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Implementing NICE Guidelines on Recall Intervals into General Practice

Abstract: The NICE guidelines require practitioners to ensure that each patient has a specific recall interval based on an oral health needs assessment. There appears to be a hesitancy in the profession to move away from the 'six-month recall'. In England and Wales, Primary Care Organizations (PCOs) monitor activity using quantitative data. One particular metric measures how many patients are seen by the practice within 3 months and also between 3 and 9 months from their last course of treatment.

The purpose of this paper is to introduce a quick reference chart based on the NICE guidelines which, when used in combination with clinical judgement, can aid the clinician in selecting a tailored recall interval. This paper discusses the purpose and benefits for using the guidelines in relation to NHS contractual obligations.

Clinical Relevance: This article will enable general dental practitioners to risk assess their patients and choose a suitable recall interval for them.

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Whilst the debate about how often patients should be recalled for routine examinations has rumbled on for some time, the new NHS contract in England and Wales, which was introduced in April 2006, has brought this into sharp focus, containing as it did the requirement to comply with NICE guidance.

Why should we adhere to NICE

The National Institute for Health and Clinical Excellence (NICE) describes itself as an independent organization responsible for providing national guidance on the promotion of good health and the prevention and treatment of ill health. NICE was established as a Special Health authority in February 1999 to 'give new coherence and prominence to information about clinical and cost effectiveness'.[1]

Of the three work areas in which NICE provides guidance, public health, health technologies and clinical practice, the guidance on recall interval for dental recalls falls into the last of these.[2]

The background to this publication was the realization that the 6-monthly check-ups had become embedded in the collective psyche of both the profession and public alike and, whilst its original provenance was unclear, it remained the bedrock of oral healthcare messages for many generations, seemingly with no logic or evidence other than custom. In an evidence-based 21st century healthcare system this talismanic message had to be examined if for no other reason than it presented a huge burden to the public purse.

The National Audit Office had raised concerns about other aspects of NHS dental care.[3] The Audit Commission in 2002 considered that the NHS was spending £150 million a year on over-frequent examinations and unnecessary scaling and polishing.

Contractual obligations

The NHS regulations[4] state that 'the Contractor shall provide services under the Contract in accordance with any relevant guidance that is issued by the National Institute for Clinical Excellence, in particular the guidance entitled 'Dental Recall' – 'Recall interval between routine dental examinations'. This obligation therefore extends to the other NICE guidance that is relevant to dentistry, for example, wisdom teeth[5] and antibiotic prophylaxis[6] and, arguably, other guidance such as cancer and smoking cessation.[7]

Evidence base

Beirne *et al* have reviewed the frequency with which patients should attend for a dental check-up, recognizing that this has been the subject of ongoing international debate for almost three decades. Their systematic review only generated one study of relevance and they concluded that 'there

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is insufficient evidence from randomized controlled trials (RCTs) to draw any conclusions regarding the potential beneficial and harmful effects of altering the recall interval between dental check-ups. There is insufficient evidence to support or refute the practice of encouraging patients to attend for dental check-ups at 6-monthly intervals'.[8]

The NICE guidance on recall intervals itself carries the following caveat:

This guidance represents the view of the Institute, which was arrived at after careful consideration of the evidence available. Health professionals are expected to take it fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of health professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Recall and access

One of the greatest drivers for change is the Government's desire to improve access to NHS dental care. Despite promises from the Prime Minister in 1999 at the Labour Party Conference in Bournemouth that every patient would have access to NHS dental care,[9] the percentage of patients accessing NHS primary care services has not yet exceeded its peak in 1994, when 23 million adults and 13 million children saw an NHS dentist. The decline after that year was attributed to the change in registration from 24 months to 15 months and NHS dentists reducing their workload.[10]

Dentistry is also part of the NHS Operating Framework[11] and PCTs are required to continue to develop services so that they meet local needs for access, quality of care and oral health.

