

# Dental Education in Europe: The Challenges of Variety

**John Scott, B.D.S., Ph.D., FRCPath.**

*Abstract:* Dental education varies considerably across Europe, with differing traditions of stomatology (dentistry as a specialty of medicine) and odontology (single autonomous discipline). Dental curricula within the European Union (EU) are governed by European law expressed in directives that are binding on all EU member states. The Dental Directives (78/686/EC) base the curriculum on the odontological model, but compliance by individual schools is often poor. The differences within the EU will likely intensify with the accession of Eastern/Central European countries where the stomatological tradition is strong. Moreover, current proposals within the EU will reduce even the limited existing effectiveness of the Dental Directives. The DentEd Thematic Network Project, which aims to promote convergence of European curricula through voluntary self-assessment and outside peer review, has involved about 25 percent of European schools. Its effectiveness in inducing changes in individual schools is unknown. It is not an accreditation system, and there is no intention to establish a European-wide common curriculum. Dentists' vocational training, here defined as "the organised education of the newly qualified dentist in supervised practice," is present in various models in many European countries, but is compulsory in only a few. Continuing dental education (CDE) is encouraged in most countries, but CDE-dependent licensure is required in only two.

Dr. Scott is President of the Association for Dental Education in Europe (ADEE), Editor of the *European Journal of Dental Education*, immediate past chair of the Council of Deans of Dental Schools in the United Kingdom, and former Dean of the Liverpool University Dental Hospital and School. Direct correspondence and requests for reprints to him at the Liverpool University Dental Hospital and School, Pembroke Place, Liverpool L3 5PS, United Kingdom; 44-151-706-5218 phone; 44-151-706-5845 fax; j.scott@liv.ac.uk.

*Key words:* dental education, stomatology versus odontology, curricular regulation, DentEd TNP, vocational training, continuing dental education

*Submitted for publication 7/11/02; accepted 10/31/02*

**A**s in other countries around the world, the aim of an ideal undergraduate dental education in Europe is to produce a dental practitioner who is ethical, competent to practice general dentistry at a level commensurate with the reasonable expectations of the society he or she is destined to serve, and committed to career-long educational and professional improvement. Approximately 200 dental schools in Europe prepare students to be dentists,<sup>2</sup> of which 141 are in the European Economic Area (EEA) (see Table 1). Given the wide variation among the countries of Europe in disease experience, language, and sociopolitical and cultural norms, as well as significantly different traditions in healthcare delivery, it is not surprising that both the process and outcome of dental education vary enormously across the continent. The purposes of this paper are to examine some of these differences, see how current moves towards convergence of standards are coping with this diversity, and anticipate the way dental education is likely to develop within the wider political context of an expanding European Union in the next few years.

---

## Background: Recent Political History of Europe

In order to understand the regulation of dentistry and the governance of dental education in modern-day Europe, it is helpful to know something of the developing relationships between the individual sovereign states over the past half century. This short review includes also an explanation of the often confusing nomenclature, the abbreviations and acronyms used to describe this evolution, and the various groupings of countries within, or associated with, membership of the European Union (EU). A more detailed account is given in the EU Manual of Dental Practice.<sup>1</sup>

The forerunner of the EU was the European Economic Community (EEC), which was set up under the Treaty of Rome in 1957. The membership comprised six countries: Belgium, France, Germany, Italy, Luxembourg, and The Netherlands. Their agree-

**Table 1. Dentists and dental schools in the EEA countries including Switzerland**

Country	No. of Schools	No. of Graduates Per Year	No. of Dentists	Population (in 1000s)
Austria	3	150	3,789	8,059
Belgium	6	N/A	7,600	10,043
Denmark	2	91	5,039	5,251
Finland	3	60	4,968	5,117
France	16	845	4,0229	5,8265
Germany	31	2,000	61,900	81,845
Greece	2	292	11,728	10,475
Ireland	2	75	1,531	3,591
Italy	30	700-800	48,100	57,331
Luxembourg	0	0	269	413
Netherlands	3	179	7,162	15,493
Portugal	7	N/A	4,200	9,921
Spain	12	600-700*	15,723	39,241
Sweden	4	170	8,650	8,838
UK	13	781	25,170	58,684
Total EU	134	6,043+	246,028	380,359
Iceland+	1	6	322	275
Norway+	2	N/A	4,153	4,398
Switzerland+	4	100	4,650	6,970
Total 18	141	6,149+	255,530	384,223

Source: Data are from the EU Manual of Dental Practice of the Dental Liaison Committee in the EU and the ADEE Directory of European Dental Schools.

