



# Look at it from where I'm sitting - I'm a patient, REVISITED

## Abstract

This paper describes the benefits and the pitfalls of using colour codes in general dental practice. The issue is particularly relevant today where colour codes are used in dental contract development in order to improve oral health in communities.<sup>1</sup>

The article, '*Look at it from where I'm sitting – I'm a patient*', won the UK Oral B Prevention in Practice Award in 1994.<sup>2</sup> The prize was attendance at the FDI world Dental Conference in Gothenburg.<sup>3</sup> The article described a patient centric take on dental care.

## Wayne Richards

Visiting Professor Community General Practice,  
University of South Wales

## Introduction

A patient centric view on the dental care delivered from dental professionals is important if effective communication and maximum gains are to be achieved through behaviour change in patients.

Here is a brief outline of the colour code. White and green are health colours, yellow and red are the colours representing disease states. The difference between white and green is that of the absence of fillings, without fillings white, with fillings green. The difference between yellow

and red is the severity of the disease. The system is a simple user-friendly communication tool with the added benefit of monitoring outcomes within practice performance.<sup>4</sup> Clearly clinical opinion will vary between clinicians and this variance must be considered and accounted for in any valid scientific assessments. However, Patrick *et al* (2020) highlight the fact that dentists can accurately assess patients' risk of oral health problems and allocate an appropriate recall interval based on this risk assessment.<sup>5</sup>

In the context of using colour codes to improve community oral health it is of value to explain what is meant by primary, secondary and tertiary prevention. From the patient's viewpoint it is useful to link prevention with behaviours which patients have control over. So to take smoking and health as an example, primary prevention is about not taking up the habit, secondary prevention is about giving up the habit and tertiary prevention is about treating the consequences of the habit (often surgery) while promoting giving up the habit. The importance of linking behaviour with outcomes is fundamental in any behavioural approach.

### Primary prevention

Primary prevention in children is key to a good start for a young life. With this in mind it is useful to have a white colour to the coding system, this way one can communicate the fact that if the teeth erupt into a disease inactive mouth environment then the enamel will stay intact and healthy. Primary prevention can start with a pregnant mother through advising the early attendance of the child while a baby and ongoing continuing regular care. This provides time frames to communicate the need for brushing with a fluoride toothpaste of adequate strength twice a day and appropriate dietary control through the frequency and amount of sugar consumption – *T* – which indicates areas where training is necessary to maximise effectiveness. When policy makers are asking non-dental professionals to take part in primary prevention it is important to get all involved in oral health promotion feeling they have the possibility of successful outcomes to their efforts, this is particularly important if non-dental oral health educators are going to promote early dental visiting as a key message.<sup>6,7</sup>

One benefit of having a white colour code, on the individual level, is that the child's oral state pre-eruption is white and communication can focus on maintaining the white state through ensuring behaviours are generating disease inactive mouth environments.

Another benefit of having a white colour code is on the communal level, the dental team can promote to their patients how many children in age bands are in the white category. This can be done in-house and through social media, giving their existing

Name		Date				
Year	Date	WHITE	GREEN	YELLOW	RED	OVERALL
2021	2020.20	M T G				

Figure 1 Patient held record card

and potential patients a flavour of the ethos of the practice. An excellent marketing tool to expand a dental practice on this ethos. An approach that identifies that many remain in white normalises caries free states to all concerned. Normalisation has a positive effect on mothers to achieve this state for their children. Also this position reflects the reality of epidemiological data available showing that most 5 and 12 year olds are in a caries free state.<sup>8,9,10,11</sup>

**'Primary prevention can start with a pregnant mother through advising the early attendance of the child while a baby and ongoing continuing regular care.'**

Some preventive hands-on treatments for example fissure sealants are not the results of disease or inappropriate behaviours therefore non-verbal communication along with verbal communication can confirm that the activity (say a fissure sealant) is to maintain health through minimising risk of disease due to the tooth structure. White status is maintained even though treatment has been delivered.

There are pitfalls that need to be addressed if the colour code is to be used successfully. These include recognising the parent and indeed the child's emotional state if they move from the white category to the green category. If there are any signs of anxiety or emotional upset in this situation support can be offered through overt recognition of their state [*T*].

