

DENTAL HEALTH

03

CHECKING UP ON THE UK'S POOR DENTAL HEALTH

Despite the importance of oral health, many still neglect their teeth

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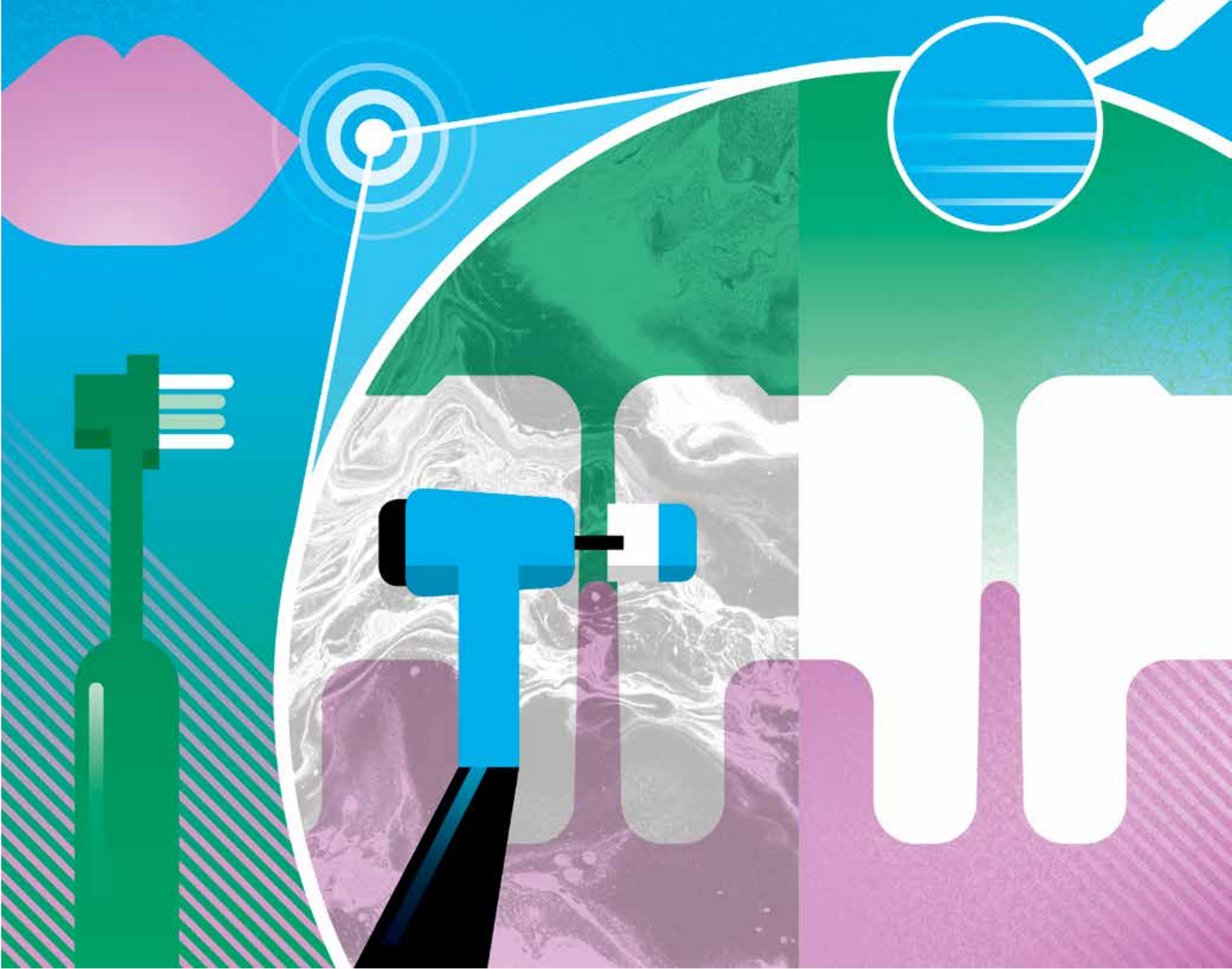
BLEEDING GUMS AND TEETH FALLING OUT

Is shock marketing scaring people rather than promoting dental health?

15

TECH IS A CROWNING DENTAL EXPERIENCE

So much to smile about as dentistry approaches an advanced digital age



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*Source: A survey of dental hygienists in the UK, Eaton et al. (2012).

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DENTAL HEALTH

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OVERVIEW

Checking up on poor dental health

Despite the importance of oral health, too many people in the UK neglect their teeth and gums

MARTIN BARROW

The quest for parity of esteem between mental health and physical health in the NHS has become a major concern for society, and attitudes are slowly changing. But what about oral health?

The sense that it is “only teeth”, and somehow less important than other aspects of physical health, remains deeply entrenched. This is frustrating further progress in improving the nation’s oral health and threatens to undo the achievements of recent years.

While great strides have been made in improving oral health overall, the state of the nation’s teeth remains a cause for concern. There is significant variation in oral health across the UK, with some parts of the country showing little improvement over the past 20 years.

Children are now more likely to be admitted to hospital because of tooth decay than for any other health issue. About half of adults and some 60 per cent of children simply never go to the dentist even though regular check-ups to maintain good oral health are widely encouraged.

Persuading the general public to take their teeth more seriously is no easy task when official attitudes to dentistry and oral health are ambivalent. The *NHS Five Year Forward View*, the template for health services in England in the period to 2020, did not include dentistry. This is despite the fact that millions of patients see an NHS dentist every year. Many of these patients are subsequently referred to other parts of the NHS for further treatment.

Around £6 billion a year is spent on dental treatment in the UK, which is broadly the same as the cost of NHS cancer services.

A further complication is that overall responsibility for oral health in England lies with local authorities, as part of their public health remit. Given the competing demands on cash-strapped councils, it is perhaps no surprise that encouraging people to go to the dentist is not given the highest priority.

The enduring sense that dentistry is expensive and increasingly weighted towards private patients does not help. Last year Dr Sara Hurley, chief dental officer for England, made headlines when she suggested that patients should challenge dentists who insist they must come back for check-ups every six months. Although Dr Hurley’s advice appeared



Photofusion/UiG via Getty Images

periodontal disease, but may also help with the management of other chronic inflammatory conditions.

Several studies have shown that periodontal disease is associated with heart disease. While a cause-and-effect relationship has not yet been proven, research has indicated that periodontal disease increases the risk of heart disease. Scientists believe that inflammation caused by periodontal disease may be responsible for the association.

Periodontal disease can also exacerbate existing heart conditions. Patients at risk for infective endocarditis may require antibiotics prior to dental procedures. A periodontist and a cardiologist will be able to determine if a patient’s heart condition requires use of antibiotics prior to dental procedures.

Additional studies have pointed to a relationship between periodontal disease and stroke. In one study that looked at the causal relationship of oral infection as a risk factor for stroke, people diagnosed with acute cerebrovascular ischemia were found more likely to have an oral infection when compared to those in a control group.

Over the next few years we shall learn more about the relationship between oral health and other conditions. But already it is clear that dentists can play an important role in helping the NHS to promote behaviour that encourages health and wellbeing, around diet, smoking and alcohol consumption in particular. Prevention is likely to be an important constituent of the eventual successor to the 2009 NHS Dental Contract, with a number of pilots currently being tested across England.

Advances in technology are changing the way that dentists work, which will have a positive impact on the interaction with patients, as well as helping the profession to become more efficient. The adoption of digital technology is increasing access to single appointment dentistry, in which crowns, veneers and bridges can be provided on the same day, reducing discomfort and inconvenience. Dental equipment generally is becoming far less intrusive and much more precise, leading to better outcomes as well as helping to put patients at ease.

Dentistry has a critical role to play as the NHS strives for sustainability. They may not have been mentioned in the *NHS Five Year Forward View*, but dentists have every right to demand parity of esteem. For there is no health without oral health. ●

to be aimed at patients with good oral health, her comments served to reinforce the view that the cash-strapped NHS has other priorities.

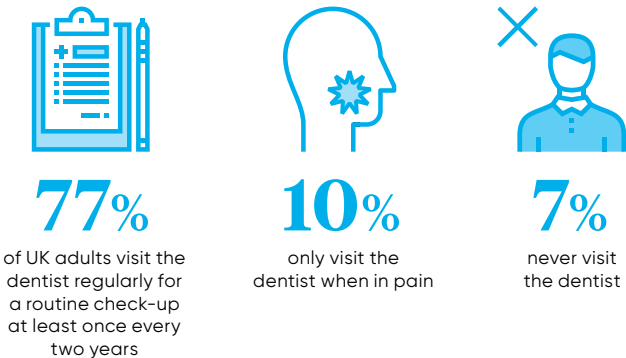
This prevailing narrative of dentistry runs somewhat counter to the ambition of the NHS to focus on preventative interventions, with the aim of keeping as many people in good health for as long as possible and out of hospital. The NHS also promotes a policy of making every contact count, advising all health professionals to use each patient contact to encourage changes in behaviour with a positive impact on health and wellbeing.

This approach appears tailor made for the approximately 24,000 NHS dentists, who see some 30 million

patients over a typical two-year period. Not only are dentists likely to be able to spend more time with each patient than a GP, but in recent years dentists have advanced their understanding of the strong association between oral health and general physical health.

Tooth-brushing and flossing to maintain healthy gums has been common knowledge for many years, and has played a significant role in improving general oral health. However, evidence is building of links between oral infection and bacteria with conditions such as cardiovascular disease, diabetes, respiratory disease and adverse pregnancy outcomes.

Treating inflammation, therefore, may not only help manage



The invisible truth about your teeth

Are your off-white chompers trying to tell you something?

