Commission on Dental Accreditation

Accreditation Standards
For Dental Education Programs

Accreditation Standards for Dental Education Programs

Commission on Dental Accreditation
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TABLE OF CONTENTS

Mission Statement of the Commission on Dental Accreditation 5

Accreditation Status Definition 6

Introduction 7

Goals 9

Education Environment 12

Definition of Terms Used in Accreditation Standards 17

Accreditation Standards for Dental Education Programs 20

1 - Institutional Effectiveness 20

2 - Educational Program 23
- 2-1 Instruction 23
- 2-3 Curriculum Management 23
- 2-9 Critical Thinking 25
- 2-10 Self-Assessment 26
- 2-11 Biomedical Sciences 26
- 2-15 Behavioral Sciences 27
- 2-17 Practice Management and Health Care Systems 28
- 2-20 Ethics and Professionalism 28
- 2-21 Clinical Sciences 29

3 - Faculty and Staff 32

4 - Educational Support Services 33
- 4-1 Admissions 33
- 4-5 Facilities and Resources 34
- 4-6 Student Services 34
- 4-7 Student Financial Aid 34
- 4-9 Health Services 35

5 - Patient Care Services 36

6 - Research Program 38

Mission Statement of the Commission on Dental Accreditation

The Commission on Dental Accreditation serves the oral health care needs of the public through the development and administration of standards that foster continuous quality improvement of dental and dental related educational programs.

Commission on Dental Accreditation
Revised: October 2012

Accreditation Status Definitions

Programs Which Are Fully Operational

APPROVAL (without reporting requirements): An accreditation classification granted to an education program indicating that the program achieves or exceeds the basic requirements for accreditation.

Approval *(<u>with</u> reporting requirements*): An accreditation classification granted to an educational program indicating that specific deficiencies or weaknesses exist in one or more areas of the program. Evidence of compliance with the cited standards must be demonstrated within eighteen (18) months if the program is between one and two years in length or two years if the program is at least two years in length. If the deficiencies are not corrected within the specified time period, accreditation will be withdrawn, unless the Commission extends the period for achieving compliance for good cause. Identification of new deficiencies during the reporting time period will not result in a modification of the specified deadline for compliance with prior deficiencies.

Circumstances under which an extension for good cause would be granted include, but are not limited to:

- sudden changes in institutional commitment;
- natural disaster which affects affiliated agreements between institutions; faculty support; or facilities;
- changes in institutional accreditation;
- interruption of an educational program due to unforeseen circumstances that take faculty, administrators or students away from the program

Revised: 2/16; Reaffirmed: 8/10, 7/05; Revised: 1/99; 5/12 Adopted: 1/98

Programs Which Are Not Fully Operational

The accreditation classification granted by the Commission on Dental Accreditation to programs which are not fully operational is “Initial Accreditation.”

Initial Accreditation: Initial Accreditation is the accreditation classification granted to any dental, advance dental or allied dental education program which is in the planning and early stages of development or an intermediate stage of program implementation and not yet fully operational. This accreditation classification provides evidence to educational institutions, licensing bodies, government or other granting agencies that, at the time of initial evaluation(s), the developing education program has the potential for meeting the standards set forth in the requirements for an accredited educational program for the program for the specific occupational area. The classification “initial accreditation” is granted based upon one or more site evaluation visit(s) and until the program is fully operational.

Introduction

Accreditation

Accreditation is a non-governmental, voluntary peer review process by which educational institutions or programs may be granted public recognition for compliance with accepted standards of quality and performance. Specialized accrediting agencies exist to assess and verify educational quality in particular professions or occupations to ensure that individuals will be qualified to enter those disciplines. A specialized accrediting agency recognizes the course of instruction which comprises a unique set of skills and knowledge, develops the accreditation standards by which such educational programs are evaluated, conducts evaluation of programs, and publishes a list of accredited programs that meet the national accreditation standards. Accreditation standards are developed in consultation with those affected by the standards who represent the broad communities of interest.

The Commission on Dental Accreditation

The Commission on Dental accreditation is the specialized accrediting agency recognized by the United States Department of Education to accredit programs that provide basic preparation for licensure or certification in dentistry and the related disciplines.

Standards

Dental education programs leading to the D.D.S. or D.M.D. degree must meet the standards delineated in this document to achieve and maintain accreditation.

Standards 1 through 6 constitute *The Accreditation Standards for Dental Education* by which the Commission on Dental Accreditation and its consultants evaluate Dental Education Programs for accreditation purposes. This entire document also serves as a program development guide for institutions that wish to establish new programs or improve existing programs. Many of the goals related to the educational environment and the corresponding standards were influenced by the work of the American Dental Education Association Commission on Change and Innovation and by best practices in accreditation from other health professions.

The standards identify those aspects of program structure and operation that the Commission regards as essential to program quality and achievement of program goals. They specify the minimum acceptable requirements for programs and provide guidance regarding alternative and preferred methods of meeting standards.

Although the standards are comprehensive and applicable to all institutions that offer dental education programs, the Commission recognizes that methods of achieving standards may vary according to the mission, size, type and resources of sponsoring institutions. Innovation and experimentation with alternative ways of providing required training are encouraged, assuming standards are met and compliance can be demonstrated. The Commission recognizes the importance of academic freedom, and an institution is allowed considerable flexibility in structuring its educational program so that it can meet the *Standards*. No curriculum has enduring value, and a program will not be judged by conformity to a given type. The Commission also recognizes that schools organize their faculties in a variety of ways. Instruction necessary to achieve the prescribed levels of knowledge and skill may be provided by the educational unit(s) deemed most appropriate by each institution.

