

# Education in and the Practice of Dental Public Health in Bulgaria, Finland, and the United Kingdom

Kenneth A Eaton<sup>1</sup>, Eeva Widström<sup>2</sup>, Lydia Katrova<sup>3</sup>

<sup>1</sup> Ph.D., M.Sc., B.D.S., M.G.D.S. R.C.S.(Eng), F.F.G.D.P.(UK), F.F.P.H., F.H.E.A., D.H.C. Visiting Professor, University College London Eastman Dental Institute, London, Visiting Professor King's College London Dental Institute, London, and Honorary Professor, University of Kent, Canterbury, United Kingdom. <sup>2</sup> Ph.D., M.Soc.Sci., D.D.S., D.Perio. Professor of Dental Public Health, Institute of Clinical Dentistry, Faculty of Medicine, University of Tromsø, Norway, and the National Institute for Health and Welfare, Helsinki, Finland. <sup>3</sup> Ph.D., D.D.M., M.P.H. Associate Professor, Department of Dental Public Health, Faculty of Medicine, Medical University, Sofia, Bulgaria.

## Abstract

The aim of this review paper is to describe and compare specialist education in and practice of dental public health (DPH) in Bulgaria, Finland, and the United Kingdom (UK). These countries are the only three member states of the European Union in which the specialty is officially recognised. In each country, DPH is included in the undergraduate curriculum. Postgraduate specialist education is provided at universities and lasts for three years in Bulgaria and Finland and four years in UK. The training programmes in DPH are a mixture of academic and practical training. The academic studies cover oral health needs and demands assessment, use of information technology, commissioning and evaluating oral health services, promoting oral health and research, together with other related areas. The practice of DPH includes: leadership and management of health organisations, teaching, training, research, advising and evaluating. This paper discusses the rationale for a specialty of DPH at a time of changing oral health need and give examples of problems that have arisen when such advice has not been sought or has been ignored.

*Key Words: Dental Public Health, Education, Practice, Specialty, Bulgaria, Finland, United Kingdom*

## Introduction

At present, the European Union (EU) recognises only two dental specialties. They are oral surgery and orthodontics. However, some EU member states have no official lists for any dental specialties and others, as they are free to do, recognise and list specialists in many specialties [1] (*Table 1*). These wide variations appear to be due to different traditions and the systems for the provision of oral health care [1]. They are clearly not evidence-based. Although most countries within the EU recognise the importance of public health, have formal university education in this specialty, and maintain lists of public health specialists, only Bulgaria, Finland, and the United Kingdom (UK) have formal training programmes for dental public health (DPH) and maintain lists of specialists in DPH. In Germany, DPH is included in the specialty of community dentistry, rather than as a separate specialty in its own right. It should be noted that the practice of community dentistry involves actively

providing clinical care, whereas other than during epidemiological surveys, specialists in DPH rarely provide clinical care for patients. At a number of dental schools in other EU member states, professors of DPH are staff members of dental schools (Faculties of Dental Medicine) and there is teaching and research in the specialty.

There are many similarities between Finland and the UK in that, although they are organised differently, each country has a well-developed public health oral health service and equally large private sector. This generalisation does not apply to Bulgaria where, prior to 1990, virtually all oral health services were provided in the public sector but now are virtually all provided in the private sector. Bulgaria's population is currently 7.23 million and its geographical area is just under half that of the UK. Although the geographical area of Finland is broadly similar to that of the UK, its population of just over five million is a twelfth of that of the UK. The population of Bulgaria has fallen over the last 15 years, mainly due to emigration. A number

Corresponding author: Professor Kenneth Eaton, Old Saddlers, Kempe's Corner, Canterbury Road, Boughton Aluph, Ashford, Kent TN25 4EW, United Kingdom; e-mail: K.Eaton@eastman.ucl.ac.uk

