Competency Statements for Dental Public Health*

Preamble

Competency statements for dental public health, and the performance indicators by which they can be measured, were developed at a workshop in San Mateo, California, on May 4-6, 1997. This was the third in a series of such workshops conducted by the American Association of Public Health Dentistry and the American Board of Dental Public Health which set up the knowledge and practice base by which the specialty is recognized. The first such workshop was held at Boone, NC, in 1974 (1), and the second at Bethesda, MD, in 1988 (2). Social and technological change and the evolution of the specialty make periodic revisions essential.

Dental public health is defined by the American Board of Dental Public Health as:

"...the science and art of preventing and controlling dental diseases and promoting dental health through organized community efforts. It is that form of dental practice which serves the community as a patient rather than the individual. It is concerned with the dental education of the public, with applied dental research, and with the administration of group dental care programs as well as the prevention and control of dental diseases on a community basis.. "

This population-based approach to professional practice is quite different from the approach required for individual patient care in private practice, though both forms of practice are integral parts of the dental profession. Accordingly, dental public health practice demands an additional body of knowledge and a set of skills beyond those obtained in an undergraduate dental education.

There are some fundamental aspects of dental public health practice which are not readily encompassed in a competency statement, and these can be considered part of the framework in which the competency statements are set. These fundamental attributes of the dental public health specialist include:

Being a dentist. The scientific background and clinical skills to diagnose, prevent, and manage oral diseases and conditions inherent in a dental education provide the underlying foundation for advanced knowledge of dental public health.

Demonstration of public health values, which essentially means a view of health issues as they affect a population rather than an individual with particular emphasis on prevention, the environment in its broadest sense, and service to the community. Public health dentists usually work collaboratively as part of a multidisciplinary team of public health professionals and community representatives.

Leadership characteristics, such as influencing health policies and practice through research, education, and advocacy; articulating a vision for the organization; negotiating and resolving conflicts; etc.

Subscribing to the code of ethics set down by the American Association of Public Health Dentistry.

The format for these competency statements is based on those developed by the American College of Preventive Medicine for residents in Preventive Medicine (3). As such, the competency statements are presented in general terms with accompanying specific performance indicators to illustrate the range and depth expected in the competency.

Competency means being able to function in context, and the term is used most often to describe the skills, understanding, and professional values of the beginning practitioner (4). Competency is a level reached by the person who is initially a novice, and who, after training and experience, reaches the level where they can be certified as competent. It is a major landmark in professional development, but it is not the final point in the journey. That comes with proficiency and the ultimate status of expert after many years of experience and professional growth. Competency in dental public health is seen as the point reached after students in advanced dental education programs complete two years of postgraduate education in the specialty requirements of dental public health. In that sense, these expectations comprise a "floor" rather than a "ceiling", a basic collection of the minimum knowledge, skills, and values needed for an entry level specialist to practice dental public health. It is understood that new practitioners may not have performed every competency at the level indicated while in training. However, it is expected that the practitioner will progress beyond the status of competency as his or her career continues, at least in certain areas.

The previous set of competency objectives (2) for dental public health specialty certification developed at the Bethesda workshop looks quite different from this current set. The previous objectives are essentially areas of knowledge that comprehensively cover just about everything that a public health dentist needs to know but are not "competencies" per se. By no means are they outdated, and they will continue to be used by advanced education directors as a guide for curriculum development. Many of those areas of knowledge have been incorporated into the current document.

There are two principal changes between the new competency statements and the previous set. First, the new competencies are stated in behavioral terms; they are intended to define what dental public health practitioners can do as opposed to what they know or understand. These competencies describe skills or abilities that are measurable or observable. Second, performance indicators have been added. Performance indicators are examples of the types of outcomes or categories of evidence to be collected and are used as a basis for judging competency attainment (3).

The competencies are the result of an attempt to achieve a consensus on the level of performance to be expected of all dental public health specialists. They can help define the specialty to potential employers, to potential applicants for specialty certification, and to colleagues in the health professions. These competency statements form the basis by which standards for specialty education can be developed and applied. Specialty education programs in dental public health are accredited by the American Dental Association in accordance with their degree of adherence to separately defined standards, so these competency statements do not directly form a part of the accreditation process. Instead, they are used by educational and residency program directors, faculty and students to establish curricula, and by graduates of these programs as they prepare to take their examinations which lead to specialty certification accorded by the American Board of Dental Public Health.

