



GETTING PERSONAL: shifting responsibilities for dietary health

Comments on the *Getting personal* report

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Post-genomic and associated technologies allow us to examine the response of our genes, proteins and metabolism to different food compounds; this is the science of nutrigenomics. Its long-term aim is to use these technologies to determine how our body responds to foods to affect our long-term health. The major advantage of this approach is the exploration of food, life-stage and life-style without preconceived assumptions. Although it seems impossibly complicated, nutrigenomics is the ideal and perhaps only tool capable of answering the question – what should we be eating?

The promotion of healthy patterns of nutrition and lifestyle are paramount and key messages about a healthy lifestyle including foods that promote health are well established. We should not risk diluting these messages with premature speculation about nutrigenomics and what it might achieve. The reality is, however, that poor dietary choices within a sedentary lifestyle are contributing to premature ill-health, impacting the quality of life for increasingly younger individuals as well as national economies. Personalising dietary advice and offering specifically tailored products is not an alternative to public health policies, but it does have much to contribute. Nutrigenomics should create choices for everyone, but individuals must retain their rights to opt out or ignore dietary and lifestyle advice without prejudicing access to employment, insurance and healthcare.

Just as with genetic diseases, some of the scientific information emerging from nutrigenomics research will be difficult to handle. The ethical, legal and societal aspects of nutrigenomics are perhaps as complicated as the technology. If the science is to move successfully from the laboratory into our every day, we need to consider not only what we are going to do with information but how the resulting services are delivered. The dialogue must be inclusive – the food and biotech industries, governments and regulators, scientists and consumers – and it should be early in the research process, allowing researchers to respond to consumers concerns and consumers to gain understanding of the science.

Ultimately, food is about choice; what we eat and in particular making the healthy choice should be as easy as choosing where we eat it and with whom.

Institute of Food Research is a member of The European Nutrigenomics Organisation (NuGO): linking genomics, nutrition and health research (CT-2004-505944). Siân Astley is Communications Manager for NuGO.

Rose Bridger

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Market segmentation

Personalisation, in marketing circles sometimes referred to as 'egoblooming', is central to the food industry strategy of market segmentation, focussing promotion on customers most likely to buy particular products. Differential marketing, with stocking and promotion of products related to community profile is intensifying. This reinforces health inequalities, with marketing of products loaded with cheap fats, sugars and milk protein targeted at poorer communities who already buy more of these products. Personalisation is gathering pace in so-called 'healthy' products targeted at children, recent innovations including single serving low GI (Glycemic Index) drinks and low carbohydrate ready meals. Packaged daily 'lunchboxes' with individually packaged components based processed meat and dairy produce, white flour and additives are emblazoned with cartoon characters and nutrition claims, frequently stating exactly how much calcium they contain.

The pet food mentality

The increasingly complex information on products mystifies food and cooking. Processing and packaging are artfully promoted as beneficial to health. Ready meals are labelled 'nutritionally balanced', as if quantities and proportions of nutrients have to be exact requiring computer databases and batch testing. Single servings are 'portion control'. The filtering process for Cravendale milk, which is marketed as 'pure', extends shelf-life. Some major players in the food industry may see personalisation as strengthening the supposed rationale for processed food rather than cooking from fresh ingredients. It appears that some major food industry players are trying to foist a pet food mentality on us, implying that nutrition is an exact science and everything needed for each individual is in the packet. Focusing on the minutiae of individual diets detracts attention from the health impacts of the wider food system. Personalisation intensifies the dynamic of breaking food into components and reassembling into novel products which increases food miles, storage, packaging and processing. The veneer of diversity of personalised products belies the market concentration and centralised infrastructure.

Promoting personalisation in hospitals

Single servings of packaged food are a growth area in hospitals, including cereals, drinks, complicated dairy products, sandwiches, cakes, salads and functional foods such as spreads and probiotics. In promoting some of these to patients as 'healthy choices' our NHS is implicitly advertising specific branded products. Personalisation extends to whole meals providing for many medical requirements and dietary preferences, with specifically 'healthy' meals such as reduced salt, low fat and low GI. These meals are sometimes recommended as Meals on Wheels to elderly people, and likely to be from a single manufacturing site serving the whole UK or half of Europe and microwaved in a few minutes. Vending is a profit centre and purports to give what the individual wants, and when, but the drive for healthy vending will still mean single servings of processed, packaged food with a long shelf-life, even if supposedly healthy like low fat crisps. Some hospitals are pioneering vending for entire meals, a meal at the push of a button, the likely effect being increased material intensity of the supply chain and de-skilling of catering staff.

