied clinical psychology*. New York, Plenum Press, 1986:3–27.
29. Ajzen I. *Attitudes, personality, and behavior*, 2nd ed. Milton Keynes, UK, Open University Press/McGraw-Hill, 2005.
30. Becker M, ed. *The health belief model and personal health behavior*. Thorofare, New Jersey, Charles B. Slack, 1974.
31. Hochbaum G. Behaviour modification. *School health review*, 1971, 2(3): 5–11.
32. Dennison D, Golaszewski T. The activated health education model: refinement and implications for school health education. *Journal of school health*, 2002, 72(1):23–6.
33. Kaplan R, Sallis J, Patterson T. *Health and human behavior*. New York, McGraw-Hill, 1993:60–70.
34. Skinner BF. *Beyond freedom and dignity*. New York, Knopf, 1971.
35. Pajares F. *Overview of social cognitive theory and of self-efficacy*. 2002. http://www.emory.edu/EDUCATION/mfp/eff.html. Accessed 5 April 2011.
36. Bandura A, Walters R. *Social learning and personality development*. New York, Holt, Rinehart & Winston, 1963.
37. Bandura A, ed. *Self-efficacy in changing societies*. New York, Cambridge University Press, 1995.
38. Office of Cancer Communications, National Cancer Institute. *Making health communication programs work: a planner's guide* (revised December 2001). http://www.cancer.gov/cancertopics/cancerlibrary/pinkbook. Accessed 12 March 2012.
39. Bernhardt J. (2004) Communication at the Core of Public Health. *American Journal of Public Health,* 94(12): 2051–2052.
40. Freimuth V, Quinn SC. (2004). The Contributions of Health Communication to Eliminating Health Disparities. *American Journal of Public Health,* 94(12):2053–2054.
41. Rogers EM. *Diffusion of innovations*, 4th ed. New York, Free Press, 1995.
42. Campbell C. *Health education behavior models and theories—a review of the literature*. Starkville, Mississippi, Mississippi State University, 2001. http://msucares.com/health/health/appa1.htm. Accessed 6 April 2011.
43. Rimer B, Glanz K, Rasband G. Searching for evidence about health education and health behavior interventions. *Health education and behavior*, 2001, 28(2):231–48.
44. Rosenberg W, Donald A. Evidence-based medicine: an approach to clinical problem-solving. *British medical journal*, 1995, 310:1122–6.
45. Jenicek M. Epidemiology, evidence-based medicine, and evidence-based public health. *Journal of epidemiology*, 1997, 7:187–97.
46. Cottrell R, McKenzie J. *Health promotion and education research methods*. Sudbury, Massachusetts, Jones & Bartlett Learning, 2005:68.
47. Pancer SM, Nelson G. Community-based approaches to health promotion: guidelines for community mobilization. *International quarterly of community health education*, 1990, 10(2), 91–111.

48. Green S. Systematic reviews and meta-analysis. *Singapore medical journal*, 2005, 46(6). http://www.sma.org.sg/smj/4606/4606ebm1.pdf. Accessed 11 April 2011.

49. Cochrane Collaboration at http://www.cochrane.org/index.htm. Accessed 11 April 2011.

50. Campbell Collaboration at http://www.campbellcollaboration.org/. Accessed 11 April 2011.

51. The Community Guide. http://www.thecommunityguide.org/about/history.html. Accessed 11 April 2011

52. Truman BI et al. Developing the Guide to community preventive services—overview and rationale. The Task Force on Community Preventive Services. *American journal of preventive medicine*, 2000, 18(1 suppl.):18–26.

53. The Community Preventive Services Task Force.*Behavioral and social approaches to increase physical activity: individually-adapted health behavior change programs*. http://www.thecommunityguide.org/pa/behavioral-social/individuallyadapted.html. Accessed 11 April 2011.

54. The Community Preventive Services Task Force. *Obesity prevention and control: worksite programs*. http://www.thecommunityguide.org/obesity/workprograms.html. Accessed 11 April 2011.

55. The Community Preventive Services Task Force. *Reducing tobacco use initiation: mass media campaigns when combined with other interventions*. http://www.thecommunityguide.org/tobacco/initiation/massmediaeducation.html. Accessed 13 April 2011.

56. McGinnis JM. Does proof matter? Why strong evidence sometimes yields weak action. *American journal of health promotion*, 2001, 15(5):391–6.

57. National Commission for Health Education Credentialing. http://www.nchec.org/credentialing/responsibilities/. Accessed 18 April 2011.

58. National Commission for Health Education Credentialing. Responsibilities and competencies for health education. http://www.henod.org/Health_Educator_Competencies.pdf. Accessed 21 January 2012.

59. Brown KM et al. The health education profession in the twenty-first century: setting the stage. *Journal of health education*, 1996, 27(6):357–64.

