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Authors	Stewart, Christopher;Kinirons, Martin
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Dentists' requirements for continuing professional development in Ireland. A pilot study conducted at University College Cork

Keywords: Dental continuing professional development, CPD, postgraduate dental education.

Précis: Dentists valued CPD topics they perceived as having a direct clinical application. Topics recommended by the Dental Council as core CPD were prioritised by participants.

Abstract

Aims: To determine the self-assessed continuing professional development (CPD) needs of dental practitioners and identify how each discipline can best be served by a dental CPD programme. To set findings in the context of the available literature and contribute to the development of CPD programmes.

Method: Topics were arranged into eight disciplines: practice management; paediatric dentistry; preventive dentistry; orthodontics; behaviour management; dentistry for people with a disability; oral medicine and surgery; and, restorative dentistry. A web-based questionnaire was constructed and administered using a MarkClass 2.21 online survey tool.

Results: Fifty-six self-reported assessment responses were received, with three-quarters of participants having graduated within the past 10 years. Topics in oral medicine and surgery attracted consistently high levels of interest. A tendency to favour topics with a perceived direct clinical application was observed. Topics recommended by the Dental Council as core areas for CPD were given a high level of priority by respondents.

Conclusions: Traditional lectures remain a valued mode of CPD participation. Practical courses were valued across all dental topics offered. A varied approach to determining the requirements of dentists is essential to appropriately support the practitioner.

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Introduction

This research was a pilot study of the ways in which the continuing professional development (CPD) needs of dentists could be provided. A web-based questionnaire facility was used to enable dental practitioners to register their level of interest in a range of clinical topics presented as CPD lectures and practical courses to provide hands-on experience. The findings were reviewed with reference to the available literature on dental CPD. The study sought to inform development of dental CPD programmes.

Aims

1. To determine the self-assessed CPD needs of dental practitioners and identify how each discipline can best be served by a dental CPD programme.
2. To rank topics within each discipline in order of dentists' highest preferences and to contribute to the development of CPD programmes in the context of available literature.

Method

Eight disciplines representing aspects of the practise of dentistry were identified using literature and information sourced from previous dental CPD course providers: practice management; paediatric dentistry; preventive dentistry; orthodontics; behaviour management; dentistry for people with a

Dr Christopher Stewart
University College Cork

Professor Martin Kinirons
University College Cork

Corresponding author:
Dr Christopher Stewart
Department of Oral Health and Development
Cork University Dental School and Hospital
Wilton, Cork, Ireland
T: 021-490110
E: c.stewart@ucc.ie

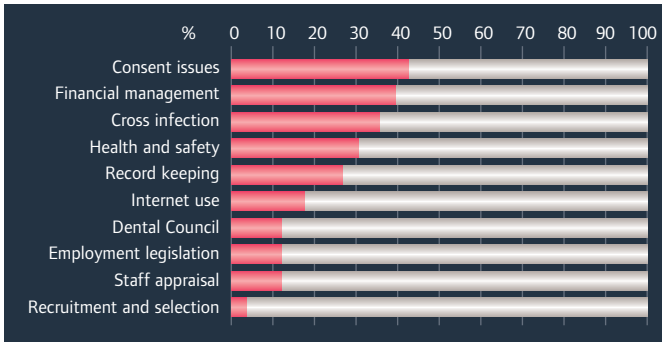


FIGURE 1: Practice management topics: proportion with stated high interest.

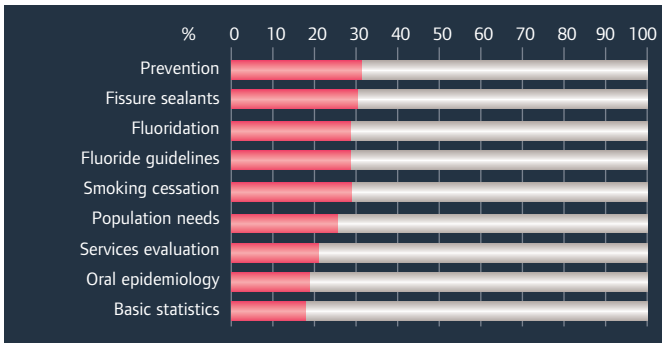


FIGURE 3: Preventive dentistry topics: proportion with stated high interest.

disability; oral medicine and surgery; and, restorative dentistry. A series of appropriate topics was arranged within each discipline. A web-based questionnaire was constructed and administered using a MarkClass 2.21 online survey tool. An url and covering letter explaining the purpose of the questionnaire was made available and posted on the Dental School website. Responses were compiled and presented within each discipline. Topics offered were those that could be readily delivered at a dental school with lecture and operative techniques laboratory facilities. Practical courses were identified across the disciplines as appropriate. A programme comprising evening lectures and a series of practical courses was created to utilise available facilities outside normal hours so as not to interfere with the commitments of busy practitioners. Concise aims and objectives were drawn up for each course and accreditation by the Dental Council was obtained.

