

COMPETENCIES FOR PUBLIC HEALTH DENTISTS IN INDIA



Report by the
Expert committees,
Indian Association of
Public Health Dentistry,
2020-21

1.	Executive summary	1
2.	Expert committees	3
3.	Acknowledgement	5
4.	Objectives of the Report	6
5.	Definition of “Public Health Dentistry” and Role of “Public Health Dentist” in India	8
6.	Public Health Dentistry Competencies for Undergraduate and postgraduate students	11
7.	Way forward/Recommendations	15
8.	Conclusion	16
9.	References	17
10.	Fig 1: Interrelationship between the definition, roles, and competencies of Public Health Dentistry	18
11.	Annexure 1: Descriptors for the definition of “Public Health Dentistry”	19
12.	Annexure 2: Roles of public health dentists in India	24
13.	Annexure 3: Postgraduate Public Health Dentistry Competencies	29
14.	Annexure 4: PHD Themes/categories: Public Health Dentistry Titles: (As Per Dental Council of India, 2017)	30
15.	Annexure 5: Undergraduate Public Health Dentistry Competencies	32
16.	Annexure 6: PHD Themes/ categories: Undergraduate curriculum	33

The need for defining Public Health Dentistry, roles and competencies

The speciality of Public Health Dentistry in India seeks to provide clarity in terms of definition of “Public Health Dentistry” and roles and competencies that are required to be called a Public Health Dentist in India. This led to the formation of two expert committees to bring in evidence-based clarity on the definition, roles and competencies of Public Health Dentists in India.

The method

The expert committees reviewed global evidence and best practices and deliberated extensively until consensus was reached amongst the members. The findings of the committee were published on the IAPHD website for a period of three months. The suggestions and feedback received was reviewed by the committee chair and members and a final consensus was arrived.

The outcome

There were four significant outcomes from these committees.

Defining the speciality of Public Health Dentistry

Public health dentistry deals with promotion of health in general and prevention and control of oral diseases and promotion of oral health in particular, through organised community efforts. It provides leadership and expertise in organization of health programs, disease surveillance, policy consultation and evidence-based practice at individual and community levels.

Identifying the roles of Public Health Dentists in India:

Public Health and Public Health Dentistry (Based on the Dental council of India regulations- BDS Regulation 2007 and MDS Regulations 2017)

1. Program Manager
2. Epidemiologist
3. Informatician
4. Policy analyst
5. Consultant
6. Administrator
7. Academician

Defining the Postgraduate Public Health Dentistry Competencies

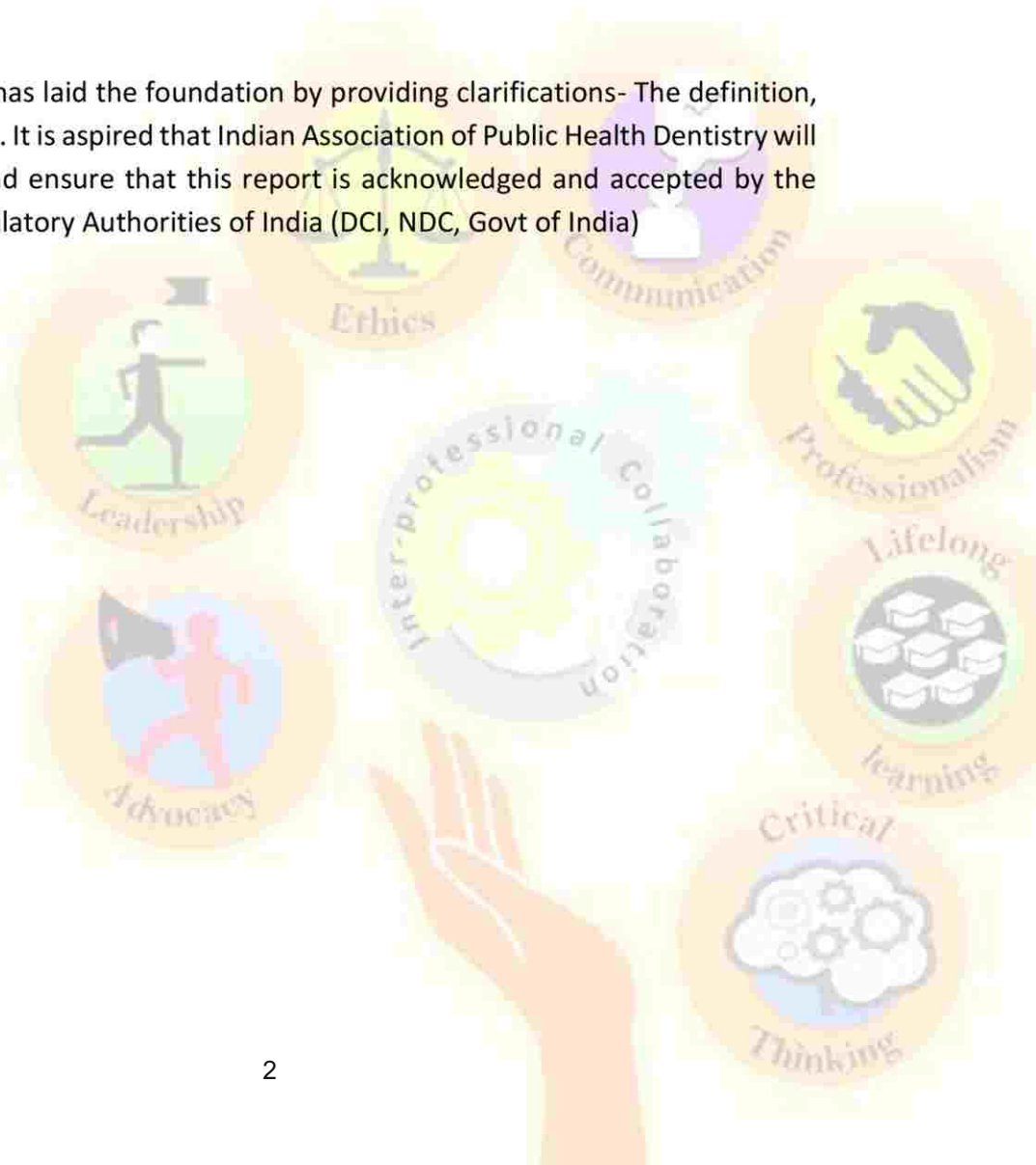
1. Critical Thinking
2. Interprofessional collaboration
3. Leadership and advocacy
4. Professionalism
5. Lifelong learning

Defining the Undergraduate Public Health Dentistry Competencies

1. Patient Centred Care
2. Professionalism and Ethics
3. Communication Skills, Interpersonal Skills and Leadership
4. Interprofessional Collaboration and Social Responsibility
5. Critical Thinking and Research

The way ahead

The expert committee has laid the foundation by providing clarifications- The definition, roles and competencies. It is aspired that Indian Association of Public Health Dentistry will champion the cause and ensure that this report is acknowledged and accepted by the Dental Curriculum Regulatory Authorities of India (DCI, NDC, Govt of India)



Composition of the expert committees

Members: Committee 1

Chair Person:

Dr. Pushpanjali K, PhD, MDS, PGDHHM, FAIMER Fellow (Philadelphia), (MHPE, Keele University, UK)
 Prof- Dept. of Public Health Dentistry
 Faculty of Dental Sciences
 M.S. Ramaiah University of Applied Sciences
 Bengaluru

Project Co-ordinator:

Dr. Vamsi Krishna Reddy, MDS
 Principal, Professor and Head-Dept. of Public Health Dentistry
 Anil Neerukonada Institute of Dental Sciences
 Sangivalasa, Bheemunipatnam Mandal, Visakhapatnam Dist. Andhra Pradesh

Dr. Vikrant Mohanty, MDS,
 MBA,PGMLE,PGHHM
 Prof and HOD
 Maulana Azad Institute Of Dental Sciences
 New Delhi

Dr. Chandrashekar B R, PhD, MDS, FAIMER
 Fellow
 Vice Dean, Prof & HOD
 Dept of Public Health Dentistry
 JSS Dental College, Mysore

Dr. Rajesh, MDS, PhD
 Former-Professor and Head
 Dept of Public Health Dentistry
 Manipal College of Dental Sciences
 Mangalore

Dr. Shourya Tandon, MDS
 Professor and Head
 Dept of Public Health Dentistry,
 Faculty of Dental Sciences
 SGT University Gurugram

Dr. Ramprasad, MDS, FAIMER Fellow
 Professor and Head
 Department of Public Health Dentistry
 Manipal College of Dental
 Sciences, Manipal

Dr. Ravi Shirahatti, MDS, PGDipHPE
 Professor ,Dept of Public Health Dentistry
 SDM College of Dental Sciences and
 Hospital, Dharwad

Dr. Shwetha K M, MDS, FAIMER
 Fellow,(PhD)
 Reader, Dept of Public Health Dentistry,
 Faculty of Dental Sciences, Bengaluru

Dr. Deepti Vadavi MDS, FAIMER Fellow
 Reader
 Dept of Public Health Dentistry
 DAPMRVDC Bengaluru

Dr. Prathiba, MDS, PGDipHPE
 Reader
 Dept of Public Health Dentistry
 KLE VK Belgaum