The Commission has an obligation to the public, the profession and prospective students to assure that accredited Dental Education Programs provide an identifiable and characteristic core of required education, training and experience.

Format of the Standards

Each standard is numbered (e.g., 1-1, 1-2) and in bold print. Where appropriate, standards are accompanied by statements of intent that explain the rationale, meaning and significance of the standard. This format is intended to clarify the meaning and application of standards for both those responsible for educational programs and those who evaluate these programs for the Commission.

Goals

The assessment of quality in educational programs is the foundation for the *Standards*. In addition to the emphasis on quality education, the *Accreditation Standards for Dental Education Programs* are designed to meet the following goals:

1. to protect the public welfare;
2. to promote an educational environment that fosters innovation and continuous improvement;
3. to guide institutions in developing their academic programs;
4. to guide site visit teams in making judgments regarding the quality of the program and;
5. to provide students with reasonable assurance that the program is meeting its stated objectives.

Specific objectives of the current version of the Standards include:

- streamlining the accreditation process by including only standards critical to the evaluation of the quality of the educational program;
- increasing the focus on competency statements in curriculum-related standards; and
- emphasizing an educational environment and goals that foster critical thinking and prepare graduates to be life-long learners.

To sharpen its focus on the quality of dental education, the Commission on Dental Accreditation includes standards related to institutional effectiveness. Standard 1, "Institutional Effectiveness," guides the self-study and preparation for the site visit away from a periodic approach by encouraging establishment of internal planning and assessment that is ongoing and continuous. Dental education programs are expected to demonstrate that planning and assessment are implemented at all levels of the academic and administrative enterprise. The *Standards* focus, where necessary, on institutional resources and processes, but primarily on the results of those processes and the use of those results for institutional improvement.

The following steps comprise a recommended approach to an assessment process designed to measure the quality and effectiveness of programs and units with educational, patient care, research and services missions. The assessment process should include:

1. establishing a clearly defined purpose/mission appropriate to dental education, patient care, research and service;
2. formulating goals consistent with the purpose/mission;
3. designing and implementing outcomes measures to determine the degree of achievement or progress toward stated goals;
4. acquiring feedback from internal and external groups to interpret the results and develop recommendations for improvement (viz., using a broad-based effort for program/unit assessment);
5. using the recommendations to improve the programs and units; and
6. re-evaluating the program or unit purpose and goals in light of the outcomes of this assessment process.

Implementation of this process will also enhance the credibility and accountability of educational programs.

It is anticipated that the *Accreditation Standards for Dental Education Programs* will strengthen the teaching, patient care, research and service missions of schools. These *Standards* are national in scope and represent the minimum requirements expected for a dental education program. However, the Commission encourages institutions to extend the scope of the curriculum to include content and instruction beyond the scope of the minimum requirements, consistent with the institution's own goals and objectives.

The foundation of these *Standards* is a competency-based model of education through which students acquire the level of competence needed to begin the unsupervised practice of general dentistry. Competency is a complex set of capacities including knowledge, experience, critical thinking, problem-solving, professionalism, personal integrity and procedural skills that are necessary to begin the independent and unsupervised practice of general dentistry. These components of competency become an integrated whole during the delivery of patient care. Professional competence is the habitual and judicious use of communication, knowledge, critical appraisal, clinical reasoning, emotions, values and reflection in daily practice for the benefit of the individuals and communities served. Accordingly, learning experiences help students blend the various dimensions of competency into an integrated performance for the benefit of the patient, while the assessment process focuses on measuring the student's overall capacity to function as an entry-level, beginning general dentist rather than measuring individual skills in isolation.

In these *Standards* the competencies for general dentistry are described broadly. The Commission expects each school to develop specific competency definitions and assessment methods in the context of the broad scope of general dental practice. These competencies must be reflective of an evidence-based definition of general dentistry. To assist dental schools in defining and implementing their competencies, the Commission strongly encourages the development of a formal liaison mechanism between the dental school and the practicing dental community.

The objectives of the Commission are based on the premise that an institution providing a dental educational program will strive continually to enhance the standards and quality of both scholarship and teaching. The Commission expects an educational institution offering such a program to conduct that program at a level consistent with the purposes and methods of higher education and to have academic excellence as its primary goal.

Educational Environment

Among the factors that may influence predoctoral curricula are expectations of the parent institution, standing or emerging scientific evidence, new research foci, interfaces with specialty or other dental-related education programs, approaches to clinical education, and pedagogical philosophies and practices. In addition, the demographics of our society are changing, and the educational environment must reflect those changes. People are living longer with more complex health issues, and the dental profession will routinely be expected to provide care for these individuals. Each dental school must also have policies and practices to achieve an appropriate level of diversity among its students, faculty and staff. While diversity of curricula is a strength of dental education, the core principles below promote an environment conducive to change, innovation, and continuous improvement in educational programs. Application of these principles throughout the dental education program is essential to achieving quality.

