



Department  
of Health

# Dental Contract Reform: Engagement

Paper 2: The clinical philosophy

June 2014

# Purpose

The purpose of this paper is to discuss the preventive pathway approach to care that we have been developing and refining within the Dental Contract Reform programme.

The paper explores:

1. The development of a care pathway approach to NHS care
2. The development of a preventive care pathway for primary care dentistry
3. Evidence on the preventive pathway approach from the Dental Contract Reform pilots
4. Summary of conclusions and next steps.

There is an opportunity to feedback your comments at the end of this document.

# 1. The development of a care pathway approach to NHS care

One of the main challenges facing healthcare services is to ensure the provision of consistent, timely and evidence-based high quality care whilst making the best use of the available resources to meet demands. Over the last 20 years, the NHS has increasingly adopted a care pathway approach to care to address this challenge.

Care pathways, also known as clinical pathways, are used all over the world. Indeed, pathways were not invented in healthcare. They were adapted from industry (aviation and construction in particular), where they are successfully used to control and manage complex processes.

A care pathway is more than just a document in the patient's record. It is a concept for:

- Developing and standardising best-practice care for all patients, regardless of who they are or who they see or the practice or service they attend and
- Supporting and encouraging patient-focused care.

In practice, a care pathway is an approach that embeds guidelines, protocols and evidence-based care into everyday use for the individual patient. A care pathway aims to have:

- The right people
- Doing the right things

- In the right order
- At the right time
- In the right place

... to deliver the desired outcome of consistent, high quality, accessible and equitable patient-centred care. It also provides a means to compare planned care with the care actually provided to patients.

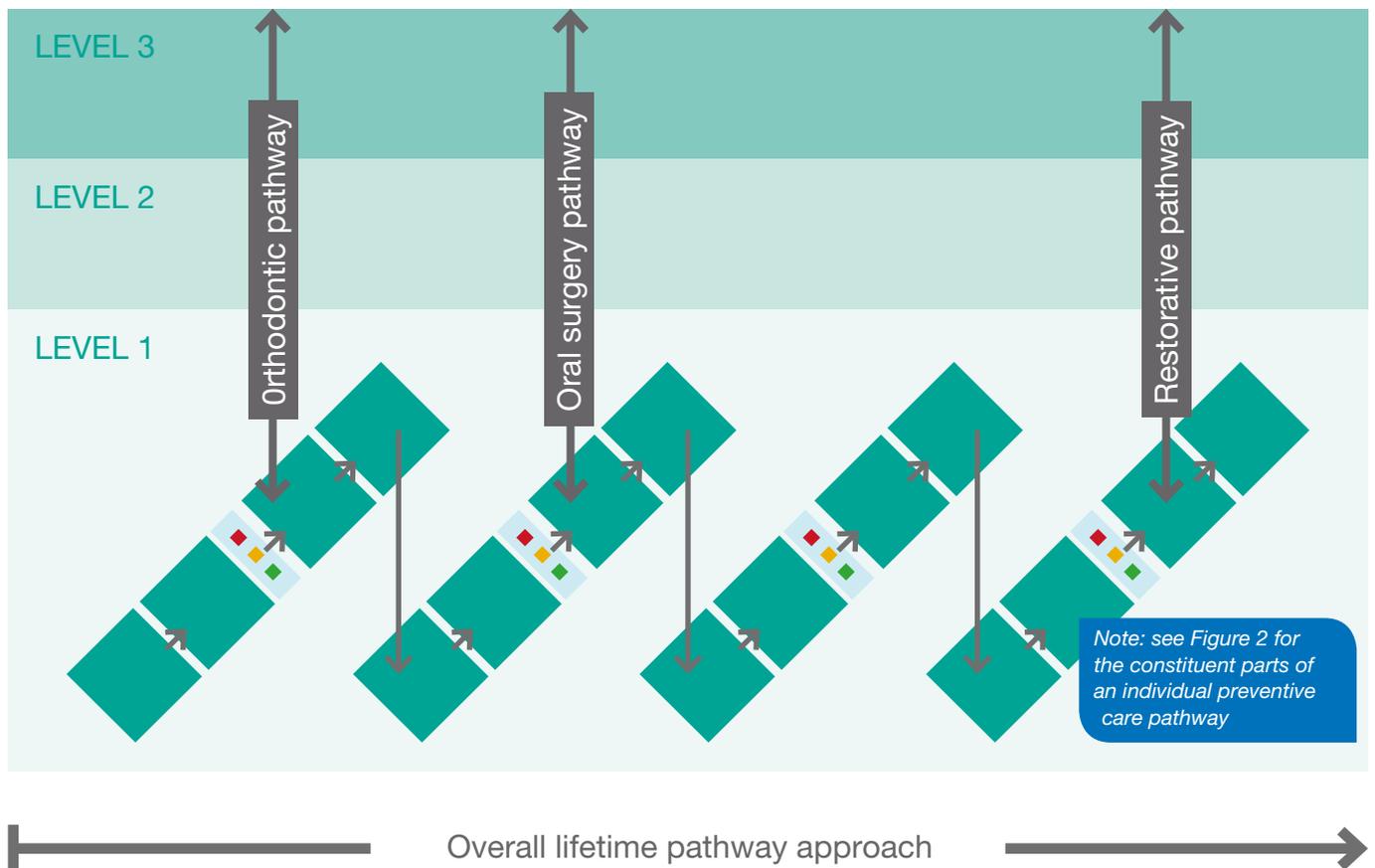
It is important at the outset of this paper to distinguish between three linked uses of the term 'pathway':

- Firstly, there is the overall pathway approach and the idea that every individual has a lifelong 'journey' or pathway in respect of his or her oral health. This will often involve a long-term relationship with a specific dental practitioner, team or surgery
- Secondly, there are specific pathways designed in relation to particular conditions or aspects of healthcare. This paper concentrates on the use of a prevention-focused primary care pathway in dentistry, but it also discusses the link between this preventive pathway and the various treatment paths, such as for orthodontic care, that have already been developed or are being developed by NHS England under the leadership of the Deputy Chief Dental Officer (DCDO)
- Thirdly, there is the individual cycle of a specific pathway that a patient may be experiencing at any particular time. In the case of the preventive pathway, the expectation is that the patient will experience successive cycles, i.e. between Oral Health Assessment (OHA) and Oral Health Review

(OHR) throughout his or her life. At any point, depending on individual clinical need, the patient may require treatment: perhaps for periodontal disease; for restoration following accidental damage; or for endodontic problems – and the expectation is that this would be provided with reference to the relevant care pathway

- Finally, alongside the work on the various treatment pathways, the DCDO is leading work on behalf of NHS England to identify and quality assure three levels of competency for those working in NHS dentistry. The diagram below shows how the preventative care pathway, the treatment pathways and competency levels relate to one another.

Figure 1 – The interaction of the three different types of pathway and competency levels



## 2. The development of a preventive care pathway for primary care dentistry

### 2.1. The pathway approach

Our approach draws on the work of the independent review of NHS Dentistry<sup>1</sup> carried out by Professor Jimmy Steele in 2009. This review set out many of the principles against which we are developing our overall approach, particularly in the key area of quality.

The Steele Review recommended a preventive approach to care based on a pathway, taking account of widespread recognition that most clinical contact with patients, typically taking place in the primary care setting, would fit very well within a planned, pathway-based approach. Of course, it was also recognised that there are aspects of care that need to be provided on an urgent or unplanned basis. The review drew on evidence that included early local experimental preventive pathways.

The Dental Contract Reform programme continues on the preventive pathway theme, exploring how we can shift the focus of NHS dentistry towards prevention and oral health rather than focusing primarily on treatment and repair.