Rapporteur:
Dr. Jyotsna S MDS, FAIMER Fellow, (MHPE
 Maastricht University), (PGDip Bioethics)
 Reader, Dept of Public Health Dentistry
 DAPM R V Dental College, Bengaluru

Members: Committee 2

Chair Person:

Dr. Pushpanjali K, PhD, MDS, PGDHHM, FAIMER Fellow (Philadelphia), (MHPE, Keele University, UK)
 Prof- Dept. of Public Health Dentistry
 Faculty of Dental Sciences
 M.S. Ramaiah University of Applied Sciences
 Bengaluru

Project Co-ordinator:

Dr. Vamsi Krishna Reddy, MDS
 Principal, Professor and Head-Dept. of Public Health Dentistry
 Anil Neerukonda Institute of Dental Sciences
 Sangivalasa, Bheemunipatnam Mandal, Visakhapatnam Dist. Andhra Pradesh

Dr. Manjunath Puranik PhD MDS
 Prof & HOD
 Dept of Public Health Dentistry
 GDCRI, Bengaluru

Dr. Chandrashekar J PhD MDS MSc DNB
 Prof and Chair
 Dept of Public Health Dentistry
 Amrita School of Dentistry, Kochi

Dr. Chandrashekar B R PhD, MDS, FAIMER Fellow
 Vice Dean, Prof & HOD
 Dept of Public Health Dentistry
 JSS Dental College, Mysore

Dr. Ravi Shirahatti MDS, PG DipHPE
 Professor
 Dept of Public Health Dentistry
 SDM college of Dental sciences and Hospital,
 Dharwad

Rapporteur:

Dr. Jyotsna S MDS, FAIMER Fellow, (MHPE Maastricht University), (PGDip Bioethics)
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Acknowledgement

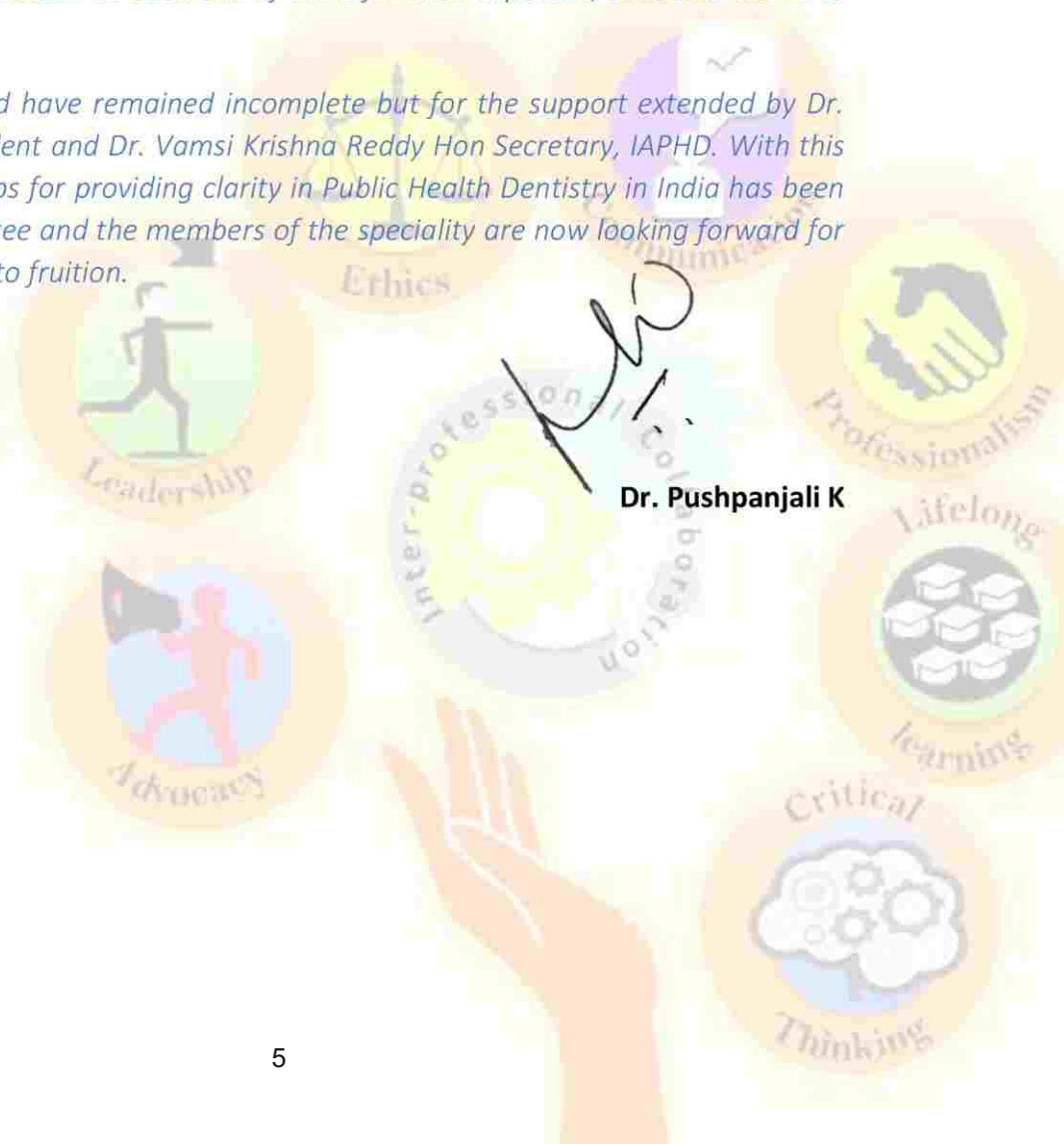
As the committee chair, it is indeed my privilege to express my gratitude to the various hands which supported in the execution of this project.

I, on behalf of the committee, am grateful for the support and positivity extended by the doyens of Public Health Dentistry in India – Dr. R K Bali, Dr. M R Shankar Aradhya, Dr. S S Hiremath, Dr M B Ashwath Narayanan and the late Dr. V Gopi Krishna.

When this project was proposed in the fag end of 2019, the entire IAPHD team comprising past Presidents, Hon Secretary, Vice Presidents, Treasurer and Executive Committee members whole heartedly supported the initiative and gave us the mandate to systematically work on preparing an evidence-based road map for the future of Public Health Dentistry in India. I am grateful for the trust laid in our capabilities to execute this project.

The committee members have been remarkable in their self-less approach to the task on hand. They showed exemplary commitment to serve the association and the cause of Public Health Dentistry in India. Each member has extensively contributed in creating this landmark report. My gratitude to each one of them for their expertise, time and desire to work for the cause.

This arduous task would have remained incomplete but for the support extended by Dr. Sabyasachi Saha, President and Dr. Vamsi Krishna Reddy Hon Secretary, IAPHD. With this report, the first few steps for providing clarity in Public Health Dentistry in India has been laid. Our entire committee and the members of the speciality are now looking forward for the efforts put to come to fruition.



Dr. Pushpanjali K



Introduction

Public Health Dentistry is one of the nine recognized specialties of Dentistry. Public Health Dentistry is a professional educational program that transforms one's thinking from focusing on the individual patient to focus on the community. This program is designed to prepare health professionals, who will, over time, improve the capacity of the health care system to address the health needs of population. The goals of the specialty are to identify and measure the oral health problems and oral health care needs of the community; to identify means by which these needs can be best met within the constraints of resources; to provide and manage services to meet these needs; and to evaluate the extent to which these needs have been met. Competencies should be developed that would also allow for individual learning. This flexibility would allow for operating in a global and complex community or educational setting.

A study conducted among postgraduates in this speciality in India, reported that the students are more competent in socioeconomic and cultural diagnosis of the community, and participate in epidemiological surveillance system. But are less competent in adopting ethical principles in all aspects of community oral health activities and to take up initiatives in advocacy issues for health policy and using media effectively.¹

American Board of Dental Public Health (ABDPH) published 10 new core competencies for the 21st century.² The professional profile of the Public Health Dentist specialist is made up of a number of competencies like managing oral health programs, to design surveillance systems to measure oral health status and its determinants, to lead collaborations on oral and public health issue, to advocate for public health policy, legislation, and regulations to protect and promote the public's oral health, and overall health, to conduct research to address oral and public health problems etc.³ Evaluation of the students' performance in relation to the specified competencies is an important task for purposes of student evaluation and for assessing the curriculum and making necessary revisions. It is also useful for obtaining information required by accreditation standards.^{4,5} In community based dental education, professionals are not only placed in

community settings to treat individual patients, but also challenged to consider Public Health Dentistry issues, including the administrative aspects of dental services.

In India, the role of the public health dentist is curtailed to that of case finding or aligns to teaching profession. In this process, focus is shifted away from the larger goal of advocacy for oral health. It is time to look beyond the current miasmatical concept of Public Health Dentistry and promote a new league of public health dentists whom we would like to term as “public healthers”.⁶ There is an urgent need to obtain clarity and outline the potential employability options for the future public health dentists in India in fields other than academics. The IAPHD commissioned two committees with the following objectives:

1. To define the “Public Health Dentistry” discipline that is relevant to the Indian Context
2. To define the roles of specialist in Public Health Dentistry for practice in India
3. To frame the UG and PG competencies that are essential for the practice of the public health dentistry in India.

