



# Introduction to Public Health L 1

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## Public health course learning objectives

- Provide students with the tools to think about the **major concepts of public health**.
- Public Health Program educates individuals for **interdisciplinary, collaborative** health care practice in local, regional, national, and global environments.
- **Public health physicians** plan, implement, and evaluate health programs to **improve the health of vulnerable and diverse groups** through organized community efforts.
- The program **prepares students or enable them to carry out studies in different fields of medicine**.
- **prepares students to** pursue careers in health services systems so that **health is promoted**, and **disease is prevented** at individual, family, professional, and community levels.
- **public health education prepares students to contribute to the health of the public through positive decision-making and constructive action.**

## Upon completion of the Public Health course, students will be able to :

1. **Explain** the history and philosophy of public health as well as its core values, concepts, and functions.
2. **Identify** the methods, and tools of public health data collection, use, analysis, and plan services.
3. **Identify** the basic processes, approaches, and interventions that identify and address the major health-related needs and concerns of populations.
4. **Plan** services for promoting and protecting health across the life course.
5. **Identify** the socio-economic, behavioral, biological, environmental, and other factors that impact human health and contribute to health disparities.
6. **Apply** public health-specific communication, including technical and professional writing and the use of mass media and electronic technology to promote public health.

# Public Health

Winslow defined public health as:

The science and art of **preventing** diseases ,  
**prolonging** life and **promoting** health through  
organized efforts. (1920)

Efforts include the following:

- Control of infection
- Sanitation
- Health Education
- Provision of health care service.



# Public Health

Deals with **maintenance** and **improvement** of sanitation , cleanliness and personal hygiene.

Sanitation includes:

- Disposal of waste (producing toxic and infectious material.)
  - *organic domestic waste*
  - *agricultural waste and*
  - *Industrial waste*
  - *Sewage*
- Provision of safe water and food
- Provision of safe environment



# The Mission of Public Health

## The Institute of Medicine

- has a simple definition for public health : what society does collectively to assure the conditions for people to be healthy

## WHO definition public health

- public health aims to provide maximum benefit for the largest number of people.

## The Oxford Textbook of Public Health

“The process of mobilizing and engaging local, state, national, and international resources to assure the conditions in which people can be healthy” -

# Public Health Approach

## Public Health Model

- Population
- Diseases Prevention
- Health promotion
- Interventions
  - Environment
  - Human behaviors



## Medical Model

- Individuals
- Diagnosis
- Treatment
- Interventions
  - Medical care
  - Surgical



■ It is **concerned with threats to health** based on population health analysis.

■ Public health incorporates the **interdisciplinary** approaches of :

- epidemiology,
- biostatistics and health services,
- environmental health,
- behavioral health,
- health economics,
- health policy,
- school health
- Maternal and child health (MCH)
- control of communicable and non- communicable diseases.
- occupational health ,are other important subfields.





- ❑ Public health professionals analyze the effect on health of genetics, personal choice and the environment in order to develop programs that protect the health of the family and community.
- ❑ Overall, public health is concerned with protecting the health of entire populations.
- ❑ These populations can be as small as a local neighborhood, or as big as an entire country.

The sum of all official or governmental efforts to promote, protect, and preserve the people's health.

❑ Public health professionals try to prevent problems from happening or re-occurring through;

- 1. implementing educational programs,**
- 2. developing health policies,**
- 3. *regulating health systems and***
- 4. conducting research.**

❑ It is also a field that is concerned with:

- limiting health disparities
- health care equity, quality, and accessibility.

# Differentiation among PH, Community Medicine, Social Medicine & Preventive Medicine

GREAT deal of confusion exists with regard to the meaning of the terms "public health," "community medicine," "social medicine," and "preventive medicine."

The terms are often used **interchangeably**, a practice which adds to the confusion. **Two basic concepts are at issue:**

1. public health on the one hand, and
2. community/social/preventive medicine on the other.

The latter three terms have **different historical roots but reflect a more or less identical orientation.**

● The key word: community, social and preventive medicine are considered to be, a **subdivision** of the overall discipline.