The two most common dental diseases, dental decay and gum disease, are chronic and the damage they cause is cumulative and costly. They are also largely preventable diseases. Consequently, an important element of this

programme was the introduction of a primary care preventive care pathway for NHS dentistry, which was based on:

- Identifying need and managing patients' risk
- Creating a healthy oral environment through providing preventive care
- Encouraging and supporting patients to take shared responsibility for their own care
- Supporting children in engaging with dental services and improving and maintaining their oral health and
- Ensuring that quality and consistency of care is at the heart of the pathway approach.

It is this approach that has been piloted for the last few years, which is consistent with the direction of travel across all primary care services in the NHS.

NHS England published its strategy *Securing excellence in commissioning NHS dental services*<sup>2</sup> on 13 February 2013. The main theme of this document is to propose a 'care pathway approach' and this is intended to align dentistry with the single operating model set out by NHS England for primary care.

The document reinforces the concept of a care pathway approach to ensure consistency in delivery of dental services, encompassing: *"effectiveness and quality of clinical care, the 'journey' that patients experience, and a focus on patient outcomes"*.

Figure 2 – Overview of the key elements of the preventive care pathway being used in the pilots for patients to engage in continuing care



## 2.2. Overview of the pathway in its current form

An advisory group of clinicians developed the primary care pathway following a thorough examination of available evidence into national and international best practice and drawing conclusions that were supported by consensus. The group included:

- The Chief Dental Officer (CDO) and DCDO
- Primary care dentists
- Dental public health representatives
- Dental academics.

Pilots within the programme have been using this preventive care pathway since 2011. The pathway has been subject to evaluation and revision and remains a ‘live’ framework, subject to ongoing refinement as we continue to learn from the pilots’ experiences of putting this preventive approach into operation.

Figure 2 provides an overview of the key elements of the preventive care pathway being used in the pilots for patients to engage in continuing care. An important feature of the preventive approach is to encourage patients, where able, to take shared responsibility for

their own care. The preventive care pathway should be a jointly shared responsibility between clinician and patient to agree the approach to delivering improved oral health.

## 2.3. IT – computerised decision-support systems

The pathway has been implemented in the pilots using computerised decision-support systems. There are currently five software suppliers who have established this system for their pilots, based on technical specifications that were developed by the programme.

At the outset of piloting, a very high degree of specification of the preventive pathway was requested and delivered to suppliers that, once put into operation, proved to be overly prescriptive and cumbersome. The programme has been working closely with suppliers and the pilots to refine the technical specification and promote a more streamlined approach that also incorporates flexibility for the clinician to deliver appropriate care, based on their clinical judgement.

Further details on the IT decision support systems and their impact on the piloting process can be found in the links.<sup>3,4</sup>

## 2.4. Need and risk assessment

The preventive care pathway philosophy has been a familiar concept for most dentists taking part in the programme. A need and risk-based, preventive approach to care has been central to clinical training and continuous professional development programmes for some time.

Indeed, from the outset of the pilots it was clear that many practices had already adopted an approach to care that was consistent with the preventive aspirations of the programme. A key objective for the programme is to ensure that good practice becomes the norm; that the risk of disease developing or progressing is assessed using a consistent, risk-based approach while ensuring that the most effective care is provided to meet individual patient’s needs.

The core elements of the needs-led preventive pathway are:

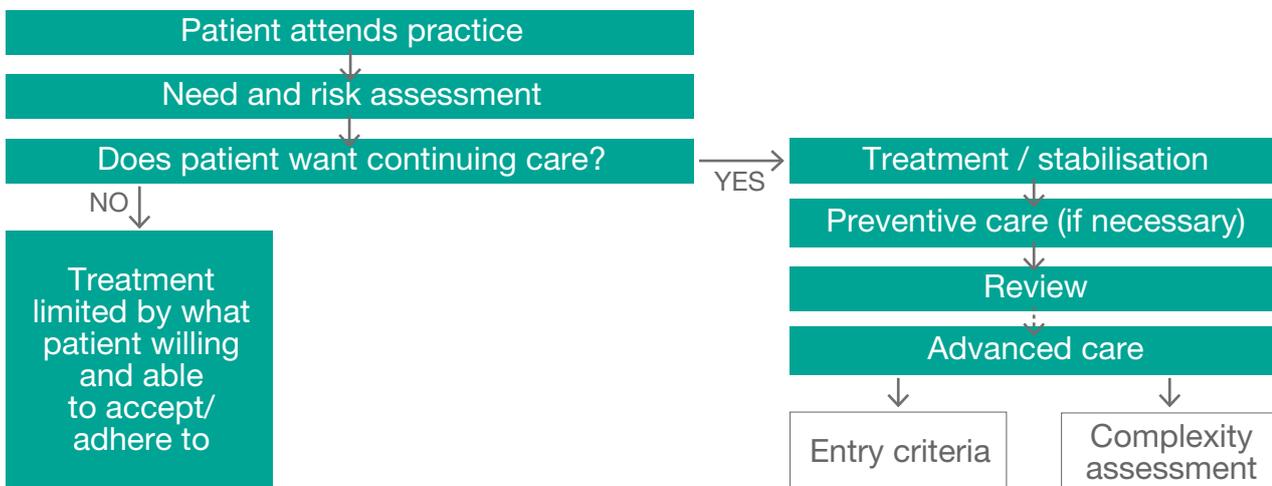
- Taking a risk-based approach to identifying patients’ needs via OHA and OHR

- Developing a plan to meet their immediate treatment needs
- Agreeing with the patient a tailored plan to address their key risk factors and
- Setting out a follow-up recall or review period. The recall / review period can vary between three months for the highest need patients to a maximum of 24 months for adult patients and 12 months for children and adolescents (younger than 18 years) whose oral health is excellent and behaviour suggests little or no risk of deterioration. These recall intervals are based on published National Institute for Health and Clinical Excellence (NICE) guidelines.<sup>5</sup>

Figure 3 below illustrates the overall care pathway, showing how the patients’ journey through the pathway can differ depending on whether there is:

- Engagement with continuing care routinely or
- Attendance for urgent care only.

Figure 3 – Overall care pathway showing how patients’ journey through the pathway can differ



The pathway caters for regular and infrequent attenders. It also provides for (and indeed promotes) the opportunity for patients whose previous pattern of attendance was irregular (e.g. for urgent treatment needs only) to transfer to the full preventive care pathway approach. The centrality of the patient and equity of access means that the pathway approach must have the flexibility to respond to different patterns of attendance.

The care pathway begins with an OHA, a comprehensive assessment of the patient's current oral health and medical and lifestyle factors that will describe the clinical need and the risk of disease in the future. The assessment covers the four major disease areas (also called domains): caries; periodontal disease; tooth surface loss; and soft tissues.

Informed by the OHA, patients will be advised of their oral health need and risk status based on a red/amber/green (RAG) rating for each domain and aggregated to an individual RAG assessment for the patient. Patients will be given advice on what they can do to address their key areas of risk against each applicable domain, which is summarised within a 'self-care plan', providing advice on what they can do to maintain or improve their oral health.

As well as addressing any immediate treatment needs, where appropriate, patients will also be provided with preventive advice (such as advice on teeth brushing and oral hygiene) or preventive advice and treatment (such as a scale and polish or fluoride varnish).

Patients will also be advised when they should return for their next OHR based on their assessed risk status, NICE guidelines<sup>6</sup> and latest clinical recommendations set out in Delivering Better Oral Health<sup>7</sup> (DBOH). As with

the original OHA, the OHR is a full review. OHRs typically take a little less time than OHAs. This is because some of the data for the OHR will be pre-populated within the system and will simply need to be updated.

