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An edited version of this article and some of the following breakouts appeared in Good Weekend magazine in March 2007.

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- Main story
- Breakout story on soy
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FOOD AS MEDICINE: A BITTER PILL?

When Linda Tapsell pushes the trolley around her local supermarket, shopping for a family of five, she tries to keep a low profile. The last thing she wants is for anyone to know what she does for a living.

That's because two things invariably occur when people find out she's a dietitian. They watch what she eats (or puts in her trolley), and they burden her with their guilt about what they have been eating.

"You are constantly hearing peoples' confessions," says Professor Tapsell, a researcher at the University of Wollongong. "It can be a real social disadvantage being a dietician."

The social problems of dietitians probably say more about the rest of us, and our problematic attitudes to food, than about a profession sometimes caricatured as a stronghold of food-police.

Our relationship with food has become so much more complicated than in the days when we simply ate to fuel ourselves through times that were often lean. These days we find ourselves in an uncomfortable position, caught in the crossfire between a food industry whose *raison d'être* is to encourage us to eat more and a health lobby warning of the perils of our ever-expanding waistlines.

It doesn't help that the news about what we should - or shouldn't - eat seems to change every other week. Oat bran is the flavour of one month, and soy the next. One minute, fast food is being demonised; the next we're told that it's okay to eat at McDonald's if you choose one of the nine meals now boasting a National Heart Foundation tick of approval.

It's not surprising that, for many people, one of life's great pleasures is being transformed into one of life's great worries.

Paradoxically, one of the forces behind this unhealthy relationship is the push to medicalise food, to encourage us to be more aware of its potential health benefits. You might argue there is nothing particularly new in this. An apple a day has long kept the doctor away. And it's often mentioned that Hippocrates, the father of modern medicine, recognised the connection between food and health more than 2,000 years

ago. “Let food be thy medicine and medicine be thy food,” he advised.

But the medicalisation of food has really gathered steam in the past two decades, driven by our obsession with health and the growing interest in preventing disease, especially among the forever-young babyboomers.

For the food industry, health-related claims have proven a powerful marketing tool in an increasingly crowded marketplace. Industry publications speak of consumers viewing the “kitchen cabinet as the medicine cabinet”, and state that a major focus of research and development is developing foods that can be “positioned for their health benefits”. Three-quarters of the fastest growing food categories internationally are perceived to have health benefits, according to industry data cited in a major report on childhood obesity, released last year by the Institute of Medicine in the United States.

Just as health foods have moved from their mungbean roots in health food shops and into supermarket aisles, so are nutritional issues winning greater prominence in mainstream medicine. Studies investigating various foods or food components regularly crop up in medical and scientific journals, and for organisations such as cancer councils and the National Heart Foundation, providing dietary advice has become part of core business.

The result is that food has become “super”, “functional” and a source of “bioactives” or, at the other extreme, a “risk factor”. We look at tomatoes and think of lycopene and preventing prostate cancer, while blueberry sales soar on the back of publicity about their antioxidant content. We feel guilty about tucking into a transfatty pastry because we’ve heard so much about how bad trans fats are for our hearts that we’ve been quite distracted from the saturated fats problem.

At one level, it makes perfect sense to focus on eating-for-health. Diet clearly plays an important role in many of the diseases that will become more common in an ageing population, such as diabetes and heart disease.

On the other hand, it is just possible that the medicalisation of food is having some unhealthy side effects. By encouraging us to focus on individual foods rather than an overall varied diet, it can promote dietary imbalances and confusion.

The GI revolution provides one example of the potential pitfalls of concentrating on just one aspect of food. The GI or glycaemic index is a rating which predicts a food’s effect on blood sugar levels; those with a low GI tend to break down more slowly and are thought to be helpful in diabetes and weight control. However, GI has been used to promote some foods of dubious nutritional value, like the “Wild Oats Cluster Crunch”, a cereal touted as “wholesome, wholegrain crunchy oat clusters oven-baked with pieces of hazelnut & chocolate”. The packet carries a low GI stamp and an extensive blurb about the health benefits of breakfasting on something that tastes like dessert.

Some experts believe people concerned about their weight or diabetes would be better advised to focus on reducing overall energy intake than stressing about GI. But, of course, no supermarket has a sign saying: eat less.

Sally Crossing, chair of the advocacy group Cancer Voices NSW, believes the push to turn food into medicine is also creating unnecessary alarm and guilt, especially among cancer patients. She says it is extremely unfair that people are sometimes made to feel they must have brought the illness upon themselves, when the role of diet in cancer is far from clear cut.

Indeed, uncertainty about the role of diet in cancer is one of the reasons cancer organisations were relatively slow to develop policies in the area, according to Terry Slevin, who chairs the Cancer Council Australia's nutrition and physical activity committee. The Council first set up a nutrition and cancer working party in 2000.

"The main reason for inaction was the inconsistent nature of the evidence," he says. "It was very difficult to know what to reliably say while the experts debated it out. While some studies found a link between diet and cancer, some did not. That remains the case.

"What has changed is that the evidence linking overweight/obesity and cancer, and physical inactivity and cancer has become pretty much undeniable. As we know diet plays a role in overweight and obesity, we are now clear we have a task to perform in putting this higher on our agenda."

But Crossing senses a subtext to many nutrition messages relayed through the media that, if you self-improve through careful eating, you will be a good person and you won't get cancer "They tell you that if you eat tomatoes you won't get prostate cancer and that if you eat fibre you won't get bowel cancer," she says. "It's almost a moral and medical crusade. It's a little bit like religion, that if you give up this, or pray so many times, then you will be saved from your sins."