Primary Care Trusts in England and Health Boards in Wales have been asked by the Department of Health to establish plans to ensure that they achieve the 1993–4 levels by 2011 and a Dental Access Programme has been established. For some Primary Care Organizations these may be ambitious targets.

In order to achieve access improvements, primary care organizations must ensure there that there is sufficient capacity, either by commissioning additional services or ensuring that the existing capacity is utilized to its maximum.

One premise is that further capacity can be released into the system to enable new patients to be seen by encouraging practices to apply NICE guidelines to recalls vigorously. This would then ensure that healthy patients are not recalled too frequently and the extra capacity created allows new patients to be seen, assuming that there is sufficient demand.

Various statistics have been offered in support of this idea. The Department of Health is reported to believe that 800,000 appointments could be released if dentists applied NICE guidelines and, in addition, stopped artificially splitting courses of treatment. After investigating the matter, the Opposition party suggested that, in fact, if the advice from NICE had been followed, then up to 6.5 million slots could have been freed up for people who do not have an NHS dentist and patients would have saved £109 million in incorrect dental charges – 23% of the £475 million patient expenditure.[12]

Changing recall intervals is part of the review of NHS dental services in England undertaken by Professor Steele and is influenced both by clinical practice and patients' behaviour and expectations. According to Steele 'a move away from the 6-month interval should be the prize of a preventive led service, releasing resources for other services'.[13]

Data collected on NHS activity

Primary Care Trusts in England use data from the NHS Business Services Authority (BSA) to monitor the performance of NHS general dental practices. The BSA provide PCTs and Providers with Vital Signs information which are key performance measures of the contract.

The following are some of the measures used by the PCT in these Vital Signs reports:

- 24-month access – the number of distinct patients seen by the practice in the previous 24 months.
- Percentage of patients re-attending within 3 months.
- Percentage of patients re-attending between 3 and 9 months.
- Percentage of claims for urgent courses of treatment.
- Percentage of claims relating to continuation – patients who return within two months for treatment in the same band or lower than the original treatment.
- Percentage of claims relating to free replacement or repair.
- Percentage of patients satisfied with the treatment they received.

The PCT will be able to compare a contract with the PCT averages as well as the Strategic Health Authority (SHA) and national averages.

The London SHA average for patients re-attending the same contract between 3 and 9 months is 34%. This is similar to the figure for most parts of the country. Contracts that have a higher percentage for this metric may not be complying with NICE guidelines and recalling patients more frequently than may be clinically necessary.[14] This has become the proxy measure for NICE guidance recall compliance and has been used as such by PCTs as part of contract management. Some primary care organizations have indicated levels of recall that contractors must achieve.

The assumption that a patient being seen between 3 and 9 months of their previous course of treatment is not strictly correct since this measure 'reports the percentage of FP17s (claim forms) for the same patient identity where the previous course of treatment for that patient was ended between 92 days and 276 days prior to the most recent course of treatment for that patient ID'.[15] In other words, a patient returning for the repair of a broken tooth, for example, would also count as having returned within that period, since the data collected by the BSA at present is not specific enough to discriminate between a re-attendance for an examination, as part of a recall and examination and assessment, as part of a Banded course of treatment, such as an extraction or filling, or as an Urgent treatment.

Another potentially erroneous assumption is that a practice that has a higher than average percentage of patients attending between 3 and 9 months is not applying NICE guidelines. The reality is that they may well be complying, with each patient being given a specific recall based on a risk assessment. If, however, the patients for that particular practice have greater needs than the average, for example, they may well be recalled more frequently. The lack of a firm evidence base is also highly problematic for all parties and, in the absence of an evidence base to support a change, clinicians may be reluctant to change their behaviour.

The setting of recall targets by the primary care organization is a simplification of a complex problem. The selection of a patient recall interval is a multifactorial decision based on a number of variables and the reduction of this to simple percentages as part of a compliance matrix, without an analysis of patient outcomes, might not ultimately be in a patient's best interests.

