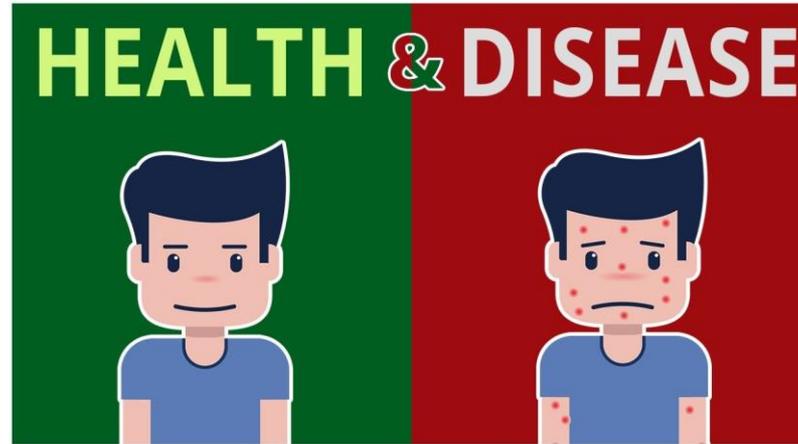


**DEPT. OF PUBLIC HEALTH DENTISTRY**



# **CONCEPTS OF HEALTH AND DISEASE**

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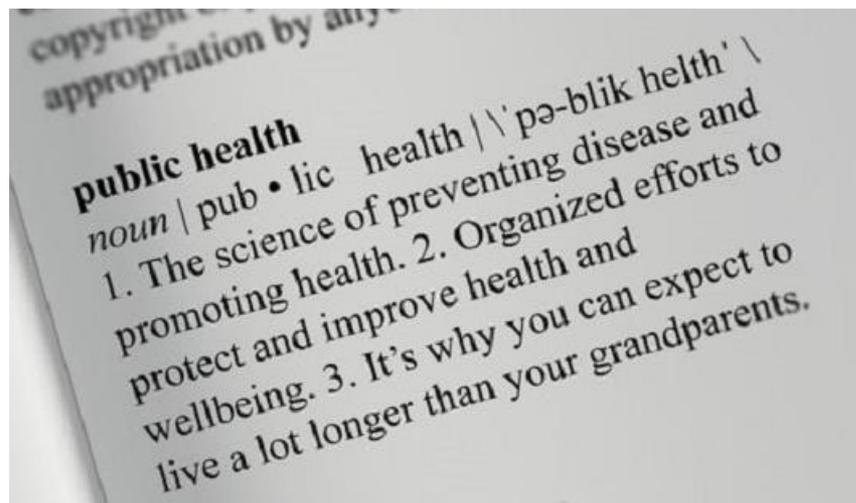
# CONTENTS

- INTRODUCTION
- DEFINITION
- CHANGING CONCEPTS OF HEALTH
- CONCEPTS OF CAUSATION
- CHANGING CONCEPTS IN PUBLIC HEALTH
- CONCEPTS OF PREVENTION
- SUMMARY



# INTRODUCTION

- **Public Health** and Preventive Medicine is the specialty primarily concerned with the **health** of populations.
- The discipline's focus is **disease** and injury prevention and control, which is achieved through health protection and health promotion activities.



# DEFINITION



- **WHO definition of Health -**

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”

- The statement has been **amplified by WHO in 1978**, to include –

“the ability to lead a socially and economically productive life”



