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Teamworking in Dentistry: The Importance for Dentists, Dental Hygienists and Dental Therapists to Work Effectively Together—A Narrative Review

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ABSTRACT

Objectives: To consider teamworking in dentistry, focusing especially on the role of dental hygienists (DHs) and dental therapists (DTs) as part of the dental team.

Methods: A narrative review of studies that have investigated teamworking in periodontology and dentistry in general together with consideration of examples of relevant regulatory and governmental policy documents.

Results: The inclusion of DHs and DTs as key members of the dental team yields significant patient benefits in terms of access to care (particularly among under-served populations), efficient and effective treatment and improved healthcare outcomes for patients. However, barriers can exist to full implementation of effective working in dental teams, including both systemic and regulatory barriers, as well as attitudinal barriers. Furthermore, DHs and DTs are not always working to their full scope of practice, thereby limiting the care that these team members can provide. Mutual respect between dental team members, high-quality communication and a common ethos and shared clinical standards are all essential for effective teamworking. DHs and DTs have a clear role to play in achieving sustainable improvements in oral and dental health for patient populations globally.

Conclusion: Full and effective integration of DHs and DTs into healthcare teams will benefit not only the dental team, but also healthcare systems and patient populations, via more effective teamworking, improved access to care and enhanced treatment outcomes.

1 | Introduction

The dental team comprises a range of dental professionals, including dentists, dental nurses, dental hygienists, dental therapists and dental technicians, though not all these job roles are recognised in all countries, and conversely some countries also recognise additional members of the dental team, such as orthodontic therapists. Dental professionals are registered or licensed by an appropriate statutory body in most countries, which regulates the profession and its members. Teamworking is an essential component of all areas of dental practice, particularly so in the prevention and treatment of periodontal diseases. Dentists (including those with additional training and/or specialist qualifications such as periodontists), dental hygienists (DHs) and dental therapists (DTs) are the key members of the dental team that provide periodontal care for patients, and close teamworking is an important aspect of delivering best outcomes for patients. In this narrative review, we consider the importance of teamworking focusing especially on dentists, DHs and DTs and the importance of this for improving access to care.

2 | Methods

A narrative review was conducted, focused on the importance of teamworking among dentists, DHs and DTs and access to care. English language publications identified from electronic searching of databases including Embase, Medline CAB abstracts, from 2000 to the present day were considered. Search terms included Dental hygienist* OR Hygienist* OR Dental therapist* OR Dental nurse* OR Orthodontic therapist* OR Dental technician* OR Allied oral health professional* OR Dental hygiene professional* OR Dentist OR Dentistry AND Access OR Direct Access. The electronic search was supplemented by hand searching of articles in reference lists and review articles, together with policy and governmental documents where appropriate.

3 | Historical Considerations Regarding Dental Hygienists and Dental Therapists

Poor oral health has clearly established negative socioeconomic impacts and is also associated with higher levels of deprivation. The World Health Organisation (WHO) defines oral health as 'the health of the oral cavity (teeth and orofacial structures) that allow us to eat, breathe and speak, promoting our self-confidence, well-being and ability to socialise and work' [1]. Oral diseases are the most common noncommunicable diseases (NCDs) worldwide, with the total disease burden from oral diseases (particularly caries and periodontitis) contributing to approximately 3.5 billion cases of oral conditions globally [2]. While very much preventable, oral diseases can only be effectively prevented if people can access the care they need, including appropriate preventive interventions and clinical procedures to manage oral conditions.

The history of DHs and DTs can be traced back to the early 1900s when dental nurses were trained in additional skills such as preventive care and simple restorations for children, particularly in New Zealand, with the establishment of the School Dental Service in 1921 [3]. In the UK, the Royal Air Force (RAF) introduced DHs during World War II to combat the huge amount of oral disease then present, but it was not until 1957 that the dental regulator in the UK (the General Dental Council, GDC) licensed their practice [4]. A little later, Dental Auxiliaries began working in community clinics in the early 1960s, becoming dental therapists in 1979. In the USA, DHs had existed for many years by this time, providing a range of preventive and treatment interventions which varied according to the state in which they were registered. In 2012, the UK GDC commissioned a report on potential benefits and risks of direct access to treatment by DHs and DTs which reported that there was no evidence of issues of patient safety resulting from the clinical activity of DHs and DTs, and that there was strong evidence that access to dental care improved under direct access arrangements, with cost benefits for patients and high levels of patient satisfaction (while acknowledging that most of the underpinning evidence came from studies in the USA) [5]. Direct Access (in which patients have the option of seeing a DH or DT without having first seen a dentist and without a treatment prescription from a dentist) was introduced in the UK in 2013 [6]. However, the independent practice by DHs and DTs (under arrangements such as direct access or similar) can be faced with barriers such as costs of setting up a practice (equipment and staffing), difficulties with reimbursement, lack of knowledge and/or acceptance (by dentists and patients) [7].