Reluctance of dentists to adhere

Despite clear guidance, clinicians often demonstrate reluctance to introduce guidelines for managing patient conditions.[16]

In a survey, only half of general dental practitioners agreed that they were able to apply NICE guidance to recalls, but only a quarter (24.2%) felt that they had clinical freedom under the new contract.[17]

Since there is no ready reckoner, practitioners may have difficulty in interpreting the information in the NICE guidelines and applying it consistently and methodically in practice, as the guidance is particularly wordy and non-specific.

Habit plays a significant role in persuading the clinician to set a recall other than at 6 months and for patients to accept this. For vocational dental practitioners and younger practitioners, unencumbered by the pervasive forces of habit, it might be easier to adopt a new way of working so that tailoring recall intervals based on a risk assessment becomes second nature right at the start of their careers.

Implications of adhering to NICE guidelines

Adhering to NICE guidance may increase the capacity to see new patients, which will change the cohort in the practice, altering the balance from regular patients, whose oral health has been secured and maintained, to more irregular attenders, who may be high needs patients. The high need patients are likely to be more demanding in terms of technical skill, time and patient management and present different challenges from patients who are stable and have been seen by the practice over a long period of time. High needs patients are often more apprehensive about dental care and require considerable preventive advice and behavioural change management.

The significance of changing the patient mix by treating more high needs patients who attend relates to the historical basis upon which contract values were set for each practice. The calculated annual contract value was based on NHS activity during a test period from October 2004 to September 2005. That snapshot of activity will inevitably change over time and introducing patients with high needs will exaggerate those changes. The UDA value may have reflected the type of patient seen by the practice in the test period but may not do so if the mix of patients seen changes.

Oral health assessment

The NICE guidance proposes that a patient is provided with an Oral Health Assessment (OHA) when he/she first visits a practice which involves taking full patient histories, carrying out thorough head and neck examinations and providing initial advice. The dentist and patient will then discuss the findings, agree a personalized care plan and treatment will be provided as necessary.

A suitable recall interval will be set and the patient will return for an oral health review (OHR).

The NICE guideline recommends that the recall interval should be specifically determined for each patient based on a combination of individual risk assessments for dental disease and clinical judgement.

What is clear is that considerable weight is placed on clinical judgment. For example, with regards to caries, NICE confirms that the clinical judgement of the dentist and his or her ability to combine risk factors, based on a knowledge of the patient and clinical and socio-demographic information is as good as, or better than, any other method of predicting caries risk. It becomes difficult therefore for a third party, even if he/she examines the patient, to dispute the appropriateness of a recall interval set by the patient's treating dentist.

The 'oral health assessment' should include a detailed history, examination and initial preventive advice, including a discussion of the following things:

- The effect of diet, fluoride, oral hygiene, tobacco and alcohol on oral health;
- The risk factors that may influence the patient's oral health;
- The outcome of previous care episodes and suitability of previous recall intervals;
- The patient's ability or desire to visit the dentist at recommended intervals;
- The financial implication of the patient having the oral health review and subsequent treatment.

The next recall interval should then be selected at the end of the oral health review (OHR) if no further treatment is required or at the end of the course of treatment. The shortest recall recommended by the guidelines is 3 months, whilst the longest recommended interval is 12 months, for those under the age of 18, and 24 months for those aged 18 years and older. Based on this, children under the age of 18 years old should have a recall interval of either 3, 6, 9 or 12 months. Furthermore, those aged 18 years or older should be assigned a recall interval at 3, 6, 9, 12, 15, 18, 21 or 24 months. It is relevant to point out that the strength of evidence utilized to select these intervals were designated GPPs (Good Practice Points), defined as: a recommendation for best practice based on the clinical experience of the Guideline Development Group. It is therefore the lowest level in the hierarchy of evidence which places randomized controls at the top (Figure 1).

The selected recall interval should be discussed with the patient and a record kept of whether or not the patient agrees. This cycle is then repeated at each oral health review.