How ironic, then, that focusing on foods' medicinal properties may be contributing to a health problem that has become so common it can no longer be viewed as the result of individual sin: obesity. So much health-based marketing of food is encouraging us to eat more. Who could ever have imagined that health messages encouraging us to cut our fat intake would lead to products like "Fluff", a marshmallow spread promoted as "fat free"?

Promotion of foods' health benefits can also encourage the mistaken belief that if a little bit of something is good, then more must be better. This is especially tempting when even confectionery is promoted on health grounds.

Amid the din encouraging us to eat more, it's difficult to hear the voices (including our own internal voices) saying that really we probably need to eat less of most things. It seems tough to expect parents to follow weight-control advice to give children water rather than fruit juice, when some juices are now promoted for their added calcium.

In late 2005, three dietitians spent six weeks trawling through the shelves of a large supermarket in Sydney. Of the 7,000 different foods on the shelves, they analysed the nutrition and marketing claims of 4,200 packaged items.

Alan Barclay, a dietitian currently doing a PhD at the University of Sydney, and his colleagues found that 63 per cent of these foods carried some sort of nutrition or health related marketing claim. These included statements about GI, fat or vitamin content.

“The chances are that a significant proportion of those are not what you might call ‘everyday foods’,” says Barclay. He is being careful with his choice of words; what he means is that many of the foods promoted on health-related grounds are in fact treats or party foods – and are not recommended for everyday consumption.

One-third of the foods in Barclay’s survey which carried a health or nutrition claim breached either the Food Standards Code or Code of Practice on Nutrient Claims. One of the most common offences related to products wrongly identifying themselves as low fat. This is of a particular concern given that so many experts believe the proliferation of products marketed as low fat has contributed to weight gain by giving people permission to overindulge.

Barclay says the study’s results reflect Australia’s lack of an adequate surveillance system for food marketing and claims. Regulators have traditionally been more focused on stopping food poisoning and ensuring a safe food supply, than on truth-in-marketing.

“There is an onus on our governments and regulatory authorities to provide better surveillance of the food system particularly in this current environment of overweight and obesity,” he says.

It’s an issue which is about to become even more relevant thanks to moves to allow foods to carry a greater range of claims about their potential to prevent diseases. You might not believe it from looking along some supermarket aisles, but the only such claim currently allowed relates to folate reducing the risk of having a baby with a neural tube defect.

Whether something amounts to a health claim in the legalese of food regulation is, however, all in the detail and interpretation. Just because Uncle Tobys has a cereal called “Healthwise, for Heart & Circulatory System” and bearing a tick from the National Heart Foundation does not mean, apparently, that we should interpret this as “eating this cereal might help reduce your risk of heart disease”.

If that sounds confusing, some public health nutritionists believe even greater dietary confusion is around the corner. Food Standards Australia New Zealand (FSANZ), the Trans-Tasman regulator, is due to soon release for public comment its latest attempt at developing a more extensive health claims labelling system.

It’s taken almost ten years to get this far, much to the frustration of industry bodies like the Australian Food and Grocery Council, which have been pushing hard for health claims labelling, in the face of opposition from groups such as Cancer Council Australia and the Public Health Association.

These groups fear such labelling will encourage distorted eating patterns and only exacerbate the marketing advantage of processed and packaged foods (which we mostly need to eat less of) over vegetables and fruit (which most of us should eat more of). Fresh fruit and vegetables are less likely to carry health claims because they are less likely to be packaged, and because the industry is fragmented and has far less funds to spend on promotion.

“Health claims are a big misnomer,” says Associate Professor Mark Lawrence, a public health nutritionist at Deakin University in Melbourne, who has previously worked for the food regulator. “Health claims aren’t about health; they are primarily about creating commercial opportunities for food manufacturers.

“If governments were serious about using food claims to protect health, perhaps they might equally invest resources in regulating 'disease claims' which, for example, might require foods that are high in sugar to carry a warning that they may cause tooth decay.”

However, manufacturers argue the new system will lead to more responsible marketing. “There will be less pushing the envelope [testing boundaries] because everyone will understand the rules,” says Dr David Roberts, deputy chief executive of the Australian Food and Grocery Council. “We only want the ability to tell the truth about food. If you know that your food can deliver a particular health benefit, you want to be able to tell your customers that.”

FSANZ hopes its latest proposal will reassure the critics. The authority plans to rigorously evaluate high level claims - that a particular food may reduce the risk of a serious disease - and allow these only to be applied to foods which qualify as healthy, as determined by a special computer program assessing overall nutritional value. This is an attempt to block, for example, fatty or sugar-laden foods from making health claims. Otherwise we might end up with snacks like Fruit Roll-Ups, which Choice magazine recently identified as a culprit in children’s weight gain, being promoted as a heart disease fighter. Mr Fluffy will likely survive unscathed, however. “Low fat” is technically a nutrition rather than a health claim.

General claims - for example that a food may have benefits for less serious conditions - will be less rigorously tested and companies will be able to make these claims without FSANZ first doing its own scientific assessment. These are the claims most likely to proliferate, so expect to see a surge in cranberry-related products promoted for their potential in preventing urinary tract infections.

The food regulator is conscious of the problems which have arisen in the US, where health claims are used to market foods like chocolate, and is trying to ensure Australia’s system is more rigorous. “Done well, health claims can make it easier for consumers to make healthier choices,” says FSANZ spokeswoman, Lydia Buchtman.

