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A Quick Guide to DBOHv4

Abstract: Preventive care in dental settings, and beyond, has the potential to make a real difference to patients' general and oral health. The aim of this article is to support frontline dental teams, working across NHS and private systems, to engage with the evidence-based resource: 'Delivering Better Oral Health' (DBOHv4). This is a key resource for busy dental professionals on the front line. Regularly updated, it brings together the existing body of evidence on clinical prevention in an accessible contemporary digital format.

CPD/Clinical Relevance: It is important for frontline dental teams to engage with the evidence-based resource: 'Delivering Better Oral Health' (DBOHv4) to support their patients to develop and maintain health-promoting behaviours.

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Dental teams are managing workforce pressures, treatment backlogs, and increasing demands from the public and patients. Many people in society are suffering in the current financial climate and struggling to access dental care. Under times of stress, self-care and prevention of disease becomes ever more important for ourselves and patients.

In light of our contemporary understanding of health and disease, it is imperative that prevention becomes a high priority for the health and care system: both inside and outside clinical settings. Making every contact count for health is vitally important for all patients,[1] recognizing that some individuals and groups will require additional support from health professionals to do so. This will assist in reducing inequalities, preventing avoidable disease, and improving quality of life for patients. Furthermore, in reducing need, it can have wider benefits for society. Dental teams play a vitally important role in supporting patients in maintaining oral health and, in doing so, support general health and have ready access to a key resource.[2]

'Delivering Better Oral Health' (DBOH): an evidence-based resource

'Delivering Better Oral Health' (DBOH), first launched in 2007, is a regularly updated guidance document designed as a resource for the dental team. Version 4 (DBOHv4)[2] represents the work of a UK-wide collaboration of over 100 well-respected experts, including frontline dental team members, academics, public health specialists and patient representatives. Its revision involved a comprehensive review of published research evidence using a robust methodology.[3] Thus, dental team members can be confident in taking effective action, and be assured that time focused on prevention is well spent.

While some readers may feel that this document only applies to NHS dentists, it is a scientifically based text that all dental professionals can use, across private and NHS care, for the benefit of all patients across the UK and beyond.

So, what's new in DBOHv4?

DBOHv4 contains several significant changes from the last version,[4] including the following:

- Digital format;
- Greater consideration of patient risk and oral health/disease across the life course;
- Expanded chapter on behaviour change with simple tips based on contemporary evidence, and case studies;
- Format: moved from an introduction through the core guidance statements to diseases and then risk factors (Figure 1);
- The core guidance statements containing the favoured 'summary tables' covers the four main conditions affecting oral health (now Chapter 2);
- Every chapter has electronic hyperlinks to additional resources.

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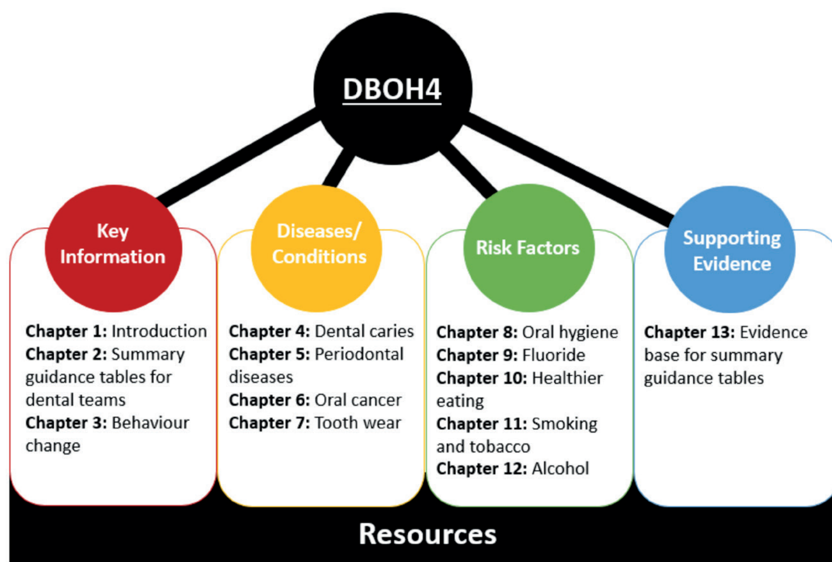

Figure 1. Overview of format of DBOHv4.