We spend thousands on our hair, skin and make-up and days choosing the perfect outfit, but all the while ignoring the invisible foes hard at work to weaken our gnashers.

If you love smoothies or fruit juices, or sipping a glass of wine in the evening, then you could be a victim. A recent study showed that in the UK, 54 per cent of young adults, aged 18 to 35 years, have significant tooth wear.¹

So why are we not doing right by our enamel?

Enamel is the hardest substance in the body and half as scratch-resistant as diamond. Though it might be tough to scratch, it's quite easily demineralised by acid attack. The enamel erosion process often goes unnoticed. And once enamel is lost, our body cannot regenerate it.

There are various causes of enamel erosion. Some people grind their teeth

at night due to stress, but the main culprit is the habit of constantly drinking and snacking throughout the day.

The frequency of acid attacks on enamel has a serious effect and it often goes unnoticed. The saliva is unable to neutralise the acid and remineralise the tooth with the constant onslaught of acid attacks, and so enamel erosion occurs. The consequences can be transparency, yellowing, sensitivity and even cracking.

While we might think that sparkling water is a healthy option on a night out, the gas in carbonated water has a pH level of 3.9 and puts it on the same acidity levels similar to beer and wine. With pH 7 being neutral, while you might be taking care of your liver, your teeth are getting a battering.

And you aren't even safe from fruit juices either with a pH level of around 3.4, while sports drinks and sodas range in pH as low as 2.3. To put that into context, stomach acid has a pH of 2.0.

REGENERATE Enamel Science™ is the first dental care system able to reverse the early invisible stages of the enamel erosion process and regenerate the enamel mineral.¹

Fred Schafer, who led the nine-year research into the REGENERATE system, explained that the treatment is inspired by technology used to regrow bone following trauma or tumour removal. REGENERATE is powered by a similar technology essentially to deposit enamel mineral on to the teeth.

"The essential mineral found in bone – hydroxyapatite – is not dissimilar to that found in teeth, so why

not transfer it from A to B? That was one of those light-bulb moments," explained Mr Schafer.

"REGENERATE Enamel Science is the only system on the market that manages to form a layer of new enamel mineral on top of existing tooth enamel. That is its unique strength."

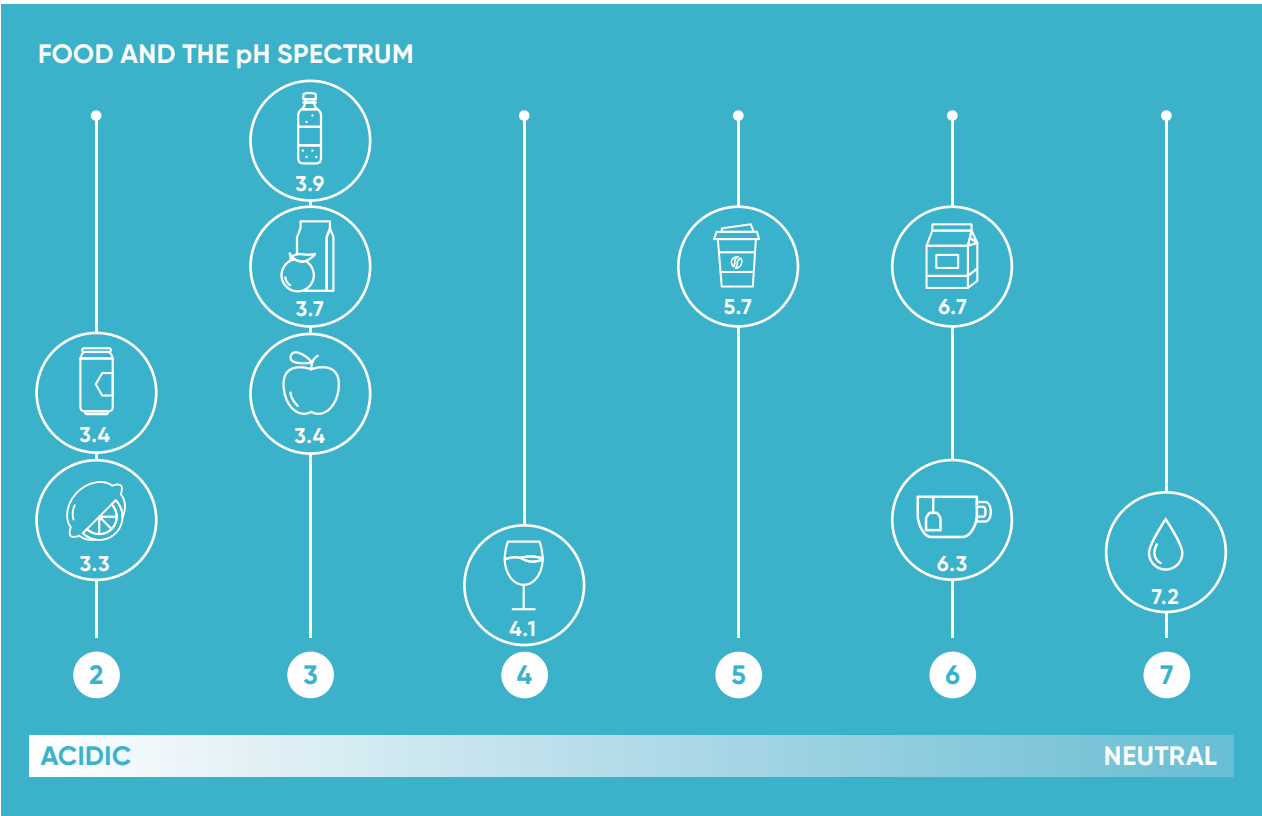
“ REGENERATE Enamel Science is the only system on the market that manages to form a layer of new enamel mineral on top of existing tooth enamel

REGENERATE Enamel Science is clinically proven to regenerate 82 per cent of enamel mineral in three days.² The Advanced Toothpaste helps restore original whiteness and provides stronger teeth thanks to the minerals in its formula, calcium silicate and sodium phosphate, naturally present in your enamel. REGENERATE™ Advanced Enamel Serum offers a boost of the regenerating power, improving the effectiveness of the toothpaste by 43 per cent in just a few minutes a day for three days once a month.

And as nobody wants to travel with a range of dental apparatus, this year REGENERATE Enamel Science launched a travel-sized Advanced Toothpaste, ideal for when you need a bit of zing on the wing.



DR RHONA ESKANDER
CHELSEA DENTAL CLINIC



A little education about erosion wouldn't go amiss, says Dr Rhona Eskander of Chelsea Dental Clinic. "The problem of enamel erosion is on the rise," she says. "I see more and more cases of it in my practice. As dentists, we are trained to focus so much on gum disease and tooth decay that it's lower on our list of priorities, however the consequences can be just as damaging, leading to thinning and cracking of the teeth, sensitivity and tooth yellowing."

By seeing a dentist regularly and getting a proper diagnosis, patients can be helped to nip the dental erosion in the bud and minimise the consequences with early preventive or restorative treatment. "We can also advise about simple lifestyle and dietary changes which can mean that the problem is not escalated and more radical treatment is not required," says Dr Eskander.

REGENERATE Enamel Science is available at most Boots stores and online.

For more information please visit www.regeneratenr5.co.uk

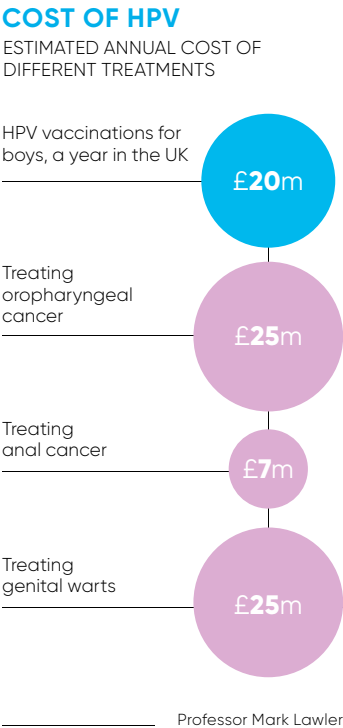


1 Unilever enamel erosion data Europe: UK 54.5 per cent; France 26.1 per cent; Italy 26.3 per cent. 2 Based on an in-vitro test measuring enamel surface micro hardness after three days' combined use of toothpaste and serum. Acts on early invisible stages of enamel erosion by restoring its mineral content and micro hardness with regular use. Clinically proven. 3 As demonstrated in an in-vitro test measuring enamel surface micro hardness after three days of combined use of toothpaste and serum compared with toothpaste only. Acts on early invisible stages of enamel erosion by restoring its mineral content and micro hardness with regular use. Clinically proven.

HPV VACCINATIONS



Andrey Popov/Shutterstock



Jabbing at gender inequality

An overwhelming majority of dentists and GPs are backing calls for vaccinations against the oral cancer-related human papilloma virus to be extended to school-age boys

SOPHIE GOODCHILD

When it comes to detecting oral cancers, dentists are on the frontline against these life-threatening diseases. That is why many consider it a major concern that the vaccine offering protection against the human papilloma virus (HPV), the leading cause of some throat and mouth cancers, is only offered free in the UK to school-age girls and not boys.

The British Dental Association

“It’s a health inequality when something that works in both sexes is only used in one

(BDA), other bodies representing healthcare professionals and patient groups have lobbied for a gender-neutral approach to halt the rapid increase in HPV-related cases. A recent poll found that the overwhelming majority of dentists and GPs would want their son to get the jab, and the government’s vaccine programme extended to boys.

Yet any prospect of this happening is remote. The UK’s independent expert panel on vaccine issues, the Joint Committee on Vaccination and Immunisation (JCVI), concluded this month that expanding the scheme was unlikely to be cost effective. A final decision will be made in six weeks, although the JCVI is unlikely to reconsider.