# CHANGING CONCEPTS OF HEALTH

1. Biomedical concept
2. Ecological concept
3. Psychosocial concept
4. Holistic concept



# Spectrum of Health / Health sickness spectrum / Health disease spectrum

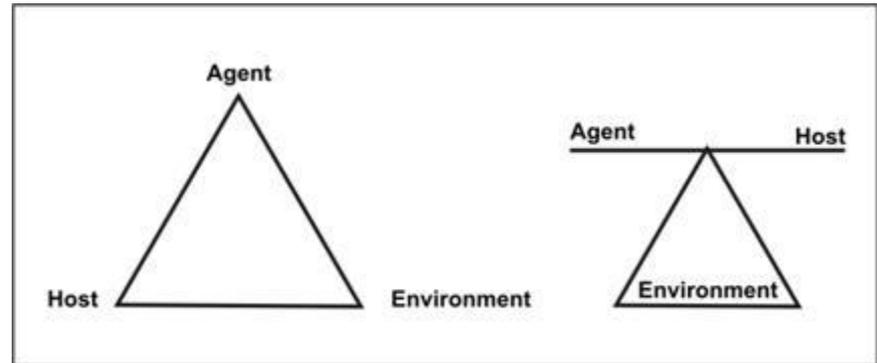


# CONCEPTS OF CAUSATION

1. Epidemiological triad
2. Multi-factorial causation
3. Natural history of disease
4. Web of causation
5. Risk factors or risk groups
6. Spectrum of disease
7. Iceberg of disease



# 1. EPIDEMIOLOGICAL TRIAD



## AGENT

- Definition – an organism, a substance or a force, the presence or lack of which may initiate a disease process or may cause it to continue.
- Classification –
  - a. Living or biological agents
  - b. Non living or inanimate
  - c. Nutrient agents
  - d. Chemical agents – Internal/External
  - e. Physical agents



# EPIDEMIOLOGICAL TRIAD

## HOST

- Host is the man himself.
- The characteristics of a human being that determine how he reacts to the agents in the environment are called 'host factors'.
- The host factors are –
  - a. Demographic characteristics
  - b. Biological characteristics
  - c. Socio-economic characteristics
  - d. Life style