N/A indicates figures not available.

\*Does not include output from three recently opened private schools (included in the total of twelve schools in Spain).

+Iceland, Norway, and Switzerland are not members of the EU. The EEA status of Switzerland is explained in the text.

ment was at that stage mainly a trading partnership. In the intervening half-century, the original six have grown to fifteen (see Table 1), with a population of 370 million, and the complexity of the relationship has become increasingly more political with successive intergovernmental agreements and treaties. The name of the community was subsequently modified, becoming simply the European Community (EC). The original EC treaty was replaced in 1987 by the Single European Act (SEA), which aimed to finalize the internal market by 1992. It also extended the influence of the community to environmental areas and promoted greater social cohesion. The SEA also introduced majority voting among the member states. In 1993, a further treaty led to a second change of title, to the European Union (EU). This treaty also significantly advanced the movement towards political cohesion by, among other measures, finalizing the single market and laying the foundation for transition to economic and monetary union. The single currency, the Euro, was adopted as sole legal tender by twelve of the member states on January 1, 2002.

The European Commission (EC) is the civil service of the EU. It comprises twenty-four Directorates General (DG), each with a specific area of responsibility. For example, DG XV is responsible for the internal market and financial services, and DG II for economics and social affairs. There is no

single DG directed at health specifically, although health and safety issues are covered by several. Each DG is headed by a commissioner, of which there are twenty, at least one from each member state and two from the larger states. The commission is often highly proactive and provides the drive towards many of the changes within the evolving Europe. Its proposals are, however, subject to ratification by the Council of Ministers (made up of one from each member state), the ultimate decision-making body. The European Parliament comprises 626 elected members (MEPs), the numbers of members from each member state being linked to its population size. The MEPs sit in political rather than national groupings. The Parliament is largely an advisory body, but gained increased powers under the SEA, including the power to dismiss the commission, and has exercised this function once in recent years.

Reference will be made in this paper to certain relevant directives of the EC. These are, in effect, EU laws emanating from DG XV. They are binding on all EU governments that are required to enact in their own states the provisions of the directives. The sectoral directives apply to a few specific professions, including medicine and dentistry. However, because of the complexity of extending them, they were quickly replaced by general directives, applicable to other professions not included in the originals. Thus,

for example, the regulation of dental hygienists comes under the general directives.

The Dental Directives provide a good example of how the sectoral directives work. Introduced in 1978, they require that member states should recognize the dental qualifications awarded by other members. Accordingly, they list the dental titles and qualifications that are eligible for recognition in each country. They provide the essential guarantees for members with regard to the levels of qualification of dentists who have the right to practice in any member state in addition to the one where they originally qualified.

In 1994, through the Treaty of the European Economic Area (EEA), the privilege of freedom of movement of all personnel, including dentists, was extended to all countries of the European Free Trade Area (EFTA). The four countries additional to those of the EU were Iceland, Liechtenstein, Norway, and Switzerland. Subsequently, Switzerland withdrew from the provisions of the EEA treaty, but retained the right for its citizens of freedom of movement within the states of the EEA.

Under current proposals, the EU is set for a massive expansion through the accession of up to twelve additional states, mainly from the former Eastern Bloc countries, embracing a further 70 million people. To prepare for this, the Technical Assistance Information Exchange (TAIEX) Office of the EU has sent experts, including dentists, to the candidate accession countries to explain the requirements of the sectoral and general directives and other obligations that will have to be assumed by the time of admittance in 2004. Their reports on the state of preparedness remain confidential. Nevertheless, it is widely assumed that the political drive towards expansion will take precedence over any impediments highlighted by the TAIEX reports. Moreover, faced with the difficulty of policing the detailed controls for such a large group of countries, the EC is now proposing to abolish the sectoral and existing general directives and replace them all with just a single, much-simplified new EU Directive entitled "Mutual Recognition of Professional Qualifications." The draft text of this measure contains serious implications for patient health protection that are addressed later in this paper.

---

## Stomatology and Odontology

Essentially there are two traditions in the development of dental education in Europe: stomatol-

ogy (dentistry as a specialty of medicine) and odontology (dentistry as a single autonomous discipline).<sup>3</sup> The former is typical of the countries of Eastern and Central Europe, and the latter is more usual in the EU and associated countries, particularly in the North and West. In Spain, Portugal, and Italy, the stomatological tradition was strong up until the time of those countries' accession to the EC. However, the Dental Directives were based on the independent, odontological, educational model.<sup>4</sup> Hence, those EC member states with a stomatology model were required to change. In Italy, for example, the oldest dental schools are still less than twenty-five years old, and in Austria, an EU member only since 1995, odontological training did not begin until 1998. In Spain, the last stomatological school converted to an odontological faculty only in 2001.