This is despite oropharyngeal cancer (OPC), a disease that starts in a part of the throat, being four times more likely to occur in men than women. Worldwide projections indicate that OPC will be more common than HPV-related cervical cancer in women by 2020,

according to research published in the *Journal of Clinical Oncology*. In addition, HPV which is spread through sexual activity has been linked, according to the National Cancer Institute, to 5 per cent of cancers worldwide, including penile and anal. The virus is also to blame for 48,000 genital wart diagnoses in British men every year.

The outcome of the JCVI review effectively means that 400,000 school-age boys are left at risk, according to Mark Lawler, from Queen’s University Belfast. He says a universal programme could prevent cancer, and reduce the cost to the NHS and to the country.

“This is a huge wasted opportunity. We talk about preventing HPV-related cancer, but we’re not doing it with boys,” adds Professor Lawler. “It’s a health inequality when something that works in both sexes is only used in one. As well as a human cost, cancer impacts the economy because people can’t work.”

The HPV vaccination programme was implemented in 2008 with girls targeted on the grounds that protection was principally a female issue. The objective was to prevent infection from two high-risk types of HPV that cause at least 70 per cent of all cervical cancers. This was before the link between the virus and oral cancers, including in men, was fully known.

In theory, boys are protected by so-called “herd immunity”. Vaccinating women reduces the risk of men becoming infected. But this has potential limitations given vaccine uptake among girls has dropped over the past year and variations exist across the country. This approach also does not take into account men from ethnic communities where again the rate of take-up is low. Neither does it protect boys who will go on to have sex with men, although males attending sexual health clinics can now get the vaccine for free.

Dr Andrew Green, British Medical Association’s GP Committee’s prescribing lead, says: “It would be impossible and unethical to identify those boys who will go on to have sex

as adults with other men. The only sensible way is to immunise all boys – it’s an equality issue.

“Boys get the MMR jab to reduce the spread of the rubella virus, which is dangerous for pregnant women. It’s bizarre that this hasn’t happened with HPV.”

The policy not to extend the vaccination programme means parents with sons may go private. The pharmacy sector has been gearing up by extending availability of the jab. In March, Superdrug said it would be available in 62 stores for nine to twenty six year olds, then Boots announced it would offer the vaccination service in 68 outlets to males and females aged 12 to 44.

“This helps ensure more men and boys across the UK have access to this important vaccination,” says Richard Bradley, Boots UK pharmacy director. “It’s an example of how community pharmacists can use their clinical skills to support patients’ health in locations and at times convenient to them, and

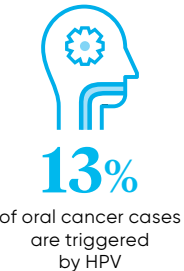
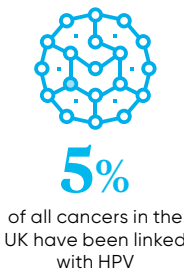
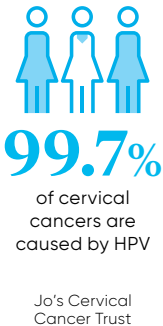
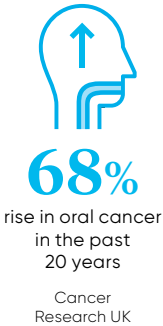
complements existing NHS vaccination provision.”

This service comes at a considerable price though. Boots is charging £300 for parents with sons aged 12 to 14 and £450 for 15 year olds or over, a cost only afforded by affluent parents. Therefore, a consequence of the NHS not funding the jab for boys will be a health divide between the haves and have-nots, says Oral Health Foundation chief executive Nigel Carter.

“Parents of boys could pay for the vaccine, but it will literally come at the price of increased inequality,” he says.

A possible way forward is a legal challenge on the grounds of gender bias. Campaign group HPV Action has indicated they are considering this step under equality laws, unless the JCVI changes its mind. The fight is not over, says BDA chair Mick Armstrong: “The state has a responsibility to offer the best possible defence against HPV to all our children – and that includes boys.” ●

PREVALENCE OF HPV



SHOCK MARKETING



Advertising designed to scare consumers is common in the dental health industry, often featuring images of missing teeth and people in pain

DAVID BENADY

Dental care brands are turning to shock tactics and fear to get consumers to sit up and take notice of their products. TV, print and online ads for toothpaste and mouthwash brands are using images that highlight rotten teeth, bleeding gums and the dangers of “acid sugar”.

Dentists cautiously welcome the use of frightening images in advertising to motivate people to take greater care of their teeth and gums. But they warn that the advertisers’ scare tactics could exacerbate people’s already considerable fears about visiting their dentist.

A striking example of fear-based advertising is from mouthwash and toothpaste brand Corsodyl. The brand, which promises to fight gum disease, has a history of hard-hitting ad campaigns which play on people’s anxieties about tooth loss and bleeding gums to drive home its message.

A TV commercial for Corsodyl last year showed a woman spitting out six of her teeth, then waking up and realising this had been a bad dream. The ad claims that gum disease is the leading cause of tooth loss, but that Corsodyl toothpaste or mouthwash can help keep gums healthy. The closing frame of the ad shows the woman looking in the mirror to reveal that one of her teeth is missing. “Losing a tooth in real life is worse than a bad dream,”

“Advertisers’ scare tactics could exacerbate people’s already considerable fears about visiting their dentist

Bleeding gums and teeth falling out

Are shock tactics in advertising dental care products having a positive effect or do they scare more people off from visiting a dentist?

says the voiceover. The ad plays on deep-seated fears about tooth loss.

Dr Ben Atkins, clinical director of Revive Dental Care in Manchester and a trustee of the Oral Health Foundation, says: “Any way in which we can get more people thinking about their oral health is essentially a good thing.” But he believes that using fear as a marketing tactic could backfire. “The issue I have with shock adverts is that they often have the adverse effect they are aiming for,” he says.

Dr Atkins is concerned about “white-coat syndrome” – people’s fear of visiting the dentist. “There is already a huge perspective of the dentist being the ‘enemy’ and dental anxiety is a big problem,” he says. “Many people bury their heads in the sand when it comes to their oral health and we don’t want to perpetuate these myths.”

The Corsodyl ad prompted 11 complaints to the Advertising Standards Authority (ASA) from people who said the portrayal of spitting teeth was offensive and distressing. But the ASA decided not to investigate the ad as it believed there was no breach of advertising rules.

Corsodyl is owned by pharmaceutical giant GlaxoSmithKline (GSK). In a statement, the company says tooth loss can be caused by a severe form of

gum disease called periodontitis and that it is vital to treat early symptoms such as bleeding gums. And it says UK surveys show that some level of irreversible periodontitis “affects almost half of adults”.

“Given both the lack of awareness and understanding of the condition, we created an advertisement for Corsodyl depicting an anxiety dream about losing teeth. This was intended to highlight how important it is not to ignore the early signs of gum disease,” the company says.

Dental ads use a variety of scary images in promotional materials. Colgate encouraged children to brush their teeth in a cartoon video showing evil characters the slimy Placulus and his band of plaque monsters. Colgate Kids ran a campaign to encourage children to change toothbrush showing the Invisible Nasties, a group of frightening cartoon characters. A GSK toothpaste brand, Sensodyne Rapid Relief, has posted a video on YouTube which explains: “The following footage shows real people experiencing real pain,” as they bite an ice lolly, take a drink or simply grimace in agony because of tooth pain.

The shock tactics seem to work, with Corsodyl ploughing more than

£7 million into the Dreams campaign and launching a new, slightly less shocking campaign this year.

Even so, much dental advertising is upbeat and accentuates the positive effects of good oral care. Many toothpaste ads focus on achieving healthy, white teeth. As Elizabeth Foord, a strategy director at Colgate’s advertising agency Red Fuse, says: “The growth of social-media platforms has made many people keen to have bright white teeth for pictures on Facebook or Instagram.

“Having that perfect white smile is a symbol of health and wealth. A white smile is something that people are craving more than they used to, there is much more emphasis on the public image.”

But Ms Foord agrees that fear plays a huge part in people’s attitudes to dental care. “One of the most potent emotions is fear and one of the reasons that dental advertising is quite difficult is that we are all scared of losing our teeth,” she says. “It is a very primal emotion and as a result we don’t like to think about oral health until it is too late.” She believes shock tactics risk putting people off thinking about their teeth.

In fact, oral health has improved markedly over the past 40 years. Dr Atkins attributes this largely to heavy marketing of fluoride in toothpaste since the 1970s, which has helped to fight tooth decay. But he stresses the vital role of the dentist.

He says: “It is about sitting and working with your dentist and saying ‘which product is better for me, and how long should I use it for and what do I use it for and when do I use it?’ So having that appointment with your dentist to go in and say ‘should I be using this Corsodyl?’” But Dr Atkins concedes that shock tactics in advertising can make some people scared enough to go and see their dentist to have such a conversation. ●

FEAR OF DENTAL HEALTH



50%
of UK adults have a fear of the dentist



12%
of these suffer from an extreme dental anxiety



Women are more likely to suffer from extreme dental anxiety than men



36%
of those who don't see a dentist regularly say that fear is the main reason

The beautiful, intelligent and revolutionary toothbrush for a perfect white smile

Whiter teeth starting from day one; healthier teeth and gums forever



A dazzling smile and good oral health are two of the cornerstones of a confident lifestyle, and a revolutionary electric toothbrush has brought them together with a unique fusion.

The Oral-B GENIUS 9000 in Rose Gold provides a rare moment when style, beauty and technology combine to promote health and wellbeing tailored to each user. Tooth-brushing has remained a difficult mechanic for generations who have struggled with the recommended two-minute brush time, the pressure and angles, no matter how committed they are to oral care.