Results

Responses were received from dentists working across the spectrum of dental services. Of the 56 respondents, the majority (76.8%) had qualified within the past 10 years. The results for lecture topics offered in each of the disciplines identified are presented.

Figure 1 represents the findings in relating to practice management. The topics dealing with consent, cross-infection control and financial issues attracted the highest level of interest. Lower proportions of respondents reported interest in administrative topics, including employment issues.

In paediatric dentistry (**Figure 2**), responses indicated that the highest levels of interest were in the topic of dental trauma. Other common clinical aspects, including open apex endodontics and behaviour management, resulted in expressions of high interest. **Figure 3** shows the equivalent data for preventive dentistry. In orthodontics (**Figure 4**) the topics were non-specialist in nature.

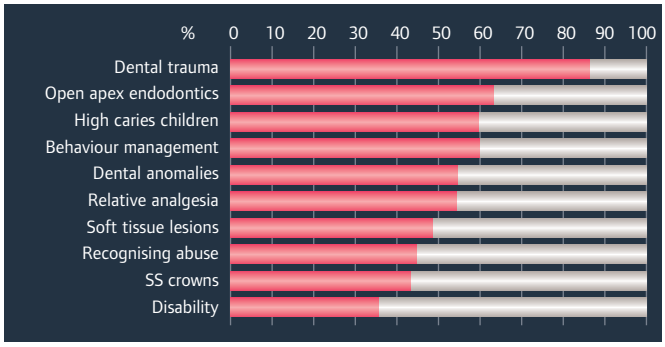


FIGURE 2: Paediatric dentistry topics: proportion with stated high interest.

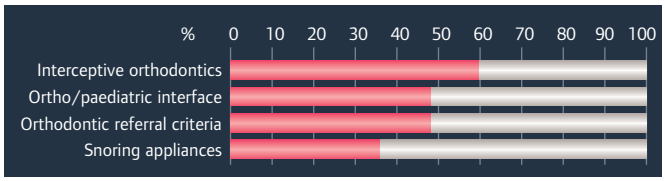


FIGURE 4: Orthodontic topics: proportion with stated high interest.

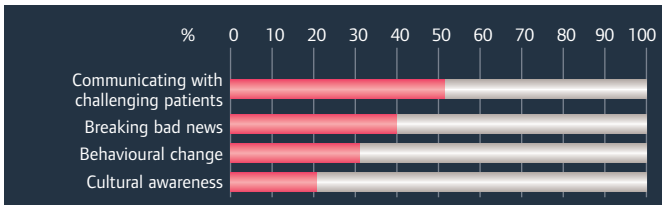


FIGURE 5: Behavioural sciences topics: proportion with stated high interest.

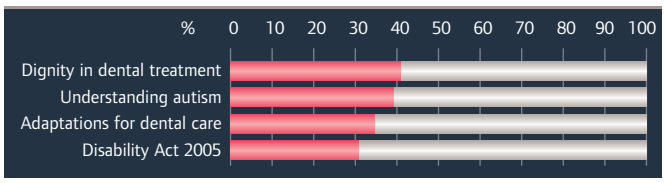


FIGURE 6: Dentistry for people with a disability: proportion with stated high interest.

Some 60% of respondents expressed a high level of interest in interceptive orthodontics, while the referral criteria for orthodontic treatment was cited by 47%. A further 47% were very interested in the paediatric and orthodontic interface.

In behavioural science, 53% of dentists expressed a high level of interest in the issue of communicating with challenging patients, while 40% cited the breaking of bad news (SPIKES model). Some 33% rated behavioural change highly, as did 22% for the topic of cultural awareness. Topics were confined to those having application in all disciplines (**Figure 5**).

Considering dentistry for people with a disability, the topic of 'dignity and dental treatment for people with a disability' drew the highest expressions of interest (42%). Within this discipline, 38% reported a high level of interest in 'understanding autism'. Some 36% were interested in adaptations to facilitate dental care for people with a disability, while information on the dentist's responsibility under the Disability Act 2005 was sought by 33%. The results for this discipline are presented in **Figure 6**.

