Chapter 2.4

PROFILE OF A DENTIST IN THE ORAL HEALTH CARE TEAM IN COUNTRIES WITH DEVELOPED ECONOMIES

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Abstract

This paper confines itself to the description of the profile of a general dentist while outlining where the boundary between specialist and generalist may lie. The profile must reflect the need to recognise that oral health is part of general health. The epidemiological trends and disease variation of a country should inform the profile of the dentist. A particular tension between the provision of oral health care in publicly funded and private services may result in dentists practicing dentistry in different ways. However, the curriculum should equip the practitioner for either scenario.

A dentist should work to standards appropriate to the needs of the individual and the population within the country's legal and ethical framework. He/she should have communication skills appropriate to ascertain the patient's beliefs and values. A dentist should work within the principles of equity and diversity and have the knowledge and clinical competence for independent general practice including knowledge of health promotion and prevention. He/she should participate in life-long learning which should result in a reflective practitioner whose clinical skills reflect the current evidence base, scientific breakthroughs and needs of their patients.

Within the four to five years of a dental degree it is not possible for a student to achieve proficiency in all areas of dentistry. He/she needs to have the ability to know their own limitations and to access appropriate specialist advice for their patients while taking responsibility for the oral health care they provide.

The dentist has the role of leader of the oral health team and, in this capacity, he/she is responsible for diagnosis, treatment planning and the quality control of the oral treatment. The dental student on graduation must therefore understand the principles and techniques which enable the dentist to act in this role. He/she should have the abilities to communicate, delegate and collaborate both within the dental team and with other health professions to the benefit of the patient.

The profile of a dentist should encompass the points raised but will also be based upon competency lists which are published by a variety of countries and organisations. It is important that these lists are dynamic so that they are able to change in light of new evidence and technologies.

Introduction

Oral health is an integral component of general health. The practice of dentistry has been characterised by its closeness to the practice of medicine as well as its distinctiveness from it. Thus, whilst it is universally acknowledged that the dentist subscribes fully to the core values of the physician, certain features of the practice of dentistry have ensured the identity of a separate profession. This clear distinction, however, may not be applicable in the future, when there is an increasing trend of dental professionals treating oral conditions in patients with concomitant systemic diseases or taking significant systemic medications. This trend underscores the importance of appropriate medical training for dental professionals and increased competence in managing patients with systemic implications. Moreover, scientific evidence is increasingly demonstrating that oral infections, such as periodontal diseases, are associated with and may be significant risk factors for chronic systemic diseases such as diabetes, cardiovascular diseases and osteoporosis, to mention some examples. These associations have important implications not only for understanding the importance of oral health in the context of general systemic health,
but also for the need of increasing the relationships between the medical and dental professions. These links should be initiated at the dental school and the importance of the knowledge in basic science and medicine integrated with the specific dental subjects has become increasingly important in current and future dental education.

In countries with affluent economies there is an increasing demand for therapies and services aimed not only to assure oral and general health, but also to improve social interaction by enhancing the physical outlook and aesthetics. This increasing demand of restorative services in dentistry is imposing well-established economies with the challenge of assuring not only essential basic (primary) care, but also the improvement of well-being by providing individuals with elective therapies that may not be fundamental for health, but considered relevant from a social perspective.

Ideally, basic (primary) oral health care should be available to all of the world’s citizens. Within this context, well-established economies have been able to assure coverage for a significant percentage, although by no means all, of the population of most of primary oral health preventive and therapeutic services, with the concomitant attainment of a decreased incidence and prevalence of caries and periodontal diseases. However, populations from affluent economies have more demanding aspirations in health care and health gain, with increased levels of social and economic welfare. Such aspirations include the absence of disease and the attainment of what constitutes ‘well-being’; a value that varies widely according to individual expectations. This creates important problems in most countries due to the increasing costs of modern medicine and dentistry. This is a major challenge to all governments, including those in the most affluent economies. Financial reality compromises public funded programmes of health services and questions the validity of those services, which do not have a clear impact on assuring the subject’s health. What has not yet been developed is a system of identifying exactly what modalities of treatment are of benefit to a person’s health and those, which are not. As a consequence, this leaves individuals with the economic responsibility of procuring those medical and dental services, which they believe are important for their health and well-being.

Dentistry is facing this dilemma between public and private health services. Prevention has been very successful in reducing the incidence of caries and periodontal diseases on a population basis. Unfortunately such reductions are not as evident in those suffering social deprivation. Also, there is an increasing percentage of the population growing older with more teeth and therefore with more health care requirements and demands for more sophisticated forms of restorative treatments especially in developed economies and wealthier groups, in contrast to regions of economic deprivation, where even the more basic oral health cannot be assured most of the time. The undergraduate curriculum should be appropriate to deliver a graduate able to work in both the private and the public setting.