In stomatology, the courses are rooted closely in the medical course and may confer the basic medical degree as well as providing some additional years of dental training. In contrast, odontology programs are dentally oriented throughout and, in some instances, may include little contact with the medical faculty or medical teaching within the same university. In both traditions, the length of the course following high school graduation is a minimum of five years, and includes basic and oral sciences, preclinical dental studies (mostly in simulation laboratories), and direct, supervised, clinical dental practice. However, there are schools in both traditions—perhaps more often under stomatology—where students graduate with only meager experience in supervised clinical dental practice. This is a cause for concern, as will be seen below.

In stomatology, dentistry is in effect a subspecialty of medicine, and the emerging graduate often has the same responsibilities as the graduating physician. This places constraints on the design and content of the curriculum. Proportionally, many hours are spent on internal medicine and allied subjects. In a recent study, Zelles et al.<sup>5</sup> found that the number of hours (2,206) devoted to basic sciences and medical subjects was some 56 percent higher than in the mainly odontological schools of the EU and associated countries (1,416 hours). In contrast, the time devoted to directly dental subjects was 27 percent lower (2,417 hours in the Eastern/Central countries versus 3,321 hours in the EU). There is concern in the stomatology schools that in order to increase the hours devoted to dental subjects, there will have to be either a loss of the physician qualification, which is valued, or an extension of the program length. The

impetus towards change for these schools in Eastern and Central Europe is the desire to align themselves with the Western tradition in support of their national goal to enter the EU. Eastern and Central European dental schools also see some advantages in escaping from a too rigid control by medicine, which, already present historically, intensified during those years of centralized state control that characterized the second half of the last century.<sup>5</sup>

Paradoxically, just as schools in the stomatology lineage are beginning to question the excessive extent and depth of the science and medical courses in their dental programs, there is a realization among the odontological schools of the importance of strengthening the human diseases elements in their curricula.<sup>6</sup> “Human diseases” is a term that comprises the clinical medical subjects taught to dental students: internal medicine, surgery, and pharmacology, as well as pathology and microbiology. In the context of whole patient care, these schools see the advantages to their students and to the future profession of a more integrated relationship with medicine, for example, in primary health care provision. In very broad generalization, while stomatology provides a comprehensive medical background, and particularly a high level of surgical expertise, the graduates of the odontological schools may have a higher expertise in restorative dentistry and a better grounding in preventive dentistry. They may, however, find themselves distanced from medical practice, thereby impeding the integration of dentistry within primary healthcare services in the community.<sup>7</sup> Also the levels of infrastructural support, such as clinical equipment and library provision, have been at an unacceptably low level in many of the schools of Eastern/Central Europe.<sup>7,8</sup> Moreover, severe poverty in some countries may preclude the adoption of safe clinical practices, such as for infection control, even though the principles may be taught and understood.<sup>9</sup>

In the rapidly changing circumstances of Europe today, there is clearly a need for close dialogue between the two traditions. Each has much to learn, both positive and negative, from the other.<sup>7,10</sup> Some ways in which these ends might be met are explored in the following sections of this paper.

---

## Regulation of Training in the EU

It is a fundamental principle of the Treaty of Rome that there shall be freedom of movement of

personnel, goods, and services, including dental services, between the member states.<sup>11</sup> However, under Article 152 of the current treaty, it is also a requirement to ensure the protection of the health of all its citizens. These two tenets are possibly conflicting in that standards of training in the healthcare professions in some countries may not match those in others. Each EU member state is responsible for its own dental educational content, but if dentists are to move freely onto other states' registers, there has to be a guarantee to the accepting state of some commonality of standards in training for the primary dental qualification.

So far as dentistry is concerned, this issue was addressed through formulation of the Dental Directives (78/686,687,688/EEC). These directives stipulated a minimum training of five years, provided a list of the subjects to be studied in preparing for a dental qualification acceptable to all countries of the EEC (now EU), and set up an Advisory Committee on the Training of Dental Practitioners (ACTDP). Subsequently the ACTDP has published lists of proficiencies (competencies)<sup>12</sup> and more recently an outline of core knowledge<sup>13</sup> that are intended to inform the curricula of member states' dental schools. The new, 2001 national dental curriculum in Italy, for example, incorporates the list of competencies almost unchanged. Although these additional documents remain as guidelines attached to, but not legally incorporated within, the framework of the directives, such detailed output criteria clearly supply a benchmark against which schools throughout Europe can measure their own performance.