In the discipline of oral medicine and surgery, topics consistently resulted in

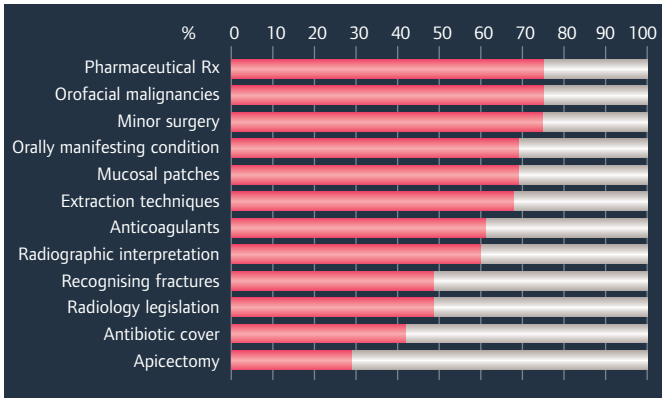


FIGURE 7: Oral medicine/surgery topics: proportion with stated high interest.

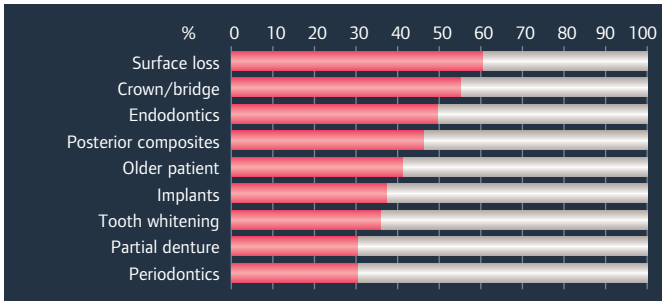


FIGURE 8: Restorative dentistry topics: proportion with stated high interest.

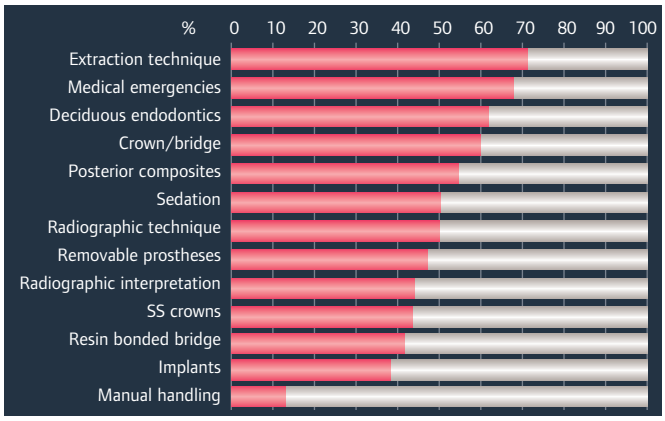


FIGURE 9: Practical course topics (all disciplines): proportion with stated high interest.

expressions of high interest and the findings are represented in **Figure 7**. In restorative dentistry, high levels of interest in the management of tooth surface loss were reported. Lower proportions expressed interest in the topics of partial dentures and periodontics. The responses for restorative dentistry are represented in **Figure 8**. The levels of interest in topics offered as CPD practical courses, across all disciplines, are represented in **Figure 9**, with extraction technique most commonly cited. Medical emergencies as a practical course was given a high priority by two-thirds of dentists in this study. In general, dentists were very interested in these clinical topics.

Discussion

The current work served as a pilot evaluation and sought to explore the self-assessed postgraduate educational needs of dentists. This has been used to inform and guide provision of CPD courses at the Cork University Dental School and Hospital. Bullock *et al.* (2013),[1] reporting on essential CPD provision in Europe, noted that university dental schools and professional associations were the most common providers of CPD. The need to preserve the integrity of postgraduate dental education free from commercial interests has been identified.[2] In Ireland, participation in dental CPD activities is expected to become mandatory when the current review of the Dentist Act is completed. In seeking to assess dentists' CPD preferences, this study follows similar studies elsewhere, although the outcomes reflect local operating conditions. Barnes (2012)[3] suggested that such studies serve to identify topics that dentists *want* to study rather than topics that may be essential.

Irish dentistry has played a prominent role within Europe in developing dental education and identifying the priorities for the profession.[4] Shanley *et al.* (2002),[4] reviewing undergraduate dental education in Europe, considered the areas of practice that had resulted in significant dental errors: cross-infection control; radiation protection; and, care of patients with medical conditions and their management. In common with regulatory bodies in other jurisdictions, the Dental Council[5] recommends ongoing CPD in these areas. In addition to these core areas, the Dental Council recommends that dentists carry out CPD relating to all aspects of clinical practice and suggests further topics: law and ethics; complaints; business planning; communications; evidence-based dentistry; child protection; and, clinical audit.