This higher demand for restorative services, usually not covered by the public dental systems, is therefore creating an important shift in dental human resources, affecting the majority of dentists working in the private sector. Also these trends have important implications in dental education. On the one hand it is necessary to educate and train dentists capable of implementing population and individual preventive strategies leading to improved oral health and being able to diagnose and treat most common oral diseases. On the other, the modern dentist must be competent to satisfy public demands. Moreover, the dentist must be capable of providing care to special populations such as geriatric or medically compromised people with more complex general problems that require expanded and increasingly sophisticated education in clinical medicine.
The identification of an agreed profile of a modern dentist, therefore, presents a particular challenge to educators. The new dental graduate is required to undertake safely and independently the practice of dentistry, in a society with increasing health demands and in an environment with different public and private health provider systems. Each educational institution and each country may have different approaches to education and training influenced by history, culture resources and societal needs. All dental schools, however, should aspire to achieve the highest possible standards in educational outcomes and appropriate clinical competences. An agreed profile for the modern dentist is a logical pre-requisite for the establishment of a curriculum with clearly defined educational outcomes and clinical competences.

**The profile of a dentist**

The identification of an agreed profile of a dentist presents a particular challenge to dentistry, since the new graduate is required to undertake safely the independent practice of dentistry, but in an environment where the educational and training programmes greatly differ. Each school and each country may have different approaches to education and training influenced by structures, cultures and resources. However all aspire to achieve the highest possible standards in educational outcomes and appropriate clinical competences. On the other hand study programmes should be appropriate to the real needs and demands of a particular society and/or the individual patient. The graduate should be trained to serve the community where he/she intends to practise and these needs and demands may be very different between countries with different socio-economic conditions. The dentist needs to have communication skills and behavioural socio-psychological knowledge to ascertain the individual patient's beliefs and values ensuring that he/she is treated accordingly. He/she should work within the principles of equity and diversity.

In countries with established economies the aim of dental education is to train professionals with appropriate knowledge, abilities, attitudes and competences who are prepared to serve the population both at individual and community level. This includes satisfying society’s oral health demands as it relates to the prevention and the diagnosis and treatment of oral and dental diseases, in an ethical, efficient and safe way. The dental graduate must appreciate the necessity for professional development and continued training throughout life and must be capable of efficiently using advances in knowledge and technology, and understand the central role of the patient in taking therapeutic decisions.

In order to comply with these fundamental aims, education and training in dentistry must:

- Make sure that dental students acquire the necessary knowledge and clinical competence required so that once they have graduated they are capable of running a general dental practice independently, without any supervision. At the same time they must be on one hand humble, being capable of recognising their limitations, and when faced by situations that surpass their abilities, they must be capable of seeking advice or referring the patient to another appropriate professional. On the other hand they are responsible for providing appropriate general oral care.
- Promote the acquisition of professional knowledge, abilities, attitudes and behaviour that will facilitate an effective and appropriate interaction with patients, colleagues, and other health professionals.
• Stimulate recognition and acceptance of the obligation to practice in the best interests of the patients at all times and in agreement with current health legislation and appropriate ethical guidance; being sensitive to the general objective of providing access to oral health for all the population.
• Seek the acquisition of knowledge, competences and attitudes that promote lifelong learning and updated clinical practice throughout life in an effective manner in order to allow for an appropriate professional development and an evidence-based practice.

Moreover, dentists should play an appropriate role in society not only through the care of individual patients but also by contributing to the health and well-being of the general public. Dentists should accept a wide variety of responsibilities ranging from health promotion through to illness prevention, diagnosis and treatment. In this manner, dentists in established economies should be capable of contributing to the general debate on the provision of healthcare to individuals, communities and society. Dentists have responsibility as leaders of the dental team, for the diagnosis, treatment planning and the quality control of the treatment provided.

All these characteristics of the modern dentist in countries with established economies are usually assured by legislation in order to protect the public and in this way, to allow dental professionals to practice in different settings, countries and environments irrespective of their school or country of origin. In the European Union the profile of the Dentist is set out in a Directive on the recognition of professional qualifications. In that document the following has been stated on the profession of Dentistry (1): “All Member States must recognise the profession of dental practitioner as a specific profession distinct from that of medical practitioner. The Member States must ensure that the training given to dental practitioners equips them with the skills needed for prevention, diagnosis and treatment relating to anomalies and illnesses of the teeth, mouth, jaws and associated tissues. Holders of a qualification as dental practitioner must carry out the professional activity of the dental practitioner. It is stated further that dental training shall at least comprise a total of five years of full-time theoretical and practical study comprising a study given in a university, in a higher institute providing training and recognised as being of an equivalent level or under the supervision of a university.

Although the assurance of a minimum duration of the studies and a common syllabus of subjects, compulsory to all institutions, may facilitate some degree of homogeneity, it does not assure that the graduating dentist will achieve similar level of competences when exiting the University, and therefore a quality assurance system (evaluation and/or accreditation) should be implemented according to the relevant legislation. Otherwise, even with the similar syllabi, the profile of the dentist may be very different.

