



D. TEMPLETON/ALAMY

FLASH IN THE PAN?

Obesity is the main target in the US government's latest dietary guidelines. But can this advice really make a difference? *Nature's* reporters sift through the heady mix of politics and science to get a taste of things to come.

“If you follow this diet, you're going to lose weight, you're going to be healthy and you're going to be able to improve your quality of life ... it's scientifically based, but it's also common sense.”

Another diet guru flogging their snake-oil prescription for the servings of fat, carbohydrate, protein and other nutrients needed to be healthy and slim? No. This was Tommy Thompson, then US Secretary of Health, speaking on 12 January at the release of Uncle Sam's very own diet book, *Dietary Guidelines for Americans 2005*.

The guidelines, revised every five years, inevitably amount to a compromise between nutrition advocates and the food and agriculture lobbies. Yet this time they largely have pleased even staunch critics of government food policy. “They look to me like the strongest dietary guidelines yet produced,” said Michael Jacobson, who heads the Center for Science in the Public Interest, a nutrition advocacy group in Washington DC, at a press conference after the release.

But in the aftermath, a philosophical divide has emerged. On the one hand is the view, expressed by Thompson, that the government's role is to put out information about what constitutes healthy eating, but that it's up to individuals whether they follow the advice. The other take is that the government must do more, not only to educate people about food choice, but to ensure a food supply that accurately reflects its own dietary advice. For those who take this view, the guidelines don't go far

enough — and they say that buried in the fine print are concessions to the food industry that threaten to weaken the impact of the advice.

The guidelines — a joint effort by the Department of Health and Human Services (DHHS) and US Department of Agriculture (USDA) — were first issued in 1980, and form a reference for US eating habits. They underpin government nutritional policy and federal food programmes, including school meals. And they will be summarized graphically in a new ‘food guidance system’, which will be released within weeks to replace the ‘food pyramid’ introduced in 1992.

Fat fighters

Previous guidelines focused on cutting consumption of the saturated fats that cause chronic conditions such as heart disease. But the top priority now is to roll back the obesity epidemic that is causing a surge in conditions such as type-2 diabetes. About two-thirds of US adults are deemed overweight or obese by the Centers for Disease Control and Prevention in Atlanta, Georgia.

Consequently, the biggest change in the new guidelines is the emphasis on restoring energy balance to people's diets. The message is that there is no getting round the laws of thermodynamics. If your calorie intake exceeds your energy output, you will gain weight. To this end, the guidelines advise a close watch on calories and 30–60 minutes of exercise most days of the week; 90 minutes to shed unwanted flab.

That's old hat to dieters, but the surprise this time was the explicit statement that the healthiest way to reduce calories is to avoid added sugars, certain fats and alcohol, all of which are high in calories but low in essential nutrients. In the past, such a message has been all but taboo. The previous guidelines say only that added sugars may contribute to weight gain. And in January 2004, the Bush administration lobbied against phrasing in the World Health Organization's dietary advice that urged people to eat fewer sugary and other high-calorie foods.

To hammer its point home, the scientific advisory committee behind the guidelines turned to the concept of 'discretionary calories': the number of junk-food calories you can eat daily without gaining weight. A typical sedentary person who burns 2,200 calories per day needs to eat about 1,910 calories of healthy food to meet their basic nutritional needs. This leaves 290 calories for a treat, such as beer and potato crisps with late-night TV.

The idea, say committee members, is to raise people's consciousness about overeating without denying them their favourite snacks. Even a relatively modest reduction of between 50 and 300 calories per day could prevent most new cases of obesity, particularly among children. "If we could achieve this it would be the major crowning achievement of the guidelines," says Alice Lichtenstein, a cardiovascular researcher at Tufts University School of Medicine in Boston, Massachusetts, who sat on the scientific committee for the 2000 guidelines.

Taste of the future

Also new this year is an emphasis on fibre- and nutrient-rich whole grains instead of refined grains, and a recommendation to eat nearly twice the quantity of fruit and vegetables suggested in the 2000 version, as a way to lower the risk of certain cancers, type-2 diabetes, stroke and obesity. And the guidelines now clearly distinguish between different types of fat. Gone is the blanket low-fat creed of the past 20 years. In its place is advice to avoid saturated fats, which are found in red meat, for example, and *trans*-fats, which are abundant in processed foods. At the same time, moderate amounts of healthy fats, such as olive oil, are recommended.

The stronger wording in the new guidelines is partly the result of changes to the drafting procedure that gave scientific advisers greater autonomy. In 2003, the DHHS and USDA appointed 13 nutrition scientists to the Dietary Guidelines Advisory Committee and asked them to compile a report from the latest scientific literature. Bureaucrats at



the two agencies then reviewed this report, published in the *Federal Register* in August 2004, and considered comments from interested parties. They drafted the guidelines themselves, and communications specialists transformed them into the slick, 84-page brochures released in January.

Separating the two phases made the scientific basis of the guidelines more transparent, says Janet King, chair of the committee and a researcher at the Children's Hospital Oakland Research Institute in Oakland, California. In the past, the committee members had to write the actual guidelines, which forced them to consider factors such as how easy they were for a lay reader to understand. The previous committee spent ages, for example, debating whether to advise people to 'limit' or 'moderate' their salt intake, King says. The new set-up also made the committee less of a target for pressure from industry and policy-makers. "It shielded us," she says.

But the literature is far from definitive about the best diet. There are few long-term or well-controlled clinical nutrition trials available, so the committee relied heavily on epidemiological and observational studies (see

The US government's guidelines for a healthy diet were released in January by Tommy Thompson (above), but some say influence from parties, such as the sugar industry, will compromise the advice.

'How is science converted to dietary advice?' page 798 and *Nature* 428, 252–254; 2004).

