University of Gondar
College of Social Science and Humanities
School of Sociology and Social work
Department of social work

Handout Notes for Community Health and Social Work

Course Code**:** BSWK3042

By Kidist Hailegbriel

Chapter One: Introduction

1.1. Conceptualization of Health and Illness

1.1.1. Health: a Social Work Issue

Health is an issue of human rights and social justice. These two central social work values frame International Federation of Social Workers (IFSW's) understanding that all people have an equal right to enjoy the social conditions that underpin or ensure human health and to access services and other resources to promote health and deal with illness.

The United Nations (UN) Declaration of Human Rights under Article 25 identified a range of rights which are essential to health. These include rights to life, liberty and security; to participation in policy making; to education and to just and favorable conditions of work. Centrally, the UN Declaration asserts or declare the right to 'a standard of living adequate for health and well-being of self and of family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control."

Social workers in all settings engage every day with children, men and women struggling to realize these basic rights to health. For example, social workers support families whose poverty makes securing the conditions for health and the purchase of health care unattainable, including households headed by children whose parents have died from AIDS; homeless people, migrants and other excluded groups facing barriers to securing shelter, employment or education, including indigenous peoples whose social and emotional difficulties are rooted in the violation of their cultural integrity and land rights; women and children suffering from the physical and emotional health consequences of violence and trauma, often linked to substance misuse. In every case people's lives are compromised and impaired because of global and local inequity. The inequitable distribution of health reflects the inequitable distribution of the resources human beings require for sustainable, continuous development and growth.

IFSW asserts that health is an issue of fundamental human rights and social justice and binds social work to apply these principles in policy, education, research and practice. All people have an equal right to enjoy the basic conditions which underpin or support human health. These conditions include a minimum standard of living to support health and a sustainable and health promoting environment. All people have an equal right to access resources and services that promote health and address illness, injury and impairment, including social services. IFSW will

demand and continue to work for the realization of these universal rights through the development, articulation and pursuit of socially just health and social policies.

Health is a key aspect of all fields of social work – practice, education, research and policy making – and in all settings. IFSW states that health is not merely the absence of disease, it encompasses physical, mental, emotional and social wellbeing. Health is a central dimension of people's lives. Health is an issue of fundamental human rights. Health status is primarily determined by social, economic, environmental and political conditions and is an issue of social equality and justice. Securing and sustaining health depends on local, national and global health and social policies and practices. Securing and sustaining health depends on the concerted actions of international institutions, governments, civil society and people. Health is multi-dimensional.

1.1.2. Definition of Health

The word health is something of an enigma and difficult concept to define (but easy to spot when we see it) as varieties of definitions are given to it. 'You look well' stands as a common greeting to a friend or a relative who appears relaxed, happy and buoyant – 'feeling good'. Any reflection on the term, however, immediately reveals its complexity. The idea of health is also related to other complex ideas such as illness and disease. There is no single, all purpose definition of that fits all circumstances, but there are many concepts such as health as normality, the absence of disease or the ability to function.

The word health means different things to different people. Similarly, there are other words that can be defined in various ways. The word health is derived from *hal*, which means "hale, sound, whole." When it comes to the health of people, the word health has been defined in a number of different ways—often in its social context, as when a parent describes the health of a child or when an avid fan defines the health of a professional athlete. Until the beginning of the health promotion era in the mid-1970s, the most widely accepted definition of health was the one published by the World Health Organization in 1947. That definition states that "health is a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity."

From the above definition of health [by WHO] there are three focal dimensions of health. These dimensions are: Physical dimension-when all the organs are functioning normal for the individuals' age and sex. Mental dimension refers to a level of cognitive (learning ability) or emotional well being and the absence of mental disorder. Social dimension refers to how well we

get along with others. When we are socially healthy; we have loving relationship, respect others rights and give and accept help.

However, in more recent times, the word has taken on a more holistic approach; Payne, Hahn, and Mauer describe health in terms of six interacting and dynamic dimensions—physical, emotional, social, intellectual, spiritual, and occupational. Thus, we define health as a dynamic state or condition that is multidimensional in nature and results from a person's adaptations to his or her environment. It is a resource for living and exists in varying degrees. "Many persons enjoy a state of well-being even though they may be classified as unhealthy by others."

WHO also view health as a resource for everyday life, not as an object of living. It is a positive concept emphasizing social and personal resources as well as physical capabilities. It is the extent to which an individual or (group of individuals) is able to realize or understand aspirations or ends and satisfy needs on one hand, and to change or cope with the environment on the other hand. It is also the ability to lead socially and economically productive life. This statement is directly stated in the Ottawa Charter for Health Promotion in 1986 and read as follows: *"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."*

In line with WHO's definition of health, currently there are new philosophies on the landscape of health. Today it is perceived that:

1. *Health is a fundamental right*. Every country in the world is now partly to at least one human rights treaty or consensus that addresses health-related rights. This includes the right to health as well as other rights that relate to conditions necessary for health. Taking care of the health of our fellow travelers on the planet should not be a political debate. It is a fundamental shared responsibility. It is inhuman to leave people sick because there is no money for their treatment.
2. *Health is the essence or core of productive life & not the result of ever increase expenditure on medical care*. It is a means to achieve or lead productive life, not an end by itself.
3. *Health is inter-sectoral*. The achievement of good states of health in a given society requires the collaborative cooperation of different sectors, not exclusive to the health sector.
4. *Health is an integral part of development and a worldwide goal.*
5. *Health is central to the concept of the quality of life.*
6. *Health involves individual, state, international responsibility.*
7. *Health and its maintenance is a major social investment.*

Although concern with health and disease has been a major pre-occupation of humans since antiquity, the use of the word ‘health’ to describe human ‘well being’ is relatively recent. Wellness is interchangeably with the term ‘health.’ The term was first used by a doctor called Halbert L. Dunn, USA, who published a small booklet entitled *"High Level Wellness"* in 1961. It refers to a state of optimal well-being that is oriented toward maximizing an individual's potential. This is a life-long process of moving towards enhancing your physical, intellectual, emotional, social, spiritual, and environmental well-being. Wellness is also defined as the integration of mind, body and spirit. Optimal wellness allows us to achieve our goals and find meaning and purpose in our lives, by combining various dimensions of well-being into a quality way of living. Overall, it is the ability to live life to the fullest and to maximize personal potential in a variety of ways. It is the balance among the physical, intellectual, emotional, social, occupational, spiritual, and environmental aspects of life.

As indicated by Medilexicon's medical dictionary, wellness is "a philosophy of life and personal hygiene that views health as not merely the absence of illness but the full realization of one's physical and mental potential, as achieved through positive attitudes, fitness training, a diet low in fat and high in fiber, and the avoidance of unhealthful practices (smoking, drug and alcohol abuse, overeating)”. It is also the realization that everything we do and think and feel and believe has an impact on our state of health and the state of health of those around us, as well as the state of health of the world around us. Consequently, being intentional about and continually re-evaluating what we do and think and feel and believe is critical to the pursuit of optimal wellness.

On a whole, wellness is defined as being in a state of good health with the philosophy [recognition] that mind, body and spirit are intimately interconnected. If the mind is not well, it is likely to affect the body and the spirit adversely. If the body is not well, it is likely to affect the spirit and the mind adversely. And if the spirit is not well, it is likely to affect the mind and body adversely. The reverse is also true. For example, if the spirit is well it is likely to affect the mind and the body in a positive way. It follows then that in order to pursue optimal wellness; attention must be paid to mind, body and spirit.

Social work supports the World Health Organization (WHO) definition of health enshrined in the WHO Constitution as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.’ This definition should be read in conjunction with the second clause which states: ‘The enjoyment of the highest attainable standard of health is one of

the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.'

Although social workers see health as a dynamic process rather than a fixed state, this definition reflects core social work principles, not least by identifying health as a fundamental right. The holistic understanding of health as integrating bodily, emotional and relationship aspects and the recognition that health is more than the absence of illness reflect social work's focus on the whole person in the context of their social and physical environment and on people's strengths.

1.1.3. Core Principles of Health

The basic principles outlined in the WHO constitution were elaborated in a declaration from the Alma Ata conference. Although written in 1978, these principles express core elements of international health policy underpinned or supported by social justice and human rights and have social work support. They are also endorsed or recognized by international social movements such as the People's Health Movement and by the extensive network of civil society representatives created under the auspices of the WHO Commission on Social Determinants of Health (CSDH). They were also reflected in the international commitments made at the 1995 World Summit on Social Development. As the CSDH puts it, 'The development of society, rich or poor, can be judged by the quality of its population's health, how fairly health is distributed across the social spectrum, and the degree of protection provided from disadvantage as a result of ill-health. Health equity is central to this premise.'

The key principles are that:

- gross inequalities in health, particularly between developed and developing countries are unacceptable;
- economic and social development are essential to the fullest attainment of health for all but also that promoting and protecting individual and population health is essential to sustained economic and social development and contributes both to quality of life and world peace;
- population health is the responsibility of governments and should not be left to market forces or to individual responsibility;
- Participation in decision making about health care both individually and collectively is both a right and a duty.

The final principle does not only mean allowing people to make decisions about their own health, to improve their access to services or even to improve their conditions of living.

Fundamentally changing the causes of health inequality through participation and empowerment, like realizing human rights, will involve significant shifts in power over economic relations, conditions of work and of living, and access to resources at a global, as well as national and local levels. A key dimension of power lies in gender relations as women currently bear to tolerate a disproportionately great responsibility for formal and informal health work and disproportionately little control over economic and political resources to secure or maintain their own or others' health.

1.1.4. Historical Trends of the Views on Health and Social Behavior

Most physicians in the 1800s were primarily interested in treating patients and improving the state of medical technology. They were not necessarily concerned with social reform. As Dubos (1959) pointed out medicine's thinking was dominated by the search for drugs as "magic bullets" that could be shot into the body to kill or control all health disorders. Because research in microbiology, biochemistry and related fields resulted in the discovery and production of a large variety of drugs and drug based techniques for successfully treating many diseases, this approach became medicine's primary method for dealing with the problems it was called up on to treat. Hence, by the late 1960s, polio and smallpox were largely eradicated and infectious disease had been severely curtailed in most regions of the world. This situation produced a major change in the pattern of disease, with chronic illnesses-which by definition a long term and incurable-replacing infectious disease as the major threats to health. These disease, called as disease of civilization, like cancer, heart disease, and stroke become as the leading causes of death. In this time despite the vast sums spent on cancer research, no magic bullet has been found to cure it, although chemotherapy is sometimes successful in shrinking tumors.

The transition from infectious disease to chronic disease meant that physicians were increasingly called up on the health problems of the "whole person", which extend well beyond singular cause of disease such as a germ. Contemporary medical doctors are required to treat health disorders more aptly or appropriately described as "problems in living" dysfunctions that involve multiple factors of causations, not all of them biological in origin. Social and psychological factors not only influences whether or not the person becomes sick, but also the form, duration and intensity of the symptoms. Consequently, modern medicine is increasingly required to develop insights into the behaviors and characteristics of people it treats. According to Porter, it is not only radical thinkers who appealed for a new "wholism" in medical practice, but many of the most

respected figures in medicine were insistent that treating the body as a medical model would not produce true health. Porter described the situation as follows:

Disease became conceptualized after 1900 as a social no less than a biological phenomena, to be understood statistically, sociologically, and psychologically__ even politically. Medicine' gaze has to incorporate wider questions of income, lifestyle, diet, habit, employment, education and family structure__ in short, the entire psychosocial supplanting laboratory medicine preoccupied with minute investigation of lesions but indifferent as to hoe get there.

Porter' description has an implication for the need to understand the impact of lifestyles and social conditions on health has become increasingly important in preventing or coping with modern health disorders. This situation has promoted a closer association between medicine and the behavioral sciences of sociology, anthropology, and psychology. Medical sociologists are increasingly familiar figures, not only in medical schools, but also in schools of nursing, dentistry, pharmacy, public health as well as in the wards and teaching hospitals. Medical sociologists now routinely hold joint teaching and research appointments between sociology departments and departments in various health related institutions or are employed fulltime in those institutions.

Medical social work is a sub-discipline of social work, also known as hospital social work. Medical social workers typically work in a hospital, skilled nursing facility or hospice, have a graduate degree in the field, and work with patients and their families in need of psychosocial help. Medical social workers assess the psychosocial functioning of patients and families and intervene as necessary. Interventions may include connecting patients and families to necessary resources and supports in the community; providing psychotherapy, supportive counseling, or grief counseling; or helping a patient to expand and strengthen their network of social supports. Medical social workers typically work on an interdisciplinary team with professionals of other disciplines (such as medicine, nursing, physical, occupational, speech and recreational therapy, etc

Medical social workers play a critical role in the area of discharge planning. One responsibility of medical social workers is to collaborate in the development of a discharge plan that will meet the patient's needs and allow the patient to leave the hospital in a timely manner. There are a number of factors that influence the timing of discharge; in private, community hospitals, it can be costly to allow patients to remain inpatient when it is no longer medically necessary. Discharge delays can prove costly to the hospital and to the patient depending on the patient's funding source. For example, a medical provider informs the medical social worker that

a patient will soon be "cleared for discharge" and will need in-home services. Depending on the setting, it may be the medical social worker's responsibility to arrange in-home services to coincide or consensus with the patient's discharge date. If the home care service is not in place at time of discharge, the patient may not be able to leave the hospital, resulting in a delay in discharge and the patient being placed on alternate level of care status (that is, deemed no longer requiring acute level of medical care, for which the hospital will receive a substantially lower rate of payment) until the necessary services are arranged.

Another skill required of medical social workers is the ability to work cooperatively with other members of the multidisciplinary treatment team who are directly involved in the patient's care. Medical social workers also need to have excellent analytical and assessment skills, an ability to communicate clearly with both patients and staff, and an ability to quickly and effectively establish a therapeutic relationship with patients. But of paramount or supreme importance, medical social workers must be willing to act as advocates for the patients, especially in situations where the medical social worker has identified problems that may compromise the discharge and put the patient at risk.

For example, a medical provider may report that a frail elderly patient, who lives alone, is medically stable for discharge and plans to discharge the patient home with in-home services. After assessing the patient's psychosocial needs, the medical social worker determines that the patient does not have the ability to manage at home safely even with the intervention of a home care worker. The medical social worker informs the medical provider that the proposed discharge plan may place the patient at risk and the discharge plan is deferred or delayed pending further assessment. The medical social worker can then collaborate with multidisciplinary providers to develop a more appropriate discharge plan even if that leads to discharge delays.

Medical social workers value the ethical concept of patient self-determination although this value can conflict with the values and ethics of other disciplines in a medical setting. Medical social workers strive to preserve the patient's right to make his or her own decisions about goals of care, treatment planning, discharge, etc. as long as the patient is capable of making those decisions him/herself. Patients often make decisions that medical professionals disagree with but the medical social worker advocates for the patient's right to self-determination. If the patient is not able to make his/her own decisions based on a cognitive or other impairment, the right of self-determination can be superseded by concern that a patient is a risk to self or others.

1.1.5. Social Work Principles

Social workers locate or find people's experience of health and illness in their social, economic, political and environmental contexts. Health and illness are viewed as social experiences, affecting people's identities, relationships and opportunities. This social perspective is rooted in the IFSW Statement of Principles for Ethics in Social Work. Social workers respect the inherent worth and dignity of all people. This involves treating each person as a whole; respecting the right to self-determination; promoting the right to participation; and identifying and developing strengths.

Therefore, in providing professional health and social services, social workers aim to give primacy to the understandings of those they work with, unless that would contravene or disobey the rights of another person. Health has diverse meanings for human beings. For example, it is sometimes seen as positive feelings of well being or energy, as the physical and cognitive ability to carry out daily tasks or as the quality of relationships. People rarely define health only in terms of the absence of illness. Meanings change across the life course and are influenced by social identities and attitudes including those associated with age, gender, sexual orientation, abilities, social status, faith and ethnicity. People may not give the same priority to their health that a professional or another person might, or may disregard their own health in favor of the health of someone they care about.

1.1.6. Social Work Roles and Responsibilities

Social workers in all settings are engaged in health work whether in creating the conditions for improved health chances or working alongside people to manage the impact of poor health on themselves or those close to them. IFSW believes that the right to social services as an inseparable part of health and health care, alongside formal medical care and other resources is correctly part of Article 25 of the UN Declaration on Human Rights. It is vital that social work articulates and advocates for its social understanding of health and the roles social work can play in working for better health for individuals, families, communities and populations.

Social work should renew or restart efforts to engage more effectively at a policy level either with international institutions with responsibilities influencing health or with non-governmental organizations working for health related development. In addition, alliances should be sought with social movements seeking reforms leading to improved population and individual health. Examples of these are the People's Health Movement, the Global Forum for Health

Research and the World Social Forum. This dimension of practice requires changed perspectives and strengthened international social work organizations to meet the challenges of globalization.

A widespread issue is the grossly inadequate provision of social work and social services which contribute to individual, family and population health across the range of community, clinic and hospital settings. This results in unmet demand with many people unable to access social work services at the point of need. Low levels of social work and social services resources sometimes lead to forms of rationing, for example, by not advertising services, which result in the unjust allocation of scarce resources. A core objective of IFSW policy is to extend the availability of social work services focusing on health across the range of work settings. This has to be supported by sufficient, appropriately focused basic and post-basic education and training for all social workers.

All social workers should constantly question the health consequences of their actions. IFSW policy opposes overt or covert actions or policies which are discriminatory or which exacerbate health inequalities. For example, policies and practices involving indigenous peoples and child migrants have sometimes resulted in the destruction of family and community life and lifelong physical and emotional health problems. Social workers should pay attention to the economic and political roots of the troubles people bring to them and give sufficient attention to ensuring that service recipients have a say in the direction and priorities of service provision. Services should always be provided by workers trained to be culturally competent.

1.1.7. Theoretical Model of Health, Disease and Illness

In studying health, disease and illness, we can draw on both a medical model and a sociological approach. Each model offers distinctive assumptions regarding the understanding of health and illness and treatment of people with health problems. An important distinction between medical and social models lies in the very definition of illness. The medical model defines patients as ill when they have certain biological and physiological signs. But the social model assumes that physical illness stems from at least in part from social life not solely from individual psychology or biology.

1. The Medical Model

The traditional model and generally accepted view of the health field is that improvements in health and the quality of health care are attributed to the art and science of medicine. This has been characterized as the medical or bio-medical model of health. The link between health and the medical care system was created and is maintained by the powerful image of the role of medicine in the eradication of infectious and parasitic diseases, advances in surgery, the application of technology and new drugs. The result of this orientation is an emphasis on the treatment of illness by medical means rather than on the health or normality. The history of medicine is full of examples of abnormality being presented to physicians, whose main endeavors have been in developing methods of treatment and in seeking causes within biological functioning.

2. The Social Model (Sociological Perspectives on Health and Illness)

The emphasis of sociological perspectives of health and illness are on such aspects of health care as rehabilitation, prevention of illness and the social management of illness rather than on biological and medical aspects of health care. This approach has become known as the social model of health. It contributes an understanding of illnesses and disease by pointing up the social rather than the biological contexts. A useful sociological model would illuminate or clarify how social processes work in defining illness, in understanding the causes of illness and promotion of health or in interpreting the organizational structures within the health care system.

Health and illness can be usefully examined or look at from the functionalist, conflict and interactionist perspectives. Our conception of the part that health, illness and sickness play in social life varies, depending on the perspective we adopt.

In the study of health related issues, the sociological approaches share certain **common themes**. **First,** any person's health or illness is more than an organic condition, since it is subject to the interpretation of others. Owing to the impact of culture, family and friends and the medical profession, health and illness are not purely biological occurrences but are sociological occurrences or incidences as well. **Second, since, members of a society (especially industrial societies) share the same health delivery system, health is a group and societal concern**. Although health may be defined as the complete well-being of an individual, it is also the result of his or her social environment. Factors such as person's gender, social class, ethnicity, can influence the likelihood of contracting or diminishing and expanding a particular disease.

1. The Functionalist Perspective

Functionalists point out that health is essential to the preservation or protection of the human species and organized social life. If societies are to function smoothly and effectively, there must be a reasonable supply of productive members to carry out vital tasks. Many societies have evolved a medical institution which performs a number of key functions in modern societies. First, it treats and seeks to cure disease. Second, the medical institution attempts to prevent disease through health maintenance programs including vaccination, education, public health and safety standards. Third, it undertakes research in the prevention, treatment and cure of health problems. And fourth, it serves as an agency of social control by defining some behaviors as "normal" and "healthy" and others as "deviant" and "unhealthy."

2. The Conflict Perspective

Implicit in the functionalist image of the sick role is the assumption that health care services are available to all members of a society, regardless of class, race, age, gender, or creed. This image is challenged by conflict theorists. They say that people of all societies prefer health to illness. Yet some people achieve better health than others because they have access to those resources (socially advantageous) that contribute to good health and to recovery should they become ill. These inequities are embedded or rooted in the stratification system.

3. The Interactionist Perspective

Symbolic interactionists contend or run that "sickness" is culturally created meanings we attach to certain conditions. In order for a condition to be seen or interpreted as a sickness, the members of society must define it as such. In examining health, illness and medicine as a social institution, interactionists generally focus on micro-level study of the roles played by health care professionals and patients. They emphasize that the patient should not always be viewed as passive, but instead as an actor who often shows a powerful intent or committed to see the physician.

1.2. Conceptualization of Community Health and Public Health

1.2.1. The Concept of Community Health

Community

Traditionally, a community has been thought of as a **geographic** area with specific boundaries-for example, a neighborhood, city, county, or state. However, in the context of community health, a community is "a group of people who have common **characteristics**; communities can be defined or described by location, race, ethnicity, age, occupation, interest in

particular problems or outcomes, or common bonds." A community may be as small as the group of people who live on a residence hall floor or as large as all of the individuals who make up a nation.

Communities are characterized by the following elements:
(1) membership-a sense of identity and belonging; (2) common symbol systems-similar language, rituals, and ceremonies; (3) shared values and norms; (4) mutual influence-community members have influence and are influenced by each other; (5) shared needs and commitment to meeting them; and (6) shared emotional connection-members share common history, experiences, and mutual support.

Community Health

Community health refers to the health status of a defined group of people and the actions and conditions, both private and public (governmental), to promote, protect, and preserve their health.

Population Health

The term population health, which is similar to community health, has emerged in recent years. The primary difference between these two terms is the degree of organization or identity of the people. *Population health* refers to the health status of people, who are not organized and have no identity as a group or locality and the actions and conditions to promote, protect, and preserve their health. Men under fifty, adolescents, prisoners, and white collar workers are all examples of populations.

Community Health versus Personal Health

To further clarify the definitions presented in this chapter, it is important to distinguish between the terms personal health and community health activities.

Personal Health Activities

Personal health activities are individual actions and decision making that affects the health of an individual or his or her immediate family members. These activities may be preventive or curative in nature but seldom or rarely directly affect the behavior of others. Choosing to eat wisely, to regularly wear a safety belt, and to visit the physician are all examples of personal health activities.

Community Health Activities

Community health activities are activities that are aimed at protecting or improving the health of a population or community. Maintenance of accurate birth and death records, protection of the food and water supply, and participating in fund drives for voluntary health organizations are examples of community health activities.

Hence, a *healthy community is a place where people provide leadership in assessing their own resources and needs, where public health and social infrastructure and policies support health, and where essential public health services, including quality health care*, are available.

1.2.1.1. The Relationship between Community and Health

Starting from conception and continuing through adulthood, day-to-day social and environmental experiences can have important positive and negative health effects. The pathways of influence are several and include the effects of air, water, and food quality, as well as exposure to physical, social, and psychological stressors. Access to and quality of medical care also affects the onset and course of disease. As counselors, coordinators, and advocates, social workers have unique opportunities to maximize the positive and minimize the negative effects of communities on health. This section reviews the ways in which communities affect health and addresses several questions, including the extent to which communities differ with respect to resources which are important to health.

Mechanisms by which Communities Influence Health

As mentioned earlier, an individual's social circumstances or situations and physical environment represent two ways communities can affect health. ***Social circumstances*** include neighborhood educational level, employment, income disparities, poverty, crime, and social cohesion. A community in which social relationships are easy to make and maintain is likely to be a healthier environment than a community in which residents are afraid to venture or undertaking from their homes due to concerns about crime. A study from the United Kingdom found that individuals who recently had a heart attack and who had a confidant or intimate partner were about half as likely to die or have a further cardiac event compared to similar patients without a confidant or partner. Number and type of social relationships also depend on neighborhood norms and expectations.

Physical environment refers to sanitation; quality of housing, food, and water; and exposure to environmental toxins or poisons and pathogens. Public health and safety programs

often monitor these environmental characteristics. Environmental problems pose less of a risk in developed countries compared to third-world countries. The leading causes of death in the United States are heart disease (29%), cancer (22.9%), and stroke (6.8%). The remaining causes, including chronic lung disease, accidents, diabetes, and infections, each account for fewer than 10% of deaths, and only a very small percentage of deaths are directly attributable to environmental conditions. In contrast, in developing countries, communicable diseases including pneumonia, diarrheal diseases, malaria, measles, and HIV/AIDS are more prevalent. Lack of potable water and inadequate sewage disposal are risk factors for infections such as hepatitis A, typhoid, and cholera while poor housing conditions and overcrowding are risk factors for airborne diseases including influenza and tuberculosis.

Community Effects and the Life Course

The community effects described can impact individual health at any or all stages of the life course, including gestation, childhood, adolescence, adulthood, and end of life. Communities can positively influence health by providing access to high-quality medical care, healthy foods, and green space for exercise, as well as by minimizing exposure to crime, toxins, and infectious disease. Communities can also negatively influence health through poor housing stock, exposure to chemical and biological pathogens, decreased access to medical care, promotion of adverse health behaviors, and through ambient psychological stressors. These effects raise important questions for social work practice. For example, from a social work perspective, is it more efficient to help individuals improve their living situation on a case-by-case basis or through community-wide interventions? If a community is physically or psychologically unhealthy, does it make more sense to help individuals move out of the community or to advocate community change? The answers to these questions are reflected in the diversity of strategies currently taken by social workers. That is, some social workers address problems at the individual level, others work for change at the community level, and still others do both.

Community improvement is a slow process and often requires political, administrative, and community organizing abilities. Providing services to individuals also requires administrative ability as well as knowledge of resources and persistence or perseverance. Both community- and individual-level development strategies are essential, and both should be supported to a greater extent by public policy. Mac Intyre, Mac Iver, and Sooman (1993) believe community improvement has received short shrift in the policy arena. Scholars believe that community

improvement require policy cover. They argue that unhealthy behaviors and many diseases arise from adverse environments and that improvement in the physical and social environment can lead to improved health behaviors and health.

While community improvement is beneficial for many, the unintended or accidental consequences for low- and fixed-income residents must be considered. Assisting individuals or families to find housing in healthy environments is an important service provided by many social workers. In some cases, such assistance can mean the difference between health and illness or even life and death. But relocation also has pitfalls. Moving to a new neighborhood can lead to disruption of social networks and loss of support systems. Minorities or individuals with lower incomes may also feel stressed in high-income neighborhoods, especially if there is little ethnic or economic diversity. An additional cost of relocation can be incurred by those who remain in impoverished communities. Typically, individuals who leave economically depressed neighborhoods are either employed or have higher levels of education and job skills. Out-migration of human capital means that those who remain have fewer community resources and fewer successful role models. This can result in further community deterioration, including loss of educational and health-care services and exacerbation of health problems among those left behind.

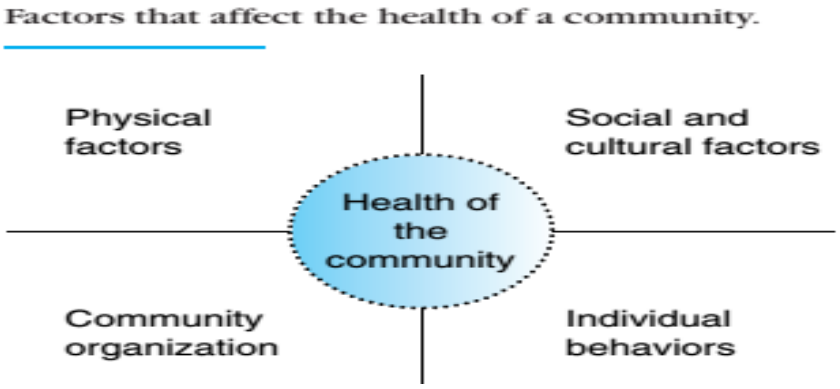
Social workers can play a key role in advocating economic reform and directing community improvement. As professionals who work on the "front lines," social workers observe firsthand the effects of unemployment, low wages, and lack of health insurance. Inability to afford housing, strained family relationships, and deferred treatment for illnesses are just a few of the outcomes social workers encounter on a daily basis. Recognizing the need for systemic change, social workers often lead the way in bringing attention to resource-poor communities.

A large volume of evidence indicates that individual health is influenced by community characteristics and resources. Because so many communities face economic and resource challenges, the opportunities for social workers to have a significant impact or intervention are enormous. This can occur at the individual level as well as at the community and national levels. Whatever strategy is chosen, those who strive to improve the social and physical environment of others can be assured that such efforts will have long-lasting and significant health benefits.

Factors that Affect the Health of a Community

There are a great many factors that affect the health of a community. As a result, the health status of each community is different. These factors may be physical, social, and/or cultural. They

also include the ability of the community to organize and work together as a whole as well as the individual behaviors of those in the community.



Physical Factors

Physical factors include the influences of geography, the environment, community size, and industrial development.

Geography: a community's health problems can be directly influenced by its altitude, latitude, and climate. In tropical countries where warm, humid temperatures and rain prevail or exist throughout the year, parasitic and infectious or communicable diseases are a leading community health problem. In many tropical countries, survival from these diseases is made more difficult because poor soil conditions result in inadequate food production and malnutrition. In temperate climates with fewer parasitic and infectious diseases and a more than adequate food supply, obesity and heart disease are important community health problems.

Environment: the quality of our environment is directly related to the quality of our stewardship or guardian over it. Many experts believe that if we continue to allow uncontrolled population growth and continue to deplete nonrenewable natural resources, succeeding generations will inhabit or occupy communities that are less desirable than ours. Many feel that we must accept responsibility for this stewardship and drastically reduce the rate at which we foul the soil, water, and air.

Community size: the larger the community, the greater its range of health problems and the greater its number of health resources. For example, larger communities have more health professionals and better health facilities than smaller communities. These resources are often needed because communicable diseases can spread more quickly and environmental problems are often more severe in densely populated areas. **It is important to note that a community's size can impact both positively and negatively on that community's health**. The ability of a

community to effectively plan, organize, and utilize its resources can determine whether its size can be used to good advantage.

Industrial development: industrial development, like size, can have either positive or negative effects on the health status of a community. Industrial development provides a community with added resources for community health programs, but it may bring with it environmental pollution and occupational illnesses. Communities that experience rapid industrial development must eventually regulate the way in which industries (1) obtain raw materials, (2) discharge by-products, (3) dispose or arrange of wastes, (4) treat and protect their employees, and (5) clean up environmental accidents. Unfortunately, many of these laws are usually passed only after these communities have suffered significant reductions in the quality of their life and health.

Social and Cultural Factors

Social factors are those that arise from the interaction of individuals or groups within the community. For example, people who live in urban communities, where life is fast-paced or fast-walked, experience higher rates of stress-related illnesses than those who live in rural communities, where life is more leisurely or relaxed. On the other hand, those in rural areas may not have access to the same quality or selection of health care (i.e., providers, hospitals, or medical specialists) that is available to those who live in urban communities. Cultural factors arise from guidelines (both explicit and implicit) that individuals "inherit" from being a part of a particular society. Culture "teaches us what to fear, what to respect, what to value, and what to regard as relevant in our lives." In tropical countries, parasitic and infectious diseases are a leading community health problem. Some of the factors that contribute to culture are discussed in the following sections.

Beliefs, Traditions, and Prejudices or Preconceptions

The beliefs, traditions, and prejudices of community members can affect the health of the community. The beliefs of those in a community about such specific health behaviors as exercise and smoking can influence policy makers on whether or not they will spend money on bicycle trails and no-smoking ordinances or orders. The traditions of specific ethnic groups can influence the types of food, restaurants, retail outlets or trade opnings, and services available in a community. Prejudices of one specific ethnic or racial group against another can result in acts of violence and crime. Racial and ethnic disparities will continue to put certain groups, such as blacks or certain religious groups, at greater risk.

Economy

Both national and local economies can affect the health of a community through reductions in health and social services. An economic downturn means lower tax revenues (fewer tax dollars) and fewer contributions to charitable groups. Such actions will result in fewer dollars being available for programs such as welfare, food stamps, community health care, and other community services. This occurs because revenue shortfalls or losses cause agencies to experience budget cuts. With less money, these agencies often must alter their eligibility guidelines, thereby restricting aid to only the neediest individuals. Obviously, many people who had been eligible for assistance before the economic downturn become ineligible. Employers usually find it increasingly difficult to provide health benefits for their employees as their income drops. The unemployed and underemployed face poverty and deteriorating health. Thus, the cumulative effect of an economic downturn significantly affects the health of the community.

Politics

Those who happen to be in political office, either nationally or locally, can improve or jeopardize the health of their community by the decisions they make. In the most general terms, the argument or disagreement is over greater or lesser governmental participation in health issues. Governments political stand towards level of involvement in health issues affect health. For example, there has been a long-standing discussion in the United States on the extent to which the government should involve itself in health care. Historically, Democrats have been in favor of such action while Republicans have been against it. However, as the cost of health care continues to grow, both sides see the need for some kind of increased regulation. Local politicians also influence the health of their communities each time they vote on health-related measures brought before them.

Religion

A number of religions have taken a position on health care. For example, some religious communities limit the type of medical treatment their members may receive. Some do not permit immunizations or injections; others do not permit their members to be treated by physicians. Still others prohibit certain foods. For example, Kosher dietary regulations permit Jews to eat the meat only of animals that chew cud and have cloven hooves and the flesh only of fish that have both gills and scales, while still others, like the Native American Church of the Morning Star, use peyote, a hallucinogen, as a sacrament. Some religious communities actively address moral and

ethical issues such as abortion, premarital intercourse, and homosexuality. Still other religions teach health-promoting codes of living to their members. Obviously, religion can affect a community's health positively or negatively.

Social Norms

The influence of social norms can be positive or negative and can change over time. Cigarette smoking is a good example. During the 1940s, 1950s, and 1960s, it was socially acceptable to smoke in most settings. Thus, in 1960 it was socially acceptable to be a smoker, especially if you were male. Now, early in the twenty-first century, those percentages have dropped to 25.2% (for males) and 20.7% (for females), and in most public places it has become socially unacceptable to smoke. Because of this change in the social norm, there is less secondhand or passive smoke in many public places, and in turn the health of the community has improved.

Socioeconomic Status (SES)

"In both the United States and Western Europe, the gap in health status and mortality between those commanding, and those who lack, economic power and social resources continues to widen. These parallel trends-of growing economic inequalities and growing social inequalities in health-reflect, in part, the relationship between people's socioeconomic position as consumers and employers or employees and their social, biological, and mental wellbeing."

That is, those in the community with the lowest socioeconomic status also have the poorest health and the most difficulty in gaining access to health care. The point of entry into the health care system for most Americans is the family doctor. The economically disadvantaged seldom have a family doctor. For them, the point of entry or access is the local hospital emergency room. In addition to health care access, higher incomes enable people to afford better housing, live in safer neighborhoods, and increase the opportunity to engage in health promoting behaviors.

Community Organizing

The way in which a community is able to organize its resources directly influences its ability to intervene and solve problems, including health problems. Community organizing "is a process through which communities are helped to identify common problems or goals, mobilize resources, and in other ways develop and implement strategies for reaching their goals they have collectively set." It is not a science but an art of building consensus within a democratic process. If a community can organize its resources effectively into a unified force, it "is likely to produce

benefits in the form of increased effectiveness and productivity by reducing duplication of efforts and avoiding the imposition of solutions that are not congruent with the local culture and needs."