Mark Cutter

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This report is a welcome analysis of the government's policy as regards personalisation generally, and the issue of personalised nutrition specifically. Dealing a wide range of issues the report appears to have recognised that personalised nutrition is not merely a function of genetic and genomic sciences, but that nutrigenomics and nutrigenetics represent only a part of the "personalisation" process. As the report observes:

"Nutrigenetics companies operate on the fringes of nutrigenomics and, on the face of it, the personalised targeting they promise also seems a long way from the kinds of "personalisation" that the government has in mind."

However whilst contemplating the role of biotechnology in personalised nutrition, it is interesting that the report does not draw more heavily on the experiences of the producers of genetically modified (GM) food. Whilst scientifically GM is absolutely distinct and separate from personalised nutrition I would argue that from a policy perspective the legal and ethical issues that have been faced in the GM arena have much to teach those involved in the making of policy as regards personalised nutrition.

It is interesting the that Food Ethics Council's major driving principle in preparing this report seems to have been the motion "that a fairer and more effective approach (to personalisation) would be to match the new emphasis on personal **responsibilities** with a new commitment to human **rights**". Whilst this is a noble imperative it is possible to raise questions as to how realistic the notion of enforcing a "legal" right to food actually is. This points not to a weakness in the report, but to an area for further research. It seems that on the strength of the report policy makers are presently being asked to look into their crystal balls, and to balance two separate cliché positions. Are we to be regulated on the basis that nutrition is founded on the principle of "we are what we eat" or in the alternative should policy be driven by the statement "let them eat cake".

Ultimately the council's report provides a solid groundwork for future policy debate. The most important aspect of any such report is to ensure it reaches the eyes of appropriate stakeholders.

Dr Michael Fitzpatrick

GP and author of The Tyranny of Health: Doctors and the Regulation of Lifestyle (Routledge).

Dietary dictatorship

In 'Getting personal: shifting responsibilities for dietary health', the Food Ethics Council accurately identifies the way in which government policy now 'treats food like medicine and society like a hospital'. This is bad for science (nutritional and medical) and bad for society.

From any objective assessment of health trends in the industrialised world over the past half century it is readily apparent that diet plays a marginal role in both the causation and the prevention of disease. There is a consensus that since the Second World War we have all been eating too much saturated fats, too much refined carbohydrates, too much salt, indeed too much of everything, including diverse toxins and pollutants. Yet life expectancy has increased by about ten years over this period - and it continues to increase. While prophets of doom promote nightmare scenarios resulting from epidemics of obesity and diabetes, death rates from coronary heart disease continue to decline - and rival gloom-mongers raise the spectre of a demographic timebomb of the elderly.

The public has been exhorted to follow a low fat diet, but this has little effect on circulating cholesterol and less on rates of heart disease. The evidence that any dietary intervention has a significant impact on the incidence of cancer is poor. But government dietary policy is not only scientifically irrational, it is also socially authoritarian.

In Britain school meals have become a major political issue and popular television shows feature celebrity nutritionists haranguing hapless parents about what they should be feeding their children, lest they condemn them to a premature death. Politicians desperately seeking ways of making contact with the public have hit on health in general (and food in particular) as means through which they can show they care about people's welfare and impose some authority over their behaviour. Yet, as Getting personal points out, this approach reduces the social activity of eating food to a personalised quest for individual survival. It implies that disease is the universal default status and that health can only be maintained by the scrupulous pursuit of an ascetic lifestyle. By medicalising diet the government's intrusive and moralistic dietary policy diminishes individual autonomy and is more likely to make people ill than to improve public health.

Ann Hobiss

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This paper is an important start to opening the debate regarding the future of public health nutrition policy. The Food Ethics Council is to be congratulated for articulating concern with present and future trends to develop a technical response to poor dietary health that is driven by corporate interest with little proven individual, let alone social, good.