In most countries of Europe, the dental curriculum is determined by the government or a statutory body, operating with varying closeness of control. For example, in Spain 60 percent is determined by the central government and 40 percent is at the discretion of the local university. In Italy, the flexible element is 20 percent. In Germany, an incoming revision of the national federal law (the *Approbationsordnung*) for the dental curriculum will provide a broader framework of guidelines than previously, with greater flexibility for local interpretation. In France, a national curriculum decreed by law comprises a list of topics, rather than competencies, that all dental schools must follow. In Ireland and the U.K., the curricula are closely determined by guidelines from the respective regulatory bodies (Irish Dental Council, General Dental Council), with regular inspections to ensure compliance. In the Netherlands there is a system of five yearly inspections with school visitation as part of the university-wide

quality control system. In all EU countries, however, the central guidance, of whatever sort, is based strongly on the government's obligation to comply with the Dental Directives. In most Eastern and Central European countries, the curriculum until recent times has been rigidly laid down by the state. There is not any intention, either now or in the future, to have a single European-wide curriculum.

The requirements for entrance to dental school and the selection procedures vary widely both within and between the countries of Europe. Even within the EU, there is no single uniform system. However, most countries operate a *numerus clausus* set by the national government, and most have certain minimum academic entrance requirements in terms of the grades achieved at the end of high school. Beyond that, there has to be a competition since, in most countries, applications exceed the number of places. This can be determined simply on the highest scores achieved in national school leaving examinations (Denmark, Germany, Ireland, Spain) or may in some countries/schools be augmented by further national tests (Italy) or local tests (Finland, Hungary, the Netherlands, Sweden). In some instances, these may include psychometric and/or aptitude testing. In the Netherlands, it is considered most equitable to introduce an element of lottery into the allocation. Admissions interviews and references are used in the U.K. system, with applicants then being set individual levels of attainment in the school-leaving examination later in the year. However, interviewing is generally not widely used elsewhere in Europe. In France, there is no *numerus clausus* applied to first-year entry, which is common to medics and dentists. Selection into the second year of dental or medical schools is then made on the results of competitive end-of-year examinations. In several countries, different admissions systems are applied by the separate schools, or even running in parallel in the same school (Denmark, the Netherlands, Sweden).

There is freedom of entry into the dental schools of EU member states by any EU national having the same or equivalent qualification as those required from each country's own nationals. In practice, this provision is little used. The great majority of schools throughout all of Europe are funded ultimately by national governments. In recent years, there has been a trend towards the opening of private schools, particularly in Spain and Portugal.

At the end of the five-year course, most countries require the passing of state- or university-administered examinations to be eligible for licensure.

Not all dental schools or universities, however, award degrees to the successful candidates (as do Greece, Ireland, Sweden, U.K.). In many countries, the exit qualification is a diploma (Denmark, France, Italy) or license (Belgium, Finland, Spain). In Germany, the qualification is the state examination certificate in dentistry. Only a few countries have any national form of externally monitored quality assurance, either for their courses or qualifying examinations (Ireland, the Netherlands, Sweden, U.K.). The practice of having external examiners present for all university examinations is long established in the U.K. and Ireland, but is infrequent elsewhere. For the great majority of schools in Europe, the DentEd Visitation Program described below represents a wholly new experience of peer review or outside monitoring by experts.

## Implications of an Expanding European Union

Many of the schools in those countries applying for membership in the EU (Table 2) may find it difficult to satisfy even the limited requirements of the current directives. However, more alarmingly, the prospect of early expansion by the admission of up to twelve new member states has led the EC to question whether there is any need either to maintain the Dental Directives or for the ACTDP to continue its advisory work. Disestablishment of these essential elements would be detrimental to the move towards convergence of standards in dental training and could be contrary to patients' interests. The proposed new General Directive would keep the original Dental Directives as an appendix, but would not incorporate any of the updates published by the ACTDP.<sup>12,13</sup> In effect, this leaves dental education at the level of twenty-five years ago.