Mandate

The Executive Committee of IAPHD framed two expert committees to achieve the above-mentioned objectives - committee one was framed to identify the essential Public Health Dentistry competencies in 2019 and committee two was framed in 2020 to define “Public Health Dentistry” as a discipline in the Indian context and define the roles of a public health dentist. The committees were framed under the stewardship of Dr. Pushpanjali K, President IAPHD (2019-2021). Dr. Vamsi Krishna Reddy, extended his support in his role as the Hon Secretary of IAPHD. The members were drawn from a pool of academicians’ par excellence who have a background in Public Health Dentistry and Health Professional Education. Both the committees were guided by the advisory board consisting of the champions of Public Health Dentistry in India.



Committee report on Objective 1 and 2

- 1. Definition of “Public Health Dentistry” for Indian context*
- 2. Roles of Specialist in Public Health Dentistry in India*

An expert consultative committee comprising six members was framed to achieve the above objectives.

Committee meetings: The members had twelve online weekly meeting from April to July 2021 on Saturdays. The committee reviewed international guidelines and best practices through document analysis and extensive deliberations were held to arrive at an evidence-based consensus statement to define public health dentistry and identify the roles of a specialist public health dentist in India.

Process:

Document analysis is a systematic procedure for reviewing or evaluating documents—both printed and electronic (computer-based and Internet-transmitted) material. Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted to elicit meaning, gain understanding, and develop empirical knowledge. So, we compiled all the available definitions of Public Health Dentistry/Community Dentistry/Dental Public Health by the different professional societies/organization around world.

Each member was assigned to explore the roles, job profiles specialists in each of continents around the world. Then this information was compiled into single document for analysis. The Committee then did consultative deliberations among members to draw upon multiple (at least two) sources of evidence; that is, to seek convergence and corroboration for the definition of the public health dentistry and the roles of specialist in public health dentistry in India.

The committee explored the globally prevailing roles of public health dentists and identified appropriate roles for the Indian context. Subsequently, the definition of public health dentistry was arrived at keeping in consideration the definition, scope and roles

identified by 18 international organisations. The descriptor for the definition was reviewed and agreed upon. The committee then looking into the internationally prevailing guiding principles and competency statements for public health dentists. These statements were debated upon and consensus was reached regarding which need to be considered for the Indian context

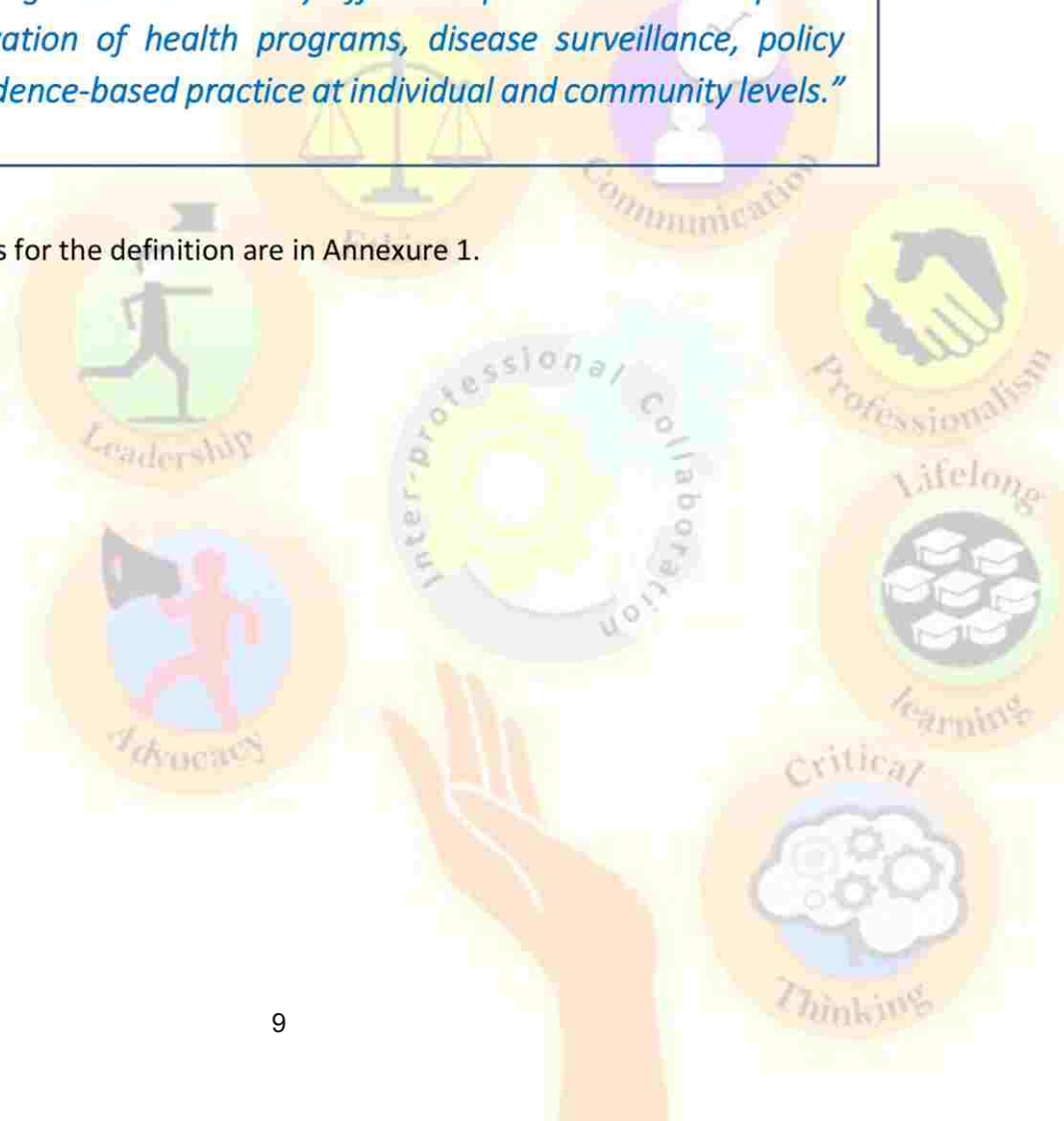
Synthesis

The Committee members arrived at a consensus for the following definition of “Public Health Dentistry” and the 7 roles of a public health dentist that is relevant to Indian Context.

Definition:

“Public health dentistry deals with promotion of health in general and prevention and control of oral diseases and promotion of oral health in particular, through organised community efforts. It provides leadership and expertise in organization of health programs, disease surveillance, policy consultation and evidence-based practice at individual and community levels.”

The detailed descriptors for the definition are in Annexure 1.



The committee has recommended following roles of the specialist in Public Health Dentistry in India

Roles of Public Health Dentists:

1. Health Program Manager: Public Health and Public Health Dentist:
 - a. Area of expertise - Community based Health promotion and prevention programs, Disaster management programs, Occupational health programs
2. Health Epidemiologist:
 - a. Public health and Public Health Dentist
3. Health Informatician:
 - a. Public health and Public Health Dentist
4. Health policy analyst:
 - a. Public Health and Public Health Dentist - Area of expertise – advocacy and activist
5. Health consultant:
 - a. Designing of Public Health and Public Health Dentist programs
6. Health Administrator:
 - a. Public health and Public Health Dentist
7. Academician:
 - a. Public health and Public Health Dentist professional educator

For a detailed description of the roles, refer to Annexure 2



Committee report on Objective 3:

UG and PG Competencies that are essential for the practice of the public health dentistry in India

Committee meeting:

The committee deliberated in a face-to-face interaction. The committee members had made prior preparation and the face-to-face interaction was productive in fulfilling the objectives of the committee. The rapporteur prepared the reports and the committee members provided their feedback. Subsequently, the finalised report was placed before the Executive committee.

Process:

The committee had a mandate to develop the competency framework required for every undergraduate and postgraduate student in Public Health Dentistry. These competencies define the educational goal for every student, teacher and institution. The road map for achieving these educational competencies was beyond the purview of the objectives of the committee. The committee had to identify the concepts and learning content based on the existing curricular content prescribed by DCI.

The Core group had an introductory session on the objectives of the project and objectives set for the day. They were then randomly allocated into PG group and UG group to work on the competencies. UG and PG group comprised of 5 IAPHD members each who have had a minimum of 10 years' experience as faculty. Furthermore, each member has had a formal qualification in Health professional education (Diploma/ Fellowship/ Degree). The committee adopted documentary analysis and intense deliberations to arrive at consensus.

Session 1: The sub working groups reviewed the literature and globally accepted competencies, identified the roles and job opportunities for the Indian dental graduate and public health dentist. Based on these two factors, they arrived at the competencies for UG and PG students. All the team members had done independent review of literature and were very forthcoming during the deliberations. Each team identified the competency, sub competency and descriptors for the competency. This was then shared

with all the members of the core committee. After receiving inputs from all members, the draft was further fine-tuned.

Session 2: Session 2 was dedicated to identify how well the recommended competencies can be fulfilled within the ambit of the curricular framework given by DCI. The UG and PG sub working committees regrouped the topics suggested by DCI into themes / categories. They then identified the topics which come under these themes/ categories. The sub working groups further identified the competencies which will be focused upon during the teaching – learning – assessment process for each theme / category. Both the groups then presented their views, discussed, and ratified the presentation. There was consensus among all the members.