60. *Achieving health for all: a framework for health promotion*. Ottawa, Health and Welfare Canada, 1986. http://w*ww.hc-sc.gc.ca/hcs-sss/pubs*/system-regime/1986-frame-plan-promotion/index-eng.php. Accessed 5 May 2011.

61. *A framework for the response to alcohol and drug problems in Ontario*. Toronto, Ontario Ministry of Health, 1988.

62. McKinlay JB. Health promotion through healthy public policy: the contribution of complementary research methods. *Canadian journal of public health*, 1992, 83(Suppl. 1):811–9.

63. Leaf A, Ryan TJ. Prevention of coronary artery disease. *New England journal of medicine*, 1990, 323(20):1416–9.

64. Green L et al. *Health education planning: a diagnostic approach*. Palo Alto, California, Mayfield Publishing, 1980

65. Clarke B. *Designing effective health education programs*. Presentation at the Rural Health Institute, Talladega, Alabama, 7 November 2002. *http://srdc.msstate.edu/trainings/presentations_archive/2002/2002_clarke_designing.pdf. Accessed 12 May 2011.*

66. Lalonde M. *A new perspective on the health of Canadians*. Ottawa, Health and Welfare Canada, 1974. http://www.hc-sc.gc.ca/hcs-sss/pubs/system-regime/1974-lalonde/index-eng.php. Accessed 12 may 2011.

67. *Global strategy for health for all by the year 2000*. Health for All Series, 3, 15. Geneva, World Health Organization, 1981. http://whqlibdoc.who.int/publications/9241800038.pdf. Accessed 12 May 2011.

68. Kickbusch I. Health promotion: a global perspective. *Canadian journal of public health*, 1986, 77:321–6.

69. O'Donnell M. Definition of health promotion: part III: expanding the definition. *American journal of health promotion*, 1989, 3(3):5.

70. Mittelmark, M. Presentation 18 January 2000 at a dinner-debate with Members of Parliament of the European Union, arranged by the International Union for Health Promotion and Education, on the theme "equity in health: health promotion, its effectiveness and its pertinence to health". http://www.salutare.ee/files/ettekanded/Filosoofia.pdf. Accessed 13 May 2011.

71. Shilton T et al. *Revision of health promotion competencies for Australia 2005*. Perth, Western Australian Centre for Health Promotion Research, Centre for Behavioural Research in Cancer Control, Curtin University, and the National Heart Foundation of Australia (WA Division), 2006. http://www.phaa.net.au/documents/health_promo_sig_comp_report_2007.pdf. Accessed 13 May 2011.

72. Fay K, Pinder W. Creating a consistent health promotion approach in a national network. *Ontario health promotion e-bulletin*, 2006, 453. http://www.ohpe.ca/index.php?option=com_content&task=view&id=7231&Itemid=78. Accessed 13 May 2011.

73. *Health literacy in Canada. Initial results from the international adult literacy and skills survey*. Ottawa, Canadian Council on Learning, 2007. http://www.ccl-cca.ca/pdfs/HealthLiteracy/HealthLiteracyinCanada.pdf. Accessed 13 May 2011.

74. Schillinger D et al. Association of health literacy with diabetes outcomes. *Journal of the American Medical Association*, 2002, 288(4):475–82.

75. Breslow L, Egstrom J. Persistence of health habits and their relationship to mortality. *Preventive medicine*, 1980, 9(4):469–83.

76. Epstein S. The stability of behaviour: 1. On predicting most of the people much of the time. *Journal of personality and social psychology*, 1979, 37(7):1097–126.

77. *Alma Ata Declaration*. Geneva, WHO, 1978. http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf. Accessed 16 May 2011.

78. Andersen NA, Bridges-Webb C, Chancellor AHB, eds. *General practice in Australia*. Sydney, Sydney University Press, 1986.

79. Crampton P, Brown MC. General practitioner funding policy: from where to whither? *New Zealand medical journal*, 1998, 111(1071):302–4

80. *What are the advantages and disadvantages of restructuring a health care system to be more focused on primary care services?* Copenhagen, WHO Regional Office for Europe, Health Evidence Network, January 2004. http://www.euro.who.int/document/e82997.pdf. Accessed 16 May 2011.

81. Hogg W, Rowan M, Russell G, Geneau R, Muldoon L. Framework for primary care organizations: the importance of a structural domain. *International journal for quality in health care*, 2007, 20(5):308–13.

82. *Code of ethics for the health education profession*. Coalition of National Health Education Organizations, 2011. http://www.cnheo.org. Accessed 11 December 2011.

Health education: theoretical concepts, effective strategies and core competencies seeks to provide a common understanding of health education disciplines and related concepts. It also offers a framework that clarifies the relationship between health literacy, health promotion, determinants of health and healthy public policy and health outcomes. It is targeted at health promotion and education professionals and professionals in related disciplines.

9 789290 218289