Dental Public Health

World Health Organization(WHO) defines health as 'a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.

According to the (WHO), "Public health refers to all organized measures to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases."

Role of Public Health

- Prevent epidemics and the spread of disease
- Protects against environmental hazards
- Prevents injuries
- Promotes and encourages healthy behaviors
- Responds to disasters and assists communities in recovery
- Assures the quality and accessibility of health services.

Dental public health:

It is "The science and art of preventing and controlling dental disease and promoting dental health through organized community efforts". It is that form of dental practice which serves the ***community*** as a one unit rather than an ***individual.***

-The term dental public health is comparable and synonymous with community dentistry, community dental health, public health dentistry, social dentistry.

Dental public health concerned with:

1. Dental health education of the public.
2. Research and application of the research finding.
3. Administration of programs of dental care.
4. Prevention and control of dental diseases.

Public health impact of dental diseases:

The most common diseases of the mouth are:

1. Dental caries. 2. Periodontal diseases.
3. Oral cancer 4.Developmental anomalies/acquired disorders of the oral structure.

Unique characteristics of these diseases are:

1. They have universal prevalence.
2. They do not undergo remission or termination if left untreated.
3. They usually require more time and cost for treatment.

Tools of dental public health:

1-Epidemiology: It is a study of distribution and determinants of health related events in population. The word epidemiology is derived from-epi=on or upon, demos=people and logos=science. It is "the branch of medical science dealing with epidemics".

2-Biostatistics: Statistics is the science of compiling, classifying and tabulating numerical data and expressing the results in a mathematical or graphical form. Biostatistics is that branch of statistics concerned with mathematical facts and data relating to the biological events.

3-Social Sciences: Social sciences usually include sociology, cultural anthropology and psychology. Sociology is the study of human groups. It is not concerned with behavior unique to individuals but pattern of human relationship. The public health worker, when he embarks upon organized community effort, is very dependent upon the group behavior of the individuals, determined by their culture.

4-Principles of Administration: Administration is defined as "the art and science of guidance, leadership, and control of the efforts of a group of individuals towards some common goal". Sound administration is essential for the success of any public health program whether on the national, or the local level.

The dentist with a leadership role in public health program needs to know many of the principles by which large enterprises are administered, these are:

1- **Organization:** which deals with the structure of the agency and the arrangement of working people within it.
2- **Management:** It is a set of interactive processes through which the utilization of resources results in the accomplishment of organization objectives .It is concerned with the handling of personnel and operations in such a way that the work of the

agency gets done. It is through "management" that the objectives of the health care organization are achieved by gathering and positioning of resources.

5-Preventive Dentistry:

It includes those practices by individuals and communities that improve oral health status. There are three levels of prevention. These are:

1. Primary prevention: This preventive measure is directed toward the pre-pathogenesis stage of the disease to prevent the occurrence of the disease (dental health education, oral hygiene measures, immunization, water fluoridation and fissure sealant).

2. Secondary prevention: It includes treatment of the disease to prevent the progression and recurrence of it (filling and pulp treatment).

3. Tertiary prevention: This preventive measure is directed toward the pathogenesis stage of the disease to restore the lost function, esthetics which has happened as a result of the disease (prosthesis).

Procedural steps in dental public health:

1. **Survey:** Is the first step in the dental public health procedure. Surveys are methods for collection of data, in order to determine the amount of disease problems in a community.

2. **Analysis:** Information collected through a survey is subjected to an analysis in order to define specific health problems in the community. In the present modern world electronic data processing media as such as computers are resorted to for analyzing data. It is essential to obtain description of prevailing problem and their characteristics in order to achieve a correct diagnosis.

3. **Program planning:** After the problem and its characteristics are analyzed, the next step is program planning .During planning of the program; it should be taken in consideration: community's desire for intervention, cost and availability of proven interventions. The program must be accepted by the community, or to find an alternative method which is comprehensive. Hence it has to be ensured that the community is well informed about the programme.