In order to further facilitate the harmonisation and convergence of dental education in Europe, ADEE and DENTED have defined and agreed on a profile and set of competences for the graduating dentist in the EU (2).

The new graduating dentist should:

• have had a broad academic and dental education and be able to function in all areas of clinical dentistry;
• be trained sufficiently in dental science;
• be able to work together with other dental and health care professionals in the health care system; should have good communicative skills;
• be prepared for life-long learning and continuing professional development;
• be able to practice evidence-based comprehensive dentistry based on a problem solving approach, using basic theoretical and practical skills.

In a similar manner to ADEE, other related Associations and Bodies have established the profile of a dentist for other communities such as in United States (3), Canada (4) and United Kingdom (5).

The General Dental Council of the United Kingdom also defines clearly the profile of the dental graduate by establishing that the purpose or aim of dental education is to produce a caring, knowledgeable, competent and skilful dentist who is able, on graduation, to accept professional responsibility for the effective and safe care of patients.

In realising this aim the General Dental Council applies the following principles:

• that dental graduates should be required to attain the highest standards in terms of knowledge and understanding, skills, including clinical skills, and professional attributes, in particular recognition of their obligation to practise in the best interests of patients at all times;
• that dental students should be provided with high quality learning opportunities and experiences necessary to enable them to achieve those standards, including the opportunity to undertake clinical procedures and acquire competence across a range of skills;
• that learning opportunities and experiences should be underpinned by adequate and appropriate support, including both educational and clinical support;
• that learning opportunities and experiences in biomedical sciences and clinical subjects should be integrated over the course of the programme;
• that learning opportunities and experiences should be designed to encourage a questioning, scientific, and self-critical approach to dental practice and to foster the intellectual skills required for future personal and professional development;
• that learning opportunities and experiences should enable students to develop an understanding of audit and clinical governance;
• that learning opportunities and experiences enable dental students and those of the professions complementary to dentistry to work and train together;
• that learning opportunities and experiences prepare students adequately for the transition to vocational dental practice;
• that student progress is effectively monitored to ensure that only those who comply with relevant health and conduct requirements are allowed to complete the program.

Competence lists and curricula should be dynamic and should be constantly reviewed as a living document in order to ensure appropriateness and adequately reflect the current evidence-base.

**General dentist versus specialist**

The explosion in new knowledge consequent to scientific and technological advances in the last three decades has imposed important challenges in the training of all health workers including dentists. These breakthroughs do not rapidly permeate educational curricula. Evolving sophisticated diagnostic and therapeutic procedures are not currently taught fully in dental schools, and therefore both old and new graduates are not sufficiently competent in emerging technologies and biomedical
applications. Moreover, general dentists must provide care to an increasingly older population with more complex oral and general health problems that may require expanded knowledge and training.

It cannot be expected, therefore, that the undergraduate dental curriculum in 4-5 years provides enough knowledge and experience to deal completely with an increasingly complex dental science and the patient demands to which the profession must respond. Irrespective of each country’s regulations regarding dental specialties, more complex treatment needs should be addressed by those with further training and/or higher training qualifications.

Dentists fulfilling the profile described above must demonstrate the competences or abilities essential to begin independent, unsupervised dental practice by the time he or she obtains the first professional degree. These competences should be the basic level of attitudes, behaviour, knowledge and skills necessary for a graduate student to respond to the full range of circumstances encountered in general professional practice. This level of performance requires some degree of speed and accuracy consistent with patient well-being. The new graduate will not have acquired proficiency in many of the basic competences and that will come with practice. The new dentist requires an awareness of what constitutes acceptable performance under the changing circumstances and a desire for self-improvement. Under these circumstances, there are countries with an old tradition of training dental specialists, such as in the United States, United Kingdom or the Scandinavian countries in Europe, where these professionals are trained beyond the level of general dental practitioner and authorised to practice as a specialist with advanced expertise in a particular branch of dentistry. In Europe however, there are still countries, such as France, Germany, Spain or Italy where some dental specialties are not officially recognised and under these provisions, it is clear that a broad range of therapeutic procedures, which require advanced training, such as most surgical procedures for the treatment of pathological conditions of the maxilla and the periodontium together with therapies including dental implant procedures, cannot be guaranteed in terms of quality assurance, since they do not belong to competences usually reached in undergraduate dental education. This poses an important problem, since some of these procedures are among the most demanded by the patients. There are clear medico-legal implications in terms of consumer’s safety and quality assurance and also important problems for both public and private oral health providers; in many instances they cannot accommodate the professional regulations currently in place in many European countries.