The committee has recommended the following the core competences for specialist in public health dentistry for practice in India.

Postgraduate Competencies

1. Critical Thinking
2. Interprofessional collaboration
3. Leadership and advocacy
4. Professionalism
5. Lifelong learning

The committee has recommended the following the core competences for undergraduate public health dentistry students in India.

Undergraduate Competencies

1. Patient centred care
2. Professionalism and ethics
3. Communication skills, Interpersonal skills and Leadership
4. Interprofessional collaboration and social responsibility
5. Critical thinking and research

As part of the mandate, the committee has identified the sub competencies for the PG competencies. However, since the UG competencies have to be decided upon by all the nine specialties together, the sub competencies for the same are yet to be defined.

Postgraduate competency and sub competencies recommended by the expert committee

1. Critical Thinking

CT 1.1: Assess risk for communicable and non-communicable diseases and select appropriate, evidence-based preventive interventions and strategies to promote health and control oral diseases at the individual and population level.

CT 1.2: Evaluate systems of care that impact oral health

CT 1.3: Design surveillance systems to measure oral health status and its determinants

CT 1.4: Demonstrate the ability to access and describe the use of population-based health data for health promotion, patient care, and quality improvement.

CT 1.5: Critique, synthesize and apply information from scientific and lay sources to improve health and oral health of population.

2. Inter-professional Collaboration

IPC 2.1: Communicate and collaborate with groups and individuals for process and implementation of disease mitigation strategies

IPC 2.2: Demonstrate the ability to participate in interprofessional care across the lifespan of people from diverse communities and cultures.

3. Leadership & Advocacy

LA 3.1: Develop resources, implement and manage oral health programs for populations

LA 3.2: Advocate for, implement and evaluate public health policy, legislation, and regulations to protect and promote the public's oral health

LA 3.3: Demonstrate the ability to communicate and collaborate with relevant stakeholders to advocate for policies that impact oral and general health for individuals or populations.

LA 3.4: Lead collaborations on oral and public health issues.

4. Professionalism

P 4.1: Demonstrate the ability to incorporate ethical reasoning and actions that promote culturally competent health and oral health care to individuals and populations.

P 4.2: Displaying appropriate professional behaviour towards all members of dental team

P 4.3: Promote equity in access to, and quality of, health services.

P 4.5: Practice cultural sensitivity.

5. Lifelong learning

LL 5.1: Participate in continuing education programs and keep abreast of evidence based global strategies and policy developments

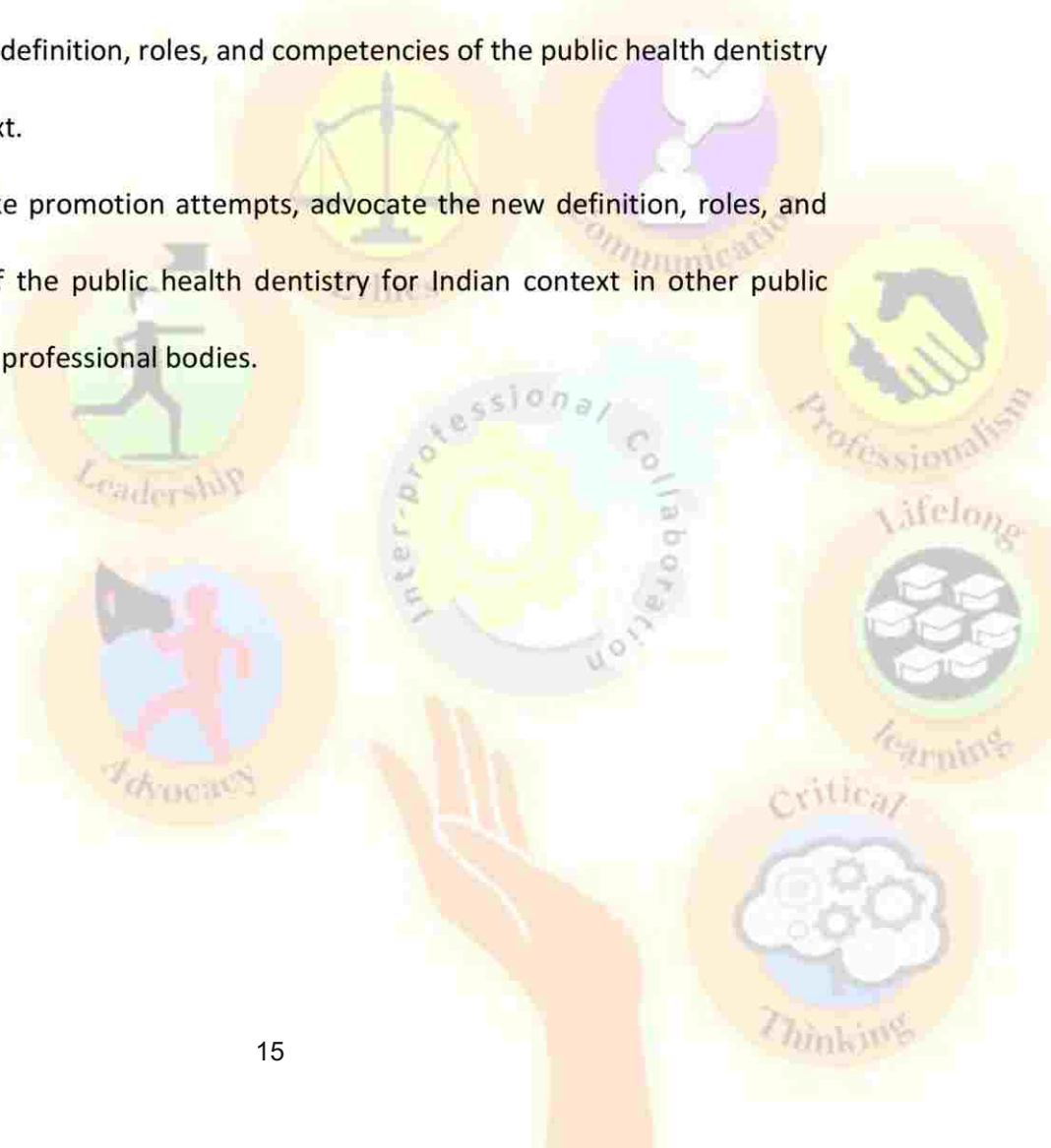
LL 5.2: Develop a capacity for lifelong learning and professional growth in order to provide leadership that utilizes principles of Public Health Dentistry.

The committee has suggested themes/categories for reorganising the Public Health Dentistry syllabus for both the Undergraduate and postgraduate courses. The committee recommends this reorganisation to suit the learning and comprehension style of adult learners and assist them in the process of meaningful comprehension and application of knowledge, attitudes and practice of public health dentistry. The committee recommends that the teaching of these topics to be considered as module based units with appropriate teaching methods and formative assessment methods. The details of the recommended themes/categories for UG and PG syllabus content is provided in the annexure 4 and 6.

Way forward:

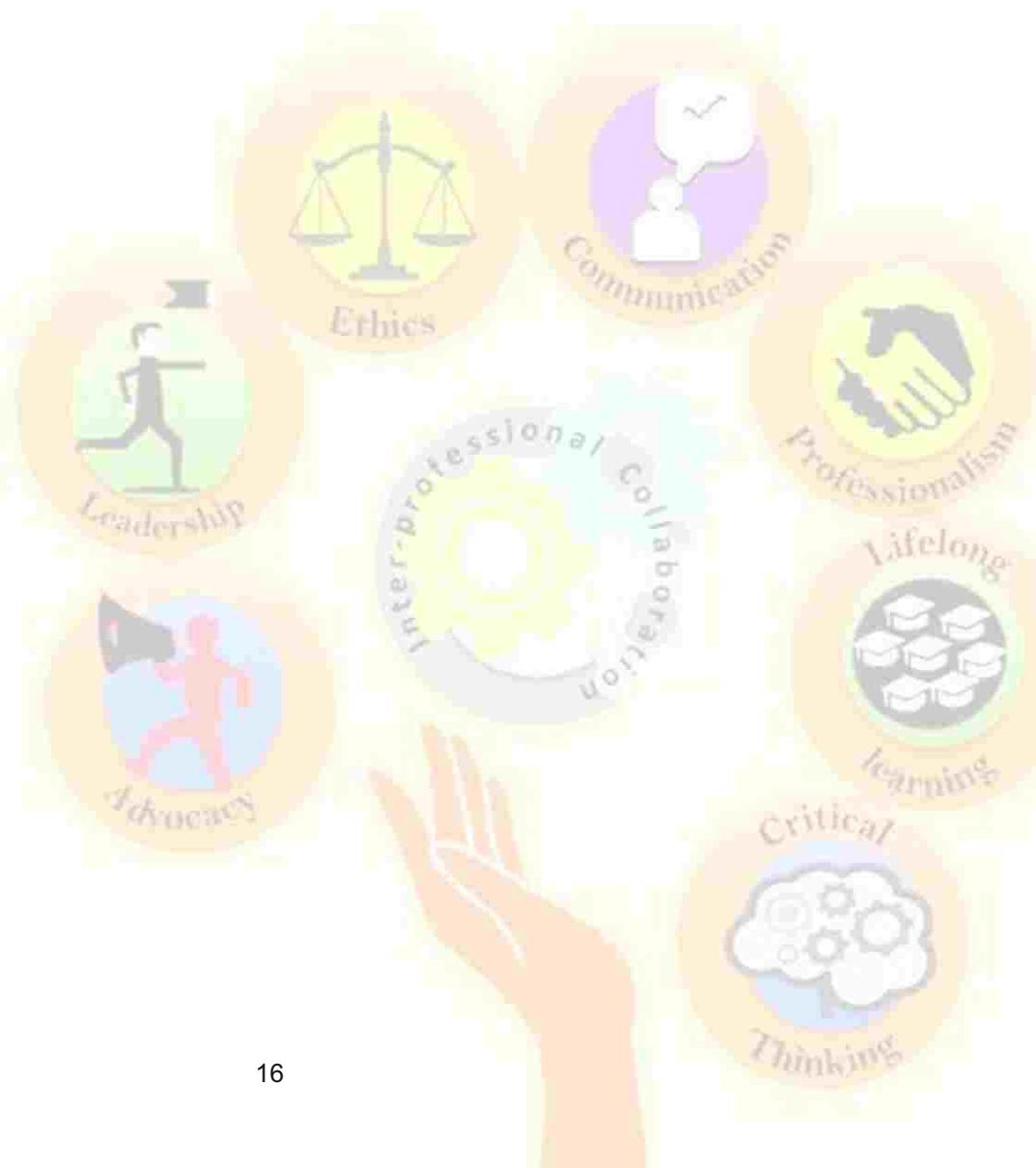
It is imperative that the defined roles and competencies be ratified by the national body and advocated to the Ministry of Health and Family Welfare as well as the Ministry of Higher Education for incorporation into national policy framework. We need to prioritise the competency-based training of public health dental postgraduate students to be fit for practice along the defined roles and responsibilities.