The process of selecting the recall is carried out in a stepwise manner:

- **Step 1:** Consider the patient's age; this sets the range of recall intervals.
- **Step 2:** Consider modifying factors (see below) in light of the patient's medical, social and dental histories and findings of the clinical examination.
- **Step 3:** Integrate all diagnostic and prognostic information, considering advice from other members of the dental team where appropriate.

Use clinical judgement to recommend interval to the next oral health review.

- **Step 4:** Discuss recommended interval with the patient.

Record agreed interval or any reason for disagreement.

Modifying risk factors

Medical history

- Conditions where dental disease could put the patient's general health at increased risk (such as cardiovascular disease, bleeding

Figure 1. Factors to consider when deciding a patient's recall interval. (Taken from Dental Recall-Interval between Recalls NICE Guideline CG19October 2004.)

disorders, immunosuppression);
- Conditions that increase a patient's risk of developing dental disease (such as diabetes, xerostomia);
- Conditions that may complicate dental treatment or the patient's ability to maintain his/her oral health (such as special needs, anxious/nervous/phobic conditions).

Social history
- High caries in mother and siblings;
- Tobacco use;
- Excessive alcohol use;
- Family history of chronic or aggressive (early onset/juvenile) periodontitis.

Dietary habits
- High and/or frequent sugar intake;
- High and/or frequent dietary acid intake.

Exposure to fluoride
- Use of fluoride toothpaste;
- Other sources of fluoride (for example, the patient lives in a water-fluoridated area).

Clinical evidence and dental history

Recent and previous caries experience
- New lesions since last check-up;
- Anterior caries or restorations;
- Premature extractions because of caries;
- Past root caries or large number of exposed roots;
- Heavily restored dentition.

Recent and previous periodontal disease experience
- Previous history of periodontal disease;
- Evidence of gingivitis;
- Presence of periodontal pockets (BPE code 3 or 4) and/or bleeding on probing;
- Presence of furcation involvements or advanced attachment loss (BPE code * ie pockets of 7 mm or more).

Mucosal lesions
- Mucosal lesion present.

Plaque
- Poor level of oral hygiene;
- Plaque-retaining factors (such as orthodontic appliances).

Saliva
- Low saliva flow rate.

Erosion and tooth surface loss
- Clinical evidence of toothwear.

The Guidelines do not offer direct solutions for setting recall intervals. By way of illustration, 15 clinical vignettes are presented in appendix E as a guide to how risk and protective factors can be assessed to produce a suitable recall interval.

For the purpose of recording a defined recall, a code has been developed by the authors that enables practitioners to simplify the process of selecting a suitable recall interval for the next oral health review. These codes take into account the relevant risk factors and have assigned a recall interval to them. Clinicians will need to consider the

protective factors as well as the risk factors and will also need to apply their own clinical judgment to each patient's situation.

This coding system provides a shortcut in the clinical records to provide evidence that a risk assessment has been carried out and an individual recall interval has been chosen. It enables this process to be audited easily, as long as the descriptors for the codes are stored within the clinical governance documents for the practice.

Code 1 and Code 2

These two codes are specifically for high caries risk and periodontally compromised patients. A patient presenting with more than one carious lesion is initially categorized as high risk and subsequently seen in 3 months following the initial course of treatment. The rationale for this is that, as well as restoring the carious lesions, the course of treatment should also involve preventive advice and possible diet analysis. This can be re-assessed after 3 months to decide whether the preventive advice has been successful or not. The clinician will then reassess the risk and possibly apply code 6 or continue with a code 1 recall interval until the next OHR.

Similarly, a patient presenting with BPE scores of 4 and active periodontal disease will require re-assessment in 3 months' time following periodontal treatment. Many studies have concluded that long-term and regular maintenance following periodontal therapy is crucial in preventing recurrence of disease.[18] In addition, a medical condition, such as a poorly controlled diabetes, is likely to compromise the periodontal condition further and reduce the prognosis of treatment.[19]

These codes are likely to be used for those patients with neglected dentitions and irregular dental visits in the past. New patients may have these codes applied, with a view to moving into higher codes following effective whole patient care, delivered by the dentist in combination with sufficient patient motivation.