of Bulgarian dentists have migrated to the UK, where about 25% of dentists qualified in other countries [2]. Although per capita income in Bulgaria was the lowest in the European Union (\$11,180 in 2007) [3], internationally it is described as a middle-income country. In comparison, both Finland and the UK, with per capita incomes of \$34,350 (Finland) and \$33,800 (UK), were prosperous [3] and their citizens had an average life expectancy in 2006 of 78 years [4]. In the same year, life expectancy in Bulgaria was 73 years [4]. All three countries have an aging but generally dentate population [5,6] and the greatest need for oral health care is in groups such as those who are socio-economically or educationally deprived. Over the last 30 years, in Finland and the UK there has been a significant decline in the prevalence of caries in children. The most recent national data indicate a mean national DMFT for 12-year-olds in the UK of 0.8 and 62% with no obvious caries [7] and of 1.2 with 42 % having no obvious caries in Finland [8]. This pattern appears not to have been replicated in Bulgaria. However, as there have been no national oral health studies in Bulgaria for many years, the evidence to support this contention comes from local studies, the most recent of which [9] indicated a mean DMFT of 3.0 for 12-year-olds in Plovdiv.

In Bulgaria in 2007, oral health care was provided by 7,987 active dentists, with an estimated 3000 dental nurses (chair-side assistants) and 1200 dental technicians [10]. There were no dental hygienists or clinical dental technicians. In Finland in 2007, oral health care was provided by 4,500 active dentists, 1575 dental hygienists, 331 clinical dental technicians (denturists), 507 non-clinical dental technicians and 6158 dental nurses (chair-side assistants) [10]. In the UK in 2008, oral health care was provided by some 31,000 active dentists out of 35,500 who are registered, 6000 dental hygienists, 1120 dental therapists, 92 clinical dental technicians and 10 orthodontic therapists, supported by 38,500 dental nurses (chair-side assistants) and 6907 dental technicians [2].

In Bulgaria, it has been estimated that 70% of the population attended a dentist in 2007 [11]. There is a national health insurance fund (NHIF) which covers very basic oral health care for adults — one check-up (examination) and two items of treatment, either two fillings, or one filling and one extraction, or two extractions per year. For children and adolescents up to the age of 18 years, the range

of treatment is slightly greater and in addition to the very basic treatment offered to adults, two other treatments can be covered, including a root canal treatment. In Finland in 2005, 62% of total expenditure on oral health care was in the private sector; the other 38% was in the public sector [10], although the public sector treated more patients than the private sector. In both countries, the vast majority of children who seek treatment are treated within the public service; very few receive private treatment. In the UK in 2006, 45% of adults and 64% of children received oral health care from within the National Health Service (NHS) and 15% of adults from non-NHS (private sources) [12]. Much of the private care involved more expensive treatments such as implants and in 2006, in England, where 85% of UK dentists work, the average general dentist earned 58% of total income from private practice and 42% from the NHS [12].

In Bulgaria, by the end of 2008 there were 36 registered specialists in public dental health and social medicine. Most of them are former heads of public dental clinics. There is a group of some 12 specialists who teach at dental schools, five of whom have graduated from a recently introduced Social Medicine and Organization of Dental Public Health programme. The others trained in previous years and are holders of postgraduate degrees in social medicine and public health. In Finland in 2007, there were 204 specialists in DPH, 158 of whom were clinical directors and 46 university teachers and advisers. In the UK in 2008, there were 122 registered specialists in DPH [2]. As explained in a later section of this paper, which describes the practice of DPH in the UK, many other dentists also provide advice on this topic. They include over 100 clinical directors and assistant clinical directors who work in a non-clinical role as managers and directors in the Salaried Dental Service (previously known as the Community Dental Service).

### **Aim**

Against this background, the aim of this paper is to describe undergraduate and the postgraduate (specialist) education in DPH and the practice of DPH in Bulgaria, Finland, and the UK.

### **Education**

#### **1. Undergraduate education**

In all the three countries, a number of hours are dedicated to dental public health in the undergrad-

uate curriculum. Usual topics covered are: the epidemiology of dental and oral diseases and the social, cultural and environmental factors that contribute to health or disease. Ethics and law are included, as well as the national oral health care provision and reimbursement systems.

### **1.1. Bulgaria**

In Bulgaria, there has recently been an expansion in the number of undergraduate curriculum hours dedicated to dental public health. Currently, 45 hours in the second year are on social medicine and ethics

and a further 45 hours in the third year are devoted to dental public health.

### **1.2. Finland**

In Finland, the undergraduate curriculum is decided by the universities under supervision of the Ministry of Education. The responsibilities of the public sector and community-based preventive measures are especially emphasised in the curriculum.