References

1. Hughes JT. Behavioral objectives for dental public health. J Public Health Dent 1978; 38:100-7.
2. Competency objectives for dental public health. J Public Health Dent 1990; 50:338-44.
3. Lane DS, Ross V. Final report: Improving training of preventive medicine residents through the development and
evaluation of competencies. November 1993. United States Department of Health and Human Services, Public Health Service, Health Resources and Services Administration, Bureau of Health Professions. HRSA Contract #92-468(P).
4. Chambers DW, Gerrow JD. Manual for developing and formatting competency statements. J Dent Educ 1994;58:361-6

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Dental Public Health
Competencies*

A specialist in dental public health will:

I. Plan oral health programs for populations.

Planning reflects:

1. Establishing goals and setting priorities.
2. Assessing oral health status, needs and demands, and their determinants in a community. (See Competencies VI, IX, X)

a. understanding the natural history of oral diseases and conditions.
b. assembling, reviewing, analyzing and interpreting existing data, including census, vital statistics, scientific literature, oral health care/public health and relevant legal documents. (See IX)
c. assessing quality of data, noting strengths and limitations. (See IX)

3. Compiling all types of resource inventories (e.g., economic, personnel, legal, political, social)
4. Developing program plans (such as for prevention and service delivery, etc.)

a. identifying problem or potential problem
b. setting goals, objectives and priorities
c. identifying target population
d. assessing current system (public and private components) including organizational structure and its relevance to decision making process
e. determining demand for program
f. analyzing alternative interventions (See IX)
g. selecting best practices and interventions that take into account cultural differences (See II, VII-6, IX)
h. determining procedures, policies and implementation plans
i. identifying and analyzing liability issues and developing risk reduction strategies
j. developing budget and financing to ensure access for needed services
k. determining timeline
l. developing plans for monitoring and evaluation (See V, VI)

5. Collaborating with community partners and constituency building (See II-4, II-9, III-1, VII, VIII-4)

II. Select interventions and strategies for the prevention and control of oral diseases and promotion of oral health

This competency reflects:

1. Using a comprehensive knowledge of the efficacy, effectiveness and efficiency of the various interventions to select interventions and strategies to prevent and control oral diseases. Balancing costs and possible risks against benefits of potential interventions. (See V, IX)
2. Understanding national, state and local health objectives.
3. Integrating knowledge of health determinants when selecting interventions.
4. Identifying the role of cultural, social, and behavioral factors, practices, and issues in determining disease initiation and progression, disease prevention, health promoting behavior, and oral health service organization and delivery.
5. Advocating for oral health policies (See VIII).

6. Providing information on maintaining and improving oral health at the community and individual level. (See VII)
7. Communicating with groups and individuals on oral health issues. (see VII)
8. Serving as a resource for professional and community groups concerning evidence for the effectiveness of preventive and treatment interventions and the rationale for their use. (See VII)
9. Collaborating with other health professionals, agencies, and private groups in disease prevention and health promotion activities. Examples include tobacco cessation, community water fluoridation, and early childhood caries prevention programs. (See I-5, II-4, III-1, VII, VIII-4)

III. Develop resources, implement and manage oral health programs for populations

Implementation and management reflect:

1. Communicating with, gaining the support of, and collaborating with critical partners and constituents for plan development, implementation and evaluation. (See I-5, II-4, 7-9, VII, VIII-4)
2. Organizing, managing and securing resources according to program plans.

a. human resources

1. hiring and selecting program staff
2. training and development
3. continuing education
4. negotiation and conflict resolution

b. physical resources
c. fiscal resources
d. information (See IX, X)

3. Periodically monitoring and measuring progress indicators against program goals. (See V)
4. Making appropriate program adjustments.
5. Administering policies and procedures.

IV. Incorporate ethical standards in oral health programs and activities

This competency reflects:

1. Applying the acceptable principles of ethical behavior and professional conduct (principles of autonomy, nonmaleficence, beneficence, justice, voracity, and professionalism) as reflected in the code of ethics and standards of professional conduct of public health, dentistry, and employing organizations.

