

<b>HEALTH PROMOTION AND DISEASE PREVENTION</b> <b>A Handbook for Teachers, Researchers, Health Professionals and Decision Makers</b>	
<b>Title</b>	<b>Preventive Health Care and Disease Prevention</b>
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<b>Key words</b>	Preventive medicine, disease prevention, health promotion, strategies, evaluation
<b>Learning objectives</b>	After completing this module students and public health professionals should be able to: <ul style="list-style-type: none"><li>• Understand the framework of preventive health care;</li><li>• Understand the prevention and control of disease to promote the health of population.</li><li>• Improve knowledge about the types and activities of preventive health care and disease prevention ;</li><li>• Differentiate between disease prevention and health promotion;</li><li>• Increase knowledge about the strategies of disease prevention;</li><li>• Evaluate the possibilities for disease prevention.</li></ul>
<b>Abstract</b>	In the last decades it was evident that the health problems worldwide could not be solved only by spending money for disease treatment but by creating and application of disease prevention strategies. The aim of this paper is to give a common understanding about the major tasks of the prevention medicine, about the types and activities of the prevention. It describes the differences between disease prevention and health promotion. The levels of the diseases prevention are presented. The strategies of preventive medicine, their advantages, disadvantages and interaction are explained. The paper gives information how the evaluation of possibilities for diseases prevention could be done. At the end, the reader will learn about the necessary premises for a successful preventive strategy in the policy of preventive medicine.

Teaching methods	Teaching methods could include lectures, exercises, individual work, interactive methods such as small group discussions, seminars etc. Describe in brief the teaching process. <ul style="list-style-type: none"><li>• introductory lectures related to disease prevention concept and its understanding;</li><li>• distribution and discussion of differences between prevention and health promotion and its evaluation ;</li><li>• guided discussion on health prevention strategies;</li><li>• small group evaluation of the possibilities for diseases prevention.</li></ul>
Specific recommendations for teachers	Specific recommendations: <ul style="list-style-type: none"><li>• ½ lectures; ½ discussions;</li><li>• no special facilities or equipment are required;</li><li>• target audience- medical and public health specialists, social workers, psychologists, economists, lawyers, health care managers and politicians.</li></ul>
Assessment of students	Assessment of students: <ul style="list-style-type: none"><li>• multiple choice questionnaire for theoretical aspect</li><li>• presentation of evaluation papers</li></ul>

## PREVENTIVE HEALTH CARE AND DISEASE PREVENTION

Elena Shipkovenska, Karolina Lyubomirova

### Introduction

#### Community health and diseases prevention- in the scope of the European politics

First decade of the new XXI century has proved that the community problems could not be solved by the separate countries and nations, but need global efforts. That is why the nature of the challenges to the health care systems has been changed.

International comparisons in the fields of health care and medicine give possibilities not only for critical assessment, but for trend determinations of the health care and diseases prevention in huge areas of the world. These comparisons show that nowadays people spend a lot of money to solve health problems which already exist. It is much easier for the government to spend money for a certain situation, for an event which has occurred, i.e. the sources are distributed mostly not according to the health priorities, but due to passing necessities(1).

A new diseases preventive method offered by the World Health Organization opposes to the policy of the pharmaceutical companies and medical associations which rely on and insist mainly on the clinical model of health care. This new method is based on the good understanding of the health necessities of people by an assessment of: the heaviness of the diseases and the risk factors. Health risk assessment and the application of adequate preventive measures form the basis of the WHO health plan proposed through the strategies: "Health for all in XXI century" (1998) (2), "Primary health care" (1978), and "Health promotion" (1986) (3). These strategies stress that *health is the main determinant of the adequacy of the global development policy of a country.*

What is the meaning of a good health? If life is a constant fight with the overweight, family problems, career full of battles, joyless life and conflicts it cannot be defined as healthy. Obviously, health cannot be achieved only by healthful food and physical activity, but requires good balance between body, mind and spirit. The core of the preventive medicine and disease prevention philosophy is the consciousness of the fact that our body, mind and spirit interact constantly and they determine our attitude to the diseases (despair or full-value participation for survival) or *how to live*. Health laws (physical, psychological and social health) are valid only when they work together. Health and its determinants, either of a single person or the society as a whole, are increasing their importance *as a social-economic factor, as a personal and public value, right and responsibility of everyone and everybody*. Health with its numerous aspects is a key point in solving problems as lifespan and quality of life, working capacity, raising a health offspring, etc. These are the reasons why the questions related to health are in the focus of the leading international organizations- European Council (EC), World Health Organization (WHO), etc.

WHO puts two main tasks in the activities of the countries participating in the programs in order to achieve the aims of the strategy "Health for all in 21<sup>st</sup> century":

1. Health should be acknowledged as a center of the human development as it is a source and goal in the whole development of the society.
2. Health care systems should respond to the health and social necessities of people through their whole life. This can be achieved by systems, which guarantee fair access to quality health care, disease prevention and control, legislation measures for health promotion.