As noted above, the preventive care pathway described in this paper is one of a number of NHS dental care pathways and an important consideration for the programme is how this pathway will interact and align with those other dental care pathways (such as advanced care, periodontal, paediatrics or special care pathways).

## 2.5. Health outcomes – measuring quality

To support delivery of high quality care, the system has to be able to capture and describe need, to provide guidance on the model of care expected and measure the outcomes of the care delivered to meet the need. The pilots therefore tested both guidance on care to be delivered and a way of measuring the care delivered through a pilot Dental Quality and Outcomes Framework (DQOF).

The DQOF seeks to measure the impact of the preventive care pathway on outcomes for patients against the following three domains:

- Clinical effectiveness
- Patient experience
- Safety.

More detail on the approach to measuring outcomes can be found in [Paper 3: The measurement of quality and outcomes](#)

## 3. Evidence on the preventive pathway approach from the Dental Contract Reform pilots

The Dental Contract Reform programme has undertaken a significant amount of work to evaluate the preventive pathway approach that is being tested within the pilots. An Evidence and Learning reference group, an independently led group of stakeholders and experts, was set up to lead the formal evaluation of the pilots. This group has produced two reports which summarise the early findings from piloting the preventive care approach, published in October 2012 and February 2014.<sup>8,9</sup>

The key highlights from the Evidence and Learning reports, plus an outline of how the presentation of the preventive care pathway has been improved, and continues to be refined, are summarised below. Additional details and supporting charts from the Evidence and Learning reports are included in ANNEX A.

### 3.1. RAG ratings – whether disease, need and risk is consistently captured and communicated and how it has changed over time

One of the key aspects of analysis undertaken for the first Evidence and Learning report was to compare the pilot population's assessment of state of oral health (an aggregation of individual patients' RAG status) against epidemiological expectations. Two critical questions for the programme to answer are therefore:

- Whether disease, need and risk is consistently captured and communicated to patients and
- Whether risk of disease is managed through a pathway.

The programme's clinical advisors confirmed that the distribution of the ratings is broadly as one might expect from the epidemiology,

particularly for those in the greatest need and risk category.

Whilst not all patients recall being advised of their RAG status, those who do are very positive about how helpful this is in understanding the health of their teeth and gums.

### 3.2. Whether patients like the approach and there is evidence of improvements to oral health

A patient and staff survey<sup>10</sup> was developed to test people's feedback on their experiences of the preventive approach to care over the first 15 months of piloting.

There is a widespread perception that services have improved for patients. Only a very small number thought that services were not as good as before and 50% considered that services had improved. Furthermore, nearly three-quarters of respondents said they had a better understanding of their oral condition under the new system and a similar proportion said they had changed behaviour.

Evidence from the pilots also indicates that some improvements have been made to patients' oral health as a consequence of the preventive care pathway. The programme has carried out an analysis of the effect of the introduction of the pathway approach in the first two years of piloting<sup>11 12</sup>.

The analytical team has looked at thousands of 'matched pairs' over the period September 2011 to March 2013. The term 'matched pairs' refers to separately identifiable (but anonymous) individual patients who have received an initial OHA and subsequently returned for an OHR.

As can be seen in ANNEX A, [Figure 6](#), where there is complete data, a net improvement in oral health status has been observed, even within this relatively short time period.

### 3.3. Transition to a new system and the effect on access

Before starting to interpret clinical or service changes that result from the pilots, the stability of the service through transition needs to be assessed. Pilots entered into the pilot arrangements overnight and were faced with:

- The need, as part of the move to pathway working, to carry out an OHA for all existing patients as well as any patients new to the practice
- To operate the first generation software and direct patient care through the pathway.

The initial time taken for the OHA at the first stage of piloting was considerable, but reduced with time, as did the proportion of OHA appointments. These changes were expected and provide important learning for any future implementation. It took up to a year to see the balance of activities starting to settle down. In addition, the data does suggest that at least some pilot dentists and patients may be finding it difficult to move away from the very established idea of the “six month check-up”.

Whilst the scale of the impact on access continues to be investigated, it is now clear that the OHA in the pathway model, in its initial presentation, took longer to operate, per patient, than is currently spent with patients in the present system. Further work is also needed to explore the reasons for the variance between expected and actual recall intervals and how this variance can be addressed.

### 3.4. Interim care

The version of the pathway provided to pilots introduced the concept of interim care (IC) appointments. The intention in introducing the IC appointment was to try to ensure that practitioners followed the preventive care pathway approach as closely as possible, as this would facilitate comparison between the data collected from each pilot and promote confidence in the conclusions that could be drawn from the data.

However, it became apparent that the introduction of the concept of a specific activity known as ‘interim care’ was problematic. ANNEX A provides more information on the issues relating to IC appointments and additional detail on the broader Evidence and Learning findings set out above.

## 4. Summary of conclusions and next steps

The preventive care pathway approach resonates with dentists, the wider clinical team and also with patients. It appears to have considerable potential to improve oral health.

Although the principles of the pathway were familiar to most dentists and their clinical teams, a significant shift in thinking and practice is required to apply the preventive care pathway approach in the manner in which it was intended. The learning so far shows that:

- The application of the care pathway approach has clear potential to improve oral health
- The key features of the approach that seem to deliver these benefits are the systematic use of a thorough initial assessment of the patient's oral health and the enhanced understanding for the patient of his or her own oral health status and what s/he can do to maintain or improve it
- Computerised decision support systems are helpful to practitioners in implementing the pathway approach but their role must clearly be a supporting one
- Attention must be paid to the balance between prevention and treatment. It is essential that the treatment needs of NHS patients continue to be met. Over time, in a pathway focused system we would expect to see a shift in the nature of treatment need

- Further work is also needed to ensure that the pathway approach facilitates equity of access and takes full account of health inequalities amongst adults and children
- The process of streamlining the presentation of the pathway continues, to make it quicker and easier to operate without losing the value expressed in the responses received from patients and dentists.

We want to gather your views to inform further stages of the work. We have structured a series of questions to support you in providing comments. There is a free text box at the end of the section to pick up any other issues you would like to raise.

## Questions:

This is now your opportunity to help shape the contract reform by giving your thoughts. Either on your own or in groups, please go through the following questions and fill in the online feedback form below. Thank you for your contribution.

### Question 1

What are your views on the philosophy of a need and risk-based, preventive approach to care?

### Question 2

What would be the challenges of applying this approach in your practice?

### Question 3

Using this pathway approach, would there be any challenges associated with engaging with patients in your practice?

### Question 4

From what you have seen of the pathway, do you think that the current pathway could be simplified whilst maintaining its clinical integrity? (please relate any response to your experience with or knowledge of the pathway).

If so, which elements could be simplified and how?

### Question 5

How can dental professionals be encouraged to follow NICE dental recall intervals?

### Question 6

How can clinicians be encouraged to exercise clinical judgement and change care pathway recommendations?

### Question 7

Can you see any reasons why the preventive pathway approach described in this paper would pose difficulties in meeting the needs of any particular patient group?

If so, can you suggest ways of dealing with these difficulties?

### Question 8

Are there better ways than those described of demonstrating oral health changes for community dental services patients?

### Question 9

Are there any changes to the approach described that you think we should consider when using it with patients who rely on carers to maintain their oral health on a daily basis?

[Click here to feedback](#)

## ANNEX A: Evidence and Learning – Further information

Additional highlights from the Evidence and Learning reports, as described in section 3 above, are summarised in this section.