Regarding DHs, studies in various locations globally have reported improved access to dental care, particularly those in underserved populations or who face difficulties in accessing traditional dental services, such as pregnant women, older adults, care home residents, persons with special needs, children in schools, minority populations and rural populations [8–10]. DHs have also been successfully integrated into primary care medical teams, to further increase access to dental services with potential to improve oral health in underserved patients [11, 12]. Whereas some recent studies have reported favourable acceptability of the role of DHs by dentists even if the dentists did not delegate all of the legally allowable duties to DHs in their practices [13], others have reported barriers such as difficulty in acceptance of DHs' referrals by dentists (e.g., in contexts where most DHs were employed by government services whereas the majority of supervising dentists worked in private practice) [14]. The importance that dentists place on the role of DHs is clearly influential in the range of services (i.e., more of their scope of practice) that they provide [13].

Focusing on DTs, a review of global literature published in 2014 identified 54 countries where DTs were recognised members of the dental workforce [3]. These authors reported variable length of training for DTs, with a progression towards training being delivered in a 3-year academic programme, and concluded that DTs provide effective, safe and quality care with generally good acceptance by both the public and by dentists [3]. Similar to DHs, studies have reported a mix of attitudes of the wider dental team towards DTs, including unfavourable attitudes of dentists towards DTs and a lack of perceived need [15, 16]. On the other hand, DHs had overwhelmingly positive attitudes towards DTs in one study, and both dentists and DHs were open to having DTs as part of the clinical dental teams in another [17, 18]. Also similar to DHs, introduction and inclusion of DTs resulted in improved access and better oral health outcomes, particularly for underserved populations [19–22]. Of note, a study in England identified that 73% of clinical time in state-funded primary care (in 2011) was spent on tasks that may be delegated to DTs [22].

Regarding direct access in the UK (introduced in 2013), although over-referral of patients to dentists by DHs and DTs was suggested (with a need for training in this regard), no patient safety issues were identified, and there was strong evidence of improved access to care under direct access arrangements [23]. In a survey conducted shortly after the introduction of direct access, it was reported that dentists had concerns about direct access in relation to patient safety, the undermining of the dentist's role and perceived inadequacy of training of DHs and DTs [24]. On the other hand, in a survey of DHs and DTs, a majority (73%) were in favour of direct access, even though direct access patients constituted a minority of their workload [25]. It is notable that treatment provided was mainly restricted to periodontal work, regardless of whether they were trained as a DH or as

a DH/DT (indicating that they were not working to their full scope of practice). Barriers to successful practice included dentists' unfavourable attitudes and issues related to teamwork, but a majority (64%) felt that direct access had enhanced their job satisfaction [25].

4 | Regulatory and Workforce Planning Trends

During the SARS-CoV-2 (COVID-19) pandemic, dental attendance in many countries of the world reduced sharply. For example, in the UK, over 7 million fewer patients saw a National Health Service (NHS) dentist compared to prepandemic levels due to the closure of dental practices for safety of staff and patients [26]. Postpandemic dental services have struggled to recover with the number of adults seen in 2022–2023 being nearly 20% lower than in 2018–2019; and with the figure for children being 9% lower than in 2018–2019. Of concern, in 2022–2023, there was a 17% increase in the number of episodes of decay-related tooth extractions in hospital for < 19-year-olds compared to the previous year [27]. Furthermore, in 2022 over 11 million adults had unmet dental needs in England [28]. This is almost one in four of England's adult population and compared to 2019 data represents nearly a tripling of unmet dental health needs in a 3-year period. Of particular concern is the finding that deaths in England due to oral cancer have increased by 46% over a decade from 2011 to 2021, and is being associated with a corresponding decline in the number of active NHS dentists [29, 30].