These strategies are supported by the personal expectations of the people since the ancient

times. What people want is: “To live longer, to be healthy and not to grow older”. These expectations could be realized if new models are built up. These models should be based on the healthy behavior and the participation of everyone in the activities for health and clean environment, in which one is born, work and live. The public health could be influenced only by public healthy behavior and conviction of many people, i.e. achievement of a better health by investment in it. This is the essence of the preventive care and disease prevention.

### Preventive health care and disease prevention

Since the primary goal of the public health is to improve the health of the community, a preventive focus is also a key element in the definition of the role. One of the major tasks of the preventive medicine is to give people a positive sense of health. This is not only a matter of improving lifestyles and reducing premature deaths but also the concern for more well-being and quality of life, by ensuring the full development and use of people’s integral or residual physical and mental capacities to derive full benefit from and to cope with their life in a healthy way(4).

Preventive health care includes all activities aimed at promoting health, preventing illness, prolonging life, and improving the functioning of individuals. These activities can be divided into primary, secondary, and tertiary preventive care depending on the stage of the disease process (Table 1), (5,6).

**Table 1.** Preventive health care activities

Health promotion	Pre-primary prevention	Primary prevention	Secondary prevention - early diagnostics - efficiency treatment	Tertiary prevention -post treatment and care - rehabilitation

Primary prevention takes place before the disease process occurs. It is directed to prevention of the interaction between the risk factors and the susceptible individual in the early phase before the risk factors has triggered the disease process.

Primary prevention aims at prevention of the triggering of the disease by elimination of the risk factors or by lessening their level in the community and among the different groups of the population. It mainly contributes to the decline in the morbidity rate in the society.

#### Primary prevention includes:

*General Health Promotion.* The focus is on promoting individual and group well-being since a healthy host or population is one that is generally less susceptible to illness. For example, provision of condition at home, health education, good standard of nutrition adjusted to developmental phases of life, marriage counselling and sex education, genetics, are based on general health promotion as a part of primary prevention. In the instance of general health promotion, the focus is on promoting individual and group well-being since a healthy host or population is one that is generally less susceptible to illness.

*Specific Protection.* Specific protection consists of measures applied to a particular disease entity or group of diseases in order to literally intercept the known causes of disease before they affect people. Examples include immunization, environmental sanitation, protection against occupational hazards, protection from accidents, use of specific nutrients, protection from carcinogens, avoidance of allergens, genetic counselling, stimulation of proper personal hygiene and control of disease vectors lice mosquitoes, and even the use of suppressive

drugs. The whole idea behind primary prevention strategies is to alter the host, the agent or environment in such a way that disease is averted.

**Secondary prevention** takes place early in the disease process. It is aimed at early diagnosis and treatment to prevent death or limit disability. The objects of secondary prevention are formally healthy individuals whose disease process is so far asymptomatic or the disease is at the sub-clinical asymptomatic stage. It's realization is possible if there exist reliable and discriminating screening methods for early diagnostics, as well as if there exist an effective and safe treatment, which, when applied early, will influence favourably the course and the prognosis of the disease. For example: early identification of breast cancer, early identification of hypertension, prevention of rheumatic fever and other complications from streptococcal infections. From epidemiological point of view the secondary prevention should reduce the morbidity rate too.

**Tertiary prevention** usually occurs when the disease process is clearly present. Tertiary prevention is not so much an effort to slow the disease process as it is an attempt to prevent complete or unnecessary disability after anatomic and physiologic changes have more or less stabilized. The therapeutic and rehabilitation measures (social, psychological and physical rehabilitation) applied in the management of chronic diseases help the patient to achieve longer periods of remission and to adapt to a new style of life. With the help of tertiary prevention some more years are added to the life expectancy for the patient as well as it adds "some life" to these years.

The provision of hospital and social facilities for the training and education of the disabled patients will help to achieve optimal usage of the remaining capacities, as well as the work therapy in the hospitals or in the sheltered colonies. Each intervention which might stop the progression of the disease to handicap and might improve the remaining functions in the face of already present disability is determined as tertiary prevention.

**Is there any difference between prevention and promotion?**

Nowadays there are new pretentions to the traditional classification of prevention. Most authors consider it to be directed mainly to the disease process itself and not to the health and differentiate it from promotion, which they consider as a process giving possibilities to individuals and communities to increase their control over factors determining health and thus to improve their own health. Some of the differences between prevention and promotion are presented on the following Table 2 (7):

**Table 2.** Differences between Prevention and Health Promotion

Promotion of Health	Prevention of Disease
HEALTH = positive, multifactorial conception of it	HEALTH = absence of disease
This model of health relies on patients compliance	Medical model
This model is directed to the whole society and its environment	It is mainly directed to high risk groups of the population
Concerns broad variety of problems	Concerns specific pathology
Proposes stimulating measures to the population	Realizes in practice direct measures
Seaks changes in humans health and the environment	Concentrates on special individuals and groups
Use mainly not medical organizations and civil groups	Use medical specialists from different specialties

*Source: Stachenko S & Jenicek, Differences Between Prevention and Health Promotion & Research Implicator for Community Health Progress, Can.J.Publ.Health,81,1990*

In spite of the above mentioned differences the two models of health care cannot be strictly separated. The difference is rather in the “accent” on the care - whether it aims at positive health care and improvement of the health or the goal is prevention of disease process and the “fight” is against the negative risk factors (8).