The intelligence-driven GENIUS 9000 is now taking the repetitive strain out of cleaning with connected technology that works with an app to provide personalised guidance and feedback, making it easy to brush like your dentist recommends. The brush-head designs enable even more personalisation. The results, time after time, are healthy gums, clean teeth and a dazzling white smile that promotes confidence at work, social events and everyday life.

BEAUTY WITH BRAINS

The Oral-B GENIUS 9000 in Rose Gold is the latest and most glamorous addition to the Oral-B GENIUS smart toothbrush range. This beautifully designed electric toothbrush is now a must-have device and the perfect combination of brains and beauty. It's unique array of cutting-edge motion sensors guide users to the perfect brushing technique with multiple function brush heads. The unique 3D White whitening brush head imitates the shape of professional dental tools to gently polish away surface stains starting from day one, revealing a gleaming white smile.

"It's no secret that a beautiful smile will result in a solid first impression, and part of having a beautiful and engaging smile is through achieving your best oral health," says Dr Uchenna Okoye, Oral-B smile director and clinical director of the London Smiling Dental Group. "It's crucial to have the right beauty gadget to keep your teeth in check, and the Oral-B GENIUS 9000 in

It's crucial to have the right beauty gadget to keep your teeth in check, and the Oral-B GENIUS 9000 in Rose Gold is the perfect combination of beauty and brains



Rose Gold is the perfect combination of beauty and brains. The 3D White whitening brush head mimics the shape and action of what I use professionally in my clinic to gently polish away surface stains, enhancing brushing routines and revealing that perfect white smile."

GENIUS toothbrush

Research has shown that the average time taken brushing teeth is around 45 seconds despite dental experts advising two minutes. Other studies have highlighted that it is easy to miss sections of your mouth and to press too hard causing the gums to recede and heightening potential for disease. The secret to healthier teeth and gums is in Oral-B's Position Detection Technology and Triple Pressure Sensor Technology that deliver an efficient and effective teeth-cleaning regime. The Triple Pressure Sensor Technology protects against over-aggressive brushing, which is one of the prime causes of gum tissue abrasions, often applied by those who use a manual toothbrush. The GENIUS 9000 automatically senses when too much pressure is being exerted and decelerates the

brush head while activating a warning light until an acceptable pressure is resumed. Surveys have shown that, with Oral-B guidance, up to 93 per cent of aggressive brushers reduced excessive force and increased time spent brushing.¹

Oral-B research found that 80 per cent of people spend insufficient time brushing in at least one zone of their mouth and 60 per cent of people either didn't brush their back molars at all or spent insufficient time brushing them.² The Position Detection Technology ensures that no zone of the mouth is missed and the Oscillating-Rotating-Pulsating Technology cleans each individual tooth with a round brush head that can penetrate difficult-to-reach areas for a superior cleaning every session compared with a regular manual toothbrush.

With the Oral-B GENIUS brushing programmes synced to a smartphone positioned in a holder on the mirror, it is easy to achieve the full two minutes, while regulating the pressure and position of brushing to achieve a complete clean. The electric toothbrush performance is guided by the Oral-B app on smart-

phones, making it a part of an increasingly connected domestic and work lifestyle.

A professional built-in timer ensures that each quadrant of the



mouth is brushed for 30 seconds to meet the dental-expert recommended two minutes. This precision approach to brushing helps guard against infection and disease, which has been identified as contributing to overall health as well as oral health.

The Oral Health Foundation, the independent charity dedicated to oral health, recommends daily and efficient brushing to keep disease at bay and adds: "A smile can be a great asset and because this is so important, it makes sense to give your teeth the best care with a simple yet effective oral hygiene routine."

For more information please visit www.oralb.co.uk

¹ Janusz et al, JDCP vol 9, No 7, November 2008

² Data on file, P&G Motion Tracking Survey

DAILY BRUSH THAT DELIVERS

The boredom of regular brushing has been swept aside by the clever, engaging design features of the GENIUS 9000, which syncs to smartphones to become an integral feature of daily life. It even delivers news and weather updates along with helpful brushing tips. A special holder clips on to a bathroom mirror to provide a cradle for a smartphone linked to the Oral-B app, available on Google Play and iTunes, which displays a plan of the four quadrants of the teeth and displays brushing progress. It monitors brushing technique and provides advice if the pressure is too hard or vital zones have been missed. The instant feedback takes the guesswork out of brushing and involves the user in a task that

is often viewed as mundane and performed poorly. The precision-guided approach to daily brushing ensures a full and efficient clean is an engaging task and that users can achieve healthy teeth, gums and an impressive smile.

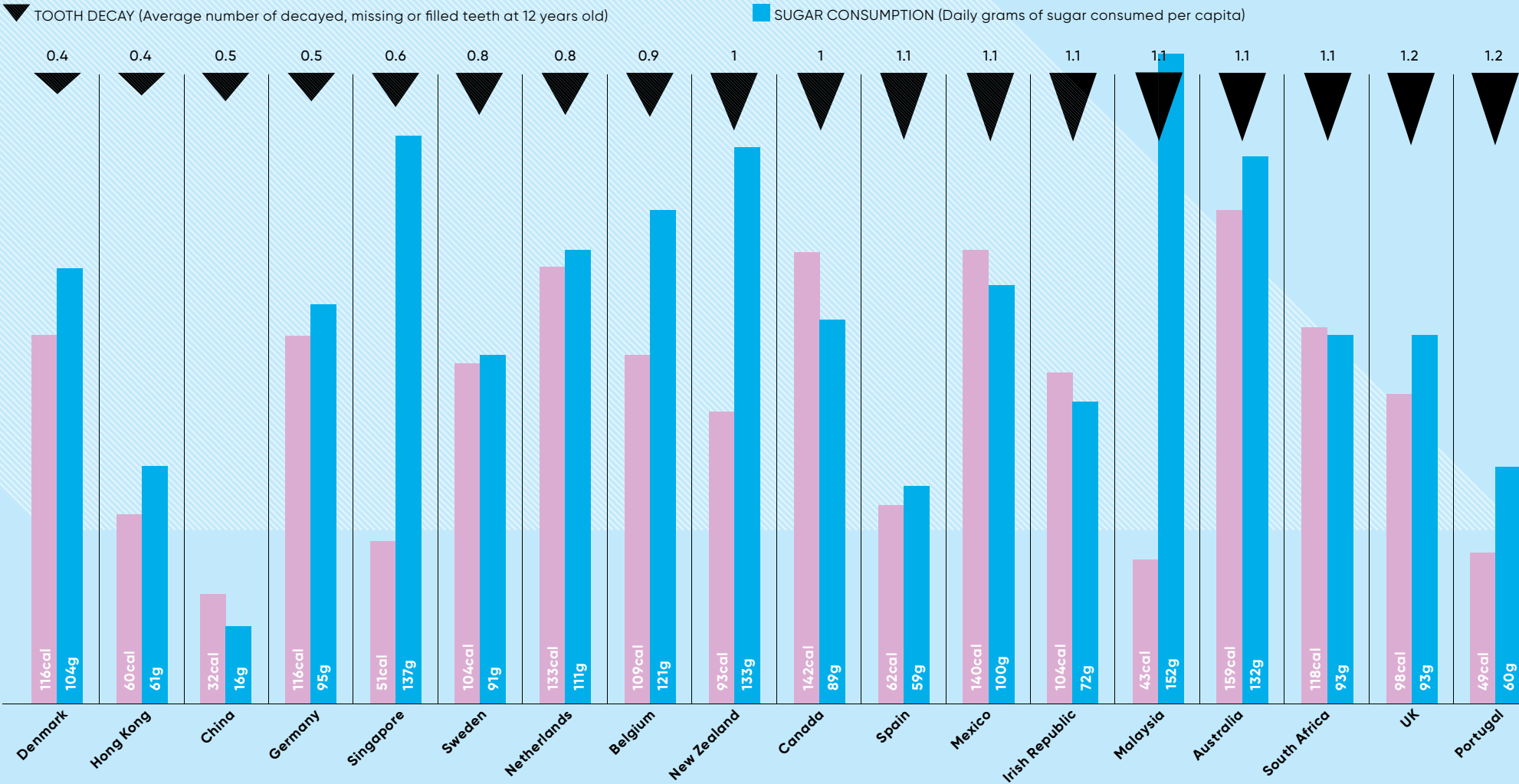


BITTERSWEET

Excessive sugar consumption plays a major role in tooth decay. While the sugar itself is not the problem – it’s this acid that starts to dissolve the enamel creating holes or cavities in the teeth – it’s this acid that starts to dissolve the enamel creating holes or cavities in the teeth. Excessive sugar consumption and tooth decay. Measuring decayed, missing or filled teeth at 12 years old