### **1.3. United Kingdom**

In the UK, the General Dental Council is the competent authority that registers dentists and other

**Table 1.** Dental specialties officially recognised by the member states of European Union and with a specialist list at 1st January 2009

Member State	Ortho	Oral surg	Perio	Child dent	DPH	Prosthodontics	Endo	Others
<b>Austria</b>	No list	No list	No list	No list	No list	No list	No list	No list
<b>Belgium</b>	Yes	Yes	Yes	No list	No list	No list	No list	No list
<b>Bulgaria</b>	Yes	Yes	Yes	Yes	Yes*	No list	Yes	Yes
<b>Cyprus</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Czech Rep.</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Denmark</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Estonia</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Finland</b>	Yes	Yes	No list	No list	Yes	No list	No list	Yes
<b>France</b>	Yes	No list	No list	No list	No list	No list	No list	No list
<b>Germany</b>	Yes	Yes	Yes**	No list	Yes***	No list	No list	No list
<b>Greece</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Hungary</b>	Yes	Yes	Yes	Yes	No list	No list	No list	No list
<b>Ireland</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Italy</b>	No list	No list	No list	No list	No list	No list	No list	No list
<b>Latvia</b>	Yes	Yes	No list	Yes	No list	Yes	No list	No list
<b>Lithuania</b>	Yes	Yes	Yes	Yes	No list	Yes	Yes	No list
<b>Luxembourg</b>	No list	No list	No list	No list	No list	No list	No list	No list
<b>Malta</b>	No list	No list	No list	No list	No list	No list	No list	No list
<b>Netherlands</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Poland</b>	Yes	Yes	Yes	Yes	No list	Yes	Yes	No list
<b>Portugal</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Romania</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Slovakia</b>	Yes	Yes	No list	No list	No list	No list	No list	No list
<b>Slovenia</b>	Yes	Yes	Yes	Yes	No list	Yes	Yes	No list
<b>Spain</b>	No list	No list	No list	No list	No list	No list	No list	No list
<b>Sweden</b>	Yes	Yes	Yes	Yes	No list	Yes	Yes	Yes
<b>United Kingdom</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

\* In Bulgaria the specialty is called Social Medicine and Dental Health Organisation.

\*\* Recognised in one Lande (region) only.

\*\*\* In Germany there is a specialty of Community Dentistry that includes Public Health.

Key:

Ortho = orthodontics

Oral surg = oral surgery

Perio = periodontology

Child dent = children's dentistry

DPH = dental public health

Prosthodontics = prosthodontics

Endo = endodontics

dental workers. It provides all dental schools in the UK with guidelines for the content of the undergraduate curriculum [13]. These guidelines state that on completion of undergraduate studies all dentists should also be familiar with the importance of community-based preventive measures and the principles of recording oral conditions and evaluating data [13].

## **2. Postgraduate education**

### **2.1. Bulgaria**

In Bulgaria, the move from a system in which there was almost exclusively public provision of oral health care to one in which it is now almost exclusively private has caused major disruption to both training in and the practice of dental public health. By 1999, the post of Chief Dental Officer at the Ministry of Health ceased to exist and specialists in dental public health who had been acting as advisers started to work in clinical private practice. There were no new postgraduate trainees. The advent of the National Health Insurance Fund (NHIF) has meant that there is now a need for advisors with training in dental public health and a new three-year programme in Social Medicine and the Organisation of Public Dental Health has commenced. It includes theoretical and practical components and ends with a written and oral examination. Trainees work within public and dental public health organisations such as the NHIF at national or regional level, and as teachers at universities.

The theoretical content of the training programme, which lasts for three years, covers the following main topics:

- Assessment of public health needs and resources.
- Health services management.
- Health economics.
- International health.
- Health legislation.
- Informatics systems and data management.
- Health promotion and preventive programmes.

### **2.2. United Kingdom**

In the UK a number of full- or part-time courses in DPH are available and lead to various certificates, diplomas and postgraduate degrees. These do not in themselves lead to recognition as a specialist in DPH. Master's and doctorate programmes are offered by many universities.