1. RAG ratings – whether disease risk is consistently captured and communicated and how it has changed over time
2. How patients' risk status has changed over time
3. Whether patients like the approach and whether there is evidence of improvements to oral health
4. Improvements in caries and periodontal disease management
5. Transition to a new system and the effect on access
6. Recall intervals
7. Interim care

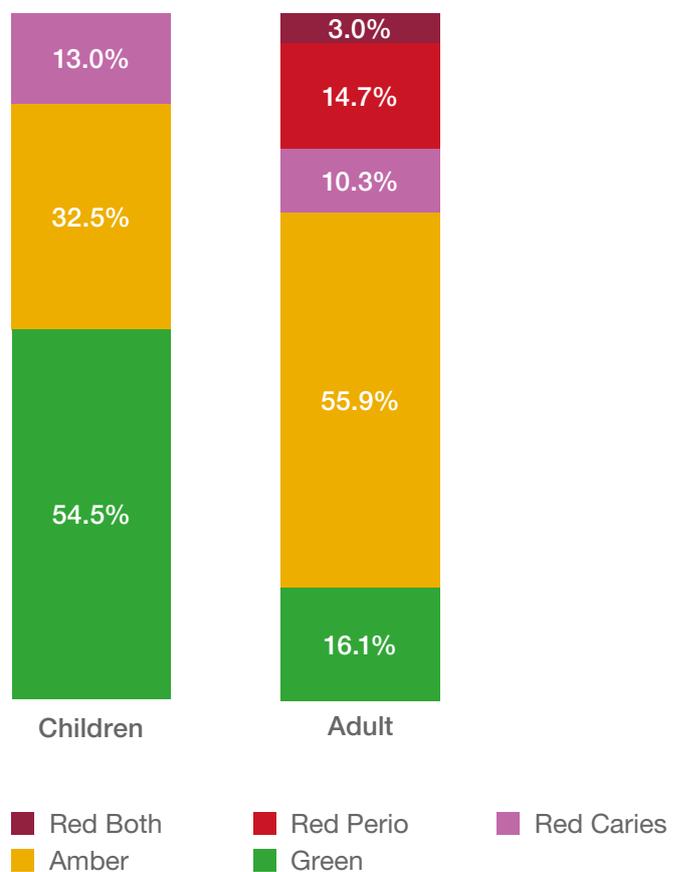
# 1. RAG ratings – whether disease risk is consistently captured and communicated and how it has changed over time

One of the key aspects of analysis undertaken for the first ‘Evidence and Learning’ report was to compare the pilot population’s assessment of state of oral health (an aggregation of individual patients’ RAG status) against epidemiological expectations. Two critical questions for the programme to answer are therefore:

- Whether disease, need and risk is consistently captured and communicated to patients and
- Whether risk of disease is managed through a pathway.

Each computer software supplier has incorporated an algorithm to generate a simple “RAG” rating to support the clinician in determining the patient’s need and risk status. This can then be fed back to the patient and used for appropriate advice and treatment. Figure 4 shows the basic breakdown of the RAG rating for adults and children.

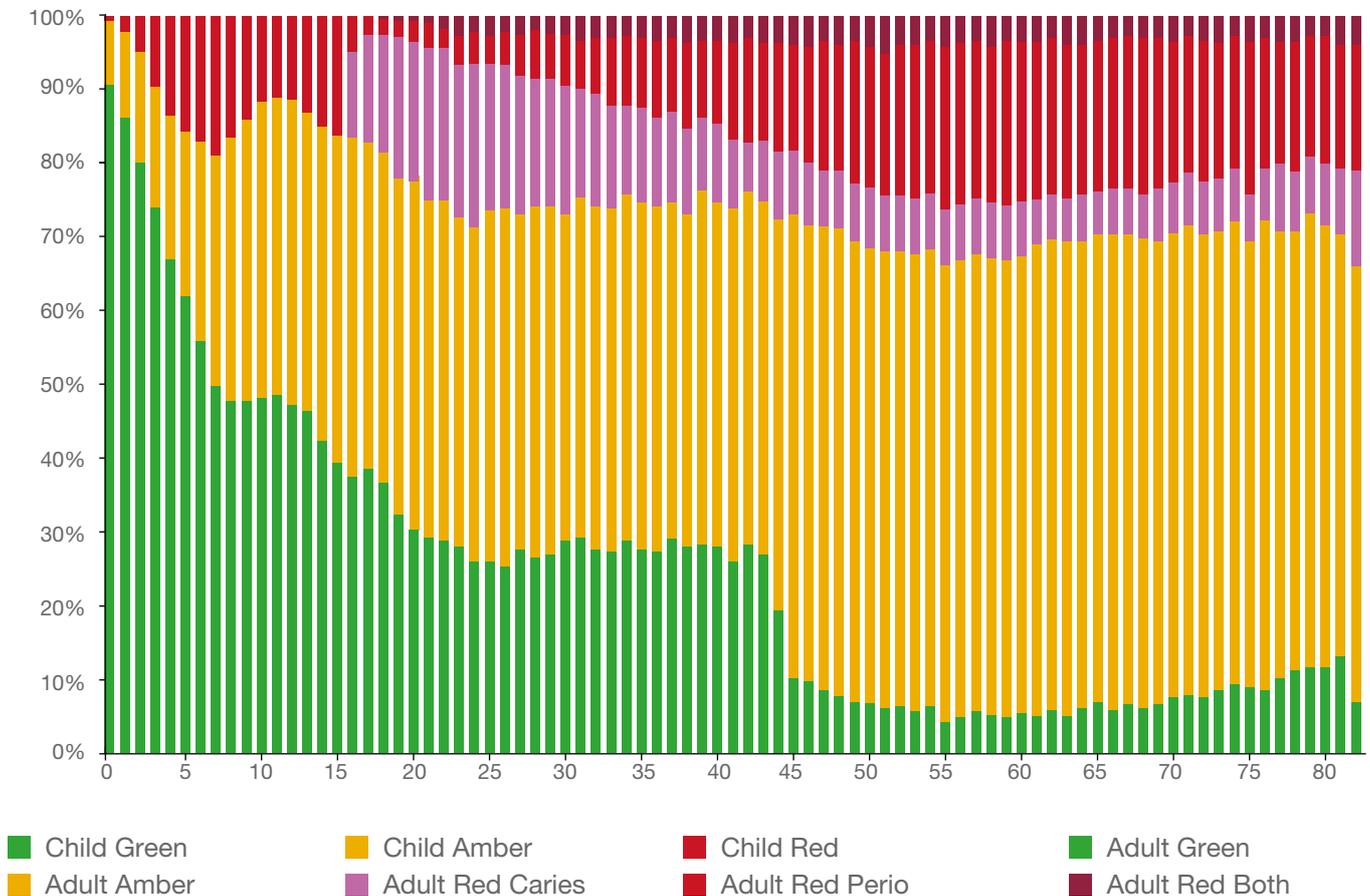
Figure 4 – Breakdown of RAG status (Source: DPMS Data, Sept 2011 – Mar 2012)



The programme’s clinical advisers confirmed that the distribution of the ratings is broadly as one might expect from the epidemiology, particularly for those at greatest risk. There are some anomalies around the boundaries of the amber ratings which would be worthy of investigation further as part of the pathway review. However, need and risk are being measured and appear to be appropriate. Whilst not all patients recall being advised of their RAG status, those who do are very positive about how helpful this is in understanding the health of their teeth and gums. For example, the Adult Dental Health Survey in 2009 suggested that around 15% of adults had very healthy mouths with virtually no evidence of disease, corresponding to the findings for adults with green status<sup>13</sup>.