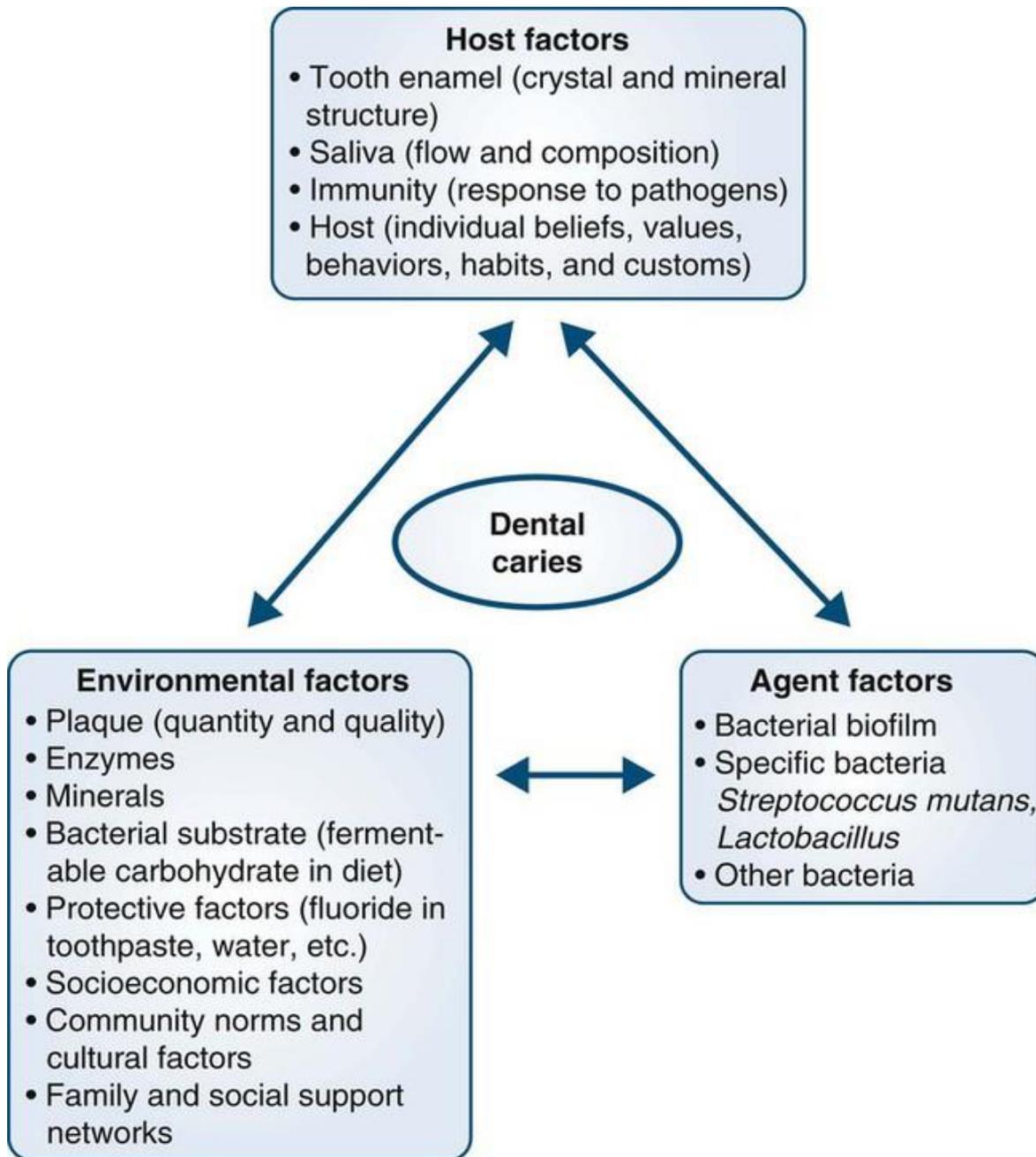


# EPIDEMIOLOGICAL TRIAD

## ENVIRONMENT

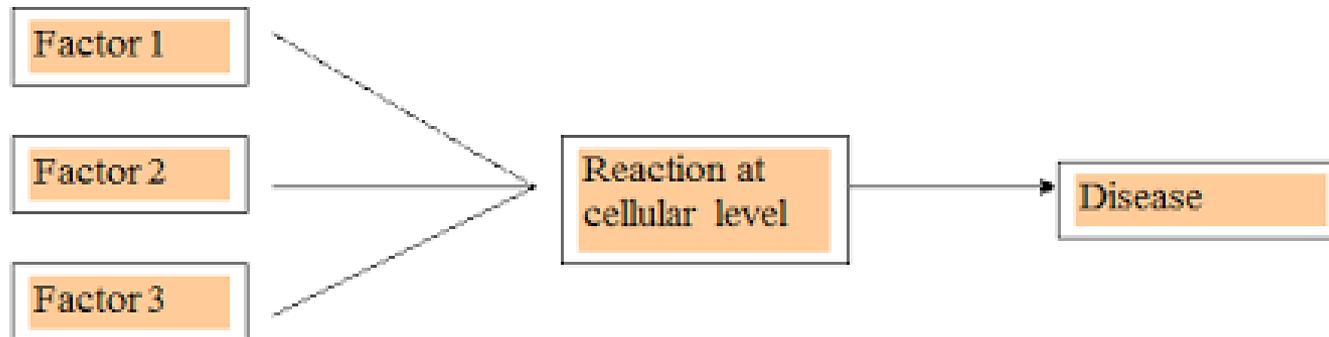
- It is the source or reservoir for the agents of disease.
- Two types :
  - a. Internal environment
  - b. External environment –
    - Macro – environment
    - Micro – environment
- Environment can be studied as :
  - a. Physical environment
  - b. Biological environment
  - c. Social environment



