

Analysis of Dentists' Participation in Continuing Professional Development Courses from 2001-2006

Paul Abbott*, Kate Burgess, Eric Wang and Kang Kim

School of Dentistry, University of Western Australia, Australia

Abstract: Currently in Western Australia (WA) there is no requirement for dentists to participate in continuing professional development (CPD). The aim of this study was to determine the participation pattern of dentists in WA in CPD activities. Data was collated regarding registrants for courses conducted by the University Continuing Dental Education Committee. Information concerned number of courses attended by each dentist, location of work and year of graduation from university. Details of subject, length and type of courses conducted were also gathered. Most courses were half to one day in duration with many subjects covered. Between 10.1-24.4% of dentists registered in WA attended at least one course each year. Low numbers of recently graduated and older dentists attended courses. Similar percentages of metropolitan and rural dentists attended courses. Participation in CPD activities of dentists in WA was low. Half day or evening courses appear to be favoured by dentists.

Keywords: Continuing education, dentistry.

INTRODUCTION

The importance of continuing education has been emphasised in modern dentistry. Involvement in continuing professional development (CPD) activities is mandatory in many jurisdictions, such as some States in the United States of America, the United Kingdom, Canada, many European countries and in the Australian State of Victoria. In these places, CPD is a statutory requirement for the renewal of licenses to practice [1]. However, in many other countries and state jurisdictions, the policies for CPD are less stringent. Currently, in Western Australia (WA), there is no requirement for compulsory CPD participation and therefore such participation is left to the discretion of each individual dentist. However, as of 1st July 2010, compulsory participation in CPD activities will apply to all dentists registered in Australia in order to maintain a licence to work as a dentist.

Tan [2] demonstrated that less than 40% of dentists in Western Australia attended one or more CPD courses in a single calendar year (1990). The vast majority of the attendees worked in metropolitan locations and were members of the Australian Dental Association (ADA). Only a small percentage of rural dentists attended one or more courses in the year in which the study was performed. Data were obtained by reviewing the attendance lists for all courses conducted by both the University Postgraduate Dental Education Committee (as the Committee was known then) and the Western Australian Branch of the ADA in the 1990 calendar year.

A survey-based study in the State of Victoria, Australia in 2001 recorded higher rates of attendance of registered dental practitioners in that state [3]. Similar to the WA study, dentists were more likely to attend if they were members of

the Australian Dental Association. This study also noted that there was considerable variation within the profession regarding their participation in CPD when they compared part-time dentists, longer-term graduates, solo general practitioners and dentists in Western Australia (WA), working in the government services.

A study in the United Kingdom (UK) showed that 96% of the participants had attended 2.5 hours or more of courses and lectures in a one year period [4]. Other studies from the UK show differences between the association of age and participation in CPD activities when compared with the older Victorian study from Australia [5, 6]. The much higher attendance rates by UK dentists compared to the Australian studies may be due to the statutory requirement of UK dentists to complete 250 hours of Clinical Professional Development over a period of five years as a condition of retention of their names on the Dentists Register [6]. Of the 250 required hours, 75 must be "verifiable" activities with defined educational aims and outcomes. The remainder can be "general" CPD activities such as journal reading [6]. In addition, since 1st January 2005, the State of Victoria introduced the Dental Practice Board of Victoria's Code of Practice requiring dentists to undertake 40hr of CPD over a two-year period. A previous study in 2004 has shown that only 43.2 % of dentists attended more than 20hrs of CPD in the one year period [7].

Most dentists accept that the continuous increase in knowledge, changes in disease trends, new dental materials and equipment, new dental delivery systems and the development of new procedures and techniques should amplify the need for continuing education of dental practitioners. However no direct connection has been reported between unsatisfactory standards of practice and a lack of attendance at CPD courses. In addition, confounding factors regarding attendance at continuing education need to be identified to enable the use of alternative continuing education modalities.

*Address correspondence to this author at the School of Dentistry, University of Western Australia, Australia; Tel: 61 8 93467665; Fax: 61 8 93467666; Email: paul.v.abbott@uwa.edu.au

The University Continuing Dental Education Committee (UCDEC) is a joint committee of the School of Dentistry at the University of Western Australia (UWA) and the Australian Dental Association (WA Branch). This Committee is the main supplier of CPD in WA and arranges various lectures and hands-on courses for the dental profession. The aim of the current study was to determine the participation rate of dentists in CPD activities arranged by the UCDEC throughout the period 2001-2006 during a period when CPD was not compulsory. The type and subject matter of the CPD courses were also analysed.