Figure 5 shows risk by age and the peak in caries risk in the late 20s is also evident in the national epidemiology. The overall prevalence of people with red ratings seems broadly what may be expected (though there is no direct epidemiological equivalent) whilst the effect of the algorithm is evident as different elements of risk enter the algorithm at age 16 and age 45.

Figure 5 – RAG status by age (Source: DPMS data, Sept 2011 – Mar 2012)

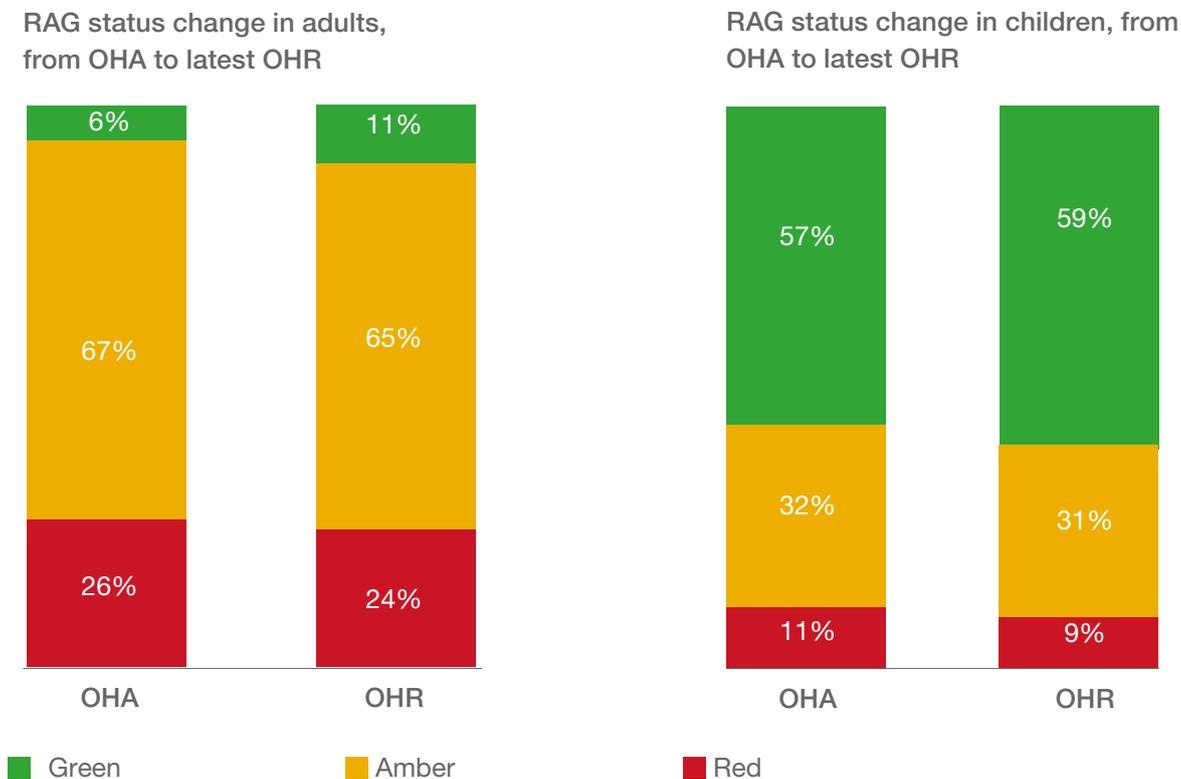


## 2. How patients' risk status has changed over time

The programme has carried out an analysis of the effect of the introduction of the pathway approach in the first two years of piloting<sup>14 15</sup>. This sort of analysis has to be carried out across a relatively long time period in order to capture properly the effects of the new approach on chronic disease. The analytical team have looked at thousands of 'matched pairs' over the period September 2011 to March 2013. The term 'matched pairs' refers to separately identifiable (but anonymous) individual patients who have received an initial Oral Health Assessment (OHA) and subsequently returned for an Oral Health Review (OHR).

As can be seen in figure 6 below, where there is complete data, a net improvement in oral health status has been observed, even within this relatively short time period. In adults there is a reduction in red patients (26 – 24%) and an increase in the number of green patients (6 – 11%). In children, similar reductions in red patients were observed (11 – 9%), together with increases in the number of green patients (57 – 59%). (Findings relate to patients who had an OHA Sept 2011 – Mar 2012 who returned for an OHR by Mar '13).

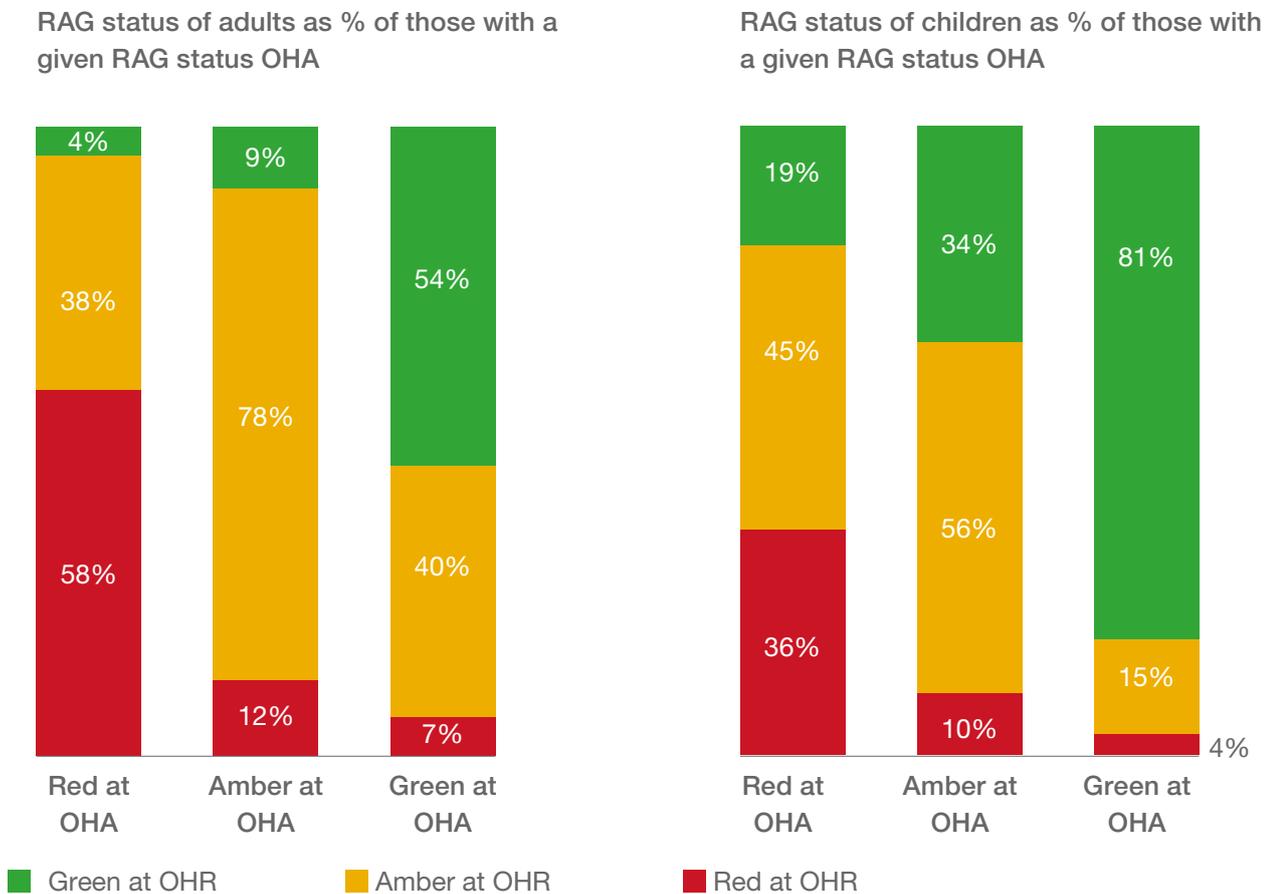
Figure 6 – RAG status change in adults and children from OHA to OHR



As can be seen in figure 7 below, in adults, there is a large change away from red to amber or green. In amber there is little change, 9% of patients became green and 12% became red. With green patients, 54% stayed the same with 40% becoming amber and 7% becoming red (for example, where the dentist had found one or more teeth with established caries at OHR).