Individual Behavior

The behavior of the individual community members contributes to the health of the entire community. It takes the concerted or collaborative effort of many-if not most-of the individuals in a community to make a program work. For example, if each individual consciously recycles his or her trash or garbage each week, community recycling will be successful. Likewise, if each occupant would wear a safety belt, there could be a significant reduction in the number of facial injuries and deaths from car crashes for the entire community. In another example, the more individuals who become immunized against a specific disease, the slower the disease will spread and the fewer people will be exposed. This concept is known as *herd immunity* (the resistance of a population to the spread of an infectious agent based on the immunity of a high proportion of individuals).

1.2.2. The Concept of Public Health

Public health refers to the health status of a defined group of people and the governmental actions and conditions to promote, protect, and preserve their health. Public health is prevention. Public health is the practice of preventing disease and promoting good health within groups of people, from small communities to entire countries. Charless Edward Amory Winslow (1920), in his seminal piece, " the untitled fields of public field", defined *public health* as: the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal hygiene, the organization of medical and nursing services for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health.

Public health is an interdisciplinary field, based on biological and social sciences; its mission is to promote and protect the health of whole populations, and to prevent illness, injury, and other disabling conditions. This broad mission necessitates multidimensional practices in order to meet society's changing health needs. Public health is a field of practice with a specific orientation and framework for the various professionals who work within the public health arena. The professionals include both clinical practitioners, such as clinical social workers, nurses, health

educators, and physicians, and nonclinical professionals such as epidemiologists, administrators, and policymakers.

The core functions of public health agencies at all levels of government are assessment, policy development, and assurance. *Assessment* refers to the regular collection, analysis, and sharing of information about health conditions, risks, and resources in a community. *Policy development* uses assessment data to develop local and state health and social welfare policies and to direct resources toward those policies. *Assurance* focuses on the availability of necessary health services throughout the community. It includes maintaining the ability of both public health agencies and private providers to manage day-to-day operations as well as the capacity to respond to critical situations and emergencies.

Brief Definition of Public Health Social Work

Beginning in1996, a group of public health social workers convened or assembled to develop a useful definition of public health social work. They debated whether public health social workers are defined by training, job, or a combination of both. What, they asked, are the common attributes of the person and the job? The debate led to a brief and a longer definition and a philosophy for public health social work.

A public health social worker is a graduate prepared social worker whose primary practice fulfills core public health functions within a public or private agency. While it includes all of the essential public health functions, public health social work practice focuses on interventions to strengthen communities, families, and individuals in order to promote health, well-being, and functioning and minimize disability and institutionalization.

Public health provides a specific orientation and framework for the various professionals who practice within the public health arena. Public health social workers fill many different positions. These include: case managers; health educators; program planners and evaluators; grant writers; administrators and program directors at the federal, regional, state, and local levels; and executive directors of nonprofit agencies.

Public health social work is based on an epidemiologic approach to preventing, addressing, and solving social health problems. It originated in the early 20th century, drawing upon social work and public health theories, frameworks, research, and practice. Public health social work is characterized by an emphasis on prevention and health promotion. The field has evolved to become multi-method and interdisciplinary, making it particularly relevant to 21st century practice.

Widespread changes on both domestic and international fronts-such as globalization, increased migration, natural and man-made disasters, persistent chronic diseases, and resulting health disparities-are examples of current challenges that benefit from a public health social work approach.

The History of Public Health Social Work

The social work profession's involvement in public health dates back to the early 20th century, when social workers first worked in infectious disease control, maternal and child health, and settlement houses. From the beginning, public health social workers made an effort to distinguish their practice from other types of social work. Located in public health settings, they applied a preventive focus to casework and used informal risk analysis to promote early intervention. While their focus was on individuals, public health social workers incorporated an early understanding of social determinants of health and viewed entire communities as target populations. To maximize their impact, public health social workers partnered or joined across disciplines in what were considered nontraditional services at the time.

The Social Security Act of 1935 established a number of public health social work programs in maternal and child health, including Maternal and Child Health Services, Child Welfare Services, and Crippled Children's Services. During the 1940s and 1950s, broad legislative actions at the federal level resulted in the establishment of the National Institutes of Health and the Center for Disease Control, which strengthened research, treatment, and service provision related to health and mental health. Over the next 50 years, this federal funding of public health gradually fostered increased opportunities for public health social workers in schools, health centers, and social agencies. During this time, much of public health social work was concentrated in secondary and tertiary interventions to lessen the impact of health problems after they had already arisen. Professional interest in primary prevention—the prevention of illness and dysfunction before they develop—was spurred by Rapoport's (1961) seminal attempt to conceptualize it for the social work profession. By the 1970s, primary prevention was the focus of a federal call to action and viewed as a timely concept across health and human services. Social work interest in prevention was fueled or stimulated by a growing awareness of social and environmental factors, particularly as they influenced chronic disease processes and mental health issues.

Over the next 20 years, the social work literature highlighted the power of the public health model. Diligent efforts were made to introduce epidemiology to social workers and to promote

prevention throughout social work education and in the workplace. Many public health social work programs were created during the second half of the 20th century, as roles expanded beyond direct services to include program administration, research, planning and evaluation, and advocacy. The civil rights movement and related successes resulted in increased public health social work programs, and social workers were involved in the development of major health initiatives. With the enactment of Medicaid and Medicare in the 1960s, there was an unprecedented rush of health programming that expanded social services and public health.

By the 1980s, new issues such as AIDS, substance abuse, violence, and aging emerged as public health social work challenges. Social work involvement in community prevention partnerships spotlighted or highlighted the value of time-tested social work methods such as community organizing and planning. A small but substantive body of research contributed to a social work perspective on risk, protection, resilience, and prevention, and has continued to grow. Dual degree master's programs in public health and social work proliferated or grew, building upon the natural overlap between the two professions. These programs, along with other educational initiatives, appealed or attracted to new generations of students interested in public health social work leadership.

The two fields increasingly recognized one another's strengths and possibilities. Social work came gradually to the concept of health outcomes and began using epidemiology to frame interventions in diverse practice arenas such as AIDS, homelessness, chronic disease, substance abuse, violence or abuse, and maternal and child health. Public health sharpened or improved its understanding of the multiple determinants of health and began to more openly consider the role of oppression in health disparities. Partnerships between public health and social work continue to expand. Examples of newer areas of collaboration include urban health, oral health, tobacco control, and toxic waste activism.

Public mental health assumed a more prominent focus by the 21st century, embracing ecological approaches and identified community-based efforts as core to its mission. One of the many impacts of September 11th, 2001, was to call attention to the mental health consequences of “new” public health threats such as bioterrorism, disasters, and community trauma.

The Intersection of Social Work and Public Health

Social work and public health appear or seem similar, given their shared historic core missions to promote social justice and enhance community well-being. While the two professions have a long history of working together on complex social health problems, they also differ significantly in orientation, approach, and current practice.

Public health has many similarities to social work; it is based on a social justice philosophy and encompasses a range of professional specializations focused on method, population, or specific issues. Because of the focus on society as a whole, public health emphasizes social and environmental factors in its methods, theories, and practices. However, while public health draws liberally from the behavioral sciences, it differs from social work in its grounding in the biological sciences and its use of epidemiology. While much of social work is focused on intervention with individual, families, and communities after problems have developed, the primary focus of public health is prevention and health promotion for the entire population.

Social workers are well prepared to work within public health and with other public health professionals because they share many of the same values, theories, and practice methods. Shared values include a commitment to enhance social and economic justice and a focus on eliminating disparities between and among various populations. Further, social work and public health interventions primarily focus on oppressed, vulnerable, and at-risk groups. Theoretical approaches to develop interventions are, in social work, the ecological approach of person-in-environment and, in public health, social epidemiology. Each is unique, but both rely on an understanding of how social systems relate to health status.

Social workers who work in public health serve as members of trans-disciplinary teams, share many of the same skills as their colleagues, and participate in public health interventions. The unique approach that public health social workers bring to public health practice is grounded in social work theory, especially the person-in-environment approach to practice. The practice methods particular to social workers-family centered, community-based, culturally competent, coordinated care-have been integrated into public health practice and adopted by various other providers of public health services.

Social work practice in public health differs from clinical social work practice in two distinct ways: first, public health practice emphasizes health promotion, protection from environmental harms, and disease prevention; and second, public health practice targets

populations rather than individuals and groups. Social work practice skills, such as community assessment, and social work values, such as the promotion of social justice, fit within public health practice.

Common Values of Social Work and Public Health

Elimination of Health Disparities

Health disparities exist between and among populations defined by ethnicity, gender and gender identification, social class, education, and employment or insurance status. In general, minority groups, the poor, the less well educated, rural-residing, the unemployed, and the uninsured have poorer health status than their counterparts.

Promotion of Social and Economic Justice

Some current policies and inaccessibility to quality health services lead to social and economic injustice. Both social and economic injustices are determinants of the disparities in health status. Thus, social work and public health both aim to promote changes that will lead to a more just society. Public health social workers have successfully advocated changes in public policy to improve the health status indicators in the population, particularly for the disadvantaged

Common Methodologies for Practice

Sound social work and public health interventions and policy are evidence-based. To arrive at evidence-based practices, both social work and public health rely on strong research and evaluation of programs and policies. One common approach used by social work and public health is the community assessment. Public health also uses social epidemiology for program planning and evaluation. Epidemiological methods used in public health could also be used by social workers in developing interventions at all levels of practice

Community Assessment

Community assessment is a method of identifying the strengths and weaknesses in a defined community. Members of the community who are involved in designing and carrying out the assessments and analyzing the information gathered may initiate assessments. Other assessments are initiated by public authorities in response to legal mandate and may or may not involve community members. In either case, the assessments help to define problems and gaps in services so that the community and professionals can advocate for improvements to existing programs and for new policies and programs.

Comprehensive community assessments use various methods to obtain data for analysis. These methods include community surveys, interviews with community leaders, and town hall meetings. Data collection may be from vital records on births and deaths, hospital discharge information, and other data from public health and social service agencies.

Social workers are, through their training, well prepared to conduct community assessments. Public health social workers contribute to public health assessments and, in doing so, provide insights regarding the social context of health and disease. Public health social workers collaborate with other public health professionals to apply social understanding to interventions that are developed in response to community assessment, for example, they can provide the person-in-environment perspective. Community assessment is also crucial to the development of culturally competent social marketing strategies.

Social Epidemiology

Social epidemiology, the study of the impact of social factors on the distribution of health and illness in a population, examines the role of social variables on other known and accepted biological and behavioral factors that shape the health status of a community. Social epidemiology is a research method that uses mostly quantitative data to identify social determinants of health and health outcomes.

Both community assessment and social epidemiology are tools that clearly identify the social and physical environmental factors in the determination of health status in a community. With the information gleaned or garnered from using these methods, public health social workers and other public health professionals can work together toward the goal of improving the quality of life of the public.

Levels of Practice and Components of Prevention

Levels of Practice

At the micro or direct practice level, public health social workers implement public health interventions using clinical social work skills or provide social work services as part of a larger public health program. At the mezzo, or indirect practice level, public health social workers develop, implement, and administer public health programs. At the macro level, public health social workers contribute their knowledge of psychosocial and cultural issues to the development of public health interventions. They are also involved in surveillance and evaluation of programs

that serve low-income and vulnerable populations. Public health social workers are engaged in the policy-making arena in conjunction with other public health professionals.

Much of public health practice takes place at the macro level. Social work and public health administrators at the macro level of practice use community-based assessments to develop interventions. Nonclinical social work interventions to change the social environment, such as job programs and health-care reform, may be used by public health practitioners. Public health practitioners including public health social workers conduct theoretical and intervention research in order to advance a shared commitment to evidence-based practice.

Components of Prevention

Disease prevention is divided into three levels: primary, secondary, and tertiary. **Primary** prevention is intended to protect us from injury and disease. Examples include the Back-to-Sleep national campaign for the prevention of SIDS, immunizations against childhood and other diseases, and automobile restraints and airbags. Another primary prevention is the imposition of large taxes on tobacco to limit its use by increasing the cost of cigarettes and other tobacco products. **Secondary** prevention is the early diagnosis and treatment of disease and seeks to reverse or retard or **delay a disease process from progressing**. Examples are Pap smears, mammograms, and prostate specific antigen tests to identify malignant or premalignant states and intervene to affect a cure or slow the progression of the illness. **Tertiary** prevention includes those actions taken to **minimize the effects** of a disease and prevent further disability. Periodic eye exams to detect or discover and treat diabetic retinopathy are a type of tertiary prevention because they prevent disability deriving from diabetes, although they do not treat the primary disease.

Types of Public Health Social Work Interventions

The intersection or connection of the three levels of social work practice with the three levels of prevention is displayed in Figure 1.1. The public health crisis of HIV is used to illustrate public health social work interventions within the familiar framework of micro, mezzo, and macro levels of practice and components of prevention.

Primary Prevention of HIV at the Micro, Mezzo, and Macro Levels

The roles of public health social workers in the primary prevention of HIV at the micro level include condom distribution in clinics, counseling women living with HIV about their health and family planning, and participating in needle exchange programs. At the mezzo level, public health social workers administer community-based programs for safe needle exchange and

condom distribution. **Needle exchange** has been a controversial primary prevention intervention for HIV, and public health social workers who **advocate for federal, state, and local policy to permit this intervention are working at the macro level**.

Secondary Prevention of HIV at the Micro, Mezzo, and Macro Levels

Outreach and early intervention services are particularly important to meet the needs of people living with HIV who are not in care. Many public health social workers work in hospitals, local health departments, and community-based programs that provide counseling and testing for HIV. A program which provides an interface or border between the community HIV/AIDS agency and the Department of Corrections is an example. It targets prisoners living with HIV who are scheduled to be released. This mezzo program creates a connection to the client by providing referrals for case management after release and educates them about prevention when they rejoin society. Public health social workers, who fight discriminatory policies targeting people with HIV, such as in employment and housing, are working at the macro level.

Tertiary Prevention of HIV at the Micro, Mezzo, and Macro Levels

Examples of tertiary prevention at the micro level include direct service case management for medical services, securing resources to enhance health outcomes (supportive services such as housing and food vouchers), and making referrals and providing payment assistance for visits to infectious disease specialists or HIV-focused physicians. Mezzo level public health social workers administer programs that help people living with HIV obtain and maintain stable and high-quality housing, for example. Public health social workers operating in the research and policy arenas to advance improved programs for people living With HIV are working at the macro level for tertiary prevention

Areas of Focus of Public Health Social Work

Public health social work practice today is a growing field. There are social workers working in public health at all levels of practice and with all components of prevention. The practice settings for public health social workers reflect the partnership between public health and social work. The areas of focus include maternal, infant, and child health, HIV infection, family planning, nutrition and overweight, injury and violence prevention, mental health and mental disorders.

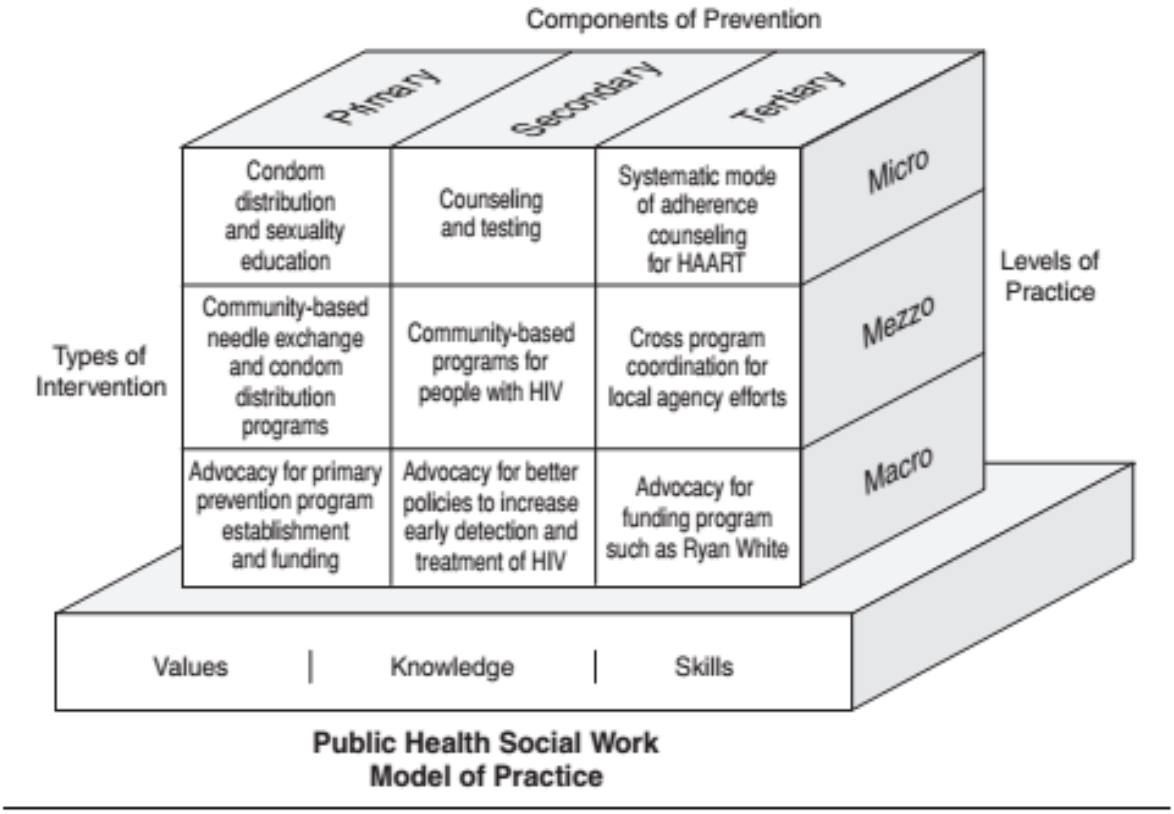


Fig 1.1 Components of prevention and levels of practice

Current Public Health Social Work Practice

Because of their broad missions and multi-method approaches, social work and public health have both been challenged in their definition and conceptualization of professional practice. The broad spectrum or range of functions and specializations in social work and public health contribute to definition-defying or challenging or fusions. Consequently, public health social work can be focused on any of the numerous essential functions of public health, making the diverse blending or combination of roles a particular challenge. A public health social worker can be a researcher, policy analyst, program developer, provider of direct services, or administrator. Many social workers in health settings have been engaged in public health social work without full cognizance of how they are defining, combining, or applying both skill sets. Some social workers find themselves formally or informally working in prevention due to the needs of the populations they serve, but may not recognize their work as part of public health. In order to improve awareness of PHSW, a number of organizations are working to create and publicize a coherent set of public health social work definitions, standards, and competencies; incorporation of these into schools of social work and public health is clearly an important next step.

Challenges

The integration of the public health model and methods into social work education and practice has been, at best, gradual. Almost 50 years have passed since Rapoport (1961) initially conceptualized prevention for social work; today, the public health skills of prevention, health promotion, and social epidemiology are increasingly viewed by experts as critical to social work's survival as a core health profession in health care's "brave new world". The most recent practice standards for social workers in health care settings now identify prevention, health promotion, and health education as core competencies for practitioners.

However, this integration at the policy level appears to have had limited impact on the social work profession. Beyond MSW–MPH programs, graduate schools of social work do not appear to teach prevention, health promotion, or social epidemiology. A recent content analysis of social work literature in peer-reviewed journals showed that only 5% of articles reflected content on prevention, health promotion, or health education. Workforce studies indicate a small minority of current social workers describing themselves as "public health social workers". Descriptive studies of public health social workers suggest they encounter workplace obstacles, including lack of familiarity with and consensus regarding the definition, content, capacities, and roles of public health social workers. Additionally, during a time of increased attention to the crisis in the public health workforce, it is alarming to note that the field of public health rarely recognizes social work as part of its workforce.

Several factors appear to have impeded the development of a more vibrant or vital integration of public health social work. Foremost are the radical changes in the health care system since 1980s. The shift to cost containment or control and managed care challenged social work in health care settings to adapt in order to survive. While these changes resulted in a shift to more interdisciplinary and community-based practice and a growing emphasis on evidence-based interventions and outcomes evaluation, it is unclear if public health social work activities have increased. In the market-driven competition of the current health care environment, fiscal accountability has been central, with prevention generally representing a small percentage of health care expenditures. In such a climate, there may be little room for public health social work innovations; expansions of social work roles in hospitals, for instance, have proven frustrating and uneven or imbalanced despite or in the face of the efforts of social work leaders.

Second, the majority of the profession is focused on clinical interventions despite the work of prevention oriented social workers. The overall practice of social work remains generally psychotherapeutically oriented and focused on individuals although there are opportunities and need for other kinds of macro and community intervention in areas such as gerontology, child welfare, and AIDS.

The amount of general health content in MSW programs is uncertain or unclear; the most recent study indicated that only half of programs included a basic course on health. The impact of dual degree MSW–MPH programs on overall MSW curricula has also gone generally unstudied. Their presence may promote the perception that public health content is widely available in social work education; however, most MSW students are not enrolled in MSW–MPH programs and therefore may never encounter public health social work concepts or practices. Moreover, the existence, value, and potential of MSW–MPH programs has been largely unacknowledged by the profession's educational and professional organizations. There is a need for social work educators to recognize their leadership potential and incorporate more mentoring, resources, evaluation, and career development into them.

Trends and Future Directions

Unquestionably, public health methods are increasingly valued in a society characterized by vast demographic shifts, globalization, complex migratory patterns, and persistent health disparities. Clearly, the use of the public health model has expanded within social work, particularly in areas such as substance abuse and child abuse.

Despite the obstacles, there are historical strengths upon which public health social work can build to underscore its importance to both professions. The future of public health social work may hinge or joint upon interdisciplinary recognition that profound societal shifts call for both social work and public health skills. Both professions' employers must come to realize they need the dual competencies of public health social workers to ensure more effective outcomes. Public health social work, anchored or attached in evidence-based practice, can serve as a bridge to the use of benchmark indicators, epidemiology, program effectiveness studies, and integration of research into practice.

Research outcomes in public health and social work have burgeoned or grow rapidly, and processes are needed to make useful knowledge available to practitioners. Recognition of the long lag time between clinical research and utilization of knowledge in practice settings has led to the

development of translational science, the goal of which is to facilitate dissemination and adaptation of research findings into practice as quickly as possible. As a research-oriented practice, public health social work can contribute to this important challenge by assisting in implementation of innovations to practice and program evaluation.

If social work is to include itself in the public health infrastructure, educational considerations must be explored. There is a pressing need to develop alternative methods for educating social workers who cannot afford degrees in public health, but who wish to engage in public health social work. Two potential strategies for increasing the availability of public health training are infusion of public health content into traditional MSW programs and development of continuing education in public health social work. Given the trends in public health in the United States and internationally, graduate schools should recognize the potential of MSW–MPH programs and provide the necessary supports such as mentoring, integration, and social marketing of public health social work to employers in both sectors.

The powerful collaboration between public health and social work can support both professions in moving "beyond the confines of their specific disciplines, allowing them to see and understand the individual within the context of the health of the community … [yielding] a new set of lenses through which to view reality …" In a society of rapid changes and pressing new realities, public health social work is the profession's best trans-disciplinary response to improving the health and well being of society.

1.2.3. A Brief History of Community and Public Health

The history of community and public health is almost as long as the history of civilization. This brief summary provides an account of some of the accomplishments and failures in community and public health. It is hoped that knowledge of the past will enable us to better prepare for future challenges to our community's health.

Earliest Civilizations

In all likelihood or chance, the earliest community health practices went unrecorded. Perhaps these practices involved taboos against defecation within the tribal communal area or near the source of drinking water. Perhaps they involved rites associated with burial of the dead. Certainly, the use of herbs for the prevention and curing of diseases and communal assistance with childbirth are practices that predate archeological records.

Ancient Societies (Before 500 B.C.)

Excavations at sites of some of the earliest known civilizations have uncovered evidence of community health activities. Archeological findings reveal community health practices of the past. Archeological findings from the Indus Valley of northern India, dating from about 2000 B.C., provide evidence of bathrooms and drains in homes and sewers below street level. Drainage systems have also been discovered among the ruins of the Middle Kingdom of ancient Egypt (2700–2000 B.C.). The Myceneans, who lived on Crete in 1600B. C., had toilets, flushing systems, and sewers. Written medical prescriptions for drugs have been deciphered or interpreted from a Sumerian clay tablet dated at about 2100 B.C. By 1500 B.C. more than 700 drugs were known to the Egyptians.

Perhaps the earliest written record concerning public health is the Code of Hammurabi, the famous king of Babylon, who lived 3900 years ago. Hammurabi's code of conduct included laws relating to physicians and health practices. The Bible's Book of Leviticus, written about 1500 B.C., provides guidelines for personal cleanliness, sanitation of campsites or areas, disinfection of wells, isolation of lepers, disposal of refuse, and the hygiene of maternity.

Classical Cultures (500 B.C.–A.D. 500)

During the thirteenth and twelfth centuries B.C., the Greeks began to travel to Egypt and continued to do so over the next several centuries. Knowledge from the Babylonians, Egyptians, Hebrews, and other peoples of the eastern Mediterranean was included in the Greeks' philosophy of health and medicine. During the "Golden Age" of ancient Greece (in the sixth and fifth centuries B.C.), men participated in physical games of strength and skill and swam in public facilities. There is little evidence that this emphasis on fitness and on success in athletic competition was imparted equally to all members of the community. Participation in these activities was not encouraged or even permitted for women, the poor, or slaves.

The Greeks were also active in the practice of community sanitation. They supplemented local city wells with water supplied from mountains as far as 10 miles away. In at least one city, water from a distant source was stored in a cistern 370 feet above sea level. The Romans improved upon the Greek engineering and built aqueducts or channels that could transport water for many miles. Evidence of some 200 Roman aqueducts remains today, from Spain to Syria and from northern Europe to northern Africa. The Romans also built sewer systems and initiated other community health activities, including the regulation of building construction, refuse removal, and street cleaning and repair.

The Roman Empire was the repository for Greek medical ideas, but with few exceptions, the Romans did little to advance medical thinking. However, they did make one important contribution to medicine and health care-*the hospital*. Although the first hospitals were merely infirmaries for slaves, before the end of the Roman era, Christians had established public hospitals as benevolent charitable organizations. When the Roman Empire eventually fell in A.D. 476, most of the public health activities ceased.

Middle Ages (A.D. 500 –1500)

The period from the end of the Roman Empire in the West to about 1500 has become known as the Middle Ages. The Eastern Roman Empire (the Byzantine Empire), with its capital in Constantinople, continued until 1453. While the Greco-Roman legacy of society was largely preserved in the Eastern Roman Empire, it was lost to most of Western Europe. Most of what knowledge remained was preserved only in the churches and monasteries.

The medieval approach to health and disease differed greatly from that of the Roman Empire. During this time, there was a growing revulsion for Roman materialism and a growth of spirituality. Health problems were considered to have both spiritual causes and spiritual solutions. This was especially true at the beginning of the Middle Ages, during a period known as the Dark Ages (500–1000). Both pagan rites and Christian beliefs blamed disease on supernatural causes. St. Augustine, for example, taught that diseases were caused by demons sent to torment the human spirit, and most Christians generally believed that disease was a punishment for sins.

The failure to take into account the role of the physical and biological environment in the causation of communicable diseases resulted in the failure to control the unrelenting epidemics during this spiritual era of public health. These epidemics were responsible for the suffering and death of millions. One of the earliest recorded epidemic diseases was leprosy. It has been estimated that by 1200, there were 19,000 leper houses and leprosaria in Europe. The deadliest of the epidemic diseases of the period was the plague. It is hard for us, living here in the twenty-first century, to imagine the impact of plague on Europe. Three great epidemics of plague occurred: The first began in A.D. 543, the second in 1348, and the last in 1664.

The worst epidemic occurred in the fourteenth century, when the disease became known as the "black death."An estimated 25 million people died in Europe alone. This is more than the total number of people who live in the states of Ohio and Pennsylvania today. Half of the population of London was lost, and in some parts of France only 1 in 10 survived.

The Middle Ages also saw epidemics of other recognizable diseases, including smallpox, diphtheria, measles, influenza, tuberculosis, anthrax, and trachoma. Many other diseases, unidentifiable at the time, took their toll. The last epidemic disease of this period was syphilis, which appeared in 1492.This, like the other epidemics, killed thousands.

Renaissance and Exploration (1500 –1700)

The Renaissance period was characterized by a rebirth of thinking about the nature of the world and of humankind. There was an expansion of trade between cities and nations and an increase in population concentrations in large cities. This period was also characterized by exploration and discovery. The travels of Columbus, Magellan, and many other explorers eventually ushered in a period of colonialism. The effects of the Renaissance on community health were substantial. A more careful accounting of disease outbreaks during this period revealed that diseases such as the plague killed saints and sinners alike. There was a growing belief that diseases were caused by environmental, not spiritual, factors. For example, the term malaria, meaning bad air, is a distinct reference to the humid or swampy air that often harbors mosquitoes that transmit malaria.

More critical observations of the sick led to more accurate descriptions of symptoms and outcomes of disease. These observations led to the first recognition of whooping cough, typhus, scarlet fever, and malaria as distinct and separate diseases. Epidemics of smallpox, malaria, and plague were still rampant in England and throughout Europe. In 1665, the plague took 68,596 lives in London, which at the time had a population of 460,000 (a population loss of almost 15%). Explorers, conquerors, and merchants and their crews spread disease to colonists and indigenous people throughout the New World. Smallpox, measles, and other diseases ravaged the unprotected natives.

The Eighteenth Century

The eighteenth century was characterized by industrial growth. In spite of the beginnings of recognition of the nature of disease, living conditions were hardly conducive to good health. Cities were overcrowded, and water supplies were inadequate and often unsanitary. Streets were usually unpaved, filthy, and heaped with trash and garbage. Many homes had unsanitary dirt floors. Workplaces were unsafe and unhealthy. A substantial portion of the work force was made up of the poor, which included children, who were forced to work long hours as indentured spiritual era of public health a time during the Middle Ages when the causation of communicable disease was

linked to spiritual forces servants. Many of these jobs were unsafe or involved working in unhealthy environments, such as textile factories and coal mines.

One medical advance, made at the end of the eighteenth century, deserves mention because of its significance for public health. In 1796, Dr. Edward Jenner successfully demonstrated the process of vaccination as a protection against smallpox. He did this by inoculating a boy with material from a cowpox (Vaccinia) pustule. When challenged later with material from a smallpox (Variola) pustule, the boy remained healthy. Dr. Jenner's discovery remains as one of the great discoveries of all time for both medicine and for public health.

As the eighteenth century came to a close, a young United States faced numerous disease problems, including continuing outbreaks of smallpox, cholera, typhoid fever, and yellow fever. Yellow fever outbreaks usually occurred in port cities such as Charleston, Baltimore, NewYork, and New Orleans, where ships arrived to dock from tropical America. The greatest single epidemic of yellow fever in America occurred in Philadelphia in 1793, where there were an estimated 23,000 cases, including 4,044 deaths in a population estimated at only 37,000.

In response to these continuing epidemics and the need to address other mounting health problems, such as sanitation and protection of the water supply, several governmental health agencies were created. In 1798, the Marine Hospital Service (forerunner to the U.S. Public Health Service) was formed to deal with disease that was occurring onboard water vessels. By 1799, several of America's largest cities, including Boston, Philadelphia, New York, and Baltimore, also had founded municipal boards of health.

The Nineteenth Century

During the first half of the nineteenth century, little remarkable advancement in public health occurred. Living conditions in Europe and England remained unsanitary, and industrialization led to an even greater concentration of the population within cities. However, better agricultural methods led to improved nutrition for many.

During this period, America enjoyed westward expansion, characterized by a spirit of pioneering, self-sufficiency, and rugged individualism. The federal government's approach to health problems was characterized by the French term laissez faire, meaning noninterference. There were also few health regulations or health departments in rural areas. Health quackery thrived; this was truly a period when "buyer beware" was good advice. Epidemics continued in major cities in both Europe and America. In 1849, a cholera epidemic struck London. Dr. John

Snow studied the epidemic and hypothesized that the disease was being caused by the drinking water from the Broad Street pump. He obtained permission to remove the pump handle, and the epidemic was abated. Snow's action was remarkable because it predated the discovery that microorganisms can cause disease. The predominant theory of contagious disease at the time was the "miasmas theory."

According to this theory, vapors, or miasmas, were the source of many diseases. The miasmas theory remained popular throughout much of the nineteenth century. In the United States in 1850, Lemuel Shattuck drew up a health report for the Commonwealth of Massachusetts that outlined the public health needs for the state. It included recommendations for the establishment of boards of health, the collection of vital statistics, the implementation of sanitary measures, and research on diseases. Shattuck also recommended health education and controlling exposure to alcohol, smoke, adulterated food, and nostrums (quack medicines).

Real progress in the understanding of the causes of many communicable diseases occurred during the last quarter of the nineteenth century. One of the obstacles to progress was the theory of spontaneous generation, the idea that living organisms could arise from inorganic or nonliving matter. Akin to this idea was the thought that one type of contagious microbe could change into another type of organism.

In 1862, Louis Pasteur of France proposed his germ theory of disease. Throughout the 1860s and 1870s, he and others carried out experiments and made observations that supported this theory and disproved spontaneous generation. Pasteur is generally given credit for providing the death blow to the theory of spontaneous generation.

It was the German scientist Robert Koch who developed the criteria and procedures necessary to establish that a particular microbe, and no other, causes a particular disease. His first demonstration, with the anthrax bacillus, was in 1876. Between 1877 and the end of the century, the identity of numerous bacterial disease agents was established, including those that caused gonorrhea, typhoid fever, leprosy, tuberculosis, cholera, diphtheria, tetanus, pneumonia, plague, and dysentery. This period (1875–1900) has come to be known as the bacteriological period of public health.

Although most scientific discoveries in the late nineteenth century were made in Europe, there were significant public health achievements occurring in America as well. The first law prohibiting the adulteration of milk was passed in 1856, the first sanitary survey was carried out

in New York City in 1864, and the American Public Health Association was founded in 1872. The Marine Hospital Service gained new powers of inspection and investigation under the Port Quarantine Act of 1878.

In 1890 the pasteurization of milk was introduced, and in 1891 meat inspection began. It was also during this time that nurses were first hired by industries (in 1895) and schools (in 1899). Also in 1895, septic tanks were introduced for sewage treatment. In 1900, Major Walter Reed of the U.S. Army announced that yellow fever is transmitted by mosquitoes.

The Twentieth Century

As the twentieth century began, life expectancy was still less than 50 years. The leading causes of death were communicable diseases-influenza, pneumonia, tuberculosis, and infections of the gastrointestinal tract. Other communicable diseases, such as typhoid fever, malaria, and also killed many people. There were other health problems as well. Thousands of children were afflicted with conditions characterized by noninfectious diarrhea or by bone deformity. Although the symptoms of pellagra and rickets were known and described, the causes of these ailments remained a mystery at the turn of the century. Discovery that these conditions resulted from vitamin deficiencies was slow because some scientists were searching for bacterial causes.

Vitamin deficiency diseases and one of their contributing conditions, poor dental health, were extremely common in the slum districts of both European and American cities. The unavailability of adequate prenatal and postnatal care meant that deaths associated with pregnancy and childbirth was also high.

Community Health in the Early 2000s

Early in the new millennium, it is widely agreed that while decisions about health are an individual's responsibility to a significant degree, society has an obligation to provide an environment in which the achievement of good health is possible and encouraged. Furthermore, many recognize that certain segments of our population whose disease and death rates exceed the general population may require additional resources, including education, in order to achieve good health. During this time, a number of serious public health problems including the continuing rise in health care costs, growing environmental concerns, the ever present lifestyle diseases (diabetes, heart disease, cancer, stroke, and chronic lower respiratory diseases), emerging and re-emerging communicable diseases, serious substance abuse problems, and now terrorism. Especially global

issues of terrorism, oppression and injustice are the major challenges of today's world in addition to the life style diseases.