Comprehensive, Patient-Centered Care

The *Standards* reconfirm and emphasize the importance of educational processes and goals for comprehensive patient care and encourage patient-centered approaches in teaching and oral health care delivery. Administration, faculty, staff and students are expected to develop and implement definitions, practices, operations and evaluation methods so that patient-centered comprehensive care is the norm.

Institutional definitions and operations that support patient-centered care can have the following characteristics or practices:

1. ensure that patients' preferences and their social, economic, emotional, physical and cognitive circumstances are sensitively considered;
2. teamwork and cost-effective use of well-trained allied dental personnel are emphasized;
3. evaluations of practice patterns and the outcomes of care guide actions to improve both the quality and efficiency of care delivery; and
4. general dentists serve as role models for students to help them learn appropriate therapeutic strategies and how to refer patients who need advanced therapies beyond the scope of general dental practice.

Critical Thinking

Critical thinking is foundational to teaching and deep learning in any subject. The components of critical thinking are: the application of logic and accepted intellectual standards to reasoning; the ability to access and evaluate evidence; the application of knowledge in clinical reasoning; and a disposition for inquiry that includes openness, self-assessment, curiosity, skepticism, and dialogue. In professional practice, critical thinking enables the dentist to recognize pertinent information, make appropriate decisions based on a deliberate and open-minded review of the available options, evaluate outcomes of diagnostic and therapeutic decisions, and assess his or her own performance. Accordingly, the dental educational program must develop students who are able to:

- Identify problems and formulate questions clearly and precisely;
- Gather and assess relevant information, weighing it against extant knowledge and ideas, to interpret information accurately and arrive at well-reasoned conclusions;
- Test emerging hypotheses against evidence, criteria, and standards;
- Show intellectual breadth by thinking with an open mind, recognizing and evaluating assumptions, implications, and consequences;
- Communicate effectively with others while reasoning through problems.

Self-Directed Learning

The explosion of scientific knowledge makes it impossible for students to comprehend and retain all the information necessary for a lifetime of practice. Faculty must serve as role models demonstrating that they understand and value scientific discovery and life-long learning in their daily interactions with students, patients and colleagues. Educational programs must depart from teacher-centered and discipline-focused pedagogy to enable and support the students' evolution as independent learners actively engaged in their curricula using strategies that foster integrated approaches to learning. Curricula must be contemporary, appropriately complex and must encourage students to take responsibility for their learning by helping them learn how to learn.

Humanistic Environment

Dental schools are societies of learners, where graduates are prepared to join a learned and a scholarly society of oral health professionals. A humanistic pedagogy inculcates respect, tolerance, understanding, and concern for others and is fostered by mentoring, advising and small group interaction. A dental school environment characterized by respectful professional relationships between and among faculty and students establishes a context for the development of interpersonal skills necessary for learning, for patient care, and for making meaningful contributions to the profession.

Scientific Discovery and the Integration of Knowledge

The interrelationship between the basic, behavioral, and clinical sciences is a conceptual cornerstone to clinical competence. Learning must occur in the context of real health care problems rather than within singular content-specific disciplines. Learning objectives that cut across traditional disciplines and correlate with the expected competencies of graduates enhance curriculum design. Beyond the acquisition of scientific knowledge at a particular point in time, the capacity to think scientifically and to apply the scientific method is critical if students are to analyze and solve oral health problems, understand research, and practice evidence-based dentistry.

Evidence-based Care

Evidence-based dentistry (EBD) is an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences.[1] EBD uses thorough, unbiased systematic reviews and critical appraisal of the best available scientific evidence in combination with clinical and patient factors to make informed decisions about appropriate health care for specific clinical circumstances. Curricular content and learning experiences must incorporate the principles of evidence-based inquiry, and involve faculty who practice EBD and model critical appraisal for students during the process of patient care. As scholars, faculty contribute to the body of evidence supporting oral health care strategies by conducting research and guiding students in learning and practicing critical appraisal of research evidence.

Assessment

Dental education programs must conduct regular assessments of students' learning throughout their educational experiences. Such assessment not only focuses on whether the student has achieved the competencies necessary to advance professionally (summative assessment), but also assists learners in developing the knowledge, skills, attitudes, and values considered important at their stage of learning (formative assessment). In an environment that emphasizes critical thinking and humanistic values, it is essential for students to develop the capacity to self-assess. Self-assessment is indicative of the extent to which students take responsibility for their own learning. To improve curricula, assessment involves a dialogue between and among faculty, students, and administrators that is grounded in the scholarship of teaching and learning. Data from program outcomes, assessment of student learning, and feedback from students and faculty can be used in a process that actively engages both students and faculty.

[1] American Dental Association, http://www.ada.org/prof/resources/positions/statements/evidencebased.asp. Accessed Oct 25, 2006.

Application of Technology

Technology enables dental education programs to improve patient care, and to revolutionize all aspects of the curriculum, from didactic courses to clinical instruction. Contemporary dental education programs regularly assess their use of technology and explore new applications of technological advances to enhance student learning and to assist faculty as facilitators of learning and designers of learning environments. Use of technology must include systems and processes to safeguard the quality of patient care and ensure the integrity of student performance. Technology has the potential to reduce expenses for teaching and learning and help to alleviate increasing demands on faculty and student time. Use of technology in dental education programs can support learning in different ways, including self-directed, distance and asynchronous learning.