Code 3

This code focuses on the medical history and the impact it can have on the patient's oral health and, conversely, the impact poor oral health may have on the patient's general health. For example, prevention is key in patients on anticoagulation therapy, so that extractions can be avoided in order to prevent problems of post-operative bleeding. For this reason, a compromised medical history justifies a 6-month recall interval. Likewise, patients suffering from xerostomia require 6-month recall intervals owing to their increased risk of caries. This is supported by the DOH publication toolkit,[20] 'Delivering Better Oral Health', which suggests twice yearly fluoride application in these patients.

Code 4

This 6-month code focuses on the patient's social history, where an assessment of alcohol consumption, smoking and betel nut chewing is relevant. A heavy smoker is regarded as smoking more than 15 cigarettes a day. Six-month recall intervals are necessary to:

- Maintain smoking cessation advice (SCA), assess the response to previous SCA and further re-iterate the advice and discuss future reduction;
- Oral cancer checks;
- Assess consequences of smoking such as periodontal disease.

Only a minority of dentists (15%) record the smoking status[21] of their patients, yet a number of studies confirm[22] that interventions to stop smoking in dental practices are effective.

There is evidence[23] also that, whilst dentists recognize the link between alcohol and oral cancer, they are reluctant to give advice to their patients for fear of disrupting the dentist-patient relationship. These opportunistic interventions should be made whilst assessing the appropriate recall interval for the patient.

Code 5

A high frequency of sugar intake is associated with an increased risk of caries. This code may be selected following a diet discussion with the patient during the OHR, or may require the patient to keep a diet diary over a series of 3 days, which is then analysed by the dentist.

Code 6

This code contains a number of criteria related to caries. Patients that have one primary or secondary carious lesion should be recalled again in 6 months to ensure no further lesions have developed following treatment.

White and brown spot lesions which the clinician is unsure about should also be reviewed in 6 months. This is not to say that all white and brown spot lesions require 6-month recalls. No doubt numerous patients will have such lesions, which may have been monitored over a few years, and the clinician may be confident that these are indeed arrested. In addition, cautious clinicians may want to monitor suspicious margins of restorations and fissures and these may require 6-month reviews before the recall interval is changed.

Not all moderately/heavily restored dentitions necessitate a 6-month recall programme, however, it may be considered a justification if Code 5 is implicated.

All new patients should initially have at least a 6-month recall interval as the dentist will not be familiar with their previous risk and history of dental disease.

According to the DOH publication 'Delivering Better Oral Health' *all* children require 2.2% topical fluoride application twice a year. Children in a higher risk category may require applications up to four times a year, hence 3-month recall intervals.

Code 7

This code relates to the BPE score of 1, 2 and 3. Again emphasis should be placed on the clinical judgement. Many patients present at OHR with some level of calculus, particularly in the lower labial segment which in itself does not necessitate a 6-month recall interval. In addition, patients with a history of periodontal disease which is now stabilized may score BPE code 3s in certain segments owing to the previous bone loss. In the presence of good oral hygiene and no signs of active disease, this patient may not require a 6-month recall interval. This code is reserved for those patients with chronic marginal gingivitis and poor oral hygiene.

Assessing risk in periodontal disease and predicting the likelihood of change of disease status is very complex. Risk factors, such as ethnicity, socio-economic status, diabetes, cardiovascular disease, obesity, smoking and stress can also be implicated.[24]

Code 8

When assessing a patient's habit in relation to smoking and drinking, we often find that the habits fluctuate with lifestyle and changing circumstances. It is common for patients to have relapses before they finally quit for good. As a result, recent 'quitters' may require reinforcement of smoking cessation advice (SCA) and, if no other factors are implicated to reduce the recall interval, a 9-month recall interval may be chosen.

Code 9

When a clinician attempts to discuss a patient's diet, he/she may not always be able to establish whether it is cariogenic. In many instances patients are vague or unable to disclose the relevant information. The patient may be medically fit and well and healthy in relation to caries and periodontal disease, however, the carcinogenicity of the diet may be deemed questionable. If the clinician is concerned, it may be the selection of this code which allows for sufficient monitoring and re-assessment.