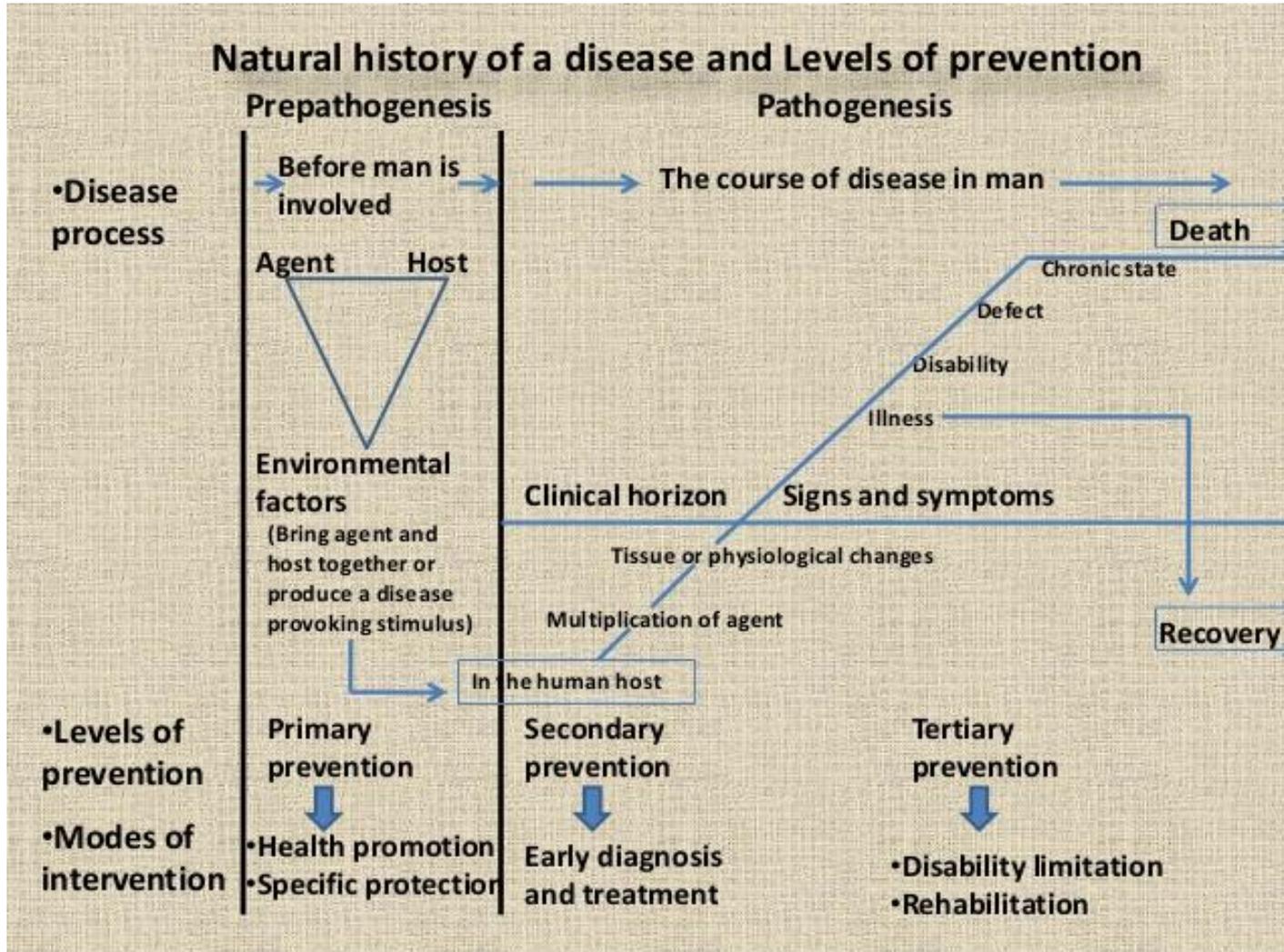


## 2. MULTI-FACTORIAL CAUSATION

- Pettenkofer of Munich
- Modern diseases of civilization – occur due to multiple factors and are not based on single cause idea.