Faculty Development

Faculty development is a necessary condition for change and innovation in dental education. The environment of higher education is changing dramatically, and with it health professions education. Dental education programs can re-examine the relationship between what faculty do and how students learn to change from the sage authority who imparts information to a facilitator of learning and designer of learning experiences that place students in positions to learn by doing. Ongoing faculty development is a requirement to improve teaching and learning, to foster curricular change, to enhance retention and job satisfaction of faculty, and to maintain the vitality of academic dentistry as the wellspring of a learned profession.

Collaboration with other Health Care Professionals

Access to health care and changing demographics are driving a new vision of the health care workforce. Dental curricula can change to develop a new type of dentist, providing opportunities early in their educational experiences to engage allied colleagues and other health care professionals. Enhancing the public's access to oral health care and the connection of oral health to general health form a nexus that links oral health care providers to colleagues in other health professions. Health care professionals educated to deliver patient-centered care as members of an interdisciplinary team present a challenge for educational programs. Patient care by all team members will emphasize evidence-based practice, quality improvement approaches, the application of technology and emerging information, and outcomes assessment. Dental education programs are to seek and take advantage of opportunities to educate dental school graduates who will assume new roles in safeguarding, promoting, and caring for the health care needs of the public.

Diversity

Diversity in education is essential to academic excellence. A significant amount of learning occurs through informal interactions among individuals who are of different races, ethnicities, religions, and backgrounds; come from cities, rural areas and from various geographic regions; and have a wide variety of interests, talents, and perspectives. These interactions allow students to directly and indirectly learn from their differences, and to stimulate one another to reexamine even their most deeply held assumptions about themselves and their world. Cultural competence cannot be effectively acquired in a relatively homogeneous environment. Programs must create an environment that ensures an in-depth exchange of ideas and beliefs across gender, racial, ethnic, cultural and socioeconomic lines.

Summary

These principles create an environmental framework intended to foster educational quality and innovation in ways that are unique to the mission, strengths, and resources of each dental school. The Commission believes that implementation of the guidance incorporated in this document will ensure that dental education programs develop graduates who have the capacity for life-long and self-directed learning and are capable of providing evidence-based care to meet the needs their patients and of society.

Definition of Terms Used in Accreditation Standards for Dental Education Programs

Community-based experience: Refers to opportunities for dental students to provide patient care in community-based clinics or private practices. Community-based experiences are not intended to be synonymous with community service activities where dental students might go to schools to teach preventive techniques or where dental students help build homes for needy families.

Comprehensive patient care: The system of patient care in which individual students or providers, examine and evaluate patients; develop and prescribe a treatment plan; perform the majority of care required, including care in several disciplines of dentistry; refer patients to recognized dental specialists as appropriate; and assume responsibility for ensuring through appropriate controls and monitoring that the patient has received total oral care.

Competencies: Written statements describing the levels of knowledge, skills and values expected of graduates.

Competent: The levels of knowledge, skills and values required by the new graduates to begin independent, unsupervised dental practice.

Cultural competence: Having the ability to provide care to patients with diverse backgrounds, values, beliefs and behaviors, including tailoring delivery to meet patients' social, cultural, and linguistic needs. Cultural competence training includes the development of a skill set for more effective provider-patient communication and stresses the importance of providers' understanding the relationship between diversity of culture, values, beliefs, behavior and language and the needs of patients.

Dimensions of Diversity: The dimensions of diversity include: structural, curriculum and institutional climate.

> **Structural:** Structural diversity, also referred to as compositional diversity, focuses on the numerical distribution of students, faculty and staff from diverse backgrounds in a program or institution.

Curriculum: Curriculum diversity, also referred to as classroom diversity, covers both the diversity-related curricular content that promote shared learning and the integration of skills, insights, and experiences of diverse groups in all academic settings, including distance learning.

Institutional Climate: Institutional climate, also referred to as interactional diversity, focuses on the general environment created in programs and institutions that support diversity as a core value and provide opportunities for informal learning among diverse peers.

Evidence-based dentistry (EBD): An approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences.

Examples of evidence to demonstrate compliance include: Desirable condition, practice or documentation indicating the freedom or liberty to follow a suggested alternative.

Must: Indicates an imperative need or a duty; an essential or indispensable item; mandatory.

In-depth: A thorough knowledge of concepts and theories for the purpose of critical analysis and the synthesis of more complete understanding (highest level of knowledge).

Instruction: Describes any teaching, lesson, rule or precept; details of procedure; directives.

Intent: Intent statements are presented to provide clarification to dental education programs in the application of and in connection with compliance with the *Accreditation Standards for Dental Education Programs*. The statements of intent set forth some of the reasons and purposes for the particular Standards. As such, these statements are not exclusive or exhaustive. Other purposes may apply.

Patients with special needs: Those patients whose medical, physical, psychological, cognitive or social situations make it necessary to consider a wide range of assessment and care options in order to provide dental treatment. These individuals include, but are not limited to, people with developmental disabilities, cognitive impairment, complex medical problems, significant physical limitations, and the vulnerable elderly.

Predoctoral: Denotes training leading to the DDS or DMD degree.

Quality assurance: A cycle of PLAN, DO, CHECK, ACT that involves setting goals, determining outcomes, and collecting data in an ongoing and systematic manner to measure attainment of goals and outcomes. The final step in quality assurance involves identification and implementation of corrective measures designed to strengthen the program.