Even under existing conditions, many dentists wishing to move between EU member states may encounter difficulties culturally and professionally.<sup>14,15</sup> Unless some transitional arrangements are

**Table 2. Candidate countries for accession to the EU**

Bulgaria*	Lithuania
Cyprus	Malta
Czech Republic	Poland
Estonia	Romania*
Hungary	Slovenia
Latvia	Slovakia

\*All but these two are scheduled for accession in 2004

put in place, starting from the date of accession of any country, its graduates will have immediate license to practice in any of the other countries of the EU, without regard for any differences in standards of primary dental training. So far, there is no indication that such transitional regulations will be implemented. The fact that this may expose patients to risk of unsafe treatment is considered subsidiary to the political drive towards expansion and the inviolable status of the right to freedom of movement. As an example of the zeal with which these principles are applied, the new general directive from DG XV proposes to allow unregistered practice to any immigrating worker, including doctors and dentists, for a period of sixteen weeks. The only requirement will be for registration in the originating country. Not surprisingly, these proposals are a cause for serious concern within patient and consumer organizations (D. Prentice, former president, European Bureau of Consumers' Organisations, BEUC, personal communication) and in the dental professions in many European countries.<sup>16</sup>

On the other hand, many schools from the potential accession countries are making strenuous efforts to develop their curricula along lines consistent with the EEC Dental Directives.<sup>8,10</sup> In this regard, ADEE (the Association for Dental Education in Europe) has been influential. For several years it has used its development fund to bring delegates from Eastern/Central European countries to the annual scientific meeting. Currently, it is a policy of ADEE to encourage membership by Eastern/Central European schools by offering reduced fees for the first few years. Moreover, through its journal (the *European Journal of Dental Education*), ADEE has strived to publicize developments in Eastern European schools<sup>17</sup> and thereby foster in them a sense of belonging to the European dental education community.

## Diverging Curricula in the Countries of the EU

In 1996, Shanley et al.<sup>18</sup> published a seminal report on the extent to which dental schools in Europe were adhering to the requirements of the Dental Sectoral Directives. The findings gave cause for concern. Out of 127 dental schools in the EU at the time, only thirty responded. Moreover, the results showed a vast degree of variation, indicating more divergence than convergence in the curricula of these

responding schools. Clearly, schools were having widely different interpretations of the requirements of the directives. There was, for instance, a very wide range reported in the numbers of hours devoted to the various subjects listed in the directives. More than tenfold differences were found between the lowest and highest in conservative dentistry, prosthetic dentistry, and periodontology, even after excluding the outliers (Table 3).

The numbers of clinical academic staff also varied widely, from about ten to eighty with a mean of about fifty FTEs (full-time equivalents) per school. The smallest schools had a yearly student enrollment of approximately twenty, while the largest ranged up to 170. There was a surprising absence of correlation between size of budget and either staff numbers or total student numbers. It might also be inferred that those schools motivated to respond were perhaps the most educationally aware among the European schools. Thus, the situation in the remaining approximately 100 schools might show even greater diversity, and even greater departures from compliance with the directives.

From this analysis, one conclusion was strikingly clear: the Dental Directives themselves were no guarantee of educational standards in the European schools. Hence, they could not offer to the EU citizen any form of assurance that graduates throughout the EU would all have qualified with the same levels of competence. Shanley et al. concluded: "This must be a source of serious concern that there is no method of assuring competence of newly qualified dentists from another country." They went on to recommend the development of Quality Assurance Methods in the EU. These, they argue, are necessary to ensure that the freedom of movement of dentists is not to the detriment of patients exposed to the potential dangers of treatment by graduates of schools that failed to reach minimal standards.<sup>18</sup>

**Table 3. Curriculum hours in key dental subjects**

Subject	Minimum	Maximum	Mean
Conservation	42	1,240	480
Prosthodontics	39	860	380
Periodontology	17	450	190
Oral Surgery	17	520	220
Pedodontics	14	280	120
Orthodontics	28	620	250
Preventive Dentistry	9	220	80

Source: Shanley DB, et al. Undergraduate training in the European Union: convergence or divergence? *Eur J Dent Educ* 1997;1:35-43.

---

## Convergence: The DentEd Thematic Network Project

Largely as a consequence of those findings, a proposal was made to the EU to fund a project under its Thematic Network scheme. This was the so-called DentEd Project, to encourage convergence towards higher standards of dental education in the member countries through communication, peer review, and the sharing of best practices and innovations.<sup>19</sup> The Erasmus Thematic Networks of the EU are administered by DG XXII (Education Training and Youth) with the aim of enhancing quality and defining and developing a European dimension within a given academic discipline or study area.<sup>20</sup> The official title of the DentEd project was “Achieving Convergence in the Standards of Output of European Dental Education.”

