ASSOCIATE PARLIAMENTARY FOOD AND HEALTH FORUM

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A ten-year Food Policy: The Importance of Research

24 June 2003

Committee Room 9, House of Commons

CHAIRMAN: Lord Rea

SPEAKERS: Professor Alan Jackson, Chair, Scientific Advisory Committee on Nutrition

Professor Alan Jackson is Professor and Director, Institute of Human Nutrition, University of Southampton, and Honorary Consultant in Clinical Nutrition, Southampton University Hospitals. Professor Jackson trained in paediatrics at the University of Cambridge and University College, London, UK. He was director of the Tropical Metabolism Research Unit in the University of the West Indies, carrying out research on metabolic adaptation to under-nutrition.

His current research involves studies on metabolic adaptations enabling women to carry a successful pregnancy, mechanisms of adaptation to low protein diets and the role played by the colonic microflora, and the competitive demands placed upon the availability of critical limiting nutrients in the metabolic response to infection. He was appointed as the first Chairman of SACN in April 2000 and previously he was a member of the Committee on Medical Aspects of Food and Nutrition Policy (COMA).

Mike Rayner, Director, British Heart Foundation Health Promotion Research Group, University of Oxford

Mike Rayner founded the British Heart Foundation Health Promotion Research Group in 1993. He has a DPhil from the University of Oxford in cell biology and experience of research in biochemistry, history of medicine and health promotion. From 1986 to 1993 Mike was Senior Research Officer for the Coronary Prevention Group which, at the time, was the leading national voluntary organisation concerned with the prevention of coronary heart disease. . Mike was previously a Wellcome Research Fellow at the Wellcome Unit for the History of Medicine at the University of Oxford.

Mike also works closely with voluntary organisations concerned with health in the UK and in Europe. He is currently a trustee of Sustain, of the National Heart Forum and of the Joint Health Claims Initiative. He is Chair of the Nutrition Expert Group of the European Heart Network.

Introduction

1. **Lord Rea** welcomed everybody to what he described as a 'very important meeting' and explained that this was the third meeting in the series of meetings following last year's conference. He then introduced the first speaker, Professor Alan Jackson.

Professor Alan Jackson

Introduction

2. Professor Jackson thanked Lord Rea for the invitation to speak; he had been given a broad brief which had given him much to think about. He identified three themes: research in human nutrition; problem solving to provide better services to the public; and better service equates to improved health and quality of life, and highlighted that the objective of research should be problem solving. A lack of coherence exists between these three themes.

3. When considering the importance of research, there are four points of central importance, each of which is worthy of consideration:

- agriculture and health
- ill-health
- poverty and household food security
- early life experience leading to chronic adult ill health

4. When considering human nutrition, one must acknowledge that it stands in between the two dominant drivers (health and social well being and also agriculture and food) as part of a dynamic tension. The dynamic tension must be acknowledged, managed and not ignored. Whereas agriculture and food are seen as being productive, wealth generating and creating resources, health and social well-being are seen as curative, preventative, and consuming resources. The central question is how this tension can best be managed. Professor Jackson then gave a number of examples, the first of which is food production.

Food production

5. Donald Curry's recent report identifies health as being an explicit and important objective of agriculture. It does not mention how this is achieved. Professor Jackson underlined the importance, not only in relation to fruit and vegetables, of a coherent, linked analysis of benefit and cost, whether this is at the level of an individual or family, community, region or nation. There are also personal, social and economic factors which need to be considered.

6. Genetically modified organisms need to be mentioned, as this is an important ongoing debate. From his own involvement in the Royal Society Report Update 2002, Professor Jackson knew this to be both a simple and difficult debate. He is not aware of any new evidence of the nutritional benefit or potential harm of GMOs and does not believe the argument that nutritional evidence in relation to GMOs is not relevant. People who are not nutritionists make strong comments without any clear evidence that may be incorrect. Quite simply, not enough effort has been made to explore the nutritional implications in

humans and to actively exclude any possible adverse effect. The Royal Society Report Update can be found at www.royalsoc.ac.uk/files/statfiles/document-165.pdf.