### Secondary prevention

Secondary prevention is about getting individuals to change behaviours that

create disease active oral environments into disease inactive oral environments. It is not only the teeth that concern us but also periodontal health and conditions that affect the oral cavity such as oral cancers and general health. Therefore, it is important to communicate this to the patients.

In conjunction with using a colour code a patient held record card Figure 1 completes the communication process. Mouth, teeth and gums are recorded on the patient held record card. Recording health positions focus the mind on current and future while creating a record of the past. All important elements of facilitating positive change [*T*]. The concept of risk and future attendance then becomes a positive benefit from good oral health.

One major benefit of the patient held record is that it shows the patient that the dentist is checking the mouth for general conditions such as oral cancer screening. Another benefit is that the patient can understand that scaling and polishing is not necessarily for health purposes. If the gum score is green then the scaling appointment is for aesthetic purposes and not health driven.

A pitfall with gum health is the management of periodontal disease. The management of periodontal disease provides the opportunity to demonstrate the application of secondary prevention. Chronic gingivitis is usually due to ineffective plaque control and is pain free and therefore the patient is often unaware of the problem. This is complicated from the patient's perspective because most of the time the patient is already performing the recommended behaviour of tooth brushing all be it ineffectively. For many just implying that an individual is not performing adequately generates an emotional challenge.



Figure 2 Distribution of disease in the community

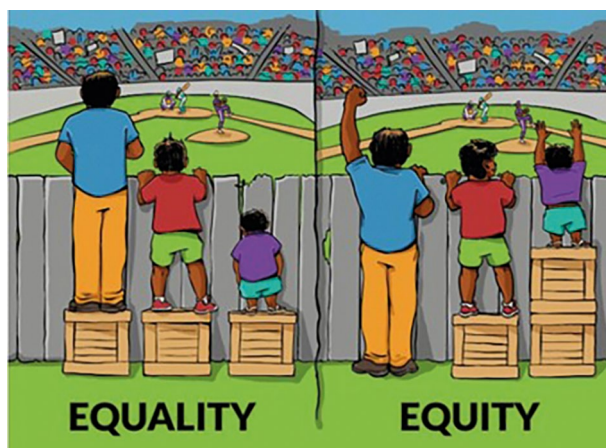


Figure 3 Equity vs Equality

Diagnosing periodontal conditions presents little problem for practitioners but communicating the situation and solution to the patient is not so easy. In this situation the colour code becomes a useful tool to facilitate communication. If the mouth and teeth score white/green (health) and the overall score is yellow because of the gums score then that identifies the problem. Following up with a description of plaque being a normal biofilm that needs to be kept immature clarifies that one can never get rid of plaque as it is a normal life process, therefore one can be 'clean' when there is immature plaque present.

This separates the concept of cleanliness from the cleaning process. Then the discussion can move on to checking the cleaning process (plaque control) through showing the patient that immature plaque is invisible to the naked eye whereas visible plaque is mature plaque. The action of showing this to the patient tells the patient that they are already brushing but in some areas the plaque is mature. The patient can then deduce that they need to be focusing on those areas with their brushing activities. Also this makes it

'Diagnosing periodontal conditions presents little problem for practitioners but communicating the situation and solution to the patient is not so easy. In this situation the colour code becomes a useful tool to facilitate communication'

clear to the patient why there is bleeding as this will be visible while showing the mature plaque.

Blue = Caries Free  
Green = Minimal Restored Caries

It is important to understand that patient interpretation of 'you need to brush your teeth better' can be 'how dare he/she say that I don't 'wash' [T].

There are many examples where generalisations such a 'you need to be eating less sweets' are not helpful in the context of

moving people from disease active to disease inactive oral health states. Applying effective secondary preventive strategies to maximise opportunities for change is the challenge for the general dental practitioners of today in order to maintain the status of health care professional.

### Tertiary prevention

Historically much of routine general dental practice has been about tertiary prevention, that is repairing the consequences of disease activity in the mouths of the communities they serve. Dental practitioners have become very efficient in delivering hands on treatments for their patients.