Service learning: A structured experience with specific learning objectives that combines community service with academic preparation. Students engaged in service learning learn about their roles as dental professions through provision of patient care and related services in response to community-based problems.

Should: Indicates an expectation.

Standard: Offers a rule or basis of comparison established in measuring or judging capacity, quantity, quality, content and value; criterion used as a model or pattern.

Accreditation Standards for Dental Education Programs

STANDARD 1-INSTITUTIONAL EFFECTIVENESS

1-1 The dental school **must** develop a clearly stated purpose/mission statement appropriate to dental education, addressing teaching, patient care, research and service.

Intent:
A clearly defined purpose and a mission statement that is concise and communicated to faculty, staff, students, patients and other communities of interest is helpful in clarifying the purpose of the institution.

1-2 Ongoing planning for, assessment of and improvement of educational quality and program effectiveness at the dental school **must** be broad-based, systematic, continuous, and designed to promote achievement of institutional goals related to institutional effectiveness, student achievement, patient care, research, and service.

Intent:
Assessment, planning, implementation and evaluation of the educational quality of a dental education program that is broad-based, systematic, continuous and designed to promote achievement of program goals will maximize the academic success of the enrolled students. The Commission on Dental Accreditation expects each program to define its own goals and objectives for preparing individuals for the practice of general dentistry.

1-3 The dental education program **must** have a stated commitment to a humanistic culture and learning environment that is regularly evaluated.

Intent:
The dental education program should ensure collaboration, mutual respect, cooperation, and harmonious relationships between and among administrators, faculty, students, staff, and alumni. The program should also support and cultivate the development of professionalism and ethical behavior by fostering diversity of faculty, students, and staff, open communication, leadership, and scholarship.

Examples of evidence to demonstrate compliance may include:

- Established policies regarding ethical behavior by faculty, staff and students that are regularly reviewed and readily available
- Student, faculty, and patient groups involved in promoting diversity, professionalism and/or leadership support for their activities
- Focus groups and/or surveys directed towards gathering information on student, faculty, patient, and alumni perceptions of the cultural environment

1-4 The dental school **must** have policies and practices to:

a. achieve appropriate levels of diversity among its students, faculty and staff;
b. engage in ongoing systematic and focused efforts to attract and retain students, faculty and staff from diverse backgrounds; and
c. systematically evaluate comprehensive strategies to improve the institutional climate for diversity.

Intent:
The dental school should develop strategies to address the dimensions of diversity including, structure, curriculum and institutional climate. The dental school should articulate its expectations regarding diversity across its academic community in the context of local and national responsibilities, and regularly assess how well such expectations are being achieved. Schools could incorporate elements of diversity in their planning that include, but are not limited to, gender, racial, ethnic, cultural and socioeconomic. Schools should establish focused, significant, and sustained programs to recruit and retain suitably diverse students, faculty, and staff.

1-5 The financial resources **must** be sufficient to support the dental school's stated purpose/mission, goals and objectives.

Intent:
The institution should have the financial resources required to develop and sustain the program on a continuing basis. The program should have the ability to employ an adequate number of full-time faculty, purchase and maintain equipment; procure supplies, reference material and teaching aids as reflected in annual operating budget. Financial resources should ensure that the program will be in a position to recruit and retain qualified faculty. Annual appropriations should provide for innovations and changes necessary to reflect current concepts of education in the discipline. The Commission will assess the adequacy of financial support on the basis of current appropriations and the stability of sources of funding for the program.

1-6 The sponsoring institution **must** ensure that support from entities outside of the institution does not compromise the teaching, clinical and research components of the program.

Examples of evidence to demonstrate compliance may include:
- Written agreement(s)
- Contracts between the institution/ program and sponsor(s) (For example: contract(s)/agreement(s) related to facilities, funding, faculty allocations, etc.)

1-7 The authority and final responsibility for curriculum development and approval, student selection, faculty selection and administrative matters **must** rest within the sponsoring institution.

1-8 The dental school **must** be a component of a higher education institution that is accredited by a regional accrediting agency.

1-9 The dental school **must** show evidence of interaction with other components of the higher education, health care education and/or health care delivery systems.

STANDARD 2-EDUCATIONAL PROGRAM

Instruction

2-1 In advance of each course or other unit of instruction, students **must** be provided written information about the goals and requirements of each course, the nature of the course content, the method(s) of evaluation to be used, and how grades and competency are determined.

2-2 If students do not meet the didactic, behavioral and/or clinical criteria as published and distributed, individual evaluations **must** be performed that lead to an appropriate decision in accordance with institutional due process policies.

Curriculum Management

2-3 The curriculum **must** include at least four academic years of instruction or its equivalent.

2-4 The stated goals of the dental education program **must** be focused on educational outcomes and define the competencies needed for graduation, including the preparation of graduates who possess the knowledge, skills and values to begin the practice of general dentistry.

2-5 The dental education program **must** employ student evaluation methods that measure its defined competencies.

Intent:
Assessment of student performance should measure not only retention of factual knowledge, but also the development of skills, behaviors, and attitudes needed for subsequent education and practice. The education program should assess problem solving, clinical reasoning, professionalism, ethical decision-making and communication skills. The evaluation of competence is an ongoing process that requires a variety of assessments that can measure not only the acquisition of knowledge and skills but also assess the process and procedures which will be necessary for entry level practice.