In a recent review of the literature on CPD for dentists, Barnes *et al.* (2012)[3] reported that lectures were considered to be a cost-efficient modality of CPD provision, but expressed concern regarding the passive nature of the learning involved. Nevertheless, lectures remain one of the most popular CPD modalities. The value of lectures as a useful method of disseminating information is acknowledged. Dentists repeatedly cite their value as a means of meeting up with colleagues. Chan *et al.* (2006),[6] surveying 514 dentists attending the Asia Pacific Conference, found that the didactic mode was highly valued. Leggate and Russell,[7] considering attitudes and trends in CPD in Scotland, noted the continued preference for the formal lecture. An additional benefit cited is that it allows colleagues to access the expertise of an acknowledged expert. Hamilton,[8] commenting on the results of that same survey in Scotland in 2002, highlighted the differing requirements and attitudes of dentists depending on age, experience and circumstances. The dental profession is not a uniform group in terms of clinical experience, expertise, and professional or educational interests. Accordingly, there is no one size fits all formula for delivering dental CPD, with different modalities being valued by different groups.

When setting up a programme of dental CPD, it is acknowledged that there is concern as to the effectiveness of all CPD programmes worldwide.[9] Although it might be expected that the benefits of postgraduate dental education have been well established, difficulties in measuring clear outcomes mean that there is limited definitive evidence supporting such a thesis. In a study looking at cost–benefit analysis of dental CPD for general dental practitioners, Belfield *et al.*[10] cited a paucity of literature on the subject.

In a recent UK study, Firmstone *et al.*[11] drew together their findings from the existing literature in support of dental CPD. The effectiveness of different types of dental CPD are considered, the relevance to the individual, the barriers, and the requirement of support for a personal development plan for the clinician are discussed. Ireland *et al.*[12] described the structure and potential benefits of using a personal development plan in dentistry. Barnes *et al.*[3] considered the difficulties

in relating dental CPD activity to improvement in clinical outcomes. While many studies focus on the volume of CPD undertaken, and on CPD preferences, there continue to be few studies demonstrating measurable improvement in patient care outcomes.

Overall, in the present study, it can be seen that there is a preference for topics of a clinical or operative nature. This might be anticipated given the operative nature of a dentist's work.[13] For the discipline of practice management, the responses received showed a higher preference for topics related to clinical aspects. The organisational aspects of practice, staff and HR topics attracted lower levels of interest. It may be that these aspects are adequately covered by other providers, or that the perception of the dental hospital is that clinical aspects are the main focus. Chan (2006)[6] observed that interest in practice management among practitioners varied depending on the jurisdiction in which they practised. This may be influenced by prevailing legislative provisions in different countries.

In the present study considering preventive dentistry, topics with clinical connotation were again favoured over topics such as statistics. In the Asia Pacific study,[6] 14% of participants reported interest in the wider topic of dental public health. This is consistent with the observation that clinicians tend to favour direct clinical topics. Promoting the benefits of taking a more strategic view of the overall development of dentistry might be something that a postgraduate dental education programme could achieve.

The high levels of interest in trauma in paediatric dentistry in the current study are unsurprising, as it is a presentation that dentists are likely to encounter. However, they may encounter it insufficiently often to be confident about management.[14] It has been suggested that CPD has a role to play in raising confidence. The potential role for CPD in increasing the clinician's knowledge in child protection has been acknowledged.[15] More than half the participants in the DentCPD project[16] considered that child protection should be a core topic for dental CPD across Europe.

In the Asia Pacific Conference study, Chan *et al.*[6] reported that orthodontics was the most popular subject choice if offered as a specialist postgraduate degree programme. That work found that orthodontics was ranked lower as a continuing education subject. In the current study interceptive orthodontics was a topic attracting high levels of interest. The challenges associated with implementing any programme of interceptive orthodontics in general dental practice have been described.[17] Almost half of the participants in our study expressed high levels of interest in criteria for orthodontic referral. Jackson *et al.* (2009),[18] studying orthodontic referral behaviour of practitioners in the UK, concluded that there was a need for postgraduate training or guidance in orthodontic referral.

In behaviour management, the high level of interest shown in the present study is consistent with findings elsewhere. The importance of improving communication skills in relation to clinical practice has been recognised in recent years. Bailey *et al.*[16] reported that 41% of participants considered that communication skills training should be compulsory. Behavioural science has recently been integrated into the dental undergraduate curriculum in University College Cork and includes motivational interviewing (MI) to enhance graduates' communication and interpersonal skills, and support behavioural change in relation to oral health,[19] moving the profession beyond the traditionally perceived skillset of 'ask, advise and refer'.[20] The benefits of delivering such programmes as part of dental CPD are clear.

