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The Changing Nature of the Practice of Dentistry

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This introductory chapter gives an overview of the changing nature of the practice of dentistry, highlighting current and anticipated future issues and challenges.

Big Picture

Dentistry is a fast developing biomedical healthcare science which should be viewed as an integral element of mainstream healthcare – oral health having been recognised to be important to general health and wellbeing. Moving on from the long-established, experienced-based, mechanistic approach to treating different forms of oral and dental pain, discomfort and disease, dentistry is evolving into a patient-centred, evidence-based, preventatively orientated, minimum intervention system of care to establish and maintain oral health – a health- rather than a disease-management service. This, however, only holds true for dentistry in forward-looking, typically well-developed countries of the world. In other countries, where there are provisions for oral healthcare, dentistry may be found to be caught, to different degrees, in a twentieth century time warp, with treatment focusing on pain relief, often by means of traditional, interventive restorative procedures and the extraction of teeth, with or without prosthetic replacement. Elsewhere in our diverse, unequal world, billions of people have no, or at best very limited access to any form of dental care.

This chapter, in common with the rest of the manual, considers arrangements, procedures and techniques for patient-centred, evidence-based, preventatively orientated approaches to oral healthcare provision – best practice.

Oral and Dental Disease

The social determinants of oral and dental disease are largely universal: exposure to an unhealthy diet, tobacco use, excessive consumption of alcohol, and poor oral hygiene all contribute to poor oral health. In addition, many adults do not help themselves limit their exposure to oral and dental disease, by, for example, indulging in the frequent consumption of sugar, forgetting to brush their teeth, not bothering with interdental cleaning, and only seeking dental care when in pain or experiencing a problem.

In most developed countries overall levels of dental disease, in particular amongst children, have shown improvements in recent years, but behind such encouraging statistics there tend to be widening health inequalities, with levels of oral and dental disease increasing amongst the children of the poorest members of society. At the other end of the age spectrum, there is increasing longevity, with many more teeth being retained into old age; however, oral health among older people is generally poor, with levels of xerostomia and advanced periodontal disease being a particular cause for concern. In adolescents and young adults pathological tooth wear is now relatively common, and oral mucosal disease, notably the incidence of oral cancer, is increasing. So, while much has been achieved through the application of advances in the prevention of oral and dental disease, much remains to be done, and new forms of disease such as peri-implantitis, albeit limited to those who have been fortunate enough to access implant dentistry, are generally considered to be a 'ticking time bomb'. Overall, it may be concluded that there continues to be widespread exposure to the determinants of oral and dental disease, the most prevalent forms of which – caries and periodontal disease – are opportunistic and given the chance will affect patients of all ages. Furthermore, as discussed in detail in Chapter 2, it may be concluded that oral and dental diseases continue to be a major public health problem, in large part because of the failure of individuals to practise the most basic of preventative measures.

In helping to address oral and dental disease issues, dental teams should seek to find ways, in the community in which they operate, to help reduce oral health

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inequalities and increase public awareness of the importance of oral health and how it may be achieved and maintained. Such a service to society, if undertaken by all dental teams, would make an enormous difference to oral health in general.

The Dental Team

Modern oral healthcare is best provided by a dental team. The day of the single-handed general dental practitioner, attempting to meet most, if not all of the many different dental needs of a diverse population of patients of all ages, is widely considered to be a thing of the past. For maximum efficiency and effectiveness, the dental team, led by one or more dentists and supported by a network of specialists in different, distinct branches of dentistry, should comprise:

- Oral health therapists, which may comprise (dental) therapists with skills and expertise in oral hygiene, or therapists together with dental hygienists.
- Dental nurses, trained together with other members of the dental team, with roles and responsibilities, over and above chairside participation in the provision of treatment, ranging from the recording of simple intraoral radiographic images to the application of preventive measures (e.g. fluoride varnishes) and oral health education. Dental nurses in modern practice environments must have well-developed skills in running, or at least overseeing, state of the art decontamination and sterilisation procedures.
- Dental technologists, including clinical dental technologists, to work with the chairside team in the provision of indirect restorations, removable prostheses and other appliances. Increasingly, dental technologists are critical to developments in digital dentistry, including, for example, the production of restorations from digital images and CAD CAM (computer assisted design–computer assisted milling). It is anticipated that dental technologists of the future may have as many information technology (IT) skills as traditional manual skills.
- Practice managers with wide-ranging roles and responsibilities to ensure the safe, efficient running of the practice or dental health centre. Practice managers' skills and expertise may usefully include, by way of example, business development and marketing, practice accounting, consumables logistics and the management of human resources within the practice or centre.
- Dental receptionists as the patient's first and most common point of contact with the dental team. In this role, receptionists require excellent human relationship and communication skills, together with skills in diary management, aimed at the best use of the time and skills of the various members of the dental team. Dental receptionists, in addition to requiring good telephone and face to face communication skills, are extending their roles to include multimedia communications with patients. Receptionists may also pay crucial roles in patient satisfaction surveys and the initial response to concerns and complaints.

As leaders of dental teams, dentists, amongst the many other challenges they face, must develop the necessary leadership skills during their formative years in clinical practice. Leadership courses are anticipated to become an important element of postgraduate dental education.

The Practice Environment

With the further demise of 'old-style', single-handed dental practices, in favour of multisurgery practices, if not dental health centres, the practice environment will continue to change. General dental practitioners of the future, more often than not with advanced skills and knowledge in some aspect of dentistry, may increasingly find themselves working in the same environment as specialists, as part of a 'full service' dental team. The facilities to support dental teams of different sizes and composition will grow in sophistication to take advantage of anticipated advances in dental technologies, some of which may be transformational, and possible changes in the scope of dentistry to facilitate the shared care of patients with other healthcare professionals. Innovations in IT, ergonomically enhanced ways of working, new devices and different forms of instrumentation, novel presentations of materials and growing patient expectations are some of the many factors which will individually and collectively shape and fashion the practice environment of the future. Above all else, the practice environment, apart from being welcoming and comfortable for patients and a good work environment for the dental team, must become an increasingly safe place for both patients and all those involved in their care.

Regulation

It is hoped that the clinical practice of dentistry will come to be regulated by modern, 'right touch' regulation, based on the following qualities:

- *Proportionate*: Regulatory intervention only when necessary, with measured, cost-effective remedies appropriate to the risk posed.

- *Consistent*: Interrelated rules and standards implemented fairly.
- *Targeted*: Focused arrangements fit for purpose.
- *Transparent*: Open, simple, user-friendly regulation.
- *Accountable*: Subject to, and satisfying public scrutiny.
- *Agility*: Forward-looking and evolving to meet changing needs.

Good regulation should first and foremost protect the public, but with measures which support and encourage the profession to comply with the relevant code of conduct.

The main elements (pillars) of codes of conduct relevant to the practice of dentistry are anticipated to remain:

- Patient respect and autonomy.
- Do no harm (non-maleficence).
- Act in the best interest of the patient – 'do good' (beneficence).
- Honesty and truthfulness (veracity).

In essence, treat others the way you would wish to be treated.

Developments in regulation will sooner or later include revalidation (recertification) including requirements for lifelong learning (continuing professional development, CPD) and possibly some form of self-assessment and peer review or appraisal. Transformational innovations in dental technologies may bring about the need for top-up training, or new arrangements for dental specialties, possibly including the demise or merger of existing specialties and the introduction of new specialties. To remain fit for purpose, the regulation of dentistry must change with changes in, amongst other factors, clinical practice, the regulation of other healthcare professionals, the dental workforce, relevant technologies and the needs and expectations of patients and the public.

The day of self-regulation, once considered to be a defining characteristic of a profession, may have passed, in favour of 'lay dominated' regulation, but this should not disadvantage or cause concern to the vast majority of regulated dental healthcare professionals who practise ethically, satisfy expectations of '24/7' professional behaviour, and always put the interests of their patients first and foremost.

Scope of Practice

With the growing body of evidence that oral health is important to general health and wellbeing, the challenge of many more older, dentate patients with increasingly complex medical and dental histories, the ever increasing sophistication of existing techniques, innovations in, for example, regenerative techniques and salivary diagnosis, trends towards the shared care of patients, and new evolving expectations of treatment, the scope of dentistry will need to be updated and modernised. With anticipated expansion in the scope of dentistry, it is considered unlikely that dentists can continue to graduate and remain competent in the many different, diverse procedures involved in the provision of comprehensive primary dental care. As a consequence, dentistry may have to look to adopting a medical model of skill mix, with a range of primary care procedures being delegated to team members. With such developments, dentists will, in all probability, become as much oral physicians as dental surgeons.