There is universal agreement that the Western world's diet needs to change to benefit public health.¹ It is not what needs to change but how that change can be brought about within contemporary society that is the continued focus for debate. As described in the 'Getting Personal' paper, the recent government public health publications are ambiguous in their delegation of responsibility for dietary health. Although they appear to clearly demark responsibility to the individual (as in the role of personal trainers, clear food labelling information), to communities (school meal improvements, primary health care workforce developments), or to national government (to regulate the food industry and promotion of food to children), in reality the amount of resource provided to effect change at community level is minimal. For example, between £1500 - £2500 has been allocated to schools to 'transform the school meals at the school level'. (This may require full refurbishment of a kitchen or dining room!) The reluctance of the government to interfere with the corporate aspects of our food industry jeopardises effective action at government level, which leaves the individual as the major change effector.

This failure to take leadership in social change leaves a society open to manipulation by future technical developments such as 'nutrigenetics' which personalise or individualise the marketing of products, and these will begin to dominate the change agenda. Traditional public health interventions that incorporate community development principles, will be seen as too slow and cumbersome to effect change compared to the willing adoption of personalised 'health' products by high profile, wealthy consumers. In late 1990's, the 'statins versus diet' debate highlighted potential limits of focusing on 'high risk' groups as opposed to the total population. Statins proved highly effective at lowering cholesterol and hence risk of CHD, however, the greatest health gain in *total numbers* of deaths prevented has been among the lower risk, general population through changes to smoking and diet behaviour.² Similarly it is not unreasonable to expect that the nutrigenetics industry will not reach the vast numbers of people whose future ill-health could be prevented, by virtue of the fact that they will not necessarily reveal a genetic disposition to, for example, CHD.

Bradford Food Network supports the work presented here of the Food Ethics Council and would like to participate in future developments.

¹ FAO/WHO (2003) Diet, nutrition and the prevention of chronic diseases. *WHO Technical report series*, 916.

² Unal, B., Critchley, J. A. and Caperwell, S. (2005) Modelling the decline in coronary heart disease deaths in England and Wales, 1981 – 2000: comparing contributions from primary prevention and secondary prevention. *BMJ*, 17 August 2005.

Alastair Kent

Director, Genetic Interest Group

It is clear that there is a growing public health problem arising from poor diet. Too much sugar and fat, not enough fruit and fibre and insufficient exercise are leading to obesity, diabetes, heart disease and a range of other serious and chronic health problems. It is also clear that national health care systems in the developed world, at least as they are presently configured, will not be able to cope with the impact of this epidemic, and continue to provide health care of a quality acceptable to the citizens who pay for and expect it. If the wealthy nations cannot do this, the middle income nations following in our wake will be even more overstretched.

In the face of this on-coming problem the response of governments and health care providers has been to attempt to shift responsibility for the maintenance of health and well-being from the state to the individual.

Messages about eating five portions of fruit and vegetables a day, walking the last flight of stairs etc are increasingly common. In parallel, the development of “functional foods” with health related additional properties is on the increase. Whilst it is right and proper that these messages should be heard, and it is logical that the private sector will respond to the market with added value products, there is a danger that this individualisation of responsibility for health maintenance will let government off the hook of its responsibility for securing this for all citizens.

Those who most need government support, the poor, disabled people and those who need special diets because of genetic disease or other inborn errors of metabolism are those for whom these messages are inappropriate because they need special help to meet basic dietary requirements.

Clearly we all have a part to play in trying to maintain our long term health; we cannot be held responsible for factors outside our control, whether genetic, environmental or societal in origin. So we must be watchful that personalised responsibility is not used as a tool to undermine solidarity, collective responsibility and the duty of government to provide proper care and support for all citizens – and especially for those unable to accept personal responsibility due to factors beyond their control.

Peter Marsh

Co-Director, Social Issues Research Centre

The question posed is 'has the Getting Personal report got it right'. Short answer, Yes – and No. I don't have time to cover all of the points in the report, but I will focus on just a few to illustrate this somewhat ambivalent response

I welcome the critique in the report of the government's emphasis on personal responsibility in food choices. Yes, this is desirable, but there are limits – especially if you are a disadvantaged mother (or father) attempting to feed children in a 'foolproof' way – avoiding waste, avoiding the risk of failure – the very things that 'convenience foods' fortunately or unfortunately, generally ensure.

In this context, the focus on alleviating poverty – in the sense both of raising incomes and ensuring access to decent shops, etc. is welcome. Along with the conclusion that we should be targeting deprivation, not advice to people, in deprived areas. It is an important element most often missing from health debates. (I might, though, dissent from what I see as the rather cavalier use of the term 'Absolute Poverty' in this context.)