World Planning for the Twenty-First Century

World health leaders recognized the need to plan for the twenty-first century at the thirtieth World Health Assembly of the World Health Organization (WHO), held in 1977. At that assembly, delegations from governments around the world set as a target "that the level of health to be attained by the turn of the century should be that which will permit all people to lead a socially and economically productive life." This target goal became known as "Health for All by the Year 2000."The following year in Alma-Ata, U.S.S.R., the joint WHO/UNICEF (United Nations Children's Fund) International Conference adopted a Declaration on Primary Health Care as the key to attaining the goal of "Health for All by the Year 2000."At the thirty fourth World Health Assembly in 1981, delegates from the member nations unanimously adopted a "Global Strategy for Health for All by the Year 2000."That same year, the United Nations General Assembly endorsed the "Global Strategy" and urged other international organizations concerned with community health to collaborate with WHO. The underlying concept of "Health for All by the Year 2000" was that health resources should be distributed in such a way that essential health care services are accessible to everyone.

As we now know, the lofty goal of health for all around the world by the year 2000 was not reached. That does not mean that the goal was abandoned. With the passing into a new century, the program was renamed Health for All (HFA). HFA continues to seek "to create the conditions where people have, as a fundamental human right, the opportunity to reach and maintain the highest level of health. The vision of a renewed HFA policy builds on the WHO Constitution, the experience of the past and the needs for the future."

Even though the "Health for All by the Year 2000" goal was not reached, some progress was made. Overall global health, as measured by life expectancy at birth, did improve. In 1955 life expectancy worldwide was 46.5 years, while in 2002 it increased to 65.2 years. Yet, many do not have a longer life expectancy or enjoy better health. There is evidence of widening gaps in health worldwide between the very poorest developing countries and all other countries. For example, in 2002 while life expectancy at birth for women from developed countries reached 78 years, it fell back to less than 46 years for men in sub-Saharan Africa, and the chances of children in Africa surviving until their fifth birthday were less than they were a decade earlier. Much of the widening

health gap is a result of the continuing impact of communicable diseases, especially HIV/AIDS. However, global increases in non-communicable diseases (especially from tobacco use) and unintentional injuries (primarily from road traffic crashes) are simultaneously occurring, adding to the daunting challenges facing developing countries.

The challenges of the twenty-first century that need to be addressed in order to improve the world's health include:

1. Greatly reducing the burden of excess mortality and morbidity suffered by the poor. This means shifting the ways in which governments all over the world use their resources. It also means focusing on those interventions that enable the greatest health gain possible with the available resources so that the diseases that disproportionately affect the poor, like tuberculosis, malaria, and HIV/AIDS, can be less of a burden.

2. Countering the potential threats to health resulting from economic crises, unhealthy environments, or risky behaviors. Stable economic growth throughout the world, environments with clean air and water, adequate sanitation, healthy diets, safer transportation, and the reductions in risky behaviors, such as tobacco use, will go a long way in creating a healthier world.

3. Developing more effective health systems. The goals of these systems should be to improve health status, reduce health inequalities, enhance responsiveness to legitimate expectations, increase efficiency, protect people from financial loss, and enhance fairness in the financing and delivery of health care.

4. Investing in the expanding knowledge base. The increased knowledge base of the twentieth\ century did much to improve health. The search for new knowledge must continue because it benefits all humanity. Two areas that need special attention are infectious diseases that overwhelmingly affect the poor, and information that will help shape future health systems.

As can be seen from the above stated challenges, much of the attention for improved world health in the twenty-first century is focused on the less developed and poorer countries of the world. The plan for tackling these global health challenges and other non-health related global challenges of the twenty-first century is guided by the United Nations Millennium Declaration, which was adopted at the United Nations' Millennium Summit in September 2000.

Chapter Two: Epidemiology and Determinants of Health

2.1. The Epidemiology of Health, Disease and Illness

1. Definition of Epidemiology

The term epidemiology is derived from Greek words that can be translated into the phrase "the study of that which is upon the people." Epidemiology is "the study of the distribution and determinants of states of health (diseases and injuries) across and with human populations." In doing this, epidemiology draws on the work of a wide variety of scientists and researchers, among them physicians, sociologists, public health officials, biologists, demographers, anthropologists, psychologists, and meteorologists (in studies of air pollution).

Epidemiology is one of the community health activities "aimed at protecting or improving the health of a population or community." The goal of epidemiology is to limit disease, injury, and death in a community by intervening to prevent or limit outbreaks or epidemics of disease and injury. This is accomplished by describing outbreaks and designing studies to analyze them and to validate new approaches to prevention, control, and treatment. Through these practices, epidemiologists contribute to our knowledge of how diseases begin and spread through populations, and how they can be prevented, controlled, and treated. When illness, injury, or death occurs at unexpected or unacceptable levels in a community or population, epidemiologists seek to collect information about the disease status of the community. First, epidemiologists want to know how many people are sick. Second, they want to know who is sick-the old? The young? Males? Females? Rich? Poor? They also want to know when the people became sick, and finally, where the sick people live or have traveled. In summary, epidemiologists want to know what it is that the sick people have in common. For this reason, epidemiology is sometimes referred to as population medicine.

The question might be asked, how many cases are required before a disease outbreak is considered an epidemic-10 cases? 100 cases? 1,000 cases? The answer is that it depends upon the disease and the population, but any unexpectedly large number of cases of a disease in a particular population at a particular time and place can be considered an *epidemic*. The question might be asked, what are diseases called that occur regularly in a population but are not epidemic? These diseases are referred to as *endemic diseases*. Whether a disease is epidemic or endemic depends

on the disease and the population. Heart disease is endemic in America, while in many regions of equatorial Africa, malaria is endemic.

While an epidemiologist studies outbreaks of disease, injury, and death in human populations (epidemics), an epizootiologist studies disease outbreaks in animal populations (epizootics). Some diseases, such as bubonic plague and St. Louis encephalitis, may begin as epizootics but later become epidemics. When both animals and humans are involved in a disease outbreak, the term *epizoodemic* is appropriate. Occasionally, an epidemic will spread over a wide area, perhaps even across an entire continent or around the world. Such a widespread epidemic is termed a *pandemic*.

2. The Importance of Rates in Epidemiology

Epidemiologists are concerned with numbers. Of prime importance is the number of cases (people who are sick) and, of course, the number of deaths. These numbers alone, however, are not enough to provide a description of the extent of the disease in a community.

Epidemiologists must also know the total number in the susceptible population so that rates can be calculated. A rate is the number of events (births, cases of disease, or deaths) in a given population over a given period or at a given point in time. Three general categories of rates are *natality (birth) rates, morbidity (sickness) rates, and mortality or fatality (death) rates*.

Why are rates important? Why not simply enumerate the sick or dead? The answer is that rates enable one *to compare outbreaks that occur at different times or in different places*. For example, by using rates it is possible to determine whether there are more cases of malaria per capita this year than there were last year or whether there are more homicides per capita in City A than in City B. For example, suppose you wish to compare transportation deaths associated with travel by cars and airplanes. To examine this hypothetical situation, consider that for a given time period, 1,000 people died in car crashes while 50 people died in airplane crashes. Without calculating rates, one might assume that car travel is more dangerous than air travel. However, if you knew the population exposed (100,000 people for car travel versus 1,000 people for air travel), you could calculate fatality rates (the number of deaths divided by the population) for each mode of travel. These rates have greater meaning because they are based upon the population-at-risk, those who are susceptible to disease or death from a particular cause. In this case, the fatality rates are 1/100 for cars and 5/100 for airplanes, thus indicating that in this hypothetical example air travel is five times more dangerous than car travel.

Incidence, Prevalence, and Attack Rates

Three important types of morbidity rates are *incidence rates, prevalence rates, and attack rates*. An *incidence rate* is defined as the number of new cases of a disease in a population at-risk (those in the population who are susceptible to the disease) in a given time period--the number of new cases of a disease in a community over a week's time, for example. Those who became ill with the disease during the previous week and remain ill during the week in question are not counted in an incidence rate. Incidence rates are important in the study of acute diseases, diseases in which the peak severity of symptoms occurs and subsides within days or weeks. These diseases usually move quickly through a population. Examples of acute diseases are the common cold, influenza, and measles.

Prevalence rates are calculated by dividing all current cases of a disease (old and new) by the total population. Prevalence rates are useful for the study of chronic disease, diseases that usually last three months or longer. In these cases, it is more important to know how many people are currently suffering from a chronic disease-such as heart disease, cancer, or diabetes-than it is to know when they became afflicted. Furthermore, with many chronic diseases, it is difficult or impossible to determine the date of onset of disease. Because a preponderance of health services and facilities are used for the treatment of persons with chronic diseases and conditions, prevalence rates are more useful than incidence rates for the planning of public health programs, personnel needs, and facilities.

An attack rate is a special incidence rate calculated for a particular population for a single disease outbreak and expressed as a percentage. For example, suppose a number of people who traveled on the same airline flight developed a similar illness, and epidemiologists suspected that the cause of this illness was associated with the flight itself. An attack rate could be calculated for the passengers on that flight to express the percentage who became ill. Furthermore, attack rates could be calculated for various subpopulations, such as those seated at various locations in the plane, those who selected specific entrees from the menu, those of particular age groups, or those who boarded the flight at specific stops. Differences in attack rates for different subpopulations might indicate to the epidemiologists the source or cause of the illness.

Crude and Age-Adjusted Rates

Incidence and prevalence rates can be expressed in two forms-*crude and specific*.

Crude Rates are those in which the denominator includes the total population. The most important of these are the crude birth rate and the crude death rate. The *crude birth rate* is the number of live births in a given year, divided by the midyear population. The *crude death rate* is the total number of deaths in a given year from all causes, divided by the midyear population. Crude rates are relatively easy to obtain and are useful when comparing similar populations. But they can be misleading when populations differ by age structure or by some other attribute. For example, crude birth rates are normally higher in younger populations, which have a higher proportion of people of reproductive age, than in populations with more elderly people. Conversely, crude death rates are normally higher in older populations. This makes it difficult to use crude rates to compare the risk of death in different populations, such as those of the states or regions in a given country. To show what the level of mortality would be if the age composition of different populations were the same, epidemiologists use age-adjusted rates. For example, in US, because of its larger senior population, Florida has a higher crude death rate (1,021.6 per 100,000) compared to Alaska's (469.4 per 100,000), where the population is younger.

Specific Rates measure morbidity and mortality for particular populations or for particular diseases. One could, for example, calculate the age-specific mortality rate for a population of 35- to 44-year-olds by dividing the number of deaths in that age group by the midyear population of 35- to 44-year-olds. Similarly, one could calculate race- and sex-specific mortality rates.

A very important specific rate is the *cause-specific mortality rate* (CSMR), which measures the death rate for a specific disease. This rate can be calculated by dividing the number of deaths due to a particular disease by the total population. One could also calculate an age-specific, cause-specific mortality rate. Because fewer people can be expected to die from each cause than to die from all causes, CSMRs are usually reported per 100,000 populations.

Two other important measures of disease are the *case fatality rate* (CFR) and the *proportionate mortality ratio* (PMR). The CFR is simply the percentage of cases that result in death. It is a measure of the severity of a disease and is directly related to the virulence of the disease agent. It is calculated by dividing the number of deaths from a particular disease in a specified period of time by the number of cases of that same disease in the same time period. The resulting fraction is multiplied by 100 and is reported as a percentage. For example, if there were 200 cases of a severe illness and 10 of them resulted in death, the CFR would be 10/200.100 5%.

The PMR describes the relationship between the number of deaths from a specific cause to the total number of deaths attributable to all causes. It is calculated by dividing the number of deaths attributed to a particular disease by the total number of deaths from all causes in the same population during the same period of time. This rate is also reported as a percentage. For example, in the United States, there were 700,142 deaths due to diseases of the heart in 2001, and 2,416,425 total deaths reported that same year. Thus, the PMR for cardiovascular disease can be calculated as follows: 700,142 /2,416,425.100= 29%. In other words, in the United States, heart disease was responsible for 29% of all deaths in 2001.

3. Reporting of Births, Deaths, and Diseases

It is important to epidemiologists that births, deaths, and cases of diseases be recorded promptly and accurately. Physicians, clinics, and hospitals are required by law to report all births and deaths as well as all cases of certain notifiable diseases to their local health departments. Notifiable diseases are infectious diseases that can become epidemic and for which health officials maintain weekly records. Local health departments are required by their respective state health departments to summarize all records of births, deaths, and notifiable diseases, and to report them. State health departments summarize these reports and communicate them to the national health departments. The state and territorial data will be summarized and used to plan epidemiological research, conduct investigations, and issue reports.

Unfortunately, the information reported is not always as good as it should be. One study estimated that local health departments may receive notification of only 35% of the cases of some communicable diseases and that many physicians are not familiar with the requirement of reporting. Clinics may not report each and every case of measles. Doctors' offices and clinics may be understaffed or simply too busy to keep up with reporting. In other cases, patients recover-with or without treatment-before a diagnosis is confirmed. Also, changes in local and state government administration or other key personnel often interfere with the timely reporting of disease data. The accuracy of disease reporting also depends on the type of disease. In this regard, serious diseases are more likely to be reported than milder ones. Therefore, morbidity data-while useful for reflecting disease trends-cannot always be considered to be precise counts of the actual number of cases of diseases.

4. Standardized Measurements of Health Status of Populations

It is often difficult to precisely measure the level of wellness or, for that matter, ill health. On the other hand, death can be clearly defined. For this reason, mortality statistics continue to be the single most reliable indicator of a population's health status. While mortality statistics do not completely describe the health status of a population, they can be used to calculate other useful measurements; two of these are *life expectancy* and *years of potential life lost*. Finally, there are measurements of ill health that, while less precise than mortality, can nonetheless be meaningful. Such measurements are disability-adjusted life years (DALYs), disability-adjusted life expectancy (DALE), and health-adjusted life expectancy (HALE).

Mortality Statistics

Age-adjusted death rates show what the level of mortality would be if no changes occurred in the age make-up of the population from year to year. Thus, they are a better indicator than unadjusted (crude) death rates for examining changes in the risk of death over a period of time when the age distribution of the population is changing.

Naturally, morbidity and mortality rates vary greatly depending on age, sex, race, and ethnicity. For example, in developed countries, while heart disease is the leading cause of death for the general population and especially for seniors (those who have reached 65 years of age), cancer is the leading cause of death for the 45- to 64-years age group, and unintentional injuries are the leading cause of death for all age groups between 1 and 44.

A study of the mortality statistics for the twentieth century reveals a shift in the leading causes of death. When the century began, communicable diseases such as pneumonia, tuberculosis, and gastrointestinal infections were the leading causes of death. However, a century of progress in public health practice and in biomedical research has resulted in a significant reduction in the proportion of deaths from communicable diseases; so that the four leading causes of death today are non-communicable diseases. At the beginning of the twenty-first century, the five leading causes of death -heart disease, cancer, stroke, chronic obstructive pulmonary disease, and unintentional injuries (accidents and adverse effects)-account for about 68% of all deaths. This domination of annual mortality statistics by non-communicable diseases masks the importance of communicable diseases as causes of deaths in certain age groups. For example, pneumonia and influenza still kill many seniors each year. Thus, it is important to remember that viewing the

leading causes of death for the entire population does not provide a clear picture of the health for any one segment of the population.

Life Expectancy

Life expectancy is another standard measurement used to compare the health status of various populations. Also based on mortality, *life expectancy* is defined as the average number of years a person from a specific cohort or unit is projected or expected to live from a given point in time. While life insurance companies are interested in life expectancy at every age, health statisticians are usually concerned with life expectancy at birth, at the age of 65 years, and, more recently, at age 75. It must be remembered that life expectancy is an average for an entire cohort (usually of a single birth year) and is not necessarily a useful prediction for any one individual. Moreover, it certainly cannot describe the quality of one's life. When we compare the life expectancy figures of countries, the highest life expectancy figures are reported in Japan (81 years in 2002) while the lowest are reported from countries in Africa. Note that in three African countries-Congo, Malawi, and South Africa—life expectancy has declined since 1980, in part because of HIV/AIDS.

Years of Potential Life Lost

While standard mortality statistics, such as leading causes of death, provide one measure of the importance of various diseases, years of potential life lost (YPLL) provides another, different measure. YPLL is calculated by subtracting a person's age at death from his or her life expectancy. Such calculations are difficult because each person may have a different life expectancy at any given time. Thus, the ages 65 years or 75 years are often used in these calculations. For a person who dies at age 59, the YPLL-75 is 16. YPLL weights deaths such that the death of a very young person counts more than the death of a very old person.

Disability-Adjusted Life Years (DALYs)

Mortality does not entirely express the burden of disease. For example, chronic depression and paralysis caused by polio are responsible for great loss of healthy life but are not reflected in mortality tables. Because of this, the World Health Organization (WHO) and the World Bank have developed a measure called the disability-adjusted life years (DALYs).

The DALY has emerged as a measure of the burden of disease and it reflects the total amount of healthy life lost, to all causes whether from premature mortality or from some degree of disability during a period of time. These disabilities can be physical or mental. The intended use

of the DALY is to assist (i) in setting health service priorities; (ii) in identifying disadvantaged groups and targeting of health interventions; and (iii) in providing a comparable measure of output for intervention, program and sector evaluation and planning.

One DALY is thus one lost year of healthy life. Total DALYs for a given condition for a particular population can be calculated by estimating the total YPLL and the total years of life lived with disability, and then by summing these totals. As an example, the DALYs incurred through firearm injuries could be calculated by adding the total of YPLL incurred from fatal firearm injuries to the total years of life lived with disabilities by survivors of firearm injuries.

Disability-Adjusted Life Expectancy (DALE) and Health-Adjusted Life Expectancy (HALE)

Two other measurements of good health and good health care systems used by the World Health Organization are disability-adjusted life expectancy (DALE) and health-adjusted life expectancy (HALE). These are estimates of the number of healthy years of life that can be expected on average in a given population. While they are usually calculated at birth (like life expectancy), DALEs can be calculated at any age. DALEs and HALEs have the advantage of capturing all causes of disability across a population and relating them to life expectancy as defined by mortality. In 24 countries, DALEs are estimated to equal or exceed 70 years, and in more than half of the countries that belong to WHO, DALEs are equal to or exceed 60 years. In 32 countries, DALEs are estimated to be less than 40 years. DALE and HALE measure approximately the same thing, namely, expected remaining years of healthy life, but they are calculated differently because they differ in the way they measure disability levels.

5. Sources of Standardized Data

Because demographic and epidemiological data are used in the planning of public health programs and facilities, students of community health should be aware of the sources of these standardized data. Students can obtain standardized data for use in community health work from the following sources: Population and Housing Census, Statistical Abstract, Demographic and Health Survey (DHS). Each of these sources of national data has a specific value and usefulness to those in the public health field. Students interested in studying local health problems can obtain data from state and local health departments, hospitals, volunteer agencies, and disease registries. The study and analysis of these data provide a basis for planning appropriate health programs and facilities in your communities.

6. Epidemiological Studies

When disease and/or death occurs in unexpected or unacceptable numbers, epidemiologists may carry out investigations. These investigations may be descriptive, analytical, or experimental in nature, depending upon the objectives of the specific study.

Descriptive Studies

Descriptive studies seek to describe the extent of an outbreak in regard to person, time, and place. These studies are designed to answer the questions ***who, when, and where***.

To answer the first question (***who***), epidemiologists first take a "head count" to determine how many cases of a disease have occurred. At this time, they also try to determine who is ill-children, elders, men, women, or both. The data they gather should permit them to develop a summary of cases by age, sex, marital status, and type of employment.

To answer the second question (***when***), epidemiologists must determine the time of the onset of illness for each case. The resulting data can be used to prepare an epidemic curve, a graphic display of the cases of disease by the time or date of the onset of their symptoms. Three types of epidemic curves are commonly used in descriptive studies-*secular, seasonal, and single epidemic curves*.

Secular graphs illustrate the long-term trend of a disease. A graph of the case data by season or month is usually prepared to show cyclical changes in the numbers of cases of a disease. The secular display of a disease shows the distribution of cases over many years (e.g., cases of paralytic poliomyelitis for the period 1972 to 2002). Cases of arthropod-borne viral infections, for example, peak in the late summer months, following the seasonal rise in populations of the mosquitoes that transmit them.

Epidemic curves for single epidemics vary in appearance with each disease outbreak; however, two classical types exist. The first is the *point source epidemic curve*. In a point source epidemic, each case can be traced to an exposure to the same source-spoiled food, for example. Because an epidemic curve shows cases of a disease by time or date of the onset of their symptoms, the epidemic curve for a single epidemic can be used to calculate the incubation period, the period of time between exposure to an infectious agent and the onset of symptoms. The incubation period, together with the symptoms, can often help epidemiologists determine the cause of the disease. The second type of epidemic curve for a solitary outbreak is a *propagated epidemic curve*. In this

type of epidemic, primary cases appear first at the end of the incubation period following exposure to an infected source. Secondary cases arise after a second incubation period, and they represent exposure to the primary cases; tertiary cases appear even later due to exposure to secondary cases, and so on. Because new cases give rise to more new cases, this type of epidemic is termed a propagated epidemic. Epidemics of communicable diseases like chickenpox follow this pattern.

Finally, epidemiologists must determine ***where*** the outbreak occurred. To determine where the illnesses may have originated, the residential address and travel history of each case are recorded. This information provides a geographic distribution of cases and helps to delineate the extent of the outbreak. By plotting cases on a map, along with natural features such as streams and human-made structures such as factories, it is sometimes possible to learn something about the source of the disease.

A descriptive study is usually the first epidemiological study carried out on a disease. Detectable patterns of cases may provide investigators with ideas that can lead to a hypothesis about the cause or source of a disease. As important and useful as they are, descriptive studies have limited usefulness. Results from descriptive studies are usually not applicable to outbreaks elsewhere. Also, the investigation of a single epidemic cannot provide information about disease trends. Lastly, with few exceptions, descriptive studies by themselves rarely identify with certainty the cause of an outbreak.

Analytical Studies

A second type of epidemiological study is the analytical study. The purpose of analytical studies is to test hypotheses about relationships between health problems and possible risk factors, factors that increase the probability of disease. While front-line community health workers usually do not conduct analytical studies, it is important that students of community health understand how they are carried out and what kinds of data they generate. Only through such an understanding can those who work in community health interpret the findings of these studies to others in the community, who may then apply the knowledge to improve their own health and that of the community. An example of an analytical study might be one designed to discover whether diabetes (health problem) is associated with obesity (possible risk factor), or whether lung cancer (health problem) is associated with cigarette smoking (possible risk factor). It is important to remember that the associations discovered through analytical epidemiological studies are not always cause-and-effect associations.

There are two types of analytical studies-*retrospective and prospective*. *Retrospective studies* are epidemiological studies that compare people with disease (cases) to healthy people of similar age, sex, and background (controls), with respect to prior exposure to possible risk factors. These case/control studies are aimed at identifying familial, environmental or behavioral factors that are more common or more pronounced in the case group than in the control group. Such factors could be associated with the disease under study. For example, epidemiologists might wish to study the factors associated with cervical cancer in women. To carry out this study, epidemiologists would identify a number of women with cervical cancer (cases) and an equal or larger number of healthy women (controls). Medical histories for each group would be obtained and compared. In this hypothetical example, an examination of the histories suggests that cigarette smoking is more prevalent in the case group. If exposure to the possible risk factor (smoking) is significantly greater in the cases (of cervical cancer) than in the controls, an association is said to exist. Note that this association may or may not be one of cause and effect. Further studies are usually necessary to confirm initial findings. Retrospective studies almost never prove causation by themselves. Instead, they usually indicate the direction for future studies.

Prospective studies or cohort studies are epidemiological studies in which the researcher selects a cohort, a large number of healthy subjects that share a similar experience such as year of birth or high school graduation. Subjects in this cohort are then classified on the basis of their exposure to one or more possible causative factors such as cigarette smoking, dietary habits, or other factors. The entire cohort is then observed for a number of years to determine the rate at which disease develops in each subgroup that was classified by exposure factor.

It is important to note the difference in the type of results obtained from retrospective and prospective studies and the advantages and disadvantages of each type of study. In retrospective studies, results obtained are not true incidence rates because disease was already present at the beginning of the study; that is, there were cases and controls to begin with, rather than a population-at-risk. For this reason, retrospective studies can only provide a probability statement about the association between factor and disease. This probability statement can be stated mathematically as an odds ratio. The following is a hypothetical example of such a probability statement: Lung cancer patients have a probability of having smoked cigarettes that is 11 times greater than that of the control group.

In prospective studies, one begins with a population-at-risk, and therefore is able to calculate the risk for developing disease associated with each examined factor. This relative risk states the relationship between the risk for acquiring the disease in the presence of the risk factor to the risk of acquiring the disease in the absence of the risk factor. An example of a relative risk statement is: Smokers are 11 times more likely to develop lung cancer than are nonsmokers.

Although prospective studies yield a relative risk, they have three distinct disadvantages: (1) They are expensive,(2) they usually take many years to complete, and (3) they are not very useful for studying rare diseases because the disease may not develop in the cohort. Retrospective studies, on the other hand, are less expensive to carry out, can be completed more quickly, and are useful for studying rare diseases because one can select the cases. Unfortunately, they cannot yield a true risk for acquiring a disease.

Experimental Studies

Experimental studies are carried out in order to identify the cause of a disease or to determine the effectiveness of a vaccine, therapeutic drug, or surgical procedure. The central feature of experimental studies is the control of variables surrounding the experimental subjects. These subjects may be humans but more often are animals such as laboratory mice, rats, or monkeys. The use of research animals in experimental studies is necessary to determine the safety and effectiveness of new therapeutic agents or medical procedures with minimum risk to human health. Whether animals or humans are used, every effort is made to reduce unwanted variability associated with the experimental subjects. In the case of animal studies, the variables over which the experimenter may wish to exert control include age, sex, diet, and environmental conditions.

In addition to controlling variables, three other principles are essential to properly designed experimental studies-*control groups, randomization, and blindness*. The use of *control groups* means that the experimental treatment (intervention) such as drug, vaccine, smoke-free environment, or special diet, is withheld from a portion of the subjects. These subjects belong to the control group, which receives blank doses or treatments, called placebos. In order for a treatment regimen to be considered effective or for a factor to be considered causally related, it must significantly affect the treatment group differently (usually determined using a statistical test) from the control group. *Randomization* refers to the practice of assigning subjects to treatments or control groups in a completely random manner. This can be accomplished by assigning numbers to subjects and then having numbers selected randomly. Numbers can be selected randomly from

a table of random numbers, by drawing lots, or by using a computer-generated list of random numbers. Thus, each research subject, human or animal, has an equal chance of being placed in the treatment group. *Blindness* refers to the practice in which the researcher remains uninformed and unaware of the identities of treatment and control groups throughout the period of experimentation and data gathering. This prevents the researcher from looking favorably or unfavorably on the responses of any particular subject or group while gathering data during the experiment. Thus, the researcher can remain unbiased.

When studies involve human subjects, it is important that the subjects also remain uninformed as to whether they have been placed in the treatment group or control (placebo) group. Such a procedure is referred to as double blind (neither researcher nor subjects know who is receiving the treatment), and it often involves the use of a placebo, such as a saline (salt-water) injection or sugar pill. The use of a placebo prevents subjects from determining by observation whether or not they are receiving treatment. This is important because human thought processes are such that some people begin to feel better if they believe they have received a treatment. In order for a vaccine or therapeutic drug to be labeled as effective, it must consistently perform better than a placebo.

Controlling variables, the use of treatment and control groups, randomization, and blindness are techniques aimed at ensuring objectivity and avoiding bias in experimental studies. Through strict adherence to these principles, researchers hope to achieve experimental results that accurately reflect what occurs in a natural setting.

2.2. Determinants of Health

The two overarching determinants of health are the ***macro-level issues of policies and interventions*** and ***access to quality health care***.

Public health policies address health promotion and disease prevention. Some prevention policies to discourage tobacco use include smoke-free buildings and federal, state, and local laws that prohibit tobacco use where people work, especially in airplanes and restaurants. In addition to reducing smoking behavior, these types of restrictions are also designed to protect employees from constant exposure to second hand smoke.

Access to care is especially important because the later that cancer is diagnosed, the worse its prognosis will be. Access to diagnosis and treatment is limited not only by lack of health insurance, but also by other social and environmental factors. System and institutional barriers

limit access to health care, especially for lower income families. System barriers include inadequate capacity to serve the populations, and institutional barriers include problems in the organization and delivery of care. Some system factors for lower income people are the limited numbers of health-care providers serving inner cities and rural areas and limited safety-net clinics for those who lack insurance. Clinic hours held only during the workday are an institutional barrier. Another institutional barrier is the lack of accommodation to communication in case of language difference. Many facilities have few interpreters and providers sometimes rely on family members, often children, to translate.

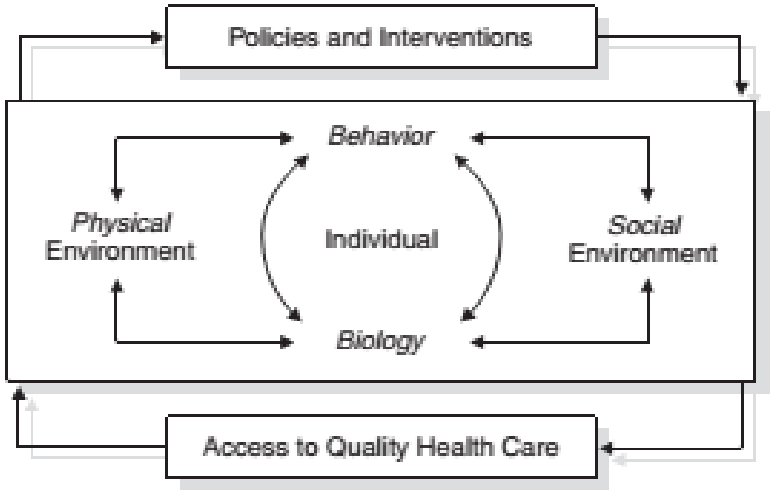


Figure 1.1 illustrates the complex interactions of biology, social and physical environments, and behavior on health. Further, larger factors, including public policies and interventions and access to high-quality health care, are important elements in the determination of health.

Health status is primarily determined by social, economic, environmental and political conditions and is an issue of social equality and justice. The health of populations is related to features of society and its social and economic organization. This crucial fact provides the basis for effective policy-making for improving population health. While there is, understandably, much concern regarding the appropriate provision and financing of health services as well as ensuring that the nature of the services provided is based on the best evidence of effectiveness, health is a matter that goes beyond the provision of health services. Policies pursued or followed by many branches of government and by the private sector, both nationally and locally, exert a powerful influence on health. Just as decisions about health services should be based on the best evidence available, so should policies related to the social determinants of health.

Social Epidemiology and Social Determinants of Health

Social epidemiology is one of the basic concepts in medical sociology and it is defined as a branch of epidemiology that studies the social distribution and social determinants of states of health. This definition implies that social epidemiology aims for the identification of socio environmental exposure that may be related to a broad range of physical and mental health outcomes. The orientation of social epidemiology is similar to other sub disciplines of epidemiology focused on exposures (e.g., environmental or nutritional epidemiology) rather than those areas devoted to the investigation of those disease (e.g., cardiovascular, cancer, or psychiatric epidemiology). The focus is on specific social phenomena such as socioeconomic stratification, social network and support, discrimination, work demands, and control rather than on specific disease out comes.

Social epidemiology is the study of how health and diseases are distributed throughout a society's population. Just as early social epidemiologists examined the origin and spread of epidemic diseases, researchers today find links between health and physical and social environment. Such analysis rests on comparing the health of different categories of people, social class, age, sex, etc. Outbreak, frequency, distribution and determinants [etiology] of disease as well as searching data for management, evaluation and planning of services for the prevention, control and treatment of disease are concerns of social epidemiology.

As supported by social epidemiology, patterns of health and illness vary from society to society and from group to group within a society. There is no single definition of the social determinants of health, but there are commonalities, and many governmental and non-governmental organizations recognize that there are social factors which impact the health of individuals. Among the many factors that can affect health of any society, some of them includes: social habits and life styles, social and cultural factors, class factors, gender factors, stress and social support etc. Social determinats of health are defined in different ways by different bodies (both individuals and organizations). Some of them are as follows.

In 2003, the World Health Organization (WHO) Europe suggested that the social determinants of health include social gradients (life expectancy is shorter and disease is more common further down the social ladder); stress (including stress in the workplace), early childhood development; social exclusion; unemployment; social support networks; addiction; availability of healthy food and availability of healthy transportation.

The WHO later developed a Commission on Social Determinants of Health, which in 2008 published a report entitled "Closing the Gap in a Generation". This report identified two broad areas of social determinants of health that needed to be addressed. The first area was *daily living conditions*, which included healthy physical environments, fair employment and decent work, social protection across the lifespan, and access to health care. The second major area was *distribution of power, money, and resources*, including equity in health programs, public financing of action on the social determinants, economic inequalities, resource depletion, healthy working conditions, gender equity, political empowerment, and a balance of power and prosperity of nations.

The United States Centers for Disease Control ( ) defines social determinants of health as "life-enhancing resources, such as food supply, housing, economic and social relationships, transportation, education, and health care, whose distribution across populations effectively determines length and quality of life". These include access to care and resources such as food, insurance coverage, income, housing, and transportation. Social determinants of health influence health-promoting behaviors, and health equity among the population is not possible without equitable distribution of social determinants among groups.

Woolf ( ) states, social conditions such as education, income, and ethnicity were very much dependent on one another, but these social conditions also apply independent health influences. Marmot and Bell ( ) found that in wealthy countries, income and mortality are correlated as a marker of relative position within society, and this relative position is related to social conditions that are important for health including good early childhood development, access to good quality education, rewarding work with some degree of autonomy, decent housing, and a clean and safe living environment. The social condition of autonomy, control, and empowerment turns are important influences on health and disease, and individuals who lack social participation and control over their lives are at a greater risk for physical & mental illness.

Social determinants of health are the economic and social conditions – and their distribution among the population – that influence individual and group differences in health status. They are risk factors found in one's living and working conditions (such as the distribution of income, wealth, influence, and power), rather than individual factors (such as behavioral risk factors or genetics) that influence the risk for a disease, or vulnerability to disease or injury. Genetic inheritance plays a significant part in individual health, but the major factors influencing

health are socially created, that is they are the result of structural and institutional arrangements and policies which are open to changeAccording to some viewpoints, these distributions of social determinants are shaped by public policies that reflect the influence of prevailing political ideologies of those governing a jurisdiction. The World Health Organization says that "This unequal distribution of health-damaging experiences is not in any sense a 'natural' phenomenon but is the result of a toxic combination of poor social policies, unfair economic arrangements [where the already well-off and healthy become even richer and the poor who are already more likely to be ill become even poorer], and bad politics.

The (2011) World Conference on Social Determinants of Health stated that health inequities arise from the societal conditions in which people are born, grow, live, work, and age, including early childhood development, education, economic status, employment and decent work, housing environment, and effective prevention and treatment of health problems.

These unfair inequalities in health and illness are avoidable. They are caused primarily by the impact of economic, social, political and environmental factors across the life course, the 'social determinants' of health. These are defined by the WHO Commission on Social Determinants of Health (Interim Statement 2007) as 'the fundamental structures of social hierarchy and the socially determined conditions these structures create in which people grow, live, work and age.' Genetic inheritance plays a significant part in individual health, but the major factors influencing health are socially created, that is they are the result of structural and institutional arrangements and policies which are open to change.

The inequalities in health that social work is concerned about have two key dimensions.

- *Health chances*: a person's chances of being ill or staying well, of living a long life or having their life cut short, are a product of economic, social, political and environmental factors; addressing these factors is social work's core health role.
- *Health experience*: a person's experience of living with and combating illness, is a product of the resources they can access for preventing, treating or alleviating illness and promoting health. Helping to secure and expand these resources is social work's secondary health role.

These are central issues for social workers in all settings. Social workers in health settings play particular roles, for example in helping people access health care, negotiate treatment decisions or secure the services to manage illness at home.