MATERIALS AND METHODS

Ethical approval for this study was obtained from the University of Western Australia's Human Research Ethics Committee.

Information regarding the subjects, length and types of courses run by the UCDEC in Perth, Western Australia from 2003-2006 was collated by reviewing the Committee's annual publications to advertise the courses.

Data was collated regarding dentists who registered for CPD courses conducted by the UCDEC during the years from 2001 to 2006, inclusive. Personal data regarding the participants were de-identified before analysis. Information included the number of courses attended by each dentist, the year of graduation for each participant, specialist status, the type of courses attended and each participating dentist's principal place of work according to whether it was a metro-

politan or rural location. In addition, information was collated from the Dental Board of Western Australia's Register of Dentists regarding the total number of registered dentists in WA, the number of dentists in metropolitan and rural practices, and the year of graduation. Data is presented in the form of frequencies as statistical analysis and comparison is not relevant or possible.

RESULTS

Length of Courses

Throughout the 2003-2006 period, most courses were either half a day or a full day (40.0% for each) in length. The remainder were evening lectures, typically of 1-1.5 hours in length. There was a general increase in the number of half-day courses conducted throughout the period reviewed (Table 1).

Type of Courses

Approximately half the courses (51.8%) were presented as lectures or seminars. The remainder (48.2%) incorporated clinical or practical components (Table 2), usually in conjunction with lectures. This pattern was constant throughout the years reviewed with the exception of 2005 (66.6%) where there was a considerable increase in practical or clinical courses.

Subject of Courses

There was a wide variety of different subject areas covered by the courses. In most years, the most common subjects for the courses were Restorative Dentistry and Endo-

Table 1. The Length of Courses Conducted by the UCDEC from 2003-2006

Length of Course (days)	2003		2004		2005		2006		Total	
	n	%	n	%	n	%	n	%	n	%
0.5	5	25.0	9	42.9	14	51.9	6	35.3	34	40.0
1.0	10	50.0	9	42.9	8	29.6	7	41.2	34	40.0
1.5	2	10.0	1	4.8	1	3.7	1	5.9	5	5.9
2.0	1	5.0	1	4.8	0	0	0	0	2	2.4
3.0	1	5.0	0	0	4	14.8	0	0	5	5.9
Evening (1-1.5hrs)	1	5.0	1	4.8	0	0	3	17.6	5	5.9
Totals	20	100	21	100	27	100	17	100	85	100

Table 2. Format of Courses Conducted by the UCDEC from 2003-2006

Course Format	2003		2004		2005		2006		Totals	
	n	%	n	%	n	%	n	%	n	%
Lecture/seminar	12	60.0	13	61.9	9	33.3	10	58.8	44	51.8
Lecture/practical	4	20.0	2	9.5	5	18.5	4	23.5	15	17.6
Lecture/clinical	4	20.0	6	28.6	13	48.1	3	17.6	26	30.6
Totals	20	100	21	100	27	100	17	100	85	100

dentics (17.6% and 12.9% of all courses, respectively), followed by Radiography and Periodontics (9.4% and 7.1% of all courses, respectively). The remaining courses covered a wide range of dental and other related subjects such as Medical Emergencies (Table 3).

Number of Courses Attended by Dentists

The total number of dentists registered with the Dental Board of Western Australia, including both general practitioners and specialists, increased from 1027 in 2001 to 1250 in 2006. Between 216 and 400 (median 285) dentists attended at least one continuing education course a year from 2001-2006. These figures represent between 19.6% and 37.2% of the dentists registered in WA for each year. In all years assessed, slightly more than half and up to two thirds (56.5-69.3%) of the dentists who attended CPD courses con-

ducted by the UCDEC attended just the one course each year. Two courses were attended by 21.3-27.5 % of the dentists participating in UCDEC activities while 9.2-19.3% attended three courses and 1.5-12.3% attended four or five courses in one year. A small number of dentists (2.0-5.2%) attended more than five courses in the one year (Table 4).

Location of the Dentists' Practices

Interstate dentists comprised a small percentage of attendees in all years (0.8-1.9%). The majority of attendees at UCDEC courses practised in the Perth metropolitan area (81.2-85.0%). On average, 10.5% of attendees for each year worked in rural locations. This is only slightly less than the overall percentage of dentists (11.0%) registered in WA who practice in rural areas (Table 5).