Malnutrition

7. A second example is malnutrition. Speaking as a clinician, Professor Jackson said that being sick increases the likelihood that people end up becoming malnourished. The National Diet and Nutrition Survey shows that, in the United Kingdom, amongst some population groups the prevalence of malnutrition is very high. For example amongst older people, this is a public health problem and policies are needed to address this. A malnutrition carousel exists where people who become sick and poorly nourished are more likely to keep going from the community into hospital and back again. This costs a great deal of money, but there is no actual policy to break the cycle. Up to 40% of hospital patients may be malnourished to an extent that it affects their treatment. Up to 70% of already malnourished people weigh less at discharge than at admission. A malnourished person is 26% more likely to be readmitted to hospital. The cost implications have been estimated at billions of pounds per year – these are not trivial sums and attempts to reduce this expenditure by improving nutritional health should be part of a policy. This is a problem across the world. 49% of children who die under the age of 5 each year are malnourished. 14,000 children die of malnutrition every day.

8. Schofield and Ashworth in their 1993 study on Management of Severe Malnutrition found that:

- case fatality was unchanged over 50 years
- case fatality was as high as 40-50% in many centres
- good case management was less than 5-10%
- the problem is inappropriate care by health professionals

Household food security and hunger

9. A third example is household food security and hunger. Human nutrition is an integrated science involving biological (reductive science– genes, cells and tissues; integrative science– regulation and control) and social (access to secure food supply of adequate quality) components. The task is to bring these two together.

10. Over the past twenty years there has been a shift in the body mass index (BMI) of the population, so that on average fewer people are undernourished. This can be considered a success but unfortunately it is associated with a greater proportion of people being overnourished and obese. A single message cannot address the problems of undernourishment and overnourishment at the same time. The messages need to address both groups and therefore has to be disaggregated in relation to different aspects of the problem. The important question that needs to be answered is whether there is a sufficient understanding to adopt this approach.

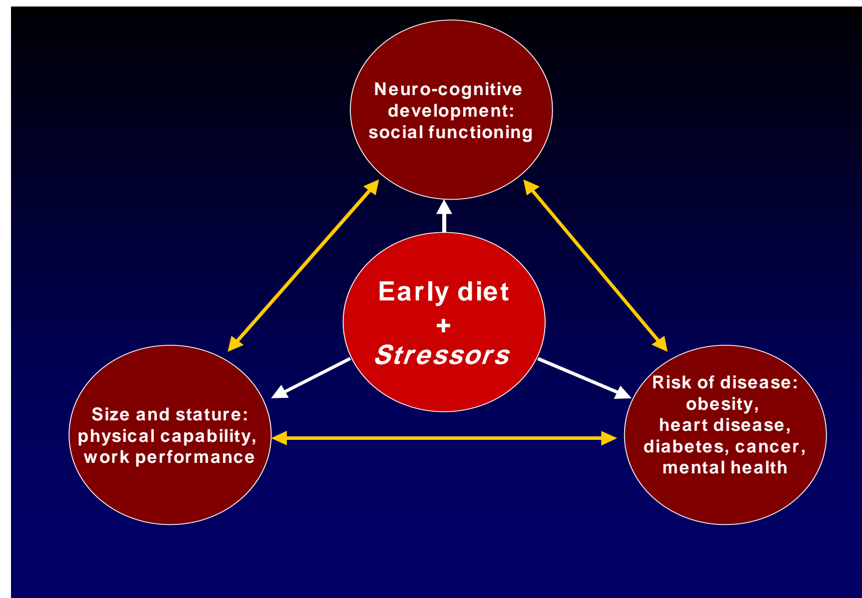
11. Professor Jackson presented statistics from the *Journal of Nutrition* concerning obesity in 8,000 women in California relating to household food security. Those who experienced food insecurity were most likely to become obese: around 15% of the population were secure; 30% were insecure with no hunger; and 35% were insecure with hunger. The same problem does exist in the UK, but the extent is not clear. One study suggests that around 10% suffer from hunger; 20% live in similar poor circumstances; and over 1

million experience household food insecurity and hunger. The highest rates of hunger are among younger subjects, people who thought healthy eating was expensive and those who are unemployed.