The social determinants include the impact of early life and the life course, social gradient, social habits and life styles, social and cultural factors, class factors, gender factors,; labor market disadvantage, unemployment, and job insecurity; the psychosocial environment at work; transport; social support and social cohesion; the politics of food; poverty, social exclusion, and minorities; ethnic inequalities; neighborhoods, housing, and social vulnerability.

Social Gradient

Life expectancy is shorter and most diseases are more common further down the social ladder in each society. People's lifestyles and the conditions in which they live and work strongly influences their health. Poor social and economic circumstances affect health throughout life. People further down the social ladder usually run at least twice the risk of serious illness and premature death as those near the top. Nor are the effects confined to the poor: the social gradient in health runs right across society, so that even among middle-class office workers, lower ranking staff suffer much more disease and earlier death than higher ranking staff. Both material and psychosocial causes contribute to these differences and their effects extend to most diseases and causes of death.

Disadvantage has many forms and may be absolute or relative. It can include having few family assets, having a poorer education during adolescence, having insecure employment, becoming stuck in a hazardous or dead-end job, living in poor housing, trying to bring up a family in difficult circumstances and living on an inadequate retirement pension. These disadvantages tend to concentrate among the same people, and their effects on health accumulate during life. The longer people live in stressful economic and social circumstances, the greater the physiological wear and tear they suffer, and the less likely they are to enjoy a healthy old age.

Early Life

A good start in life means supporting mothers and young children: the health impact of early development and education lasts a lifetime. Observational research and intervention studies show that the foundations of adult health are laid in early childhood and before birth. Slow growth and poor emotional support raise the lifetime risk of poor physical health and reduce physical, cognitive and emotional functioning in adulthood. Poor early experience and slow growth become embedded in biology during the processes of development, and form the basis of the individual's biological and human capital, which affects health throughout life.

Poor circumstances during pregnancy can lead to less than optimal fetal development via

a chain that may include deficiencies in nutrition during pregnancy, maternal stress, a greater likelihood of maternal smoking and misuse of drugs and alcohol, insufficient exercise and inadequate prenatal care. Poor fetal development is a risk for health in later life. Infant experience is important to later health because of the continued malleability of biological systems. As cognitive, emotional and sensory inputs programme the brain's responses, insecure emotional attachment and poor stimulation can lead to reduced readiness for school, low educational attainment, and problem behaviour, and the risk of social marginalization in adulthood. Good health-related habits, such as eating sensibly, exercising and not smoking, are
associated with parental and peer group examples, and with good education. Slow or retarded physical growth in infancy is associated with reduced cardiovascular, respiratory, pancreatic and kidney development and function, which increase the risk of illness in adulthood.

Stress and Social Support

How we feel plays a pivotal role in our sense of well-being. Indeed, health is more than the absence of illness. We usually assess people's health by how well they are able to function in their daily lives and adapt to a changing environment. Health, then, has a somewhat different meaning for a monk, a professional athlete, a presidential candidate, a nursing home resident and a homemaker. Among the social and cultural factors that can affect our ability to stay well, stress and social support are especially important.

Stressful circumstances, making people feel worried, anxious and unable to cope, are damaging to health and may lead to premature death. Traumatic life events such as war time destruction, nuclear accidents, natural disasters, rape and the like have social effects which are correlated with disease onset. Social and psychological circumstances can cause long-term stress. Continuing anxiety, insecurity, low self-esteem, social isolation and lack of control over work and home life, have powerful effects on health. Such psychosocial risks accumulate during life and increase the chances of poor mental health and premature death. Long periods of anxiety and insecurity and the lack of supportive friendships are damaging in whatever area of life they arise. The lower people are in the social hierarchy of industrialized countries, the more common these problems become.

Why do these psychosocial factors affect physical health? In emergencies, our hormones and nervous system prepare us to deal with an immediate physical threat by triggering the fight or flight response: raising the heart rate, mobilizing stored energy, diverting blood to muscles and

increasing alertness. Although the stresses of modern urban life rarely demand strenuous or even moderate physical activity, turning on the stress response diverts energy and resources away from many physiological processes important to long-term health maintenance. Both the cardiovascular and immune systems are affected. For brief periods, this does not matter; but if people feel tense too often or the tension goes on for too long, they become more vulnerable to a wide range of conditions including infections, diabetes, high blood pressure, heart attack, stroke, depression and aggression.

Social support plays a crucial role in our physical and mental health through its health-sustaining and stress-buffering functions. People with social ties live longer and have better health than those without such ties. The presence of social support helps people fend off illness and the absence of such support makes poor health more likely. The incidence of death from all causes is greater among people with relatively low levels of group and community supports. Large social networks provide us with positive social experiences and a set of stable, socially rewarding roles in the community.

Friendship, good social relations and strong supportive networks improve health at home, at work and in the community. Social support and good social relations make an important contribution to health. Social support helps give people the emotional and practical resources they need. Belonging to a social network of communication and mutual obligation makes people feel cared for, loved, esteemed and valued. This has a powerful protective effect on health. Supportive relationships may also encourage healthier behavior patterns.

Support operates on the levels both of the individual and of society. Social isolation and exclusion are associated with increased rates of premature death and poorer chances of survival after a heart attack. People who get less social and emotional support from others are more likely to experience less well-being, more depression, a greater risk of pregnancy complications and higher levels of disability from chronic diseases. In addition, bad close relationships can lead to poor mental and physical health. The amount of emotional and practical social support people get varies by social and economic status. Poverty can contribute to social exclusion and isolation.

Social cohesion – defined as the quality of social relationships and the existence of trust, mutual obligations and respect in communities or in the wider society – helps to protect people and their health. Inequality is corrosive of good social relations. Societies with high levels of income inequality tend to have less social cohesion and more violent crime. High levels of mutual support

will protect health while the breakdown of social relations, sometimes following greater inequality, reduces trust and increases levels of violence. A study of a community with initially high levels of social cohesion showed low rates of coronary heart disease. When social cohesion declined, heart disease rates rose.

Poverty and Social Exclusion

Life is short where its quality is poor. By causing hardship and resentment, poverty, social exclusion and discrimination cost lives. Poverty, relative deprivation and social exclusion have a major impact on health and premature death, and the chances of living in poverty are loaded heavily against some social groups. Absolute poverty – a lack of the basic material necessities of life – continues to exist, even in the richest countries of Europe. The unemployed, many ethnic minority groups, guest workers, disabled people, refugees and homeless people are at particular risk. Those living on the streets suffer the highest rates of premature death. Relative poverty means being much poorer than most people in society and is often defined as living on less than 60% of the national median income. It denies people access to decent housing, education, transport and other factors vital to full participation in life. Being excluded from the life of society and treated as less than equal leads to worse health and greater risks of premature death. The stresses of living in poverty are particularly harmful during pregnancy, to babies, children and old people. In some countries, as much as one quarter of the total population – and a higher proportion of children – live in relative poverty. People living on the streets suffer the highest rates of premature death.

Social exclusion also results from discrimination, stigmatization, hostility and unemployment. These processes prevent people from participating in education or training, and gaining access to services and citizenship activities. They are socially and psychologically damaging, materially costly, and harmful to health. People who live in, or have left, institutions, such as prisons, children's homes and psychiatric hospitals, are particularly vulnerable.

The greater the length of time that people live in disadvantaged circumstances, the more likely they are to suffer from a range of health problems, particularly cardiovascular disease. People move in and out of poverty during their lives, so the number of people who experience poverty and social exclusion during their lifetime is far higher than the current number of socially excluded people. Poverty and social exclusion increase the risks of divorce and separation,

disability, illness, addiction and social isolation and such policies on rates of death and disease imposes a public duty to eliminate absolute poverty and reduce material inequalities.

Work

Stress in the workplace increases the risk of disease. People who have more control over their work have better health. In general, having a job is better for health than having no job. But the social organization of work, management styles and social relationships in the workplace all matter for health. Evidence shows that stress at work plays an important role in contributing to the large social status differences in health, sickness absence and premature death.

Health suffers when people have little opportunity to use their skills and low decision-making authority. Having little control over one's work is particularly strongly related to an increased risk of low back pain, sickness absence and cardiovascular disease. These risks have been found to be independent of the psychological characteristics of the people studied. In short, they seem to be related to the work environment.

Studies have also examined the role of work demands. Some show an interaction between demands and control. Jobs with both high demand and low control carry special risk. Some evidence indicates that social support in the workplace may be protective. Further, receiving inadequate rewards for the effort put into work has been found to be associated with increased cardiovascular risk. Rewards can take the form of money, status and self-esteem. Current changes in the labor market may change the opportunity structure, and make it harder for people to get appropriate rewards. These results show that the psychosocial environment at work is an important determinant of health and contributor to the social gradient in ill health.

Unemployment

Sociologists find that unemployment has adverse effect on physical and mental health. In fact, a stressful job or financial difficulties nearly double the odds that we will become ill or injured. Job security increases health, well-being and job satisfaction. Higher rates of unemployment cause more illness and premature death. Unemployment puts health at risk, and the risk is higher in regions where unemployment is widespread. Evidence from a number of countries shows that, even after allowing for other factors, unemployed people and their families suffer a substantially increased risk of premature death.

The health effects of unemployment are linked to both its psychological consequences and effects on mental health (particularly anxiety and depression), self-reported ill health, heart disease

and risk factors for heart disease. Because very unsatisfactory or insecure jobs can be as harmful as unemployment, merely having a job will not always protect physical and mental health: job quality is also important. During the 1990s, changes in the economies and labor markets of many industrialized countries increased feelings of job insecurity. As job insecurity continues, it acts as a chronic stressor whose effects grow with the length of exposure; it increases sickness absence and health service use. Unemployed people and their families suffer a much higher risk of premature death. The health effects start when people first feel their jobs are threatened, even before they actually become unemployed. This shows that anxiety about insecurity is also detrimental to health. Job insecurity has been shown to increase the financial problems it brings – especially debt. **I CAddT I O N**

Addiction

Individuals turn to alcohol, drugs and tobacco and suffer from their use, but use is influenced by the wider social setting. Drug use is both a response to social breakdown and an important factor in worsening the resulting inequalities in health. It offers users a mirage of escape from adversity and stress, but only makes their problems worse. Alcohol dependence, illicit drug use and cigarette smoking are all closely associated with markers of social and economic disadvantage. In some of the transition economies of central and eastern Europe, for example, the past decade has been a time of great social upheaval. Consequently, deaths linked to alcohol use – such as accidents, violence, poisoning, injury and suicide – have risen sharply. Alcohol dependence is associated with violent death in other countries too. The causal pathway probably runs both ways.

People turn to alcohol to numb the pain of harsh economic and social conditions, and alcohol dependence leads to downward social mobility. The irony is that, apart from a temporary release from reality, alcohol intensifies the factors that led to its use in the first place. Social deprivation – whether measured by poor housing, low income, lone parenthood, unemployment or homelessness – is associated with high rates of smoking and very low rates of quitting. Smoking is a major drain on poor people's incomes and a huge cause of ill health and premature death. But nicotine offers no real relief from stress or improvement in mood.

Food

A good diet and adequate food supply are central for promoting health and well-being. A shortage of food and lack of variety cause malnutrition and deficiency diseases. Excess intake (also

a form of malnutrition) contributes to cardiovascular diseases, diabetes, cancer, degenerative eye diseases, obesity and dental caries. Food poverty exists side by side with food plenty. The important public health issue is the availability and cost of healthy, nutritious food. Access to good, affordable food makes more difference to what people eat than health education.

Social and economic conditions result in a social gradient in diet quality that contributes to health inequalities. The main dietary difference between social classes is the source of nutrients. In many countries, the poor tend to substitute cheaper processed foods for fresh food. High fat intakes often occur in all social groups. People on low incomes, such as young families, elderly people and the unemployed, are least able to eat well. Dietary goals to prevent chronic diseases emphasize eating more fresh vegetables, fruits and pulses (legumes) and more minimally processed starchy foods, but less animal fat, refined sugars and salt.

Economic growth and improvements in housing and sanitation brought with them the epidemiological transition from infectious to chronic diseases – including heart disease, stroke and cancer. With it came a nutritional transition, when diets, particularly in western Europe, changed to overconsumption of energy-dense fats and sugars, producing more obesity.

Socioeconomic context and position. Social position exerts a powerful influence on the type, magnitude and distribution of health in societies. The control of power and resources in societies generates stratifications in institutional and legal arrangements and distorts political and market forces. While social stratification is often seen as the responsibility of other policy sectors and not central to the health sector per se, understanding and addressing stratification is critical to reducing health inequity. Factors defining position include social class, gender, ethnicity, education, occupation and income. The relative importance of these factors is determined by the national and international context, which includes governance, social policies, macroeconomic policies, public policies, culture and societal values.

Differential exposure. Exposure to most risk factors (material, psychosocial and behavioural) is inversely related to social position. Many health programmes do not differentiate exposure or risk reduction strategies according to social position, though analysis by socioeconomic group would clarify which risk factors were important to each group, and whether these were different from those important to the overall population. Understanding these "causes behind the causes" is important for developing appropriate equity-oriented strategies for health. There is increasing evidence that people in disadvantaged positions are subject to differential

exposure to a number of risk factors, including natural or anthropogenic crises, unhealthy housing, dangerous working conditions, low food availability and quality, social exclusion and barriers to adopting healthy behaviours.

Differential vulnerability. The same level of exposure may have different effects on different socio-economic groups, depending on their social, cultural and economic environments and cumulative life course factors. Clustering of risk factors in some population groups, such as social exclusion, low income, alcohol abuse, malnutrition, cramped housing and poor access to health services, may be as important as the individual exposure itself. Further, coexistence of other health problems, such as coinfection, often augments vulnerability. The evidence base on the amplifying effects of reinforcing factors is still limited, though it is clear that they exist for low-income populations and marginalized groups. It is important that attempts to reduce or eliminate them identify appropriate entry-points for breaking the vicious circles in which vulnerable populations find themselves trapped.

Differential health care outcomes. Equity in health care ideally implies that everyone in need of health care receives it in a form that is beneficial to them, regardless of their social position or other socially determined circumstances. The result should be the reduction of all systematic differences in health outcomes between different socioeconomic groups in a way that levels everyone up to the health of the most advantaged. The effects of the three upper levels of the analytical framework may be further amplified by health systems providing services that are not appropriate to or less effective for certain population groups or disadvantaged people compared to others.

Differential consequences. Poor health may have several social and economic consequences, including loss of earnings, loss of ability to work and social isolation or exclusion. Further, sick people often face additional financial burdens that render them less able to pay for health care and drugs. While advantaged population groups are better protected, for example in terms of job security and health insurance, for the disadvantaged, ill-health might result in further socioeconomic degradation, crossing the poverty line and accelerating a downward spiral that further damages health.

Theoretical Approaches

There are two primary mechanisms for understanding the process by which the social determinants influence health: *cultural/ behavioural and materialist/structuralist*.

The *cultural/behavioural* explanation was that individuals' behavioural choices (e.g., tobacco and alcohol use, diet, physical activity, etc.) were responsible for their developing and dying from a variety of diseases. However, on the other side, behavioural choices are heavily structured by one's material conditions of life, and these behavioural risk factors account for a relatively small proportion of variation in the incidence and death from various diseases.

The materialist/structuralist explanation emphasizes the material conditions under which people live. These conditions include availability of resources to access the amenities of life, working conditions, and quality of available food and housing among others. Within this view, three frameworks have been developed to explain how social determinants influence health. These frameworks are: (a) materialist; (b) neo-materialist; and (c) psychosocial comparison. The materialist explanation is about how living conditions –and the social determinants of health that constitute these living conditions-shape health. The neo-materialist explanation extends the materialist analysis by asking how these living conditions come about. The psychosocial comparison explanation considers whether people compare themselves to others and how these comparisons affect health and wellbeing.

The wealth of nations is a strong indicator of population health. But within nations, socio-economic position is a powerful predictor of health as it is an indicator of material advantage or disadvantage over the lifespan. Material conditions of life determine health by influencing the quality of individual development, family life and interaction, and community environments. Material conditions of life lead to differing likelihood of *physical* (infections, malnutrition, chronic disease, and injuries), *developmental* (delayed or impaired cognitive, personality, and social development), *educational* (learning disabilities, poor learning, early school leaving), and *social* (socialization, preparation for work, and family life) problems. Material conditions of life also lead to differences in psychosocial stress. The fight-or-flight reaction—chronically elicited in response to threats such as income, housing, and food insecurity, among others—weakens the immune system, leads to increased insulin resistance, greater incidence of lipid and clotting disorders, and other biomedical insults that are precursors to adult disease.

Adoption of health-threatening behaviours is also influenced by material deprivation and stress. Environments influence whether individuals take up tobacco, use alcohol, experience poor diets, and have low levels of physical activity. Tobacco and excessive alcohol use, and carbohydrate-dense diets are also means of coping with difficult circumstances. The materialist

approach offers insight into the sources of health inequalities among individuals and nations and the role played by the social determinants of health.

The neo-materialist approach is concerned with how nations, regions, and cities differ on how economic and other resources are distributed among the population. This distribution of resources can vary widely from country to country. The neo-materialist view therefore, directs attention to both the effects of living conditions –the social determinants of health-on individuals' health and the societal factors that determine the quality of the distribution of these social determinants of health. How a society decides to distribute resources among citizens is especially important.

The social comparison approach holds that the social determinants of health play their role through citizens' interpretations of their standings in the social hierarchy. There are two mechanisms by which this occurs. At the individual level, the perception and experience of one's status in unequal societies lead to stress and poor health. Feelings of shame, worthlessness, and envy can lead to harmful effects upon neuro-endocrine, autonomic and metabolic, and immune systems. Comparisons to those of a higher social class can also lead to attempts to alleviate such feelings by overspending, taking on additional employment that threaten health, and adopting health-threatening coping behaviours such as overeating and using alcohol and tobacco. At the communal level, widening and strengthening of hierarchy weakens social cohesion, which is a determinant of health. The social comparison approach directs attention to the psychosocial effects of public policies that weaken the social determinants of health. However, these effects may be secondary to how societies distribute material resources and provide security to its citizens, which are described in the materialist and neo-materialist approaches.

Life-course perspective

Life-course approaches emphasize the accumulated effects of experience across the life span in understanding the maintenance of health and the onset of disease. The economic and social conditions-the social determinants of health-under which individuals live their lives have a cumulative effect upon the probability of developing any number of diseases, including heart disease and stroke. Studies into the childhood and adulthood antecedents of adult-onset diabetes show that adverse economic and social conditions across the life span predispose individuals to this disorder.

Hertzman outlines three health effects that have relevance for a life-course perspective. *Latent effects* are biological or developmental early life experiences that influence health later in life. Low birth weight, for instance, is a reliable predictor of incidence of cardiovascular disease and adult-onset diabetes in later life. Experience of nutritional deprivation during childhood has lasting health effects.

Pathway effects are experiences that set individuals onto trajectories that influence health, well-being, and competence over the life course. As one example, children who enter school with delayed vocabulary are set upon a path that leads to lower educational expectations, poor employment prospects, and greater likelihood of illness and disease across the lifespan. Deprivation associated with poor-quality neighbourhoods, schools, and housing sets children off on paths that are not conducive to health and well-being.

Cumulative effects are the accumulation of advantage or disadvantage over time that manifests itself in poor health. These involve the combination of latent and pathways effects. Adopting a life-course perspective directs attention to how social determinants of health operate at every level of development—early childhood, childhood, adolescence, and adulthood—to both immediately influence health and provide the basis for health or illness later in life.

Chapter Three: Theories of Health Behavior and Health Prevention Models

3.1. The Use of Theory in Social Work Practice

Kerlinger (1986) defines theory as a set of interrelated constructs, definitions, and propositions that present a systematic view of phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena. He defines constructs as concepts that have been deliberately and consciously invented for a special scientific purpose. Constructs such as well-being, self-esteem, and aggression are widely used in social work. By virtue or good quality of their ability to propose relationships among constructs, theories provide order in what otherwise might be an overwhelming confusion of abstract ideas. This is especially important in social work, in which abstract, less perceptible or noticeable constructs, such as aggression and self-esteem, are considered instead of the discrete, directly measurable subjects of inquiry of the natural sciences (e.g., molecular weight or temperature). Theory helps to order the panoply or display of constructs with which social workers are faced, providing a conceptual framework that assists in understanding client problems and, in doing so, provides directions for proceeding with the helping process.

Theories of health behavior have the potential to order the panoply of constructs with which health social workers are faced and provide a conceptual framework that assists in understanding why people behave as they do in terms of their health. These theories provide direction for the helping process and structure for research. They allow us to unite practice and research by providing a shared language for discussing clinical realities.

We could say that social workers in health care make ample or plenty use of theory if our definition of practice theory were limited exclusively to orienting theories, such as cognitive, behavioral, group, or family systems. Orienting theories describe and explain behavior and how and why certain problems develop. They provide important background knowledge and are usually borrowed from other disciplines such as biology, psychology, sociology, economics, cultural anthropology, and the like. Examples include the various theories related to human development, personality, family systems, socialization, organizational functioning, and political power, as well as theories related to specific types of problems such as poverty, family violence, mental illness, teen pregnancy, crime and racial discrimination. Social work interventions are based on orienting theories, most of which come from the field of psychology. Sheafor and Horejsi (2006) say that most practice theories are rooted in one or more orienting theories and give the example of

psychosocial therapy, which is based primarily on psychodynamic theory and ego psychology. Social workers in health care have used orienting theories amply and creatively, such as the adaptation of cognitive and behavioral theories to produce stress immunization, a technique for preparing patients for difficult medical procedures.

Although orienting theories and theories of health behavior are related, they differ in two ways. First, orienting theories can be seen as narrower than theories of health behavior, because they focus on the origin and treatment of human problems rather than the full constellation of human behavior. Theories of health behavior are relevant to all behaviors, not just those that are problematic. They might be used to consider why people protect their health through exercise and regular physician visits, for instance. Second, theories of health behavior, while considering all types of behavior, restrict themselves to the arena of health. Orienting theories, on the other hand, are concerned with problematic behavior in many areas, including health, education, employment, and marriage.

3.2. Theories of Health Behavior and Health Prevention Models

1. Rational Choice-Based Theoretical Approaches

The first theories of health behavior to be considered hold that human behavior stems from rational, logical thought processes. People make health choices largely based on consideration of the costs and benefits of various actions. The two major versions are the health belief model and the theory of reasoned action. The theory of planned behavior is an extension of the theory of reasoned action and not a theory in itself.

I. The Health Belief Model

The health belief model was originally developed to explain why people failed to participate in health screening for tuberculosis, despite accommodations such as mobile vans that came into neighborhoods. The model posits two major components of health behavior: threat and outcome expectations. Threat is made up of perceived susceptibility to an ill-health condition and the perceived seriousness of that condition. In the case of risk for acquiring AIDS, for example, threat would entail believing that one was susceptible to acquiring AIDS and that it was as serious as the medical community portrayed it to be.

Outcome expectations are the perceived benefits of a specified action, such as using condoms to prevent the transmission of HIV, and the perceived barriers to taking that action. The benefit of taking action to reduce the risk of acquiring AIDS might be staying alive, whereas

barriers might be the cost of buying condoms or fear that one will be rejected after asking a partner to use them.

The health belief model has been used with a variety of health behaviors and conditions. These include medication compliance among psychiatric outpatients, obtaining influenza vaccination by individuals at high risk for acquiring life-threatening complications of influenza and lower-socio-economic status mothers' adherence to weight-loss regimens for their obese children.

The ability of each component of the health belief model to predict health outcomes, such as adopting health preventive behaviors, was calculated by dividing the number of positive, statistically significant findings for a component by the number of studies for which significant results were obtained. Perceived threat was the most and perceived costs the least significant predictor of outcomes, with perceived susceptibility and perceived benefits intermediate between the two. This suggests the perceived impediments to engaging in a behavior to improve health (whether they are real or not), such as fear of losing one's hair from radiation therapy for cancer, are more significant than other factors (perceptions of severity, susceptibility, and benefit) in determining whether a person will engage in the behavior. Perceived severity is the least significant factor in determining behavior.

Major elements of the health belief model

I. Perceived threat

A. Perceived susceptibility

B. Perceived severity

II. Outcome expectations

A. Perceived benefits

B. Perceived costs

III. Expectations of self-efficacy

II. The Theory of Reasoned Action

The theory of reasoned action extends the health belief model to include the influences of significant others in the environment on individual health behavior. The theory assumes that behavior is immediately determined by behavioral intention. Behavioral intention is, in turn, determined by a person's attitude toward the behavior and the influence of significant others in the environment, or social norm. Attitude toward the behavior consists of two things: (1) an

individual's belief that if a behavior is performed, a given outcome will accrue grow and (2) how important the individual considers the outcome to be.

Social norm is made up of beliefs about what valued others will think about one's performing a behavior coupled with the individual's motivation to comply with their opinions. As an example, a practitioner might consider a young woman's perceptions of what her boyfriend, closest friend, mother, and physician would think about her having an abortion and her motivation to comply with their opinions in attempting to understand or predict her behavior.

The theory of reasoned action has been applied to many health behaviors and conditions, including substance abuse, weight loss, and hypertension. Because of its inclusion of others who hold influence over the individual, the theory of reasoned action has been widely used in studies of the health behavior of adolescents, often in the area of contraception decision making, abortion, and AIDS risk behavior.

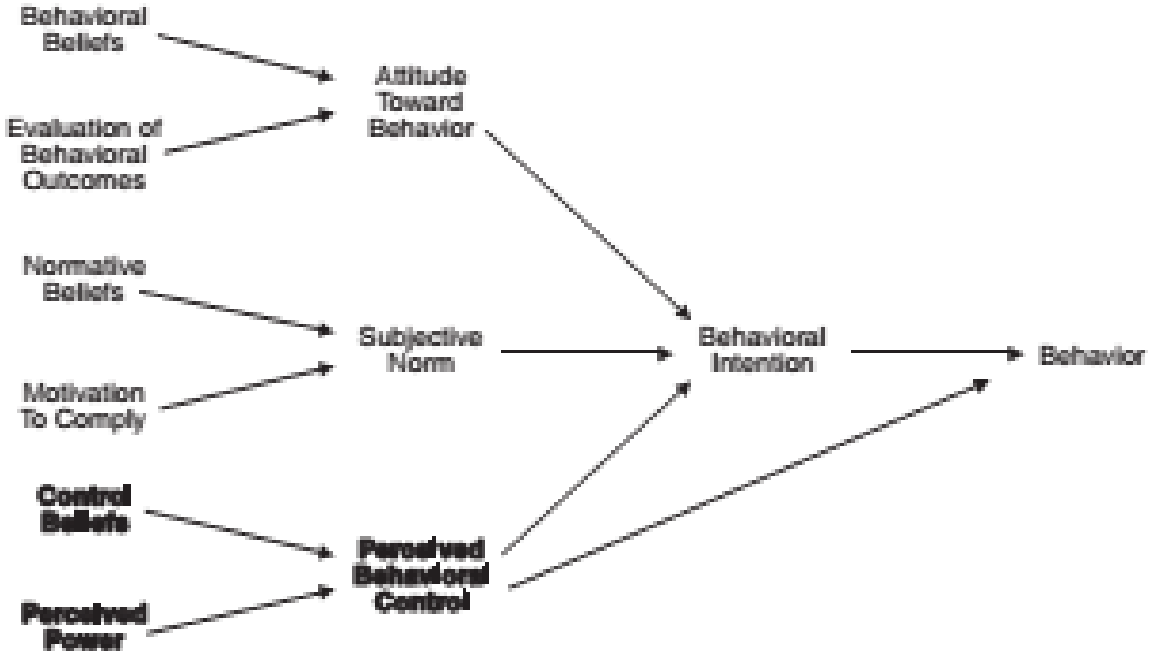


Figure 7.1 Combined Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB). Components shared by the TRA and TBP are shown in regular type. Those unique to the TPB are shown in bold type.

III. The Theory of Planned Behavior

Ajzen and Madden (1986) extended the theory of reasoned action to include perceived control over behavior. Their idea was that intentional one could not predict behavior if the behavior was one over which the individual did Not have complete control. Perceived behavioral control is

assumed to reflect past problems encountered in behavioral performance. In other words, if a person has been unsuccessful in engaging in a behavior in the past, such as losing weight, and thus has demonstrated poor control over the behavior, it is less likely that he will be able to execute it, no matter how strong his intentions.

The theory of planned behavior has been widely used to predict behaviors as diverse as the administration of opioids for pain relief by nurses, cervical cancer screening, and fighting by adolescents. In a review of studies in which behavior was predicted via intentions alone, as in the theory of reasoned action, and in combination with perceived behavioral control, as in the theory of planned behavior, behaviors that required more volitional control and with which the individual had negative experiences in the past, such as losing weight and getting high grades, were better predicted by the combination of intentions and perceived behavioral control than by intentions alone.

2. Social Network-Based Theoretical Approaches

The impetus for social network-based approaches came from critiques that rational choice approaches did not adequately take into account environmental influences on behavior. The health belief models is entirely intrapersonal, and even the theory of reasoned action and theory of planned behavior fail to acknowledge influences on health behavior outside the individual's immediate environment. Missing is an appreciation for the influences of social networks and structures on health behavior.

In a second category of theoretical approaches, social network-based approaches, the emphasis shifts from individual mental events to social relationships, recognizing the social nature of individuals. This shift in emphasis helps to avoid another criticism of rational choice-based approaches, namely, that they ignore the influence of culture on health behavior. If we conceptualize health decisions made by individuals as the centermost of three concentric circles, social network-based approaches add two adjacent bands or layers. The middle layer is comprised of social networks and the outer layer the larger social system, which is made up of governmental and economic entities and forces. Two approaches that consider the middle and outer layers of influences on health behavior are social action theory and the behavioral model of health services use.

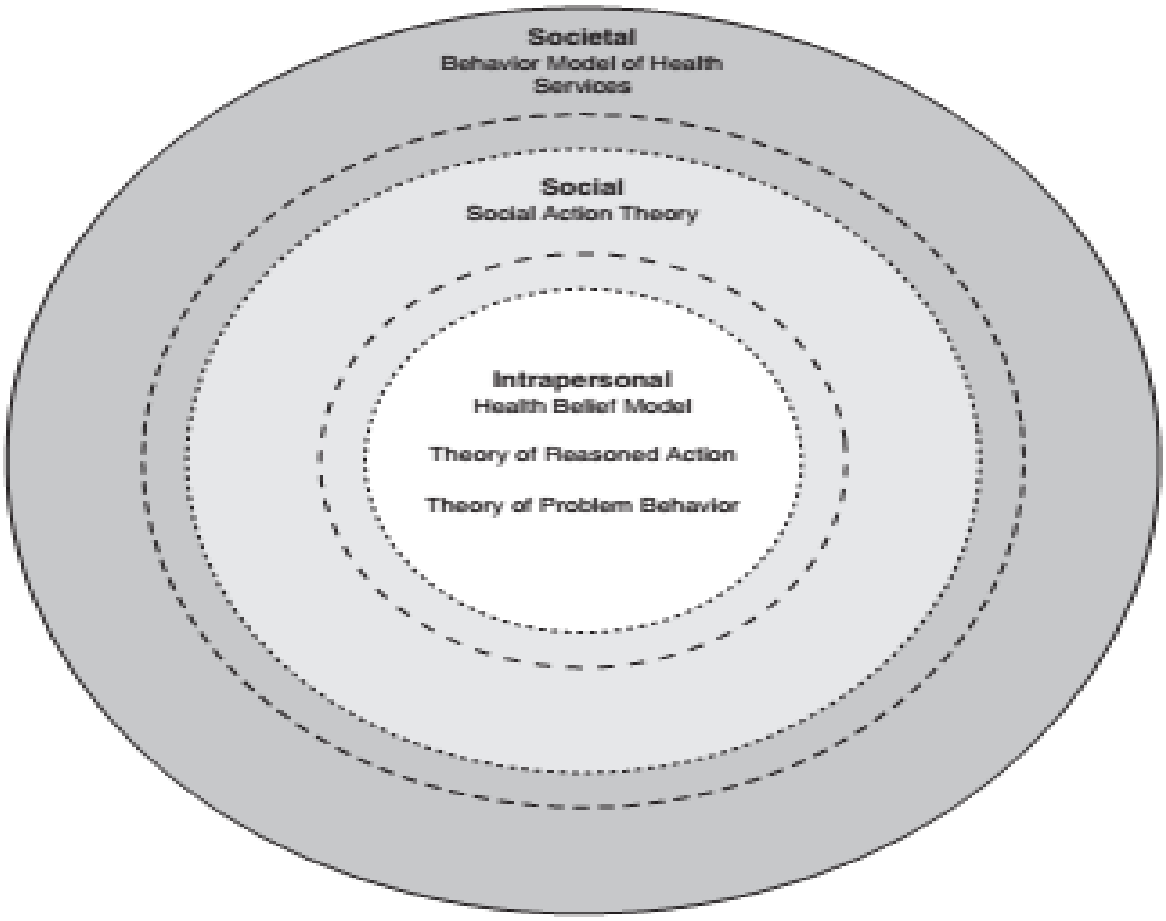


Figure 7.2 Concentric circles representing the three layers of influence on health behavior, with theories and models superimposed. The Behavioral Model of Health Services Use is on a stippled background. Social Action Theory is on a background that is dotted. The Health Belief Model, Theory of Reasoned Action, and Theory of Planned Behavior are on a clear background.

Social Action Theory

Social Action Theory represents a marriage of psychological and public health models and principles. The prevailing model in public health is a three-way interaction between host, agent, and environment. Whereas rational choice-based approaches are concerned exclusively with the host, Social Action Theory encourages a social-contextual analysis of personal change by suggesting pathways by which social and other environmental factors influence cognitive processes. The model contains three dimensions: (1) self-regulation as a desired action state; (2) a system of interrelated change mechanisms; and, (3) larger environmental systems that contextually determine how personal change mechanisms operate. Individuals' desired states are influenced by

what is necessary to achieve goals such as social influence, personal safety, material resources, and intimacy.

The health routines and habits that ensue are entwined with those of others, and how these relationships develop has the potential to either promote or inhibit the goals of individuals or the prescriptions of health providers. Recommended change in diet for a child with diabetes, for instance, would require a parent to shop for and prepare different foods or serve two separate meals to the family. Health decisions, therefore, are viewed as being embedded in the social network. While the Theory of Reasoned Action views social networks as influences on health behavior, Social Action Theory considers them to be mechanisms of action. Others are viewed as active players rather than as outside influences on behavior and are thus inside the lens of inquiry.

Social action theory holds that social ties strongly influence the success of attempts to alter behavioral routines, such as lowering dietary fat, increasing physical activity, or engaging in less risky sexual practices. Failure to adhere to health-enhancing regimens has been linked to conflicts that arise when family members' routines are disrupted. This provides guidance for the choice, development, and targeting of interventions, often by specifying when and how significant others should be included in the treatment process.

Influences on Health Behavior

•Personal level (health habits, personal projects, action states, motivation)

•Social level (social and biological contexts, social interdependence, social interaction processes, action linkages)

•Societal level (organizational structures at the level of government; economic, educational, and health-care systems; laws; policies)

Since Social Action Theory is a fairly new approach, its applications have been fewer. McCree (1997) found high relationship closeness, favorable attitudes toward condom use, high self-esteem, and a secure attachment style to best predict condom use among a sample of African American women. This suggested interventions focused on increasing self-efficacy, improving sexual responsibility, and creating more favorable attitudes toward condom use among women and their sexual partners. Social action theory has also successfully been applied to the promotion of more healthful behavior and well-being after heart attacks.

The Behavioral Model of Health Services Use

The behavioral model of health services use has gone through three phases since its development in the 1960s and fairly recently underwent another major revision, the behavioral model for vulnerable populations. The model differs somewhat from the approaches outlined previously in its emphasis on health services use and the outcomes of health behavior. Originating in medical sociology, it considers a bigger picture of the influences on health behavior, such as aspects of the health-care system.