It is far from clear, however, how effectively the system will be enforced. The plan is for a watchdog in the Federal Health Department to refer breaches to the relevant state or territory government where the manufacturer is based – this doesn’t sound like a

system likely to be efficient or effective given how many bureaucracies would be involved.

Many public health experts remain sceptical about FSANZ and see it as driven by industry rather than public health imperatives. “I’m seriously concerned that the FSANZ standard will enable manufacturers to make officially sanctioned health claims when there is overwhelming evidence that manufacturers are already abusing public concerns about health and nutrition,” says Professor Mike Daube, Professor of Health Policy at Curtin University in Perth and a former Director-General of Health in WA. “Smiths potato chips proudly boast on the front of the pack that because of the change in oil, the product is ‘same great taste, now better for you’. It may be better for you than arsenic but a claim like this for a product where a 200 gram pack has 59.8 grams of fat is laughable.”

[He adds that:](#) “FSANZ seems to be falling over backwards to play to industry agendas.”

But it would be naive, says Dr Tim Gill, Co-Director of the NSW Centre for Public Health Nutrition at the University of Sydney, to expect public health goals to dominate food policy, given the industry’s political and economic clout. Gill is pragmatic about the challenges facing public health experts who attempt to take on the food industry. “It’s the second most powerful industry in the world,” he says. “Policy on food is going to be driven by economics well before it’s driven by public health.”

The mantra in public health circles is to make “healthy choices the easy choices”, often by making environmental changes – like workplace smoking bans – which make it easier for people to do the healthy thing. When it comes to food, however, it seems that much of the burden is left to individuals to find their way through a maze of often conflicting and commercially-generated information. Crossing would like to see a coalition of health departments and other health organisations joining together to provide independent, meaningful nutrition information with one voice. This would help counter the confusing and misleading advice which currently overloads the public, she says.

The lack of public health clout in food policy also helps account for the glaring absence of a national system for ensuring regular gathering of such basic data as what we eat, dietary trends, and the cost of basic foods - all essential information for developing strategies to tackle obesity and other diet-related disorders.

The most reliable data on what we eat goes back to the last national nutrition survey in 1995. A long-awaited survey of children’s eating and physical activity habits has just begun, funded jointly by the Australian Government and the Australian Food and Grocery Council, and carried out by researchers from the University of SA and CSIRO Human Nutrition. But many experts believe this is not enough, and argue there should be ongoing monitoring of the broader population as well.

“It is unclear why there has not been a commitment to on-going nutrition monitoring in Australia, when every other developed country seems to have a system,” says Dr Karen Webb, Co-Director of the NSW Centre for Public Health Nutrition, who

recently co-authored an editorial in The Medical Journal of Australia, outlining the need for much better information to guide policy.

One possible explanation might be the pressure such surveys would almost certainly put on governments and industry to lift their games.

It may come as a surprise to learn that when FSANZ began to evaluate the scientific evidence on what high-level health claims to allow, it found far more uncertainties than tidy conclusions.

So far, the only new high-level claims it considers backed by conclusive evidence are that eating fruit and vegetables may protect against heart disease; eating foods rich in calcium and vitamin D may help prevent osteoporosis; eating foods with calcium may boost bone density; that reducing sodium intake may help prevent high blood pressure; and that eating less saturated fats and trans fats may have a beneficial effect on cholesterol.

FSANZ could not find sufficient evidence that whole grains or omega 3 fatty acids (mainly found in fish) may protect against heart disease. “While there is some evidence that whole grains or omega 3 fatty acids may be protective, it is not strong enough to support a high-level claim,” says a FSANZ spokeswoman, Lydia Buchtman. “This doesn’t mean that such a claim might not be allowed in the future if more solid evidence becomes available.”

It’s a reminder that just because something has not been proven to be true does not mean it is not true - knowledge about the relationship between different foods and different diseases is ever-evolving.

The more you try to understand the many apparent contradictions in nutrition, the clearer it becomes that conflicting statements can sometimes each hold elements of truth. Those who say nutrition is often oversimplified are as correct as others who argue that the important nutrition messages are very simple.

Let’s deal with some of the complexities first. Foods are packed with so many substances that understanding how they relate to our health is immensely complicated, not least because when researchers ask people about what they eat, their answers are often quite different what they really eat. Another reason that studies can produce conflicting or unreliable results is the difficulty, when comparing disease rates among different populations, of being sure which aspect of diet, if any, may be associated with a reduced disease risk. And even when the science is clear, the implications for both individual’s behaviour and public policy are not always straightforward.

It becomes even more confusing for the public when preliminary findings are reported as if they are conclusive. Just because a food or a component of food is shown in an experiment involving test tubes, animals or humans to have an effect on some biological measure does not mean that it will have improve health in the real world. And yet such claims are often made by researchers or industry-generated PR campaigns.

An English doctor, Ben Goldacre, recently launched a scathing attack on nutritionists who write in the media, accusing them of “cherry picking” the scientific literature to quote only research supporting their particular bias and of extrapolating wildly from studies. In an article in the British Medical Journal, he described how one nutritionist wrote in the Daily Express that turmeric is “highly protective against many forms of cancer, especially of the prostate”. “But the only evidence for the link between turmeric and prostate cancer is from speculative laboratory studies of cells, usually from rats, growing (or not growing) in glass dishes,” said Goldacre. “Interesting findings these may be but they are not a sound scientific foundation for real world advice on curry.”