The worldwide practice in the development of these models has shown that both of them help each other and comprise a common model of health care. It is already obvious that the possibilities of the “pure” prevention of diseases are limited if there are no additional social activities. On the other hand the upholders of the promotion also understood that the health education and the social measures only without good medical care can not do much good either and are not the most effective solution of the problems in the field of health care.

Another matter of dispute is the fact that at each level of prevention might be used drug treatment. This gives credit to some authors to presume that all the physicians do for the patients could be considered as “prevention” too. In connection with this problem G Rose (9) states that it is more correct to accept four focuses (levels) of prevention:

1. Prevention in the beginning (at the onset) of the pathological process or of some other phenomenon by reduction of the risk.
2. Prevention of progression of the disease process by early diagnosis (screening).
3. Prevention of complications of the already existing disease or another undesirable condition.
4. Prevention of disease or another undesirable condition.

In spite of the differences in the classifications of prevention what is important is that prevention takes a leading role in the practices of many different health specialists and this tendency will continue in the next decades too.

### **Strategies of prevention**

Preventive activities might be directed to the population as a whole or may be concentrated on some individuals exposed to high risk of disease. Because of that we distinguish two kinds of prevention activities:

1. *Individual*, addressed to high risk patients
2. *Mass*, population

### **Which of the two should be preferred and why?**

The high risk strategy is suitable for ill patients or for carriers of multiple risk factors and it is the natural preventive model in the clinical practice.

It is more natural for physicians to be responsible for individuals who are potential patients than those who are healthy and perhaps will remain healthy for a long period of time. In that case the two groups of participants in the activity - the medical workers (the physicians) and the patients are well motivated to participate. This strategy proposes good balance of the ratio expenditure-benefit and benefit-risk for it allows optimal usage of the restricted funds and time to be directed to those who mostly need them and where the expected benefit will be maximum for the individual. The weak aspects of this strategy are the necessity of a screening trial, because the problem will be solved not by elimination of the causing agent but by protection of the high risk individual, which will not lead to a distinct change in the morbidity rate and death rate among the population.

According to G Rose the majority of the avertable cases of diseases appear not in small groups of high risk individuals but in the big groups with relatively low risk and because of that population prevention strategy may lead to significant change in the basic health indices - morbidity and death rate, in contrast to the high risk group.

The population strategy aims to reduce the mean risk of the population by converting the whole distribution of the risk factors among this population to the low values of the risk. It tries to change the behavioural standards and habits in the society (10). Therefore the physicians could influence the attitude of the population to the health problems through their contacts with the patients not only of their patient's families but also of the whole society.

From economic point of view the more available model of prevention is the population one which might involve broad participation of public organizations, mass media, the industry and last but not least a consistent health strategy. Whether this model will be successful depends to a certain extent on the "maturity" of health care system and the adequate and good health culture of the population.

### **Models and theories in the field of preventive care and disease prevention :**

- Theories focused on the individuals, explaining the health behavior and its changes;
- Models related to the changes in the society (common mobilization, social planning, distribution of innovations);
- Models supporting high quality health practices (organizational changes including quality standards and patient training in primary and hospital care).

### **Evaluation of the possibilities for disease prevention**

Not all diseases allow adequate health activities in order to change from tertiary to secondary or to primary level of prevention. Some parameters and criteria are used to determine whether such change is possible, for which diseases and to which groups of the population it should be directed. These general criteria are proclaimed as principles of WHO since 1968 as follows:

1. Is the disease a significant health problem? Is it important for the quality of life and for the lifespan? What is the disease rate in the special population group?
2. Is there any adequate treatment of the disease?
3. What are the possibilities for a correct diagnosis?
4. Does the disease have a latent, subclinical stage?
5. Is there any proper screening test?
6. Is the screening test acceptable for the patient and the society?
7. Are the screening tests economically well motivated?

### **Necessary premises for successful preventive strategy:**

1. Key government role.
2. Focus on individual, family, different risk groups or the whole population.
3. Population and patient education (skills, knowledge, information materials, systems).
4. Partnership approaches (11).
5. Health funds or other resources.
6. Maturity of the health care system and sufficient level of health culture of the society.

**Exercise:**

**Task 1:**

Explain the importance of the preventive medicine in public health.

**Task 2:**

Explain the differences between disease prevention and health promotion.

**Task 3:**

List the major criteria for evaluation of the possibilities for disease prevention.

**Task 4:**

Give examples of individual and mass strategies of disease prevention.

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