GLOBAL COMPARISON OF SUGAR INTAKE AND TOOTH DECAY

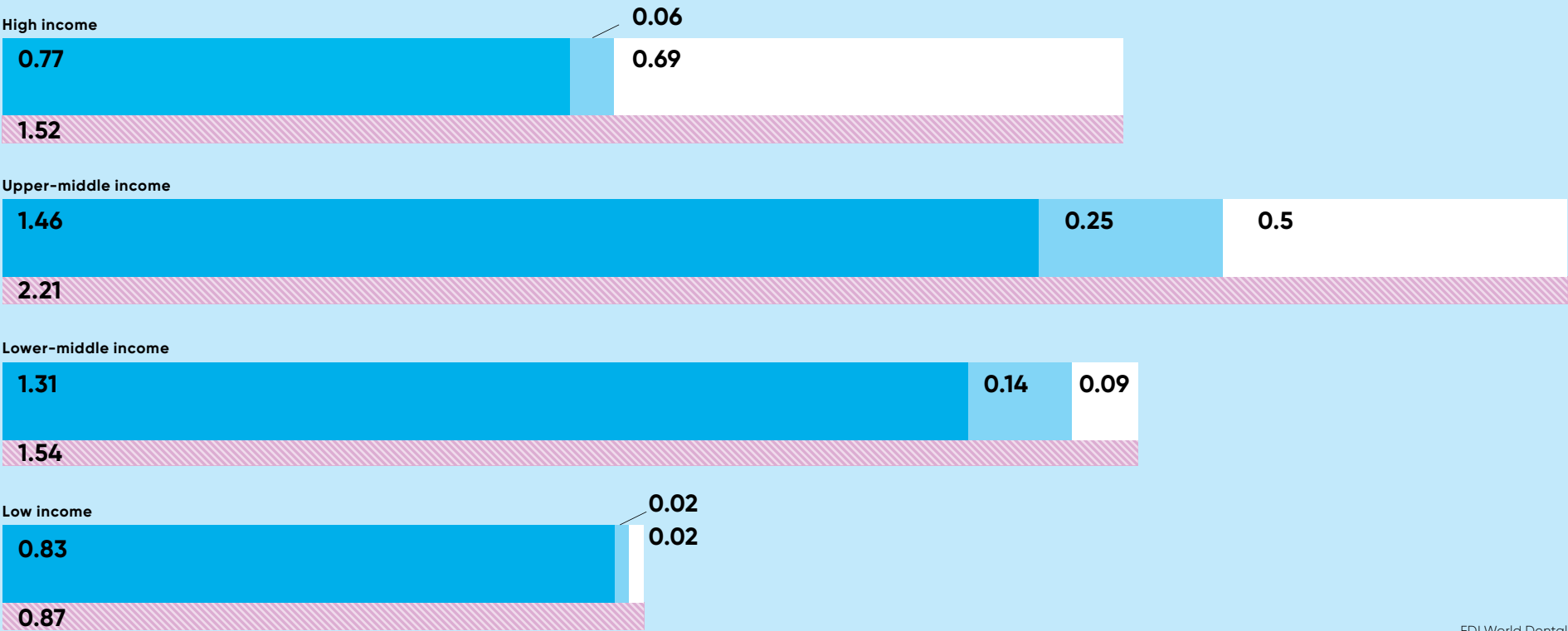
LATEST AVAILABLE DATA



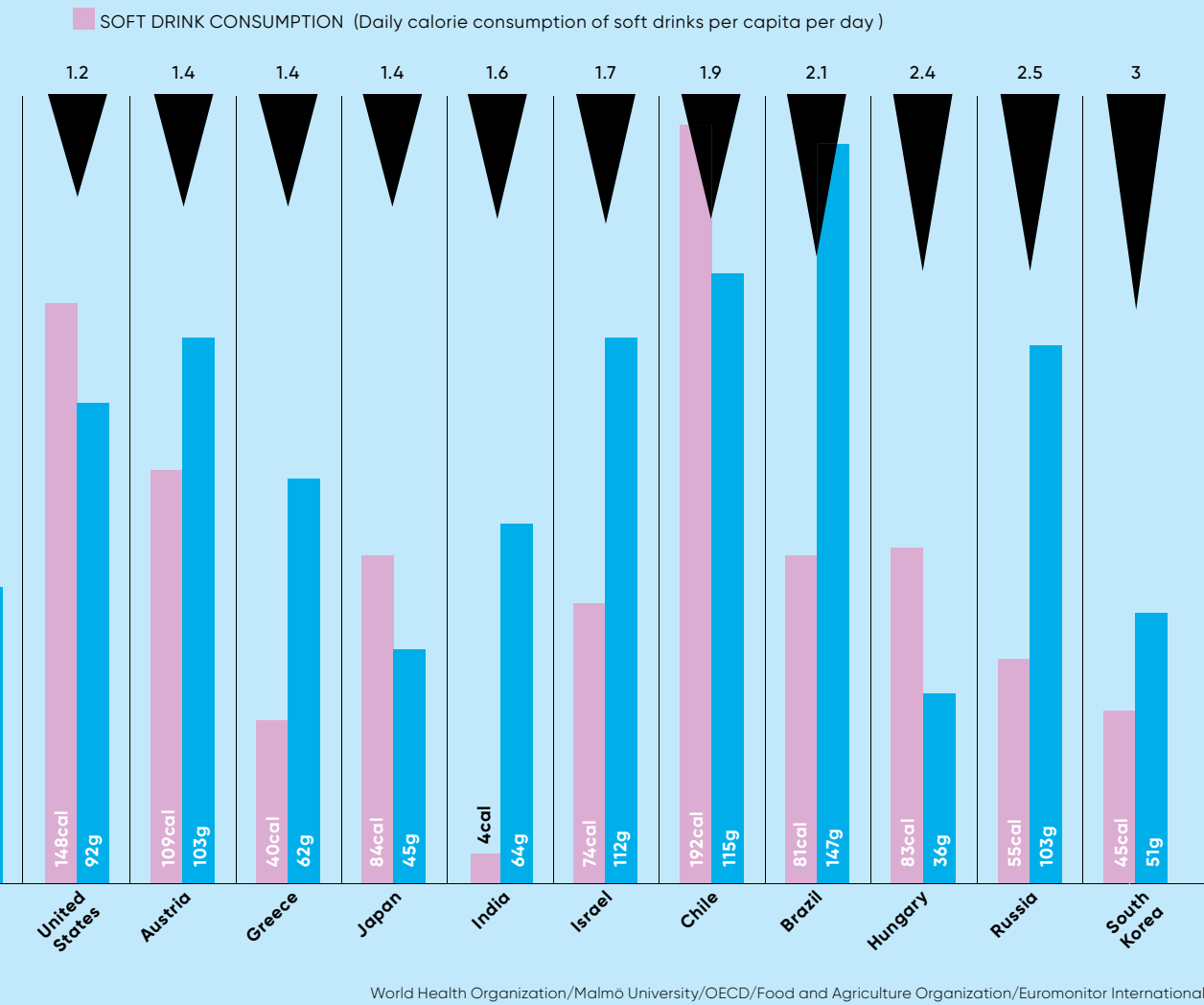
GLOBAL DISTRIBUTION OF TOOTH DECAY

AVERAGE NUMBER OF DECAYED, MISSING OR FILLED TEETH AT 12 YEARS OLD

● Decayed ● Missing ● Filled ● Total



Itself doesn't do any damage, acid is produced when bacteria in your mouth breaks down the sugar in food. This infographic explores food and drink habits around the globe to look for patterns in sugar consumption. Measuring the number of dental cavities per year of age is one of the most common methods for assessing the prevalence of dental cavities.

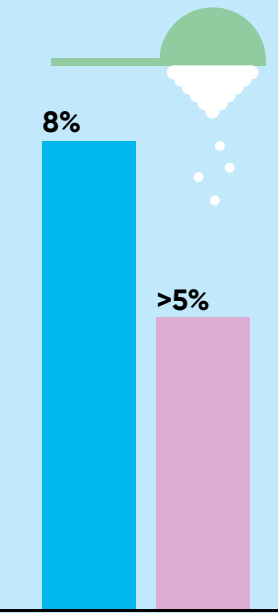


CURRENT AND GUIDELINE INTAKES OF FREE SUGARS

FREE SUGARS ARE SUGARS ADDED TO FOODS BY THE MANUFACTURER, COOK OR CONSUMER, PLUS SUGARS NATURALLY PRESENT IN HONEY, SYRUPS AND FRUIT JUICES

● Current global average ● World Health Organization recommendation to minimise the risk of tooth decay

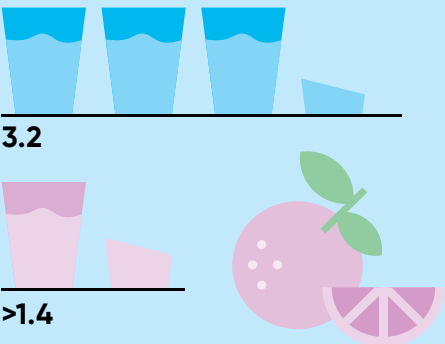
Percentage of daily calories from free sugars



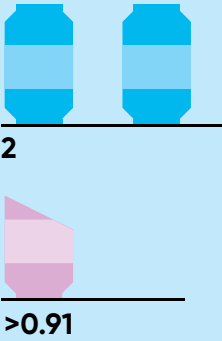
Volume of sugar equivalent



Glasses of orange-juice equivalent



Cans of cola equivalent



Food and Agriculture Organization/World Health Organization

POLICIES TARGETED AT REDUCING SUGAR CONSUMPTION



CHILDREN'S DENTAL HEALTH



Teach your children oral health

There are many lessons for children to learn about oral health, many which their parents failed to master

JOHN ILLMAN

Doctors are calling for health warnings on confectionary packets to reduce the huge toll of children – 34,000 in the last two years – undergoing tooth extraction under general anaesthesia. The proposal, at the British Medical Association’s annual representative meeting in Bournemouth, highlights increasing concern about reports that half of eight year olds have visible signs of dental decay, a third of children begin school with visible signs of decay and tooth extractions in the under-fours are up by 24 per cent in the last decade to more than 9,000 a year. Rotten teeth are the single biggest reason for children needing general anaesthesia.