I welcome equally the argument that we should not assume that health is the main criterion for rational lifestyle choices – nor should it be in connection with what people eat. For too long we have been coerced to eat a 'healthy' diet, whatever that might amount to, rather than to enjoy food and see it as a source of pleasure and an opportunity for social engagement. I particularly like the phrase criticising the Department of Health's 'personalised' model – "By assuming rational people should choose health it treats society like a hospital and food like medicine" – spot on!

The 'medicalisation' of lifestyle issues has been, in my view, wrong and counter-productive – and the report is right to highlight this fact.

So far so good – some very useful and pertinent points that have the potential, I think, to shift the debate on food and health in a much more fruitful direction.

But now the worries. Despite the 'Big idea, big picture' approach of the report it is disappointing to find well-worn and, in my view, not particularly useful, recommendations for action. We should have more labelling – so that people can make better choices – (I thought we were already doing that) but how does that square with the idea that people's capacity to make choices are, in many cases, severely constrained by their economic situation, as stressed earlier in the report? Raising the nutritional quality of 'default food choices' sounds more sensible, but how, and by who? Regulating health claims for food and strengthening corporate social responsibility are certainly sound approaches, but hardly novel or radical in the 'Big idea, big picture' sense.

And then, based on the Gerard Hastings report to the Food Standards Agency (no mention of the severe limits of that report) is the idea that banning advertising of food to children would be a way forward. Sweden and Québec have both taken that approach for years and their childhood obesity levels are about the same as ours. I have no problem with the idea itself, but if it is unlikely to work, might it not distract us away from the search for more meaningful 'solutions'?

The report proper ends with the suggestion that there should be a new focus on 'sustainable development' and on 'public value' – both are concepts, the report claims, in which public health has a central role. But these, in my view, are not sufficiently developed to allow us to evaluate their 'practical' implications.

So, yes, the report makes some very useful contributions to the debate. I hope, however, the morning will reassure me about my doubts.

Professor Arne Oshaug

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The report discusses very important dimensions that need to be taken into account when changing a public health policy toward 'personalisation' planned in the UK. It is therefore applauded that the Food Ethics Council (FEC) draws on the right to food as a basis for its justified criticism of the UK Government's white papers on 'getting personal'. However, the human rights dimension could have been more strongly argued.

The human right to adequate food is firmly embedded in international law through the Universal Declaration on Human Rights, article 25, and in the International Covenant on Economic, Social and Cultural Rights (ICESCR), article 11. Relevant provisions are given also in other international human rights instruments.

The FEC document refers only to the Voluntary Guidelines on the right to food.³ The UK Government was engaged in developing them so they should be well-known. The VG together with the General Comment (GC) 12 (not mentioned in the paper) to article 11 of the ICESCR are interpretations of the legal formulation of the right, and are tools to help governments to develop specific policies with the aim to fulfil their obligations to ensure the right to adequate food of their people.

The fact that voluntary guidelines have been created to help governments implement the right to food should not be misunderstood to mean that it is voluntary for the UK Government to take account of human rights in developing a dietary health policy. The UK Government accepted an obligation to do so by ratifying the ICESCR. Any policy should be assessed in view of its impact on human rights including the right to adequate food and to the highest attainable health (ICESCR article 12). Doing so not only provides an interesting and innovative way to develop policy, but it also highlights actions that the UK Government is obliged to take according to international human rights law.

A human rights approach is based on the principles of universality and indivisibility (all human rights are equally important and cannot be separated), accountability and rule of law, transparency, equality and non-discrimination, participation and inclusion. This applies to all the human rights, and not only to the right to adequate food. Three levels of obligations are specified in the GC 12 and repeated in the Voluntary Guidelines, namely to *respect*, *protect* and *fulfil* (this last obligation is divided into *facilitate* and *provide*). These cover a range of levels of state engagement, from simply respecting people's ways of doing what they do, if they are already satisfactory, to providing for the sheer destitute. The report lists the obligations in an unusual order, which may create confusion, and mentions four instead of three levels.

It appears that the main problem in the 'getting personal' agenda of the UK Government is its nearly sole emphasis on the facilitation of personal choice through providing information on what constitutes healthy diets. In the enthusiasm for (hopefully) informed personal choice it overlooks almost completely the prior level of human rights obligation which is to 'protect' as well as the more demanding level 'to provide'.

While facilitation is an important component of state obligations under the human rights system, in the modern market environment the function of protection is vital but apparently given little attention in the UK Government's plans.