Examples of evidence to demonstrate compliance may include:

- Narrative descriptions of student performance and professionalism in courses where teacher-student interactions permit this type of assessment
- Objective structured clinical examination (OSCE)
- Clinical skills testing

2-6 Biomedical, behavioral and clinical science instruction **must** be integrated and of sufficient depth, scope, timeliness, quality and emphasis to ensure achievement of the curriculum's defined competencies.

2-7 The dental school **must** have a curriculum management plan that ensures:

a. an ongoing curriculum review and evaluation process which includes input from faculty, students, administration and other appropriate sources;
b. evaluation of all courses with respect to the defined competencies of the school to include student evaluation of instruction;
c. elimination of unwarranted repetition, outdated material, and unnecessary material;
d. incorporation of emerging information and achievement of appropriate sequencing.

2-8 The dental school **must** ensure the availability of adequate patient experiences that afford all students the opportunity to achieve its stated competencies within a reasonable time.

Critical Thinking

2- 9 Graduates **must** be competent in the use of critical thinking and problem-solving, including their use in the comprehensive care of patients, scientific inquiry and research methodology.

Intent:
Throughout the curriculum, the educational program should use teaching and learning methods that support the development of critical thinking and problem solving skills

Examples of evidence to demonstrate compliance may include:

- Explicit discussion of the meaning, importance, and application of critical thinking
- Use of questions by instructors that require students to analyze problem etiology, compare and evaluate alternative approaches, provide rationale for plans of action, and predict outcomes
- Prospective simulations in which students perform decision-making
- Retrospective critiques of cases in which decisions are reviewed to identify errors, reasons for errors, and exemplary performance
- Writing assignments that require students to analyze problems and discuss alternative theories about etiology and solutions, as well as to defend decisions made
- Asking students to analyze and discuss work products to compare how outcomes correspond to best evidence or other professional standards
- Demonstration of the use of active learning methods, such as case analysis and discussion, critical appraisal of scientific evidence in combination with clinical application and patient factors, and structured sessions in which faculty and students reason aloud about patient care

Self-Assessment

2-10 Graduates **must** demonstrate the ability to self-assess, including the development of professional competencies and the demonstration of professional values and capacities associated with self-directed, lifelong learning.

Intent:
Educational program should prepare students to assume responsibility for their own learning. The education program should teach students how to learn and apply evolving and new knowledge over a complete career as a health care professional. Lifelong learning skills include student assessment of learning needs.

Examples of evidence to demonstrate compliance may include:

- Students routinely assess their own progress toward overall competency and individual competencies as they progress through the curriculum
- Students identify learning needs and create personal learning plans
- Students participate in the education of others, including fellow students, patients, and other health care professionals, that involves critique and feedback

Biomedical Sciences

2-11 Biomedical science instruction in dental education **must** ensure an in-depth understanding of basic biological principles, consisting of a core of information on the fundamental structures, functions and interrelationships of the body systems.

2-12 The biomedical knowledge base **must** emphasize the oro-facial complex as an important anatomical area existing in a complex biological interrelationship with the entire body.

2-13 In-depth information on abnormal biological conditions **must** be provided to support a high level of understanding of the etiology, epidemiology, differential diagnosis, pathogenesis, prevention, treatment and prognosis of oral and oral-related disorders.

2-14 Graduates **must** be competent in the application of biomedical science knowledge in the delivery of patient care.

Intent:
Biological science knowledge should be of sufficient depth and scope for graduates to apply advances in modern biology to clinical practice and to integrate new medical knowledge and therapies relevant to oral health care.

Behavioral Sciences

2-15 Graduates **must** be competent in the application of the fundamental principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.

2-16 Graduates **must** be competent in managing a diverse patient population and have the interpersonal and communications skills to function successfully in a multicultural work environment.

Intent:
Students should learn about factors and practices associated with disparities in health status among subpopulations, including but not limited to, racial, ethnic, geographic, or socioeconomic groups. In this manner, students will be best prepared for dental practice in a diverse society when they learn in an environment characterized by, and supportive of, diversity and inclusion. Such an environment should facilitate dental education in:

- *basic principles of culturally competent health care;*
- *recognition of health care disparities and the development of solutions;*
- *the importance of meeting the health care needs of dentally underserved populations, and;*
- *the development of core professional attributes, such as altruism, empathy, and social accountability, needed to provide effective care in a multi-dimensionally diverse society.*

Practice Management and Health Care Systems

2-17 Graduates **must** be competent in applying legal and regulatory concepts related to the provision and/or support of oral health care services.

2-18 Graduates **must** be competent in applying the basic principles and philosophies of practice management, models of oral health care delivery, and how to function successfully as the leader of the oral health care team.

2-19 Graduates **must** be competent in communicating and collaborating with other members of the health care team to facilitate the provision of health care.

Intent:
Students should understand the roles of members of the health care team and have educational experiences, particularly clinical experiences, that involve working with other healthcare professional students and practitioners. Students should have educational experiences in which they coordinate patient care within the health care system relevant to dentistry.

Ethics and Professionalism

2-20 Graduates **must** be competent in the application of the principles of ethical decision making and professional responsibility.

Intent:
Graduates should know how to draw on a range of resources, among which are professional codes, regulatory law, and ethical theories. These resources should pertain to the academic environment, patient care, practice management and research. They should guide judgment and action for issues that are complex, novel, ethically arguable, divisive, or of public concern.