Code 10

This 9-month recall interval is suitable for patients with minimally restored dentitions, with healthy and sound restoration margins and no new carious lesions.

Code 11

For those patients with good oral hygiene and isolated pockets with bleeding on probing this may be selected as the most appropriate recall interval. A BPE score of 1 resulting from chronic marginal gingivitis may require a 6-month recall (code 7), however, isolated pockets of bleeding on probing are common in most patients at some point in time and does not dictate a shorter recall interval. Bleeding on probing alone has shown a weak correlation to progression of periodontal disease.[25]

Codes 12, 13, 14, 15, 16

These codes are indicated for patients who have a low risk of oral disease, for example those patients who are medically fit and well, non smokers, non drinkers, with no previous caries experience and healthy periodontal tissue.

Code 17

The interval chosen by NICE of 18 months would suit dentate patients who have no history of disease currently and very little, if any, disease in the past.

Code 18

This interval of 24 months would be reserved for edentulous patients who have well-fitting prostheses. They will also have no risk-related factors, such as smoking habits or above average alcohol intake. There is currently no evidence to support a recall interval of 24 months but this Code is included simply for completeness. Clinicians may decide to utilize a 12- or 18-month recall interval for their edentulous patients in the absence of evidence to the contrary.

This article has established codes to cover recalls from 3 months to 24 months and the authors are currently piloting this approach in practice. NICE recommends intervals extending to 24 months for adults, but there is very little evidence to support these extensions. There is a very real risk that the relationship between the dentist and patient will be affected by this extended absence.

When applying the table it is common for the patient to fall into multiple codes and, for risk assessment purposes, the lowest relevant code should be selected. In addition, when selecting a code, the specific justification in that code should also be noted in the clinical records.

Conclusion

Selection of recall intervals for individual patients is an integral part of delivering oral healthcare for patients within the NHS to comply with contractual arrangements. It is still a matter of clinical judgement which recall interval is selected and, whilst there is a paucity of evidence to support a change away from the 6-monthly recall interval, a consistent approach to managing clinical risk factors to help determining optimum care will be helped by using Appendix 1 in this article.

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Recall Interval	Medical Hx	Social Hx	Dietary Analysis	Caries	BPE
3	_____	_____	_____	CODE 1 >1 carious lesion since last check-up Patient requiring 3 monthly fluoride application	CODE 2 -4 -Periodontal dx +/- a medical condition
6	CODE 3 Where dental dx will put pt's health at risk, eg -CVS dx -Immunosupression -Anti-coagulation Or Medical Hx will compromise oral health, eg -Diabetes -Xerostomia -Medications causing GO -Acid reflux	CODE 4 Smoking >10 a day and/or Alcohol consumption exceeding recommended weekly	Code 5 High frequency of sugar intake Patient requiring 6-monthly application of topical fluoride -White/brown spot lesions -Suspicious restoration margins -Suspicious fissures -Moderately/heavily restored dentition eg crowns, bridges and direct fillings -A new patient to the practice. -Child requiring 6-monthly F-application	CODE 6 -1 carious lesion since last check-up	CODE 7 - 2 or 3 -OH inadequate -Chronic marginal gingivitis
9	_____	CODE 8 Previous heavy smoker/drinker Who has quit/ reduced in last 6 months	CODE 9 Questionable intake of sugar. Diet HX is unclear	CODE 10 -Minimally restored dentition -Margins sound -No caries detected	CODE 11 -1 -OH is mod-good
12	CODE 12 Medically fit and well	CODE 13 Non smoker Non drinker	CODE 14 Low frequency of sugar intake	CODE 15 -Healthy unrestored dentition -No recent caries experience -Edentulous	CODE 16 -No perio dx
18				CODE 17 Healthy unrestored dentition -No past caries experience.	
24				CODE 18 Edentulous No risk factors for alcohol/smoking	

Appendix 1.