Industry funding of research also skews the evidence base, suggests a review recently published in the online journal, Public Library of Science Medicine. United States researchers reviewed studies about soft drinks, juice and milk published between 1999 and 2003, and found those funded by industry were far more likely to produce conclusions favourable to industry’s interests than those independently funded.

Nutrition is also complex because while our diet has evolved over many thousands of years, it has altered dramatically in just a few decades, with an explosion in the range of processed and fresh products available, as reflected in the supersizing of supermarkets. The way we eat has also changed; the National Heart Foundation cites figures showing that, on average, Australians eat four meals out each week, with one in three eating out almost every day. Meanwhile, the rapid changes of the modern lifestyle – which include our increasing inactivity - are putting new demands on our health and diets. The population’s ageing and the rise of chronic health problems such as obesity may mean general nutritional messages may no longer be as helpful for groups at high risk of such problems, who may need extra help.

Professor Linda Tapsell, director of the National Centre of Excellence in Functional Foods at the University of Wollongong, cites Scandinavian diabetes-prevention trials showing the benefits of giving personalised dietary advice to individuals rather than general messages for everyone. Relying on a broad-brush approach for high risk groups is as useful as Monty Python’s advice to “read a good book and be happy”, she says

Professor Bruce Armstrong, Director of Research at the Sydney Cancer Centre and Professor of Public Health at the University of Sydney, believes dietary advice may need to be fine-tuned to acknowledge our changing needs and circumstances. However, science is far from being able to make firm recommendations in order to help those who want to “die young late in life”.

“I don’t know that we really know yet what is the healthiest diet,” he says, “especially in terms of the chronic diseases that are becoming more important as we age. We can’t be sure that what’s natural and what we’ve evolved to eat is necessarily the best to prevent the diseases that afflict us in our 70s, 80s, 90s and beyond.”

After more than 30 years teaching food studies, Liz Sanzaro, who trains upcoming chefs at the Box Hill Institute in Melbourne, has seen firsthand the impact of the dramatic changes in our food supply.

“The new students coming in now are more confused than they used to be about food,” she says, attributing the trend to industry marketing, food fads and the ever-increasing range of products and cuisines.

“People generally are lurching from one dietary catastrophe to another and probably doing themselves a whole heap of harm in the meantime,” she says. “Unless you’re a food professional or food’s your business, it’s very hard to know what’s good advice or what’s advice that’s designed to make you purchase a product that really doesn’t need to be there at all.

“Once you start taking a nutrient and putting it into another food, like adding vitamin D to milk, it’s extraordinarily difficult for people to know how to get a decent and balanced diet. Orange juice with calcium is a particularly crazy one. People will lose the idea that calcium comes from other food stuffs.”

Ms Sanzaro, has learnt to communicate simply. “I try and encourage people to look at the food. Can you recognise what it was yesterday? Was it in the field, hanging on a tree, was it a grain? If you can’t tell what it was yesterday, then it’s been heavily processed and is best avoided.”

Similarly straightforward advice comes from Professor Marion Nestle, Professor of Nutrition, Food Studies and Public Health at New York University, whose latest book is *What to Eat*. “I think dietary advice is simple,” she says. “All you have to do is eat less, move more, eat fruits and vegetables, and don’t eat too much junk food.”

And just one more thing: perish the guilt. It’s not healthy.

Breakout 1: The Soy Shake-Up

Being told you have cancer is life-changing for anyone. For Rosanna Martinello, who was in her early 30s when she learnt she had breast cancer, it was the signal to make some big changes in her life.

The Sydney woman was determined to do whatever she could to help her chances of survival. Instead of spending long nights working back at the office, she ploughed her considerable energy into researching what she could do to help herself.

“I found it very frustrating,” she recalls, “because there was no one reputable source of information when it came to diet and cancer. We’re going back ten years or so. Back then diet was really left field, it was more fringe.”

At about that time, however, there was an explosion of research interest in the potential benefits of soy. One impetus was studies showing low breast cancer rates in Asia, where soy foods are widely eaten. It seemed that compounds known as isoflavones had anti-cancer properties, and over the next decade, more than 9000 scientific papers were subsequently published on these soy components alone.

Not surprisingly, soy manufacturers were quick to trumpet findings suggesting soy might help prevent breast or prostate cancer - especially as it had funded many of these studies - and soy products began to flood the supermarket aisles.

Martinello, like many others concerned about their health, started to dose up. "I would have tofu or soy beans almost every day," she says.

However, in what proved to be a wise move, she decided against taking soy supplements after hearing about a landmark United States study, published in the New England Journal of Medicine in 1996, suggesting that some beneficial components of plant foods, such as beta carotene, were potentially harmful if taken as supplements.

As the years passed, Martinello watched as the soy pendulum began to swing. In 1998, a study published in the journal Cancer Research suggested that rather than reducing cancer risk, isoflavones might actually stimulate the growth of some tumours, and subsequent studies reinforced these concerns.

Alarmed, Martinello cut back. "I thought I might have been harming myself and I was confused and concerned that experts appeared to be changing their views," she says. "I moved from having a lot of soy to having soy in moderation."

The news about soy became even more mixed when an influential review, published in the United States late last year in the Journal of the National Cancer Institute, declared that research was urgently needed to determine soy's safety in both breast cancer patients and women at high risk of developing the cancer.

"There is an important public health imperative to determine the safety of soy foods in both groups of women," the authors noted. They added, however, that "considerable enthusiasm remains for the possibility that soyfood intake contributes to the low breast cancer rate in Asia but increasingly it appears that childhood and/or adolescence is the critical period of exposure [to soy]."