Acknowledging the workforce shortage, the NHS England (NHSE) Long-Term Plan outlined a strategy to expand dentist training places by 40% by 2031–2032, with the aim that DHs and DTs will deliver 15% of NHS dental activity—likely a tripling of the levels of activity provided by DHs and DTs currently [31]. Whereas increasing the number of graduates including dentists, DHs and DTs is to be welcomed, and may improve access to services in the longer term, there is also a need to improve the utilisation of the breadth of the existing workforce [28]. However, a recent report in the UK identified that DHs and DTs are not currently working to their full scope of practice within the NHS, and identified concerns about professional development and risks of de-skilling together with a desire to work to their full scope within this professional group [32]. In parallel with these findings, the UK GDC reported that only 61% of dentists were familiar with the scope of practice of dental professionals, compared to approximately 85%–90% of DHs and DTs [33]. It is likely, therefore, that barriers due to lack of familiarity of what DHs and DTs can do within dental practice settings may also be limiting the potential for DHs and DTs to work to their full scope of practice.

Against this backdrop of workforce concerns (including inadequate numbers of dental professionals and under-utilisation of the full-skill mix of DHs and DTs), research conducted within the last decade has clearly demonstrated the efficacy (diagnostic accuracy) and efficiency of using DH and DT role substitution (a term used to describe a form of task shifting from dentists to a DH/DT-led model of care) [34–36]. However, variations in the utilisation of role substitution have been reported, with practice owners' opinions and knowledge regarding the clinical abilities of DHs and DTs, and contractual constraints acting as a disincentive [37]. A case study conducted in Wales, using a realist evaluation, explored theory regarding how dental team skill-mix models operate, and identified factors relating to the dental practice as a business, as a healthcare provider and as a workplace. The authors provided theory about the mechanisms that may assist the work of DTs within different contexts of dental practice and concluded that through training, dental teams and dentists in particular can enhance their understanding of DTs' role and that making a workable business case was highly relevant in the employment of DTs [38].

5 | Scope of Practice for Dental Hygienists and Dental Therapists

There has been a historical presence for DHs and DTs as part of the dental team in the UK from the late 1940s and the DH and DT remit has evolved and expanded over the years. This evolution has encompassed the early days of 'scale and polish' and patient education by DHs, and extraction of deciduous teeth, simple restorations, cleaning and polishing teeth by DTs, and has expanded further from the early 1990s to the present day with the most recent development being the amendment of the Human Medicines Regulations (2012) in 2024 (Table 1). The scope of practice document was introduced by the UK General Dental Council (GDC) in 2009. This document sets out the skills and abilities of a registrant at the point of registration or that may develop throughout their career and has been updated since being first introduced [39]. As two very distinct dental professions, the scope of practice of a DH differs from that of a DT (Table 2). Additionally, both have the necessary skillset to treat and support periodontal patients.

There are global differences between DHs and DTs both within their scope of practice and recognition of the profession. Globally, DHs are recognised professionals in 34 countries [40]. Additionally, there can be a variation in their scope of practice from country to country. Furthermore, countries such as France do not recognise the profession, and DHs are not part of the dental team. In contrast, in Germany, although they do not train DHs, they are able to work as part of the dental team. DT is a recognised profession within 54 countries with the most recent introduction of the profession within some states of the USA. In certain locations, such as New Zealand, Hong Kong and Singapore, the clinical setting for a DT is primarily community clinics, hospitals and mobile dental units which focus on children's care [3]. In the UK, DTs can work within any clinical setting, both private practice and NHS, and treat both children and adults.

For many DHs and DTs, a majority of their clinical practice will be focused on periodontology. Working as part of a team with the dentist provides great opportunities for improving effectiveness of delivery of all aspects of periodontal care within the DH/DT's scope of practice. For example, initial assessment and screening, recording of periodontal indices, oral hygiene instructions and preventive care, risk factor management and behaviour change, nonsurgical periodontal therapy (professional mechanical plaque removal), review, recall and supportive periodontal therapy (SPT) are all well within the remit of DH- and

TABLE 1 | Changes to the scope of practice of dental hygienists (DHs) and dental therapists (DTs) in the UK.

Date	Changes implemented
1957	• Dentist Act led to ancillary regulations. • A registered dentist must be on the premises when treatment carried out by DH or DT.
1991	• The removal of the requirement for a dentist to be on the premises when treatment carried out by DH or DT. • Dental hygienists permitted to give local anaesthesia via infiltrations.
2002	• Removal of the need for a dentist to be on the premises for local anaesthesia via infiltrations. • Extended duties permitted for DHs and DTs—impressions, inferior dental block, temporary restorations, conscious sedation and temporary re-cementation of crowns all introduced. • Dental therapists permitted to work in general practice. • Dental therapists permitted to undertake pulpotomies on primary teeth.
2009	• No dentist required to be on the premises for anything within the scope of practice of a DH or DT. • Placement of temporary restorations, not just those restorations which came out during treatment provided by the DH. • Carry out conscious sedation without a dentist in the room.
2013	• Direct access—patients able to be treated by DH or DT without the need to see a dentist first. • DHs and DTs able to diagnose within their scope of practice.
2024	• Amendment of the Human Medicines Regulations (2012)—DHs and DTs able to supply and administer certain prescription-only medicines (including pain relief and fluoride) without sign-off from a dentist.