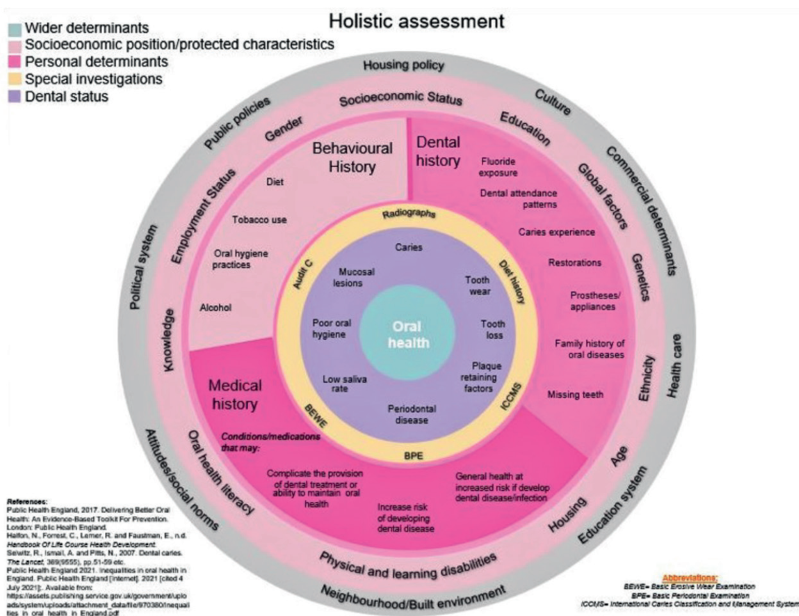

Figure 2. Risk/protective factors: patient level. Reproduced from DBOHv4 (Chapter 1, Figure 1.1).[2]

How to use DBOH

Digital format

DBOHv4 is available online on the gov.uk website,[2] and can be quickly accessed with any search engine or via the QR code at the end of this article. Its contemporary digital format means that it can be read on any mobile device or computer.[2,5] Any, or all, chapters can be downloaded and saved as PDFs (using the print option and instead of selecting a printer, select 'Save as PDF'). Further resources, in the form of videos and training materials, are available through embedded links at the end of each chapter and may be used as continuing professional development tools for the dental team.

Guidance statements: summary tables

The 'summary tables' located in Chapter 2 are a useful, quick and easy guide for busy clinicians. In previous versions, they were colour coded and available as a summary document. The guidance statements provide a clear overview of the recommended advice and professional interventions for all patients, by disease/condition. Within each part of this chapter, the recommended advice and action for all patients and those at higher risk are presented by age. While in their new format, they are accessible on any digital device, they may be useful to print off and have available as a reference guide.

Setting the scene

Three embedded diagrams within Chapter 1 provide useful visual guides for the dental team and which may be useful to print off and put on the surgery walls as aide memoires. First, there is a diagram on risk/protective factors that presents a holistic view to health and assessment (Figure 2) and secondly, there is a figure that profiles how disease risk commonly increases across the life course (Figure 3), and parallels a rise in risk factors.

Thirdly, for readers familiar with the guidance, but seeking a *very brief* checklist of the evidence-based advice, Figure 4 will be helpful (NB it is hyperlinked as Figure 1.3 within the digital resource DBOHv4 and requires an extra 'click' to be visible online). DBOHv4 is summarized on two pages. Part (a) outlines the advice/support for patients in general, while Part (b) outlines the additional support for those at higher risk of our main diseases and conditions.

Behaviour change

The summary tables do provide guidance on some of the advice that dental teams should give to patients; however, evidence is clear that advice alone is rarely effective without effective support – support for people to change their behaviours. Chapter 3 therefore focuses on how to better support behaviour change by working in partnership with patients and drawing on the growing body of evidence in this field. Behaviour change is a process, and timing of discussions with patients is important. This text on behaviour change, draws on contemporary NICE guidance[6] in emphasizing the importance of:

- Raising the issue;
- Building motivation;
- Assessing readiness to change;
- Supporting patients to take the next step.

It is important to think about what we say, and how we say it (Figure 5).

Building a deeper understanding of oral diseases

Chapters 4–7 of the guidance tackle the most common diseases and conditions, starting with dental caries, and then periodontal disease. Thereafter, oral cancer, the most serious oral condition is considered, and then a condition of increasing concern 'tooth wear'. Each chapter presents a brief national overview, signposts to major risk/protective factors in the successive chapters, and then directly covers some of the minor risk/protective factors that do not warrant