Who is to blame? The food and drink industry? Government? Parents? Changing eating patterns? Schools? The answer is all these and more besides, according to dentist Dr Nigel Carter, chief executive of the Oral Health Foundation. He says: “Putting health warnings on confectionary packets wouldn’t have a significant impact. It would be just wallpaper. How many smokers are alarmed by or react to health warnings on cigarette packs? We need to look at the real problem areas.” Tooth decay occurs when sugar reacts with bacteria in plaque. This forms the acid that attacks the teeth and destroys the enamel. The *National Diet and Nutrition Survey* reported last year that children aged four to ten were consuming twice as much sugar as recommended and teenagers three times as much.

Dr Carter says: “Astonishingly, five year olds eat their weight of sugar in a year. And yet the government continues to ignore the crisis and put the wellbeing of millions at risk by bowing to pressure from the food and drink industry.” We have been brought up to eat three square meals a day, but a *BBC Good Food* poll found that nine out of ten people had abandoned that advice and resorted to snacking. Snacking up to seven times a day is not unusual. Dr Carter says: “Snacking is not good for teeth because it takes between 40 and 60 minutes for saliva to restore the acid balance in our mouths after we have eaten sugary foods and drinks – and most meals contain sugar. So the mouths of seven-times-a-day snackers take a real battering.” Child snacks often come with sugary drinks such as fruit juice and cans of Coke, which Dr Carter warns may contain 12 spoonfuls of sugar. The Oral Health Foundation is calling upon England to follow the example of Scotland where the Childsmile programme offers young children free toothbrushes, toothpaste, two fluoride varnish applications a year and free daily, supervised toothbrushing within nurseries and schools. Childsmile is reported to be saving almost £5 million a year in treatment costs such as extractions, fillings and general anaesthesia. Dr Carter says: “The cost of Childsmile in Scotland was recouped within five years. Wales is now rolling out a similar scheme. There are a few isolated examples of good practice in cities like Hull, Leicester and Manchester, but English health authorities have shown reluctance to invest in Childsmile despite clear evidence about the

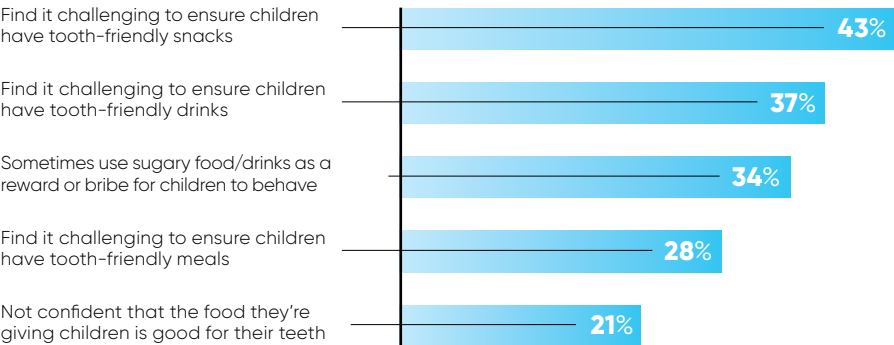
overwhelming benefits. It’s very disappointing and shocking.” Cutbacks have left English local authorities hard pushed to implement National Institute for Health and Clinical Excellence (NICE) oral health guidelines. Many local authority oral health promotion teams have been disbanded. A survey by the Oral Health Foundation in 2016 estimated that almost four million under-14s in the UK are at risk from serious dental problems because of inadequate toothbrushing supervision. More than one in three of the parents (37 per cent) said they stopped supervising their children’s brushing before the age of seven. NHS guidelines advise parental supervision up until at least the age of seven. One eminent expert recently went a step further. Nigel Hunt, of the Royal College of Surgeons, advised parents to brush children’s teeth, or at least supervise cleaning, until their permanent teeth are in place, at about the ages of 11 or 12.

“ Stopping children from becoming overweight by restricting sugar consumption could have a major knock-on effect on dental health

This presupposes that parents know how to clean their own teeth properly, but many fail this test. Dr Carter says: “It’s the case of the blind leading the blind. Most people spend about 45 seconds cleaning their teeth.” Recommended cleaning time is two minutes, twice a day, including last thing at night. Stopping children from becoming overweight by restricting sugar consumption could have a major knock-on effect on dental health, but Dr Carter described the government’s Childhood Obesity Strategy (COS) as “an absolute disaster which will lead to another generation of children with unnecessary oral health problems”. He is not alone. The British Medical Association accused the government of “rowing back on promises”, while TV chef Jamie Oliver complained that proposals for food companies to reduce sugar levels in products were voluntary not mandatory. The COS report says: “The food and drinks industry will be challenged to reduce overall sugar across a range of products that contribute to children’s sugar intakes by at least 20 per cent by 2020.” Campaigners have welcomed clampdowns restricting junk food advertising on children’s TV programmes and in media where children make up 25 per cent of the audience, but children are still exposed to junk food adverts in family TV programmes. Doctors argue that since obesity kills as decisively as lung cancer, junk food advertising should be banned just like cigarette advertising. But Dr Carter says that an advertising ban would not prevent retailers from positioning unhealthy food at child-high level. Does this point to a future where it may assume a kind of “top-shelf” status, like for soft-porn magazines, beyond the reach of tiny hands? ●

PARENTING AND EATING HABITS

TOP DENTAL HEALTH CHALLENGES FOR UK PARENTS



COMMERCIAL FEATURE



Pop into the dentist at Sainsbury's

Visiting the dentist can still hold tremors for some patients, but a new wave of bright, accessible clinics is helping banish the fears



Often seen as a dreaded yearly appointment, a check-up can now be performed alongside a routine weekly shop at the supermarket.

Positioning dentists at such a familiar family landmark is a force for behavioural change encouraging people who have stayed away or simply not had time to pop in for relaxed consultations.

Centre for Dentistry, which launched its first dental practice inside a Sainsbury's supermarket in 2012, has expanded across 25 branches with 75,000 registered patients.

"I get weekly feedback from patients who say they came to do their shopping and hadn't realised there was a dentist, but it prompted them to come in because they hadn't been for a long time," says Seyed Alroyayamina, a dentist at Centre for Dentistry Brookwood in Surrey.

"It is convenient because we are open late and on Saturdays, so you don't have to take time off work and you can always get a space in the supermarket car park.

"Being at a place that is part of a routine, where you shop regularly, can take away that mental build-up of seeing a dentist. There is a potential for a paradigm shift in behaviour by taking the stress out of thinking about and planning to visit the dentist."

Mr Alroyayamina, a graduate of King's College London Dental Institute and specialist in root canal treatment, has experience carrying out a full range of routine and complex treatment plans.

"We have more time for appointments and that is also good for the patients who are now more knowledgeable about all aspects of

health and appreciate the opportunity to talk about their treatment," he adds. "Going into greater depth helps them relax, which also makes my job more pleasurable.

"Every day we get patients coming in with their bags of shopping and popping in for a check-up or a bit of treatment as it is an easy and relaxed thing to do."

Centre for Dentistry received a WhatClinic Award this April in recognition of its high performance with results collated from a full year of patient reviews and feedback data.

Lisa Riley, Centre for Dentistry chief executive, says: "Patient care is our top priority and we do our utmost to make the experience of dentistry a positive one for every patient. To receive such positive feedback from our patients is fantastic."

The centres use affordable annual dental plans, which cover regular check-ups, X-rays, and scale-and-polish appointments, with other treatments at competitive rates.

For more information please visit www.centrefordentistry.com

PATIENT CASE STUDY

Retired carpenter John Guichard was suffering with a bad gum problem when his wife suggested he popped into Centre for Dentistry Brookwood.

"I didn't realise there was a dentist at Sainsbury's, but I went down one Saturday and they saw me immediately, which was very unusual for a dentist. I assumed I would have to wait," he says. "I'd had bad treatment at another dentist so had been put off, but Mr Alroyayamina was very kind and gentle, and took time to explain what was going on."

The 71-year-old, from Woking, Surrey, was prescribed antibiotics and a course of treatment that has

restored his health and his faith in dentists. "I probably would have ended up going to a hospital A&E had I not seen him. I'm continuing my treatment there and they are extremely helpful and, of course, it is very convenient," says Mr Guichard. "You get extra time and feel more involved. They don't just get on with it and leave you wondering what is happening. They explain in detail as they are going along. "The prices are reasonable and in touch with other dental surgeries, and I have recommended them to at least six friends – and I don't do that lightly when it comes to a dentist."

INSIGHT EIGHT MYTHS YOU NEED TO KNOW ABOUT

01 BABY OR MILK TEETH DON'T MATTER

Yes, they do. They need cleaning. They have thinner and weaker enamel than permanent teeth, and are more vulnerable to bacteria that metabolise sugar and cause decay; severe decay can cause abscesses. Baby teeth maintain spacing, enabling later teeth to grow in the right position.



02 CHILDREN SHOULD GO TO THE DENTIST BY THEIR FIRST BIRTHDAY

Wrong. The right time is when their first milk teeth appear, usually around six months, but sometimes earlier or later. Early dental visits reduce the risk of decay and of children developing dental phobia – fear of the dentist.



03 SPECIAL CHILDREN'S TOOTHPASTE IS BEST

Not necessarily, according to NHS Choices. It warns that some brands do not contain enough fluoride to prevent tooth decay. Start brushing with a fluoride toothpaste as soon as your child's first milk teeth emerge.



04 MANUAL TOOTHBRUSHES ARE AS GOOD AS ELECTRIC ONES

Not true, say children's dentists. Electric toothbrushes can remove up to twice as much plaque as manual ones and have smaller heads, making it easier to clean uneven teeth. Electric models with two-minute timers may stop children skipping on brushing.



05 BRUSHING TEETH AFTER EATING

This is the last thing you should do. Acid in food demineralises teeth for 40 minutes to an hour after eating, softening the protective enamel. Brushing during this time may wear away the enamel. Dentists recommend brushing twice a day, including before bed.