Table 3. The Subjects Covered in the UCDEC Courses During 2003-2006

Subject of Course	2003		2004		2005		2006		Totals	
	n	%	n	%	n	%	n	%	n	%
Medical Emergencies	2	10.0	0	0	1	3.7	1	5.9	4	4.7
Paediatric Dentistry	1	5.0	0	0	1	3.7	0	0	2	2.4
Relative Analgesia	1	5.0	2	9.5	0	0	1	5.9	4	4.7
Restorative	4	20.0	3	14.3	3	11.1	5	29.4	15	17.6
Endodontics	2	10.0	3	14.3	2	7.4	4	23.5	11	12.9
Periodontics	2	10.0	1	4.8	2	7.4	1	5.9	6	7.1
Oral Surgery	1	5.0	0	0	2	7.4	2	11.8	5	5.9
Oral Medicine	1	5.0	0	0	4	14.8	0	0	5	5.9
Orthodontics	0	0	2	9.5	0	0	0	0	2	2.4
Practice Management	0	0	0	0	1	3.7	1	5.9	2	2.4
Radiography/Radiology	0	0	4	19.0	3	11.1	1	5.9	8	9.4
Other	6	30.0	6	28.6	8	29.6	1	5.9	21	24.7
Totals	20	100	21	100	27	100	17	100	85	100

Table 4. The Number of UCDEC Courses Attended by Dentists During 2001-2006

Number of Courses Attended	2001		2002		2003		2004		2005		2006	
	n	%	n	%	n	%	n	%	n	%	n	%
1	152	56.5	186	62.8	249	62.3	87	69.3	179	63.3	175	57.4
2	66	24.5	68	23.0	85	21.3	61	27.5	61	21.6	67	22.0
3	32	11.9	28	9.5	37	9.3	39	19.3	26	9.2	28	9.2
4	11	4.1	8	2.7	16	4.0	16	12.3	10	3.5	19	6.2
5	7	2.6	4	1.4	6	1.5	5	5.1	5	1.8	8	2.6
>6	1	0.4	2	0.7	7	1.8	8	2.5	4	1.4	8	2.6
Totals	269	100	296	100	400	100	216	100	285	100	285	100

Table 5. The Location of the Principal Place of Practice of Dentists Attending the UCDEC Courses During 2001-2006

Year	Rural		Metropolitan		Interstate		Unknown	
	n	%	n	%	n	%	n	%
2001	50	10.8	388	83.4	5	1.1	22	4.7
2002	62	13.2	391	83.0	4	0.8	14	3.0
2003	64	9.5	574	85.0	5	0.7	32	4.7
2004	65	11.4	462	81.2	11	1.9	31	5.4
2005	47	10.3	382	83.8	6	1.3	21	4.6
2006	50	8.4	504	84.7	10	1.7	31	5.2

Year of Graduation

The dentists were grouped according to their year of graduation from dental school in the following categories: 1940-1969, 1970-1979, 1980-1989, 1990-1999 and post-2000. There was an even distribution of attendance of graduates from the 1970's, 1980's and 1990's (25.5%, 25.4% and 30.5% respectively). As expected, the attendance by those graduating in the 2000's increased throughout the period studied from 1.5% in 2001 to 24.5% in 2006. The number of pre-1970's graduates attending courses was considerably lower than the other groups but attendance remained consistent (3.9-5.9%) throughout the seven years studied (Table 6).

DISCUSSION

The major limitation of this study is that it only includes the courses convened by the UCDEC. Although this Committee is the main supplier of CPD courses in WA, there were many other dental courses run by other professional organisations in the State during this period but the data from these courses were not available for analysis. Dentists from Western Australia may also have attended CPD courses in other States of Australia or in other countries. In addition, the use of the Dental Board of WA Register of Dentists leads to some underestimation of the percentage of dentists who participated in CPD activities since some registered dentists may not be working as dentists or they may have retired and no longer need to attend CPD courses. The Register also includes some dentists who reside and practice in other

States of Australia or in other countries and therefore they may participate in CPD activities in those locations. Hence, the data reported in the current study does not necessarily reflect the total CPD activity of Western Australian dentists.

A further limitation of this study is that the data collected cannot be directly compared to other studies in the literature as the few other similar studies have not reported the same type of data, especially regarding course length and content.

Over the 2003-2006 period, one tenth to one quarter of the dentists registered in WA attended at least one CPD course run by the UCDEC in each of these years although there was no obvious pattern to the attendance. Another quarter attended two courses and a small number attended more than two courses. It has been suggested in one report that a small minority of dentists attend the majority of courses [8]. However, the data from the current study does not support this with the majority of attendees present at only one or two courses each year. It has been suggested that since only a minority of dentists attend a large number of courses, the evaluation and feedback from these courses would not be relevant to the majority of dentists [8]. However, this is not likely to be the case for the UCDEC courses in the years of this study.