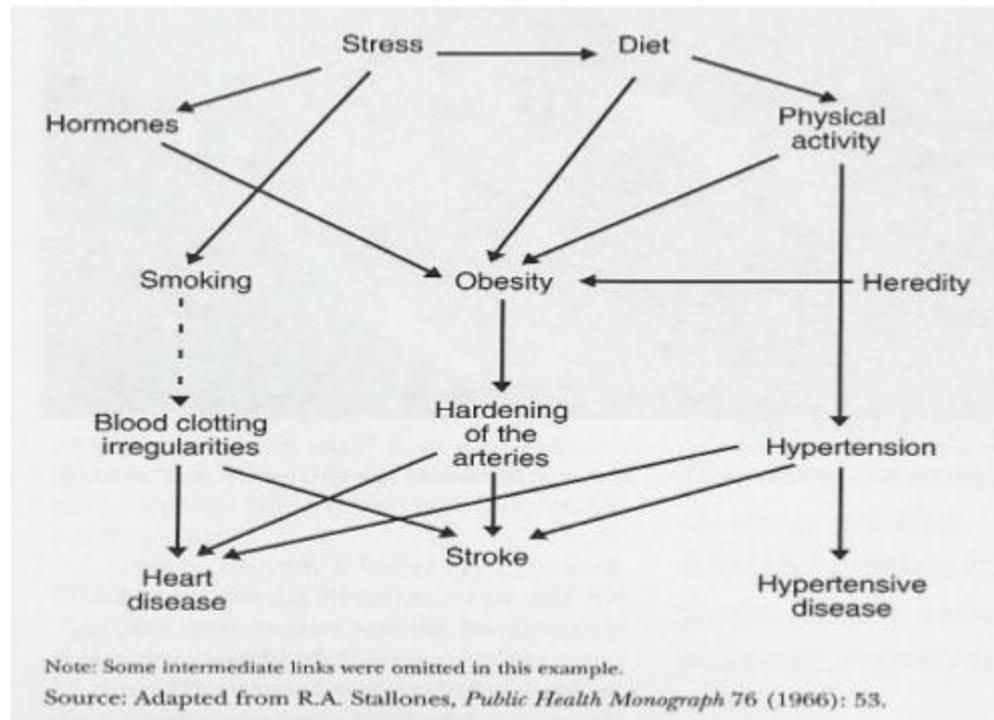


# 3. NATURAL HISTORY OF DISEASE



## 4. WEB OF CAUSATION

- The term was coined by MacMahon and Pugh.
- Applicable for chronic diseases.
- Removal of some or any one important link may be sufficient to control the disease.



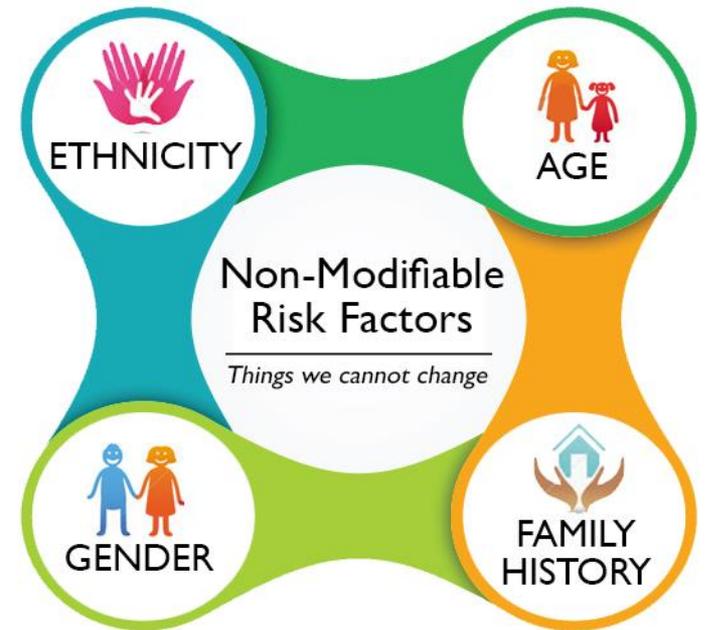
## 5. RISK FACTORS AND RISK GROUPS

- Risk factor

- An attribute or exposure that is significantly associated with the development of a disease.
- A determinant that can be modified by intervention, thereby reducing the possibility of occurrence of disease or other specified outcomes.
- They are suggestive but don't provide absolute proof.
- A combination of risk factors – additive or synergistic effect.