● The common **denominator** of all three of these terms is "**medicine**."

● Indeed, they constitute a very minor subdivision of medicine.

● The **concept of public health**, on the other hand, is that of a **major governmental and social activity**, **multidisciplinary** in nature, and **extending into almost all aspects of society**.

● Here the key word is "health," not "medicine"

# Preventive medicine.

- “Art and science of health promotion and disease prevention”
- By definition preventive medicine is applied to “healthy” people.
- Its primary objective is prevention of diseases and promotion of health.

Healthy People in Healthy  
Community.



## Social Medicine“

"Social medicine" is a product of France, Germany, Belgium and other European countries. Firmly based in the medical profession, it reflected a concern with the role of social factors in the etiology of disease, and the need for government action in the areas of disease prevention and medical care.

## "Community Medicine"

"Community medicine" became prevalent in the United States as a substitute for "social medicine," since the latter term sounds too much like "socialism."

# How public health differs from other branches of Medicine?

**Public health** reaches out to people :

1. to provide services for prevention of disease (such as immunization, pre-natal care, health screening etc.),
2. promotion of health (such as safe water supply and sanitation, vector control measures, tobacco control policy etc.) and
3. provision of primary medical care (treatment of common health problem such as diarrhea, pneumonia, TB, leprosy, malaria, hypertension etc.)

Whereas other branches of medicine largely provide diagnostic and treatment services to patients who seek treatment.



**Concept of health care** approach has experienced a dramatic change.

✚ Today **health is not merely an absence of disease; it is related to quality of life** .

✚ Health is considered as **means of productivity**.

✚ Thus, health development is **essential to socio-economic development** as a whole.

✚ **Scope of medicine has extended from individual to community**.

✚ Study of **health and disease** in population is **replacing study of disease in man**.

■ Modern medicine is no longer solely an art and science for the **diagnosis and treatment of diseases**.

■ It is also the **science for the prevention of disease and promotion of health**.

■ Today **technical sophistication** of modern medicine is not an answer to everyday common ailments of the vast poor in the country.

■ Appropriate technology and **cheaper interventions** like **Oral Rehydration Solution (ORS)**, immunization, etc., are increasingly being applied as **life saving measures** and for disease prevention in community health care.

■ Physicians' role is no longer confined to diagnosing and treating those who come to the clinic.

■ He is also responsible for those who need his service but can not come to the clinic.

■ Health of the people is not only the concern of health care providers.

■ It is the responsibility of the community also to identify and solve their own health problems through their active participation.

- ✚ The new ideas and concepts, for example:
  - increasing importance given to social justice and equity,
  - recognition of crucial role of community participation

called for the **new approaches** to make **medicine in the service of humanity** more effective.

✚ **Alma-Ata declaration in 1978** specified that **Primary Health Care** approach was the way of achieving the goal of “**Health For All**” by 2000 AD.

✚ Primary Health Care (PHC) approach stressed that “essential health care should be made **universally accessible** to individuals and **acceptable** to them, through their **full participation** and at a **cost** the community and the country can **afford**”.

✚ PHC ,

- essential
- accessible
- acceptable
- affordable
- full participation .

# The branches of public health include the following:

## **Behavioral Science / Health Education**

Behavioural sciences is the collective term given to a number of disciplines which focus on the study of the behaviour of humans.

Behavioural Science' is the study of human behaviour from a number of different subject (discipline) areas.

Behavioral Science/Health Education focuses on ways that encourage people to make healthy choices.

This includes the development of community-wide education programs that range from promoting healthy lifestyles in order to prevent disease and injury.

- *Stopping the spread of communicable diseases, such as herpes and HIV/AIDS.*
- *helping youth recognize the dangers of smoking, drug abuse & drinking; and promoting seatbelt use.*
- They also promote more efficient uses of health services, adopt self-care practices, and participate actively in the design and implementation of health programs.
- Some examples include mental health, aging, health promotion and disease prevention, health education and behavior change, disability and health, and social research.

