

GIVING IT 10%

Low carbon dinners, hand driers, and ditching old fridges are just some of the tactics health bodies are using to cut their carbon emissions by 10% in 2010, finds **Nigel Hawkes**



University College Hospital in London has adopted a low carbon menu for staff and patients like this one served up to 10:10 staff. Most of the ingredients come within the M25 motorway

Low carbon apple crumble to go please

University College Hospital in London is one of the most energetic NHS bodies to embrace 10:10. Sir Robert Naylor, the chief executive, has pointed out that for hospitals the issue goes far beyond turning out the lights, since energy (electricity and heating) accounts for only 22% of carbon, with 18% from travel and by far the largest share, 60%, from procurement.

Trevor Payne, director of estates, is responsible for a modern energy efficient building but has also implemented thermographic surveys of older buildings in the estate to see where energy can be saved and uses electric vehicles for hospital supplies.

His most original contribution to carbon saving is the creation, together with Farhad Khan, retail catering manager at the service provider Interserve, of a low carbon menu, first for hospital staff and visitors and, from 1 October, for patients as well. The menu includes the options of carrot and coriander soup, free range chicken, and tomatoes served with pasta and basil, with apple crumble and custard to follow. Most of the ingredients come from the area within the M25 motorway that circles London.

“When we trialled the menu for staff and patient visitors over the summer, sales increased and the low carbon options actually sold out,” Mr Khan says. “Over the two-week initiative, footfall increased dramatically.” As well as local sourcing, the food is cooked in a less energy intensive way, with the vegetables for the soup and the apples for the crumble steamed as the pasta is boiled.

Mr Payne says that UCLH is probably one of the hospitals where it is hardest to implement a low carbon menu; so if they can do it, anybody can. “I will be challenging the NHS hospital catering association to mainstream this initiative into the NHS.”

On 10 October a group of sumo wrestlers in Tokyo plan to cycle to their training, an exploit as demanding for the bicycles as for the wrestlers. In the Maldives, the president will install solar panels on the roof of a house, and in Auckland, New Zealand, mechanics will attempt to make thousands of neglected bikes roadworthy again.

The tenth day of the tenth month of 2010 will be the cue for a worldwide series of events, some of which will involve health care. A growing number of organisations in the NHS and the private health sector in the UK are signing up to the 10:10 commitment to reduce their carbon emissions by 10% in 2010 (www.1010global.org/uk). By the beginning of October, 10:10 had signed up 27 acute trusts in England, 11 mental health trusts, 35 primary care trusts, 29 general practices, one strategic health authority (NHS South West), and a couple of dozen other organisations.

From saving electricity in general practices to designing an entire “low carbon” menu for patients and staff at University College Hospital in London, the 10:10 movement is mobilising enthusiasm among many who are disillusioned by the international failure to do more to halt climate change. It is seeking to achieve, through bottom-up initiatives, what diplomacy has so far failed to achieve by top down regulation.

10:10 was founded by the documentary film maker Franny Armstrong, best known for her film about climate change, *The Age of Stupid*. Launched a year ago, 10:10 has grown fast. It seems to have hit exactly the right note for many people anxious about climate change but uncertain how to help. Networking, mutual support, and localism are the keys to its success.

In health care, the 10:10 banner is carried by the Campaign for Greener Healthcare, part of the charity Knowledge into Action, launched by Sir Muir Gray. The campaign’s project manager, Tim Nicholson, explains: “We had already bought the rights to show *The Age of Stupid* to NHS audiences, so Franny asked us if we wanted to run the healthcare stream of 10:10.

“We cover health care as a whole, not just the NHS. We include some royal colleges, and some in the private sector—the General Healthcare Group has just signed up. The BMJ Group is also a member.”



The 10:10 commitment, he says, does not literally mean that organisations undertake to cut their emissions by 10% during the calendar year 2010. Each has a baseline year immediately preceding its starting date, and aims to achieve the cut in the following 12 months. Many organisations choose the financial year, because the data they need will be more readily available.

Targets are kept simple by aiming at four key areas: grid electricity, fuel use on site, road transport, and air travel. “The data are either already captured or are easy to capture,” says Mr Nicholson. “It would be easy to make it too ambitious—there are many different ways to measure an organisation’s carbon footprint. But these areas are meaningful to individuals and simple to administer.

“We’re looking for a 10% cut, but that’s an aspiration. If organisations achieve 7%, 8%, or 9%, that’s still fantastic. The expectation is a minimum of 3%—we want to avoid people signing up without any intention of doing anything.”

It is up to the organisations themselves to certify what they have achieved, but Mr Nicholson believes they are careful enough of their reputations not to make claims that can’t be substantiated. “If one or two do, and the vast majority are embracing the target, so what?”