The UCDEC courses are usually held in metropolitan locations – that is, within the city of Perth. The percentage of dentists from rural areas who attended the UCDEC courses averaged 10.5%. This is approximately the same percentage of all registered dentists in WA who work in rural areas.

Table 6. Attendance at the UCDEC Courses According to the Participants' Year of Graduation

Year	2000+		1990-1999		1980-1989		1970-1979		1940-1969	
	n	%	n	%	n	%	n	%	n	%
2001	6	1.5	142	34.9	109	26.8	134	32.9	16	3.9
2002	48	11.1	128	29.5	120	27.6	121	27.9	17	3.9
2003	60	10.2	195	33.3	164	28.0	134	22.9	33	5.6
2004	96	17.7	168	30.9	120	22.1	139	25.6	20	3.7
2005	71	16.7	124	29.1	121	28.4	85	20.0	25	5.9
2006	134	24.5	140	25.6	112	20.5	137	25.1	23	4.2

Hence, a similar proportion of the total registered dentists from metropolitan and rural areas were attending the UCDEC courses. There were only two courses organised in rural areas during the period analysed. Both of these courses were run twice in different locations and were fully subscribed. Both courses had clinical and practical components and therefore there were limited numbers of places available in these courses.

As expected the number of newly qualified dentists (i.e. those who graduated after 2000) attending CPD courses was low, although the number did increase with time. The attendance rates by dentists who graduated between 1970 and 1999 were similar for each decade, although older dentists attended the least number of courses. This is in agreement with previous studies, which have shown an inverted U-shaped pattern of attendance when examining the age of dentists [5, 9]. The more recently qualified dentists tend to attend less continuing education courses, which may be due to them having completed training more recently. In contrast, older dentists are fewer in number and nearing retirement. Several studies have reported that both of these groups feel that continuing education had the least impact on their practices [5, 9, 10].

Over the period studied, a wide variety of subjects, types and length of courses were run by the UCDEC. It has been shown that attendance at courses is strongly influenced by the subject matter [3]. The most common subjects for the UCDEC courses were Restorative Dentistry and Endodontics which have also been reported as the preferred subjects amongst the majority of general dental practitioners in the UK [11] and in Asia [12]. The number of half-day courses increased with time and this is consistent with evidence suggesting that half-day courses are preferred by many dentists [11, 13]. Courses that consist of a mixture of didactic and practical/clinical components also tend to be more sought after than lecture courses [11]. Approximately half the UCDEC courses incorporated a clinical or practical element and these were generally fully subscribed. However, because of the nature of practical courses, as well as the facilities and equipment required, only a relatively small number of dentists can attend each course. Hence, such courses need to be repeated in order to meet the demands of the interested dentists.

Dentists in Scotland, where CPD is mandatory, felt that shorter courses were an effective and well-liked way of producing change in their dental practices [10]. Time constraints imposed by busy private practice were a limiting factor affecting attendance. This was further demonstrated by Best *et al.* [3] who reported that dentists working in solo practices attended less continuing education courses than those working in group practices.

Attendance by dentists at CPD courses in Western Australia is not mandatory and therefore each dentist's preferences and self-perceived needs will strongly influence the type of courses attended. General medical practitioners in New Zealand demonstrated a poor correlation between self-assessment of need and areas of weakness identified by questionnaires. This may be due to a reluctance to challenge themselves and step out of their comfort zone [14]. The overall impact of continuing education has been questioned

as to the effects it has on clinical practice [15, 16]. Oxman *et al.* [15] concluded that there was no single type of intervention that improved the quality of health care but if used in combination, then various methods could have favourable effects. Two studies [17, 18] have shown the effectiveness of the distribution of education information followed by outreach visits by a professional person. In addition, Firmstone *et al.* [3] found that the self-assessed impact of continuing education was only significantly affected when a general practitioner attended a number of courses, rather than just one course. They suggested that those practitioners who attend only occasional CPD course may be put off further attendance due to their perceived lack of apparent impact on their practices.

As previously mentioned, attendance by dentists at CPD courses in Western Australia was not mandatory during the period studied but compulsory attendance regulations will take effect from 1st July 2010. Hence, the data presented in the current study can be used to assess the impact of mandatory CPD requirements if a similar study is performed several years after this implementation date.