This situation also has important implications for the public and the consumers of dental services. The lack of recognised specialties leaves the patients in many instances with the choice of selecting the appropriate dental professional from advertising of different specialists; many confusing and misleading. A different set of circumstances pertains in those countries where the specialties are officially recognised and competences defined. There, the public has a way to find out what is the background and training of a professional. This is clearly the case of medicine in Europe and USA, where well-established rules normally regulate what professionals can claim in respect of competence to carry out patient care. These problems highlight the need for high quality accredited postgraduate programmes in dentistry capable of producing a workforce of specialists with clearly defined clinical activities and competences.

The profile of a dentist as the leader of the team in patient-centered oral care
The dentist has the role of leader of the oral health team, usually consisting of dental hygienists, dental nurses and dental technicians. In this capacity, he/she is responsible for diagnosis, treatment planning and the quality control of the oral treatment provided. The dental student on graduation must therefore, understand the principles and techniques, which enable the dentist to act in this role.

The dentist must also demonstrate the ability to communicate, delegate and collaborate, both within the dental team and with other health professions in order to benefit the patient, particularly as new knowledge and technology expand.

This team-work approach should start in the university and must be an integral part of the dental curriculum. The dental student should be made aware that being a leader of the dental team carries onerous responsibilities in terms of professional conduct and it will involve activities such as task analysis, scheduling, delegation, authorisation and monitoring of results and quality of care.

There is, therefore, a need for undergraduate dental students to have experience of working as an integral part of the greater dental team. This involves learning the principles and practice of assisted-operating dentistry, the normal method used in clinical practice to ensure safety and provision of high-quality care of patients.

Dental students should be aware of their professional and legal responsibilities to all staff, including managing a team, leadership, motivating others and delegation, the protection of all who work in a dental practice and of the requirements of relevant health and safety and employment legislation.

Beyond oral care, the graduating dentist might undertake other related career paths, such as researcher, academician or public health worker. We must ensure that there is some exposure to these alternatives during undergraduate dental studies and enough emphasis given to different career opportunities.

**Domains of competence for the international dentist**

The Profile and Competences for the European Dentist have been described by Plasschaert et al. (2) in a series of domains relating to general dental practice. This document has been adopted by the Association for Dental Education in Europe. It is suggested that this approach is a good example of collaboration in identifying common outcomes from countries with diverse structures and economies. It was therefore thought appropriate to use that work already completed as a basis for wider application, fully recognising that it was not designed to take in the vast range of developed, developing and poor income countries as represented in the world. Nevertheless, working from this base it is suggested there is much common ground for international application across the continents of the world.

**ANNEXURE 1**

**Profile and Competences for the European Dentist**

The Profile and Competences for the European dentist as approved by the Association for Dental Education in Europe was described by Plasschaert et al. in a series of domains which are listed below following a list of the broad educational outcomes sought.

The new dentist should:
• have had a broad academic and dental education and be able to function in all areas of clinical dentistry;
• be trained sufficiently in dental science;
• be able to work together with other dental and health care professionals in the health care system; should have good communicative skills;
• be prepared for life-long learning and continuing professional development;
• be able to practice evidence-based comprehensive dentistry based on a problem solving approach, using basic theoretical and practical skills.

Major competences: Within each domain, one or more “Major Competences” is identified as relating to that domain’s activity or concern. A major competency is the ability to perform or provide a particular, but complex, service or task. Its complexity suggests that multiple and more specific abilities are required to support the performance of any major competency.

Supporting competences: The more specific abilities could be considered subdivisions of the “Major Competency” and are termed “Supporting Competences”. Achievement of a major competency requires the acquisition and demonstration of all supporting competences related to that particular service or task.

Their document was based on seven specific “domains”. These represent broad categories of professional activities that occur in the general practice of dentistry. They are listed as follows:

I Professionalism
II Communication and interpersonal skills
III Knowledge base, information handling and critical thinking
IV Clinical information gathering
V Diagnosis and treatment planning
VI Establishment and maintenance of oral health
VII Health promotion

Domain I: Professionalism

MAJOR COMPETENCE: PROFESSIONAL BEHAVIOUR

On graduation, a dentist must have contemporary knowledge and understanding of the broader issues of dental practice, be competent in a wide range of skills, including research, investigative, analytical, problem-solving, planning, communication, presentation and team skills and understand their relevance in dental practice. Specifically, a dentist must:

SUPPORTING COMPETENCES:

1.1) Be competent to display appropriate caring behaviour towards patients.
1.2) Be competent to display appropriate professional behaviour towards all members of the dental team.
1.3) Have knowledge of social and psychological issues relevant to the care of patients.
1.4) Be competent to seek continuing professional development (CPD) allied to the process of continuing education on an annual basis, in order to ensure that high levels of clinical competence and evidence-based knowledge are maintained. This should be readily demonstrated with the use of a CPD logbook.
1.5) Be competent to manage and maintain a safe working environment with special reference and to all aspects of cross-infection control.

1.6) Have knowledge and awareness of the importance of his/her own health and its impact on the ability to practise as a dentist (ergonomics and occupational diseases).