4. Ethics and planning approval: All ethical clearance and approval from all the concerned persons and authorities is taken before implementing a public health program.

5.Program operation: After taking planning approval, a public health team has to be employed for executing the program. This can be best illustrated with the example of water fluoridation in a community.

6.Financing: Financing in public health programs are usually through the funds provided by the government or by the local authorities.

7.Program appraisal: This is the final step in any public health program where the effectiveness of the program is assessed. Data collected in initial surveys serves as a baseline against which effectiveness of an oral health program can be evaluated or assessed

Similarities between personal and community health care:

It is the **names** of the activities carried out by both the personal and community health worker that varies while the **aim** of the procedure is basically the same:

1. **Examination/survey**: purpose of survey is to determine the nature and extent of the problem, just as an examination is done when a patient comes to a dental clinic with a complaint
2. **Diagnosis/Analysis:** It is the procedure of converting data of survey by meaningful figures or statistics just as a dental clinician uses his examination data in addition to history and diagnostic tests to guide him to an accurate diagnosis.
3. **Treatment Planning/programme planning**: Once diagnosis is made one can proceed to make plans for effective treatment. Public health professional would like to have the ideal programme plan
4. **Informed consent/ethics and planning approval**: Informed consent of the patient is taken before starting any treatment. Patient is explained all aspect of treatment planned. Similarly all ethical clearance and approval from all the concerned persons and authorities is taken before implementing a public health program.
5. **Treatment/programme operation**: Execution of the treatment or programme once the plan has been made. After taking consent the treatment schedule is arranged and the dentist performs it. Complex treatment may require services of various specialists, which is coordinated by the primary dentist. Similarly once a community public health program has been adopted, a group of varied disciplines which constitutes a public health team may be utilized for execution of the program.

6. **Payment/ programme funding**: The patient payment of the dental service can be in the form of cash payment or monthly billing and in community health care the government usually is responsible for funding.
7. **Evaluation/programme appraisal**: is assessing the effectiveness of the treatment or the health programme.

Differences between personal dental health & public health dentistry		
Characteristic	*Personal dental health*	*Dental public health*
1.Target	*Individual patient*	*Community or group of individuals*
2.Visiting	*The patient comes to the practitioner*	*The public health practitioner goes to the group of individuals*
3. Major emphasis	*Restorative care*	*Preventive care*
4. Service provider	*Dentist alone, sometimes with an assistant*	*Health team professionals*
5. Supportive disciplines	*Psychology*	*Sociology, psychology, education, epidemiology and biostatistics*
6. Perspective results	*Immediate*	*Long term*
7. Funding	*By the patient*	*By government or local authorities*

Functions of Public Health Dentistry

The services provided to the community by public health dentist include:

1 .Preventive Services

a. Application of topical fluorides
b. Pit and fissure sealants application
c. Promotion of water fluoridation
d. Defluoridation

2 .**Public Health Training**

a. School teacher training program.
b. Training of the health care worker about dental health and oral hygiene measures.

3 **.School Dental Health Program**

a. Topical fluoride application.
b. School mouth rinsing program.
c. Teaching of oral hygiene methods and importance of dental health to children.
d. Education about safe play areas for children to school authorities.
e. Knowledge about junk foods and effects of cold drinks to children.

4 .**Dental Public Health Program**

a. Examination and treatment of community through dental health program.
b. Screening program for oral cancer.
c. Dental health checkup and treatment like extraction, filling, oral prophylaxis of industrial workers through camps.

5 .**Dental Health Education**

a. Education about dental health and its importance to community
b. Imparting knowledge about oral health to expectant mothers.
c. Education to geriatric population about oral health.
d. Informing people about ill effects of tobacco and smoking.
f. Educating public about methods of prevention of dental diseases like dental caries, periodontal disease and oral cancer.
g. educating care takers about maintenance of oral health in special needs patients.
h. parent counseling for preschool and school children.

6 .Conducting surveys to determine dental needs of the population.