1. The findings of the commission to be placed before for the other IAPHD members for comments.
2. The definition, roles, and competencies of the public health dentistry for Indian context needs to be published in Journal of Public Health Dentistry for external validation, so the researchers and other can cite in their work.
3. IAPHD shall take forward with regulatory bodies like, DCI, MOH for implementation definition, roles, and competencies of the public health dentistry for Indian context.
4. IAPHD shall make promotion attempts, advocate the new definition, roles, and competencies of the public health dentistry for Indian context in other public health agencies, professional bodies.



Conclusion:

By redefining the speciality of Public Health Dentistry from the Indian context, we have outlined the potential roles and competencies and thereby given clarity for ingraining the “sense of identity”. The roles have been defined to be applicable across Public Health and Public Health Dentistry profiles. The competency statements support the roles and thus give specific directions regarding what competencies are to be fulfilled to play the different roles. The committee values the task and feels that by adoption of the definition, roles and competencies by the larger body, the Public Health Dentistry movement in India will get direction and impetus to take the speciality to higher levels. This will also encourage the younger generation to scale up their employability opportunities and contribute extensively to the society in reducing the oral disease burden at global and local levels. It also supports the transition towards a competency based dental education program, currently on the anvil in India.



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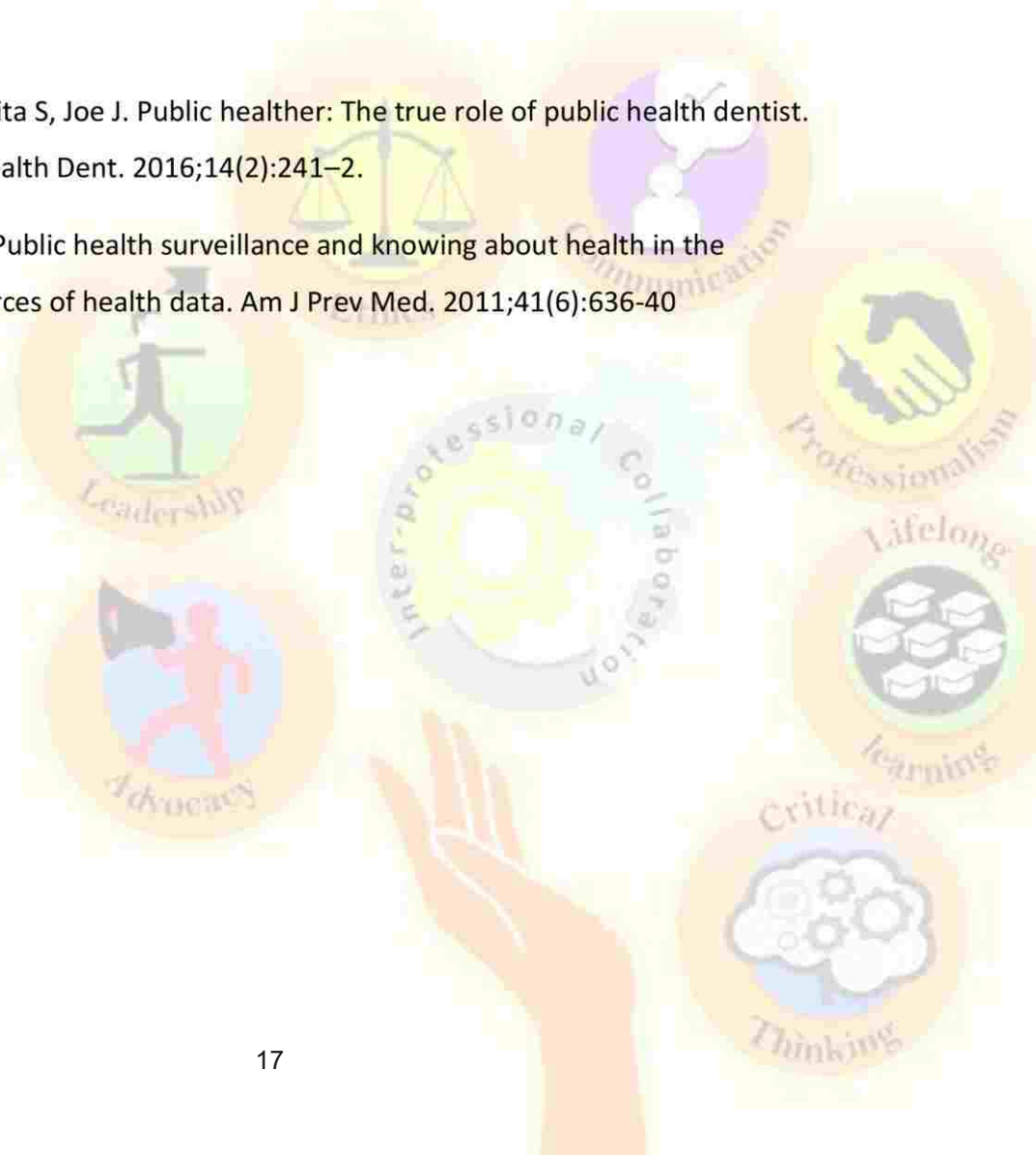
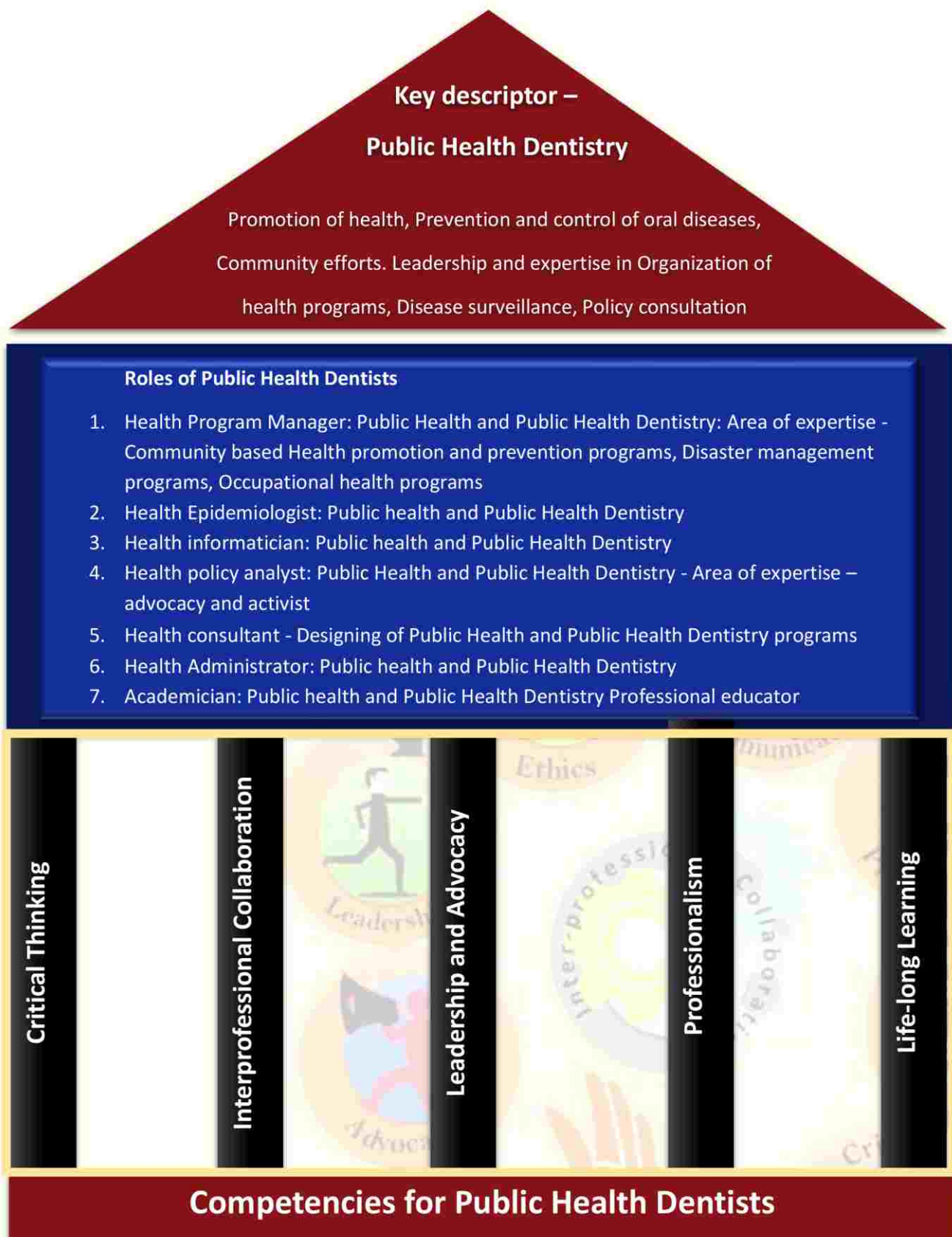