1.7) Be competent to deal with other members of the dental team with regard to health and safety.

**MAJOR COMPETENCE: ETHICS AND JURISPRUDENCE**

The graduating dentist must have knowledge and understanding of the moral and ethical responsibilities involved in the provision of care to individual patients and to populations, and have knowledge of current laws applicable to the practice of dentistry. In particular, the graduating dentist must:

**SUPPORTING COMPETENCES:**

1.8) Have knowledge of the ethical principles relevant to dentistry and be competent at practising with personal and professional integrity, honesty and trustworthiness.

1.9) Be competent at providing humane and compassionate care to all patients.

1.10) Have knowledge and understanding of patients’ rights, particularly with regard to confidentiality and informed consent, and of patients’ obligations.

1.11) Have knowledge and awareness that dentists should strive to provide the highest possible quality of patient care at all times.

1.12) Be competent at selecting and prioritising treatment options that are sensitive to each patient’s individual needs, goals and values, compatible with contemporary therapy, and congruent with a comprehensive oral health care philosophy.

1.13) Acknowledge that the patient is the centre of care and that all interactions, including diagnosis, treatment planning and treatment, must have the patient’s best interests as the focus of that care.

1.14) Be competent in respecting patients and colleagues without prejudice concerning gender, diversity of background and opportunity, language and culture.

1.15) Be competent at recognising their own limitations and taking appropriate action to help the incompetent, impaired or unethical colleague and their patients.

1.16) Have knowledge of the judicial, legislative and administrative processes and policy that impact all aspects of dentistry.

1.17) Be competent in understanding audit and clinical governance.

**Domain II: Communication and Interpersonal Skills**

**MAJOR COMPETENCE: COMPETENT IN COMMUNICATING**

The graduating dentist must be competent in communicating effectively with patients, their families and associates, and with other health professionals involved in their care. In particular, he or she must:

**SUPPORTING COMPETENCES:**
2.1) Establish a patient-dentist relationship that allows the effective delivery of dental treatment.
2.2) Have knowledge of behavioural sciences and communication including behavioural factors (incl. factors as ethnicity and gender) that facilitate the delivery of dental care and have knowledge of the role of psychological development in patient management
2.3) Be competent in identifying patient expectations (needs and demands) and goals for dental care.
2.4) Be competent at identifying the psychological and social factors that initiate and/or perpetuate dental, oral and facial disease and dysfunction and diagnose, treat or refer, as appropriate.
2.5) Be competent at sharing information and professional knowledge with both the patient and other professionals, verbally and in writing, including being able to negotiate and give and receive constructive criticism.
2.6) Be competent at applying principles of stress management to oneself, to patients and to the dental team as appropriate.
2.7) Be competent at working with other members of the dental team.

Domain III: Knowledge Base, Information Handling and Critical Thinking

MAJOR COMPETENCE: BASIC BIOMEDICAL, TECHNICAL & CLINICAL SCIENCES

A graduating dentist must have sufficient knowledge and understanding of the basic biomedical, technical and clinical sciences to understand the normal and pathological conditions relevant to dentistry and be competent to apply this information to clinical situations. Specifically, he or she must:

SUPPORTING COMPETENCES:

3.1) Have knowledge and understanding of the scientific basis of dentistry, including the relevant basic and biomedical sciences, the mechanisms of knowledge acquisition, scientific method and evaluation of evidence. Be able to use this knowledge to interpret recent developments and apply relevant benefits to clinical practice.
3.2) Have knowledge of the scientific principles of sterilisation, disinfection and antisepsis to prevent cross-infection in clinical practice
3.3) Have knowledge of the science of dental biomaterials and their limitations and be aware of environmental issues relevant to their use (biocompatibility).
3.4) Have knowledge of the hazards of ionising radiations and their effects on biological tissues, together with the regulations relating to their use, including radiation, protection and dose reduction.
3.5) Have knowledge of disease processes including infection, inflammation, disorders of the immune system, degeneration, neoplasia, metabolic disturbances and genetic disorders.
3.6) Be familiar with the pathological features and dental relevance of common disorders of the major organ systems, and have knowledge of the oral manifestations of systemic disease.
3.7) Have knowledge of the aetiology and pathological processes of oral diseases (in individual and in society) in order to facilitate their prevention, diagnosis and management.

MAJOR COMPETENCE: ACQUIRING AND USING INFORMATION
The graduating dentist must be competent at acquiring and using information and in a critical, scientific and effective manner. Specifically, he or she must:

**SUPPORTING COMPETENCES:**

3.8) Be competent in the use of contemporary information technology for documentation, continuing education, communication, management of information and applications related to health care.

3.9) Be competent in protecting confidential patient data.

3.10) Be competent in regularly assessing personal knowledge base and in seeking additional information to correct deficiencies.

3.11) Be competent in recognizing his or her clinical limitations and refer appropriately.