# Biostatistics

- ✚ the application of statistics to biology, medicine, nursing, and other health-related professions.
- ✚ *Estimating the **number of deaths** from different health problems, looking at **trends in** different health problems by using math and science is the study of biostatistics.*
- ✚ Using biostatistics, one can identify **health trends** that lead to **life-saving measures** through the application of statistical procedures, techniques, and methodology.
- ✚ Identifying **health trends** within the community, explaining **biological phenomena**, as well as **determining the number & causes of disease and injury**, biostatistics are an integral part of public health.
- ✚ Biostatistics are often utilized in synonymous with **epidemiology**.



# Environmental Health

*The **air pollution**; the safe **water**; radiation, noise , chemicals, the complex **interactions between human genetics and our surroundings.***

How do the **built and natural environments** influence our health and how can we reduce risk factors?

These environmental **risk factors** can cause diseases such as **asthma, cancer, and food poisoning.**

**Environmental health studies the impact of our surroundings on our health.**

## These areas are:

- air quality
- water quality
- food protection
- radiation protection
- solid waste management
- hazardous waste management
- noise control
- environmental control of recreational areas
- housing quality
- vector control

# Epidemiology

- ❑ When food poisoning or an influenza outbreak attacks a community, the "disease detectives" or epidemiologists are asked to investigate the cause of disease and control its spread.
- ❑ Epidemiologists do fieldwork to determine what causes disease or injury, what the risks are, who is at risk, and how to prevent further incidences.
- ❑ They spot and understand the demographic and social trends that influence disease and injury and evaluate new treatments.
- ❑ The initial discovery and containment of an outbreak, such as bird flu virus, often comes from epidemiologists.
- ❑ Some of the most important health-related discoveries in history are associated with epidemiology including the report on smoking tobacco stating its harmful effects.
- ❑ **Biostatistics** are often used in synonymous with epidemiology.

# International / Global Health

- *Addressing health concerns from a global perspective and encompassing all areas of public health (e.g., biostatistics, epidemiology, nutrition, maternal and child health, etc.).*
- **International health** professionals address health concerns among different cultures in countries worldwide.
- **Globalization** has linked our health more closely to one another than ever before.
- The **rapid movement of people and food across** borders means that a **disease can travel from a remote village to an urban center quickly.**
- Global public health meets the **rising health challenges that transcend national boundaries.**
- This **international field** encompasses virtually all specializations in **public health.**

## Maternal and Child Health

- ✚ Providing information and access to birth control (*family planning*).
- ✚ promoting the *health of a pregnant woman and an unborn child*; and
- ✚ dispensing *vaccinations* to children are part of maternal and child health.
- ✚ Detection of “*High risk pregnancy*”.
- ✚ Professionals in maternal and child health improve the public health delivery systems for women, children, and their families through advocacy, education, and research.

# Nutrition

- Promoting healthy eating and **regular exercise**; researching the effect of diet on the elderly; teaching the dangers of **overeating** and over dieting are the responsibility of public health nutritionists.
- this field examines how **food and nutrients** affect the wellness and lifestyle of population.
- Nutrition encompasses the **combination of education and science to promote health and disease prevention, i.e. prevention of malnutrition, vitamin deficiency, obesity, anemia .**

## Public Health Laboratory Practice

Public health laboratory professionals such as bacteriologists, microbiologists, and biochemists test biological and environmental samples in order to diagnose, prevent, treat, and control infectious diseases in communities.

In order to ensure the safety of our food and water, to screen for the presence of certain diseases within communities, and to respond to public health emergencies, such as bioterrorism, public health laboratory practice is essential.



*Thank You*



# Public Health Policy

*Analyzing the:*

- *impact of seat belt laws on traffic deaths;*
- *Implementation of smoking prevention policies,*
- *advocating for funding for a teen anti-smoking campaign.*
- **Iodization of salt and fluoridation of water.**
- **Professionals in public health policy work to improve the public's health through legislative action at the local, state, and federal levels.**