In children, 36% of red patients remained red, with the rest becoming amber or green. 34% of amber patients became green, 10% became red. 81% of green children remained green with 4% becoming red.

Figure 7 – Starting oral health status and subsequent changes



### 3. Whether patients like the approach and there is evidence of improvements to oral health

A patient and staff survey<sup>16</sup> was developed to test people’s feedback on their experiences of the preventive approach to care over the first 15 months of piloting.

Figures 8 and 9 demonstrate very clearly that there is a widespread perception that services have improved for patients and that they like the new arrangements; half had noticed an improvement and only a very small number thought it was not as good as before. Furthermore, nearly three-quarters said they had a better understanding of their oral condition under the new system and a similar proportion said they had changed behaviour.

Figure 8 – Patients’ views on their experience of the preventive care pathway (Patient survey Q: Generally speaking, how does your overall experience of NHS dental care at this practice in the last 9 months compare with your previous experience of NHS dental care?)

Figure 9 – Patients’ views on whether they now had a better understanding of how to look after their teeth and gums (Source: ICM patient survey, Q: To what extent do you agree or disagree with the following statement? Compared to previous NHS dental care, I now have a better understanding of how to look after my, or my child’s, teeth and gums.

Research undertaken with the pilot sites also endorsed the use of traffic light colours (Red, Amber, Green or RAG) to report back to the patient at the end of their Oral Health Assessment. Using the traffic light colours, patients found it easy to understand how they were scoring on each of the different aspects of oral health covered by the pathway. In the qualitative research, respondents thought that this approach was particularly effective for children who would not otherwise be able to understand and appreciate how healthy (or not) their teeth and gums were (Source: ICM Pilots Evaluation 2012).

Figure 8 – Patients’ views on their experience of the preventive care pathway

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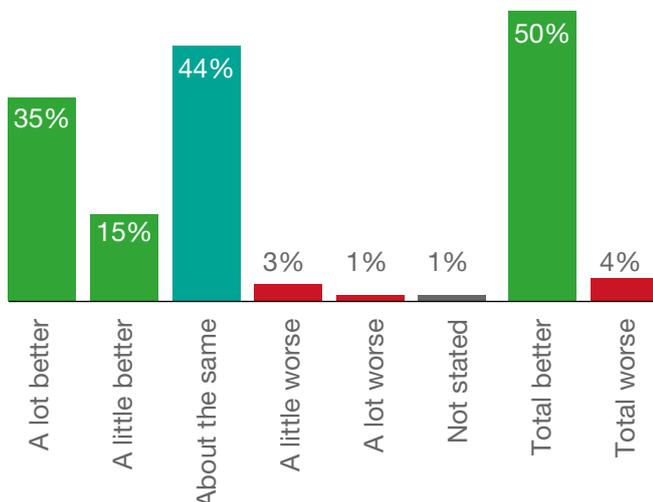
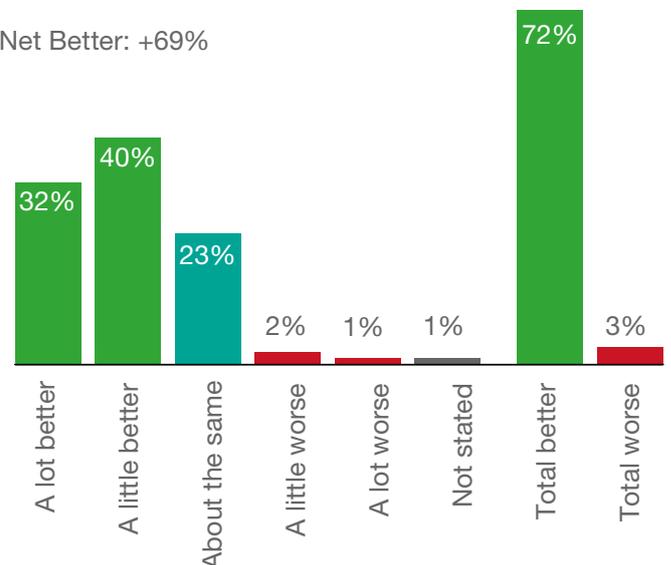


Figure 9 – Patients’ views on whether they now had a better understanding of how to look after their teeth and gums

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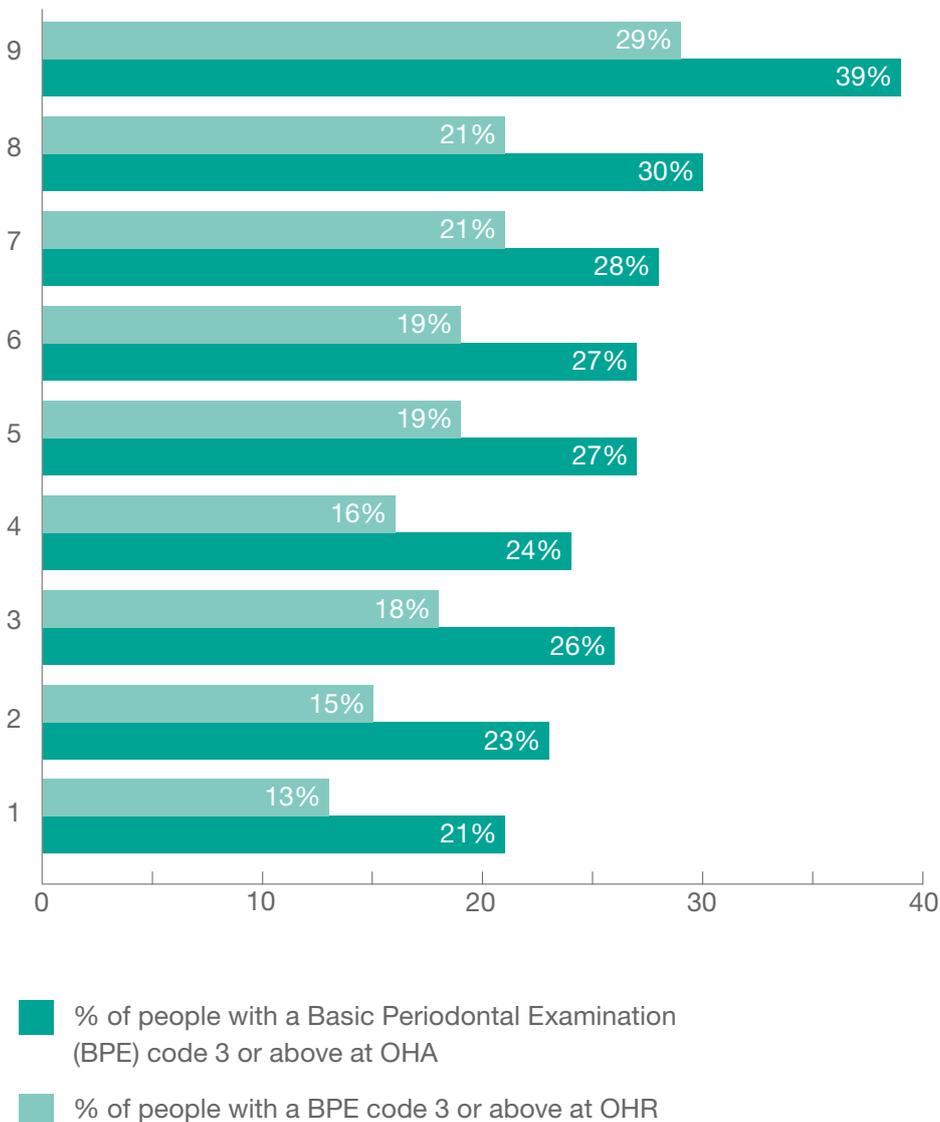


## 4. Improvements in caries and periodontal disease management

Evidence from the pilots suggests some improvements have been made to patients’ oral health as a consequence of the preventive care pathway.