DT-led care. Furthermore, DHs and DTs can provide care both before and after the surgical phases of periodontal treatment (including implant therapy), to optimise periodontal and oral health presurgery and to provide the necessary long-term maintenance care in the postsurgical phase. Full utilisation of the entire dental team via a shared-care approach to take advantage of the complementary skillsets that the different members of the team possess will likely yield not only more effective treatment provision and efficiencies in the dental practice setting, but improved clinical outcomes for patients too.

6 | Successful Teamworking in Dental Practice

6.1 | The Dentist Perspective

Translating academic concepts of teamworking from the textbook to clinical practice can present a number of challenges. Whilst many barriers are often cited as obstacles to smooth teamworking, usually, through discussion, planning and good communication, they can be overcome and lead to an effective and efficient workflow. There are a number of pillars that any effective teamworking relationships are built on, but none are more important than mutual respect and communication.

6.1.1 | Mutual Respect

For too long the traditional dental hierarchy that has existed in practice of: owner, dental associate, dental therapist and dental hygienist, has put barriers in the way of achieving mutual respect within dental teams. This hierarchy has sometimes led to some clinicians believing they were better than other members in their team just because of their job title. Seeing all of our clinical colleagues as equals, and as autonomous, responsible and highly trained professionals who share a common goal of achieving periodontal health for their patients, is essential for effective teamworking.

6.1.2 | Communication

Teamworking can only be successful if there are clear and effective lines of communication. It is important to remember that communication should flow in both directions and involve a back-and-forth dialogue, with all members of the team knowing their roles, the limitations of their roles, and when further advice or planning should be sought. Communication is not just about the verbalised or written word; after all, what good is communication without listening and understanding? In clinical practice, this may manifest by way of clearly written clinical notes with direction, guidance and instructions. It could also be, on occasion, a clinical case discussion where the oral health educator, DT, DH and dentist sit and discuss the direction of care for a patient where everyone's views are valued, considered important and listened to. Communication may include what needs to be done, what the bigger picture treatment plan is, what patient barriers need to be overcome to achieve success, how long the treatment sessions need to be, when the patient will be reviewed, the recall frequency, who will do that review, and so on. There are no limits to the effective communication required for successful management of patients by the team.

6.1.3 | Ethos and Standards

For a team to function well, there really needs to be a common ethos within the team, together with shared clinical standards. Nothing is more destructive to a clinical team's message to patients than discrepancies in what is said by different team members, what goals are being set or what the patient's treatment journey will look like. This should be done by recruiting

TABLE 2 | Scope of practice for dental hygienists (DHs) and dental therapists (DTs) in the UK.

Scope of practice	Dental hygienist	Dental therapist
Obtain detailed medical and dental history	Yes	Yes
Clinical exam within their competence	Yes	Yes
Periodontal exam, charting and indices to screen and monitor	Yes	Yes
Diagnose and treatment plan within their competence	Yes	Yes
Prescribe radiographs	Yes	Yes
Take, process and interpret various film views	Yes	Yes
Plan the delivery of care for a patient	Yes	Yes
Give appropriate patient advice	Yes	Yes
Preventative oral care, and liaise with the dentist regarding treatment of caries, periodontal disease and tooth wear	Yes	Yes
Undertake supra- and subgingival debridement	Yes	Yes
Use appropriate antimicrobial therapy	Yes	Yes
Adjust restored surfaces in relation to periodontal therapy	Yes	Yes
Apply topical treatments and fissure sealants	Yes	Yes
Smoking cessation advice	Yes	Yes
Take intra- and extra-oral photographs	Yes	Yes
Infiltration and inferior dental block analgesia	Yes	Yes
Temporary dressings, re-cement crowns with temporary cement	Yes	Yes
Place rubber dam	Yes	Yes
Take impressions	Yes	Yes
Care of implants and treatment of peri-implant tissues	Yes	Yes
Direct restorations on primary and secondary teeth	No	Yes
Pulpotomies on primary teeth	No	Yes
Extract primary teeth	No	Yes
Place preformed crowns on primary teeth	No	Yes
Identify anatomical features, recognise abnormalities and interpret common pathology	Yes	Yes
Oral cancer screening	Yes	Yes
Referral of patients to other healthcare providers	Yes	Yes
Keep full, accurate and contemporaneous records	Yes	Yes
If working to a prescription, vary the detail but not the direction of the prescription	Yes	Yes
Additional skills which DHs and DTs could develop		
Tooth whitening under the prescription of a dentist	Yes	Yes
Administer inhalation sedation	Yes	Yes
Suture removal after the wound checked by a dentist	Yes	Yes

likeminded team members, attending courses and training together as a team and continually developing the two main pillars outlined above in terms of communication and mutual respect.