3.12) Be competent in evaluating the validity of claims related to the benefits-risks ratio of products and techniques.

3.13) Be competent in evaluating published clinical and basic science research and integrate this information to improve the oral health of the patient.

3.14) Be competent in applying experience, scientific knowledge and methods to manage problems of oral health care.

**Domain IV: Clinical Information Gathering**

**MAJOR COMPETENCE: OBTAINING AND RECORDING A COMPREHENSIVE MEDICAL HISTORY OF THE PATIENT’S ORAL AND DENTAL STATE**

On graduation, a dentist must be competent in obtaining and recording a comprehensive medical history and a history of the patient’s oral and dental state. This will include biological, medical, psychological and social information in order to evaluate the oral condition in patients of all ages. The dentist will, furthermore, be competent in performing an appropriate physical examination; interpreting the findings and organising further investigations. Specifically, he or she must:

**SUPPORTING COMPETENCES:**

4.1) Be competent to identify the chief complaint of the patient and obtain a history of present illness as part of a comprehensive medical history.

4.2) Be competent at performing a dietary analysis.

4.3) Be competent at producing a patient record and maintain accurate patient treatment record entries.

4.4) Be competent at identifying abnormal patient behaviour (including anxiety).

4.5) Be competent at initiating an appropriate written medical consultation or referral in order to clarify a question related to the patient’s systemic health.

4.6) Be competent at performing an extraoral and intraoral examination appropriate for the patient, including assessment of vital signs, and record those findings.

4.7) Be competent at completing and charting a comprehensive dental, periodontal and mucosal examination.

4.8) Be competent at taking radiographs of relevance to dental practice, interpreting the results and have knowledge of other forms of medical imaging that are of relevance to dentistry.

4.9) Be competent in managing ionising radiation.

4.10) Be familiar with the principles that underlie dental radiographic techniques.
4.11) Have knowledge of appropriate clinical laboratory and other diagnostic procedures and tests, understand their diagnostic reliability and validity, and interpret their results.
4.12) Be competent at producing diagnostic casts, mounted and with interocclusal records.
4.13) Be competent at assessing sensory and motor function of the mouth and jaws.
4.14) Be competent at assessing salivary function.
4.15) Be competent at assessing orofacial pain.
4.16) Be competent at assessing facial form and deviations from the normal.
4.17) Be competent at recognizing signs of patient abuse and neglect and know how to report as required to the appropriate legal authorities.

**Domain V: Diagnosis and Treatment Planning**

**MAJOR COMPETENCE: DECISION-MAKING, CLINICAL REASONING AND JUDGEMENT**

On graduation, a dentist must be competent in decision-making, clinical reasoning and judgement in order to develop a differential, provisional or definitive diagnosis by interpreting and correlating findings from the history, clinical and radiographic examination and other diagnostic tests, taking into account the social and cultural background of the individual. A dentist must be competent at forming a diagnosis and treatment plan for patients of all ages (needs and demands), but should recognise those treatments that are beyond his/her skills and need to be referred to a specialist. He or she must:

**SUPPORTING COMPETENCES:**

5.1) Be competent at obtaining informed consent e.g. for operative procedures
5.2) Be competent at recognising the presence of systemic disease and know how the disease and its treatment affect the delivery of dental care.
5.3) Be competent at identifying the location, extent and degree of activity of dental caries and tooth wear.
5.4) Be competent at diagnosing abnormalities in dental or periodontal anatomic form that compromise periodontal health, function or aesthetics and identify conditions, which require management.
5.5) Be competent at distinguishing the difference between pulpal health and disease and identify conditions that require management.
5.6) Be competent at recognising the clinical features of oral mucosal diseases or disorders, including oral neoplasia, and identify conditions that require management.
5.7) Be competent at recognising maxillofacial problems, the clinical characteristics of acute and chronic craniofacial pain of somatic, neurogenic and psychogenic origin, and identifying and diagnosing conditions that require management by the dentist or other health providers.
5.8) Be competent at recognising patient behaviour contributing to orofacial problems, and identifying conditions that require diagnosis, prevention and management.
5.9) Be competent at determining a patient’s aesthetic requirements and determine the degree to which those requirements can be met.
5.10) Be competent at carrying out an orthodontic assessment.
5.11) Be familiar with the diagnosis of temporomandibular joint disorders.
5.12) Be competent at diagnosing medical emergencies.
5.13) Have knowledge of the role of sedation in the management of adult and young patients. Be competent in when, how and where to refer a patient for sedation and general anaesthesia and at making other appropriate referrals based on clinical assessment.

5.14) Be competent to manage patients from different social and ethnic backgrounds.