- Risk factors may be –
  - a. Truly causative
  - b. Merely contributory
  - c. Predictive only in a statistical sense
- i. Modifiable
- ii. Non-modifiable



- Risk factors indicate the need for promotive and preventive health services.
- Risk groups are those who are exposed to risk factors.



- Risk approach –

Developed and promoted by WHO to identify precisely the risk groups or target groups in the population by certain defined criteria and direct appropriate action to them first

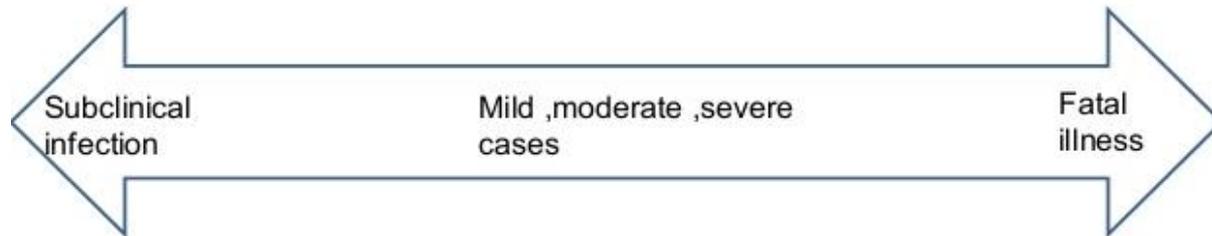


“something for all, but more for those in need – in proportion to the need”