Similar concerns were raised by the NSW Cancer Council in January, in response to the many soy-related queries it receives. In the first position statement on soy and cancer by an Australian cancer organisation, the Council advised breast cancer patients against taking soy supplements, highlighted the uncertainty over whether they should eat a lot of soy, and generally recommended eating soy in moderation as part of a balanced diet.

"It is not clear whether it is safe for women with existing breast cancer to consume soy supplements or even large quantities of soy foods," the Council said. "Although the evidence is not conclusive for soy foods to protect against cancer, soy foods can be encouraged as part of a varied and nutritious diet."

For some observers, the evolution of the soy story - from initial enthusiasm to alarm and caution - is yet another reminder of the wisdom of that adage about moderation in all things. It also illustrates the potential harms of the reductionist scientific approach which, by focusing on the impact of single foods or nutrients, can encourage people to make unwise, radical changes to what they eat.

One of the problems of turning food into medicine is that it is so much more difficult to evaluate the impact of food on health than it is to evaluate the impact of medicines on health. Making dietary recommendations for a population, based on promising laboratory experiments or studies comparing the health outcomes of different populations, is fraught with danger and difficulty, as the soy story shows.

There is a world of difference between girls who grow up in Japan eating soy as part of a cultural diet and lifestyle, and buying a breakfast cereal in an Australian supermarket which is pumped up with soy phytoestrogens and labelled “for women over 40”.

For others, the soy story shows the dangers of relying on food industry marketing or media reports. The latter invariably overstate the implications of both positive and negative findings. “The media distorted the original message that soy was good, and then distorted the message that it is bad, and the poor public are left in the middle,” says nutritionist, Dr Rosemary Stanton, who would like to see governments take a far more active role in providing independent nutrition advice to the public.

Martinello, who has established an advocacy group for young women, Young Breast Cancer Action Group NSW, also advises looking beyond the headlines. “Don’t rely on the media reports,” she says, “get the facts, go to the original source of the material in the media story.”

She remains a firm believer in the importance of eating well. “I would never say that diet cures cancer but eating lots of fresh, natural produce, especially green leafy vegetables, is important in maintaining healthy well-being,” she says.

As her fear of relapse has faded with the passage of time, Martinello has relaxed her attitudes towards food. She still arrives at meetings with a beetroot, carrot and celery juice, freshly made on the juicer she keeps at her office. But these days, she enjoys it for the pleasure it brings as much as for any medicinal properties.

• Young Breast Cancer Action Group NSW: www.bcagnsw.org.au. Cancer Voices: www.cancervocies.org.au

Breakout 2: The sugar-coated pill

Just before Christmas 2004, the British Medical Journal published a gift to the world’s chocolate lovers.

It was an article promoting the notion of a “polymeal”, whose ingredients were specifically selected because of their potential for reducing the risk of heart disease.

Regular consumption of the polymeal, which included wine, fish, dark chocolate, fruits, vegetables, garlic, and almonds, from age 50 would reduce the risk of cardiovascular disease and increase life expectancy, the researchers predicted.

The article, by a group of researchers from the Netherlands, Belgium and Australia,

was a direct response to a previous BMJ article suggesting that a “polypill”, combining six medications in one, would be an effective new weapon against heart disease.

“The Polymeal is an effective, natural, probably safer, and tastier alternative to the Polypill to reduce cardiovascular disease and increase life expectancy in the general population,” the researchers wrote.

Not surprisingly, the world’s media had a voracious appetite for the polymeal - stories about chocolate are popular with journalists and their audiences alike.

The researchers did more than 300 media interviews, fielded thousands of emails, gained a Wikipedia entry, and a book, *The Bonus Years Diet*, will soon be published to expand on their concept.

The original article was written somewhat facetiously for the Christmas issue, but had a serious intent, according to its lead author, Dr Oscar Franco, who now works in England for the manufacturing giant Unilever.

“It is fundamentally a theoretical serious proposition as a potential alternative of medicalising society with magic pills,” he says.

It is somewhat ironic, then, that the popularising of the polymeal could equally be seen as an example of the hazards of medicalising food.

Chocolate is now being promoted as a health food - in the US some brands are touted for their “heart benefits” - although it is not proven that its regular consumption will do anything other than expand waistlines.

Many claims about chocolate are based on small experimental studies whose health implications are far from clear. The BMJ paper, for example, used theoretical modelling to estimate the impact of the polymeal; it was not a trial testing its impact on real people in the real world.

To Dr Tim Gill, co-director of the NSW Centre for Public Health Nutrition at the University of Sydney, the promotion of chocolate on health grounds is “unsubstantiated nonsense”.

“It shows a reductionist approach and the fact that the power players in health are clinicians operating from a physiological and biological perspective rather than from a public health perspective,” he says.

Focusing on the potential beneficial effects of some components of chocolate also obscures the bigger picture: the last thing most of us need is encouragement to eat more chocolate.

The nutritionist, Dr Rosemary Stanton, says most reports about chocolate tell only half the story. Claims that a fat in chocolate doesn’t raise cholesterol fail to mention another that does, and that the potentially beneficial components are most concentrated in dark bitter chocolate which accounts for a relatively small market

share.

“Why does chocolate have to be a health food?” she says. “Isn’t it enough that something tastes good?”