Fig 1: Interrelationship between the definition, roles and competencies of Public Health Dentistry



Annexures





Annexure 1

Descriptor 1: Why “promotion of health in general” in definition?

Public health dentistry is a part of the broader “health care” set up and a part of the broader ‘Public Health’ systems. Hence, Public Health Dentistry’s goal is towards improving health in general; achieved through concepts of health promotion. Oral health promotion efforts must be broad and have to be in sync with promotion of “all health”. Efforts for ‘oral health promotion’ in narrow isolation and out of sync with general health can fail. Hence, “promotion of health in general” ,in general; has been emphasized in this definition.

Why place it earlier to “prevention and control of oral diseases in particular”?

In the context of India, infectious diseases and other non-communicable diseases receive higher priority by the public and policy makers. Higher priority for health should not be viewed to conflict with the interests of achieving oral health. Achieving oral health in isolation is not practical in our context. Hence, there is a need for Common Risk Factor Approach involving health in general to achieve oral health. Placing health earlier than oral health reaffirms the view that we need to integrate “oral health” into the overall framework of health and ‘oral health care team’ be working as a part of the broader ‘health care’ team.

Descriptor 2: Why is the phrase “prevention and control” mentioned separately?

Prevention demarks the “Up-stream” approach and is close to the concepts of public health and close to community level of care. In contrast, the term ‘control’ encompasses a down-stream approach and is closer to “Individual level” of care. Public health dentistry in its purest form is practiced with higher emphasis on the up-stream prevention. However, public health dentistry also deals with “down- stream” control of diseases since disease control receives higher priority from the point of view of policy makers and community. However, ‘control’ should receive less emphasis than “prevention” in Public Health practice; the reason for which is explained further.

Why emphasize prevention first and then control?

Prevention (especially at primordial and primary levels) applied at community level is at the core of public health practice. This is an up-stream approach and can be better applied by Common Risk Factor Approach dealt at the level of public health policy and receive higher priority in our definition by placing prevention first and then control. Prevention at individual and practitioner levels (especially secondary and tertiary levels of prevention) constitutes a down-stream approach and is used along with curative services that are mentioned as “Control”.

Why does the phrase “through organized community efforts” find a mention in the definition?

In the Public Health Dentistry practice, both prevention and control are achieved through organized community efforts. This delineates Public Health Dentistry from other specialties of dentistry where the prevention and control are approached at individual practitioner’s level. Mentioning this phrase in definition also retains the roots of the CEA Winslow’s definition of Public Health and indicates the original source for the core concepts of Public Health Dentistry.

Descriptor 3: Why have “leadership and expertise” separately?

Leadership predominantly involves attitudinal and communication skills. Expertise involves cognitive and procedural skills predominantly. Public Health Dentistry specialists should be able to provide both to effectively improve community oral health. One of these in isolation may not be able to effectively solve a public health problem.

Why place leadership earlier than expertise?

It has been noted that even when expertise in the form of “research evidence” exists, it takes a long time to reach actual evidence-based practice. Effective leadership can help hasten this process and help in effective use of expertise. Similarly, leadership and expertise in coordination are also important for effective ‘organization of health programs, disease surveillance and policy consultation’.

Descriptor 4: What encompasses “Organization of health programs”?

Organization (as verb) in its broadest sense is intended to encompass Systematic planning, managing, administering, arranging, associating individuals to form a group, implementing and evaluating the health programs. (See Merriam-Webster definition for “Organize” as verb)

Why is the phrase ‘Organization of health programs’ a core part of this definition?

Public Health Dentistry is practiced at ‘group level’ through “organized community efforts” and needs teamwork involving multiple health sectors and multiple stakeholders. Organizing a health program hence involves formation of “coherent unity or functioning whole” (See Merriam-Webster definition for “Organize” as verb) to be effective at community level. Principles of organization, hence, play a very important role in achieving effective public health. This was one of the essential roles that a Public Health Dentistry specialist needs to play in Indian context. Hence this was included in the definition.

Descriptor 5: What encompasses “disease surveillance”?

Public health surveillance is “The ongoing, systematic collection, analysis, and interpretation of health-related data with the purpose of preventing or controlling disease or injury, or of identifying unusual events of public health importance, followed by the dissemination and use of information for public health action.”⁷

Why is the phrase ‘disease surveillance’ a core part of this definition?

Public Health Dentistry is practiced through “organized community efforts” and hence monitoring at community level needs broader group approaches like “disease surveillance”. This was one of the essential roles that a Public Health Dentistry specialist needs to play in Indian context. Hence this was included in the definition.

Descriptor 6: What encompasses “policy consultation”?

As per Medical Subject heading (MeSH term) Health policy is defined as “Decisions, usually developed by government policymakers, for determining present and future

objectives pertaining to the health care system". Public Health Dentistry practice involves providing all the stakeholders, especially the policy makers (at various levels of governance) with adequate consultation regarding aspects related to Health and Oral health.

Why is the phrase 'policy consultation' a core part of this definition?

Public Health Dentistry is practiced through "organized community efforts" and providing policy consultation is essential in achieving decisions involving a "group of people". This was one of the essential roles that a Public Health Dentistry specialist needs to play in Indian context. Hence this was included in the definition.

Descriptor 7: What encompasses "evidence-based practice"?

As per Medical Subject heading (MeSH term) evidence-based practice is defined as "A way of providing health care that is guided by a thoughtful integration of the best available scientific knowledge with clinical expertise. This approach allows the practitioner to critically assess research data, clinical guidelines, and other information resources to correctly identify the clinical problem, apply the most high-quality intervention, and re-evaluate the outcome for future improvement."

Why is the phrase 'evidence-based practice' a core part of this definition?

Public Health Dentistry is a part of the discipline of science. The spirit of scientific enquiry involves scientific questioning and critically testing hypotheses to form empirical evidence that can positively inform public health practice. This was one of the essential roles that a Public Health Dentistry specialist needs to play in Indian context. Hence this was included in the definition.

Descriptor 8: Why have "Community and individual levels" separately?

Public Health Dentistry in its purest form involves working at 'Community level'. Ideally, this is an up-stream work that addresses broader causes of ill-health at group level. However, Public health dentistry has dual roles in Indian context. Public health dentistry needs to provide "a dentist in the context of Public Health; and a Public Health person in the context of dentistry". Hence Public Health dentistry needs to work upstream at community

level of disease prevention but also work down-stream at individual levels of disease control. Both in tandem have potential to create success stories for public health dentistry at individual as well as mass levels.

Why place 'Community' earlier than 'Individual'?

Public Health Dentistry specialists must use all the expertise and leadership to improve the health of the community at the 'group' level. Hence the focus of public health specialists has to be more on the community level of organization of efforts. Hence, we have placed 'community' earlier than 'Individual level' in our definition. Bringing changes at each individual level by equitable approach has the potential to aggregate into a better health in the community. Improvement in individual health is the smallest unit of measurement to evaluate success at community level. This is the reason why 'individual' level is also emphasized in this definition. Improving the quality of life by reaching every individual in an equitable manner is the aim of public health practice. Hence, our definition ends with mention of Individual level.