Role models

Good exemplars of the 10:10 approach are two neighbouring general practices in Sussex, Portslade Health Centre and Mile Oak Medical Centre. Sally Barnard, a general practitioner at Mile Oak, says: “Brighton and Hove decided to set up a city-wide 10:10 effort, and Rachel Cottam from Portslade and I were keen to get involved.

“They were looking for pioneers in health and we volunteered, not knowing how it would turn out. On your own you can feel very downtrodden, and it was hugely helpful to find somebody else—the genius of the thing is that everyone’s trying together.”

She explains that the start was really simple. “We made sure we turned off the lights when we went to lunch, and also turned off computer screens. We bought a smart plug for appliances that tells you how many kilowatt-hours they’re

- ▶ Watch a video about how the NHS can reduce its carbon footprint at www.bmj.com/video
- ▶ News: *BMJ* lends its support to 10:10 climate change campaign (*BMJ* 2009;339:b3520)
- ▶ News: NHS organisations, let’s all sign up to the 10:10 campaign (*BMJ* 2009;339:b3693)
- ▶ Read more about the 10:10 campaign at <http://blogs.bmj.com/bmj/category/1010-campaign/>

using. By switching it around, we found that one of our fridges was old and was using three times as much electricity as the new ones. Just eliminating that and reorganising the contents to the other four fridges saved us 0.4% of our electricity consumption.”

The thermostat in the practice has been lowered to 19°C from 21°C, and energy surveys undertaken. Christine Hapgood, one of the GPs, has started cycling to work rather than driving, at least when the weather is not too bad. The practice’s

cleaner, Karen White, is strongly committed and makes sure that lights are turned off when they are not needed and computers are not left running overnight. Replacing paper towels with Dyson hand driers is set to save £1200 (€1400; \$1900) a year, as well as cutting carbon. A video has been made as an inspiration to others.¹

Dr Barnard hopes some of this “chipping away,” as she calls it, is getting through to patients as well. “We want to make them sit up and take notice so we put up posters in reception and leave out cards with the ‘top ten tips’ that they can take away.” She welcomes the fact that David Cameron signed government departments up to 10:10 two days after taking office as prime minister and that Ed Miliband, the new Labour leader, is also a supporter. “One of the main outcomes I hope for will be to get the message up to those in power,” she says.

At NHS Stockport, public health researcher Jilla Burgess-Allen was motivated to try to do something by the NHS’s huge carbon footprint: 18 million tonnes of carbon dioxide a year, a quarter of all carbon emitted by the UK public sector. “Not only will climate change have effects on health, but we’re also contributing to it,” she says. “That’s two reasons to act. We need to be seen to be taking the issue seriously—it’s like when doctors stopped smoking and showed they really did believe it was harmful.”

A primary care trust like NHS Stockport is largely office

based, so the initiatives taken have included changes such as printing on both sides of the paper, switching appliances and lights off when not needed, trying to focus procurement on green suppliers, and spreading the word through monthly bulletins and regular meeting of the 20 “green champions” across the trust—“small incremental steps,” says Ms Burgess-Allen.

A survey shows that staff are changing their behaviour, or claiming to. “Half say they are switching off computers more often, two thirds are doing the same with lights, a quarter are planning meetings with less car use, and a quarter are using buses or walking more,” she says.

The events expected on 10 October show that the 10:10 message has caught the fancy of many people outside the UK; 45 countries now have 10:10 organisations. The events will be jointly coordinated with another group, 350.org, whose website promises 5162 events in 162 countries. Its founder, US author Bill McKibben, says: “People will be doing very practical things, but they will also be sending a pointed political message.” (The organisations name refers to 350 ppm carbon dioxide in the atmosphere, the level claimed to be the safe limit for humanity.)

Franny Armstrong has high ambitions for the day. “10:10:10 will be remembered as the day the world put aside its differences and came together to prevent runaway climate change”, she says.

Nigel Hawkes freelance journalist, London, UK
nigel.hawkes1@btinternet.com

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1 Video: Brighton and Hove pioneers. www.1010global.org/uk/2010/09/brighton-hove-1010-health-pioneers.

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Two charities challenge company's patent on Plumpy'nut (*BMJ* 2010;340:c2510)

Hungry for profit

Manufacturers of a patented food to treat malnutrition are facing challenges from other companies wanting a piece of the action, **Sophie Arie** reports

The treatment of severe malnutrition has been transformed in developing countries in the past decade. Instead of bringing children back from the brink with liquid treatments in hospitals, aid workers now have a specially formulated peanut paste they can hand out in easy to use, sealed packets for mothers to feed regularly to their children.

The invention of this kind of emergency fast food has huge implications because it shifts the focus from inpatient to outpatient treatment. Put simply, it means that rather than saving tens of thousands of starving children, aid agencies now have the potential to reach millions.