*****1. Which breakfast cereal?**

- Australia’s dietary guidelines recommend that we should eat plenty of cereals, preferably whole grain. Having cereal for breakfast is a great way to get a hit of the carbohydrate, fibre, protein, vitamins and minerals important for well-being. But with more than 200 different types of cereal and muesli on the market, it pays to choose carefully.
- Avoid cereals loaded up with salt and sugar; these are often the ones marketed as “healthy”. When the independent consumer magazine, CHOICE, assessed more than 180 types of cereal and muesli in 2005, it found that many had too much of these ingredients.
- Of the top ten best-selling cereals, CHOICE gave an unqualified nutritional thumbs-up to only three: Sanitarium Weet-Bix; Uncle Toby’s Vita Brits and Kellogg’s Sultana Bran. It also recommended porridge.
- CHOICE did NOT recommend for everyday eating: Kellogg’s Nutri-Grain, Kellogg’s Corn Flakes, Kellogg’s Coco Pops, or Kellogg’s Rice Bubbles.
- Cereals marketed to children were particularly likely to have excess sugar. Some nutritionists advise generally against buying foods promoted by cartoon characters, and this may be especially good advice when it comes to cereals.
- Cereals that tend to be high in fibre are wheat biscuits, whole grain or bran cereals. Check carefully if choosing bran cereals though: CHOICE found that two of the saltiest cereals were bran-based.
- Whatever cereal you choose, top it off with low-fat milk and a chopped banana or some other fruit. The national guidelines recommend adults eat at least two serves of fruit each day, but many of us come nowhere near managing that.
- If cereal is not to your taste, don’t let this be an excuse to skip breakfast. Have something else - fruit, wholemeal toast, or an egg, perhaps. People who miss breakfast are less likely to have balanced diets and are more likely to have weight control problems. Breakfast is especially important

for children, and parents who eat breakfast are also setting a good example.

- The last national nutrition survey, in 1995, found that 50.9 per cent of Australians ate a breakfast cereal on the day of the survey. Only 34 per cent of men and 21 per cent of women met the recommended target to have seven cereal servings a day (including breads, rice, pasta and noodles). A serving equates to one and a third cups of breakfast cereal or half a cup of muesli.

2. Alcohol

The general perception?

Many people have an overly positive belief that a regular tippie is good for the heart and health generally.

What created this perception?

More than 20 large studies in at least nine countries have shown that people who average one or two alcoholic drinks a day live longer on average than teetotallers, and have a reduced risk of coronary heart disease. The media has enthusiastically reported such studies - it's just what their audiences love to hear - and the alcohol industry has also helped promote awareness about potential health benefits of alcohol. The natural human tendency towards selective hearing - we are more likely to absorb messages that we want to believe - also helps explain why alcohol has developed a reputation as a health tonic that it may not entirely deserve.

The bottom line in 2007

The potential health benefits of alcohol have been blown out of all proportion. Many people do not realise that alcohol contributes to some types of cancers and other health problems, including overweight and obesity. Many people drink at a level which will increase, rather than reduce, their heart disease risk. No reputable health authority has recommended that anyone should start drinking for health reasons. And having one or two drinks a day is only likely to reduce heart disease risk in people who are carefully moderate drinkers and who are past middle age. Another problem with studies measuring alcohol's health effects is that they often overlook its huge social harms, especially for young people who so often are the target of sophisticated marketing. Police have claimed that alcohol-related violence accounts for three-quarters of their

workload. It is not surprising if people are confused about how much they should drink, given that differing advice is provided by two sets of national guidelines. The National Health and Medical Research Council's 2001 document on alcohol's health effects says that to minimise risk and gain benefits, men should drink an average of no more than four standard drinks daily, and women should have no more than two. The Council's 2003 dietary guidelines, however, took a tougher stance because they also considered alcohol's contribution to energy intake. "Limit your alcohol intake if you choose to drink," was their bottom line. They advise that men have no more than two standard drinks a day, and that women should have no more than one. A standard drink is equivalent to a 100-ml glass of wine, or one can of regular beer or a 30 ml nip of spirits.

3. Which spread?

The general perception?

Many people are not sure which is best: butter, margarine or one of the many other spreads and dairy blends now available.

What created this perception?

Health authorities have been urging us to cut our saturated fat intake for decades, for a range of health reasons. Many people switched from butter, which contains more than 50 per cent saturated fat, to margarines, which are made from vegetable oils. However, the processing of liquid oils into solid fats produces a mixture of saturated fats and trans fats. Health authorities raised concerns that trans fats might be at least as harmful as saturated fats as early as 1984, and other studies and reports have subsequently reinforced these concerns. Trans fats have since been virtually eliminated from the more expensive brands of unsaturated margarines, according to the national dietary guidelines. Some margarines now also contain extra plant sterols, substances which are chemically very similar to cholesterol and may help reduce the body's absorption of cholesterol from the intestine. Nutritionist Dr Rosemary Stanton says they also reduce absorption of fat soluble vitamins and protective carotenoids, although CSIRO found this can be overcome by eating an extra serve of fruit and vegetables.

The bottom line in 2007

The National Heart Foundation recommends margarine or other vegetable oil spreads, and the national dietary guidelines recommend choosing

unsaturated margarines made from canola, sunflower, safflower or olive oil rather than butter or hard margarine. When CHOICE magazine surveyed more than 90 spreads and dairy blends, it found many margarines and spreads (spreads cannot call themselves margarine if they have less than 80 per cent fat) to recommend. But even the best dairy blends had more saturated fat than other spreads. All margarines with the NHF tick have been independently tested to ensure they have a maximum of just one per cent of total fat as trans fat. The national dietary guidelines also recommend choosing low-salt margarines and spreads. But it's not only what you buy, it's how you use it that counts. Whatever you choose, spread it sparingly, and use vegetable or olive oil rather than margarine or butter for frying. Many people still eat too much saturated fat - it's recommended that this type of fat should account for less than 10 per cent of our energy intake, whereas on average it accounts for about 12.5 per cent. None of this to say that you shouldn't enjoy a spot of butter now and then, if that is to your taste. Moderation is the key.