The original model divided determinants of health service use into three groups of variables: predisposing, enabling, and need. Predisposing were variables such as demographic factors and health beliefs and attitudes that influenced an individual's use of health services. Enabling factors included insurance coverage, social support, and family income. Need variables usually included perceived and objectively determined health problems. The model's second phase in the 1970s saw predisposing, enabling, and need variables subsumed under the category of population characteristics and the addition of a category of variables, the health-care system, which included policy and resources and organization of the health-care system. Consumer satisfaction was included as an outcome of the use of health services. Phase three, in the 1980s and 1990s, brought the addition of the external environment to an expanded category of determinants of health behavior. Use of health services was no longer the end point of the model, but was subsumed, with personal health practice, under a new category entitled health behavior. The outcomes of health behavior became the model's new end point, which was made up of perceived and evaluated health status and consumer satisfaction

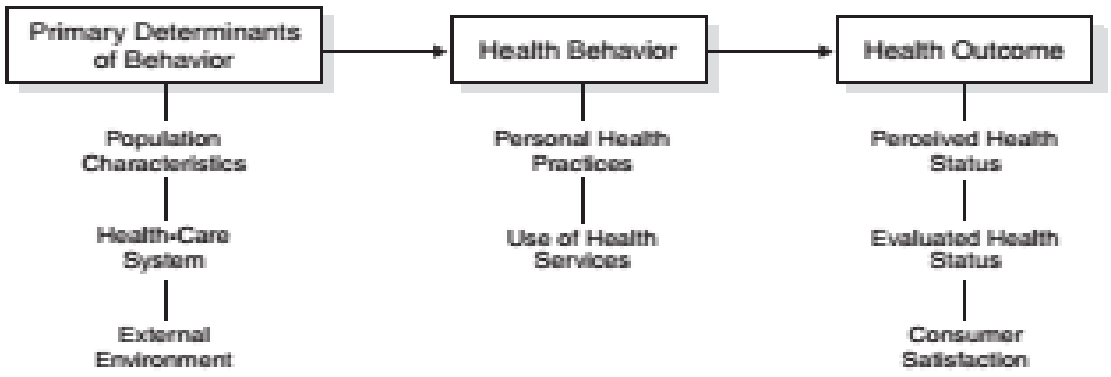


Figure 7.3 Components of Phase 3 of the Behavioral Model of Health Services Use. *Source:* From "Revisiting the Behavioral Model and Access to Medical Care: Does It Matter?" by R. Anderson, 1995, *Journal of Health and Social Behavior, 36*, p. 7.

The behavioral model for vulnerable populations is an especially valuable tool for the field of social work because of its focus on the health services use of disadvantaged persons. Adding residential history, mental health, substance abuse, victimization history, and competing needs to the original model added to the efficacy of the model with vulnerable persons in a longitudinal study of homeless persons.

3.3. Models for Community Health Promotion Practice

Just as there are many different ways of understanding community, there are different conceptions of community intervention. For example, community based interventions may take a population approach in which the focus is on the social context and the behaviour of all community members. Or a community-based intervention may target only those members of a particular community who are seen as being at risk of poor health outcomes. Some models are based on conceptions of the person as an individual affected by aspects of a wider system, and others take the theoretical perspective of the person who is an inextricable part of their social world. To describe health promotion models that take a broader view of health, and to examine some of the different approaches to models for intervention, the following account is structured in terms of 'ecological' models, 'social determinants' models, and 'local and cultural' models. These are loosely descriptive labels only, which have been used to structure the diverse range of models that are available for different purposes.

1. Ecological Models

Social Ecology

An increasing focus on community as the basis for health promotion has developed from the recognition that people's behaviour is influenced by their environment. Social ecology has played a very important role in the development of broader community-based models for health promotion.

'Ecology' is a term that describes the interrelations between organisms and their environments, and as a basis for research has moved from its origins in biology to provide disciplines such as psychology, sociology and public health with models for understanding people's relations with their physical and social environment. In 1992, Stokols outlined the importance of a social ecology of health promotion in the American Psychologist. He described the ways in which social ecology has developed to focus on the social, institutional and cultural contexts of people–environment relations as well as on the geographic environment of human

ecology. Stokols' account (1992) describes four core assumptions of a social ecological perspective on health promotion:

♦The healthfulness of a situation and health of its people are influenced by multiple and interacting facets of the physical (e.g., geography, architecture, technology) and the social (e.g., culture, economics, politics) environment.

♦Human environments are highly variegated in terms of physical and social components, and the meanings or interpretations of these components from a multitude of perspectives. This has important implications for health promotion.

♦Participants in environments may be described at varying levels from individuals, groups, organizations, larger aggregates, to populations. A social-ecological approach should incorporate multiple levels of analysis and diverse methodologies.

♦The social-ecological perspective incorporates concepts from systems theory such as interdependence, homeostasis and negative feedback to understand dynamic interactions between people and their environments. Systems theory suggests a complex of mutual influences in which physical and social features may influence the individuals' health, but the participants in those settings are also influencing the healthfulness of the environment. The levels of environments, from individual to population, are seen as complex systems so that the immediate groups are also part of broader more complex organizations.

In general, social ecological approaches have included interactions between the developmental and psychological characteristics of the individual (e.g., norms, values, and attitudes), their interpersonal relationships (e.g., family, social networks), neighborhoods, organizations, communities, public policy, the physical environment and culture. In these models individual behaviors are understood to be the result of these interactions and, accordingly, changing health behaviors and health outcomes requires addressing these social and environmental influences. Such interventions may include family support (as in diet and physical-activity interventions), social network influences (used in tobacco, physical activity, access-to-health-care, and sexual-activity interventions), neighborhood characteristics (as in HIV and violence-prevention programs), organizational policies and practices (used in tobacco, physical-activity, and screening programs), community factors (observed in physical activity, diet, access-to-health-services, and violence programs), public policy (as in tobacco, alcohol, and access-to-health-care

programs), the physical environment (used in the prevention-of unintentional-injuries and environmental-safety programs), and culture (observed in some counter advertising interventions).

Stokols (1992) also suggests that the social-ecological perspective must use interdisciplinary approaches to health promotion. Because of the complexity of the different aspects interacting to affect human health and the healthfulness of any environment, knowledge from medicine, public health, and the behavioural and social sciences must be combined.

Bronfenbrenner's ecological model

Bronfenbrenner's (1979) ecological model has been particularly influential in encouraging multidisciplinary work. Initially developed as an approach to human development, the model has had widespread influence on the way social scientists approach the study of human beings and their environments, and has been credited with breaking down barriers between the separate disciplines in the social sciences. It has been drawn upon widely by community psychologists and used as a basis for understanding health promotion issues.

Bronfenbrenner's model describes four levels of nested systems which are increasingly distant from the person. He called these the micro-system (immediate environments such as the family or classroom); the meso-system (connections between immediate environments such as home and school); the exo-system (external environments which indirectly affect development, e.g., parents' workplace); and the macro-system (the larger sociocultural context). Each system contains roles, norms and rules that can powerfully affect individuals. An important aspect of this model is that because it is essentially a developmental model, each level is understood in terms of the individual and the way in which the broader systems enter the individual's experience.

Social ecological models in practice: the physical environment

Although practitioners do not always explicitly call upon particular theories or models of interconnected environments, the social ecological approach has been very influential in shaping health promotion practice. An ecological approach is often referred to in justifying the importance of including the environment. For example, ecological models have been referred to as justification for exploring the importance of the physical environment for health issues. In particular, exercise and its negative relationship to several health outcomes, such as to obesity, CHD and diabetes, has led to an interest in the physical environment as an important influence on people's ability to actually engage in exercise. Practitioners realize that even if people understand the issues and are motivated to increase their exercise, the physical environment may be a significant limitation.

Saelens et al. (2003) have argued for the use of ecological models which suggest that a combination of psychosocial and environmental variables will best explain the influences on physical activity in communities. They reviewed the evidence for the important variables to suggest a model of predictors of walking and cycling behaviour that includes the effects of three important aspects:

♦Neighborhood environment: e.g., density, connectivity, land use, safety, walking and cycling trails, parks, neighborhood topography and aesthetics.

♦Individual factors: e.g., age, gender, income and car ownership.

♦Psychosocial factors: e.g., self-efficacy, perceived benefits, perceived barriers, social support and enjoyment.

Walking alone has been identified as the most common physical activity and the activity people are most amenable to incorporate. Owen et al. (2004) have provided a review of encouraging, although mixed, support for the environmental influences that may increase people's tendency to increase walking. Among the factors that they identified as associated with walking were: the aesthetical attributes of the neighborhood; the convenience of facilities for walking (such as sidewalks and trails); the accessibility of destinations (like stores, parks or beaches); and people's perceptions about traffic and busy roads. The attributes associated with walking for exercise were found to be different from those associated with walking to get to places.

Wendel-Vos et al. (2007) systematically reviewed the evidence for the determinants of a broader range of physical activity including neighborhood walking, bicycling, vigorous sports, active commuting, general leisure time physical activity, sedentary lifestyle, moderate physical activity, and a combination of moderately intense and vigorous activity. Among their results, social support and having an exercise companion were found to be convincingly associated with all the different types of physical activity.

Availability of physical activity equipment was convincingly associated with vigorous physical activity, and sports and connectivity of trails with active commuting. Other possible, but less consistent, correlates of physical activity were the availability, accessibility and convenience of recreational facilities.

The ecological models suggest the importance of including broader influences of environmental factors on people's behaviours, and there is some evidence to support this. However, such models do not include good explanations of exactly how the environment, or the broader macro levels of a person's micro system, actually affect their everyday behaviour. Owen

et al. (2004) suggested the need for better theorizing in this specific area of influences on exercise behaviour. They have proposed the use of theories that include consideration of habitual individual behaviour which is shaped by the physical environment.

Social ecological models in practice: the social environment

When the social environment is taken into account, the behaviour of individuals is understood as being the result of not just their knowledge, values and attitudes, but as the result of many social influences including interpersonal relationships, organizations and communities. Thompson and Kinne (1999) have described a social change model based on systems theory. Their proposed model is a synthesis of theories of social change at the different levels of individual, organizational and community change. They draw on appropriate theories to explain change at each level of their model which include:

♦Individual level change: Here there are many theories available in the health promotion literature, including the health belief model, theory of reasoned action and social learning theory.

♦Organizational level change: There are many theories of change in the organizational field. These take account of organizations as systems and communities in their own right, and explain collective action, social movements and organizational development in these contexts.

♦Community level change: Theories in this area explain the importance of full community participation, community capacity building, community development and community empowerment. In this model these approaches are understood as community organization strategies in which there is an agenda for change.

♦Environmental level change: External sources of community change may be understood in terms of national norms (e.g., secular trends), economic theories and social movements. Such changes may include the effects of government policy and laws.

The depiction of the whole model shows how each level from the external environment, down through community groups and partnerships to organizations and social networks, impacts on changes in individual behaviours (with interactions at each level). Thompson and Kinne use the example of an antismoking intervention (COMMIT) to illustrate how social movements, changing norms and government policy on smoking impacted on and encouraged community involvement through community organizations, commercial organizations, health systems and social networks. These changes influence the formation of action groups (such as DARE, Wellness Groups, schools) to directly influence individuals' attitudes and hence their behaviour.

Several other integrated models of health determining conditions in general, rather than behaviour in particular, have been developed. For example, the model first proposed by Dahlgren and Whitehead (1991) as an approach to inequalities in health has been extremely influential in public health discourse. In this model, individual characteristics such as age, gender and heredity are understood to be nested within successive layers of influence on health: lifestyle, social and community factors, and living and working conditions. These are overarched by general socioeconomic, cultural and environmental effects. A version of this sort of model, incorporating social theory to explain some relationships within the model, has been developed by Labonte and colleagues (2002) to inform the population health research work of a multidisciplinary unit. This model includes the understanding that the ecosystem and the health of the planet is of overarching importance to health. The graphic version of the model has also been drawn to emphasis that each level is understood, not only as a separate layer of influence on health, but also as affecting every other layer or band. Such models have been influential and helpful in guiding public health research, strategies, and policy making over the last two decades.

Multilevel programmes

Social ecological models suggest the importance of multilevel interventions, that is, interventions that are working at several levels of the ecological system at the same time. One of the important effects of shifts towards ecological models has been the development of large scale intervention 'programmes' designed to influence change at the interpersonal, organizational, community and policy levels. Stokols (1992) emphasized that the social-ecological perspective demands multilevel interventions that combine complementary behavioural and environmental changes. For example, behaviour modification programmes for smoking cessation (such as 'quitting programmes'or media advertising) may be more effective if they coincide with no smoking policies in workplaces and laws that prohibit smoking in public places. It is also important that influential levels of the social environment (e.g., workplace managers, politicians, media promoters, movie stars) are reinforcing the same message and not contradicting each other. Merzel and D'Affliti (2003) describe how community-based prevention programmes should be integrated and comprehensive (rather than limited to one setting such as medical care) and systematically involve community leaders, social networks, mass communication campaigns and direct education of the general population. Community-based programs use multiple interventions, targeting

change among individuals, groups, and organizations, and they often incorporate strategies to create policy and environmental changes.

In regard to exercise, Sallis et al. (2006) have made a very strong call for the implementation of multilevel interventions based on ecological models using multidisciplinary teams. They propose a complex but practical model (focused on the physical environment) in which the person is the centre of surrounding levels of influence including their perceived environment, the active living domain (behaviour), the settings for behaviour and the policy environment. The level of the active living domain is at the heart of their proposed agenda which focuses on changes in active recreation, active transport, occupational activities and household activities. To implement these changes, their model suggests the need to target individuals, social environments, physical environments and public policy.

Merzel and D'Affliti (2003) have reviewed many examples of multilevel programmes in the US that address a range of issues. Two examples from their overview of such interventions are noted here to indicate the sort of activities that are typically included in such large scale programmes:

1 The Pawtucket Heart Health Program.

♦Individual level: Adult education programmes; self-help materials; screening; counseling; and referral events.

♦Group level: Lay volunteers to deliver group interventions.

♦Community level: Restaurant menu labeling; supermarket shelf labeling; food providers and workplace cafeterias offering heart friendly menus; installation of exercise facilities; community-wide contests; mass media advertising.

2 Fighting Back (substance abuse programme).

♦Individual level: Youth self-esteem programmes; after-school programmes; youth mentoring; youth job referral; drop-out preventions; treatment services.

♦Group level: Parenting classes; workplace programmes; training of health professionals.

♦Community level: Community organizing; community policing; neighborhood drug clean-ups; increasing alcohol tax; banning Sunday liquor sales; limiting youth access to alcohol.

As you may imagine, it is very easy to suggest multilevel interventions in theory, and much more expensive and more difficult to implement them in practice. Several authors have begun to grapple with these issues. Chappell et al. (2005) suggest that many health promotion programmes

remain level specific and are still largely focused on change at the individual level, owing to the difficulties of implementing multilevel health promotion. They suggested new strategies for ensuring a multilevel focus, including using multiple methods for community assessment and assessing project activities according to the levels at which change is required. They describe how these strategies were used in implementing a neighborhood health development programme to prevent type 2 diabetes. Using a social-ecological model, the programme developers were committed to change at multiple levels. In their example, the strategies were successfully used to move from micro to the inclusion of more macro municipal policy levels of action.

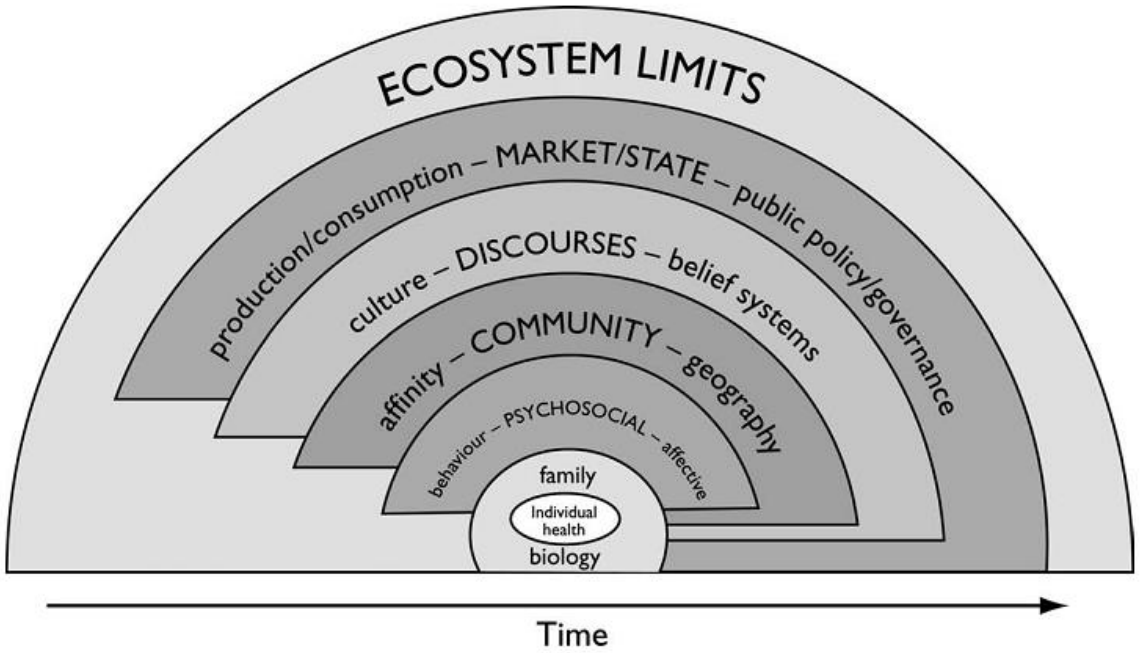


Figure 6.1 Saskatchewan Population Health and Evaluation Research Unit (SPHERU) conceptual model of health determining conditions

Social Determinants of Health

Some models for health promotion have drawn on more highly developed theories of the social determinants of health. Many of these approaches have developed along with the concern to understand inequalities in health. Accordingly these models draw on theories that explain health related behaviour as constructed by social, cultural, economic and political conditions, and health differentials as the result of social inequalities and injustice.

The use of these approaches is part of a shift away from problem-based theories of health behaviour to conceptions of socially based health promotion and a concern with the development of resilience rather than illness prevention. These theories have been used in the development of

participatory models of community development that include the importance of concepts such as empowerment, capacity building and partnerships.

Participation

Participatory approaches to community health promotion include understandings of the importance of participation by members of any community in any activities related to their well being. 'Participation' is an everyday word which has had a particular meaning in community development contexts for some time. Heller et al. (1984) defined citizen participation as '... a process in which individuals take part in decision making in the institutions, programs, and environments that affect them'(p. 339). According to these authors, advocates argue that citizen participation gives individuals a sense of control (important in itself to health) and enables people's needs and values to be taken into account.

Community-based participatory approaches to intervention include social and cultural understandings of community and are based on principles of collaboration. Hence, 'participation' by community members in programmes and services to enhance their health is an appealing concept. The notion of participation in health promotion is supported by the World Health Organization, and statements such as: 'engaging local communities to participate in identifying their own health priorities spurs the development of innovatory culturally acceptable solutions with locally available resources'(Paul, 2004) are encouragingly positive. According to Dinham (2005), 'local participation is regarded as axiomatic' in community development approaches, both as a necessary condition for change, and in terms of the values of empowerment and partnership (p. 3).

Empowerment

The concept of empowerment has long been an important aim of those working toward community participation in many settings. Alexis de Tocqueville argued in 1830 that citizens were being isolated by the growth of cities and the scope of societies, and that they could overcome the resulting sense of powerlessness only through active involvement in common concerns (Heller et al., 1984). Participation in community activities is still seen as a way for people to gain some control of their environment and their health. Laverack (2007) focuses his model of participatory health promotion practice on this concept of empowerment ('building empowered communities' is the subtitle of his book). Participation is of no benefit to community members unless it includes control and power over the activities and outcomes. Laverack describes community empowerment as involving a struggle to gain power from others, and '. . . a process by which communities gain

more control over the decisions and resources that influence their lives, including the determinants of health' (p. 29). Laverack's model of community-based interaction is a ladder on the lowest rungs of which are aspects of participation leading towards the highest rungs of empowerment.

In this model, the outcomes of empowered social and political action are understood as the determinants of health. Much empowerment intervention work has been focused on socially excluded populations such as minority ethnicities, women, youth and the poor. Interventions aimed at empowering women, youth and chronic disease sufferers have shown improvements in many aspects of well being (Wallerstein, 2006).

Gaining power involves a struggle with those who hold power and if we do not include understandings of dominant norms and social practices that reproduce power relations, then the very discourse and practices of 'empowerment' may be damaging. Petersen and Lupton (1996) use poststructuralist theory to critique the 'new public health' in terms of power relations. They have shown how 'participation' and 'empowerment' is part of a 'duties discourse' which uses the appealing language of new social movements to transform people's awareness so they become more self regulating, while serving the goals of the State and other agencies. Ramella and De la Cruz (2000) include this critique in their understanding of participation, but they also note that this theoretical approach only allows for a discourse of resistance; it does not help us to understand how to move towards empowered social and political action. To move beyond the poststructuralist account of power relations (which is revealing but not a model for practice), and to include the possibility for critical social action they draw on Habermas and the critical theory of Freire to conceptualize participation as communication and intersubjective action (as opposed to the behaviour of an individual rational subject) that is oriented towards mutual understanding. In practice this means that everyday life is discussed, problems and power relations (which may have been taken for granted) are highlighted, and plans for addressing problems are developed in participatory dialogue between teachers and students, or health professionals and community members. Ramella and De la Cruz describe the application of this approach to adolescent sexual health promotion in Peru through social clubs organized by and for young people. Guareschi and Jovchelovitch (2004) similarly draw on the Freirian concepts of dialogue and conscientization to highlight the social psychological dimensions of participation and its role in health promotion. The use of critical theory highlights the political and ideological basis of empowerment and participatory approaches which are often unacknowledged.

Capacity building and resilience

Laverack's (2007) ladder of community-based interaction begins with community readiness and culminates in community empowerment. In this model, communities participate and develop community capacity along the road to taking action. In other words, communities must develop the skills, organizing abilities and resources that will enable them to act. Labonte and Laverack (2001) describe several different uses of the term 'capacity building' in the literature. They also suggest that the terms 'community development', 'empowerment', 'social capital' and 'social cohesion' have been used for similar things. All this is very confusing and points to the lack of good theory in these areas of health promotion. However, for practical uses they suggest several domains of community capacity which are important for health promotion programmes. The areas are: participation, leadership, organizational structures, problem assessment, 'asking why' (critical assessment of problems), resource mobilization, links with others, roles of outside agents and programme management. These authors also suggest that only particular domains fit particular situations and the assessment of capacity is a very practical issue. Many practitioners assess the capacities to be developed (e.g., research skills, leadership skills, funding application skills) according to the needs of the programme (which suggests a need for ongoing and rigorous reflexivity on the part of programme coordinators).

Raeburn et al. (2006) have provided five case studies of successful capacity building projects for health promotion from different parts of the world, including:

♦Community directed treatment and monitoring of river blindness in 19 countries in Africa.

♦The participatory budget process in Peru which allows citizens to debate and set municipal investment priorities.

♦Poor rural communities in Honduras initiated the task of establishing and running their own health clinic, supported by the Ministry of Health.

♦A low income suburban community and a university in New Zealand collaborated to develop a community house to enhance community well being. This project survives 30 years later and meets many community needs.

♦Farmers in a poverty stricken rural community in Thailand reassessed the concept of farming for money and now pursue physical and mental health. They have rebuilt their way of life and with an NGO have developed a network to share their community development skills.

The concept of capacity building does accord with the shift to notions of resilience. Raeburn et al. (2006) suggest that as a part of a tradition of community action in health promotion, capacity building models reflect the shift to notions of assets and strengths as opposed to pathology and deficiency models. Antonovsky (1996) proposed what has become a very influential model of salute genesis to guide these aspects of health promotion. McCreanor and Watson (2004) have used this theory as a basis to suggest that social connection is a critical resilience capacity for health. They conceptualize connection as the links with others and suggest that this social feature of the environment has already been shown in the literature to be an important health protective factor. These authors were considering the mental health of young people, but the resilience capacity of social connections is one of the most well known contributors to the well being of individuals (when conceptualized as social support and social networks) or of communities (as social capital).

One area in which these concepts have been applied is the development of community arts projects. The salutogenic effects, on individual and community health, of participation in the arts are increasingly recognized. Health promotion practitioners are recognizing the capacity building power of community arts programmes as ways '. . . to celebrate community strengths, assets, and connections'. This resilience-based approach draws upon the existing talents of community members, and develops opportunities for social connections, expression and sharing of ideas and opportunities for creative dialogue. In Canada, a community arts based programme was initiated to use local strengths to develop a safety culture (Murray and Tilley, 2006; see Chapter 7). In the UK, an arts centre was developed as a community-based initiative within a broader health promotion project (Carson et al., 2006). In addition to providing health promoting activities and the development of social support, the arts centre was seen to build community strength as an end in itself by developing the community's own strengths and assets. In the US, Stephenson (2007) describes the use of a social network model to underpin the development of a community arts programme in a threatened and disintegrating community.

The aims of the programme were to build social capital and provide opportunities for an arts-based civic dialogue, stimulate community conversation, reflection and change by using the existing energy and motivation of local arts organizations and leadership. These same ideas have been applied to developments of the physical environment. Semenza and Krishnasamy (2007) describe a health promoting neighborhood intervention in which residents of urban communities

were involved in planning, designing and developing aesthetic improvements to their streets and malls. These included street murals, gardens, fountains and benches. The project was intended to strengthen social networks and social capital by involving the citizens and providing places in their neighborhoods that would meet their own needs.

Partnerships

Capacity has been identified as emerging in four areas of community coalitions: within members, relationships, organizations and within programmes (Wells et al., 2007). Each of these areas is an important aspect of the partnerships that are formed to develop community based programmes. The partnerships that are formed between local citizens, scientists, health practitioners, local and government bodies, and organizations such as universities and health funders are critical to the success of health promotion activities and the source of shared capacity. Laverack (2007) notes the importance for example, of the different sorts of experience and skills (e.g., research skills from the university; medical knowledge from health practitioners; and local cultural and practical knowledge from community members) that different partners bring to any programme.

Partnerships are also increasingly recognized as a source of problematic relationships and unequal power sharing. For example, it has proved difficult for some health professionals to give up their status as experts in community settings. Thus, such partnerships have become an object of study and critique themselves. Matheson et al. (2005) reviewed this literature and suggested that to address complex social problems, such as reducing health inequalities, the theory and practice of partnership approaches must be addressed much more carefully. In an example of the sort of findings of such study, Campbell et al. (2004) used social theory to show how ‘partnerships’ between members of different social groups (in their example African-Caribbean community members, voluntary group members and local councils in the UK) can be counter-productive. They suggest that deprived minority groups lack the bonding and bridging social capital to participate effectively in such partnerships, which are in danger of simply reproducing pre-existing power relations and social inequalities.

A social psychological model of participation

Campbell and Jovchelovitch (2000) proposed a model toward a social psychology of participation to guide practice in reducing health inequalities. They argued that the key constituents

of community are only enacted in participation. Furthermore, the formation, enactment and transformation of community in participatory activities is based on three key concepts:

♦Identity. Social identity plays a key role in understanding the formation of any community. The key component of any community is a shared identity. Freire's notion of conscientization explains how at particular moments members of socially excluded groupings may challenge their marginalized identity and construct new identities (thus 'prostitutes' become 'sex workers').

♦Social representations. Social representations theory has provided a way of understanding local knowledge. Practical and symbolic resources of particular social groups must be recognized but not necessarily idealized (thus representations of masculinity and men as risk takers are counterproductive in HIV/AIDS prevention work).

♦Power. An understanding of power relations is essential to understanding the conditions under which participation is enacted. Bourdieu's theory of practice provides a useful way of understanding the struggles for power between groups and the access to use of economic, social and symbolic resources (capitals) that are enacted even within health promotion projects.

Campbell (2003) has developed this framework and particularly the use of Bourdieu's critical conceptualization of social capital. She has used this social psychological model to inform our understandings of what empowerment and participation mean for disadvantaged groups (in her examples, poor mine workers, sex workers and youth at risk for HIV/AIDS in South Africa). In unequal societies, social capital may be used by advantaged groups to further exclude those with low social status. Campbell also discusses how partnerships are difficult to foster when 'communities may often be strongly divided by power differentials, radically different world views and high levels of mistrust'(p. 166). This conceptualization has been used to explain why many participatory community projects do not achieve their aims, despite the best intentions of the organizers and partners in such projects. Campbell's framework also provides a model for considering community participation which provides possibilities for deprived people to gain more control over their lives and health, while taking account of the importance of the broader structural and political forces which shape people's lives.

3. Cultural and Local Models of Health

If people in a community are working from different cultural models of health and social life than those of the health practitioners who are interested in partnership, then there is an extra layer of negotiation to include in developing a model for any intervention. There is a great deal of

anthropological and sociological work for health practitioners to draw upon as a start to understanding the differences in priorities and expectations that must arise in these situations. Labonte et al. (2005) described some of these difficulties for the members of research teams comprising Western and First Nations people in Canada, and the notion of an 'ethical space' in which different world views may be exchanged and interpretations negotiated.

Whare Tapa Wha

In New Zealand both Maori and European practitioners may draw on the models developed by Maori researchers. The most well known of these has been provided by Professor Mason Durie (a Maori academic and author) who has drawn upon Maori culture and his professional knowledge of public health issues to develop two models for health and health promotion.

Whare Tapa Wha makes instant sense to New Zealand health practitioners and is widely used in practice in areas of health promotion such as chronic disease care, drug and alcohol use, and smoking programmes with Maori. Glover (2005) describes the detailed application of this model to Maori experiences of smoking, and its use as the basis of a holistic intervention programme for Maori. In general, the principles of Whare Tapa Wha mean that the wider aspects of community life are included in interventions so that family (whanau) is understood as an important aspect of any treatment or intervention, clinics and smoke free programmes are located in more culturally relevant places such as on local marae, and broader activities such as the development of sports teams and events are included in programmes to develop health.

Te Pae Mahutonga

Durie (1999) has developed a model specifically to guide health promotion practice. Like Whare Tapa Wha, this model is based on a powerful metaphor that includes important symbols of identity. This is Te Pae Mahutonga (the Southern Cross constellation) which has been used as a navigational aid and is closely associated with the discovery of Aotearoa by Polynesian navigators and later by Europeans. The model includes six key aspects. First the four stars of Te Pae Mahutonga represent:

♦Mauriora: Inner strength, vitality which depend on secure cultural identity and access to the Maori world. A goal of health promotion then is to promote the security of this identity.

♦Waiora: The connection of human wellness with the cosmic, terrestrial and water environments. Good health depends on access to a healthy and unpolluted environment.

♦Toiora: Healthy lifestyles and personal behaviours, which include good nutrition, and avoiding alcohol and drugs, tobacco use and unsafe driving practices.

♦Te Oranga: Participation in society. This means full and equal opportunity for participation including access to employment, goods and services, schools, health services, and sport and recreation activities of choice.

The fifth and sixth elements are represented by the two 'pointers' that are a part of this constellation:

♦Nga Manukura: Leadership from within the Ma ori community and development of a skilled health promotion work force.

♦Te Mana Whakahaere: Autonomy, ownership and control by communities that must be provided by the appropriate legislative and policy environment.

Durie has developed this model (and work based on it) from the original understandings of Sir Maui Pomare, a prominent Maori public health practitioner and influential minister of health throughout the last century.

Durie's development of Pomare's recognition of key aspects has also been influenced by the Ottawa charter. In many ways the vision of these leaders, who have been working closely with the health issues for Maori, may be seen as paralleled by recent developments in health promotion practice internationally. The growing understandings of the importance of the whole environment, the recognition of the impact of social disparities and exclusion, and the importance for health of participation, control and capacity are reflected in these culturally specific models.

Chapter Four: Psychosocial Assessment and Intervention in Physical and Mental Health

Introduction

Interactions between physical and mental health are among the most complex issues that are brought to social workers in health-care settings. The complexity stems from the dynamic mind-body relationship; the numerous possible combinations of physical and mental health conditions; the consideration of possible psychological reactions to physical illness, psychological effects associated with physical conditions and treatments, and psychiatric disorders; intervention during mental health crises; and the provision of ongoing intervention to support physical and mental well-being. While considering these issues, the social worker is responsible for the formulation of assessments and interventions that reflect the unique family and ecological contexts of people in their environments. It is important to recognize the limitations inherent in using the terms physical health and mental health. This language implies a false division of these related elements of overall health. In fact, these two elements are not only interrelated, but also exert mutual influence on each other.

Psychosocial Conditions and Increased Risk of Illness

Psychological distress is associated with numerous negative health outcomes across a wide range of illnesses. Psychological distress can include stress, anger, hostility, depression, worry, and anxiety.

The role of stress, in particular, has been well documented in its relationship to the risk of numerous health problems, including cardiovascular disease, cancer, autoimmune and inflammatory disorders, and wound healing. While stress and its effects on physiology can have benefits as they enable a person to respond to a threat, "to fight or flight", in the face of chronic exposure to undefined stress, which is not resolved and in which the stress response cannot be turned off, an individual will experience allostatic load. Allostatic load is the wear and tear the body experiences as a result of repeated allostatic response. Allostasis involves the body's physiological responses to stressors in order to foster adaptation to challenge and to maintain homeostasis. However, as the body continues to engage in allostasis, allostatic load results. Allostatic load is influenced not only by chronic stress, but also by behavioral factors, including "diet, alcohol and tobacco use, physical activity, and sleep," and by genetic and developmental variations in an individual's ability to adapt to routine experiences such as the cycle of sleeping and waking.

There are two primary ways to consider the relationship between stress and health. First, through a biological pathway, stress directly influences the body's physiology. Responding to stress releases hormones that influence the central nervous, cardiovascular, and immune systems. Exposure to chronic stress, in particular, has a negative influence on the immune system. Second, coping with stress may lead to engaging in behaviors, such as eating a higher fat diet, smoking cigarettes, and reducing exercise, which increase the risk of illness. Through both physiology and behavior, stress may intersect with health. Additionally, the psychosocial and physical demands of illness may increase stress and warrant intervention to address potential biological and behavioral elements of its impact on overall health.

Social workers in health-care settings are well positioned to assist people who are experiencing psychological stress. One powerful framework for guiding intervention in this area is Lazarus and Folkman's (1984) model of stress, appraisal, and coping. Social networks, support, integration, and capital also have strong implications for physical and mental health. Social networks generally refer to the composition or arrangement of a person's social relationships (e.g., number of people, types of relationships, relationships among the people in a social network), while social support generally refers to a person's sense of feeling warmly regarded and respected or to the type of support available (e.g., emotional support, material assistance, instrumental or practical support). Social integration can be conceptualized as the number of intimate relationships a person has with both individuals (including family and friends) and with groups (including voluntary and religious organizations); social capital reflects a societal conceptualization of its members' integration. Measures of social capital can include reported trust among people and degree of civic participation. In sum, "more socially integrated societies seem to have lower rates of crime, suicide, mortality from all causes, and better overall quality of life.