Age	0-2 years	3-6 years	7-17 years	18 - 65 years	Older / Vulnerable adults
Diseases and conditions (most common)	Dental caries	Dental caries Tooth wear	Dental caries Gingivitis Tooth wear	Dental caries Periodontitis Tooth wear Oral cancer	Dental caries Periodontitis Tooth wear Oral Cancer Dry Mouth
Major risk factors in this age group	Diet: sugar containing food/drinks Lack of fluoride	Diet: sugar containing food/drinks Lack of fluoride Poor oral hygiene	Diet: sugar containing food/drinks Low/no fluoride Poor oral hygiene Tobacco commencing Alcohol commencing	Diet: sugar containing food/drinks Low/no fluoride Poor oral hygiene Tobacco Alcohol Polypharmacy Tooth loss Dentures	Diet: sugar containing food/drinks Low/no fluoride Poor oral hygiene Tobacco Alcohol Polypharmacy Tooth loss Dentures
What to actively promote for everyone in this age-group	Healthy diet Parental toothbrushing Fluoride toothpaste	Healthy diet Parental brushing/assistance Fluoride toothpaste Spit don't rinse after brushing	Healthy diet Good oral hygiene Fluoride toothpaste Spit don't rinse after brushing Avoid / stop tobacco Avoid alcohol	Healthy diet Good oral hygiene Fluoride toothpaste Spit don't rinse after brushing Avoid / stop tobacco Avoid / minimise alcohol	Healthy diet Good oral hygiene (inc dentures) Fluoride toothpaste Spit don't rinse after brushing Avoid / stop tobacco Avoid / minimise alcohol Dry mouth care
Monitoring and Recall Period	3-12 months	3-12 months	3-12 months	3-24 months	3-24 months

Figure 3. Oral diseases and risk factors across the life course. Reproduced from DBOHv4 (Chapter 1, Figure 1.2).[2]

a chapter on their own. Each chapter is hyperlinked to the major risk and protective factors for each of the four conditions.

Building a deeper understanding of diseases and risk factors

Chapters 8–12 address key risk/protective factors from oral hygiene through fluoride and diet to tobacco use and alcohol. These chapters provide the detail behind the summary recommendations, together with additional guidance on new or emerging products and interventions, such as silver diamine fluoride, breastfeeding and weaning diets, all with links to further quality-assured resources.

And for those interested in the detail

Finally, enthusiasts wishing to access the original evidence supporting the key recommendations, can find this resource at the end of the document in Chapter 13 where there are hyperlinks to the original review papers and guidance documents.

How can we best deliver prevention?

The professional 'scope of practice' of all dental team members embraces prevention as a core or additional skill.[7] In the UK, we have a professionalized dental workforce that includes a growing number of dental therapists, dental hygienists, orthodontic therapists and clinical dental technicians.[8] Furthermore, dental nurses' professional development includes gaining extended skills in dental health education and prevention,[7] and fluoride varnish applications in clinical or community settings. The latter may be more important as we develop innovative ways to deliver preventive care in the new world, in a range of settings or modes of delivery.

Prevention for all patients

Prevention in dental settings has the potential to make a real difference to general and oral health. It is encouraging to recognize that, in contrast to many primary medical care colleagues in general practice, dental teams review patients regularly when their general health may be good. By routinely asking about smoking and alcohol intake, dental teams can assess a patient's level of risk, and have an opportunity to intervene and tackle these common risk factors with individual patients.

In relation to general health, we can make a substantial contribution by implementing what works. There is strong evidence, for example, from tobacco cessation that the 'Ask, Advise, Act' approach can save a life with just 30 seconds of brief advice.[9] Health professionals are listened to in a way that is unique, and we can support patients to access local medical care and behaviour change support services.

All patients should be given preventive support, not just those obviously at increased risk. It is all too easy to think that children who appear to have minimal disease will not get dental caries. While more of the children with established caries will get further caries as they are 'high risk', more of the new lesions in the population will occur in children who may previously have appeared to be at lower risk or even 'caries free'.[10,11] While oral health may have improved, cross-sectional surveys highlight the patterns of dental caries among 12 and 15 year olds, and the marked rise in disease levels of a preventable disease among adolescents.[12,13] It is vitally important, therefore, to identify and manage risk early, and consistently throughout life, for everyone, providing additional support, advice and care to those at higher risk.[14–16] Thus, everyone requires some preventive care during each course of dental care.