A review of the DentEd Thematic Network Project (TNP) is provided by D.B. Shanley, its originator and coordinator.<sup>21</sup> Briefly, participating schools completed a self-assessment document and were later visited by a team of international peers in dental education over a five-day period. For each school, this culminated in the issuing of a confidential “Report by the Visitors” in which potential weaknesses but also strengths, innovations, and best practices were identified. However, the report was sanctioned for publication on the DentEd website ([www.dented.org](http://www.dented.org)) only with the explicit agreement of the school’s dean.

The first phase of the project ran from January 1997 to October 2000, culminating in a Plenary Session held in conjunction with the meeting of ADEE at the Karolinska Institute, at which the reports from thirty schools were summarized, analyzed, and subsequently published.<sup>22</sup> Since that report, fifteen more schools have benefited from the exercise of self-assessment and subsequent visitation that defines the DentEd scheme.

Rohlin<sup>23</sup> has analyzed the contribution of DentEd as a vehicle for quality assurance. The avoidance of a rigid accreditation approach is seen as an essential advantage given the still-wide cultural differences among European states. Rohlin concluded that the opportunity provided to schools for constructive self-reflection through peer review makes DentEd a coherent learning experience in European higher education.

Right from the initial setting up of the network, the DentEd scheme attracted the interest of the American Dental Education Association (ADEA), to the

extent that many of the visitation teams have included an observer from ADEA. The consequent tripartite sharing of knowledge has been beneficial to all parties. The essence of DentEd is its voluntary nature and the emphasis it places on experiential knowledge gained by the visitors and visited alike.<sup>8,10,24</sup> The scheme from the outset did not attempt in any way to issue censorious reports to the visited schools, still less to provide a system of accreditation. This positively constructive approach has encouraged wide participation. However, in some countries where accreditation visitations or national quality control assessments are intensively applied, for example, the U.K., there has been an understandable reluctance on the part of dental deans to volunteer for additional visitations through the DentEd scheme. This apart, there has been a welcome open acceptance of the search for best practices and innovations by both the visitors and the host schools. Many deans of visited schools have testified to the benefits of the program.<sup>10,24</sup> Particularly, the opportunity to self-evaluate the teaching program<sup>23</sup> and the testing of goals and methods against the scrutiny of independent experts are seen as beneficial, as also is the opportunity for dialogue and exposure to new ideas during the course of the visit. A particularly important gain is the report itself, which can be used as a lever to introduce or sustain curricular reform within the school and to bid for additional resources from the parent university, where deficiencies have been identified.

The program is also regarded as a helpful adjunct in the drive towards convergence in European dental education.<sup>10,22</sup> The innovations and best practices identified by visitors are too numerous to list here, but are systematically recorded in the Reports of the Nineteen Working Groups of the Plenary Session<sup>22</sup> referred to above. A frequently updated list of schools that have participated is available on the DentEd website.

Some disadvantages of DentEd are the costs, in time and money, both to the visited school and to the volunteer visitors who receive no fees. Also, there are as yet no published data on the extent to which recommendations have been either effected or effective. Moreover, given the voluntary nature of the scheme, it is likely that the schools most in need of this experience are perhaps the least likely to participate.

Despite the many positive benefits, the outcome analysis and recommendations emanating from the Plenary Session have concluded that there are serious disparities in the levels of education and clinical

competence attained by new graduates. This is in some instances serious enough to compromise oral health, potentially exposing patients to unacceptable and even dangerous levels of oral health care and obsolete or dangerous treatment practices.<sup>21</sup> The outcome reinforces the contention that the existing Dental Directives are insufficient for the EU to guarantee acceptable standards of oral health care from all its dental graduates for all its citizens.<sup>21</sup>

From 2001, the DentEd Project was replaced by a continuation TNP, named DentEdEvolves,<sup>25</sup> which initially has continued the program of visits to schools. However, the emphasis now is on the global approach to the pooling of intellectual resources in international dental education. By mutual agreement, the ongoing direction of the DentEd schools visitation project will be taken over by ADEE when the EU-funded TNP finally comes to a halt, probably in 2003. The challenge to ADEE in future years will be how to utilize the initial work of DentEd and mold it into a universally acceptable and widely applied scheme of quality control.

---

## Vocational Training and Continuing Professional Development

Vocational training (VT) is here defined as “the organised education of the newly qualified dentist in supervised practice.”<sup>25</sup> The objective behind the Dental Directives is to ensure that a new graduate is capable of independent practice throughout the EU. Nevertheless, it is widely recognized that some transitional arrangement to support the graduate in the immediate period of transfer from the shelter of the dental school to the pressures of practice is highly desirable. Several European countries have such an arrangement in place. However, the various schemes differ widely in their degree of compulsion, in educational content, and in the level of external control and application.