Specialist training in DPH is for a minimum of four years. Prior to starting any specialist training,

it is necessary to complete at least two years of approved general training following registration as a dentist. For young dentists, at least one of these years is invariably vocational training in an approved general dental practice. Until 2007, everyone who wished to enter specialist training was then required to pass an examination set by one of the four (England, Ireland, Edinburgh and Glasgow) Royal Surgical Colleges and obtain a diploma. This is no longer a formal requirement. However, it is extremely difficult to be accepted on to a specialist training programme without this diploma.

The four-year programme in DPH is a mixture of academic and practical training. The academic training takes place in a university department and leads to a Master's degree in DPH. The practical training takes place both in university departments and while working as an assistant to a consultant in DPH in the community. Apart from the Master's degree, there are annual external assessments of progress. Dentists with a doctorate (Ph.D.) in DPH can gain exemption from some of the training and may be able to complete their training in the community in less than four years. The final assessment is an oral examination during which the trainee's portfolio of work over the four years plus log book are discussed. It leads to the award of a fellowship of one of the four Royal Surgical Colleges and a certificate of completion of specialist training, which enables the trainee to be registered as a specialist in DPH. Thus, those who have completed training in the specialty of DPH gain three qualifications, which are: the diploma of membership of one of the Royal Surgical Colleges as they enter training, a Master's degree in DPH during the four-year training programme, and a fellowship at the end of training.

During training, a salary is paid to the trainee by the NHS. Pay increases each year and those with a Ph.D. may be paid slightly more.

The four-year training programme covers:

- Oral health needs and demands assessment.
- Use of information technology.
- Commissioning and evaluating oral health services.
- Promoting oral health.
- Research and development.
- Teaching and training.
- Effective communication.
- Managing changes, people, resources, time and support.

### 2.3. Finland

The training programme in Finland has many similarities to that in the UK. Entrants must be registered as dentists and have completed at least two years as a full-time dental practitioner. There is competitive entry to training, but no entrance examination or requirement for a postgraduate diploma. Each of the three dental schools (Helsinki, Turku, and Oulu) in Finland offers a three-year full-time training programme in dental public health, half of which is theoretical (academic) and half practical. During training, a salary is paid by the Finnish Public Dental Service.

The objectives of the curriculum are to ensure that skills are achieved in the following areas of public health:

- Trends of health, illness and social environment at national and global level and the effect of these trends on a person's own environment.
- Producing, processing, critically analysing, and applying scientific and professional information by using modern methods.
- Basic principles of planning, implementation, and evaluation.
- Management, leadership, and health economics.

The academic studies consist of general subjects such as philosophy, ethics, scientific methods, communication studies, language studies, nutrition, diagnostics, and clinical dentistry. Other topics are tailored to the student's background and interests and relate to the political, legislative and administrative organisation of Finland, planning management and economy of public health, implementing and evaluating public health programmes, social and behavioural and business sciences.

The practical work aims at familiarising the trainees, in-depth, with the organisation and methods of health service delivery in Finland. It takes place in supervised practice at the most important health care organisations such as health centres, the Ministry of Social Affairs and Health, social insurance offices, and university hospitals.

At the end of the three years, trainees take a national examination, which leads to the award of a Master's degree and licensing as specialists in DPH. It is expected that candidates for the examination will be totally familiar with the contents of a number of relevant dental journals published in the previous three years and various other scientific literature.

### The practice of dental public health

In all three countries, the practice of DPH covers five broad areas, which are:

- Advising at local, regional, and national levels.
- Conducting surveys, research, and development.
- Commissioning, managing, and evaluating services.
- Promoting oral health.
- Teaching and training.

#### 1. Bulgaria

In Bulgaria, as previously described, dental public health specialists teach at universities and work as employees of the NHIF at both regional and national level. They may also work within the regional information departments of the Ministry of Health. Their salaries are low and they are not allowed to work concurrently in the private sector; only teaching staff are allowed to do so. Usually, the Faculties of Dental Medicine organise intramural practices and let their teaching staff rent these facilities to provide private oral health care.

As employees of the NHIF, at national or regional level, the specialists in DPH have administrative rather than consultative positions. Usually, they monitor the monthly reports of clinical work performed by dentists working under contract with the Fund. The DPH specialists check the reports and enter the data into a database. In the near future, dentists who contract with the NHIF will submit their reports electronically via the Internet. A small number of specialists advise decision makers. Paradoxically, it is not necessarily DPH specialists who provide such advice on oral health care, because the positions of adviser to ministers and very senior administrators are political appointments. There is a network of Departments that works under the direction of the Ministry of Health at regional level, where both dentists and dental practices are registered. Here, as previously described, DPH specialists manage and gather data. They have also to visit dental practices to monitor and give advice on the production of monthly reports by general dentists.