Early life origins of adult disease

12. A woman's nutrition helps to determine the outcome of her pregnancy and the long-term health of herself and her child. Small size at birth is associated with increased risk of chronic disease in later life, such as heart disease, diabetes, obesity, some cancers, and mental ill-health. The variable risk is seen across the range of weight at birth and at one year of age, and is not a feature of the extremes of the ranges, very high or very low.

13. During pregnancy dietary exposure interacts with other stresses in life whether it be cigarettes, alcohol or an inbalanced diet to affect the growth of the fetus. See diagram below:



Conclusion

14. It is important to know what the objectives of an integrated approach to food and nutrition are. It is debatable whether the objectives have been clearly articulated in a way which adequately informs actions. There should be research priorities related to food production, clinical nutrition and public health nutrition which link directly to policy development. The question also needs to be asked about whether we actually have a food and nutrition policy, and if not if we need one.

15. There are a lack of key professionals, and therefore, relatively few human nutritionists with the necessary skills. They should address fundamental questions relating to the tensions between food and health, not merely more superficial issues. As nutrition is an integrative science, there is the need to address the *whole*, which needs to be communicated.

16. **Essential National Health Research (ENHR)**. ENHR is based on the principle that researchers are accountable to the society in which they work. In order to truly make a difference in linking research to action and working towards equity in health, the relationships between the various actors in health research (including communities) must be thought of as a continual process of dialogue and coalition building. Research can be a powerful tool for health development, by facilitating health action and generating new understanding. These are processes which are essential for the development and strengthening of the research system in a country. Effective communication is needed as a key strategy in this process.

Mike Rayner

Introduction

17. Mike Rayner said that developing a food and health policy needs to involve establishing goals at all levels of the food chain from production to manufacturing to retailing/catering though marketing/education to consumption. For example, suppose a goal of your food and health policy is to increase consumption of fruit and vegetables to five portions per person per day (5-a-day) then you'll also need to determine how many fruit and vegetables need to be produced and/or imported if that consumption goal is to be reached, i.e. you'll need to develop a 'production goal'.

18. The WHO view of a food policy is that it should have three pillars: healthy food, safe food and a sustainable food supply. These overall aims of healthy, safe and sustainable food cannot be taken in isolation. To take one example: that of fish. Nutritionists cannot insist that the UK population should be eating more fish when if we were to do so this would have disastrous consequences for the environment. Environmental and health goals must be integrated.

19. Mike Rayner asked what goals should a food and health policy have and what role could research play in helping to inform those goals? In his view goals need to be selected on two bases. Firstly, there needs to be sufficient evidence to suggest that attainment of the goal would have an effect on health. Secondly it should be calculated that that effect would have important public health benefits. (The goals also need to be realistic).

20. Examining whether there is sufficient evidence for a goal is connected with examining causality. Chris Murray and Alan Lopez from the WHO in Geneva have developed a framework for considering causality in relation to the possible causes of ill health. This model can be adapted for looking at all the possible relationships between the determinants of diet, diet itself, and health (See Figure One).

Systematic Reviews

21. Examining whether there is sufficient evidence of causality for any one of these relationships in this 'causal web' involves a systematic review of the evidence. For example in relation to fruit and vegetables: are we sure that low fruit and vegetable levels in the population lead to an increased risk of CVD/Cancer? And more particularly, are we sure that increasing fruit and vegetables levels in the population leads to a reduced risk of CVD/Cancer?