By way of example, VT in the U.K. is compulsory for those wishing to work eventually as a principal in National Health Service (NHS) practice. It involves full-time salaried placement with an approved dental practitioner for one year with thirty days for education.<sup>15</sup> This is organized by an appointed VT tutor, who is a general dental practitioner, with responsibility for typically twelve new den-

tists on his or her particular scheme. There is continuous assessment of the new dentist and an ongoing record of training by logbook record (personal development plan). Regional postgraduate deans oversee the arrangements, including the appointment of tutors and selection of vocational practices that have to comply with national standards laid down by the Vocational Training Committee. The deans also have to certify completion of training at year's end, although there is presently no exit assessment. The entire scheme is organized nationally<sup>25</sup> and is outside the responsibilities of the dental schools.

Other countries have various types of programs. In Ireland, there is a similar pilot program running on a voluntary basis now in its third year. Some of the Scandinavian countries have schemes involving employment with Government Health Agencies for the first year after dental school. In Germany, there is a more informal but compulsory scheme over two years for those new dentists (the great majority) wishing to have recognition by the health insurers. The education is provided through the chambers (the local professional associations of dentists for which membership is compulsory for any dentist wishing to engage in practice). In France, recent curricular changes by the government have introduced a sixth dental year in which a period of experience in a dental practice is compulsory. In Hungary, there has been recently the introduction of a two-year scheme similar to that in the U.K. In some of the Eastern/Central European countries, there is a requirement for graduating dentists to work in the Government Public Health Service for a defined period. Whether this embraces a formal program of education is not known.

At the EC level, several attempts to introduce compulsory VT throughout the EU have met with repeated rejection, as national governments have considered the cost too high. Indeed, European law forbids the imposition by any country of such a scheme save to its own nationals graduating from its own schools, since to do so would contravene the freedom of movement principle.

The issue of continuing education is not confined to dentistry. The general public is increasingly demanding of all professions that they ensure their practicing members are kept up to date with the latest knowledge and skills. It is clear that the attainment of the primary dental qualification is not so much an end but rather a beginning, and all dental graduates now must embrace the reality of continuing professional development (CPD) throughout the whole of their practicing lives.

How then are the European countries meeting the challenge this poses for both the dental regulators and the dental educators? As with most of the topics covered so far, the answer is: with considerable diversity. In Italy and the U.K., for instance, programs are being introduced that make participation in continuing education a prerequisite for retaining the license to practice.<sup>26</sup> Similar proposals are being put forward in Spain and in the Netherlands, but are still some years from implementation. However, the Dutch Society of Dentists operates a quality control scheme for accreditation of the Providers of CPD courses. In other countries, for example, in Sweden and Germany, the provision of CPD is highly developed and structurally well organized, on a regional basis or through the chambers, but without the element of compulsory participation. In Ireland, there is some doubt as to whether compulsory CPD is permitted by the national constitution. Where countries have adopted compulsory schemes, these regulations are binding on all dentists registered for practice in that country, irrespective of their country of initial registration. This proviso offers some protection in regard to the concerns in some countries about the different standards of immigrating dentists referred to previously in this paper.<sup>14</sup>

---

## Summary

It is not possible to define a single European version of dental education, nor is it desirable to attempt to do so. The enormous differences in cultural background, history, and educational philosophy have led inevitably to a huge diversity in the quality of dental education and the ways it is delivered and overseen. On the other hand, the continuing development of the European integrity and the freedom of movement afforded to all its citizens mean that there have to be some minimal standards to ensure the protection of the public. The present Dental Directives offer insufficient guarantees in this regard. The proposal now emanating from the EC to weaken their impact even further, especially in relation to the accession of many aspiring Eastern and Central European countries into the European Union, is posing a serious problem that evidently is not amenable to European legislation. The key, therefore, must lie in the voluntary pursuit of ever-increasing levels of consistency in training programs and convergence of standards in dental practice.

These ends will only be attained through the sharing of knowledge and the constant pursuit of constructive dialogue across the whole of Europe. Perhaps the really important contribution of the DentEd project has been to demonstrate the feasibility of such an approach. While the road ahead is long, a start has now been made.