Plumpy'nut—as the paste is called—is a mix of peanuts, milk powder, and micronutrients. Each 92 g packet provides 500 kcal (2 MJ) and crucial proteins and vitamins. It has been proved to be significantly more effective than previous treatments based on milk powder mixed with fresh water.¹ When it was distributed to 40 000 starving chil-

dren during the 2005 famine in Niger, 90% recovered.² In 2007, the World Health Organization and Unicef declared that this kind of treatment was the best for severe and acute malnutrition in children aged between 6 months and 2 years.³

Since then there has been a kind of shopping frenzy. Unicef, by far the largest single buyer, bought 10 500 tonnes in 2009 compared with 4000 tonnes in 2005. This year it had already bought 10 000 tonnes before the Pakistan flood crisis struck.

Patent questions

Nutriset, the small French company that makes Plumpy'nut, has seen its business boom accordingly. In 2009, Nutriset's sales were €52m compared with €16m in 2005.

Not surprisingly, perhaps, Nutriset doesn't want others making generic versions of its product. Nutriset has patented its invention in 35 countries and is defending it vigorously. Small organisations who have begun producing similar products have



had to resolve initial disputes with Nutriset or have chosen to operate in countries where Nutriset's patent is not in force, such as Haiti, Somalia and Sudan.

The small Normandy based company—which describes itself as “the only company fully dedicated to nutritional issues in developing countries”—says its aim is for more and more of its product to be made by small partner companies using local materials and generating work in developing countries. It claims it reinvests its profits in research and into a growing network of franchises in Africa that are increasing their production every year. Michel Lescanne, food scientist and director of Nutriset, says that the capacity of the African companies to manufacture Plumpy'nut is increasing dramatically and may jump from 25% of the total produced last year to 50% this year. Mr Lescanne says his company's defence of its patent amounts to defending those African company's interests.

“If companies in the North start making this,

Independence of WHO's decisions

Would-be competitors argue that Unicef's loyalty to Nutriset is odd, suspicious even. Their suspicions arise firstly from the fact that Andre Briand, the French nutritionist who developed Plumpy'nut in collaboration with Nutriset, went

on to work for the World Health Organization, and co-authored a nutrition policy paper on new developments in the treatment of severe malnutrition in the community published in 2006 by the UN's Standing Committee on Nutrition.⁴ The WHO, World Food Programme, and Unicef issued a statement endorsing ready to use therapeutic foods (RUTFs) in 2007.³

Dr Briand, a widely respected nutritionist working in the French state research body the Institut de Recherche pour le Développement, joined forces with Nutriset's Michel Lescanne to develop Plumpy'nut in 1994. Nutriset and the institute jointly filed a patent in 1997 and the institute receives royalties worth 1% of sales.

Dr Briand gave up his right to any

financial gains from the invention, Nutriset and WHO confirm and he left Nutriset to work as a medical officer at the WHO's child nutrition department in 2004. He retired in 2009.

Zita Weise-Prinzo, who worked as a technical officer with Dr Briand at WHO, dismissed any concerns over a possible conflict of interests, saying that the WHO's decisions on conflict of interest are taken by the director general. In the case of Dr Briand, it was decided that “the public health interest in employing him for his expertise in the area of child nutrition outweighed any real or apparent conflict of interest, bearing in mind too, that WHO was informed he had no financial interest in Plumpy'nut. The WHO took care that Briand would not take policy decisions in his field of expertise,” she said.

It is widely recognised that RUTFs such as Plumpy'nut are revolutionary and helping to save thousands of lives. “The UN is right to support their use in the right circumstances. But it is a bit unfortunate,” says Stéphane Doyon of Médecins Sans Frontières “that Briand was personally involved in defining the WHO's position. It might have been better not to have included him.”

Mr Lescanne, his wife, and his former wife are the sole shareholders in Nutriset. Mr Lescanne confirms that shareholders receive 18% of the company's annual profits (which were €4.4m last year). He explains that the dividends are part of the remuneration package for the three shareholders, who all work at Nutriset. He also points out that most private companies award dividends worth 40% of profits.



JOHN SCHULTS/REUTERS



DIETER TELEMANS/PANOS

Plumpy'nut is boom business

there is a risk they will flood the market and put those in the South out of business," says Mr Lescanne.

Two US organisations are currently challenging that stance with a case in a Washington court in which they argue Nutriset's US patent is invalid. Mama Cares, based in California, and Breedlove, in Texas, argue that fortified peanut pastes like Plumpy'nut have been around for years and there is nothing unique about Nutriset's product. Both companies believe they can make a similar product at around 80% of the price of Plumpy'nut.

"Our bottom line is how many people can we feed with a dollar, not what profit can we make for our shareholders," says David Fish, director of Breedlove, which is a non-profit producer of foods for the developing world using surplus US products.