Clinical Sciences

2-21 Graduates **must** be competent to access, critically appraise, apply, and communicate scientific and lay literature as it relates to providing evidence-based patient care.

Intent:
The education program should introduce students to the basic principles of clinical and translational research, including how such research is conducted, evaluated, applied, and explained to patients.

2-22 Graduates **must** be competent in providing oral health care within the scope of general dentistry to patients in all stages of life.

2-23 At a minimum, graduates **must** be competent in providing oral health care within the scope of general dentistry, as defined by the school, including:

a. patient assessment, diagnosis, comprehensive treatment planning, prognosis, and informed consent;
b. screening and risk assessment for head and neck cancer;
c. recognizing the complexity of patient treatment and identifying when referral is indicated;
d. health promotion and disease prevention;
e. local anesthesia, and pain and anxiety control;
f. restoration of teeth;
g. communicating and managing dental laboratory procedures in support of patient care;
h. replacement of teeth including fixed, removable and dental implant prosthodontic therapies;
i. periodontal therapy;
j. pulpal therapy;
k. oral mucosal and osseous disorders;
l. hard and soft tissue surgery;
m. dental emergencies;
n. malocclusion and space management; and
o. evaluation of the outcomes of treatment, recall strategies, and prognosis.

Intent:
Graduates should be able to evaluate, assess, and apply current and emerging science and technology. Graduates should possess the basic knowledge, skills, and values to practice dentistry, independently, at the time of graduation. The school identifies the competencies that will be included in the curriculum based on the school's goals, resources, accepted general practitioner responsibilities and other influencing factors. The comprehensive care experiences provided for patients by students should be adequate to ensure competency in all components of general dentistry practice. Programs should assess overall competency, not simply individual competencies in order to measure the graduate's readiness to enter the practice of general dentistry.

2-24 Graduates **must** be competent in assessing the treatment needs of patients with special needs.

Intent:
An appropriate patient pool should be available to provide experiences that may include patients whose medical, physical, psychological, or social situations make it necessary to consider a wide range of assessment and care options. The assessment should emphasize the importance of non-dental considerations. These individuals include, but are not limited to, people with developmental disabilities, cognitive impairment, complex medical problems, significant physical limitations, and the vulnerable elderly. Clinical instruction and experience with the patients with special needs should include instruction in proper communication techniques and assessing the treatment needs compatible with the special need.

2-25 Dental education programs **must** make available opportunities and encourage students to engage in service learning experiences and/or community-based learning experiences.

Intent:
Service learning experiences and/or community-based learning experiences are essential to the development of a culturally competent oral health care workforce. The interaction and treatment of diverse populations in a community-based clinical environment adds a special dimension to clinical learning experience and engenders a life-long appreciation for the value of community service.

STANDARD 3- FACULTY AND STAFF

3-1 The number and distribution of faculty and staff **must** be sufficient to meet the dental school's stated purpose/mission, goals and objectives.

3-2 The dental school **must** show evidence of an ongoing faculty development process.

Intent:
Ongoing faculty development is a requirement to improve teaching and learning, to foster curricular change, to enhance retention and job satisfaction of faculty, and to maintain the vitality of academic dentistry as the wellspring of a learned profession

Examples of evidence to demonstrate compliance may include:

- Participation in development activities related to teaching and learning
- Attendance at regional and national meetings that address education
- Mentored experiences for new faculty
- Scholarly productivity
- Maintenance of existing and development of new and/or emerging clinical skills
- Documented understanding of relevant aspects of teaching methodology
- Curriculum design and development
- Curriculum evaluation
- Student/Resident assessment
- Cultural Competency
- Ability to work with students of varying ages and backgrounds
- Use of technology in didactic and clinical components of the curriculum

3-3 Faculty **must** be ensured a form of governance that allows participation in the school's decision-making processes.

3-4 A defined evaluation process **must** exist that ensures objective measurement of the performance of each faculty member in teaching, patient care, scholarship and service.

3-5 The dental school **must** have a stated process for promotion and tenure (where tenure exists) that is clearly communicated to the faculty.

STANDARD 4-EDUCATIONAL SUPPORT SERVICES

Admissions

4-1 Specific written criteria, policies and procedures **must** be followed when admitting predoctoral students.

4-2 Admission of students with advanced standing **must** be based on the same standards of achievement required by students regularly enrolled in the program.

4-3 Students with advanced standing **must** receive an individualized assessment and an appropriate curriculum plan that results in the same standards of competence for graduation required by students regularly enrolled in the program.

***Intent**: Advanced standing refers to applicants that may be considered for admission to a training program whose curriculum has been modified after taking into account the applicant's past experience. Examples include transfer from a similar program at another institution, completion of training at a non-CODA accredited program, or documented practice experience in the given discipline. Acceptance of advanced standing students/residents will not result in an increase of the program's approved number of enrollees. Applicants for advanced standing are expected to fulfill all of the admission requirements mandated for students/residents in the conventional program and be held to the same academic standards. Advanced standing students/residents, to be certified for completion, are expected to demonstrate the same standards of competence as those in the conventional program.*

Examples of evidence to demonstrate compliance may include:

- Policies and procedures on advanced standing
- Results of appropriate qualifying examinations
- Course equivalency or other measures to demonstrate equal scope and level of knowledge

4-4 Admission policies and procedures **must** be designed to include recruitment and admission of a diverse student population.