06 DRIED FRUIT IS BETTER THAN SWEETS AND CHOCOLATE

Many parents believe dried fruit is a healthier option than sweets, but it is just as damaging. Its sticky sugar sits on teeth for longer than other foods and threatens enamel. Safer snacks, such as cheese, toast and breadsticks, are washed away quickly.



07 FRUIT JUICE IS HEALTHY

No, it isn't. Fruit juice is a good source of nutrients, but the negative effects of high concentrations of sugar outweigh the benefits. Mashing up fruit also removes healthy fibre. While eating whole fruit may reduce the risk of diabetes, research suggests drinking fruit juice may increase it.



08 RINSING TOOTHPASTE AWAY AFTER BRUSHING

No, you shouldn't. Teach children to spit not rinse. Rinsing with water washes away the protective fluoride left behind by brushing. Nearly two thirds of the sample in an Oral Health Foundation spit-rinse poll were rinsers.



TEETH WHITENING



Bernie/Getty Images

Lure of the all-American white smile

Regulation of teeth whitening is relaxed in the United States where a bright, white smile is a must-have

VICTORIA FLETCHER

Ask an American to list things they notice about the British and it won't be long before they mention terrible teeth.

Half of Americans believe a smile is the most memorable feature when first meeting someone, according to the American Association of Cosmetic Dentists (AACD), more important even than what that person says.

And when you pop to the dentist, it's par for the course to be asked "Are you happy with your smile?" as a question in your health history form.

With so much riding on good teeth, cosmetic dental work has rapidly been turning from an expensive luxury into an everyday essential.

The AACD says one in ten of its members make more than \$1 million a year just from cosmetic procedures.

A staggering 45 million Americans – 14 per cent of the population – have had professional teeth whitening, according to data guru Mintel.

This is compared to just 3 per cent in the UK.

A white smile is so desirable that even children, or perhaps their parents, have been asking professionals what can be done if you're under 18.

Dr James Nickman, president of the American Academy of Pediatric Dentistry, says: "It is a fairly common question usually starting in the middle-school years and is likely driven by the interest in aesthetics."

"The main concern from parents is the appearance of the new permanent teeth compared to the baby teeth. The new permanent teeth usually are more yellow in appearance, which is completely normal. The teens usually are concerned about the colour of the permanent teeth and would like the 'white' teeth seen in magazines, online or on TV."

Back in the UK, teeth whitening is tightly regulated. Only a dentist can use bleaching gels with between 0.1 per cent and 6 per cent hydrogen peroxide. These laws are in place

“Half of Americans believe a smile is the most memorable feature when first meeting someone

due to fears that potent gels can lead to tooth sensitivity and even burn the gums. Anything stronger is illegal and under-18s should not be treated at all. Over in America, the rules are very different.

Whitening kits, strips, lights and gels are viewed simply as a cosmetic product rather than a drug, so they do not need to be approved or tested by the Food and Drug Administration (FDA) before going on sale.

At the dentist, hydrogen peroxide in concentrations ranging from 20 to 40 per cent can be used on teeth for those patients wanting to flash the very brightest smiles.

Kits that allow teeth whitening to be done at home are also popular and can be bought either from the dentist or the pharmacy.

Generally, these contain lower levels of hydrogen peroxide of around 3.5 per cent, but the Council on Scientific Affairs for the American Dental Association (ADA) says some home-use products have been found to contain up to 15 per cent hydrogen peroxide.

"Studies have shown that hydrogen peroxide is an irritant and also cytotoxic. It is known that at concentrations of 10 per cent hydrogen peroxide or higher, the chemical is potentially corrosive to mucous membranes or skin, and can cause a burning sensation and tissue damage," the ADA says.

In a bid to protect the public, both the ADA and the FDA advise the public to consult a dentist before undergoing treatment.

But such advice may begin to fall on deaf ears. A shift in regulation at state level has meant Americans are

increasingly able to get teeth whitening in beauty salons and shopping malls at a fraction of the cost with the dentist.

The Supreme Court has recently ruled that state dental boards in certain states – the dentists who write the rules on teeth whitening – cannot prevent non-dentists from offering the service because it is "anti-competitive".

While the AACD estimate that dentists charge an average of \$357 for treatment, salons and malls usually charge less than half that price, making it an attractive option.

This raises the question with so much teeth whitening available, who is monitoring the US public for negative effects?

Current laws mean manufacturers are not required to tell the FDA if consumers have complained about adverse reactions.

Although consumers can contact the FDA directly, research by Northwestern University published in *The Journal of the American Medical Association* last month suggests massive under-reporting. Between 2004 and 2016 there were only 5,000 complaints to the FDA about cosmetic products and fewer than 15 of these concerned teeth-whitening products.

Lead author Dr Steve Xu says no one is collecting robust data on adverse reactions to cosmetics.

Dr John Dodes, a New York dentist and founding fellow of the Institute for Science in Medicine, says that despite this, Americans will continue to want whitening. "In the right hands, it is fairly safe and put simply, whitening is just extraordinarily popular." ●



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‘Like so many burgeoning industries, the illegal tooth-whitening world can be a murky and dangerous one’

DR NIGEL CARTER

Chief executive
Oral Health Foundation

Until very recently, tooth whitening was mostly considered a vanity choice for the wealthy or simply an accessory for celebrities.

It is safe to say this is no longer the case and the cosmetic treatment has truly gone mainstream, driven by an increasingly beauty-focused society and a seemingly never-ending stream of “instafamous” celebrities displaying bright white teeth across social media and TV.

When done by trained dental professionals, tooth whitening is completely safe and effective. But like so many burgeoning industries, the illegal tooth-whitening world can be a murky and dangerous one.

The rush for quick, accessible and affordable tooth whitening has opened the door to rogue traders, illegal products and unqualified suppliers duping unsuspecting members of the public. It has left thousands out of pocket, legally helpless, and far too many facing significant and lasting health problems.

For context, in October 2012, against a backdrop of cases which highlighted a severe risk to the public from a then-unregulated industry, a European Council Directive ruled that tooth whitening is an act of dentistry and can only be carried out by or under the supervision of a dentist. It also ruled that the supply of tooth-whitening products containing more than 0.1 per cent peroxide could only be to dentists.

These new rules exist to stop dangerous products being sold to poorly trained people and being administered to unsuitable patients. This unholy trinity remains a huge problem. Spend a few minutes on social media, you will see tooth whitening being offered in thousands of beauty salons, most of which, I am certain, believe they are doing nothing wrong.

Unscrupulous “training” companies convince beauticians that after only a few days, or disturbingly even hours of training, they can legally provide tooth-whitening treatment.

Using the allure of being a highly profitable treatment, beauticians are promised that there are no risks involved, both for their clients and for them legally as they are “fully trained”. All complete lies.



The product they are applying liberally to a client's teeth contains hydrogen peroxide. The same product which you must wear thick gloves to handle is being placed in someone's mouth with no real idea of what effect it may have.

It does not take much to get it dangerously wrong. For the unsuspecting client, it can cause severe burns to their lips, gums, tongue and even throat, affecting their ability to breathe. It can also lead to hyper-sensitive teeth – sipping water can become incredibly painful – or even damage the gums enough that the individual suffers tooth loss.

For beauticians, in a court of law, ignorance is not a valid defence. Every single case brought against them by the General Dental Council (GDC), the regulator for dentistry in the UK, has been successful. With no limit on fines, it has the potential to leave them financially and professionally broken.

What of the training providers? They have not vanished, but merely changed their name, and carried on “training” the next group of unaware and eager participants to take part in a completely illegal practice.

It's clear that much work still needs to be done so that the legalities of tooth whitening are fully understood by those currently falling foul of the law.

The only safe and effective way to whiten teeth is to see a dentist. Tooth whitening carried out by a dental professional will work and importantly it will be safe. Cheaper alternatives may be financially attractive, but they also pose serious real health risks.

Tooth-whitening kits and products bought via the internet can contain more than 30 times the legal and safe limit. The damage these can cause in untrained hands is disturbing.

The dental industry is fighting back by creating the Tooth Whitening Information Group or TWIG. They work with the GDC to prosecute those selling unlawful products in the UK, alongside raising awareness in beauty salons of the dangers they face by offering illegal treatment.

There remains an urgent need for further campaigning about this dangerous industry to improve awareness and afford greater protection for the public.



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love your smile ♥

Melinda Messenger
xxx



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protecting patients,
regulating the dental team

COMMERCIAL FEATURE



In the vanguard of digitisation in dentistry

Dentistry is undergoing a quiet revolution that is transforming patient care



Digital technology is changing the way dentists treat patients, improving outcomes and enhancing the patient experience. In the past, the general public was likely to associate dentistry with pain, fear and inconvenience. The advent of digital dental techniques, which are becoming embedded in routine practice, is helping to change the way in which dentistry is performed and perceived.

Dentsply Sirona, the world's leading dental equipment and consumables company, is playing a key role in the transformation of dentistry, through technological innovation.

The company was formed in 2016 with the merger of two leading dental manufacturers. This created an end-to-end dental solution provider, focused on empowering dental professionals to deliver better, safer, faster dental care; an organisation whose trusted brands help dental professionals deliver the best care to their patients.

From a patient perspective, one of the most welcome innovations is single-visit dentistry. Dentists are harnessing technology that enables them to create crowns, veneers, inlays, onlays and bridges within the duration of a single appointment.

Traditionally, these procedures have taken two or even three ap-

pointments to complete, causing inconvenience to patients as well as sometimes leaving them in discomfort or pain for a number of days. For many patients, single-visit dentistry could mean that silver fillings, metal in crowns or unnatural looking teeth are no longer necessary because materials used in these restorations are natural-looking and biocompatible.