Role	Expertise	Public Health EPA	Public Health Dentistry EPA
Role	Community based Health promotion and prevention programs, Disaster management programs, Occupational health programs	Demonstrate ability to coordinate effective implementation of various national health programs as nodal officer using a multidisciplinary team for promotion of health and quality of life. Demonstrate ability to coordinate activities related to disaster preparedness and disaster management in an emergency while working closely with public safety officials, elected officials, non-profit organizations, and government agencies. Demonstrate ability to analyse work environments and procedures while coordinating effective implementation of occupational health programs.	Demonstrate ability to coordinate effective implementation of comprehensive oral health programs using a multidisciplinary team for promotion of oral health and oral health related quality of life in various settings (such as rural and tribal areas, schools, orphanages, residential homes for specially abled children, old age homes, urban slums etc).
Health Program Manager	Epidemiology of communicable and non-communicable diseases Systems research	Demonstrate ability to critique, synthesize and apply information from scientific and lay sources to improve health status of population Demonstrate ability to describe social and health care systems and determinants of health and their impact on health of	Demonstrate ability to critique, synthesize and apply information from scientific and lay sources to improve oral health status of population. Demonstrate ability to describe social and oral health care systems and determinants of oral health

Role	Expertise	Public Health EPA	Public Health Dentistry EPA
		<p>the individual and population.</p> <p>Assess risk for communicable and non-communicable diseases and select appropriate, evidence-based preventive interventions and strategies to promote health and control diseases at the individual and population level</p> <p>Demonstrate ability to design surveillance systems to measure health status and its determinants</p> <p>Demonstrate ability to plan, implement and evaluate systems of care that impact health</p>	<p>and their impact on health of the individual and population.</p> <p>Assess risk for oral diseases and select appropriate, evidence-based preventive interventions and strategies to promote oral health and control oral diseases at the individual and population level.</p> <p>Demonstrate ability to design surveillance systems to measure oral health status and its determinants.</p> <p>Demonstrate ability to plan, implement and evaluate systems of oral health care that impact health.</p>
Health Epidemiologist	<p>Research methodology – Qualitative, quantitative and mixed methods Evidence based medicine</p>	<p>Demonstrate the ability to access and describe the use of population-based health data for health promotion, patient care, and quality improvement.</p>	<p>Demonstrate ability to collect and analyse population-based oral health data to promote oral health, patient care, and oral health related quality of life.</p>
Health informatician	<p>Health policy and advocacy</p>	<p>Demonstrate ability to communicate and collaborate with relevant stakeholders to advocate for policies that impact general health of individuals or populations</p>	<p>Demonstrate ability to communicate and collaborate with relevant stakeholders to advocate for oral health policies at different levels.</p>
Health policy analyst	<p>Health research Health Policy</p>	<p>Demonstrate ability to conduct research to analyse</p>	<p>Demonstrate ability to conduct research to analyse oral health trends and review</p>

Role	Expertise	Public Health EPA	Public Health Dentistry EPA
	Designing health promotion programs	health trends and review the existing health policies. Demonstrate ability to suggest modifications in the existing policies of government agencies, healthcare providers, and non-profit organizations to promote health of the population	the existing oral health policies around the world (globally). Demonstrate ability to share expertise in drafting oral health policies to government agencies, healthcare providers, and non-profit organizations using evidence-based strategies adopted in different countries.
Health consultant	Human resource management Team based and interprofessional collaboration expertise	Demonstrate ability to communicate and collaborate with groups and individuals for process and implementation of disease mitigation strategies. Demonstrate ability to develop resources, implement and manage health programs for populations. Demonstrate the ability to participate in interprofessional care across the lifespan of people from diverse communities and cultures. Incorporate ethical standards in health programs and activities/ Demonstrate ethical decision-making in the practice of public health. Display appropriate professional behaviour	Demonstrate ability to communicate and collaborate with groups and individuals for process and implementation of oral disease mitigation strategies. Demonstrate ability to develop resources, implement and manage oral health programs for populations. Demonstrate the ability to participate in interprofessional oral health care across the lifespan of people from diverse communities and cultures. Incorporate ethical standards in oral health programs and activities/ Demonstrate ethical decision-making in the practice of Public Health Dentistry. Display appropriate professional behaviour

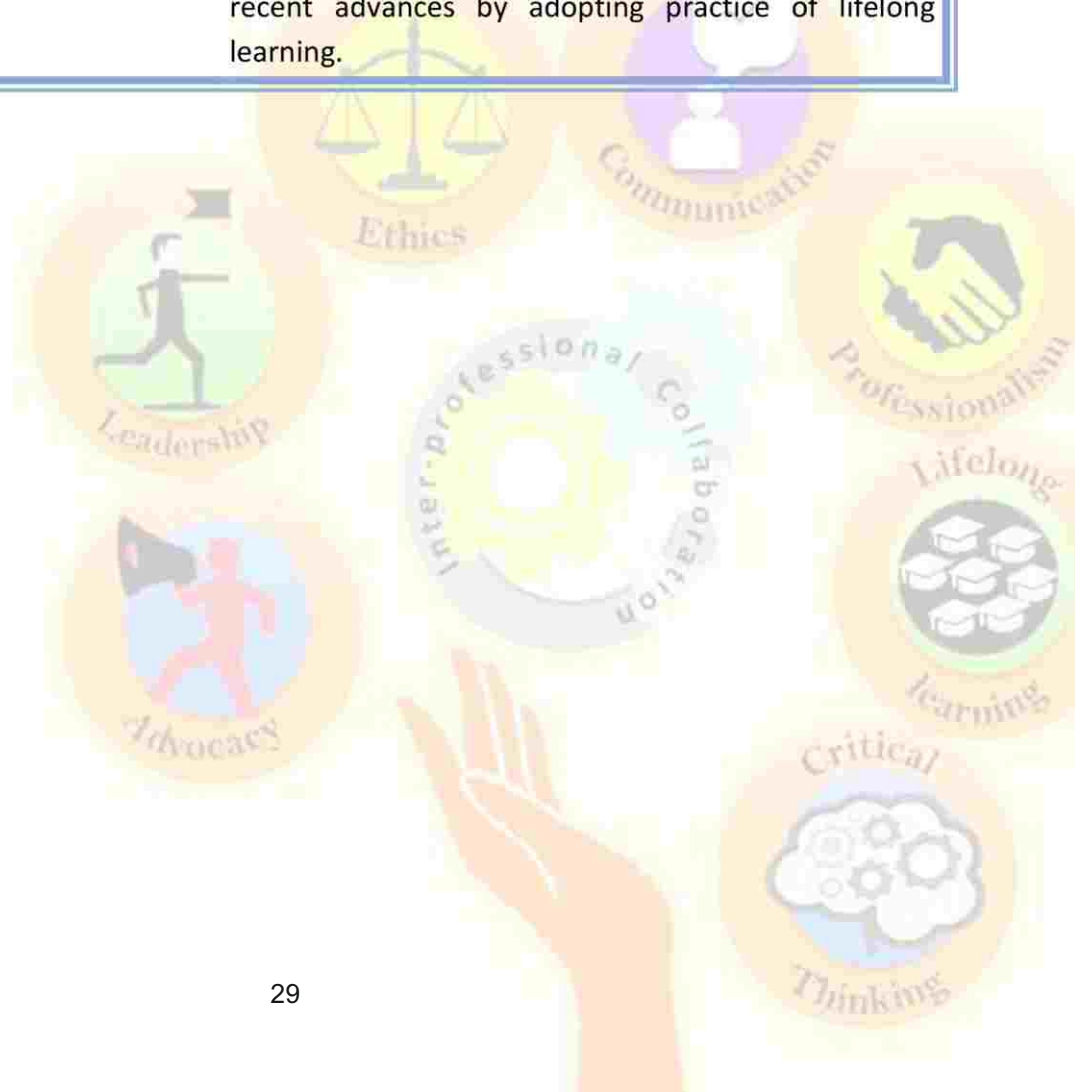
Role	Expertise	Public Health EPA	Public Health Dentistry EPA
		towards all members of health care team	towards all members of health oral care team
Health Administrator	Human resource management Team based and interprofessional collaboration expertise	<p>Demonstrate ability to communicate and collaborate with groups and individuals for process and implementation of disease mitigation strategies.</p> <p>Demonstrate ability to develop resources, implement and manage health programs for populations.</p> <p>Demonstrate the ability to participate in interprofessional care across the lifespan of people from diverse communities and cultures. Incorporate ethical standards in health programs and activities/ Demonstrate ethical decision-making in the practice of public health.</p> <p>Display appropriate professional behaviour towards all members of health care team</p>	<p>Demonstrate ability to communicate and collaborate with groups and individuals for process and implementation of oral disease mitigation strategies. Demonstrate ability to develop resources, implement and manage oral health programs for populations.</p> <p>Demonstrate the ability to participate in interprofessional oral health care across the lifespan of people from diverse communities and cultures. Incorporate ethical standards in oral health programs and activities/ Demonstrate ethical decision-making in the practice of Public Health Dentistry.</p> <p>Display appropriate professional behaviour towards all members of health oral care team</p>
Academician	Professional educator for health professional students in Public Health and Public Health Dentistry	Develop a capacity for lifelong learning and professional growth in order to provide leadership that utilizes principles of public health.	Develop a capacity for lifelong learning and professional growth in order to provide leadership that utilizes principles of Public Health Dentistry.