From figure 10 we can see that each RAG group shows a reduction of 8-10% i.e. a reduction of about 33% overall, in the change in disease prevalence & severity by IMD group (Perio)<sup>17</sup>.

Figure 10 – Periodontal disease: change in disease prevalence & severity by IMD group



## 5. Transition to a new system and the effect on access

Before starting to interpret clinical or service changes that result from the pilots, the stability of the service through transition needs to be assessed. Pilots entered into the pilot arrangements overnight and were faced with:

- The need, as part of the move to pathway working, to carry out an OHA for all existing patients as well as any patients new to the practice
- To operate the first generation software and direct patient care through the pathway.

This took place against a background of new IT systems being run live for the first time in the practice. It is reasonable to assume that the months after the introduction would see some changes in the balance of activities on a month-by-month basis as the system “settled down”.

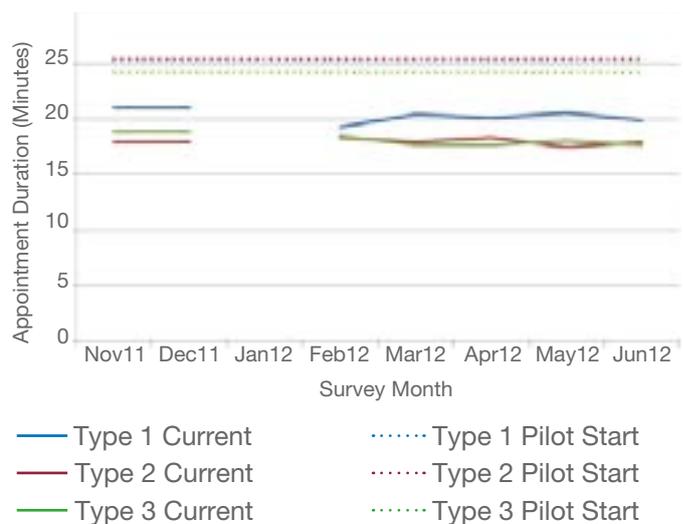
The initial time taken for the OHA at the first stage of piloting was considerable, but reduced with time, as did the proportion of OHA appointments. These changes were expected and provide important learning for any future implementation. It took up to a year to see the balance of activities starting to settle down. There was a significant initial impact on access. Some of this was related to the additional time resulting from transition. Whilst the scale of the impact on access continues to be investigated, it is now clear that the pathway model in its initial presentation took longer, per patient, than is currently spent with patients in the UDA system.

Figure 11 shows how the duration of OHAs has changed over time since the pilots began. The OHA process would also be expected to speed up as dentists become accustomed to the process and the software. There is also clear emerging evidence that the pilot type affects the time taken per assessment. One of the reasons

that different types were used was to observe how different drivers in the system affected clinical priorities. The evidence suggests that OHAs are taking longer in Type 1 pilots where remuneration is not dependent on the number of patients to whom care is provided.

**Figure 11 – Change in adult OHA appointment lengths in the initial phase of piloting (Source: Pilot online survey)**

*Note – The data was not collected for January 2012*



The fact that assessments dominated appointments in the early months, coupled with the fact that assessments took longer than check-ups under units of dental activity (UDAs), indicate that there will be transitional issues that need to be addressed on national roll-out.

There are three reasons why we should expect a reduction in list sizes in this pilot system at this point in the process:

- The introduction of a new system: we know from data in the first year that undertaking thousands of OHAs using a new software system, and the impact of its presentation, was slow and introduced delays
- The efficiency of the pathway: if the time and effort to provide the prevention services are too great: if the algorithms that generate the risk status (which in turn generate RAG rating; recall interval and the advice on preventive care) are too sensitive; or if the way the pathway is being operated is inappropriate (for example, without a transformed model of care – i.e. effective use of skill mix), access will be affected
- Incentives: people, dentists included, work to incentives and will find solutions if it is in their interests to do so. If there is no real incentive we might expect access to drift downwards as this requires least effort and carries no cost.

Figure 12<sup>18</sup> shows that the total number of unique patients seen over the 24 month period up until the named month across all pilots has continued to fall for the duration of the pilots. Note – The 24 month measure for each practice is effectively a two-year capitated patient number in that it is the number of unique patients seen by each practice in the previous 24 months that have not subsequently attended another NHS practice.

**Figure 12 – 24 month patient numbers across all pilots**

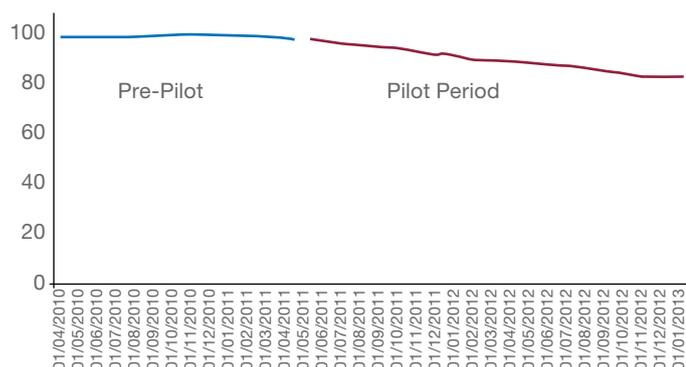
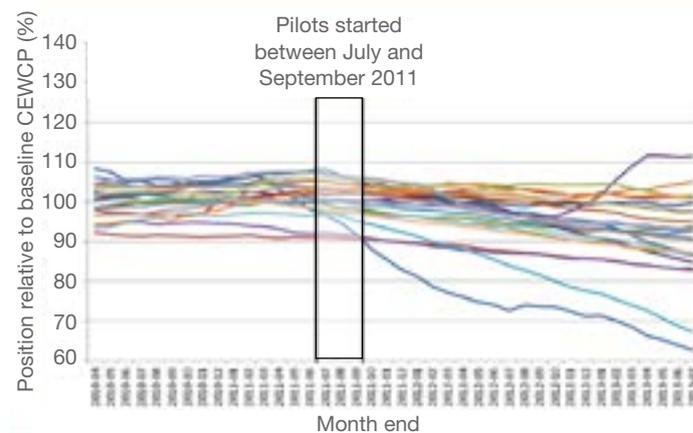


Figure 13<sup>19</sup> shows how the three-year capitated patient numbers have changed for the Type 2 and Type 3 pilots since the pilots started, showing each pilots trajectory. Part of the selection criteria for these pilots was that they had had stable contract values for the three years leading up to pilots starting and we would therefore have expected the patient numbers to be relatively stable without the impact of piloting. There is clearly significant variation in response.