Dentsply Sirona is in the vanguard of digitisation in dentistry. The technology is no longer seen as the preserve of early adopters, but is now becoming increasingly accessible and affordable. Dentsply Sirona has created a solution, which integrated successfully into the workflow of high street practices, can bring predictable treatment outcomes and improved patient satisfaction.

Digital technology can now be applied to every element of the dental practice. At the heart of the digitisation process is the growing popularity of Dentsply Sirona's CEREC (chairside economical restoration of esthetic ceramics) technology, which is becoming the industry standard. CEREC uses CAD/CAM (computer-aided design and computer-aided milling) technology, which incorporates a camera, computer and milling machine into one system.

Impression-taking is for many patients one of the most uncomfortable

aspects of dentistry, often initiating the gagging reflex. The CEREC system utilises an easy-to-use, digital camera that takes scans of the upper and lower arches, generating a precise digital image of the tooth or space to be restored and removing the need for messy, traditional impressions to be taken and sent to a laboratory. The camera scans are accurate to within 19 micrometers (µm), deliver a more comfortable experience and, because there is less bleeding, patients report less pain and quicker healing. The scans are the first step in a fully digitised process, which enables the dentist to design the restoration at the patients' chairside.

The digital image is transferred and displayed on a full-colour screen, where the dentist or a trained colleague uses CAD to virtually design the restoration. The CAM then takes over and automatically creates the restoration which is milled in the surgery. Finally, the newly created restoration is bonded to the surface of the old, conserved tooth.

The speed and simplicity of the procedure is often far in excess of patients' expectations and means that a patient can be in and out of the practice with a fully restored tooth within an hour, making repeat visits and temporisation things of the past.

01
Computer-aided
milling machine

02
CEREC camera
technology



01

For busy patients, the integration of digital techniques is a breakthrough that is delivering accurate, comfortable treatment in a fast and efficient manner and has positive, practical implications, enabling patients to benefit from innovations in mainstream dentistry and revolutionising their experience of visiting a dentist.

For practitioners who prefer to work with their technician, the seamless transfer of digital images from practice to laboratory, together with computerised design and manufacture, ensure the creation of accurate, functional and highly aesthetic restorations. Once returned to the practice, the clinician can have complete confidence in the fit and accuracy of these restorations, reducing the need for costly remakes.

With 13,200 dental practices in the UK, any change to the way treatments are performed is likely to have a significant impact on an industry that delivers primary care with a value in excess of £8 billion a year.

In the past five years, the application of digital technology has facilitated a change in the provision of dentistry. This change is enabling dentists, in both the NHS and the private sector, to benefit from features that are creating more efficient practices. The subsequent impact on the revenue growth of dental practices could be substantial.

Increased throughput of patients, single-appointment restorative

treatment and the ability to diagnose, create and fit restorations with a greater degree of accuracy are creating a healthcare sector fit for the 21st century and one that is far better able to meet patient demands.

As life expectancy in the UK increases, the demand for healthcare provision grows and the need to maintain and restore oral health into later life requires evermore innovative techniques and solutions. Digital dentistry has a significant role to play to ensure that provision can be highly efficient, while adhering to the expectations of dental professionals in terms of clinical efficacy, accuracy, fit and aesthetics.

Further improvements are just over the horizon in digital dental technology. This will encourage the general public to embrace the prospect of dental treatment, not only in terms of pain relief but also aesthetics. Digitisation is helping to break down barriers, delivering enhanced care and improved outcomes in every dental discipline. Dentsply Sirona is at the forefront of this digital revolution, with a simple goal – to empower dentists to deliver better, safer and faster dentistry.

For more information on solutions from Dentsply Sirona please visit dentsplysirona.com/en/solutions/topics/single-visit-dentistry-with-cerec



02

DIGITAL DENTISTRY

Hi-tech is a crowning experience

There's much to smile about as dentistry advances into a fast-paced, precision-guided digital age

DANNY BUCKLAND

The use of gypsum in dentistry can be traced back to the early-18th century to create moulds for rudimentary replacement teeth. The process has advanced to incorporate silicone, but the practice of inserting a gooey impression and fixing it manually in the mouth endures. For many dentists, it is an archaic, industrial approach and one they are leaving behind as the profession establishes a digital presence that has been gathering pace for more than a decade. Dentistry has long moved on from its stark past of conveyer belt fill-

ing factories treating a generation raised with poor oral health education. But surveys still show that almost half of us have a fear of the dentist with 12 per cent suffering extreme dental anxiety. A wave of new dentistry seeks to cure that. It uses digital workflow systems and computer-aided design and computer-aided milling (CAD/CAM) to revolutionise protocols for implants, dentures, crowns, bridges and other oral architecture. The traditional month-long journey for a crown fitting from moulding to delivery is being replaced by a precision-guided digitised performance that can be completed on the day. Teeth are scanned with a wireless intraoral scanner feeding information into a computer that displays images for the patient to see and then drives a milling machine to fabricate a crown in the same room. Early adopters are enthusiastic about their results with greater engagement for patients, who feel a part of the treatment pathway, rather than a captive audience in the dentist's chair. But the UK lags behind Germany and the United States in uptake with estimates that digital dentistry is only available in around



01



02

15 per cent of practices and rarely on the NHS. The capital expenditure entry costs – around £12,000 for scanning and £70,000 for milling equipment – can be prohibitive and a recent survey by the Eastman Dental Institute at University College London revealed concerns over costs, maintenance, equipment becoming obsolete, training time and a perceived lack of benefit over traditional methods. “The majority of surveyed dentists were interested in incorpo-

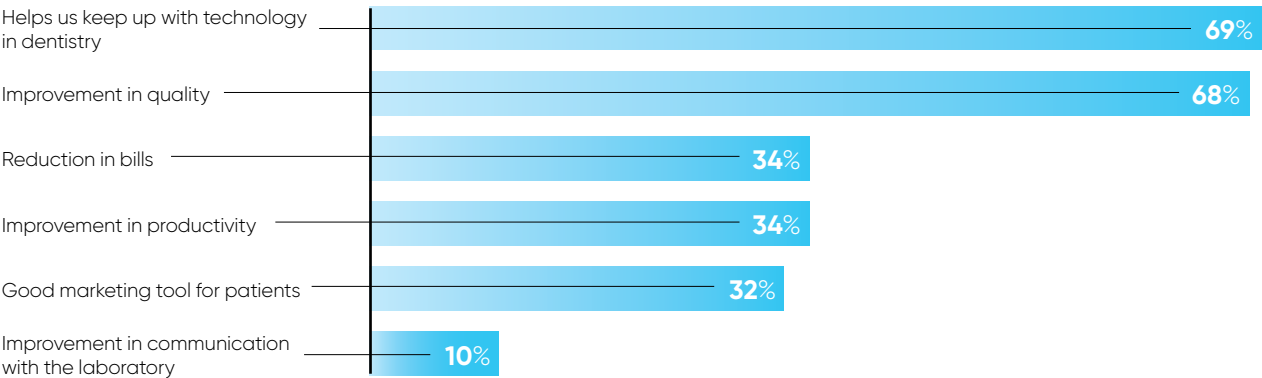
“We will see this sort of technology in every dental surgery over the next five years

rating CAD/CAM into their workflow, while most believed that it will have a big role in the future,” according to the survey paper in the *British Dental Journal*. “There are still some concerns from dentists about the quality of chair-side CAD/CAM restorations while the costs are still in the main hugely prohibitive (especially for NHS dentistry).” However, the next generation of dentists will be digitally trained with the latest cohorts benefiting from huge investment in equipment at training schools such as the King’s College London Dental Institute, based at Guy’s Hospital. “We are training the dentists of the future and want to future-proof their education across the 40 years of their practising lifetime,” says Dr Rupert Austin, clinical lead for digital dentistry at the Institute. Equipping dentists with 3D scanners and displays can draw patients into their treatment. “Patients will be able to take home 3D scans of their mouth to show friends, family and children,” he adds. “The technology helps us pass more control to the patient by engaging them.” The main uptake has been through private dentistry, but research by the Institute has highlighted a strong return on investment with a digital cost of £21 for a restoration compared to the £200 for conventional impression materials and laboratory technician work. “Research shows it could save NHS funds because it makes treatments better, safer, faster and it reduces

the amount of time a patient spends in the dental chair,” says Dr Austin. “There will be ‘Tommy traditionals’ who are happy with their processes, but the NHS has a strong mission to drive the uptake of digital dentistry and our trust, Guy’s and St Thomas’, is adopting the best of digital technology so the new dentists will be digital natives driving the adoption curve in the profession. “Patients will also demand it. I have seen it in my own practice. They feel so much engaged as they see it on the touch screen, and can zoom in and out and tell their friends and family, who often then want their teeth scanned.” Dr Simon Chard has been using digital dentistry at his Rothley Lodge practice in Staines, Surrey, for almost five years. He says: “We can do a bespoke crown using a scanner that takes 17 images a second to create a digital model the patient can see, which can be milled on site with the entire process taking around two hours. There is none of that gooey impression material that everyone hates and you don’t have to take a second day off work two weeks later for the fitting. “I’m passionate about it because it is great for the patients and it is rewarding to see them getting excited with their dental work. No one ever got thrilled about having a gooey mould impression, but now I get patients face-timing their family when they see their new crown being made. It also helps take away that fear of the dentists.” Dr Andrew Dawood, who runs Dawood & Tanner in central London and recently addressed the Faculty of Dental Surgery at the Royal College of Surgeons about the potential of digital dentistry, says: “There is a potential to work more efficiently across all dentistry, including the NHS, using a digital workflow. “Cost and training are important things to get right, but I believe that we will see this sort of technology in every dental surgery over the next five years.”

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