4. To BBQ or not?

The general perception?

That great Australian tradition, chargrilling meat on the BBQ, has become associated in many peoples' minds with an increased cancer risk.

What created this perception?

A number of studies have shown that cooking meat at high temperatures, whether on the BBQ or in a frying pan, can create chemicals with the potential to cause cancer. Compounds such as heterocyclic amines (HCA) are formed during the breakdown of meats at high temperatures, while polycyclic aromatic hydrocarbons (PAH) can be generated when meat is roasted or cooked over an open flame. Some scientists have suggested these compounds might explain studies showing an increased cancer risk among people who eat a lot of meat. Such claims have been widely publicised because BBQs are so popular.

The bottom line in 2007

It is not conclusively proven that eating chargrilling meat will increase your cancer risk as most studies have involved animals or testing of humans under experimental conditions. However, there is enough theoretical cause for concern. It's another reason to trim visible fat off meat before you cook it, given fat's propensity to burn. The Cancer

Council NSW recommends not overcooking or blackening meat, and also advises marinating it before BBQ-ing it. “Marinating meat for five minutes in a mixture containing olive oil, honey or brown sugar and vinegar or other acid decreases production of heterocyclic amines by 90 per cent,” adds nutritionist Dr Rosemary Stanton. Marinating is also good for keeping the meat tender and flavoursome. It also makes sense to ensure your BBQ is clean and free of charred residue. If you enjoy meat as a regular part of your diet, make sure you cook it in a variety of ways and don’t only rely on the BBQ. But concerns about cancer-causing BBQs are a classic example of the need to remember the bigger dietary picture rather than obsessing about single issues. “Rather than worrying about whether to BBQ or not, concentrate on enjoying all the good things that can accompany your grilled meat: salads, veggies and breads,” says Kathy Chapman, nutrition program manager of the Cancer Council NSW . “BBQs are for relaxing and enjoying, not worrying.”

5. To the dairy?

The general perception?

Some women are alarmed by reports that eating dairy foods may give them breast cancer.

What created this perception?

In 2000, a British scientist Jane Plant published a book called *The No-Dairy Breast Cancer Prevention Program: How One Scientist's Discovery Helped her Defeat her Cancer*. She began researching dietary links to breast cancer after being diagnosed with the disease in 1987, and concluded that giving up dairy products helped her own recovery. Her book has been widely publicised.

The bottom line in 2007

The Cancer Council NSW says there is no conclusive evidence that dairy foods cause breast or any other cancer. In fact, they may be mildly protective against some cancers. This is an example of the pitfalls of relying upon individual stories, as compelling as they may be, and unbalanced media stories. It is difficult to draw reliable conclusions from any single person’s experience with cancer or indeed any other illness; it may be that changes they made to their diet or lifestyle had nothing to do with their recovery. You need to look at the weight of evidence from many large, carefully conducted studies rather than relying upon individual anecdotes. Dairy products, an important component of our diet

for many reasons, are considered one of the five core food groups. Milk is described as one of the most complete of all foods because it contains nearly all the constituents of nutritional importance to humans, including calcium, protein, vitamins and minerals. Our national dietary guidelines recommend women have two to three serves each day of milk, yoghurt, cheese or alternatives and that men have two to four serves. A serve is equivalent to a cup of milk, 40 grams of cheese or 200 g of yoghurt. On the down side, dairy products are a major source of saturated fat (accounting for about 27 per cent of average saturated fat intake), so low or reduced-fat dairy products are recommended for everyone over age two. Cheeses are often high on sodium, so look for the low-salt products. Use cream as an occasional luxury. The National Heart Foundation advises using ricotta cheese whipped with a little icing sugar, fruit, and reduced fat milk as a substitute for cream, and using low or reduced fat natural yoghurt as a substitute for sour cream. It also recommends limiting cheese and ice-cream to twice a week.

Eggs on

The general perception?

Many people are confused about whether eggs are healthy and how many they should eat.

What created this perception?

Eggs, which were once marketed as the ideal way to start the day, began to develop an unsavoury reputation in the 1970s when heart groups started advising people to cut back on eggs. This was based on concerns about the high cholesterol content of eggs. But the message was relaxed as scientists began to realise that the cholesterol we eat has relatively little impact on our blood cholesterol levels; it is our saturated fats intake which has a far greater bearing. Meanwhile, research and public relations campaigns, funded by industry organisations, such as the Egg Nutrition Centre in the US and The British Egg Information Service, began promoting the health benefits of eating eggs. No wonder many people became so confused.

The bottom line in 2007

Our national dietary guidelines note that eggs are a good source of protein, vitamins and minerals. An egg contains approximately 5 grams of fat, most of which is the healthy unsaturated fat we need to include in our diets. It contains about 1.5 grams of saturated fat and no trans fats. For the general population, the national dietary guidelines recommend

moderate consumption, at most an average of one a day. The National Heart Foundation has given its tick of approval to fresh hen eggs but recommends that people with high cholesterol or cardiovascular disease discuss with their doctor or dietitian how many eggs they should eat. Those with diabetes should also seek this advice; Harvard researchers who combined the results of two large studies to examine the relationship between egg consumption and risk of cardiovascular disease, found no evidence of an overall significant association between egg consumption and risk of coronary heart disease or stroke in either men or women. But eating more than one egg per day appeared to increase the risk for people with diabetes, the researchers reported in *The Journal of The American Medical Association* in 1999. Remember that it's not only what you buy but how you cook and serve it that's important. Don't fry your eggs in butter, at least not every day. If you can't resist cream in your scrambled eggs, save this indulgence for special occasions. Enjoy your eggs with whole grain bread or a tasty salad.