The teachers in DPH usually work in full-time positions at dental schools (Faculties of Dental Medicine), where they teach the principles of community dentistry and professionalism to dental students, conduct research, and supervise or train post-graduates for Master's or doctorate degrees.

## 2. Finland

In Finland, the Public Dental Service (PDS) consists of about 250 health centres owned by a local municipality or by several municipalities in a federation. Practically all chief dentists responsible for the leadership and management of the oral health care in large- and medium-sized health centres have undertaken specialist education in dental public health, a Ph.D., or sometimes other specialist dental education. Monitoring and evaluating treatment outcomes and oral health promotion have always been important areas in the local chief dentists' work [14].

All three dental schools in Finland have professors and other qualified staff in dental public health, who provide teaching and training and coordinate research into dental public health topics. There are also a number of health institutes that employ researchers. Research is also performed by the staff of some PDS clinics.

In addition, there are a few administrative positions at the ministries of Health and Welfare and Education, at governmental and municipal agencies, and in some companies that are held by specialists in DPH.

## 3. United Kingdom

In the UK, the following groups give advice in DPH:

- NHS Dental Consultants in DPH
- Academic staff at universities
- Chief Dental Officers and other dental staff working for the Governments of England, Northern Ireland, Scotland and Wales. Each of these four home countries has its own Department (Ministry) of Health.
- Advisers in Dental Practice
- Some dentists in the Defence Dental Services (military) and Community Dental Services (public salaried dental service)
- Dentists who advise dental companies that own several practices.

All NHS Consultants in DPH are registered on the specialist list for DPH, as are most, but not all, academic staff at universities. However, at present only two of the four national Chief Dental Officers are specialists in DPH, and virtually none of the Advisers in Dental Practice and few of those who advise dental companies are specialists.

Historically, surveys, research and development have been coordinated by university departments. Many still are. However, Consultants in

DPH provide advice at a local level, where small surveys and needs assessments are performed, independently from university departments. Since 1968, there have been ten-yearly national surveys of adult dental health [5] and since 1973 of child dental health [7]. These surveys have been funded by the Government and coordinated by university departments of DPH working with trained and calibrated dentists from the Community Dental Services.

Since 2006, oral health care has been commissioned at a local level by Primary Care Trusts (PCTs) in England and Health Boards (HBs) in Wales. There are 150 PCTs and HBs in total. One of the roles of specialists and consultants in DPH is to advise the PCTs and HBs on how to assess the oral health needs of the population and what services to commission from local dentists to meet these needs. There is also a need to evaluate the effectiveness and outcomes of the services and their quality. This evaluation is performed by the specialists and consultants in DPH and Advisers in Dental Practice (ADP). The ADP are senior general dentists who are employed on a part-time basis by PCTs and HBs to visit dental offices (practices) and advise on quality issues. Some have certificates in oral health care leadership and management but few, if any, are specialists in DPH.

Promoting oral health is performed at both national and local levels, generally in response to initiatives launched by the Department (Ministry) of Health of the four home countries. Often it is a part of wider health initiatives such as the cessation of smoking. A recent example followed the publication of guidelines for oral health, *Delivering Better Oral Health*, by the Department of Health for England [15].

Virtually all specialists in DPH are both teachers and trainers. Some have full-time appointments in universities. Most of those who do not hold such full-time appointments are honorary members of university departments and give lectures and supervise postgraduate students. Those who are employed by PCTs and HBs often supervise trainees in DPH, who work for them as assistants, and are required to provide external assessment of trainees who do not work for them.

## Discussion

As mentioned in the introduction to this paper, only three countries within the European Union recognise the specialty of dental public health. It is far

from clear why this is the case. In Finland and the UK, there are a number of employment opportunities for those who are recognised as specialists in DPH. Two important factors may be that both countries have a well-developed public sector for the delivery of oral health care and considerable Government involvement in planning all aspects of health care, including oral health care. In Bulgaria, after the privatisation of oral health care the specialty was in danger of ceasing to exist. However, it became apparent that there was a need for general dentists to acquire new skills and knowledge to manage their own private practices (offices) and to cooperate with public institutions to implement health promotion. It was also recognised that suitably trained DPH specialists are still needed to advise the National Health Insurance Fund and as a result the specialty continues to exist.