Tertiary prevention is about delivering 'downstream' treatments but it goes hand in hand with 'upstream' prevention. That is, it's not only about saving them when they fall in the river but putting up a fence to stop them falling in. The concept of tertiary prevention is clearly visible within organisations with the effective use of an oral health colour code system. A dental team working together towards oral health can make every contact count through taking upstream serendipitous opportunities to nudge patients in the right direction towards behaviours that create disease inactive oral conditions. A huge benefit for dental professionals maintaining their health professional status through actions that impact on the oral health of the community.

### The need for prevention

Ashley discussed the issue of targeting dental health education at caries-prone groups. In this publication, now over 40 years old, he considered the pros and cons of targeting approaches and concluded that there was merit in providing oral health education to all.<sup>12</sup> His rationale was that disease activity was behaviour related and as such the 'healthy' need to have all the information understood and reinforced (primary prevention) along with strategies to promote changes in behaviour (secondary prevention) (Figure 2).

Epidemiological surveys show us that 70% of 12 year olds are caries free. However, the 30% with caries do not all have high levels of disease, as a generalisation up to 20% have relatively high levels of caries.

This means that two populations are being served by general practitioners. Population A with relatively high levels of

disease and disease activity. Population B with no or very low levels of disease and disease inactivity. Population B (colour code white/green) preventive needs are such that a check on knowledge/understanding is needed along with a suitable supportive reinforcement (some preventive prophylaxis). Population A on the other hand (colour code yellow/red) will have preventive needs that need the promotion of behaviour change along with active interventional treatments. The effectiveness of behaviour change will depend on the careful strategic utilisation of the time frames of interventions [T].

It can be seen that of the five key messages in oral health education one is the promotion of attendance at the dentist. The frequency of attendance should be linked with disease risk and research has shown that the dentist's opinion of risk is a good indicator of need.<sup>4,6</sup>

### Service delivery and monitoring

Population A correlates with social deprivation, with some exceptions.<sup>13</sup> However, attendance at the dentist is polar opposite.<sup>14,15</sup> This suggests that there is an imbalance in service delivery. Clearly applying risk based attendance strategies will reset the current balance away from population B towards population A.<sup>16</sup> This is the thinking behind redesigning the Welsh Dental Contract, the Covid-19 crisis has forced the drive towards this position.<sup>17</sup>

Equitable service delivery is about matching need with demand for care, therefore an individual approach is needed in order to make smart decisions that promote health outcomes. One needs to be mindful to consider the issues of wastage and disadvantage when organising equal care. Figure 3 graphically demonstrates how the equal treating of unequal groups results in resource waste and added burdens.

Social inequalities in oral health have been recognised globally and the FDI have published their goals for improving inequalities, one aim is population coverage.<sup>18</sup>

Monitoring service delivery includes process monitoring and also outcome monitoring, in view of the fact that dental practitioners are trained to graduate level and that professionals are able to risk patients appropriately<sup>4</sup>

then it seems reasonable to allow dental practitioners to lead their teams to generate outcomes. Therefore, outcomes in terms of practice profiles would be a better fit for the effectiveness of care delivered to populations.

Richards *et al* (2021) based on historic Unitary Authority data for Wales conclude that improving oral health in a diverse population like Wales cannot be achieved by increasing dental workforce alone, it is necessary to account for levels of deprivation.<sup>19</sup> Richards *et al* (2020) suggest outcomes according to deprivation/continuing care data.<sup>20</sup>

### Conclusion

The use of colour codes as communication tools have many benefits as described above. Finally the concept of supervised neglect should be considered. Supervised neglect has negative connotations, where the clinician does not restore diseased teeth when present. However, the use of colour codes depicting disease states can clearly aid effective identification of disease in order to advise patients of the behaviours that will change disease activity states. When clinicians record interactions and accept the responsibility of ongoing continuing care and supervise the patients' neglect in a structured appropriate manner then the neglect cannot be attributed to the clinician. This is particularly relevant when Minimal Intervention Oral Care (MIOC) is being promoted.<sup>21</sup>

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