Nutriset has challenged several organisations, both commercial and non-profit, who have begun producing so called ready to use therapeutic foods (RUTFs) in recent years. And while several have resolved disputes with the French company and launched their own equivalents—Tabatchnik in the US and Norwegian company Compact—Nutriset still accounted for 90% of the RUTFs that Unicef bought in 2009.

Francisco Blanco, who manages Unicef's contracts for essential medicines and nutrition, said Unicef buys RUTFs from seven different providers and that Plumpy'nut's price and production capacity was currently among the best.

USAID, the US government's aid department, is preparing to start buying RUTFs and Breedlove and others are keen to secure contracts, which they believe could be bigger than those Unicef currently awards. Drinks companies such as Pepsi-Co are also reportedly (considering developing their capacity to tender for such contracts in future) interested in making RUTFs.

Nutriset says it would tender for contracts with

USAID through its US non-profit partner Edesia. But, Mr Lescanne fears, it is dangerous for governments rather than humanitarian organisations to distribute the product as it risks becoming politicised. Not to mention the fact that once a US market opens, the US peanut industry will dump its existing "peanut mountains" this way, at prices Southern producers cannot compete with.

The American organisations argue that without American peanuts, the demand for RUTFs to feed the world's starving cannot be met. Nutriset argues that there is actually no need for anyone else to make a product that serves the same purpose as Plumpy'nut. The French company and its franchises comfortably have the capacity to meet the demand from humanitarian organisations and to continue to do so as demand grows.

"I am for the advancement of research on nutrition," says Mr Lescanne. "But this should not be about copying without adding something. Everyone needs to bring something to the system."

Unmet need

According to United Nation figures, there are currently almost 20 million severely and acutely malnourished children worldwide. Around 80 percent of those could be treated at home. But because treatment does not reach most, around one million children under five die of starvation every year.³

But Nutriset spokesman Remi Vallet explains that without more funds, aid organisations could not expand their programmes to reach more children. Non-governmental organisations like Médecins Sans Frontières (MSF) agree. Even if the price of RUTFs comes down substantially, they say, they would need a lot more funds to set up new programmes to reach new populations.

Plumpy'nut currently sells for around €2.7 (£2.3; €3.7) a kilogramme and smaller competitors' prices are similar, MSF's procurement director Stephane Doyon says.

MSF has written formally to Nutriset calling on the firm to protect its patent less aggressively so that prices can fall. WHO and Unicef say they are strongly in favour of opening up the market so that they can feed more starving children on the same budget.

Appropriate use

However, experts warn that the easier and cheaper it becomes to get hold of RUTFs (they are not sold in retail outlets, only to humanitarian organisations) the greater the risk of reduced quality and misuse of the product.

"The problem is that it's being used as a sort of magic bullet to resolve all the problems of malnutrition, and this is not what we are trying to support," says Zita Weise-Prinzo, technical officer at the WHO's department of nutrition for health

and development. She expresses concern that Plumpy'nut is sometimes fed to the wrong aged children and for too long. Technically it should be given only to children with acute stage malnutrition and for about two months. But children have been given the product for much longer, rather than being eased back on to normal foods. "You can see the result. They are all puffy," she says.

Ms Weise-Prinzo is currently drawing up WHO official guidelines for the outpatient care of severe malnutrition but for now there is little structure or follow-up in the field once packets of Plumpy'nut have been handed out.

"There is a danger that everyone is focusing on the quick fix when we should be investing in prevention not cure of malnutrition," says Pamela Morrisson, a member of Lactation Consultants of Great Britain. She says there have been cases in Malawi where women have stopped breast feeding because they believed that Plumpy'nut could provide the same function.

Ms Morrisson argues that it would be more cost effective to develop programmes to feed mothers and encourage them to keep breastfeeding even in crisis situations where their lives are disrupted.

Some countries, most notably India, have also expressed concern that products like Plumpy'nut are distributed widely and for free, people will become dependent on them and stop growing and eating local crops. India has banned Unicef from importing Plumpy'nut for this reason.

"Donors like seeing a product," says Ms Weise-Prinzo. "They like being able to say they have distributed so many tonnes of this magic pill or whatever and it was distributed to so many thousands or millions of children."

Potentially there is a much bigger market for preventive products than curative ones because there are far more mildly malnourished children than acutely malnourished.

Nutriset has already thought of that. The company has developed a range of less concentrated products (the most widely used so far is called Plumpy'doz), all of which are also patented. These treatments—known as ready to use supplementary foods—are gaining recognition, and Mr Lescanne says in 2010 Nutriset will produce as much supplementary food as RUTF.

Ultimately the battle for the business of feeding the world's hungry rather than feeding those dying of starvation may have only just begun. And the sums involved thus far now may prove to be peanuts compared with what has been made so far.

Sophie Arie freelance journalist, London, UK
ariesophie@yahoo.co.uk

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