Role	Expertise	Public Health EPA	Public Health Dentistry EPA
		<p>Demonstrate ability to train undergraduate and postgraduate students in basic concepts and application of principles of public health in regular academic programs.</p> <p>Participate in CDE programs and keep abreast of global strategies and policy developments.</p>	<p>Demonstrate ability to train undergraduate and postgraduate students in basic concepts and application of principles of Public Health Dentistry in regular academic programs.</p> <p>Participate in CDE programs and keep abreast of global strategies and oral health policy developments.</p>





Core Competencies	Sub-competencies	Descriptors
Critical Thinking	Critical Thinking, Problem Solving, Evidence Base Practice	Apply critical thinking and problem-solving skills to identify and address community oral health issues using evidence based practice.
Inter-professional Collaboration	Communication, Cultural Competency, Teamwork	Collaborate and communicate effectively with multiple stakeholders from diverse cultural background to enhance Public Health Dentistry outcomes.
Leadership & Advocacy	Teamwork, Decision Making, Entrepreneurship	Ability to assume leadership position/roles and advocate policy changes related to Public Health Dentistry.
Professionalism	Professionalism, Ethical reasoning, Legal/Jurisprudence	Demonstrate professionalism and apply principles of ethics to address legal issues while addressing Public Health Dentistry needs.
Lifelong learning		Recognize the need for keeping oneself abreast with recent advances by adopting practice of lifelong learning.





Themes/Categories	Topics
Applied Basic Sciences	<p>Applied Anatomy and Histology</p> <p>Applied Physiology and Biochemistry</p> <p>Applied Pathology</p> <p>Microbiology</p> <p>Oral Pathology</p> <p>Anthropology</p> <p>Applied Pharmacology</p>
Principles and practice of Public Health/ Public Health Dentistry	<p>Principles and practice of Public Health/ Public Health Dentistry</p> <p>Inequalities in Oral health</p> <p>Social and Behavioural change</p> <p>Environment and Health</p> <p>Principles of Social Research</p> <p>Nutrition</p>
Epidemiology	<p>Principles and Methods of Oral Epidemiology</p> <p>Measurement and distribution of oral diseases and conditions – Dental caries, Periodontal diseases, Oral Cancer, Dental Trauma, Enamel Defects, Dentofacial irregularities, Tooth wear</p> <p>Trends in Oral Diseases</p> <p>Disease Surveillance</p> <p>Analysis of community oral health status</p>
Research Methods & Biostatistics	<p>Research Principles</p> <p>Research Designs</p> <p>Reviewing literature</p> <p>Evidence based dentistry</p> <p>Basic and Advanced biostatistics</p> <p>Health Informatics</p> <p>Advanced operational research</p>
Health/oral health promotion and Prevention	<p>Principles of Oral Health Promotion</p> <p>Oral health Education</p> <p>Practical aspects of Oral health Promotion</p> <p>Fluorides</p> <p>Prevention of oral Diseases</p> <p>Tobacco cessation</p> <p>Diet Counselling</p>

Themes/Categories	Topics
	Social determinants The management of Change
Health Systems	Principles of organization and models of Health care systems Access to health care systems The primary health care approach Health Workforce Financing dental care School oral health programs Principles and Practice of Health economics Healthy Dental Practice – infection control & biomedical waste management Role of Non-Governmental Organizations in health care Hospital Administration Public Health practice & Administrative systems in India Practice management Financial management & budgeting Effective advocacy and communication in Public Health/ Public Health Dentistry
Health programme, Policy and Planning & Evaluation	Oral health needs assessment Programme Planning Evaluation of Public Health programmes Understanding Health policy, process and planning Translating Research into policy and health advocacy Current issues in Health Policy – National & International Public Health leadership Evaluation of Programmes
Law and ethics	Principles of Bioethics Ethics and responsibility in dental care Public Health laws Public Health Ethics
Comprehensive Oral health Care	Comprehensive risk assessment Comprehensive oral health care



COMPETENCY	SUB-COMPETENCY	DESCRIPTORS
Patient centred care	Practice management Comprehensive oral health care	Establishing and managing dental practice as per the requirements mandated by law Will be able to evaluate and apply the principles of an evidence-based approach to clinical care and decision making necessary for patient care to provide preventive, promotive, curative, rehabilitative, palliative, and holistic oral health care with compassion
Professionalism and ethics	Professionalism Lifelong learner Ethics Humanities	Professional who is committed to excellence, ethical, responsive and accountable to patients and profession and is a self-directed lifelong learner
Communication skills interpersonal skills and Leadership	Communication skills Interpersonal skills Leadership	Enhance all soft skills, in particular communication and inter personal skills with all stakeholders. To focus on being a team worker and developing leadership skills
Interprofessional collaboration and social responsibility	Social responsibility Interprofessional collaboration Advocacy Administrative skills	Will be able to have patient service and research activities towards addressing the felt oral health needs and priority oral health concerns of the community through inter professional collaboration
Critical thinking and research	Evidence based dentistry Health research and informatics Critical thinking	Will be able to practice evidence based dentistry and demonstrate critical thinking skills like reasoning and objective analysis for problem solving through reflective practice



Themes/ categories	Sub themes	Topics
Introduction to Public Health Dentistry		<p>Introduction to Public Health and Public Health Dentistry</p> <p>General overview of dentistry</p> <p>Introduction to public health</p> <p>What is Public Health Dentistry?</p> <p>Functions of Public Health Dentistry</p> <p>Tools of Public Health Dentistry</p> <p>Difference between Clinical dentistry & Public Health Dentistry</p> <p>Behavioural sciences in Public Health Dentistry – sociology, psychology and anthropology</p> <p>Health and disease</p>
Research Methodology	Research Designs	<p>Introduction to epidemiology</p> <p>What is epidemiology</p> <p>Tools of epidemiology – rate, ratio, proportion</p> <p>Measurements in epidemiology – incidence, prevalence, Odd's ratio, relative risk</p> <p>What is sampling and sampling methods</p> <p>Research designs with application of ethics, Evidence Base & biostatistics</p> <p>Computer literacy</p> <p>Overview of biostatistics</p> <p>Investigation of epidemic</p>
	Survey, Planning & evaluation	<p>Survey</p> <p>Oral health survey</p> <p>Screening & surveillance – iceberg of disease, risk groups, signs & symptoms, detection methods including sensitivity & specificity</p> <p>Oral health survey assessment form</p> <p>Planning, program planning, problem solving</p> <p>Evaluation</p>
Health promotion	Health Promotion	<p>Approaches to health promotion</p> <p>Levels of prevention</p> <p>Health education</p> <p>School health promotion incorporating incremental dental care & comprehensive dental care</p>

Themes/ categories	Sub themes	Topics
	Tobacco cessation Counselling	Tobacco cessation Counselling
Epidemiology of oral diseases	Epidemiology of Dental Caries	<p>Epidemiology of dental caries What is public health problem? Prevalence of dental caries World, India & state statistics Gender distribution of disease Age wise distribution of disease Trends in dental caries Etiological factors – epidemiological triad, diet & dental caries, nutrition and oral health Clinical signs Measurement of dental caries Levels of prevention for dental caries – Health Education, Oral Health Promotion, Diet Counselling, Recall Primary level of prevention of dental caries Fluorides – mechanism of action, systemic [milk & salt] and topical fluorides Pit and fissure sealants Caries vaccine Caries detection tests Secondary level of prevention of dental caries Preventive resin restoration Atraumatic restorative technique</p>
	Epidemiology of other oral Diseases	<p>Epidemiology of periodontal diseases Prevalence of periodontal disease World, India & state statistics Gender distribution of disease Age wise distribution of disease Trends in periodontal disease Etiological factors – epidemiological triad Clinical signs Measurement of periodontal disease Levels of prevention for periodontal disease including plaque control at appropriate levels Epidemiology of Oral Cancer Prevalence of oral cancer World, India & state statistics Gender distribution of disease</p>

Themes/ categories	Sub themes	Topics
		<p>Age wise distribution of disease</p> <p>Trends in periodontal disease</p> <p>Etiological factors – epidemiological triad, forms of tobacco</p> <p>Clinical signs, precancerous lesions[prevalence, rate of malignancy] & Oral cancer detection methods</p> <p>Levels of prevention for oral cancer</p> <p>Epidemiology of Fluorosis</p> <p>History of fluorosis</p> <p>Water Fluoridation and defluoridation</p> <p>Indices to record fluorosis</p>
5. Health Care Delivery System	Mechanisms of health care delivery system	<p>System of health care delivery including international health agencies and dental practice management</p> <p>Manpower issues in health care delivery</p> <p>Finance in health care delivery system</p>
	Health care delivery across the world	Health care systems in various countries across the world – US, UK, Scandinavian countries, China
	Health care delivery in India	<p>Organizational hierarchy of the health care delivery system in India</p> <p>Primary health care</p> <p>Indian scenario of the dental care delivery system– system, manpower & finance</p> <p>IDA, DCI, State Dental Council</p>
6. Dental Practice Management	Dental Practice Management	<p>Establishing and managing dental office</p> <p>Clinical ethics</p> <p>Medical jurisprudence</p> <p>Occupational hazards</p> <p>COPRA</p> <p>Finance and auxiliaries – Indian scenario</p> <p>Regulatory mechanism for dental practice</p> <p>Patient management systems</p>
7. Environment & Health	Environment & Health	<p>Water</p> <p>Noise & air pollution,</p> <p>Disinfection & sterilization methods</p> <p>Waste disposal – general & biomedical waste disposal</p>



Competent Indian Public Health Dentist