Patient-Centred Care

Gone are the days of 'just do as you think best' or, worse, clinical paternalism: 'I have decided that that you should have…'. To practise patient-centred care, the patient must be involved in treatment decision-making. To achieve this, the patient must understand the problem, the need for treatment, and the 'pros' and 'cons' of the various treatment options. This can be time consuming, in particular when a patient presented with complex treatment needs. However, such patient involvement is considered central to obtaining informed consent, prior to commencing any programme of care.

In providing patient-centred care there may be conflicts between practising clinical excellence and complying with the wishes of the patient. For example, clinical excellence may only be achieved in a case by providing surgery and reconstruction, but the patient, who is not experiencing any pain or discomfort and is unconcerned by their compromised dental appearance, simply wishes to be monitored and given advice as to how best to prevent further deterioration of their condition. In such situations, detailed clinical records, which should be a matter of routine, will be a safeguard against possible future criticism of less than ideal care, let alone supervised neglect.

Preventatively Orientated Care

Prevention is always better than cure. In dentistry, prevention, unlike vaccination against an infectious disease, does not impart immunity; it merely reduces susceptibility and the risk of disease – primary and recurrent.

The guidance available on the prevention of dental disease tends to be supported by a substantial body of evidence, a notable exception being tooth wear. Indeed, preventive dentistry may be considered to be the most evidence-based aspect of clinical practice.

The application of best preventive practice in the provision of treatment is what constitutes preventatively oriented care. This is in sharp contrast to treatment which leaves a patient more susceptible to disease. For example, if an early occlusal lesion of caries were to be managed by means of fissure sealing, or a preventive resin restoration, this would be best practice, both in terms of preservation of tooth tissues and preventatively orientated care. In contrast, if the lesion were to be managed by means of aggressive restoratively orientated care, resulting in weakening of the remaining tooth tissues and a restoration susceptible to secondary caries, overall the benefits to the patient may quickly be outweighed by the negative consequences.

Minimum Intervention

Very often, the easy option in dentistry is to extract a tooth, resort to a full coverage crown, or extirpate a troublesome pulp. Much more challenging, skilful and professionally rewarding, let alone beneficial for the patient, is to identify and successfully apply the least interventive, yet effective means to resolve presenting problems and establish and subsequently maintain oral health. Once lost or removed, tooth and associated soft tissues are lost for life, certainly until such times that major, anticipated advances in regenerative dentistry can be translated into clinical practice. Furthermore, the loss of tooth tissues leaves remaining tooth tissues substantially weakened and possibly more susceptible to disease. As a general rule, the less interventive the care, the more beneficial treatment is to the patient, both immediately and in the longer term, assuming the care is effective and the patient maintains good oral health. It is encouraging that increasing attention is being paid to the long-term consequences of interventive forms of treatment, recognising that the only 'permanent' restorations and prostheses are the ones patients die with, and that 'replacement dentistry' invariably results in the further loss of irreplaceable tissues. Minimum intervention dentistry is a key feature of care aimed at achieving 'teeth for life'. All that said, there are circumstances where interventive forms of treatment are indicated, if not necessary to achieve a satisfactory clinical outcome. Under such circumstances, all possible efforts should be made to limit the immediate and longer-term iatrogenic effects of the care.

Patient Empowerment

Based on the premise that the maintenance of oral health is the responsibility of the patient, rather than the dental team, which is the 'occasional visitor' in the patient's mouth, patients need to be educated and charged with undertaking all the measures necessary to prevent new disease. Identifying these measures and styling education to best meet the needs of the patient may best be achieved through risk assessment. Success in patient empowerment often involves behavioural interventions, aimed at behavioural change. As with most behavioural changes, such as smoking cessation and weight loss, the tipping point in oral health maintenance is patient acceptance: acceptance that they must look after the teeth they wish to retain, hopefully for life – only clean the teeth and gums you want to keep! 'Teeth for life' may also be viewed as partnership working between the patient and the dental team, with the patient assuming responsibility for the control of risk factors and day to day measures, and the dental team monitoring and, where necessary, prescribing and explaining changes to the agreed oral health regimen – in effect an oral health 'contract', which is amended from time to time by mutual agreement.