a

	Up to 3 years	3 to 6 years	7 to 17 years	All adults
General Population	Brush teeth at least twice daily last thing at night or before bedtime and on one other occasion with a smear of fluoride toothpaste containing at least 1,000ppm fluoride Parents/carers should brush teeth as soon as they appear Promote breastfeeding exclusively from birth for the first 6 months then continue breastfeeding and introduce solids Gradually introduce a wide variety of solid foods (of different textures and flavours) Sugar should not be added to food or drinks given to babies and toddlers Minimise consumption of sugar containing food and drinks Avoid sugar-containing food and drink at bedtime Use sugar-free versions of medicines For parents feeding by bottle: only breastmilk, infant formula or cooled boiled water should be given Feeding from a bottle should be discouraged from the age of 1 year; babies should drink from a free-flow cup from 6 months	Brush teeth at least twice daily last thing at night or before bedtime and on at least one other occasion with a pea-sized amount of fluoride toothpaste containing at least 1,000ppm fluoride Parents/carers should brush or assist tooth-brushing up to 7 years Spit out after brushing, do not rinse Apply fluoride varnish twice yearly Promote healthy diet Minimise consumption of sugar containing food and drinks Avoid sugar containing food and drink at bedtime Use sugar-free versions of medicines	Brush teeth and the gum line effectively, at least twice daily last thing at night or before bedtime and on at least one other occasion with toothpaste containing a standard 1,350 to 1,500 ppm fluoride Parents/carers should assist tooth-brushing if required Spit out after brushing, do not rinse Apply fluoride varnish to teeth 2 times a year Promote healthy diet Minimise amount and frequency of consumption of sugar containing food and drinks Avoid sugar-containing food and drink at bedtime Avoid tobacco Avoid alcohol	Brush teeth and the gum line effectively, at least twice daily last thing at night or before bedtime and on at least one other occasion with toothpaste containing 1,350 to 1,500 ppm fluoride Spit out after brushing, do not rinse Promote healthy diet Minimise amount and frequency of consumption of sugar containing food and drink and avoid at bedtime Avoid tobacco Avoid alcohol or drink at safer levels

b

	Up to 3 years	3 to 6 years	7 to 17 years	All adults
Dental caries (higher risk)	Apply fluoride varnish 2 or more times a year Use toothpaste containing 1,350 to 1,500 ppm fluoride Investigate diet and assist adoption of good dietary practice in line with the Eatwell Guide Liaise with medical practitioner to request that any long-term medication is sugar-free	Apply fluoride varnish 2 or more times a year Use toothpaste containing 1,350 to 1,500 ppm fluoride Investigate diet and assist adoption of good dietary practice in line with the Eatwell Guide Liaise with medical practitioner to request that any long-term medication is sugar-free	All the above, plus: Apply fluoride varnish 2 or more times a year Recommend daily fluoride rinse (0.05% NaF) Consider prescribing higher fluoride toothpaste (short-term): (10+yrs 2,800ppm; 16 +years 2,800ppm/5,000ppm) Dietary analysis and sugar reduction Apply fissure sealants Liaise with medical practitioner to request that any long-term medication is sugar-free	All the above plus: Support toothbrushing where required (for example carer assistance, specialised brush, non-foaming toothpaste) Apply fluoride varnish 2 times a year Recommend daily fluoride rinse (0.05% NaF) Consider prescribing higher fluoride toothpaste: 2,800ppm/5,000ppm Dietary analysis and sugar reduction Liaise with medical practitioner to request that any long-term medication is sugar-free
Periodontal diseases (higher risk)	N/A	Oral Hygiene Instruction	Oral Hygiene Instruction Promote interdental cleaning if evidence of disease Advise on methods for supporting tobacco cessation (VBA) Correct plaque retentive factors Consider general health inc reduced salivary flow, diabetes, medications	Oral Hygiene Instruction Promote and advise on interdental cleaning Advise on methods for supporting tobacco cessation (VBA) Correct plaque retentive factors Consider general health inc reduced salivary flow, diabetes, medications
Oral Cancer (Higher risk)	N/A	N/A	Advise on methods for supporting tobacco cessation (VBA) Advise on alcohol use (Audit C)	Advise on methods for supporting tobacco cessation (VBA) Advise on alcohol use (Audit C)
Tooth wear (higher risk)	Investigate possible risk factors and advise accordingly	Investigate possible risk factors and advise accordingly	Investigate possible risk factors (intrinsic/extrinsic) Advise on lowering risk Support with behaviour change	Investigate possible risk factors (intrinsic/extrinsic) Advise on lowering risk Support with behaviour change
Monitoring and recall	Support behaviour change Recall: 3 to 12 months Shorten recall interval when at higher risk	Support behaviour change Recall: 3 to 12 months Shorten recall interval when at higher risk	Support behaviour change Recall: 3 to 12 months Shorten recall interval when at higher risk	Support behaviour change Recall: 3 to 24 months Shorten recall interval when at higher risk

Figure 4. (a) Population and **(b)** high-risk approach to disease management. Reproduced from DBOHv4 (Chapter 1, Figure 1.3).[2]