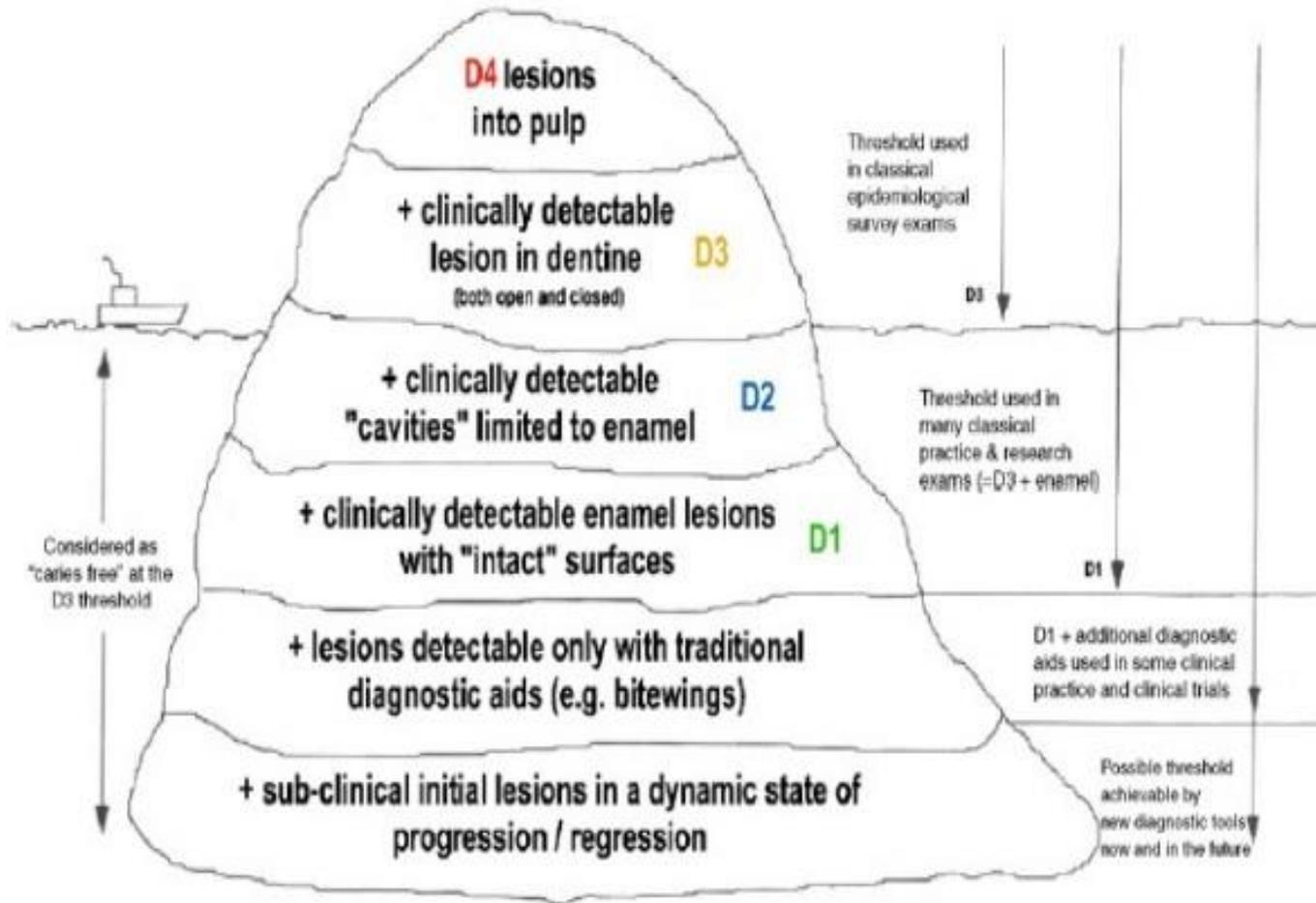


## 6. SPECTRUM OF DISEASE

- It may be defined as the sequence of events that occur in the human host from the time of contact with the etiologic agent up to the point of the ultimate outcome, which may be fatal in extreme cases.



# 7. ICEBERG OF DISEASE



· The 'iceberg' of caries and the influence of detection system (modified from Pitts, 2001<sup>7</sup>).

# CHANGING CONCEPTS IN PUBLIC HEALTH

1. Disease control phase (1880-1920) – Sanitary legislation and sanitary reforms
2. Health promotional phase (1920-1960) – Provision of basic health services through PHCs and SCs and Community development program
3. Social engineering phase (1960-1980) – Social and behavioural aspects of health and disease were given priority
4. Health for all phase (1981-2000)



# CONCEPTS OF PREVENTION

- Goal of prevention – promote health, preserve health, restore health when it is impaired and minimize suffering and distress.
- Three levels of prevention:
  1. Primary prevention
  2. Secondary prevention
  3. Tertiary prevention

\* Primordial prevention



## Primary prevention

- Definition – “action taken prior to the onset of disease, which removes the possibility that a disease will ever occur”
- Intervention is in the pre-pathogenesis phase.
- It is a holistic approach designed to promote health or to protect against specific disease agents and hazards in environment.
- Advantages –
  - Low cost
  - Safe
  - Individual is not yet exposed to pain and suffering



- Approaches for primary prevention recommended by WHO –

- Primordial prevention
- Population/Mass strategy
- High risk strategy

- Modes of Intervention –

1. Health promotion – It is the process of enabling people to increase control over and to improve health. Includes interventions like health education, environmental modifications, nutritional interventions and lifestyle and behavioral changes.
2. Specific protection – Includes promotion of health, prevention of sickness and curative and restorative medicine in all its aspects.



## Secondary prevention

- Definition – “action which halts the progress of a disease at its incipient stage and prevents complications”
- Modes of Intervention –
  1. Early diagnosis
  2. Adequate treatment
- Advantages – Reduces high mortality and morbidity of certain diseases like hypertension.
- Disadvantages – Expensive and patient is already exposed to pain and suffering and the community to loss of productivity.