In common with most other developed countries, the current trends in oral health in Finland [6] and the UK [5,7] are for a growth in the number of children and young adults with little or no oral disease and in the number of those over 65 years of age who have retained the majority of their teeth but require increasingly complex oral health care to maintain them [1]. These trends challenge both those involved in the provision of oral health care and society in general. Such changes involve all members of the dental professions, dental educators, administrators, politicians and the general population, all of whom need an understanding of the epidemiological and social changes, and objective advice on how to meet these changes. In Bulgaria, high caries prevalence among children and youngsters is an additional challenge. A lack of political will and a poorer economy make it more difficult for it to be met.

As this paper has demonstrated, in Bulgaria, Finland, and the UK, specialists in DPH are trained to understand the epidemiological, demographic, clinical, social, political and financial aspects of the provision of health and oral health care and to give advice and leadership in these areas. There are a number of examples of how oral health trends and changes in both Finland and the UK have been managed (or mismanaged). In both countries, a number of dental schools were closed between 1984 and 1995, in response to predictions that the prevalence of dental caries in children would continue to fall. However, in spite of advice from specialists in DPH, the trend for more people to retain teeth into old age was not taken into consideration.

As a result the total number of teeth in the entire population (in the "national mouth") grew and more older patients now have more natural teeth, which require oral health care. In both countries the dental professions (through their national dental associations) feared that there would be insufficient work and the Governments were keen to save money in the short-term. By the early part of the present decade, it became apparent that there was a shortage of dentists and in both Finland and the UK more dentists are now being trained. In Bulgaria, the change from a totally public oral health care service to a totally private one took place with little apparent thought on the effects it would have, especially on the economically poorer members of society. It appears that the concept of public health, let alone dental public health, did not sit well with this rapid privatisation.

In Finland, historically, the PDS has catered for children (under 18 years), younger adults (born in 1956 and after) and some special needs groups. However, in 2002, a political decision was made to open the PDS to the entire population (all age groups). This sudden change has led to a demanding period of restructuring in the PDS [16] as adults' demand for oral care increased considerably at a time when the effects of closing two of the country's dental schools were causing a shortage of dentists in the country. Fortunately, an expansion in the numbers of dental hygienists had taken place before the changes took place. This enabled increased delegation of tasks from dentists to dental hygienists and employment of more hygienists in the PDS. These dental hygienists screen children for dental caries and provide a range of care for both adults and children, including preventive advice and treatment and removal of calculus, enabling dentists to concentrate on the more demanding cases. Implementing this change was a demanding task for the local leaders.

In England and Wales, a reform of the system for the funding of general dentistry within the NHS was introduced in April 2006 [17]. The reform has meant that for the first time oral health care is commissioned at a local, rather than national level. Commissioning is carried out by the 150 PCTs and HBs who should be advised by specialists and consultants in dental public health. However, at the time of the reform, the PCTs and HBs were themselves merged from over 300 to the current 150.

As a result, in many PCTs and HBs, the administrators who were responsible for commissioning

oral health care had no understanding of how oral health care is provided, or in some cases of commissioning [12]. Furthermore, many PCTs did not appoint specialists or consultants in DPH to advise them and as a result were unaware of the oral health needs of the populations for which they were responsible.

These examples highlight the need for objective advice on dental public health and leadership when planning changes to and commissioning oral health care.

It is interesting to note the similarities in specialist training in DPH in Bulgaria, Finland, and the UK. In some respects, this is unsurprising. It is also interesting to note that, unlike during education in clinical dentistry, it is unnecessary to include some, if any, clinical training during DPH specialist education. As a result much of the practical (as opposed to academic) education in DPH takes place away from dental schools (Faculties of Dental Medicine).

Irrespective of where it takes place, it is essential that knowledge, skills, and attitudes are fully assessed during and at the end of specialist training.