From survival in infancy to buffering stress in life transitions, to increasing one's ability to fight off a cold, to reducing advancement of carotid arthrosclerosis, to slowing the decline of immune functioning in HIV, and to supporting lower levels of allostatic load, social ties and support are far-reaching in their power to strengthen health. Alternatively, isolation, loss, conflict within relationships, and the potential for disease transmission are aspects of social ties that can negatively affect health and mental health. For social workers in health-care settings, these findings highlight the importance of exploring available social support, augmenting it when needed, and enhancing interactions and communication among social network members as indicated by one's

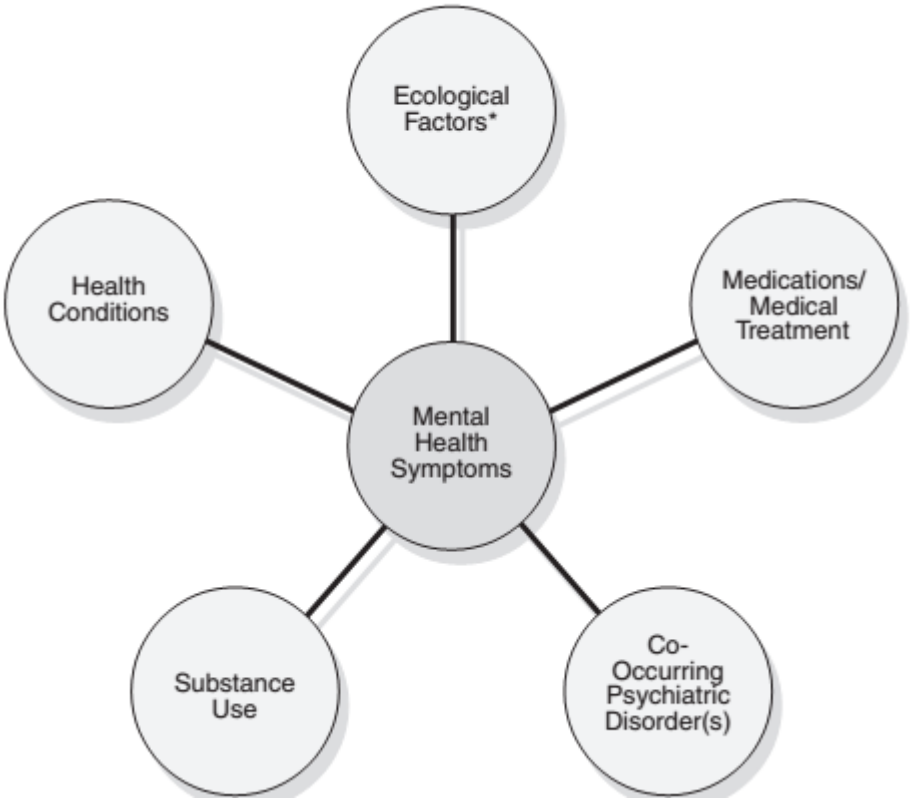
assessment. Additionally, social workers can play an important role in preventing disease transmission through psycho education and counselling efforts.

Physical Illness and the Role of Mental Health

Among people who are experiencing physical illness, mental health can play an important role in physical outcomes across the life span. For example, among adolescents, non-adherence to oncology regimens may be influenced by depression, low self-esteem, and parent-child conflict. Among adults who have had myocardial infarction, research suggests that depression, state anxiety, and psychological distress are associated with increased risk of 5-year cardiac-related mortality. Among older adults, treating depression appears to reduce intensity of pain and disability associated with osteoarthritis. Additionally, among older women with cancer, depression has been shown to be associated with reduced likelihood of receiving appropriate treatment and increased risk of death.

Assessing Psychosocial Conditions in Health-Care Settings

At the heart of effective social work intervention is accurate assessment. As described by Meyer (1993), assessment involves the thinking process that seeks out the meaning of case situations, puts the particulars of the case in some order, and leads to appropriate interventions. In health-care settings, social workers are likely to encounter people with a range of mental health experiences. Some people may be experiencing mild psychological distress and may benefit from psycho education regarding their physical conditions and supportive counselling to enhance coping and stress management; for others, who may be experiencing significant psychological distress, more intensive psychosocial interventions, including psychotherapy and psychopharmacology, may be indicated. The process through which a social worker considers the nature of the client's mental health issues and their influencing factors is called differential assessment. To guide differential assessment and, therefore, appropriate intervention, this discussion covers several intersecting domains, including ecological factors, mental health symptoms, physical conditions, medications, and substance use.



Ecological Factors

Although conceptualizations of the connections between the person and the environment have varied, social workers have a longstanding history of recognizing the importance of a person-in-environment perspective.Ecological systems theory provides a lens through which to employ this perspective as we consider the transactional intersections of ecological factors and physical and mental health. According to ecological systems theory, each individual experiences life within a unique intersecting web of systems. These intersecting systems can include the micro-system (e.g., individual activity, roles, physical and mental health status), broaden to the meso-system (e.g., relationships with family, significant others, peers), then to the exo-system (e.g., work, neighbourhood, community), and last, to the macro-system (e.g., culture and dominant patterned processes that inform numerous configurations, including politics, government, education, and law). This perspective is provided in order to consider the relationships between physical and mental health within the context of relationships with significant others and peers; interactions with community, school, work, or unemployment; and connections to broader cultural frameworks and governmental institutions.

The importance of this perspective rests not only in its consistency with social work practice, which recognizes that individuals and their environments exist in dynamic, mutually influencing interaction, but focuses on the interactions between biology, behaviour, and social influences. Health and behaviour are influenced by factors at multiple levels, including biological, psychological, and social. Interventions that involve only the person—for example, using self-control or willpower—are unlikely to change long-term behavior unless other factors, such as family relationships, work situation, or social norms, happen to be aligned to support a change. To formulate an accurate assessment that will lead the social worker in the direction of effective intervention, multi-systemic influences should be considered. Lack of attention to the various components of an ecologically informed assessment may lead the social worker to focus in error on either individual characteristics or environmental factors; excessive attention to one or the other may lead to faulty explanations regarding how best to be helpful.

Macro-systems

McGoldrick (1982) states that neither physical nor mental health problems can be appropriately assessed without understanding the frame of reference of the person seeking help....The language and customs of a culture will influence whether or not a symptom is labeled a problem. Additionally, cultural influences may shape the experience and communication of pain, expected or desired treatment, understanding of illness causes, coping styles, and perspectives regarding who to turn to for help, for example, primary care physician, mental health provider, traditional healer and clergy. In the context of assessing and intervening to addr ess mental health in health-care settings, these considerations become particularly salient in several ways.

As supported by McGoldrick (1982), the ways in which symptoms are experienced and described will intersect with the social worker's understanding of what is the matter and "what can be done about it". Generalized statements regarding culture and cultural norms, values, and expectations run the risk of conveying stereotyped information that may obscure individual differences and experiences in connection with a person's cultural background and may overlook diversity within a culture; however, such information, when provided and used appropriately, can broaden the social worker's cultural knowledge base and inform efforts to reach a shared nderstanding of the client's experiences. With this caveat in mind, somatization, the expression of feelings of distress through physical symptoms, reflects an important intersection between culture, health, and mental health. Powerful influences are likely to contribute to somatization across

cultural groups, including the culture's understanding of the connection between mind and body, culturally accepted ways of expressing distress, and culturally informed stigma regarding mental illness.

In order to provide culturally competent assessment and intervention, it is critical that social workers become informed about their own and their clients' cultural beliefs in the context of experiences of physical and mental health. Such competence is vital to recognizing and supporting normative coping in the midst of physical or mental illness and to avoiding misassessment of physical and mental health symptoms. Some strategies to assist social workers with increasing their cultural competence in addressing mental health in health-care settings are:

- Becoming more mindful of your own cultural beliefs about health and mental health may enhance meaningful self-awareness. Consider specific ways in which a person's cultural background influences his or her values about expressing distress and about mental and physical illness.
- Exploring the client's cultural identity with him can inform considerations regarding the implications of culture in the client's presenting concerns, including culturally informed ways of expressing distress and preferred types of help, and considerations regarding culture, immigration, and acculturation, as salient elements of an ecologically informed assessment.
- Becoming better informed about the cultures of the people they serve and about evidence-based interventions that are culturally relevant to them can be important avenues to enhancing intervention effectiveness.
- Becoming better attuned to issues of commonality and difference, including race, ethnicity, culture, socioeconomic status, gender, sexual orientation, physical ability, and power between you and the clients you serve may facilitate addressing these elements within the helping relationship.
    - Actively considering clients' spiritual beliefs can contribute to the provision of culturally competent services. Spiritual beliefs are integral to health beliefs and need to be approached in the same manner as other cultural beliefs. Walsh (2004) further describes the role of prayer, meditation, and faith in numerous positive health outcomes including stress reduction, decreased blood pressure and cortisol levels, improvements in managing chronic pain, reduced problems with alcohol or other drugs, and reduced depression. Beliefs may provide a powerful source of cognitive assistance to support coherence, making meaning, and

"a sense of control" as people are experiencing physical and mental health difficulties. In addition to supporting a worldview that facilitates meaning, Musick, Traphagan, Koenig, and Larson (2000) provide three further pathways through which religion may positively influence health: supporting positive health behaviors (e.g., healthier diets, reduced drinking and smoking, and increased physical activity); fostering social integration and support (e.g., shared beliefs, larger social network, opportunities for conversation, learning, and support); and providing comfort (e.g., emotional and instrumental support, religious rituals for assistance in difficult times, source of hope and coping). While spirituality and religion may be important resources, assessment should be sensitive to these topics as potential sources of conflicted or negative feelings.

Exo-systems

Exo-system issues regarding socioeconomic status, including income, education, and employment, is also likely to intersect with micro-level physical and mental health issues. Individual poverty and societal inequality of income distribution also negatively affect mortality among people with lower income. In addition to mortality risks associated with lower socioeconomic status is an increased risk of mental health problems. The increased prevalence of mental health problems among people with lower socioeconomic status has been explained in two primary ways. First, the increased risk of acute and chronic stressors among people living in poverty may contribute to their increased risk of mental health problems. This explanation is referred to as social causation, in which social circumstances have a causal link with mental health problems. The second explanation, referred to as social selection, argues that mental health problems cause people to move downward in socioeconomic status. Social causation appears most relevant for women experiencing depression and for men experiencing antisocial personality and substance use disorders, while social selection appears most relevant among those experiencing schizophrenia.

Socio-economic status is also associated with the course of mental health problems. Numerous factors may influence this relationship, including obstacles related to access to care, lack of health insurance, and lack of culturally and linguistically appropriate services. For social workers addressing mental health issues in health-care settings, the increased risk of physical and mental health problems among people with lower socioeconomic status underscores the importance of designing and delivering services to reach this population.

Microsystems

Bearing in mind the complex intersections between the multiple systems in the ecological framework, this discussion now turns to micro-systems of physical and mental health.

Anxiety and Mood Disorders

Anxiety disorders, which can include posttraumatic stress disorder, simple phobia, social phobia, agoraphobia, generalized anxiety disorder, panic disorder, and obsessive compulsive disorder, have the highest annual prevalence among children. The connections between trauma and health are numerous. First, pre-existing trauma exposure and its related psychological sequelae are likely to interact with experiences of physical illness. Second, people may be seeking medical care as a direct result of a traumatic experience, such as a motor vehicle accident, sexual assault, or other physical attack. Third, the utility of broadening the definition of trauma to include some medical conditions, for example, myocardial infarction, which may be considered traumatic events, because they represent significant threat to a person's life.

Depression and anxiety can be expressed in health-care settings in a variety of ways. For example, a parent may comment to a social worker or other healthcare provider that his teenage son does not seem to be himself. The parent says that his son has been short-tempered lately, is sleeping more than usual, has experienced a decline in his grades, and has lost interest in social activities that formerly interested him. The parent has attempted to offer him incentives to improve his academic performance and to encourage him to spend time with friends to no avail. Another individual describes feeling fatigued, having sore muscles, and experiencing difficulty falling asleep, but attributes these symptoms to recent stress at work. As part of conducting a comprehensive assessment, the social worker would recognize that depression among children and adolescents may present as irritability, and that symptoms of anxiety which are attributed to normalized conditions, such as stress at work, may not be accurately detected. Equipped with the knowledge that detection of mood or anxiety disorders requires the consideration of atypical presentation of symptoms or behaviors, the social worker would understand that further assessment would be warranted for both people.

In health-care settings, depression and anxiety may also be expressed through physical changes, such as weight gain or loss or sleeping problems, and frequent medical visits (more than five per year. Anxiety, in particular, may be expressed through medically unexplained physical symptoms, such as chest pain, gastrointestinal problems, headache, or dizziness. Physical

concerns, rather than explicit concerns about anxiety, are frequently expressed by people experiencing panic disorders. While it is important not to invalidate an individual's physical symptoms, recognizing that such symptoms may have a relationship to mental health issues and, as previously discussed, may reflect culturally informed somatization of distress, can provide important avenues to appropriate intervention and relief. Social workers are well-situated both to refer clients for appropriate physical care and to further explore mental health issues that may be manifested in physical symptoms.

Psychosocial Intervention Strategies in Health-Care Settings

Social work practitioners strive to match intervention strategies to individuals in their ecological contexts and to the identified problems. In addition, they strive to match the person-in-environment and problem in conjunction with the best available evidence and the client's preferences for intervention. Comprehensive assessment enables social workers to consider fully the range of factors that may be contributing to the problem and the range of interventions that may effectively resolve it; and to discuss intervention options with the client. Differential assessment involves identifying the type of mental health issue a person is experiencing, its possible influences, and possible ways in which to address it. The psychosocial interventions described next focus on strategies to support coping and overall well-being and then address strategies to assist people who are experiencing depression and anxiety disorders.

Routine Screening of Psychosocial Conditions

Given the significant implications of mental health in health-care settings, including the relationships between psychological distress and mental and physical health conditions, the role of behavior in shaping health, the importance of suicide prevention, and the power of social ties in supporting health, routine screening of psychosocial conditions is highly relevant in health-care settings. Program planning and policy level initiatives are warranted to ensure the availability of this core element of overall health care.

Transdisciplinary Collaboration and Coordination of Services

Another central component of supporting mental health in health-care settings involves transdisciplinary collaboration with the team of providers working with the client. Transdisciplinary collaboration is particularly relevant in understanding the intersection of mental health and the client's physical condition, the possible etiologic role of the physical illness, the interactions of medications and treatment with psychosocial conditions, the coordination of care

with numerous providers, and underscoring the importance of mental health in physical health conditions and outcomes. When a client is experiencing psychological distress that warrants consultation for psychopharmacological intervention, transdisciplinary collaboration can be helpful in accessing this service and in considering the possible interactions between psychotropic medications and any medications the client is currently taking for another condition.

Social workers also serve as brokers of services. In this role, social workers can facilitate referrals and access to needed resources, including components of medical and mental health care, health insurance coverage, and community-based case management when indicated. Gambrill (2000) underscores the importance of being aware of the effectiveness of services to which clients are referred. Beyond simply linking a client to a given service, the social worker attends to the overall quality of that resource when making a referral. In some communities, available resources may be limited, which may highlight the need for macrolevel advocacy to adequately meet the needs of people within the community. Additionally, beyond simply providing a phone number or a contact name, the social worker may help facilitate the referral by obtaining written consent from the client to contact the referral agency, following-up with the agency directly, and then following-up with the client to ensure that the linkage was made.

Information and Psycho-education

Whether focused on physical or mental health conditions, information and psycho-education are central components of assisting individuals and families with understanding the condition, including its course, expected outcome, treatment, and psychosocial components. The provision of information through education or through psycho-education typically differs in scope, focus, and qualifications of the service provider.

Education generally focuses on providing information about an illness, including expected course, treatment, and components of self-care by a person who may not necessarily have professional training, while psycho-education generally builds on these components by also drawing on psychotherapeutic strategies, such as behavioral and cognitive frameworks, led by a person with professional training in mental health services. The inclusion of psycho-educational approaches allows for the emotional and cognitive processing of the information and may assist people with developing a psychosocial understanding of the condition and its meaning in their lives. Based on a review of studies that compared the usefulness of written and verbal information for parents of children discharged from acute hospitals, Johnson et al. (2003) concluded that

increased satisfaction and knowledge were associated with the provision of both written and verbal information. Additionally, they underscore the potential for client involvement in creating the written information, the importance of culturally relevant presentation of it, and attention to the literacy level of written material. The provision of written and verbal information, in addition to psycho-educational interventions, are important components of facilitating knowledge and coping with physical and mental health conditions and such interventions may also play an important role in reducing health risks and promoting longevity.

Adherence Counselling

Adherence to medication and treatment are key elements of health outcomes; however, non-adherence is highly prevalent, impacting approximately one in four people. Social workers are often key participants in assisting people with adherence to medications and treatment.

Stress Management and Health Supporting Behaviours

Several strategies have shown promise in helping people to manage stress and to support overall health, including mindfulness-based stress reduction, exercise, and relaxation training, although there have been mixed findings about the effectiveness of some relaxation training and stress management interventions among people with cardiac problems.

Smoking cessation, healthful eating, and weight management are key behaviors that can help support health. Engaging people in the change process and facilitating motivation to change behavior are central elements of supporting such health behaviors. However, individually focused interventions to support positive health behaviors, without attention to familial, social, and environmental factors, including access to safe places to exercise and availability of healthful food, will likely be limited in their effectiveness.

Coping Enhancement

A large body of research suggests that interventions to enhance coping can assist people experiencing psychological stress. Rather than focusing on specific mental health symptoms among people experiencing physical illness, Folkman and Greer (2000) focus on psychological well-being and the coping processes that support it. Informed by Lazarus and Folkman's (1984) cognitive model of stress and coping and relevant research that focuses on elements of effective coping while experiencing illness, Folkman and Greer (2000) propose the model described next to support coping when faced with illness. In essence, this model focuses on continuing to seek goals that matter; facing the inspiring, yet potentially scary possibility that the goal may or may not be

realized; and taking action to achieve the goal. Implicit in this model is the notion that pursuing goals which matter, and which are not necessarily illness-specific, can be an important mechanism for fostering coping and continued engagement with positive aspects of life in the midst of illness.

First, the social worker focuses on creating conditions for challenge, which reflect an appraisal of the opportunity for meaningful mastery or gain. The importance of challenge in this model is based on the premise that such appraisal holds the possibility of achieving a meaningful goal through one's efforts and of enhancing one's sense of control and ability. In this challenge rests the exciting possibility of achieving the goal and the potentially worrisome risk of striving without achieving the goal, of possibly falling short. Normalizing this combination of emotions may be helpful. To create the conditions for challenge, Folkman and Greer (2000) suggest exploring what matters to the client, whether it relates to one's illness or to other parts of one's life. The social worker "needs to help the patient define what is important now, what matters most.

The next step focuses on encouraging the client's achievement of the goal, including continued encouragement or possible revision of the goal if the task seems overwhelming. Key elements of this step include active engagement of the client in pursuing a goal that has meaning to him, focusing on steps to achieve the goal, and continuing to create the conditions of positive challenge. The final component of the model involves maintaining "background positive mood", which may include asking clients to talk about positive happenings in their lives and encouraging clients to plan activities that yield feelings of enjoyment and accomplishment.

This theoretically-informed and research-guided model may provide a framework to enhance coping and psychological well-being when a person is experiencing serious illness. Key elements of this model include its attention to normative coping and to supporting a sense of control and mastery in the context of illness. Through this model, Folkman and Greer (2000) suggest that well-being may be enhanced in the midst of significant illness.

Family and Social Support and Spiritual Resources

Psychosocial responses to illness among individuals and their families are likely to vary according to the timing, onset, course, degree of incapacitation, and anticipated outcome of the illness. Family and social support influence health outcomes via the following pathways: direct biology (including airborne, bloodborne, and genetic conditions); health behavior (including lifestyle, caregiving, and medical adherence support); and psychophysiology (including physiological effects of emotions and cognitions). Generally, evidence-based family interventions

include illness-specific education and psycho-education to support knowledge and coping, and, as indicated, therapy to address relational problems. Multiple family groups, ongoing assessment of psychosocial experiences of the family to support normative coping and early intervention in the event of psychological distress, self-help, or professionally facilitated support groups, and structuring services to actively involve families are also recommended. Enhancing social support and coping skills through support groups and peer support is also likely to improve quality of life and health status. Last, involvement in religious organizations is linked with positive health outcomes.

Chapter Five : Environment and Community Health

Introduction

As human beings, we are a part of the environment in which we live. Our lives and health are affected by the quality of our environment, and the way we live our lives influences the quality of that environment.

The environment is defined as all the external conditions, circumstances, and influences surrounding and affecting the growth and development of an organism or a community of organisms. In order to fully understand environmental concerns that threaten our health, we must understand how we interact with our environment. The study of how living things interact with each other and their environment is called ecology, and the zone of the earth where life is found is known as the biosphere.

There are both natural and human-made hazards that threaten habitats, climates, and ultimately the health of both individuals and their communities. Residues and wastes from human activities have been increasing rapidly because of urbanization, industrialization, population growth, and reliance on disposable products and containers. Types of wastes and pollution include solid wastes, hazardous wastes, air pollution, water pollution, radiation, and noise pollution.

Natural Environmental Hazards

Natural environmental hazards may be physical, biological, chemical, psychological, or social in nature. Physical hazards are caused by forces either internal to the earth's surface or on the surface itself. Natural hazards resulting from internal forces include earthquakes and volcanoes. Those on the surface include winds, lightning, storms, floods, fires, and droughts. Biological hazards for humans are, for the most part, limited to microbiological agents such as pathogenic bacteria, parasites and viruses, and their toxic biological products. Examples include malaria, plague, tuberculosis, and human immunodeficiency virus (HIV). Examples of biological toxins include the toxin produced by tetanus bacteria, poisons produced by certain mushrooms, and the poisoning of marine life by "red tides." Chemical hazards are nonbiological substances that are toxic enough to threaten human health.

Psychological hazards affect a person's outlook on life. Psychological hazards are just as real and damaging to health as physical hazards. Boredom, stress, fear, and depression represent psychological hazards that consume significant health care dollars. A workplace can be most

unproductive if the workers are highly stressed, bored, or depressed. The fear of losing a job and other economic factors can also weigh heavily on members of a community.

Sociological hazards occur when societies interact in destructive ways or fail to interact in productive ways. Excessive population growth that results in overcrowding and war are sociological hazards. Many would say Adolph Hitler, the German dictator before and during World War II, was a sociological hazard, because he caused a great loss of human life.

Residues and Wastes from Human Activities

More than any other species on our planet, humans have the power to significantly alter the environment through individual and community activities. These activities include working, travelling, leisure-time activities, and simply living at home. Likewise, environmental conditions such as weather, climate, and topography affect human activities. As people participate in their daily activities, they continually produce residues and wastes.

On any typical day, the following types of residues and wastes are generated:

1. Human body wastes: urine and feces (waste water)
2. Excess materials and foods: trash and garbage
3. Yard wastes: grass clippings and tree branches
4. Construction and manufacturing wastes: scrap wood and metal, contaminated water, solvents, excess heat, and noise
5. Agricultural wastes: animal dung, run-off from feedlot operations, crop residues, and animal carcasses
6. Transportation wastes: carbon monoxide, gaseous pollutants, and used motor oil
7. Energy production wastes: mining wastes, electrical power (combustion of coal) wastes, and nuclear power (radioactive) wastes
8. Defense wastes: weapons production (radioactive) wastes

A healthy environment, one relatively free of pollution, supports healthy communities. Residues and wastes from human activities can adversely affect the environment by damaging wildlife habitats, undermining food production, contaminating sources of water, altering climate, and threatening human health.

Factors contributing to an ever-increasing number of environmental hazards are (1) urbanization, (2) industrialization, (3) human population growth, and (4) the production and use of disposable products and containers. Urbanization, the process in which people come together to

live in cities, often results in people living in overcrowded conditions and inadequate space for the proper disposal of wastes, making waste management more difficult.

Concomitant industrialization, resulting in the generation of new types of wastes, has complicated the waste disposal problem because of the generation of hazardous waste. Population growth has also contributed to the overall waste disposal problem, as has the reliance on disposable containers. While it is unrealistic to expect communities to produce a pollution-free environment, it is possible to work toward minimizing the level of pollution. As the dominant species on this planet, our very survival depends upon our recognition of the deleterious effects our activities have on the rest of the biosphere and our taking responsibility (individually and collectively) for minimizing these effects. If the environment is to remain relatively stable, the frequency and severity of environmental hazards stemming from human activities must be reduced.

Types of Wastes and Pollution

The types of wastes and pollution we discuss include solid wastes, hazardous wastes, air pollution, water pollution, radiation, and noise pollution.While some types of wastes may merely lower the aesthetic value of the environment, others constitute either an immediate or longterm threat to human health and well-being.

Solid Waste

Household trash, grass clippings, tree trimmings, manure, excess stone generated from mining, and steel scraps from automobile plants are all examples of solid waste.With only 4.6% of the world's population, the United States produces 33% of the world's solid waste.This solid waste production has led to a major community problem—where to store it. Many communities have used up all available space to bury their solid waste and must look for a neighboring community willing to accept it.

Sources of Solid Waste

Most solid waste can be traced to four major sources: mining and gas and oil production; agriculture; industry; and municipalities (domestic sources). By far, mining and gas and oil production generate the greatest volume of solid waste, 75% of the total. Agricultural wastes, including crop residues, manure, and other vegetation trimmings, make up the next largest portion of solid waste (13%). The solid waste resulting from industrial production is quite varied and constitutes 9.5% of the total. Examples include paper, wood chips, and highly complex chemicals. Certain industrial waste products are especially hazardous because of their toxicity, corrosiveness,

or flammability. Household or municipal waste makes up just 2.5% of all solid waste generated each year. It includes wastes generated by individual households, businesses, and institutions located within municipalities.

Solid Waste Management

Strictly defined, solid waste management is the collection, transportation, and disposal of solid waste. A broader definition of solid waste management also includes source-reduction efforts that limit the production of solid waste in the first place. Though the preponderance of solid waste is created by agriculture and mining, the following discussion of solid waste management is aimed primarily at municipal and industrial wastes, which create greater environmental problems. The handling of municipal solid waste can be divided into two steps— collection and disposal.

Collection

Approximately 80% of the money spent on waste management is spent on the collection process. Faced with ever-increasing amounts of waste,greater efficiency is needed in collecting the wastes so that more money can be spent on environmentally sound disposal. Traditionally, crews of three people and a large truck have collected municipal wastes at the curb or alley. However, experience has shown that crew size, truck size, and special-feature trucks—like those that can be operated by a single person or those with different storage compartments for separating the trash—can improve efficiency and reduce cost. Moreover, the collecting and transporting of trash through pipelines hydraulically and/or pneumatically (the method used at Disney World) can make collection even more efficient and out of sight.

Disposal

To meet the need for better disposal of solid waste, communities have adopted a variety of approaches, including (1) sanitary landfills, (2) combustion (incineration), (3) recycling, and (4) source reduction.

Sanitary Landfills

Currently, most municipalities dispose of their wastes in sanitary landfills, sites judged suitable for inground disposal of solid waste. However, many of these municipal landfills are filling up, and the availability of land suitable for new landfill sites near cities is quickly disappearing. Disposal of municipal solid waste on unsuitable land can result in the contamination of groundwater (water found in the ground), which may be the community's only source of drinking water. These are to be located at sites that can geographically and geologically

support them—sites with natural clay soils. If clay soil cannot be found, a clay lining must be constructed to prevent leachates, liquids created when water mixes with wastes and removes soluble constituents from them by percolation, from reaching groundwater. Sanitary landfills are not to be located over sand or gravel deposits that would allow leachates to reach groundwater. In sanitary landfills, all refuse is spread and compacted in thin layers by bulldozers. At the end of each day, unlike an open dump, refuse is covered with a layer of soil. This process continues until the landfill is full, at which time a final layer of soil about two feet thick is placed on the top. When this process is strictly followed, sanitary landfills provide little refuge for rodents and insects, and there is no reason why the area cannot be used for recreation.

Some local governments have enacted legislation that requires sanitary landfills to be lined or double-lined with plastic liners. Another concern is the possibility of explosions and fires caused by the accumulation of dangerous amounts of methane gas created by the anaerobic decomposition of refuse. However, it should be noted that some communities have systems in place to harness the methane gas and use it as an energy source.

Combustion (Incineration)

Combustion (incineration), or the burning of wastes, is the second major method of refuse disposal. Incineration greatly reduces the weight and volume of solid waste. Generally, volume is reduced by as much as 90%, and weight is reduced by as much as 75%. While incineration might seem to be the ultimate solution to the solid waste disposal problem, it is not without its serious drawbacks. First of all, large commercial incinerators are expensive. Start-up costs can approach a quarter of a billion dollars. Some environmentalists feel that there are too many unanswered questions about incinerators to invest that type of money. One of their questions is about air quality. While most modern incinerators use filters to reduce harmful emissions,they do not eliminate them entirely. A second environmental concern has to do with the remaining ash. The ash may be toxic, particularly when plastics have been incinerated, which occurs with increasing frequency. A third concern is that at least 10% of the volume (25% of the weight) of the original wastes remains to be dealt with. Most of this ash enters landfills, but because of its toxicity poses a threat to local groundwater. Also, it now appears that future restrictions on items placed in landfills may prohibit the disposal of this ash.

Recycling

Recycling is the collection and reprocessing of a resource so that it can be reused for the same or another purpose. This process conserves resources, energy, and sanitary landfill space. One form of recycling, composting, can be done at home, since it doesn't require special knowledge or equipment. In composting, yard waste is recycled through a natural process of aerobic biodegradation during which microorganisms convert organic plant and animal matter into compost that can be used as a mulch or fertilizer. Composting can be done by individuals or on a community-wide basis.

Source Reduction

The ultimate approach to solid waste reduction is to limit its creation in the first place through source reduction. This can be achieved by avoiding the use of non-reusable products, such as paper towels and disposable diapers, and by reducing the amount of packaging associated with groceries and carryout foods such as hamburgers and pizzas. Solid waste management has come a long way in the past 30 years. Today, most people know what is and what is not environmentally sound waste management, and the necessary technology to ensure appropriate disposal of waste is available. One question still remains: When will protecting the environment become a high enough priority for most people to act and insist upon wise waste management? Tips for more environmentally sound behaviours are plentiful.

Tips for Reducing Solid Waste

Reduce

1. Reduce the amount of unnecessary packaging.
2. Adopt practices that reduce waste toxicity.

Reuse

3. Consider reusable products.
4. Maintain and repair durable products.
5. Reuse bags, containers, and other items.
6. Borrow, rent, or share items used infrequently.
7. Sell or donate goods instead of throwing them out.

Recycle

8. Choose recyclable products and containers and recycle them.
9. Select products made from recycled materials.

10. Compost yard trimmings and some food scraps.

Respond

11. Educate others on source reduction and recycling practices. Make your preferences known to manufacturers, merchants, and community leaders.

12. Be creative—find new ways to reduce waste quantity and toxicity.

Hazardous Waste

The term "hazardous waste" means a solid waste, or combination of solid wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics may (1) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Hazardous Waste Management

Deep well and underground injection, landfills, and combustion (incineration).

Secured Landfill

The least expensive and perhaps least environmentally sound means of disposing of hazardous waste is placing it in a secured landfill.Secured landfills must be (1) located above the 100-year flood plain and away from fault zones, (2) double-lined with clay or a synthetic material, and (3) equipped with pipes that enable them to be monitored for any seepage. The owner must provide for area wells for the monitoring of groundwater, as well as monitor the surrounding surface water(water on the earth's surface).

There are several drawbacks to the use of secured landfills for the discarding of hazardous waste. Some authorities feel that even the best-built secured landfill will eventually leak because the clay liners will crack or the synthetic liners will break. Because of this concern, the legislation governing secured landfills continues to mount. There are now specific standards that stipulate which hazardous wastes can and cannot be placed in secured landfills without further processing (some wastes must undergo prior treatment before being placed in the landfill).

Deep Well Injection

Another means of disposing of liquid hazardous waste is deep well injection, a form of disposal developed by petroleum refineries.Deep well injection consists of pumping the hazardous waste,

by way of lined wells,far below drinking water aquifers into layers of permeable rock that are surrounded by impermeable rock.

Incineration of Hazardous Waste

Appropriately controlled incineration is one of the most efficient means of managing hazardous waste;however, it is also one of the most expensive.This method of disposal consists of burning the wastes at very high temperatures. It requires the appropriate mixture of air and fuel to ensure complete combustion. Gaseous by-products are recombusted to minimize the release of hydrocarbons and other harmful gases.The benefits of this means of disposal are (1) conversion of toxic compounds to harmless ones, (2) reduction in the volume of waste, (3) destruction instead of isolation of waste,and (4) possible energy recovery during combustion.

Hazardous Waste Recycling and Neutralization

The best solution to hazardous waste disposal once it is created is recycling in a system in which a hazardous waste created by one process becomes the raw material for another. Examples include extracting toxic metals from waste, adding a base to an excessively acidic waste, and promoting the growth of microbes that feed on hazardous waste—a method that has been used successfully with oil spills.

Source Reduction

Source reduction represents the best solution to the problem of hazardous waste. Increased public concern and the high cost of disposal have led hazardous waste producers to invest in technological research to reduce the amount of waste produced. Unfortunately, this approach is limited because there are still few incentives for source reduction.

Hazardous Waste Cleanup

Managing present and future hazardous wastes is one issue; dealing with the inappropriate past disposal of hazardous wastes is another.

Air Pollution

Until a few hundred years ago, air pollution could be attributed almost entirely to natural causes—dust and sand storms, forest fires, volcanic eruptions, and the gases escaping from deep within the earth or given off by decaying organic matter. While these forms of air pollution still exist today, waste products created by a modern industrialized civilization constitute a greater threat to air quality and our health.

Air pollutionis the contamination of the air by substances in amounts great enough to interfere with the comfort, safety, or health of living organisms. These contaminants occur as gases, liquids, or solids. The most prevalent sources of air pollution in the United States are (1) transportation, including privately owned motor vehicles; (2) electric power plants fueled by oil and coal; and (3) industry, primarily mills and refineries. In addition to these major sources, there are many smaller sources such as wood and coal burning stoves, fireplaces, and other incinerators. Major pollutants are sulfur dioxide, carbon monoxide, nitrogen oxides, ozone, respirable particulate matter, and lead.

The Pollutant Standard Index

The deleterious effects of air pollution are many, including reduced visibility, weakened or ruined fabrics,defaced buildings and monuments,and injured or killed vegetation and aquatic life. Given these observations, there is naturally a concern about the effects of air pollution on human health. Sensitivities to air pollutants vary with each individual. Variations are attributed to factors such as age and chronic diseases, including heart disease, lung diseases, and asthma. For those most susceptible individuals, it is important to be able to measure the quality of ambient air.

Special Concerns with Outdoor Air

Pollution of the outdoor air has resulted in a number of specific problems. They include acid rain, global warming, destruction of the ozone layer, and photochemical smog. Acid rain and global warming currently have minimal effects on human health and are discussed below briefly. Destruction of the ozone layer and photochemical smog directly affect human health and are discussed in some detail.

Acid Rain

Acid deposition, often referred to as acid rain(also acid snow, acid dew, acid drizzle, acid fog, and acid sleet), may occur both within and downwind of areas that produce emissions that contain sulfur dioxide (SO_2) and oxides of nitrogen (NO_2 and NO_3). These emissions, which result from the burning of fossil fuels—oil, coal, and natural gas—react in the atmosphere and combine with water vapor to form sulfuric and nitric acids,which fall to the earth as acid rain.The primary problems associated with acid rain are the acidification of surface water, which results in the death of certain species of water life, damage to vegetation primarily at higher elevations, and erosion of monuments and buildings. While acidic air pollutants can contribute to respiratory problems in humans, acid deposition itself is not considered a health hazard.

Global Warming

Global warmingis the gradual increase in the earth's surface temperature. One of the conditions that seems to be contributing to global warming is the increase in levels ofgreenhouse gases-namely,carbon dioxide,chlorofluorocarbons (CFCs), methane, and nitrous oxide-which are transparent to visible light but absorb infrared radiation. These gases permit the passage of sunlight to the earth's surface. However, when some of this energy is reradiated as infrared radiation (heat), it is absorbed by the gases, causing air temperature to rise. Whether or not global warming is occurring at present is a matter of debate.

Destruction of the Ozone Layer

Although ground-level ozone (O3) is considered a criteria pollutant, stratospheric ozone provides a great benefit to life on earth. This stratospheric ozone layerfilters out 99% of the sun's harmful ultraviolet radiation. Without this protective filter, ultraviolet radiation would reach the earth's surface at dangerously high levels, causing increased rates of skin cancers and eye problems. Further, there would be an increase in the rate of mutations (genetic changes) and perhaps the disruption of the oceanic food chain.