---

## Acknowledgments

I wish to record my gratitude to colleagues within or formerly within the Executive Committee of ADEE, and from the General Dental Council, U.K., and the Irish Dental Council, for the considerable advice and factual input concerning their own countries' regulations and experiences, without which much of this paper would have been merely surmise.

---

## REFERENCES

1. Anderson R, Whitehouse NH, Treasure ET. EU manual of dental practice. Brussels: Dental Liaison Committee in the EU, 1997:6-35.
2. Association for Dental Education in Europe. Directory of European dental schools, 2000. Available at <http://tmk.odont.ku.dk/adee/>.
3. Banoczy J. Harmonisation of dental education and curricula in Europe. *Internat Dent J* 1999;49:69-72.
4. Banoczy J. The evolution of dental education: a European perspective. *J Dent Educ* 1993;57:634-6.
5. Zelles T, Varga G, Banoczy J. Basic science teaching in dentistry in Central/Eastern Europe: towards harmonisation? *Eur J Dent Educ* 1998;4:149-53.
6. Wierzbicka M, McCreary C. Human diseases. In: Shanley DB, ed. *Dental education in Europe: towards convergence*. Budapest: Dental Press Kft, 2001:45-51.
7. Hobdell M, Petersson A. Stomatology and odontology. In: Shanley DB, ed. *Dental education in Europe: towards convergence*. Budapest: Dental Press Kft., 2001:140-6.
8. Gaengler P, Leous L, Agievceva S. Special report: ADEE initiative—the positive tendency in approaches to the dental curriculum in Belarus. *Eur J Dent Educ* 2002;6:45-7.
9. Vucicevic-Boras V, Cecic-Arambasin A, Alajbeg I, Biocina-Lukenda D. Croatian dental students' knowledge of cross infection control: news and views. *Eur J Dent Educ* 2000;5:134-5.
10. Banoczy J, Ray K. Process and outcome of a visitation to a Central European dental school. *Eur J Dent Educ* 1998;2:58-64.
11. Whitehouse N. Freedom of movement in the European Community. *Internat Dent J* 1991;40:237-41.
12. Advisory Committee on the Training of Dental Practitioners. Report and recommendations concerning clinical proficiencies required for the practice of dentistry in the European Union, XV/E/8316/6/93. Brussels: European Commission, 1996.

13. Advisory Committee on the Training of Dental Practitioners. Report and recommendations on core knowledge and understanding: prerequisites to achieving agreed clinical proficiencies XV/E/8011/3/97. Brussels: European Commission, 2000.
14. Scott J. Dental education and the European context. *Brit Dent J* 1999;186:638-40.
15. Bullock A, Frame J, Holmlund A, Limonowska-Shaw H, Shaw G. Are Polish and Swedish dental graduates adequately prepared for dental practice in the UK? A discussion of the transferability of general dental practitioners in Europe. *Eur J Dent Educ* 2002;6:49-53.
16. Dental Liaison Committee in the EU. Planned proposal for a directive on the recognition of professional qualifications: letter to the Commissioner for Administrative reform, European Commission. Brussels: European Dentists, 2002.
17. Knezevic G. Evaluation of the new teaching plan at the school of dental medicine, University of Zagreb: news and views. *Eur J Dent Educ* 2000;4:27.
18. Shanley DB, Barna S, Gannon P, Kelly A, Teljeur C, Munk C, Ray K. Undergraduate training in the European Union: convergence or divergence? *Eur J Dent Educ* 1997;1:35-43.
19. Scott J. Convergence in dental education: the DENTED project (editorial). *Eur J Dent Educ* 1999;3:1-2.
20. European Commission. Socrates Community action programme in the field of Education (2000-2006): guidelines for applicants (ISBN 92-828-885-L). Luxembourg: Office for Official Publications of the European Communities, 2000.
21. Shanley DB. The DentEd thematic network project. In: Shanley DB, ed. *Dental education in Europe: towards convergence*. Budapest: Dental Press Kft, 2001:9-15.
22. Shanley DB, ed. *Dental education in Europe: towards convergence*. Budapest: Dental Press Kft., 2001.
23. Rohlin M. DentEd Report—the DENTED project: a quality network with a European perspective. *Eur J Dent Educ* 2000;4:95-6.
24. Shanley DB. DENTED Report. *Eur J Dent Edu* 1999;3:142-3.
25. Committee on Vocational Training for England and Wales. *Review of vocational training: discussion document*. London: Committee on Vocational Training for England and Wales, 2001.
26. Rennie J. Recertification for the UK dental profession: news and views. *Eur J Dent Educ* 2001;5:43.