Domain VI: Establishment and Maintenance of Oral Health

MAJOR COMPETENCE: EDUCATE PATIENTS AND MANAGE COMPREHENSIVE PRIMARY CARE

The graduating dentist must be competent to educate patients and manage comprehensive primary care for patients of all ages; that emphasizes current concepts of prevention and treatment of oral disease; and supports the maintenance of systemic and oral health. Specifically, he or she must:

SUPPORTING COMPETENCES:

6.1) Have knowledge of the concepts of minimal intervention and of providing a comprehensive approach to oral care.
6.2) Be competent in applying evidence-based treatment
6.3) Be competent at oral hygiene instruction, topical fluoride therapy and fissure sealing.
6.4) Be competent to educate patients concerning the aetiology and prevention of oral disease and encourage them to assume responsibility for their oral health.
6.5) Be competent to prescribe and monitor the effects of appropriate pharmaceutical agents including the chemical control of dental plaque.
6.6) Be competent to provide dietary counselling and nutritional education relevant to oral health.
6.7) Be competent to develop strategies to predict, prevent and correct deficiencies in patient’s oral hygiene regimens and provide patients with strategies to control adverse oral habits.
6.8) Be competent to evaluate all treatment results and provide or recommend additional action and maintenance.
6.9) Be competent at performing preventive and restorative procedures that preserve tooth structure, prevent hard tissue disease and promote soft tissue health.

MAJOR COMPETENCE: ORAL MEDICINE MANAGEMENT

On graduation, the dentist must be competent to diagnose and manage common oral mucosal diseases and disorders in patients of all ages. In particular, he or she must:

SUPPORTING COMPETENCES:

6.10) Be competent at counselling patients regarding the nature and severity of non-life-threatening oral mucosal diseases and disorders, providing the patient with realistic options and expectations of management.
6.11) Be competent at performing limited soft tissue diagnostic procedures.
6.12) Be competent to participate in the diagnosis and proper referral of the patient with life-threatening oral mucosal diseases.
6.13) Be competent at managing acute oral infections, including patient referral and prescription of appropriate drugs.
6.14) Be familiar with the treatment of common oral medical disorders, both medical and surgical.

6.15) Have knowledge concerning the effects of tobacco on the oral mucosa and ways in which to help patients who wish to stop using tobacco.

**MAJOR COMPETENCE: PERIODONTAL MANAGEMENT**

The new graduate in dentistry must be competent to manage periodontal diseases in patients of all ages. Specifically, he or she must:

**SUPPORTING COMPETENCES:**

6.16) Be competent at evaluating the periodontium, establishing a diagnosis and prognosis and formulating a treatment plan.

6.17) Be competent at educating patients concerning the aetiology of periodontal disease and encourage them to assume responsibility for their oral health.

6.18) Be competent at instructing patients in appropriate oral hygiene methods compatible with periodontal health.

6.19) Be competent at supragingival and subgingival scaling and root debridement, using both powered and manual instrumentation and in stain removal and prophylaxis.

6.20) Have knowledge of the secondary periodontal aetiological factors.

6.21) Be competent to diagnose, explain and discuss the need for advanced periodontal surgical procedures and the proper method of referral for speciality care.

6.22) Be competent at evaluating the results of periodontal treatment and establish and monitor a maintenance programme, including a discussion of risk factors.

**MAJOR COMPETENCE: CARIES AND ENDODONTIC MANAGEMENT**

The new dentist must be competent to manage caries, pulpal and peri-radicular disorders in patients of all ages. In particular, he or she must:

**SUPPORTING COMPETENCES:**

6.23) Be competent at assessing patient risk for caries and implement caries prevention strategies.

6.24) Be competent at removing or otherwise treating carious tooth tissue using techniques that maintain pulp vitality and restore the tooth to form, function and aesthetics with appropriate materials, preventing hard tissue disease and promoting soft tissue health.

6.25) Be competent at performing therapeutic procedures designed to preserve the defence mechanism of the dental pulp.

6.26) Be competent at performing endodontic treatment on uncomplicated single and uncomplicated multi-rooted teeth.

6.27) Be competent at recognising indications for surgical and complicated non-surgical root canal therapy and take appropriate action.

**MAJOR COMPETENCE: SURGICAL PROCEDURES**

On graduation, a dentist must be competent to treat and manage conditions requiring simple reparative surgical procedures of the hard and soft tissues in patients of all ages, including the extraction of teeth, the removal of roots when necessary and the
performance of minor soft tissue surgery, and to apply appropriate pharmaceutical agents to support treatment. Specifically, he or she must:

**SUPPORTING COMPETENCES:**

6.28) Be competent to perform uncomplicated extraction of erupted teeth.
6.29) Have knowledge of the management of trauma in deciduous and permanent dentitions and be familiar with the surgical and non-surgical aspects of the management of maxillofacial trauma.
6.30) Be competent to perform surgical extraction of an uncomplicated unerupted tooth and the uncomplicated removal of fractured or retained roots.
6.31) Be competent to perform surgical extraction of an uncomplicated unerupted tooth and the uncomplicated removal of fractured or retained roots.
6.32) Be competent to perform surgical extraction of an uncomplicated unerupted tooth and the uncomplicated removal of fractured or retained roots.
6.33) Be competent to perform surgical extraction of an uncomplicated unerupted tooth and the uncomplicated removal of fractured or retained roots.