A fishy story

The general perception?

One minute we're told to eat fish for our hearts. The next we are warned against eating too much of it because of the dangers of mercury poisoning.

What created this perception?

In 1985, a landmark study in *The New England Journal of Medicine* found that Dutch men who ate fish regularly were far less likely to die from coronary heart disease than those who did not eat fish at all. It followed interest in the surpassingly low heart disease death rates among Greenland Eskimos, which was thought due to their high fish consumption. The Dutch study, which concluded that as little as one or two fish dishes a week may help protect against heart disease, triggered an explosion of research on the omega-3 fatty acids found in fish. Some trials testing the impact of regular fish meals or fish oil supplements for people with established heart disease produced encouraging results. Meanwhile, studies began to emerge in the late 1990s raising the alarm that eating too much fish might lead to mercury poisoning, and that this was particularly likely to be harmful for pregnant women and their children's future health. However, these studies were largely conducted in countries with very high fish consumption, such as the Republic of

Seychelles and the Faroe Islands. Health agencies in several countries, including Australia, issued warnings against eating large amounts of fish.

The bottom line in 2007?

While plenty of enthusiasm remains for the potential of a fishy diet in preventing heart disease, and possibly other health problems as well, the evidence is not as straightforward as it is sometimes portrayed. Not all studies have shown a link between fish consumption and reduced heart disease risk. Our national dietary guidelines note that some of the studies which found no link were of high scientific quality. We are generally less likely to hear about these findings, however, as researchers and the media are less likely to publicise such “negative” findings. This can give us a biased picture. The national guidelines say it is possible that fish and fish oil may help protect against heart disease only in people who are at high risk (such as those who’ve already had a heart attack). The guidelines recommend one to two meals a week of fish high in omega-3 fatty acids such as sardines, tuna, salmon and herring. The National Heart Foundation recommends eating at least two fish meals per week, preferably oily fish. But the guidelines note that the world’s diminishing fish stocks may mean it is not feasible to implement this recommendation across the entire population. The fish with the highest amount of healthy fats include Atlantic salmon, swordfish, mackerel, southern bluefin tuna, trevally, and sardines. Of course, there are many reasons other than your heart to eat fish. Apart from all the nutrients it contains, it tastes good. Food Standards Australia NZ has issued guidelines for maximum fish consumption for different groups for minimising the risk of mercury poisoning and these are available on its website. The bottom line is probably only a small proportion of the population who eat a lot of fish all the time have any cause for concern. There are far more people who could benefit from including more fish in their diet: the 1995 National Nutrition Survey found only about one-quarter of the population ate fish at least once a week.

6. A meaty question

The general perception?

We’re all over the shop on red meat. Some people are worried it increases their bowel cancer risk; others believe it’s important for boosting their iron and flagging energy levels.

What created this perception?

We’ve been hearing stories that red meat might increase cancer risk since the early 1990s, when studies found that vegetarians were less likely to

develop cancer than meat-eaters. In 1997, the World Cancer Research Fund and the American Institute for Cancer Research sent shock waves through the meat industry when they stated there was an association between meat consumption and an increased risk of bowel cancer. However, not all experts were equally convinced by the studies backing that statement, pointing out flaws in their methodology. Meanwhile, the meat industry swung into full-scale defensive mode, funding research and clever public relations campaigns to emphasise the positive news about meat and to downplay the negatives. These campaigns often involved funding research, researchers and conferences. Nutritionist Dr Rosemary Stanton says Meat and Livestock Australia campaigns have helped create a misperception that meat is the only source of iron in the diet.

The bottom line in 2007?

The meat story is not clear cut as there are definite positives and potential negatives to including meat in your diet. Meat is an important source of iron and other nutrients, and consumers now have far greater access to lean cuts of meat than in the past, so eating meat does not necessarily mean a big hit of saturated fats. While many studies have associated high red meat consumption with bowel cancer, others have not. People who regularly eat processed meats, such as salami and sausages, are most likely to be at increased risk. The Cancer Council Australia supports the national dietary guidelines which recommend having three to four serves of red meat a week. A serve equates to 65 to 100 grams of cooked meat or one half cup of mince, two small chops, or two slices of roast meat. To maximise the benefits and minimise the risks of eating red meat, it's sensible to buy lean cuts, trim off obvious fat and to moderate your consumption in general. In particular, don't make sausages, fatty meats or processed meats a regular on your menu. An eminent United States authority on diet and health, Professor Walter Willett from Harvard University, advises substituting a combination of fish, nuts, poultry and legumes for red meat wherever possible. "Keeping red meat consumption low is best viewed, not as an isolated goal, but as part of an overall dietary and lifestyle strategy to optimise health and well-being," he wrote in *The Journal of the American Medical Association*. "Fortunately, substituting pistachio-encrusted salmon and gingered brown basmati pilaf for roast beef with mashed potatoes and gravy is not a culinary sacrifice." Rather than obsessing about meat, focus on piling your plate with plenty of salads or vegetables. When you do have meat, enjoy it. But make it a side-dish rather than a plate-filler.

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