In conclusion, the participation in CPD activities of dentists in WA from 2001-2006 was low. Shorter half day or evening courses appear to be favoured by busy dental practitioners incorporating material that is applicable to general practice although it can be questioned whether dentists reliably identify their weaknesses and attend appropriate CPD courses. Practitioners may need to attend several courses to have an impact on their practice of dentistry. Newly qualified and older dentists may require further incentives to attend courses. Practical and clinical components in CPD courses appear to be an important aspect for increasing interest in courses.

ACKNOWLEDGMENT

This study was supported by a Vacation Research Grant from the University Continuing Dental Education Committee. Staff of University Extension at The University of Western Australia generously assisted the authors by supplying de-identified data for analysis.

REFERENCES

- [1] Schleyer T, Eaton KA, Mock D, Barac'h V. Comparison of dental licensure, specialization and continuing education in five countries. *Eur J Dent Educ* 2002; 6: 153-61.
- [2] Tan AE. Survey of continuing dental education attendance in Western Australia. *Aust Dent J* 1992; 37: 269-96.
- [3] Best HA, Messer LB. Professional development for dentists: patterns and their implications. *Aust Dent J* 2001; 46: 289-97.
- [4] Bullock A, Firmstone V, Fielding A, Frame J, Thomas D, Belfield C. Participation of UK dentists in continuing professional development. *Br Dent J* 2003; 194: 47-51.
- [5] Mouatt RB, Veale B, Archer K. Continuing education in GDS: an English survey. *Br Dent J* 1991; 170: 76-9.
- [6] Buck D, Newton T. Continuing professional development amongst dental practitioners in the United Kingdom: how far are we from lifelong learning practices? *Eur J Dent Educ* 2002; 6: 36-9.
- [7] Hopcraft MS, Marks G, Manton DJ. Participation in continued professional development by Victorian dental practitioners in 2004. *Aus Dent J* 2008; 53: 133-9.
- [8] Mercer PE, Long AF, Ralph JP, Bailey H. Audit activity and uptake of postgraduate dental education among general dental practitioners in Yorkshire. *Br Dent J* 1998; 184: 138-42.

- [9] Firmstone VR, Bullock AD, Fielding A, Frame JW, Gibson C, Hall J. The impact of course attendance on the practice of dentists. *Br Dent J* 2004; 196: 773-7.
- [10] Maidment Y. A comparison of the perceived effects on Scottish general dental practitioners of peer review and other continuing professional development. *Br Dent J* 2006; 200: 581-4.
- [11] Ireland RS, Palmer NO, Bickley SR. A survey of general dental practitioners' postgraduate education activity and demand for extended modular postgraduate programmes. *Br Dent J* 1999; 189: 502-6.
- [12] Chan WC, Ng CH, Yiu BK, *et al.* A survey on the preference for continued professional dental education amongst general practitioners who attended the 26th Asian-Pacific Dental Congress. *Eur J Dent Educ* 2006; 10: 210-16.
- [13] Bullock AD, Butterfield S, Bekfield CR, Morris ZS, Ribbins PM, Frame JW. A role of clinical audit and peer review in the identification of continuing professional development needs for general dental practitioners: a discussion. *Br Dent J* 2000; 189: 16-164.
- [14] Tracey J, Arroll B, Barham P, Richmond D. The validity of general practitioner's self assessment of knowledge: cross sectional study. *Br Med J* 1997; 315: 1426-8.
- [15] Oxman AD, Thomson MA, Davis DA, Haynes BR. No magic bullets: a systematic review of 102 trials of interventions to improve professional practice. *Can Med Assoc J* 1995; 153: 1423-31.
- [16] Grol R. Beliefs and evidence in changing clinical practice. *Br Med J* 1997; 315: 418-21.
- [17] Seager JM, Howell-Jones RS, Dunstan FD, Lewis MAO, Richmond S, Thomas DW. A randomised controlled trial of clinical outreach education to rationalise antibiotic prescribing for acute dental pain in primary care setting. *Br Dent J* 2006; 201: 217-22.
- [18] Thomson O'Brien MA, Rogers S, Jamtvedt G, *et al.* Educational outreach visits: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev* 2000; (4): CD000409.

Received: March 29, 2010

Revised: June 28, 2010

Accepted: July 19, 2010

© Abbott *et al.*; licensee *Bentham Open*.

This is an open access article licensed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0/>) which permits unrestricted, non-commercial use, distribution and reproduction in any medium, provided the work is properly cited.