6.2 | The Dental Hygienist/Dental Therapist Perspective

Teamwork is embedded within the UK GDC Standards to ensure that everyone works together to provide appropriate dental care for patients [41]. A team approach to patient care can be interpreted very differently in different clinical settings, but what makes successful teamworking? This can be very dependent on the size of the team but whether small or large, successful teamworking is achievable. For a team approach to patient care to work effectively, first and foremost it is imperative that the whole team including dentists, nurses, DHs, DTs and the reception team understand the scope of practice of everyone involved. This, of course, includes DHs and DTs, and the role they play in periodontal therapy and long-term support of patients. As a

highly skilled dental team member, it is imperative that DHs and DTs are not viewed as 'scaling machines' who just provide a 'scale and polish' (terminology that has now been removed from the lexicon of periodontology in the UK because it both devalues and incorrectly describes the important clinical procedures that form a fundamental component of effective periodontal care). DHs and DTs are autonomous clinicians with specific skill sets.

Additionally, the language used by the reception team, dentists and DHs/DTs to patients is crucial so that everyone is giving the same consistent information not just about the treatment or advice but when talking about other clinicians. It is fundamentally important that patients are not getting mixed messages. When working in a very large team, this is especially relevant as patients may see many different clinicians within one practice setting. Clear and appropriate referral pathways are also required so that both patients and the team members can easily navigate through the patient's treatment journey. Furthermore, having practice protocols in place to ensure that no matter which clinician a patient sees there is a standardised treatment approach, is very important. Such protocols will detail specific context-dependent information, such as who will do what, when and the time frames required. To achieve all this, a proactive approach to team building, effective and team-based training and good communication on a regular basis are all essential. This will then lead to a cohesive working environment and mutual respect between all members of the team involved.

When such a truly cohesive teamworking environment is achieved, this leads to a greater standard of care and treatment outcomes for patients. Furthermore, patient health benefits become much more sustainable in the long term, as the patient is supported by every member of the team, who in turn are fully supporting and complementing each other. This 'virtuous circle' yields not only enhanced treatment outcomes for patients and a positive working environment for all, but can be of benefit more broadly through improved access to care. Teamworking is also about learning from others in the team—the team that learns together, that operates with mutual respect and that values the different (but complementary) skills and attributes that the different team members bring to the table will be far more effective in achieving the goals of optimised patient care. It is recognised that there are additional costs associated with effectively developing the team, such as building in time to participate in clinical case discussions into the practice schedule, or whole-team attendance at continuing education events. However, the benefits of effective teamworking that will result will always outweigh such costs. Furthermore, within healthcare systems, there are challenges relating to funding of the role of different team members (e.g., privately funded vs. government funding) that can compromise effective teamworking. There are also many factors that are not within the direct control of the dentist or other dental team members, such as insurance reimbursements or policy decisions about remuneration of healthcare services [42]. As a profession, we should continue to advocate for joined-up delivery of oral and dental healthcare, integrating the full dental team working to their full scope of practice, to deliver prevention-focussed care. It is clear from various healthcare systems globally that DHs and DTs are recognised as having a critical role to play in improving access to dental care and in benefitting patients through better treatment outcomes, and truly effective teamworking within the profession will maximise the impact of such changes further.

7 | Conclusions

Effective teamworking is an essential component of clinical dental practice, particularly periodontology, to ensure optimal outcomes for patients, a healthy and positive working environment for the dental team, and to achieve sustainable improvements in oral healthcare for patient populations including those who face challenges in accessing care. DHs and DTs have a fundamental role to play in delivery of excellence in periodontal and dental care, and healthcare systems globally can benefit by embracing and developing DHs and DTs as integral members of the dental team, with the overall aim of increasing patient benefit by improving oral and general health.

Author Contributions

All authors drafted, critically reviewed and contributed to the final version of the manuscript.

Conflicts of Interest

P.M.P. reports personal fees from Springer Nature and Kenvue, and book royalties from Wiley, outside the submitted work. I.D. reports personal fees from Acteon and P&G (Oral B), outside the submitted work. All other authors report no conflicts of interest.

Data Availability Statement

The authors have nothing to report.

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