## Tertiary prevention

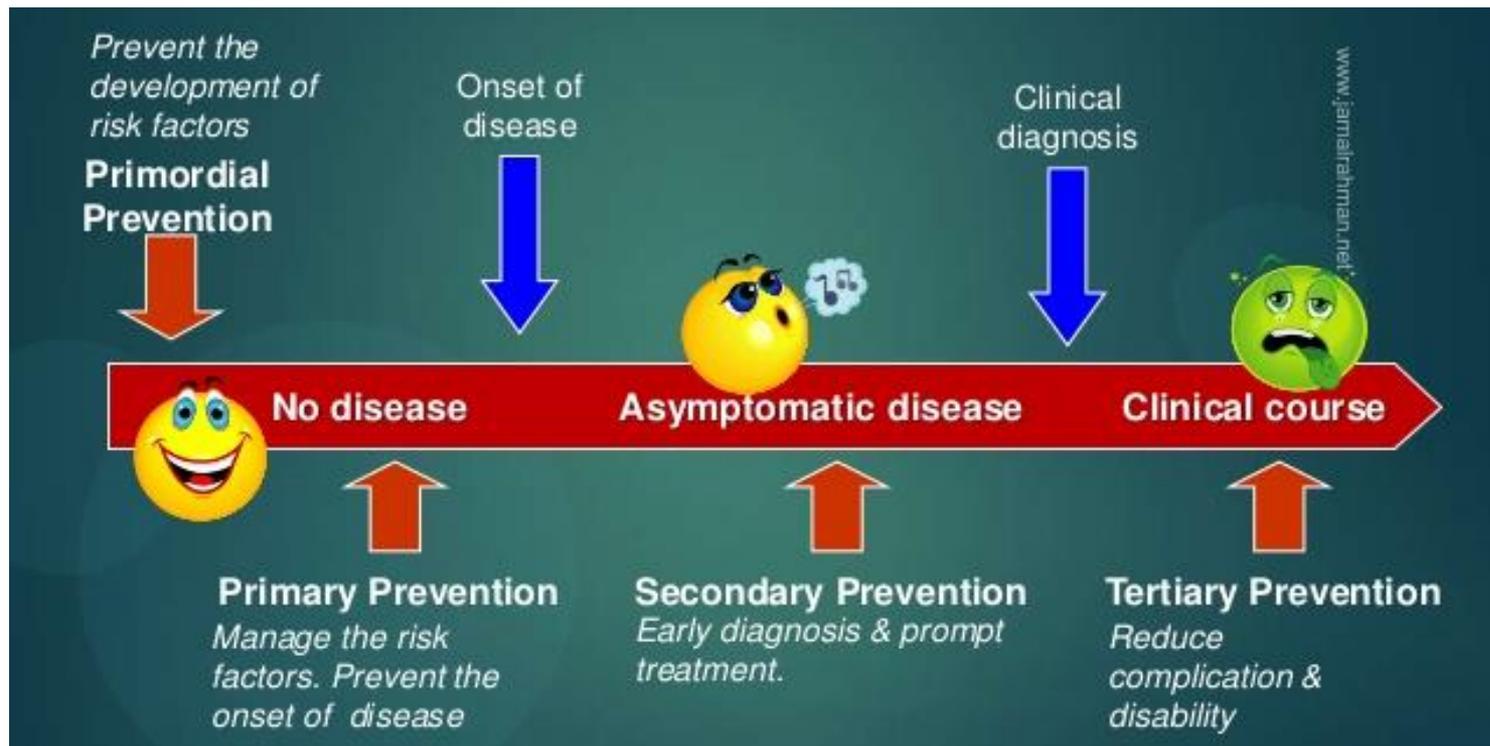
- Definition – “all measures available to reduce or limit impairments and disabilities, minimize suffering caused by existing departures from good health and to promote the patient’s adjustment to irremediable conditions”
- Disease ---> Impairment ---> Disability ---> Handicap
- This may prevent sequelae and limit disability.
- Modes of intervention –
  1. Disability limitation
  2. Rehabilitation



Primary = Prevention

Secondary = Screening

Tertiary = Treatment



# CONCLUSION

- Public health is concerned with the health problems of the community and providing promotive, preventive, curative and rehabilitative services as required.
- Both – governmental and non-governmental agencies need to produce a primary health service available to total populations in the countries of the world.





EVERY SUNSET BRINGS THE PROMISE  
OF A NEW DAWN.

*Good Evening!*