V. Evaluate and monitor dental care delivery systems

Evaluating and monitoring reflect:

1. Identifying involved individuals, consumer groups, agencies, and organizations and obtaining their perspectives and organizational policies.
2. Collecting, organizing, analyzing and interpreting data (See I-2, I-3, VI, IX, X)
3. Assessing outcomes, including safety, efficacy, costs, cost-effectiveness, quality, consumer satisfaction and health consequences. (See IX, X)
4. Evaluating changes and trends in demographics, health status, risk factors, utilization of services, dental personnel, structure of delivery systems, financing, regulations, legislation, policies. (See I-2, I-3, III-3, IX)
5. Determining extent that goals, objectives and budget allocations are met.
6. Applying findings to program decisions.

VI. Design and understand the use of surveillance systems to monitor oral health

Designing and using a surveillance system reflects:

1. Determining and documenting rationale and feasibility of surveillance and monitoring. Examples include the Behavioral Risk Factor Surveillance System (BRFSS), water fluoridation census, and cancer registry.
2. Developing an operational definition of a case.
3. Identifying data sources.
4. Using surveillance tools, e.g., screening, lab reports.
5. Analyzing and using data and distributing findings. (See V-6, VII, IX)

VII. Communicate and collaborate with groups and individuals on oral health issues

This competency reflects:

1. Ability to effectively communicate orally and in writing, including electronically (implies knowledge of subject, current and accurate information, understanding of audience).
2. Articulating a vision for the organization.
3. Developing a communication plan and network for getting things done (coalition, steering committee)
4. Selecting appropriate approaches and relevant information for targeting messages and format to audience/individual (appropriate language and grade level of communication, choice of written, oral, or audiovisual format, use of media or other methods)

5. Applying risk communication skills to explain levels of risk from real or potential hazards.
6. Collaborating sensitively and effectively with persons from diverse cultural, socio-economic, educational, and professional backgrounds, and with persons of all ages and lifestyle preferences (See I-5, II-8, III-1, VII, VIII-4).

VIII. Advocate for, implement and evaluate public health policy, legislation, and regulations to protect and promote the public's oral health

This competency reflects:

1. Understanding legislative, regulatory and political processes.
2. Conforming to statutes and regulations regarding areas such as liability, restraint of trade, conflict of interest, credentialing, certification practices, confidentiality and discrimination.
3. Analyzing issues and determining appropriate legislative or regulatory pathways to accomplish goals.
4. Collaborating with community partners to advocate for legislative and budgetary resources to meet identified oral health needs including oral health expressions of general health needs. (See I-5, III-1, VII)
5. Assisting groups and communities, especially at risk for oral disease to advocate for themselves.

IX. Critique and synthesize scientific literature

This competency reflects:

1. Applying the principles of hypothesis development and testing.
2. Identifying appropriate, valid and reliable measures of oral health, disease and associated factors.
3. Identifying the characteristics of and rationale for different types of study designs and analytic methods used in epidemiologic studies, experimental studies, health services research and policy analysis.
4. Identifying possible sources of bias in studies.
5. Identifying and understanding procedures for training, standardization and calibration of examiners.
6. Identifying appropriate statistical procedures such as those for measuring examiner reliability.
7. Evaluating generalizability and validity of study findings.
8. Translating study findings into recommendations.

X. Design and conduct population-based studies to answer oral and public health questions

Designing and implementing studies reflect:

1. Defining a problem.
2. Critically reviewing the literature. (See IX)
3. Formulating research objectives and hypotheses.
4. Developing a research protocol. This process includes:

a. designing research using epidemiologic principles and other discipline-specific methods (e.g. health services and behavioral science methods)
b. selecting measures of oral health, disease, and associated factors
c. identifying the study population, and inclusion and exclusion criteria
d. developing appropriate sampling methods
e. planning for recruitment and retention of participants
f. if appropriate, allocating subjects to treatment or control groups, using randomization or matching
g. collecting, managing and controlling the quality of data
h. choosing statistical techniques for sample size estimation and data analysis
i. developing a budget appropriate for the research question
j. collaborating with other members of the research team and consulting experts in pertinent disciplines

5. Using human subjects' review and informed consent conscientiously, including sensitivity to individual rights.
6. Implementing the protocol.
7. Interpreting research findings.
8. Identifying study limitations.
9. Providing results/feedback to community authorities once study is completed (See VII).
10. Formulating and disseminating conclusions and recommendations.

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Reference: AAPHD Home Page: http://www.aaphd.org/default.asp?page=competencies.htm