## References

1. Sanz M, Widström E, Eaton KA. Is there a need for a common framework of dental specialties in Europe? *European Journal of Dental Education* 2008; **12**: 138-143.
2. General Dental Council. *Dental Registers for 2008*. London: GDC; 2008.
3. World Bank Country Data for 2007. Accessed (2009 Apr 17) at: [http://ddt-ext.worldbank.org/ext/ddreports/ViewSharedReport?&CF=1&REPORT\\_ID=9147&REQUEST-TYPE=VIEWADVANCED7HF=N&WSpN](http://ddt-ext.worldbank.org/ext/ddreports/ViewSharedReport?&CF=1&REPORT_ID=9147&REQUEST-TYPE=VIEWADVANCED7HF=N&WSpN)
4. Central Intelligence Agency. Rank Order. Life Expectancy at Birth in 2006. In: *The 2008 World Factbook*. Accessed (2009 April 17) via: <https://www.cia.gov/library/publications/the-world-factbook/index.html>
5. *Adult Dental Health Survey. Oral Health in the United Kingdom 1998. Summary*. London: Stationery Office; 1998.
6. Suominen-Taipale L, Nordblad A, Vehkalahti M, Aromaa A, editors. *Oral Health in the Finnish Population. Health 2000 Survey* [publication B25/2008]. Helsinki: National Public Health Institute; 2008. Accessed (2009 Jan 11) at: [http://www.ktl.fi/attachments/suomi/julkaisut/julkaisusarja\\_b/2008/2008b25.pdf](http://www.ktl.fi/attachments/suomi/julkaisut/julkaisusarja_b/2008/2008b25.pdf)
7. Harker R, Morris J. *Children's Dental Health in the United Kingdom 2003*. London: Office for National Statistics; 2005.
8. Suominen-Taipale AL, Widström E, Sund R. Association of examination rates with children's national caries indices in Finland. *The Open Dentistry Journal* 2009; **3**: 59-67.
9. Kukleva M., et al. Study of dental caries in 12 year old children from Plovdiv. *Stomatology* 2002; **21**: 20-23.
10. Kravitz AS, Treasure ET. *EU Manual of Dental Practice. Version 4*. Brussels: Council of European Dentists; 2008. Accessed (2009 Apr 17) via: <http://www.eudental.eu>
11. Report. Bulgarian Dental Association presses the National Health Insurance Fund to extend the range of dental treatment that it funds. *Stomatology* 2007; **11**: 2.
12. House of Commons Health Committee. *Dental Service; Fifth Report of Session 2007-2008: Vol. 3. Oral and Written Evidence* [HC289-111]. London: Stationery Office; 2008.
13. General Dental Council. *The First Five Years: A Framework for Undergraduate Dental Education*. London: GDC; 2002.
14. Korhonen H. [Information systems in steering and management of oral health care in Finland 1972-2001] [dissertation]. Kuopio, Finland: Faculty of Social Sciences, University of Kuopio; 2005. Finnish.
15. Department of Health. *Delivering Better Oral Health: An Evidence-Based Toolkit for Prevention 2007*. London: DH; 2007. Accessed (2009 Apr 17) via: <http://www.gov.uk/publications>
16. Niiranen T, Widström E, Niskanen T. Oral health care reform in Finland-aiming to reduce inequity in care provision. *BMC Oral Health* 2008; **8**: 3. Available at: <http://www.biomed-central.com/1472-6831/8/3>
17. Department of Health. *Choosing Better Oral Health, An Oral Health Plan for England*. London: DH; 2005. Accessed (2009 Apr 17) via: <http://www.gov.uk/publications>

In order to ensure consistent quality of education across Europe, such assessment should be by external examiners as well as by those from within the institute(s) where education took place. To address this need, a number of specialist departments within European dental schools (Faculties of Dental Medicine) in collaboration with European specialty associations, including those for periodontology and children's dentistry, have established a common curriculum for their specialties and provide external examiners for Master's programmes at a number of universities in several countries [1]. This concept should be considered for the specialty of dental public health.

## Acknowledgements

The authors would like to thank Professor Zdenek Broukal and the editor of *Ceská stomatologie* for their permission to use substantial parts of a paper by Eaton & Widström (2009), which has been published in Czech, in this paper, and Professor Hannu Hausen for advice on the development of specialist training in Dental Public Health in Finland.