The ozone layer is being depleted faster than originally believed. In fact, scientific evidence suggests that the rate of ozone depletion over the last decade is more than twice what was previously projected. Thinning of the ozone layer has been found over the polar regions and in the northern midlatitudes. The primary cause of the depletion of the ozone layer is the presence in the atmosphere of CFCs.CFCs are solely a product of the chemical industry;they do not occur naturally in the environment. CFCs are used for a wide range of purposes, including as propellants in aerosol cans, in the freon of air conditioners and refrigerators, and for blowing plastic foams. Because CFCs are implicated in both ozone depletion and global warming, considerable attention has been placed on controlling their production and release.

Photochemical Smog

Photochemical smog is created when other air pollutants, including nitrogen oxides, hydrocarbons, ozone, and peroxyacyl nitrates (PAN), react with oxygen and sunlight. The resulting photochemical smog, seen in the air as a brownish haze, is detrimental to human health and to the well-being of other living things.

Water and Its Pollution

Water is essential for life as we know it, but only a small fraction of the earth's water is available for our use.We acquire water for our needs from either surface water or groundwater. Unfortunately, much of this water has become polluted.

Sources of Water

Water in streams, rivers, lakes, and reservoirs is called surface water.The water that sinks into the soil is referred to as subsurfaceor groundwater. Groundwater that is not absorbed by the roots of vegetation moves slowly downward until it reaches the underground reservoirs referred to as aquifers. Aquifersare porous, water-saturated layers of underground bedrock, sand, and gravel that can yield an economically significant amount of water. The earth's supply of freshwater available for our use is limited. The majority (over 97%) of the world's water supply is salt water found in the oceans. While it is possible to remove salt from this water by desalinization,it is a very expensive process. The remaining 3% is freshwater, 99% of which is found in ice sheets and glaciers at the poles. Only 0.003% of the earth's water is available for use by humans, and much of this is hard to reach and too costly to be of practical value.

Thus, the continual contamination of our groundwater through the improper disposal of solid and hazardous waste should be of paramount concern to everyone. Surface and groundwater have very different characteristics. Surface water supports plant and animal life, including microorganisms, with the oxygen and nutrients that are contained in it. Conversely, groundwater is low in oxygen and contains few microorganisms. These microorganisms are filtered out as the water passes through the soil to the aquifers. The subsurface water is, however, higher in minerals such as iron, chloride, and salts because of its travel through the soil and rocks. Each of these characteristics is taken into account when preparing the water for human use.

Treatment of Water for Domestic Use

The greatest use of water is for agriculture (41%), utilities (38%), and industrial manufacturing (11%). Only 10% is used directly by the public. Domestic water use includes water for drinking, cooking, washing dishes and laundry, bathing, flushing toilets, and outdoor use (such as watering lawns and gardens and washing cars).

The steps in surface water treatment vary from plant to plant, but the following four steps are almost always included:

1. Coagulation and flocculation: A chemical such as Alum (aluminum sulfate) is added to the water to cause suspended solids to attract one another and form larger particles (flakes, or floc).

2. Sedimentation: The water is permitted to stand so that the large particles (flakes) will settle out.
3. Filtration: The water is passed through filters (often carbon and sand filters) in order to remove any solids and dissolved chemicals remaining after sedimentation.
4. Disinfection: Chlorine is added to the water to kill viruses, bacteria, algae, and fungi.
Disinfection is sometimes accompanied by fluoridation,which helps prevent dental decay.
The treated water, now safe to drink, is pumped to community water storage tanks, many of which are familiar on the skylines of American towns. The water then must enter the distribution system through which it reaches homes. The integrity of this distribution system is not always reliable. There can be breaks in the pipes, sometimes in the vicinity of sewer lines that also may be leaking. Therefore, a residual level of chlorine to kill bacteria must remain in the water until it reaches the tap. This is insurance against contamination during distribution.

Sources of Water Pollution

Water pollution includes any physical or chemical change in water that can harm living organisms or make it unfit for other uses. The sources of water pollution fall into two categories—point sources and nonpoint sources.

Point source pollution refers to a single identifiable source that discharges pollutants into the water, such as a pipe, ditch, or culvert. Examples of such pollutants might include release of pollutants from a factory or sewage treatment plant. Nonpoint source pollutionincludes all pollution that occurs through the runoff, seepage, or falling of pollutants into the water. Examples include the runoff of chemicals from farm fields, seepage of leachates from landfills, and acid rain. Of these two sources of pollution, nonpoint source pollution is the greater problem because it is often difficult to track the actual source of pollution.

Types of Water Pollutants

As one might guess, the types and numbers of water pollutants are almost endless. The two types of pollutants of primary concern to community health are biological and toxic pollutants.

Biological Pollutants

Biological pollutants include pathogens such as parasites, bacteria, viruses, and other undesirable living microorganisms. These pathogens enter the water mainly through human and other animal wastes.

Nonbiological Pollutants

Nonbiological pollutants include inorganic chemicals such as lead, copper, and arsenic; organic chemicals; and radioactive pollutants. Among the organic chemicals are industrial solvents such as trichloroethylene (TCE), pesticides such as dichlorodiphenyltrichloroethane (DDT), and the insulating chemicals used in transformers and electrical capacitors, such as the polychlorinated biphenyls (PCBs). These toxic chemicals are also present in inks, paints, glues, waxes, and polishes. Finally, there is dioxin (TCDD), a substance that is a by-product of the incineration of paper products and chlorinated plastics.

Water quality has deteriorated in many communities. This deterioration can be attributed to four causes:

1. Population growth—an increase in the number of people generating waste
2. Widespread and ever-increasing chemical manufacture and usage, particularly synthetic organic chemicals
3. Gross mismanagement and irresponsible disposal of hazardous wastes
4. Reckless land-use practices that result in runoff of pollutants into waterways

Strategies to Ensure Safe Water

Strategies used to ensure safe water in America today include public policy, proper treatment of wastewater, and water conservation.

Wastewater Treatment

Wastewater is the substance that remains after humans have used water for domestic or commercial purposes. Such water, also sometimes referred to as liquid wasteor sewage,consists of about 99.9% water and 0.1% suspended and dissolved solids. Included in the solids are human feces, soap, paper, garbage grindings (food parts), and a variety of other items that are put into wastewater systems from homes, schools, commercial buildings, hotels/motels, hospitals, industrial plants, and others connected to the sanitary sewer system. Many municipalities also treat rain water, which has become contaminated by contact with surfaces such as roadways; this water is collected by a system of storm sewers.

The primary purpose of wastewater treatment is to improve the quality of wastewater to the point that it might be released into a body of water without seriously disrupting the aquatic environment, causing health problems in humans in the form of waterborne disease, or causing nuisance conditions. This is accomplished in two ways. One is by converting organic wastes to

simple inorganic wastes so that they will not unduly enrich the waters receiving the treated wastewater. The second is by disinfecting the treated wastewater before releasing it back into the environment.

Municipal Wastewater Treatment

There are three stages of wastewater treatment-primary, secondary, and tertiary. Most municipalities and many large companies have wastewater treatment plants that incorporate at least primary and secondary treatment levels.

Primary Treatment

Primary treatment of wastewater is a physical/mechanical process that results in the separation of liquids and solids. The wastewater is then placed in a holding tank or settling pond (lagoon). Here, heavier solid particles settle to the bottom,forming a layer referred to assludge. Sludge is a gooey, semi-solid mixture that includes bacteria, viruses, organic matter, toxic metals, synthetic organic chemicals, and solids. Above the sludge remains most of the water,including many bacteria and chemicals. On top of the water layer is a layer of oils and fats. The layers of sludge and fat then are removed,and the aquatic portion enters the secondary stage of treatment.

Secondary Treatment

During secondary treatment, aerobic bacteria are added to the wastewater to break down the organic materials into inorganic carbon dioxide, water, and minerals. After secondary treatment, the water, which is about 90% clean, can be discharged into a waterway.

Tertiary Treatment (Advanced Sewage Treatment)

The third level of treatment usually involves sand and charcoal filters, or extended settling tanks that can remove 90% of the remaining dissolved pollutants left behind after the first two treatment levels. Most treatment facilities and the equipment to perform this treatment is very expensive. Finally, whether wastewater is discharged after secondary or tertiary treatment,it is recommended that the wastewater be disinfected. The least expensive way of disinfecting is to chlorinate.

Septic Systems

Septic systems are the means by which those who live in unsewered areas dispose of sewage. A septic system consists of two major components—a septic tankand a buried sand filter or absorption field. The septic tank, which is a watertight concrete or fiberglass tank, is buried in the ground some distance from the house and is connected to it by a pipe. The system works in the following way. Sewage leaves the home via the toilets or drains and goes through the pipe to the

septic tank. In the tank, the sewage is partially decomposed by bacteria under anaerobic conditions. The sludge settles to the bottom while the liquid portions of the waste are carried by a pipe to a series of perforated pipes that feed an absorption field. The tanks have to be cleaned out (pumped out) periodically to remove the sludge.

Sewage disposal by septic tanks is perfectly safe if the system is (1) properly located in appropriate soil, (2) carefully constructed, and (3) properly maintained. Septic systems can contaminate groundwater if any of these conditions are not met; unfortunately, all too often, they are not.

Conservation

Take a few simple steps to conserve the water we use. Examples of domestic conservation include not letting the water run while brushing teeth, washing dishes, or washing a car. Also, shorter showers and water-saving showerheads conserve water.

Radiation

Radiation is the energy released when atoms are split or naturally decay from a less stable to a more stable form.When used appropriately, as in modern medicine, radiation provides many benefits.

Sources of Radiation

We are exposed to low levels of radiation daily from both natural and human-made sources

Naturally Occurring Radiation

Naturally occurring radiation comes from three sources.That which comes to the earth from outer space and the sun is referred to as cosmic radiation. Terrestrial radiation comes from radioactive minerals that are within the earth—soil and rocks. Therefore, people who live near these substances (which include traces of uranium),or who live or work in buildings made of brick and stone that contain radioactive materials, have greater exposure. Radon gas is the biggest contributor to terrestrial radiation.The third source of naturally occurring radiation is internal radiation—that is, radiation internal to the human body. Exposure to such radiation occurs as a result of ingesting food or drugs and inhaling air that contains radioactive atoms.

Human-Made Radiation

Sources of human-made radiation include the radiation used in medical and dental procedures such as X-rays, nuclear medicine diagnoses, and radiation therapy. Another source of

human-made radiation is nuclear power plants. Other sources include certain consumer products (such as smoke detectors), X-rays for security checks, tobacco, television and computer screens, and nuclear weapons.

Noise Pollution

Of all environmental pollution, the type that receives the least attention in this country is noise pollution,or excessive or unwanted sound. However, noise pollution can contribute to hearing loss, stress, and emotional problems; it can interrupt concentration and cause unintentional injuries.

What is Noise and How is it Measured?

Sound is heard when energy from vibrations, traveling through air, liquid, or solid media as pressure waves, is received by the ear. Unwanted, unpleasant sound is referred to as noise. However, what constitutes unwanted sound is a matter of subjective judgment. What is considered a reasonable amount of sound to teenagers often is noise to their parents. In this regard, noise is measured by an annoyance factor. Yet,there are ways to scientifically measure and quantify noise (sound).

Approaches to Noise Abatement

Because serious hearing problems can arise from noise pollution,communities need to take the necessary steps to control unwanted sound. To date, the most common means of dealing with noise pollution have been policy (legislation), educational programs, and environment changes.

The Impact of Environment on Human Health

Environmental health is the study and management of environmental conditions that affect the health and well-being of humans. Environmental hazards are those factors or conditions in the environment that increase the risk of human injury, disease, or death. Regardless of whether the environment contributes a little or a lot to disease, the tragedy is that all environment-induced disease is highly preventable.

Both individuals and communities can contribute to the elimination of environmental health risks. Individuals can protect their own health and the health of those around them by making wise choices about their personal health behavior. Communities can limit their exposure to environmental hazards by adopting environmentally sound practices in the production, transport, storage, and disposal of hazardous wastes.

Environmental hazards can be biological, chemical, physical, psychological, or sociological. Some events, such as natural disasters or terrorist acts, can result in several types of environmental hazards. For example, a hurricane often causes physical hazards (high winds), followed by biological and chemical hazards (contaminated flood waters), and psychological and social hazards (fear and loss of homes and businesses). Each of these environmental conditions that poses a risk to human health.

Biological Hazards and Human Health

Biological hazards are living organisms (and viruses), or their products, that increase the risk of disease or death in humans. These may be animals (venomous snakes) or plants (toxic mushrooms), but they are usually viruses or microbes such as bacteria. Because the immediate source of many biological hazards is humans themselves, the improper handling of human waste and wastewater can jeopardize the health of the community.

Environmental sanitation is the practice of establishing and maintaining health and hygienic conditions in the environment. The protection of communities from biological hazards resulting from the mismanagement of wastewater or solid waste is the job of the sanitary engineer. Failure to maintain the integrity of the water supply can mean epidemics of waterborne

diseases, illnesses and diseases transmitted through chemical or fecal contamination of drinking water. Environmental sanitation also includes protecting communities from unsafe food. The improper handling, storage, and service of food can result in outbreaks of foodborne diseases. Likewise, the overflow of wastewater into open fields and ditches or the mismanagement of solid waste near human habitation can result in outbreaks of vectorborne diseases, diseases transmitted by insects.

Waterborne Diseases

Waterborne diseases occur when water, contaminated with a disease agent, is consumed by a susceptible person. Waterborne disease agents include viruses, bacteria, parasites, and chemicals. Waterborne viral agents and the diseases they cause include poliomyelitis virus (polio) and hepatitis A virus (hepatitis). Example: typhoid fever and cholera-have killed thousands of people in single epidemics In the case of chemical poisoning, a single case is considered an outbreak.

Foodborne Diseases

One way in which humans interact with their environment is by ingesting bits of it.The act of eating is, in effect, a way of bringing biological hazards into intimate contact with the tissues that

line the intestinal tract. More than 200 known diseases are transmitted through food. In these cases, food is the vehicle; and the agents can be viruses, bacteria, parasite's toxins, metals, and prions. Symptoms of foodborne illness range from mild to severe, and organs involved can include stomach and intestines, liver, kidneys, and brain and nervous system.

Enforcing state regulations at the local level are sanitarians, also known as registered environmental health specialists. Hired by local health departments, these sanitarians inspect restaurants and other food-serving establishments (such as hospitals, nursing homes, churches, and schools), temporary and seasonal points of food service (such as those at fairs and festivals), and retail food outlets (grocery stores and supermarkets) to ensure that environmental conditions favorable to the growth and development of pathogens do not exist.

Vectorborne Diseases

Standing water, including runoff water from overflowing septic systems or overloaded sewer systems, and improperly handled solid waste are more than unsavory sights. They provide habitat for, and support the proliferation of, disease vectors. A vector is a living organism, usually an insect or other arthropod, that transmits microscopic disease agents to susceptible hosts. Examples of vectors and the diseases they transmit include mosquitoes (malaria, filariasis, and arthropodborne viruses-arboviruses), fleas (murine typhus and plague), lice (epidemic typhus), and ticks (Rocky Mountain spotted fever and Lyme disease).

Chemical Hazards and Human Health

Chemical hazards are those that result from the mismanagement of chemicals. Not all people react to chemicals in the same way; some people are especially susceptible, whereas others are not. One fact is clear: Children are much more vulnerable to chemical assaults than adults. Although chemicals have provided modern society with innumerable benefits, they can have a deleterious impact on human health when mismanaged. This section examines common sources of chemical exposure that could negatively affect health, namely, pesticides, environmental tobacco smoke.

Pesticides

The term peste rfers to any organism (plant, animal, or microbe) that has an adverse effect on human interests. Some common examples are weeds in your vegetable garden, termites in your house, and mold on your shower curtain. Pesticides are natural or synthetic chemicals that have been developed and manufactured for the purpose of killing pests.

While chemical companies market pesticides to control a particular pest,most of them in

fact kill a wide range of organisms. The pest organism against which the pesticide is applied is referred to as the target pestor target organism. All other organisms in the environment that may also be affected are called non-target organisms. For example, most weed killers will not only kill the weeds, but also (nontarget) flowers and ornamental plant vegetation. Similarly, it is not uncommon for domestic animals to be poisoned and killed by rodenticides (rat poison). Overexposure to these chemicals can have adverse effects on human health.

The two most widely used types of pesticides are herbicides (pesticides that kill plants) and insecticides (pesticides that kill insects). It is also from these two types of pesticides that most human pesticide poisonings occur. The two groups at highest risk for pesticide poisoning are young children and the workers who apply the pesticides. Many of these persons live on farms or are engaged in farm work. Poisonings occur when the pesticides are consumed orally, inhaled, or when they come in contact with the skin. The majority of children poisoned by pesticides consume them orally. These are frequently unintentional poisonings that occur when pesticides are left within reach of children. Most adult poisonings occur because of careless practice. Examples include eating food without washing hands after handling pesticides, mouth-siphoning to transfer pesticides from one container to another, applying pesticides while one's skin is exposed, or spilling the pesticide on one's body.

Environmental Tobacco Smoke

Environmental tobacco smoke (ETS), also known as second hand smoke, includes both sidestream smoke and mainstream smoke. The process of inhaling ETS is referred to as passive smoking. The association between ETS and adverse health effects has been demonstrated in a number of different epidemiological studies. These studies provide evidence that adults exposed to ETS have an increased relative risk of lung cancer and possibly heart disease.

Physical Hazards and Human Health

There are a number of physical hazards in the environment that can negatively affect human health. They include high temperature, equipment and environmental design, and radiation. Two of the most pervasive physical hazards involve radiation from radon gas and ultraviolet light. Radiation is the energy released when atoms are split or decay naturally from less stable to more stable forms. The energy, which can be thought of as either waves or particles, can damage the cells that make up living tissue. This damage occurs by a process called ionization, the removal of electrons from atoms in the molecules that are part of the living tissue. These molecular changes can result in

biochemical lesions that can cause a mutation or cell death. On the skin, these can appear as burns, but the damage also can be internal. If the damage is severe enough, the organism will die.

Radon Contamination

Radon (radon-222) is a colorless, tasteless, odorless gas that is formed during an intermediate step in the radioactive decay process of uranium-238, a natural element that is found in most soil and rock but is more common in some places than in others. Radon gas has the ability to travel miles underground and rise to the earth's surface far away from any source of uranium. When it escapes the earth's crust outdoors, it quickly disperses harmlessly in the atmosphere. However, if it seeps into buildings occupied by humans, it can become a health hazard. It enters buildings through cracks in the foundation walls and floors, joints, openings around sump pump drains, loose-fitting pipes, and porous building materials, where it can then build up to harmful levels. Such harmful levels are most likely to occur in unventilated lower levels of homes and buildings. Radon becomes attached to dust particles that are then inhaled and may be deposited on lung tissues. This exposes the tissue to ionizing radiation, thereby substantially increasing the risk of lung cancer.

Ultraviolet (UV) Radiation

Another source of ionizing radiation is the sun, yet millions of Americans think nothing of exposing (and overexposing) themselves to this form of radiation. Many actually seek it out in the mistaken belief that a tan body is a healthy body. Sunshine comprises energy in many wavelengths, including visible light, heat, and ultraviolet (UV) radiation. UV radiation includes energy at wavelengths between 0 and 400 nanometers (nm). UV radiation between 290 and 330 nm, called UV-B, causes most of the harm to humans.In recent years,with the destruction of the ozone layer,the quantity of UV-B radiation reaching the earth has been increasing.

Epidemiological studies have found an association between UV-B, or ionizing, radiation and skin cancer. For example, there is more skin cancer in those living closer to the equator if they are not protected by darker skin. Also, most skin cancer appears on the exposed body parts (i.e., arms, legs, head, and neck).

Solutions for dealing with this physical hazard are simple. The first is for people to reduce their risk of exposure, and the second is to seek early treatment if cancer is suspected. One can reduce the risk of exposure by staying out of the sun or by covering the skin with clothing or commercial sunscreens. Sunscreens work by absorbing, reflecting, or scattering ultraviolet light, thereby reducing the amount that reaches the skin.

Psychological Hazards and Human Health

Psychological hazards can be just as important as biological, chemical, and physical hazards in the determination of human health. However, the precise effects of psychological hazards onhuman populations are difficult to quantify. Among the health problems associated with psychological hazards are hypochondriasis, depression, hysteria, and stress.

An important psychological hazard today is international terrorism. Indeed, it has been stated that the primary purpose of terrorist acts, aside from the relatively few casualties that usually occur, is to produce a psychological state of fear, stress, and hysteria. Many Americans experienced one or more of these psychological conditions in the aftermath of theWorld Trade Center (WTC) attack that occurred in NewYork City on September 11, 2001. Clearly, psychological hazards are an important community health concern.

Sociological Hazards and Human Health

Living around other people can create a number of sociological hazards that can impact human health. It is known that noise, overcrowding, traffic jams, isolation, lack of privacy, and crowds can influence human health. As in the case of psychological hazards, the exact impact of these hazards on human health is unknown.

Although sociological hazards alone can create health problems, it is more likely for them to be found in combination with other environmental hazards. For example, the loud music created by a band could very well be harmless in a rural area, but it could create a serious problem in a crowded housing project in the middle of a city. In order to demonstrate the impact of sociological problems on human health, we will discuss population growth.

Population Growth

A population is defined as a group of individuals of the same species occupying a given area. The growth of a population can be attributed to three factors—its birth rate, its death rate, and migration. However, because we are discussing the human population on our entire planet, migration is not a factor.

The Issues

While exponential world population growth is no longer occurring in absolute terms, world population growth continues to be substantial, and it is at a rate that is unsustainable if we wish to maintain the quality of life and health we enjoy today. Some of the consequences of overpopulation include the prospects of global warming, acid rain, bulging landfills, depletion of the ozone layer,

increasing crime rates, increasing vulnerability to epidemics and pandemics, smog, exhaustion or at least contamination of soils and groundwater, and growing international tensions. To these might be added the degradation of arable land, land that can be cultivated to grow crops. Also, there will be a dwindling of natural resources for energy, housing, and living space—especially in large cities.

The Solutions

Most experts agree that the world population is approaching the maximum sustainable limit. However, no one knows what the ultimate population size will be. There are some encouraging signs. The world population growth rate was over 2% just 30 years ago; it is now just 1.2%. Although there are still great concerns with the population growth rates in parts of the Middle East and Africa, some developing countries have succeeded in slowing growth. For example, the average number of children born to a Mexican woman has plunged from seven to just 2.5 in the past 30 years.

The so-called humane means of limiting population growth include (1) various methods of conception control such as the oral contraceptive pill, physical or chemical barrier methods, or sterilization (tubal ligation and vasectomy); (2) birth control methods such as intrauterine devices, legalized abortion, and morning-after pills; and (3) social policies such as financial incentives and societal disincentives for having children, as is the practice in China's one-child family program. While some of these methods are unacceptable to certain people, all are proactive solutions to the mounting population problem. The alternative is to allow exponential population growth to continue until it declines naturally, by way of famine, epidemic diseases, and perhaps warfare. Nature's way will require a good deal more environmental deterioration, social disintegration, poverty, and human suffering. The choice is still ours.

Site and Location Hazards and Human Health

Some natural and human-made site and location situations that can be hazardous to humans. To further explain the hazards to human health that site and location may bring, we have chosen to discuss natural disasters. Natural disasters include those geophysical and meteorological events (disaster agents) that greatly exceed normal human expectations in terms of magnitude or frequency and cause significant injury to individuals and damage to their property. Human health can be adversely affected by a disaster even before it occurs. Knowledge of an impending disaster can cause stress. Such stress can produce serious health problems in those who are unable to

control their reaction to the situation. During the event, health can again be affected because of the physical damage causing both injuries and deaths. After a natural disaster, because of the remaining biological, sociological, psychological, and physical conditions, a variety of needs may exist. The primary needs of people after a natural disaster usually include food, water, shelter, health care, and clothing. The availability and quality of these items can dictate the impact of the disaster on human health.

Chapter Six : Socio-cultural, Religion and Spirituality Perspective in Health

6.1. Socio-Cultural Explanation of Health

We all have theories about how things work in the world, about why some people have more resources than others, and why some people get sicker than others. We have many theories about how to keep ourselves healthy and what health means. Theory enables us to be reflexive about our activities and in this way; the use of theory is supremely practical. There are two very practical aspects to the use of explicit theory in health promotion. First, it is very important that we use understandings that make sense and fit together (i.e., are coherent). If health promotion efforts are based on faulty thinking and false understandings of the basis of health and health behaviour, then they simply will not work. Second, and further to this, they may do harm. Without clear understandings of the reasons behind our actions and the wider web of related relationships, some health promotion actions may have unintended consequences. For example, in defining a health issue, it is important to understand the social consequences of the theories used to decide what the issue is. In practice, health promotion interventions need to draw on different theories for different parts of the work. For example, theories of health may explain the various influences on health which are then seen as the targets for an intervention.

1. Social Cognitive Models

To explain health related behaviour, health psychologists have lately drawn heavily upon social cognitive models of behaviour. These theoretical models are designed to generate hypotheses for testing and provide specific targets for intervention. That is, the definition of specific cognitions such as beliefs and attitudes, provide health promoters with aspects of people's thinking that may be changed through counselling, education programmes or media campaigns. There are several versions of social cognitive theories that have been used in health promotion work. Bandura's (1986) social learning theory may be seen as a precursor and basis for this sort of theorizing, and Bandura's work remains the most theoretically developed work in this area. In particular his concepts of self-efficacy and learning through social modelling have been very influential in developing health promotion interventions.

2. Social Constructionism and Post Structuralism

Social constructionism focuses on the practices of people as part of societies or cultural groups, rather than as autonomous individuals. Language is seen not as a tool to reflect reality, but as the way in which people construct reality together. As members of particular social groups we

share discursive resources, or certain ways of talking, which are used in daily life to construct a shared version of reality. Objects in the world, like health and illness and how we should behave, are constructed in language use. Knowledge, attitudes and beliefs are not the property of individuals, but are shared between people through language and multiple circulating texts.

An important aspect of a constructionist epistemology is that recognition of the social construction of knowledge allows for the acceptance of multiple views of reality held at different times or by different cultures. Thus, all claims of knowledge about reality belong to particular times and places. A corollary of this understanding of the constructive role of language is that multiple versions of health may be shared within the same society at the same time. People may draw upon a certain version of health talk according to the social function of their talk.

Social constructionism acknowledges the power issues involved in multiple constructions: some versions of knowledge are privileged and some knowledge claims are not socially acceptable. The dominance of biomedical versions of health and illness and the devaluing of 'lay' versions of health is an example of the operation of these discursive regimes in Western society.

2.1. Social Constructionist Phenomenology

As part of a set of theoretical approaches to underpin health promotion work, Poland (1992) suggested Berger's social constructionist phenomenology as a useful resource. Berger, following Shutz, is concerned with inter subjective systems of meaning, and how culture is constructed and reconstructed through ongoing social exchange. This shared knowledge forms the life worlds of individuals and the researcher's task is to identify representations of these shared meanings. The value of this approach is the opportunity to understand culture both as a social structure and as informing individual intentions, experience and identity. Another valuable aspect of Berger's use of phenomenology for health research is that this theory includes the importance of both discursive and embodied life. From this perspective bodies, which are ignored in many social constructionist theories, are included. As individuals we experience the biological (viruses, pollutants), cultural (dietary habits, health care customs) and social factors (working and housing conditions) that influence health as equally real. This relation between biological, social and cultural life includes understandings that we have bodies (to take care of) and also are bodies (the 'I' that is the basis of intentional activity).

2.2. Discourse Theories

Psychology has drawn upon several other disciplines to develop versions of discursive theory for application. Parker (2005) has provided a recent overview of discourse analysis as a way of studying the workings of ideology and power through the constructive nature of language. He outlines four key theoretical ideas that form the basis of these applications: multi-voicedness, semiotics, resistance and discourses.

The *multivoicedness* of language allows us to recognize that variability and contradiction in people's talk is not error. It is to be expected and is a useful pointer towards the differences in language use and how language works to position people as certain sorts of subjects in social life (e.g., homosexual or gay; patients or clients; prostitutes or sex workers). *Semiotics* is the study of how language (including text and visual images) works in these ways to construct certain sorts of people and activities as having particular meanings. Language is functional. People use language to perform social acts so that language not only describes the world, but it does things. The study of the functional nature of rhetoric in everyday talk shows how people are constantly working to justify, blame and position themselves as certain sorts of people. The study of the functional nature of texts both historically and in everyday use shows how power relations are perpetuated in discourses. How some discourses become dominant and how others are repressed, and how people use language to resist domination. *Discourses* may be seen as constellations of certain words and images that work together to construct objects. Potter and Wetherell (1987) have developed a theoretical approach to discourse analysis in which they have termed these chains of images and words 'interpretative repertoires'. Parker (2005) points to the ideological function of discourses as presenting versions of reality which control and oppress. For example, a discourse of heterosexuality defines what is deviant, a medical discourse defines what is sick, and a dominant patriotic discourse defines what is alien.

The use of discourse theory in health psychology has led to questioning of the objective reality of biomedical variables, and medical diagnoses, as well as critiques of whether the biopsychsocial model provides a suitable framework for understanding health and illness. Discourse analytic research has been applied in areas such as understanding social constructions of stress, smoking and sex education.

Poststructural discourse has been very influential in social science enquiries into health. In particular, social scientists have drawn on sociologist Michel Foucault's (1976) analyses of the

operations of power in social life, including clinical medicine. Foucauldian discourse analysis focuses on the discursive resources available in a society and points to the ways in which different versions of reality, and certain subjects and objects are constructed through language. A particular focus has been the ways in which discursive practices reinforce the power of institutions, such as medicine, in society.

2.3. Social Representations Theory

Social representations theory provides a broader approach to the functional aspect of the use of language, which includes both discourse and embodied practice. Moscovici's analysis of the ways in which psychoanalytic theory was utilized by scientists, politicians and in popular culture demonstrated how certain words become associated together and repeated to form particular representations of psychological life that were shared by members of these groups. Thus, particular words and images used together to describe an object or idea (such as health) become a customary part of a culture and are shared by members to interpret and construct experience. Moscovici explains that the basis of this theory is an understanding that people communicate 'about objects not as they are but how they ought to be', which implies the primacy of representations and systems of shared representations as the basis of knowledge, whether common sense or scientific knowledge. Social representations are both shared and produced through social interaction, and combine practical and communicative functions.

Howarth et al. (2004) describe the application of social representations theory to community health research. They note that social representations theory acknowledges multiple and dynamic knowledge systems about any socially significant object. Differences are seen as consequences of the value and purposes of knowledge systems for different social groups. In addition they make the important point that these different knowledge systems are not theoretically privileged one over the other, or seen as biased, but rather that the representations used by different groups must be examined on their own terms. In general, social representations theory has been used by health researchers to study representations of health across different societies and in different material conditions, the shared representations of various illnesses and what this might mean for sufferers or public health responses, and the manifestations of such representations in practice.

3. Understanding Social Life (Social Theories)

The shift in health promotion rhetoric to include the importance of the broader social world on people's health and behaviour also demands a move toward understanding that social world as an entity. A critical approach to research and practice recognizes that the mechanisms constraining people's everyday lives and practices cannot be understood without using social theory. The influence of overarching social structures and mechanisms on behaviour must be taken into account if we wish to make chang es at this broader social level to improve people's health. Social theories include cultural models of health that challenge the scientific model and particular aspects of social life that have been described and theorized as related to health beyond direct causal connections.

Maori conceptualizations of health

Maori understandings of health are based on a holistic model. According to Durie (1998), Maori see health as a four-sided concept representing four basic beliefs of life: psychological health; spiritual health; physical health; and family health. Durie has represented this model of health as the four sided house. As in a house, all sides are equally essential and work together to support well being. Spirituality is acknowledged to be an essential requirement for health. Without a spiritual awareness an individual may be seen as ill or having lost essential connections and identity. Mental health is understood in terms of thoughts, feelings and behaviour, which are vital to health. Healthy thinking for a Maori person is about relationships. Communication through emotions is important and more meaningful than the exchange of words. Physical health is the most familiar aspect of health. For Maori the body and things associated with it are part of the sacred world, and are seen in terms of a complex relationship between sacred and ordinary things of the world. In traditional healing practices physical symptoms are seen both in terms of treating symptoms and in terms of restoring the underlying imbalance between the sacred and ordinary and all the parts of health. Family is the prime support system providing physical, cultural and emotional care. Maintaining family relationships is an important part of life and caring for young and old is paramount.

Social capital

Social capital is included here as a theoretical construct which has recently become very popular to help explain health inequalities, and to guide community health promotion practice. The

social capital concept was developed independently in areas such as sociology, education and political economy. It has been drawn on by public health and development researchers since the 1990s to consider the social effects of inequalities in health. Since its introduction to public health by researchers such as Wilkinson (1999), health researchers have drawn most heavily upon Putnam's (1995) conceptualization of social capital. Putnam has described social capital as a beneficial quality of social life that inheres in the community, not the individual. He defines this quality as 'features of social organisation, such as civic participation, norms of reciprocity, and trust in others', which work together to increase the well being of all. In other words, communities in which people trust one another, care for each other, belong to lots of organizations like church groups or scouts, go on picnics together and enthusiastically contribute to community life by volunteering and voting, will be better off in many ways.

6.2. Religion, Spirituality, and Health

Definitions of Religion and Spirituality

When we speak of religion and spirituality, each individual has a unique understanding of and personal meaning for these terms. Individuals may have common definitions, but for many people, religion and spirituality are difficult to define. Generally, religion is thought of as the institutions, and participation in those institutions, in which the members have shared ideology of the divine or sacred. Typically, researchers measure aspects of religion by participation in these institutions, by frequency and type of prayer associated with them, or by self-identification of the respondent. Moberg (1971) defines religion as a set of ideological beliefs, practices, and rituals associated with a specific creed.

Spirituality is a bit more difficult to define. In the vast majority of cultures, "spirit" embodies what is "sacred" or "divine." While in many cultures the sacred is perceived as a godhead, a divine, or all-powerful being, in other cultures, the sacred is seen more as the embodiment of life force in nature, people, or certain phenomena. There is no common definition among researchers regarding spirit or spirituality. "Closeness to God," "satisfaction/efficacy of prayer," and "satisfaction with religious practice" are constructs that researchers sometimes use to measure spirituality. Measuring spirituality by proxy, that is, satisfaction with religious practice illustrates one of the basic problems in defining and measuring it. Spirituality has most commonly been defined by social scientists as "a sense of inner-connectedness with a feeling of purpose and meaning in life, which enables transcendence over immediate circumstances". It might be said that

a religious person is considered to be more concerned with social role, religious institutions, and the understanding of dogma, while the spiritual person might be considered to have more concern with understanding the relationship of the self to the divine, transformation, and observance of phenomena with or without institutional mediation.

Both religion and spirituality have a "sacred core" that consists of "feelings, thoughts, experiences, and behaviors that arise from a search for the sacred." Sacred was defined as "a divine being or ultimate reality or ultimate truth as perceived by the individual." "Religion" was distinguished from "spirituality" by the addition of two criteria: *extrinsic religiosity and utilization of ritual*. Some religious behavior might involve seeking nonsacred goals either in or outside of a religious context. This phenomenon, also known as extrinsic religiosity, involves using religion to pursue nonsacred goals such as an enhanced social role. A person might attend church services to build a social network, make business contacts, meet a prospective spouse, or attain some other benefit not associated with the sacred. Religion must also necessarily involve the use of ritual, or specified behaviors associated with the sacred or divine, that are sanctioned by a specific population or group of people. Ritual has the power to prompt transformation through regeneration and symbolic use of time, thus allowing individuals to reinterpret personal experience in terms of group norms.

Building on the consensus of the 1997 Fetzer Foundation working group, Koenig, McCullough, and Larson (2001) give us the following definitions and characteristics of religion and spirituality that are helpful for clinical research and social work practice: *Religion*: An organized system of beliefs, practices, and rituals, and symbols designed to (a) facilitate closeness to the sacred or transcendent (God, higher power, or ultimate truth/reality) and (b) to foster an understanding of one's relationship and responsibility to others in living together in a community. *Spirituality*: The personal quest for understanding answers to ultimate questions about life, meaning, and relationship to the sacred or transcendent, which may (or may not) lead to or arise from the development of religious rituals and the formation of community.