**Figure 13 – Change in patient numbers across Type 2 and Type 3 pilots**

(Note – The baseline CEWCP (Contractor’s Expected Weighted Capitation Population) is effectively the average number of patients each practice needed at the start of the pilots to be remunerated 100% of their contract value)

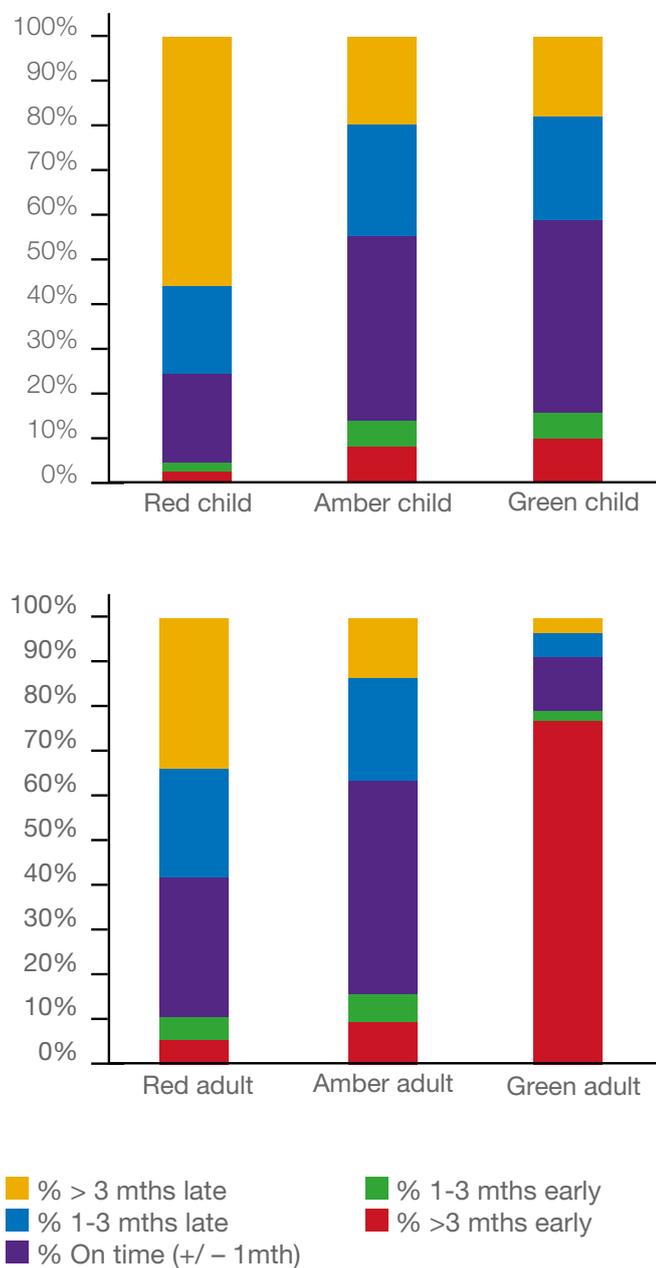


A small number of pilots have maintained their patient numbers; one shows a sharp and sudden increase after several months of gradual reduction, but in the majority of cases patient numbers have fallen to some degree. Two practices have seen access reduce at a particularly steep rate, and in one of these, the fall started some six months prior to the start of the pilot. The effects of individual circumstances or decisions are evident in the variation observed here, but for the majority of practices a reduction of list sizes is apparent.

## 6. Recall intervals

One of the desired outcomes of the pathway approach being tested in the pilots is that patients are recalled for reviews at intervals appropriate to their clinical risk. The graphs below show how the expected recall intervals compare with actual intervals for patients with different clinical risk<sup>20</sup>.

**Figure 14 – How expected recall intervals are comparing with actual intervals**



These graphs show the actual recall interval (time between OHA or OHR and subsequent OHR) compared to what was entered as the recommended recall interval at the original OHA or OHR.

The data show that large numbers of “red” adults are returning for their reviews later than the expected recall interval whilst large numbers of “green” adults are returning earlier than expected. Many “red” children are also returning for reviews later than expected. In the case of “green” adults returning earlier than expected, it is important to recognise that there may be clinical reasons why individual patients are recalled earlier than the standard recall period of 24 months and clinicians may not always be using the over-ride facility in these instances to change the recall intervals on their systems.

The data does suggest that at least some dentists in the pilot may be finding it difficult to move away from the very established “six month check-up”. Given the fundamental part this has played in the remuneration system over six decades of NHS dentistry, perhaps this should not be a major surprise, but further work is now needed to explore the reasons for the variance between expected and actual recall intervals and how this variance can be addressed.

If we are to have a flexible and responsive service where we can maximise clinical outcomes and access to services, we need to move to a point where recall intervals properly reflect clinical risk. It is also important that patients understand the reasons for the variation in recall intervals. Just as it is embedded in the professional psyche, many patients have grown up with the belief that everyone should simply attend the dentist for a review every six months, a belief and practice that is not supported by evidence on individual patient need for the frequency of review. The challenge now is changing this belief.

## 7. Interim care

The version of the pathway provided to pilots introduced the concept of interim care (IC) appointments. This was a term developed to cover the type of activity that might be required to improve a patient's oral health status, perhaps to prepare for necessary treatment or in order to stabilise or improve chronic conditions such as periodontal disease. The term might cover activities such as application of fluoride varnish or might simply involve provision of advice on oral hygiene such as correct tooth brushing technique.

The concept of IC was linked to the algorithms used to categorise patients into Red, Amber or Green status across the four domains of caries, periodontal disease, tooth surface loss and soft tissues. These algorithms were woven into the supporting software so that as risk factors were confirmed for each individual at OHA, a RAG score was generated which:

- Proposed a date on which the patient should return for their OHR and
- Proposed that the dentist also books the patient in for an interim care appointment or appointments.

The intention in introducing the interim care appointment was to try to ensure that practitioners followed the preventive care pathway approach as closely as possible, as this would facilitate comparison between the data collected from each pilot and promote confidence in the conclusions that could be drawn from the data.

However, it became apparent that the introduction of the concept of a specific activity known as ‘interim care’ was problematic on a number of fronts:

- The interaction between the IC concept and the very detailed specification given to the participating software companies made the use of the software excessively cumbersome and time-consuming
- The number of IC appointments generated by the software systems led to serious problems for pilots in terms of clogged up appointment books. There was also an overall sense that preventive activity was being prioritised over necessary treatment, in direct opposition to what was intended
- The interaction between the initial version of ICs and the concept of a course of treatment as defined in legislation and linked to the patient charging regime proved problematic. An adjustment has been made within the pilots for the time being, however, in the longer term we do not think that the concept of ICs will be easy to capture in the legislation, and in any case, they are probably over specifying how a practice should manage its appointment system.

Throughout the piloting process we have been fortunate to have very constructive input from the five software suppliers involved in the programme. The original group of 70 pilots were supported by three software companies, Carestream, Dentsys and Software of Excellence. These were joined by two further companies, Pearl and Systems for Dentists when additional pilots joined the programme in 2013.

These companies all developed computerised systems to support the pilots based on the risk assessment algorithms and what they indicated in terms of ICs, treatments and recall intervals. These computerised systems were always intended to be decision-support systems.

Although the intention of the pathway approach is to promote clinical leadership in the provision of NHS dental care, the very detailed software specification had the opposite tendency. Pilots were unsure about the extent to which they were required to follow rigidly the proposed scheme of ICs (and indeed recall intervals).

While pilots have been clear that on the whole they find the decision-support systems helpful, we are conscious that they need to strike the right balance so that they do not unintentionally play a prescriptive role.

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