Intent 4-1 to 4-4:

The dental education curriculum is a scientifically oriented program which is rigorous and intensive. Admissions criteria and procedures should ensure the selection of a diverse student body with the potential for successfully completing the program. The administration and faculty, in cooperation with appropriate

institutional personnel, should establish admissions procedures that are non-discriminatory and ensure the quality of the program.

Facilities and Resources

4-5 The dental school **must** provide adequate and appropriately maintained facilities and learning resources to support the purpose/mission of the dental school and which are in conformance with applicable regulations.

Student Services

4-6 Student services **must** include the following:

a. personal, academic and career counseling of students;
b. assuring student participation on appropriate committees;
c. providing appropriate information about the availability of financial aid and health services;
d. developing and reviewing specific written procedures to ensure due process and the protection of the rights of students;
e. student advocacy;
f. maintenance of the integrity of student performance and evaluation records; and
g. Instruction on personal debt management and financial planning.

Intent:
All policies and procedures should protect the students and provide avenues for appeal and due process. Policies should ensure that student records accurately reflect the work accomplished and are maintained in a secure manner. Students should have available the necessary support to provide career information and guidance as to practice, post-graduate and research opportunities.

Student Financial Aid

4-7 At the time of acceptance, students **must** be advised of the total expected cost of their dental education.

Intent:

Financial information should include estimates of living expenses and educational fees, an analysis of financial need, and the availability of financial aid.

4-8 The institution **must** be in compliance with all federal and state regulations relating to student financial aid and student privacy.

Health Services

4-9 The dental school **must** advise prospective students of mandatory health standards that will ensure that prospective students are qualified to undertake dental studies.

4-10 There **must** be a mechanism for ready access to health care for students while they are enrolled in dental school.

4-11 Students **must** be encouraged to be immunized against infectious diseases, such as mumps, measles, rubella, and hepatitis B, prior to contact with patients and/or infectious objects or materials, in an effort to minimize the risk of infection to patients, dental personnel, and themselves.

STANDARD 5- PATIENT CARE SERVICES

5-1 The dental school **must** have a published policy addressing the meaning of and commitment to patient-centered care and distribute the written policy to each student, faculty, staff, and patient.

Intent:

A written statement of patient rights should include:

- *considerate, respectful and confidential treatment;*
- *continuity and completion of treatment;*
- *access to complete and current information about his/her condition;*
- *advance knowledge of the cost of treatment;*
- *informed consent;*
- *explanation of recommended treatment, treatment alternatives, the option to refuse treatment, the risk of no treatment, and expected outcomes of various treatments;*
- *treatment that meets the standard of care in the profession.*

5-2 Patient care **must** be evidenced-based, integrating the best research evidence and patient values.

Intent:

The dental school should use evidence to evaluate new technology and products and to guide diagnosis and treatment decisions.

5-3 The dental school **must** conduct a formal system of continuous quality improvement for the patient care program that demonstrates evidence of:

a. standards of care that are patient-centered, focused on comprehensive care and written in a format that facilitates assessment with measurable criteria;
b. an ongoing review and analysis of compliance with the defined standards of care;
c. an ongoing review of a representative sample of patients and patient records to assess the appropriateness, necessity and quality of the care provided;
d. mechanisms to determine the cause(s) of treatment deficiencies; and
e. implementation of corrective measures as appropriate.

Intent:
Dental education programs should create and maintain databases for monitoring and improving patient care and serving as a resource for research and evidence-based practice.

5-4 The use of quantitative criteria for student advancement and graduation **must** not compromise the delivery of comprehensive patient care.

5-5 The dental school **must** ensure that active patients have access to professional services at all times for the management of dental emergencies.

5-6 All students, faculty and support staff involved in the direct provision of patient care **must** be continuously certified in basic life support (B.L.S.), including cardiopulmonary resuscitation, and be able to manage common medical emergencies.

5-7 Written policies and procedures **must** be in place to ensure the safe use of ionizing radiation, which include criteria for patient selection, frequency of exposing radiographs on patients, and retaking radiographs consistent with current, accepted dental practice.

5-8 The dental school **must** establish and enforce a mechanism to ensure adequate preclinical/clinical/laboratory asepsis, infection and biohazard control, and disposal of hazardous waste, consistent with accepted dental practice.

5-9 The school's policies and procedures **must** ensure that the confidentiality of information pertaining to the health status of each individual patient is strictly maintained.

STANDARD 6- RESEARCH PROGRAM

6-1 Research, the process of scientific inquiry involved in the development and dissemination of new knowledge, **must** be an integral component of the purpose/mission, goals and objectives of the dental school.

6-2 The dental school faculty, as appropriate to meet the school's purpose/mission, goals and objectives, **must** engage in research or other forms of scholarly activity.

6-3 Dental education programs **must** provide opportunities, encourage, and support student participation in research and other scholarly activities mentored by faculty.

Intent:
The dental education program should provide students with opportunities to experience research including, but not limited to, biomedical, translational, educational, epidemiologic and clinical research. Such activities should align with clearly defined research mission and goals of the institution. The dental education program should introduce students to the principles of research and provide elective opportunities beyond basic introduction, including how such research is conducted and evaluated, and where appropriate, conveyed to patients and other practitioners, and applied in clinical settings.