Spirituality is much more difficult to parse, delineate, or deconstruct. Humanistic spirituality, focusing on the human spirit. Unmoored spirituality, borrowing from many traditions, focusing on the self and not institutions.

Characteristics Distinguishing Religion and Spirituality

Religion	Spirituality
Community focused	Individualistic
Observable, measurable, objective	Less visible and measurable, more subjective
Formal, orthodox, organized	Less formal, less orthodox, less systematic
Behavior oriented, outward practices	Emotionally oriented, inward directed
Authoritarian in terms of behaviors	Not authoritarian, little accountability
Doctrine separating good from evil	Unifying, not doctrine oriented

Religion and the History of Healing

Religion and healing have been intertwined from the beginning of recorded history. From the earliest of times, the roles of priest and physician have been difficult to separate. In many cultures, their roles were the same. Writings in the Bible and the medical literature of ancient Egypt and Babylonia describe healing roles for priests. In classical Greece, Plato wrote at length of epodeor charm—a magical force capable of healing. Plato's ideas evolved in his writings about charm, focusing finally on the exponential power that epodeseems to have had when coupled with more commonly accepted "bodily medicines." In Plato's view, it was a very poor physician who treated only the body without attention to the epode, the charm that ministered to the soul. In his beautiful verse, Plato addresses diseases of the body that may be healed by skilled use of charm. The body may deteriorate, but as a result of the medical/priestly intervention, the soul grows stronger, sustaining the body's spirit for whatever is to come.

In the Roman Empire, Asclepius was the god most widely associated with healing. He is variously described as a mortal, the son of Apollo, or the ward of the centaur Cheiron. He is said to have learned to cure disease and was paid for his services. Treatment always involved sleeping in one of his temples. The followers of Asclepius existed side by side with those of Hippocrites. Healing in the ancient world took place in the context of religion. While Hippocratic medicine focused on the naturalistic interpretation of disease, it existed side by side with religious interpretations, and the two were not mutually exclusive. Early Christians increasingly rejected Asclepius as a false god, finding Hippocratic medicine more compatible with Christian thought. A dichotomy for healing was emerging that separated the care of the body from the care of the soul.

Through medieval times into the Renaissance, medical literature increasingly focused on naturalistic understandings and treatments of illness. Complimenting this emerging paradigm was the notion that sin was often, if not always, a causative factor of illness. In a very telling passage from Dark Night of the Soul, John of the Cross observes that there are two types of physical distress. One type of distress is of an organic nature: an "imperfection" that responds to "sense." Another type of distress, "the dark night of the soul," responds to spiritual interventions. He cautions religious persons to distinguish between the two. As the Renaissance developed, the roles of priest and healer became unique. Rapid progress in discovering the non-phenomenological causes of illness in the nineteenth century allowed these roles to be further delineated. At the end of the nineteenth century, William James (considered to be one of America's foremost psychologists), wrote The Varieties of Religious Experience (1902). In it, he argues against "medical materialism," the assumption that religious phenomena related to health are less important than identifying the psychological and physiological correlates of health. He points out that mental states are dependent on physical states and do not happen in a vacuum. He argues that scientific theories as well as atheistic convictions are conditioned by organic causes. An idea or an experience must then finally be evaluated in light of the efficacy it has for a unique life. Currently, patient religion and spirituality are largely accepted as important predictors of health outcomes. Small community-driven health projects, as well as entire countries such as Scotland, have incorporated religious and spiritual concerns into their care and treatment plans.

The Relationship of Religion and Health

The great majority of research that attempts to correlate religion with health states focuses on measurable behaviours specific to organized religious institutions. Thus, the research omits a large segment of the population who describe themselves as spiritual but not religious. The omitted group is distinctive in that it is composed disproportionately of persons with a high level of socioeconomic privilege. Within each domain, the limited research is somewhat equivocal, with few robust findings or themes.

The National Institute of Health (NIH) has identified 10 key domains of religion and/or spirituality for which there is evidence of links to health outcomes. They are:

1. Religious/spiritual preference or affiliation: Membership or affiliation with a specific religious or spiritual group.

2. Religious/spiritual history: Religious upbringing, duration of participation in religious or spiritual groups, life-changing religious or spiritual experiences, and "turning points" in religious or spiritual participation or belief.
3. Religious/spiritual participation: Amount of participation in formal religious or spiritual groups or activities.
4. Religious/spiritual private practices: Private behaviours or activities, including but not limited to prayer, meditation, reading sacred literature, and watching or listening to religious or spiritual radio or television programs.
5. Religious/spiritual support: Tangible and intangible forms of social support offered by members of one's religious or spiritual group.
6. Religious/spiritual coping: The extent to which and ways in which religious or spiritual practices are used to cope with stressful experiences.
7. Religious/spiritual beliefs and values: Specific religious or spiritual beliefs and values.
8. Religious/spiritual commitment: The importance of religion/spirituality relative to other areas of life and the extent to which religious or spiritual beliefs and practices serve to affect personal values and behaviour.
9. Religious/spiritual motivation for regulating and reconciling relationships: Most measures in this domain focus on forgiveness, but other issues may be relevant as well (e.g., confession, atonement).
10. Religious/spiritual experience: Personal experience with the divine or sacred, as reflected in emotions and sensations.

These 10 domains provide the framework for looking at correlates of religiosity and health states, and an attempt to codify research categories within the study of health and religion. Most extant studies can be grouped generally into those that look at onset, outcome, and mortality from disease. These correlations are generally explained in terms of behaviour, social support, and coherence or meaning that are fostered by religion.

Studies that look at the onset of symptoms of disease generally focus on health behaviours. Persons who attend to health matters and live "healthy" lifestyles experience less disease and that which they do experience occurs later than those who have less healthy lifestyles. Particularly convincing in this regard are the studies of religious orders that show less morbidity, decreased mortality, and later onset of symptoms and disease among monks.

Health behaviours vary from spiritual practices that see the human body as a manifestation of the sacred to prohibitions of certain behaviours, and encouragement of others. Today, many religions have very strict dietary laws that promote healthy living. Kosher dietary laws can be seen as an early effort to promote health. Religious ideology also plays a role in that it often proscribes risky behaviours. Persons who attend religious services frequently participate in far fewer risky health behaviours than those who do not attend services. Persons who are monogamous have far fewer sexually transmitted diseases than those who are not. Alcohol and recreational drug use are regulated by many religions.

Social support is another possible mechanism that helps to explain the correlation between health and religion. By participating in a religious institution, individuals develop social bonds outside of the nuclear and extended family that can ameliorate stressors and provide positive and alternative pathways of addressing trauma and misfortune. Members who share a religious ideology have perhaps even stronger bonds in addressing adversity. Research has suggested that persons who report high levels of public religious participation also report larger social networks, more interaction within those networks, receiving greater assistance from others, and higher levels of satisfaction from those interactions.

Religious Issues over the Life Course

Only recently have researchers and clinicians addressed the issues of evolving religious concerns over the life span. This is extremely important for social workers to realize because interventions may have efficacy at one particular developmental stage, yet limited efficacy at other points. Generally, religious issues gain more prominence as a person ages and experiences life stressors. Many studies demonstrate that individuals tend to become more religious as they grow older. Ehmann (1999) found that when compared to persons less than 30 years of age, many more persons over the age of 75 say that religion is very important to them (77% versus 45%). Levin and Taylor (1997) found that the frequency of private prayer increases as people age. Empirical research seems to validate a theoretical perspective developed by Fowler (1981), who outlined a series of stages that people go through in their development of faith. He observed that as individuals progress through developmental stages, the intensity and nature of faith tends to become deeper and more complex. In his staging system, the final periods are characterized as a time of deep critical introspection during which spiritual commitment broadens and deepens. Koenig (1994) identified qualitative changes that take place in religious orientation as people age.

He maintains that a mature religious faith involves a deep, intimate, stable, and exclusive relationship with God. Koenig's hypothesis remains largely in the realm of intuitive speculation, in that virtually no scientific research exists that looks at those factors that promote, much less cause, a deep personal relationship with God.

Children and adolescents' religious life concentrates on the development of morals and moral values that will serve as a framework for later life. From a health standpoint, the socialization that parents provide during early years provides the basis of how the child comes to view the world. The basis for hope is instilled during the early years. The health behaviour literature, provides ample support for the notion that adequate parenting, which is often nurtured and augmented by religious institutions, sets a framework in place that allows the child to master developmental milestones that will serve as the basis for sound decision making in later life. Religion has much more to do with socializing and learning social roles than matters directly related to health.

In middle age, religion plays an important role in what Erik Erikson (1959) characterized as the generativity versus stagnation milestone. Aside from providing enhanced and more varied coping skills and strategies, religious institutions and religious ideologies also can provide greater insight into common themes of this period, such as valuing wisdom versus valuing physical power, socializing versus sexualizing in human relationships, "cathectic flexibility" versus "cathectic impoverishment," and mental flexibility versus mental rigidity. When health issues disrupt negotiation of these milestones, religion often plays a role in allowing the individual to make sense out of adversity. Social workers support and develop these coping abilities and resources, enhance trust with their clients, and help them mitigate adversity by assessing the role of religion for a patient.

In later adulthood, religion plays an increasingly prominent role in individuals' lives. In this last developmental stage, which Erikson characterized as integrity versus despair, religious ideology can be particularly important in addressing common themes of this period, such as ego differentiation versus work role preoccupation, body transcendence versus body preoccupation, and ego transcendence versus ego preoccupation. Persons in the end stages of life often feel the need to "tie up loose ends," to make sense out of their lives. In making sense out of chronic health states that can often lead to disability and disease, coherent narratives have been shown to improve both persons' self described health states and perceived well-being (Cohler, 1992). This coupled with the practical support that religious social networks foster are seen by many to be a basic

mechanism that positively impacts health. Physical, as well as mental health may also respond positively to faith-based interventions. Pastoral counseling is a rapidly expanding field that seeks not only to impact spiritual well-being, but to also address activities of daily living and social role enhancement (Kimble, 1995). Pastoral care involves religious or laypersons reaching out to members of a faith-based community in an effort to support physical, emotional, and spiritual well-being. Pastoral care projects provide many of the resources and links in an otherwise frayed social network that allow older individuals to maintain both autonomy and a sense of well-being.

Spirituality and Health

In looking at the correlations between spirituality and health, three main areas emerge: coherence and life satisfaction as related to spirituality; spirituality as a motivating force in the construction of well-being; and the importance of spiritual narrative in the formation of meaning. Antonovsky first presented the concept of coherence in 1979. He further developed his ideas in what he called the salutogenic model, which explains successful coping with life stressors. Over time, a person with positive life experiences and social resources comes to see the world as one that "makes sense." This worldview, the sense of coherence, is defined formally as: "a global orientation, that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement".

There are three related and intertwined components of coherence:

1. Comprehensibility (a tendency to expect the world to be ordered or orderable) facilitates cognitive clarification of the nature the stressors pose;
2. Manageability (a tendency to expect the demands posed by problems to be manageable) leads one to seek out appropriate resources; and
3. Meaningfulness (the tendency to see life as meaningful) provides the motivational drive to engage in confronting problems.

Coherence is well formed by early adulthood. Absent any major life-altering changes, it is thought to be relatively constant for the remainder of life. Health social workers can increase the likelihood of positive outcomes by helping patients foster or promote coherence in order to optimize meaning, manageability, and comprehension and increase salience.

Spirituality fosters a sense of coherence, in that religious ideology filtered through what the individual holds to be sacred or divine has the potential to form meaning out of otherwise meaningless situations and phenomena. When individuals understand their places in the universe vis-à-vis the sacred, the possibility for transcendent meaning greatly increases. Patients may experience great suffering or pain, yet minimize the risks of that suffering for health and well-being if they find meaning in the suffering. Coherence may allow one to reinterpret what might be unpleasant or painful to some other state, if sufficient resources are currently available to allow that transcendence to take place.

Health social workers can play a critical role in allowing this transcendence to take place by recognizing and supporting these spiritual resources in their intervention strategies. One need not "agree" with an ideology or understand a phenomenon when asking prompts and questions about it that allows the client to flesh out meaning. The meaning may be important for the patient but not the social worker.

Closely related to coherence is the concept of narrative in allowing meaning to be constructed. Retrospectively creating narratives allows the individual to begin making sense of disparate events and phenomena that could easily cause demoralization, distress, and stress in the absence of a unifying theme or "story." Narrative can readily be shown to distort the actual happenings (the history) of an experience, since its reason for being is not fidelity to historical circumstances, but rather significance and validity in the creation of a coherent life story. Creating narratives is also frequent in situations where an illness may lead to a catastrophic end, or when such an end has been narrowly avoided. In these instances, the narrative may hold a moral purpose: It acts something like a recitation of myth in a ritual that reaffirms core values under siege and reintegrates social relations whose structural tensions have been intensified. The narrative, like the ritual use of myth, gives shape and finality to an experience. This is especially
true when that experience is a loss or leads to a loss or transition. In practical terms, patient narrative can be elicited by simple social work questions such as, "Is there something important that I should know about your life?" or "What has allowed you to do so well in the face of adversity?" Often having a dedicated space in the patient interview for life stories helps promote an atmosphere of trust and openness with the social worker. Most persons love to tell stories, yet are rarely given the time in professional space to do so.

In looking at how spirituality may prompt an individual to cope and adapt, narrative theory provides many possible insights. Whether or not a narrative impacts or explains experience is a function of how "good" the story is and can be a measurement of the fit of the structure of explanatory variables. Good stories have powerful central figures that behave in accord with values shared by the teller and the listener. They have, in other words, actors who act well. When one of the actors is sacred, the possibility of transcendence or transformation increases greatly. The stories also have linearity (at least in Western cultures), and list or allude to a set of normative values.

Good stories have generative potential for several reasons. Perhaps primary is the fact that they are memorable. That is, they are aligned with the distortions that memory normally makes in creating personal history. Greenwald (1980) has shown that when individuals remember past events, the basis of egocentricity and beneffectance are present. He defines egocentricity as the tendency to distort personal history to make oneself more a cause (and also a target) of events than is realistic. Beneffectance is the tendency to recall successes and take credit for them while forgetting or denying responsibility for failures. Without these biases, the ego would not survive, and personal history would not exist.

Neisser (1982) further elaborates on memory by suggesting that its function is to look for events in which egocentricity and beneffectance can be predicated, of which it can be said that there were actors who acted well. In simple terms, the ego seems to look out for the self, constantly processing and reinterpreting social fact and phenomena in an effort to construct a coherent whole biased to the "self" coming out on top. Narrative is a primary mechanism that allows this to happen.

The specific functions of narrative are a component of the more general "life review."Often used interchangeably with "narrative," the act of life review allows the person to discover that her individual life can have meaning even if life in general is meaningless (Moody, 1986). Baier (1981) suggested that upon successful life review, the individual will realize that (1) life is intelligible; (2) life has purpose; and (3) hopes and desires ultimately can be satisfied. Baier's three conditions for meaning can be transposed from the objective to the cosmic level to the level of individual autobiography. Instead of asking about the meaning of life as a whole, the question becomes the meaning of the individual life being questioned.

Subjective well-being is often assessed by three measures: life satisfaction, self-esteem, and optimism. One of the key functions of spiritual meaning is to provide a better understanding of adversity and the challenges that arise in life. Perhaps more important, spiritual meaning helps

persons see the larger reasons for difficult situations that lie beyond their own immediate concerns and abilities. Gaining these insights, and believing that they fit into a larger plan or purpose, may be the source of significant personal growth. Realizing that one has grown in the face of adversity may then be an important source for both efficacy and life satisfaction. The relation of spiritual meaning to self-esteem is straightforward. If people believe that God has a purpose or a plan for their lives, then it must mean that God loves and cares for them. Since feelings of self-esteem arise at least in part from the views of the self that are held by significant others, believing that God values, loves, and cares for them should positively impact self-esteem. It seems reasonable that if persons believe a spiritually based set of beliefs provides a sense of direction and purpose in life, they will then feel more optimistic about the future. They do not feel they are in the world alone. Seligman (1990) found that spiritual meaning enhances feelings of optimism by helping people see their lives will follow a specific and beneficial plan that has been devised by God. Health social workers can utilize this information to assist patients in coping with illness and its consequences.

Cultural Considerations

Two issues immediately present themselves when talking about religion, spirituality, and health in the context of culture. The first is the various cultural traditions and identities of persons seeking health care in a pluralistic society. The second is the cultural biases that health-care providers may bring into their professional settings. Many studies document the greater importance that religion and spirituality have in the lives of disadvantaged populations. Persons of colour, the elderly, the less educated, and those in poverty all claim that religion and spirituality are more important in their lives than do members of the general population. Disadvantaged populations, especially racial minorities, have lower life expectancies, are less likely to have health insurance, make fewer primary care medical visits, and have lower birth weights and higher infant mortality.

Although we know that members of disadvantaged populations attach greater importance to religion and spirituality, the mechanisms by which this importance plays out in health and health care are a bit murky. It would seem that the health of these populations might be even worse if individuals did not positively invoke religious-based resources in promoting healthy behaviors. Krause (2002) sets out to provide some answers through a meta-analysis of studies that look at a variety of demographic variables of church-based social support for older persons, focusing on social relationships in the church. He found empirical support for several theoretical linkages including, “older people who attend church often feel their congregations are more cohesive; older

people in highly cohesive congregations receive more spiritual and emotional support from their fellow parishioners; older respondents who receive more church-based support have a more personal relationship with God; older people who feel more closely connected with God are more optimistic; and older people who are more optimistic enjoy better health." This series of findings expresses the basic mechanisms of the positive influences of religion on health.

Church attendance and congregational or group cohesiveness seem to be especially important variables for promoting support among any group, and perhaps take on a greater importance among disadvantaged groups. Aside from the direct and practical support that individuals receive, group members also receive support for a shared experience that is often based on a history of oppression and a collective or cultural response to that oppression. In the context of health, this shared response to collective misfortune often transforms into individual responses to individual problems. The presence of a shared religious ideology gives additional support to individual synthesis of the problem system at hand.

Almost a century ago, Simmel (1905) held that a religious person feels himself bound to a universal, to something higher, from which he came and into which he will return, from which he differs and to which he is nonetheless identical. All of these emotions, which meet as a focal point in the idea of God, can be traced back to the relationship that the individual sustains with the species. In other words, all close ties with others are capable of generating those feelings toward God. These phenomena may help in explaining why institutional religion appears to be more important to members of socially marginal populations. Because of the relative lack of support from dominant cultural institutions, those institutions indigenous to specific demographic populations serve multiple functions. In the case of the religious institution, they not only provide support, but also translate and transform meaning in the context of a shared ideology incorporating the sacred.

Individuals with minority identities often look at health and health care differently than do those who provide their care. In spite of wide variability, persons with Hispanic origins view health and disease or illness as holistic, including spiritual, moral, somatic, psychological, social, and metaphysical dimensions. Both health and illness are seen as coming from God as a gift or punishment. For Hispanic American women, in particular, mind, body, and spirit are inseparable. Healing is very closely associated with religious practice. The social worker often functions as a translator of medical culture to patients and of the culture of the patients to medical providers.

Obstacles and Challenges

Perhaps the greatest challenge facing those who would like to integrate religious and spiritual issues into health care is the perceived necessity of doing so. Policymakers continue to debate the role of religion and spirituality in health-care settings, with no consensus emerging as to whether it is even appropriate for inclusion. This is especially true in public health-care settings. Only recently have health-care maintenance organizations fielded studies that suggest that addressing spiritual concerns in health care is cost-effective.

Professional competency, boundaries, and ethics are also new grounds for exploration. While some health-care consumers would like their medical providers to pray with them, a large proportion of providers reject this behaviour as either unethical or unprofessional. Deciding how to respond to patients' spiritual and religious issues can raise complex ethical issues for providers. Should physicians discuss spiritual issues with patients though not invited to do so? Is it ever appropriate to try to encourage or discourage religious beliefs for the "benefit" of the patient? What should be the professional boundaries between physicians and chaplains? Social workers have traditionally mediated discussions of issues such as these while imposing professional boundaries on the discussion.

The negative power of religion and spirituality is also emerging as dialogue evolves. When patients feel that their spiritual needs are neglected in standard clinical environments, they are often driven away from effective clinical treatment. Health social workers are in an excellent position to advocate for client needs, translate client perceptions, and focus on inherent issues of social justice related to these issues.

Although integrating religion and spirituality into health-care treatment is important in its own right, the fundamental issue remains of the effect of religion and spirituality on health. Patients usually have no trouble making these connections, yet their providers often have difficulty with it. Social workers have long been bridges between worlds, cultures, families and individuals. Religion and spirituality in health care is but another domain where the expertise of the social work profession is uniquely suited to addressing concerns of persons who would otherwise not be heard.

Chapter Seven: Social Inequalities and Health: Policy and Advocacy Concerns for Social Work

7.1. Social Inequalities and Health

Health status is primarily determined by social, economic, environmental and political conditions and is an issue of social equality and justice. Securing and sustaining health depends on local, national and global health and social policies and practices. It also depends on the concerted actions of international institutions, governments, civil society and people. Health involves individual, state, international responsibility. Participation in decision making about health care both individually and collectively is both a right and a duty. There is a strong linkage among the personal and political dimensions of health.

The development of society, rich or poor, can be judged by the quality of its population's health, how fairly health is distributed across the social spectrum, and the degree of protection provided from disadvantage as a result of ill-health. Health equity is central to this premise. The inequitable distribution of health reflects the inequitable distribution of the resources human beings require for sustainable, continuous development and growth.

Fundamentally changing the causes of health inequality through participation and empowerment, like realizing human rights, will involve significant shifts in power over economic relations, conditions of work and of living, and access to resources at a global, as well as national and local levels. A key dimension of power lies in gender relations as women currently bear a disproportionately great responsibility for formal and informal health work and disproportionately little control over economic and political resources to secure or maintain their own or others' health.

Social work has particular interests in the alleviation of health disparities. Wide disparities in access, costs, quality, and outcomes exist across groups in their health-care use, quality, and outcomes. The most visible examples have been differences in infant mortality, low birth weight, and adverse birth outcomes by ethnicity, class gender or other socioeconomic conditions. Racial and ethnic disparities have long been known to health services researchers and policymakers, but have more recently become a matter of significant policy concern. Racial and ethnic disparities are identified as a major initiative for funding, clinical and services attention, and research. There are disparities across a variety of vulnerable groups: the low-income population, ethnic minorities, women, children, the elderly, and individuals with special or chronic health-care needs. The issues

are complex and involve interactions between underlying social circumstances, health behaviors, and health services delivery.

Social workers serve in numerous roles that require expertise in health policy issues. As practitioners in various settings, social workers assist clients in obtaining and navigating federal and state health programs with complex eligibility rules and application procedures, directly provide publicly supported health services, and disseminate information to individuals and groups about numerous aspects of health care. As advocates for poor, disadvantaged, and disenfranchised individuals and families, social workers act to influence health policies and legislation that enhance the welfare of at-risk and vulnerable populations and improve existing health-care delivery systems. As policy makers working in local, state, or federal agencies, social workers formulate health policies and administer health programs.

The overarching challenge of health policy is to allocate resources toward care that is effective and cost worthy. In the environment of tremendous spending and resource scarcity, clinicians, managers, and policymakers face four general problems of health policy: access, cost containment, quality, and accountability.

Access refers to the actual use of personal health services and everything that facilitates or impedes their use. Measures of access provide signals of the fairness or social justice of health systems, provide indicators of its efficiency or effectiveness, and provide important sign posts for policy attention. Costs of health care represent the opportunities foregone in the national economy as a result of devoting resources to health care. Resources allocated to health services mean that they are not available for their best alternative use, whether that consists of wages and salary, investments in things such as education or plant and equipment, or for other forms of consumption. The problem of cost containment is endemic in health care. The preoccupation of employers who share in the costs of insurance, governments who finance public programs and individuals who bear significant out-of pocket costs for medical expenses such as prescription drug coverage.

Quality of health care can refer to structural, process, or outcome dimensions of health-care delivery. Structural dimensions of health-care quality include the facilities, technology, workforce, and other observable “inputs” into care. In the early history of accreditation of health-care organizations, for example, surveyors focused on life safety and hygienic aspects of providers as the most salient measures of quality. As health-care organizations became more sophisticated

and standardized, quality improvement focused on processes of care and more recently on outcomes.

Accountability of health care refers to the assurance that health care is clinically effective, prudently delivered, and is serving the best interests of patients and payers. Examples of accountability measures in health policy include recent efforts to provide a patients' bill of rights, the administrative efforts to reduce fraud and abuse, and the legal efforts to reform medical malpractice litigation.

Virtually all policy endeavors can be understood as responding to access, cost, quality, or accountability concerns in health care. Efforts to change insurance coverage are largely motivated by access concerns; efforts to increase the cost sharing (such as co-payments and deductibles) are driven by cost containment concerns; efforts to reduce medical errors in hospitals are a form of quality initiative; and legislation to reform medical malpractice is a form of accountability change in the health system.

The two large policy arenas for social work in health care are the Medicare and Medicaid programs. In Medicare, the addition of prescription drug coverage and the evolution to more competitive and "consumer-driven" approaches to health plan choice and coverage will be important frontiers for social work advocacy and practice. Medicaid is facing threats to coverage, financing, and its historic package of benefits in many states. In its place, states are considering significant reductions in the categories and numbers of eligible beneficiaries, reductions in financing (and its associated federal match), and potential movement to a Block Grant and defined contribution approaches that limit both financial exposure and financial protection for low-income populations. A key population of concern as these changes roll out will be the "dual eligibles," low-income aged or disabled beneficiaries who are entitled to both Medicare and Medicaid coverage.

Social workers will need to be savvy about these health policy changes in their own practice, in professional roles that attempt to formulate or implement health policy, and in promoting broader advocacy for health-care reform. Rapidly escalating costs, the aging of the population, and the increasing pressures to control public spending will continue to place health care at the top of the national policy agenda, providing important opportunities for social workers to exercise their important professional, advocacy, and leadership roles.

Health Services Organization

The approach to health-care delivery is an especially complicated mixture of public, non-profit, and for-profit entities. To conceptualize all of the moving parts, it is helpful to separate out the organizations, finance and payment, and regulatory components of the system. In its organization, the health-care system is a complicated web of government, non-profit, and for-profit organizations that interact in a mix of public and private relationships.

Government is responsible for a significant portion of health-care finance (appropriating and distributing money, primarily through taxes, that goes into the system); regulating access, cost, and quality; as well as actually producing health services in hospitals, clinics, prisons, and other settings. The non-profit sector in health care is extremely varied and includes organizations; academic centers who carry out the training of physicians, nurses, social workers, and other personnel; foundations who fund research and health services; and nonprofit hospitals and clinics; and tasks such as research and provision of care. The for-profit (otherwise known as the proprietary or investor-owned) sector has varying emphasis in the system, depending on the industry or sector. The pharmaceutical industry is almost entirely for-profit, the nursing home industry and the hospital industry in some extent is for-profit.

To understand health-care politics and policy, it is important to recognize that, taken together, these sectors add up to a large industry: from pharmaceutical manufacturers, to suppliers of medical devices and durable goods, to architects, to ambulances, to consultants, and social workers. All of these actors are both politically and economically invested in health policy. Social workers need to appreciate that in addition to access and quality of clinical care that is the usual priority of professionals working in the system, health care is a political economy in its own right with all of the power and vested interests.

7.2. Community Health Advocacy

Health professionals are often confronted with situations that demand change including, for instance, a community's or population's inability to access adequate health care, or the need for a disease-specific prevention program where one does not exist, or a lack of understanding on the part of legislators as to the economic and noneconomic impacts of a particular disease or condition. In each such instance, advocacy may be required to move beyond the status quo. The form that the advocacy efforts take, however, may necessarily depend upon the specific issue at hand and the context in which the situation has arisen.

Types/Strategies of Community Advocacy

Numerous additional strategies, using more formal processes, can also be utilized to effectuate change.

1. Legislative Advocacy

> No one pretends that democracy is perfect or all-wise. Indeed, it has been said that democracy is the worst form of Government except all those other forms that have been tried from time to time (Churchill, 1947).

Legislative advocacy, that is, reliance on the state or federal legislative process, is one the mechanisms of effecting change.

Influencing Legislation

A. Lobbyists and Special Interest Groups

Lobbyists, special interest groups, and individual or organizational advocates for a particular cause or position can potentially play a significant role in the legislative process because, depending on the specifics of a situation, they may be able to convince a member of parliaments to put a specific issue on the legislative agenda or keep an issue off of the agenda. A lobbyist has been defined as someone who is paid to communicate with the legislatives on behalf of others. Special interest groups often include occupational organizations or particular segments of the population. Such groups usually arise in the wake of broad social movements concerned with such problems as the level of environmental pollution, threats to civil rights, or changes in the status of women. The groups formed to act as representatives of these social movements often are created by political entrepreneurs operating with the support of wealthy individuals, private foundations, or elected political leaders who act as their protectors, financial supporters, and patrons. Interest groups employ the following strategies in their attempts to influence legislation: testifying at hearings, contacting government officials directly, engaging in informal contacts with government officials such as at conventions, presenting research findings or technical information, sending letters to organization members to inform them about activities, entering into coalitions with other organizations, attempting to influence the implementation of policy, interacting with media representatives, consulting with government officials to plan legislative strategy, assisting in drafting legislation, participating in letter writing campaigns, organizing grassroots lobbying

efforts, and prevailing upon influential constituents to contact the offices of their local representatives.

2. Promoting Regulatory Change

There is occasions and causes why and wherefore in all things, William Shakespeare.

Administrative Agencies

Agencies are responsible for the promulgation of rules. This process occurs at the federal level, the state level and, quite often, the local level. Agencies are created by statutes to carry out tasks that are specified in the statutes that the agencies will implement or enforce.

Influencing Agency Rulemaking

As in the legislative process, organizations and individuals can act as advocates in the rulemaking process. First, they can review relevant regulations proposed in the Federal Register and influence the formulation of the final regulation by responding during the statutory notice and comment period to the initial regulation. Second, they can approach an agency directly to request that the agency promulgate proposed regulations that address a particular concern. Or, advocates can draft proposed regulations themselves and then submit them to the appropriate agency and request that the agency review these regulations, modify them as appropriate, and then publish them for notice and comment.

3. Using the Courts

The Lawsuit as Advocacy

Bringing a Lawsuit: The Strategy

The use of the lawsuit as a form of advocacy has been recommended (1) as one component of a multi-faceted strategy for change, such as efforts to end discrimination against individuals infected with HIV; (2) in situations where the delay resulting from a lawsuit may itself constitute success, such as the delay in the construction of a development in an environmentally protected area; (3) in situations in which it is not possible to prevail politically, such as efforts to end environmental injustice; and (4) in situations where the litigation itself may effectuate change, even if a specific lawsuit is ultimately lost, such as lawsuits to end police delays and in action in responding to domestic violence calls.

Because of the complexity of the litigation process, lawyers are often involved in advocacy efforts through the courts. Community-based activists may fear or resent this involvement, believing that influence will be transferred to the attorneys and away from social change activists

involved in the particular issue. Several tactics have been identified, however, that may help community activists retain their power and influence, even during the litigation process. First, the services of attorneys may be retained for technical assistance only.

In such situations, the attorney's role is limited to providing information and to representing individuals or the group, but does not include the ability to decide the future course of action. Second, decisions relating to non legal matters should be made in the presence of community leaders.

Third, meetings should be held at a familiar site, rather than a law office, to reduce the possibility that those in attendance will be intimidated by surroundings that are both unfamiliar and quite formal. Fourth, community activists can choose to work with attorneys who understand their concerns and are willing to work within the prescribed parameters.

Bringing a Civil Lawsuit: The Procedure

The court system can be used by individuals and organizations to advocate for change. A civil lawsuit is commenced through the filing of a complaint by a party to the lawsuit. The complaint must, in general, state the nature of the claim, the facts to support the claim, and the amount in controversy. The defendant will be served with a copy of the complaint, together with a summons. The summons indicates that the defendant must respond to the complaint in some fashion within a specified period of time or the plaintiff will win the lawsuit by default. The defendant will then answer the complaint, and will admit, deny, or plead ignorance to each allegation of the complaint. The defendant may also file a counter suit against the plaintiff or against a third party. The defendant may also ask that the court dismiss the plaintiff's action, claiming that the court has no jurisdiction to entertain the case or that the plaintiff failed to state a cause of action.

Following the initiation of the lawsuit and the answer by the defendant, there will be a period of discovery, during which each party to the action will have the opportunity to gather additional facts to support its case, to identify expert witnesses that the other side may call, and to identify weaknesses in the opposing party's case. Discovery may include depositions, written interrogatories, the production of documents, a request for a mental or physical examination, and a request for admissions. Those that are most relevant to the health research context are depositions, written interrogatories, a request for the production of documents, and a request for admissions.

Some lawsuits are brought by large groups of person's acting together as a class; such lawsuits are known as class actions. In order to bring a class action, the class must be so numerous that joining the individual members together in a lawsuit is impractical, the action involves questions of law or fact that are common to all of the members of the class, the claims or defenses of the named individual (s) maintaining the lawsuit are typical of all of the class members, and the person representing the class is able to protect the interests of all of the members of the class.

The type of remedy that may be available to a plaintiff or plaintiffs in a law suit will depend on the basis on which the suit is brought. An individual suing to rectify the unlawful termination of his or her employment due to discrimination may seek reinstatement of his or her employment, monetary damages to compensate for the legal expenditures related to bringing the lawsuit and the loss of income, and/or monetary damages to punish the offending party. Individuals or groups suing to stop a development that is threatening the public's health would be likely to request injunctive and declaratory relief, meaning that the court would order a halt to the project and declare that the process of the development has not followed the proper procedure set forth by law.

4. The Media

Media, including newspapers, television, radio, newsletters, is powerful; it provides most people in the world with much of their information about health and wellness. The business of the media is both news and entertainment. The effective use of the media, however, may be critical to the success or failure of community health advocacy efforts.

Influence of the Media

Medical and health news is becoming increasingly visible in the media. Many daily newspapers employ reporters whose specific focus is health or medical or science news, and many television networks have their own medical editor. Television alone may be considered by some to be the single most important and valued source of health information. Historically, the media has had a significant influence on community health and health promotion. Public opinion about health and treatment is often molded by the news media. If the information presented is incorrect, incomplete or otherwise biased, public perceptions can quickly become distorted.

Proactively Using the Media: Media Advocacy

Elements of Media Advocacy

Effective community health advocacy needs to be able to use the media and proactively harness its power and influence; it can accomplish this through media advocacy. Woodruff (1996:

335) defines media advocacy as the strategic use of mass media in support of community organizing to advance public policy by applying pressure to policymakers. It focuses media attention on those who have the power to change policy. Rooted in community advocacy, media advocacy attempts to harness the power of the media for social change.

As a new paradigm in approaching public health, Russell and colleagues (1995) suggest that health educators use media advocacy to encourage political action and change.

Woodruff (1996) summarizes five precepts, as critical to the practice of media advocacy: (1) the campaign must be based on issues and concerns affecting the health and well-being of the community, as identified by the community; (2) media advocacy must emphasize the broader context in which health problems arise, rather than focusing solely on the individuals with the problem; (3) the campaign must focus and maintain the attention of the media, while ensuring that the message is appropriately framed; (4) media advocates must understand that news programs draw their audiences by entertaining them. To generate initial interest from the media, the story often needs to focus on individual victimization or conflict; and (5) the ability to frame or focus the media coverage of issues is critical.

There should be a match among the method, message and audience. Different audiences may respond to different types of media. Media advocacy efforts may benefit from selectively using different media to target specific audiences.

Techniques and Strategies for Media Advocacy

Some of the techniques and strategies for media advocacy include advance preparations, contacting the media, press releases, letters to the editor, interviews with reporters, staging media events, and public service and paid advertising.