Protection would consist in regulation of the products marketed not only to ensure food safety in the

³ VG - their full title is Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security.

most direct sense but going beyond that to regulate the contents and quality of food marketed, and to constrain advertising from creating stimuli for unhealthy food. The paper by the FEC does mention these important aspects, but it needs to be more strongly underlined. It is one of the main problems in the contemporary, neo-liberal market policy orientations that the regulatory role of the state is subordinated to the demands of the agents of the private markets for near-unhindered trade and marketing, nationally and across borders.

The other obvious weakness of the UK Government's policy is its further retreat from welfare policies by inadequate attention to protection against impoverisation (poverty production) and from adequate social security measures. For a significant proportion of the poorest part of the population the main problem is not lack of information but the lack of resources to purchase and consume healthy diets. For many of the resource-poor the problems cannot be solved by enabling measures. A reasonable degree of redistribution and transfer of resources will for many be necessary for the protection of health including a healthy diet.

Even though the focus of the discussion of the FEC is on food, the right to health is highly relevant here given the links to the new approach to health policy. To use the two sets of human rights in the context of policy development is a challenge, but would be necessary in the further debate on the conceptualisation, development, implementation, management and evaluation of the policy towards 'personalisation'. The paper only indicates what such an analysis could be, but provides no analysis with a human rights based approach. This would be needed for a further discussion of the new orientation of the UK policy. Interested readers can find the VG referred to in Box 1 of the report at www.fao.org/docrep/meeting/008/J3345e/j3345e01.htm.

Dr Frans van der Ouderaa

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The report is making a number of valuable, thought-provoking additions to the debate – talking about the contribution that better education of consumers and health workers could make towards better health, for instance. It further makes important comments on the need for ‘joined up’ government in the context of the prevention of ill-health. What we are missing however, is an analysis of the impact of cultural and economic factors, such as urban lifestyles and the change from manual labour to more sedentary occupations, which has a significant impact on health.

The report focuses strongly on foods implying that diet is the single major factor in the dramatic rise in non-communicable metabolic diseases, such as obesity and diabetes.

In some cases, changing diet does indeed dramatically influence human conditions – the increased consumption of vitamin C rich foods to prevent scurvy is one example. Another is intestinal dysfunction due to lactose intolerance, which a subsequent removal of lactose from the diet will resolve. In both examples, food is the direct cause of the condition and consequently changing the food can be the solution.

In the case of obesity, diabetes and cardio-vascular disease it is extremely well documented that the aetiology is much more complex viz. lifestyle, behavioural factors, age and even genetics contribute just as much as diet to the development of the condition. Consequently, although changing diet will have a beneficial effect to some extent, a more holistic approach addressing the many contributory factors should be applied to achieve the desired effect on health. Indeed, this is exemplified in the results of the Diabetes Prevention Study⁴ and the Diabetes Prevention Programme;⁵ which in both long-term intervention studies show that a combination of lifestyle and diet approaches is most powerful in preventing diabetes. Additionally, more detailed analysis revealed that only participants who achieved all five lifestyle and diet goals were fully protected from sliding into disease over the duration of the studies. However, delivery of these benefits required a supportive infrastructure to help people achieved the goals. In overlooking the impact of non-dietary factors the report could be viewed having too narrow a perspective.

The Report also under-plays the potential impact of new understanding in human nutrition gained from developments in nutrigenomic science. Again, it has been well documented that within populations there is considerable individual variation in response to interventions. For example, the NCEP-cholesterol lowering diet does not, in fact, lower cholesterol in a significant proportion of individuals and in a few cases has even been shown to raise LDL-cholesterol and triglyceride levels.⁶ Whilst we agree with the report that we should be careful not to overstate the likelihood of short term advances from this new science, it is clear that a ‘one size fits all’ diet proposition does not provide routes to optimal health for all individuals.

There is now sufficient proof of principle that taking gene-nutrient-environment effects into account is most likely to lead to long term success in preventing metabolic, non-communicable disease. Another factor in this context is the strong global trend amongst consumers for more personalised offerings; this trend should not be discounted in that apart from the biological rationale as mentioned, more tailored approaches are likely to be more motivating.

⁴ Tuomilehto *et al.* (2001) *NEJM*, 344(18) 1343-1353.

⁵ Knowler *et al.* (2002) *NEMJI*, 346(6); 393-403.

⁶ Schaefer *et al.* (1997) *Am J Clin Nutrition*, 65(3) 823-830.



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