**MAJOR COMPETENCE: PAIN AND ANXIETY MANAGEMENT**

On graduation, a dentist must be competent to employ appropriate techniques to manage orofacial pain, discomfort and psychological distress. In particular, he or she must:

**SUPPORTING COMPETENCES:**

6.34) Be competent at infiltration and block local anaesthesia in the oral cavity for restorative and surgical procedures or other treatment, as needed, for orofacial pain management, including management of potential complications of local anaesthesia.
6.35) Be competent at diagnosing orofacial pain, treating it as appropriate or referring the patient to relevant specialists.
6.36) Have knowledge of inhalation and intravenous conscious sedation techniques for dental procedures.
6.37) Be competent to select and prescribe drugs for the management of preoperative, operative and postoperative pain and anxiety.
6.38) Be competent at identifying the origins and continuation of dental fear and anxiety and manage this fear and anxiety with behavioural techniques.

**MAJOR COMPETENCE: RESTORATIVE/PROSTHODONTIC MANAGEMENT**

The new graduate must be competent to restore defective and/or missing teeth to acceptable form, function and aesthetics in patients of all ages. Particularly, he or she must:

**SUPPORTING COMPETENCES:**

6.39) Be competent at designing effective indirect restorations, anterior and posterior crowns, post crowns, simple bridges, complete and partial dentures and bite-rising splints and undertake some of these procedures as is relevant to the country of practice.
6.40) Have knowledge and experience of the design and laboratory procedure used in the production of crowns, bridges, partial and complete dentures and be able to make appropriate chair-side adjustment to these restorations.
6.41) Be competent at describing for patients the principles and techniques of aesthetic treatments including differences between patient expectations and achievable results.

6.42) Be competent at describing for patients the principles and techniques involved in the use of osseointegrated implants for restorations.

6.43) Be familiar with the potential and limitations (risks and benefits) of dental technological procedures and the handling of dental materials in restoring the dentition.

**MAJOR COMPETENCE: ORTHODONTIC MANAGEMENT**

On graduation, a dentist must be competent at managing limited developmental or acquired dento-alveolar, growth related and functional abnormalities of the primary, mixed and permanent dentition. Specifically, he or she must:

**SUPPORTING COMPETENCES:**

6.44) Be familiar with the principles of treatment of dento-facial anomalies including the common orthodontic/maxillofacial procedures involved.

6.45) Be competent at diagnosing orthodontic treatment need and be familiar with contemporary treatment techniques.

6.46) Be competent to design, insert and adjust space maintainers and design, insert and adjust active removable appliances to move a single tooth or correct a crossbite.

6.47) Be competent at managing appropriately all forms of orthodontic emergency including referral when necessary.

6.48) Be competent to identify pernicious oral habits that may exacerbate malocclusion, and prevent their consequences through patient education and training and appliance therapy, as needed.

**MAJOR COMPETENCE: EMERGENCY TREATMENT**

The graduate dentist must be competent effectively to prevent and manage the majority of medical and dental emergency situations encountered in the general practice of dentistry. In particular, he or she must:

**SUPPORTING COMPETENCES:**

6.49) Be competent to develop and implement an effective strategy for preventing dental and medical emergencies in the dental surgery and establish policies for the management of such emergencies should they occur.

6.50) Be competent at carrying out resuscitation techniques and immediate appropriate management of cardiac arrest, anaphylactic reaction, upper respiratory obstruction, collapse, vasovagal attack, epileptic fit, haemorrhage, inhalation or ingestion of foreign bodies, hypoglycaemia, and diabetic coma or other medical emergencies that may occur in the course of dental practice.

6.51) Be competent to identify and manage dental emergencies including those of pulp, periodontal or traumatic origin.

6.52) Be competent to identify and promptly refer dental or medical emergencies, which are beyond the scope of management by a general dentist.

**Domain VII: Health Promotion**

**MAJOR COMPETENCE: IMPROVING ORAL HEALTH OF INDIVIDUALS, FAMILIES AND GROUPS IN THE COMMUNITY**
The new dentist must be competent at improving the oral health of individuals, families and groups in the community. Specifically, he or she must:

**SUPPORTING COMPETENCES:**

7.1) Be competent in applying the principles of health promotion and disease prevention.
7.2) Have knowledge of the organisation and provision of healthcare in the community and in the hospital service.
7.3) Be competent in understanding the complex interactions between oral health, nutrition, general health, drugs and diseases that can have an impact on oral health care and oral diseases.
7.4) Have knowledge of the prevalence of the common dental conditions in the country of training/practice.
7.5) Have knowledge of the importance of community-based preventive measures.
7.6) Have knowledge of the social, cultural and environmental factors, which contribute, to health or illness.
References