Pain and Anxiety

Regrettably, fear of pain and anxiety remain barriers to many individuals seeking and reaping the benefits of dental care. Developments in the fields of pain control and anxiety management (anxiolysis) have been remarkable, with dentistry being at the forefront of certain elements of relevant research and innovation. Although certain dental procedures may not be pleasant, they should be pain free, with a minimum of discomfort. For anxious patients, various forms of anxiety management, up to and including conscious sedation, should be available to facilitate acceptance of care. In many cases, anxiety and fear of pain associated with dental procedures stem from a traumatic episode, often early in life, highlighting the value and benefits of effective prevention in early childhood. Reaching out to and engaging anxious patients can be one of the most demanding challenges in addressing unmet treatment needs in a community. Success in such endeavours not only transforms the dental prognosis for those who become regular dental attenders, but can give a sense of huge professional fulfilment.

Funding

Where third party funding of oral healthcare exists, it tends to be under ever increasing budgetary pressure, with the available funding tending to be directed to care of the most vulnerable members of society, individuals with special needs and severe forms of disease, and to addressing ever expanding health inequalities – poor oral health and disease tending to increase in low-income families in many countries. Funding through insurance schemes and private contract should, as a consequence, be set to

increase with increasing interest in dental attractiveness and appreciation of the importance of oral health to general health and wellbeing, in particular amongst the 'worried well' with disposable income. For many practices the shift from the bulk of income coming from third party funding to insurance and private contract arrangements may be transformational – running a business rather than providing a service. Whatever the future arrangements for funding, there will be an expectation of value for money, with value being judged more by the health enjoyed rather than the number of procedures undertaken.

Continuous Quality Improvement

As in most, if not all aspects of modern life there is an expectation that there is always opportunity to enhance quality, if for no other reason as a consequence of new advances in knowledge, understanding and technologies. Dentistry is no exception. Setting aside savings through the dental industry responding to demands for 'faster, quicker, easier and cheaper' materials and devices, efficiency gains and effectiveness may be achieved through audit, critical self-assessment by the dental team, and constructive feedback from patients. In addition, good management of patient complaints and concerns, including bottoming out causation, can help identify ways to do things better. For patients who tend to have several months, if not a year or more between encounters with the dental team, the cumulative effect of many small, quality enhancing changes can be immediately apparent, helping them 'bond' with the practice as a 'go ahead' enterprise.

Ethics versus Cosmetics

Growing interest and the new value being placed in dental attractiveness plays a large part in dentistry moving away from the service to the business model. In particular, growth in the demand for cosmetic procedures (as distinct to aesthetic treatments to address a need) is increasing the 'business element' of dentistry. In providing cosmetic enhancements to a patient's smile, the dental team must strike the correct balance between meeting the demands of the patient, maintaining professional standards and acting ethically, despite powerful financial incentives to just seize the opportunity. Professionalism – the set of values, behaviours and relationships that underpins the trust the public has in the dental team – must not be sacrificed by unethical approaches to the provision of cosmetic dentistry. There is no justification for any breach of the professional code of conduct in providing enhancements to dental attractiveness, albeit that certain cosmetic procedures which a dental team may provide may not be considered to constitute the practice of dentistry.

The Unexpected

Futurology is far from being an exact science. In particular, expectations of what the future may hold cannot take account of the unexpected. In dentistry, the unexpected may take many different forms, for example, some new form of disease, a ground-breaking development in regenerative dentistry or dental biomaterials science, or new evidence which questions the value of some long established approach to patient care. Dealing with the unexpected in the provision of dental care can draw heavily on the knowledge and understanding of the dental team, and may involve the adoption of new procedures and mastering new competences. Any long established practitioner will confirm that clinical practice has undergone profound, unexpected change in their professional career. There is no reason to believe that things will be different for future generations of practitioners. This, it is suggested, adds to the appeal and challenge of a career in dentistry.

Further Reading

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