In the discipline of dentistry for people with a disability, dentists expressed interest in the topic of dignity and dental treatment. A study of dental care provision for special care patients in the Republic of Ireland[21] cites the established evidence of inequalities in oral health provisions for people with a disability internationally. It is suggested that barriers to care may include lack of education, training and facilities. It was proposed that some of the barriers identified could be adequately addressed through continuing education. Dougall and Fiske[22] advocate a model where a well-developed network of special care dentistry in primary and secondary care would allow seamless movement of patients between services at appropriate times.

Oral medicine and surgery topics were the most highly requested in the current study. The topics favoured included topics that might be considered the cornerstones of dental care provision. This is in keeping with the ethos that continuing dental education should enhance dental care for all patients, not only the ones who can afford more advanced treatments.[2] The high levels of interest expressed in topics relating to patients taking medication including anticoagulants, to oral manifestations of systemic disease and to mucosal patches is consistent with the recommendations that high priority in education be afforded to management of medical conditions.[4] Bailey *et al.*[16] reported that 71% of European dental educators considered that this should be a core CPD topic for dentists. The responses in the current study show a clear recognition by practitioners of the need for ongoing education in this ever-changing area. Medical emergencies courses were offered as a practical course in this programme.

In the discipline of oral medicine and surgery, extraction technique and operative aspects of minor oral surgery drew high levels of interest. Cowpe *et al.* (2010) considered the essential capabilities that a graduating dentist should have, and listed these topics among the 17 'major competences' identified for dental graduates.[23] That document acknowledged the importance of CPD and lifelong learning. With improvements in dental health the frequency of extractions by dentists has declined and the high proportion of respondents in the present study showing interest in the practical course on dental extraction could indicate a desire to maintain these skills.

In restorative dentistry, again the fundamental topics were prioritised in responses in this study. The interest in tooth surface loss and care of the older patient may reflect the needs of the population. Chan *et al.*,[6] reporting on the survey of the 26th Asia Pacific Congress in 2006 on the CPD choices of 385 general dental practitioners, found variation in CPD preferences according to the regions, with more urban regions showing strong interest in advanced procedures, notably oral implantology. Endodontic treatment had a consistently strong following in that work, as it did in our own study.

In other countries, where the CPD agenda in dentistry has evolved further, various supports and structures have been put in place with the goal of assuring good practice. A report commissioned by the General Dental Council (GDC) in the UK to evaluate the supporting evidence for revalidation[24] outlined the many challenges of such an approach. Challenges include the need for a fair and meaningful process and the use of multiple inputs, for example: quality improvement (QI) activities such as CPD participation, personal development planning, case assessment and complaints monitoring; or, dentist assessment utilising multi-source feedback, patient feedback and direct observation. That report outlines how other data might be utilised in dentist revalidation. This could include data gathered for administrative pruposes, e g., by the NHS. The burden of administration and cost of implementing such processes are also acknowledged. Christensen[2] envisaged a centre where dentists would have educational needs assessed and benefit from programmes to fulfill any

deficiencies identified. A study commissioned by the UK Committee of Postgraduate Dental Deans and Directors (COPDEND)[25] aimed to produce a framework for good practice for the educators in postgraduate dental education. All of these endeavours converge towards organisation of postgraduate dental education as part of a QI agenda in patient care.

While it is accepted that there is little hard evidence that lectures and practical courses lead directly to improved outcomes for patients, they provide a basis for a developing CPD programme.

Limitations

This study set out to inform and aid development of the CPD programme, and as such can be regarded as a pilot. The use of electronic media alone is likely to have influenced the numbers participating and the age profile of respondents. Chumbler *et al.* (2007),[26] reviewing an online CPD programme at the University of Florida, cite an earlier work of Clark (2003),[27] proposing that younger dentists were most likely to participate in online CPD activities. Although it might reasonably be expected that this effect will diminish with time, it is acknowledged that the methodology in the current pilot will have resulted in some skewing of the sample. Following the introduction of mandatory CPD in Ireland, further definitive study using a stratified sampling method would be warranted.

Conclusion

Practitioners who participated in the survey expressed the highest levels of interest in topics they perceived as having direct clinical application. Topics recommended by the Dental Council as core areas for CPD, in accordance with Association of Dental Education in Europe guidance, were given high levels of priority by the participants. Traditional lectures remain a valued mode of CPD participation, and practical courses are also highly valued across all disciplines. Topics with a direct clinical application were favoured, and there was a high level of interest in clinical and practical courses. A varied approach to meeting dentists' requirements is essential to appropriately support the practitioner.

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