These uncertainties left plenty of room for quibbling about the wording of the guidelines, say critics of the process, who have been quick to point out the fingerprints of the food industry in the small print. One charge levelled at this and previous guidelines is that they tell consumers only what foods they ought to eat — such as lean cuts of meat and low-fat dairy products — without spelling out foods to avoid, such as processed snacks, fast food or red meat dripping with saturated fat. "They're saying the right thing but not quite giving it the teeth it needs," says Carlos Camargo, himself a member of the scientific committee and an epidemiologist at the Harvard School of Public Health in Boston.

Cream of the crop

A more specific industry influence, critics contend, is the recommendation to consume more dairy products — the equivalent of three cups of milk a day, up from between two and three cups last time. They say that this increase provides most people with unnecessary calories, that it is possible to achieve recommended intakes of calcium and other nutrients through other means, and that it fails to take into account studies linking diets high in dairy products with an increased risk of prostate cancer. The increase is "one of the strongest influences of the food industry" in the report, says Walter Willett, a nutrition epidemiologist at the Harvard School of Public Health.

Concerns have also been raised about the

recommendation on *trans*-fats. The scientific report said that these should not exceed 1% of daily energy intake, but the guidelines say only that *trans*-fat intake should be kept “as low as possible”. According to Camargo, this was the most significant departure from the committee’s recommendations, allowing those putting together school meals, for example, to make only a token effort to reduce the fat. Nutrition researchers critical of the food industry charge that the language was softened under industry pressure to avoid costly revamping of production processes that rely on cheap vegetable oils.

For its part, the food industry says it is just trying to keep the guidelines fair. Industry representatives, as well as other interest groups, were invited to provide the committee with written and oral comments during the literature-review phase and to make comments after its report was published. The National Dairy Council, for instance, presented evidence supporting its argument that dairy foods help people meet their calcium and potassium requirements. And the Grocery Manufacturers of America argued that added sugars help increase the palatability of some nutritionally valuable foods.

Reaping benefits

But industry has other avenues of influence open to it. One is through USDA, which, by the nature of its mission, is more attuned to farmers’ interests than to public-health needs. “It’s the wrong agency to do this, and a blatant conflict of interest,” says Marion Nestle, a prominent critic of the food industry working at New York University.

A second and more opaque route is through lobbying — an integral part of the US political system — where industry and others try to influence agency officials by, for example, providing them with relevant documents and making personal contacts.

Thompson openly discussed industry’s influence at the launch of the guidelines. “The food industry has spent a great deal of time and money appearing in and observing all of the negotiations and all of the testimonies that went into compiling the guidelines,” he said. “They come in and meet with me on a regular basis.”

Although industry may have won key concessions, anyone who follows the guidelines strictly will probably end up in better health. The reason some nutrition experts are still not happy is that they anticipate little time or money will be put into spreading or enforcing the advice.

“What is lacking is will on the part of the government and Congress to convert the guidelines into new health and agriculture policies and programmes,” says Jacobson. He asserts that doing so would step on major interests such as restaurants, as well as the corn, sugar, processed-food and salt industries. What is needed, he says, are hard-



Eat yourself fitter: the new US guidelines encourage greater consumption of fruit and vegetables.

hitting, mass-media campaigns to help shift consumer demand to healthier products. Some also advocate legislation to subsidize healthy foods, regulate advertising aimed at children, and to require calorie information to be displayed on restaurant menus.

So far there is little sign that strong implementation is coming. Instead, the US administration has emphasized that diet is a matter of personal choice. “It’s up to the individual to make the right decisions,” said Thompson in January.

But Ricardo Uauy, an expert on health and nutrition at the London School of Hygiene and Tropical Medicine, argues that it is nearly impossible to choose carbohydrates or fats “wisely”, as the guidelines

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— Bob Goldin

recommend, when many children’s cereals contain as much as 40% sugar, for instance, and processed foods account for 80% of the *trans*-fats that people eat. Nor is it easy for people to choose foods with little salt — as the guidelines advise to lower blood pressure — when 80% of their salt intake comes from processed foods.

Hard to swallow

Indeed, the US diet will have to change radically to meet the new advice. At present, many Americans eat a diet that resembles the food pyramid turned upside down, with too much salt and added sugars and fats, and not enough grains, fruit and vegetables. Without substantial changes in the practices of the food industry the guidelines will have little impact, predicts Uauy.

Others say that the food industry is

already going through a period of evolution spurred in part by consumer demand. The public discussion of obesity and related health problems has led to increased awareness among consumers and greater scrutiny of the industry by nutrition advocates and the media. Many fast-food chains have updated their image with healthier fare such as salads and yoghurts. Last year, McDonald’s phased out its ‘supersize’ meal options. And PepsiCo has removed *trans*-fats from some of its snacks and has introduced a greater range of bottled waters and fruit juices as alternatives to sugary drinks.

At the same time, food companies are not about to abandon their calorie-laden products as long as demand for them exists. “If people want French fries and a double cheeseburger we’re gonna give them that,” says Bob Goldin, executive vice-president of Technomic, a food-industry consulting and research firm based in Chicago.

But industry experts say that the shift towards healthier foods is more than cosmetic. Health and whole foods are one of the biggest growth areas in an otherwise saturated market, and companies are scrambling for a share of it. They predict that consumer demand for healthier food will grow, partly as a result of the dietary guidelines. “It will be a driving factor in the industry going forward, because that is what the consumer will ultimately want,” Goldin says.

Certainly Americans are hungry for food advice, if \$2 billion in diet book sales last year is any indication. But whether it will take more than a few books and a gentle nudge from their federal health department to get them to eat better and slim down is still up in the air.

Declan Butler and Helen Pearson

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