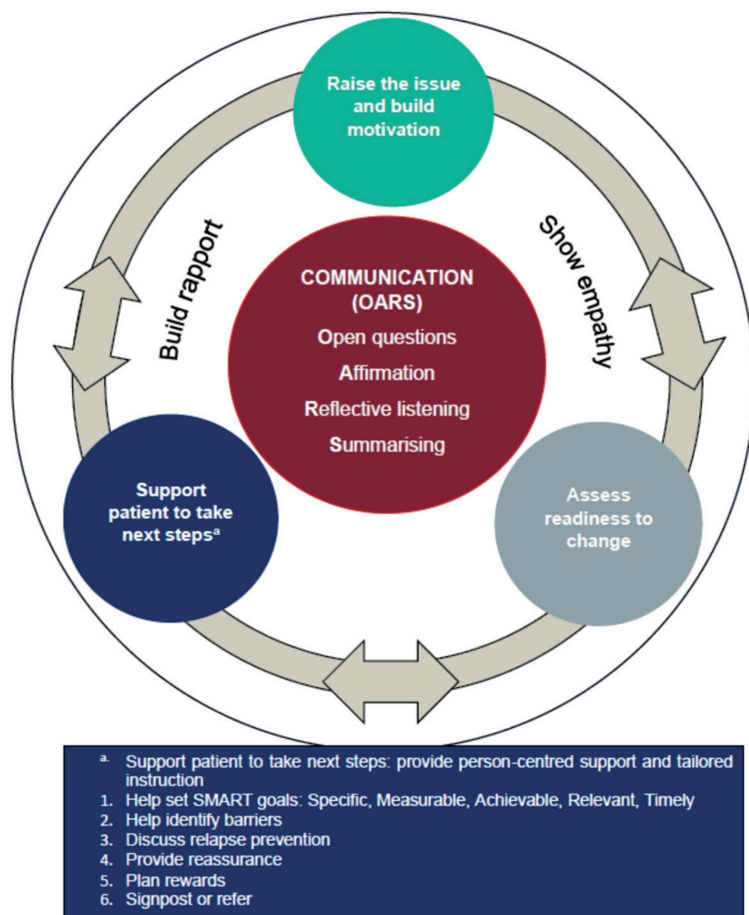

Figure 5. Behaviour change: how to support patients to change their oral health behaviours. Reproduced from DBOHv4 (Chapter 3, Figure 3.3).[2]

Preparing for action

Ultimately, it is patients who will deliver better oral health through effective self care. First, we can encourage and affirm those who are maintaining oral health to continue to do so. Secondly, for those patients who are not, it is helpful to explore and *listen* to what matters to them. Some will present with a whole range of issues and multiple risks. They will need advice from you, but it does not need to take a lot of clinical time. Many of us (authors included) will have made the mistake of lecturing patients on the 10 items of behaviour change needed, and ended up in long discussions that demoralize both us and patients. What a relief that contemporary evidence suggests that it is generally better to tackle one issue at a time. Let the patient decide what they want to tackle, what they feel they can change, and support them on that journey. How often have we stopped and asked, ‘what matters to you’? Support patients to help identify one change they would like to make, that is achievable, rather than setting them up to fail. Together, set SMART goals:

- S: Specific;
- M: Measurable;
- A: Achievable,
- R: Relevant;
- T: Time-related.

Thirdly, anticipate that many patients will fail, and then encourage them to learn from their failure and have another go. Behaviour change is a process, not an event, and small successes along the way need to be celebrated. Patients remember how we make them feel, rather than the details of what we say.

Summary

Contemporary dental care, whatever sector of dentistry, should include prevention interventions as standard. DBOH brings together the latest evidence on prevention, providing dental teams with guidance on what works, as well as guidance on how to implement what works, in partnership with patients.

This article has outlined the case for prevention, and highlighted how DBOH is a resource for dental teams to deliver prevention in line with the best available evidence. It is imperative that prevention is prioritized, alongside dental treatment, to reduce future disease and contribute to reducing inequalities in our population.

What next?

Our understanding of what works best for patients must necessarily evolve as new evidence emerges and sometimes, we just need to refresh our knowledge. So why not:

- Access DBOHv4
- Consider setting yourself a goal to look up DBOH online and save it as a favourite. Have a quick look at its structure, and Chapter 2, which is the core of the document.
- Equip your team to build a supportive environment
- Consider discussing topics from DBOH in your practice meetings, for example exploring it chapter by chapter over the next 12 months. Changes can be planned and slowly be embedded across the team. This is behaviour change too, and teams may find it helpful to reflect on the evidence around behaviour change while implementing change in their own lives and systems.
- Consider working through the behaviour change process with patients, and identifying where they are at in the change cycle.
- Deliver better oral health for all patients

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Conflict of Interest: The authors declare that they have no conflict of interest.

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