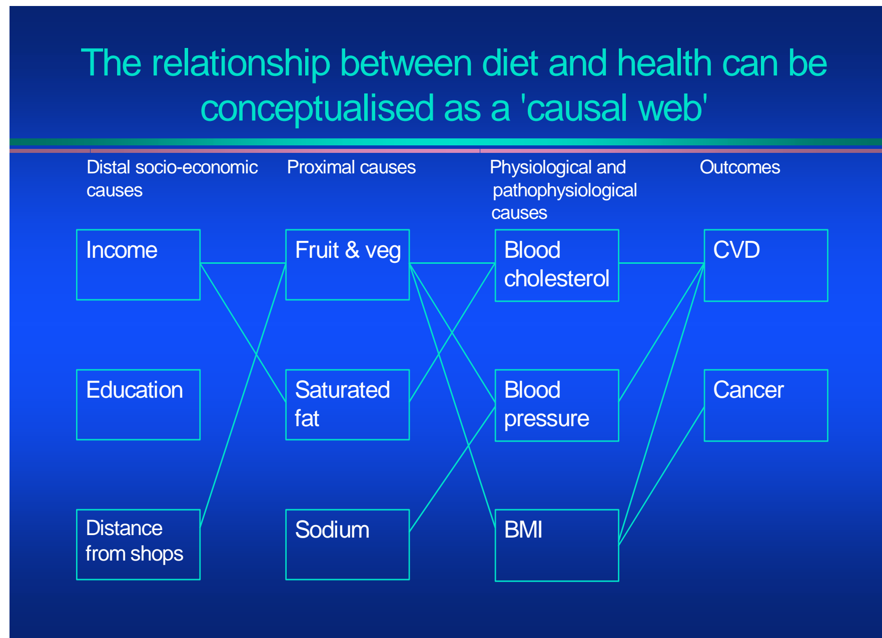


Figure One – Causal Web

22. The Oxford English Dictionary definition of systematic is 'methodical; done or conceived according to a plan or system'. But 'systematic' in relation to reviewing the literature can also mean:

    a) describing the aims and methods so as to make the review reproducible;
    b) searching for all the literature related to the aims of the review;
    c) using the 'best quality' evidence to support the findings of the review.

23. A list of systematic reviews relating to nutrition can be found at www.nutritionreviews.org. However, this is an incomplete list in that it does not deal with all the possible relationships between possible causes of die-related ill health in the causal web.

Burden of disease analyses

24. Once there is sufficient evidence for the effectiveness of a possible intervention which would improve health we need to ask how important the benefits of that intervention would be i.e. it is not just sufficient to have even conclusive evidence of cause and effect/the effectiveness of a possible intervention, we also need to know how important the effect/effectiveness is relative to other causes/interventions.

25. The WHO World Health Report 2002 details the proportion of DALYs (Disability Adjusted Life Years) attributable to different risk factors in developed countries:

Risk Factor	% DALY's caused
Smoking	12.2
Blood pressure >115mmHg systolic	10.9
Blood cholesterol > 3.8mmol/l	7.6

BMI >21	7.4
Fruit and veg intake <600g/day	3.9
Physical inactivity <2.5hr moderate intensity/week	3.3

26. It is worth noting here, for example, that the burden attributable to fruit and vegetable consumption is lower than that attributable to high levels of overweight and obesity. So this table suggests that, all other things being equal, food and health policy should be focused on reducing overweight and obesity rather than increasing fruit and vegetable consumption.

27. But food and health policy cannot be decided with reference to possible reductions in death and disability alone. We also have to save money. Figures from the NHS Executive, HM Treasury and the Department of Health extrapolated to 2001/2002 show that spending on the major diet-related diseases: cardiovascular diseases, dental caries, diabetes and cancer amounts to £13 billion [OHP].

Values

28. But can we be ever be certain that we have sufficient evidence for a possible intervention which would improve health and anything more than a hazy idea about how important the benefits would be? One reason that we probably cannot is that not enough science has been done. We just do not have enough evidence in relation to all the possible links in the causal web – particularly in relation to distal causes of diet-related ill health such as income, education, distance from shops etc.

29. In the absence of sufficient research decisions have to be taken on the basis of values and not just science. But what do we mean by values and what values do we need to bring to the policy making process? Values are something everybody feels they understand but there is no commonly agreed definition. Stephen Pattison distinguishes between two sorts of values i.e. 'aspirational values' which are 'close to notions of ideals, goals and visions and are values that are sought rather than assumed' and 'normal values' which are 'close to the sociological notions of norms, rules, habits, expectations and assumptions.'

30. Discourse analysis provides one method for examining the values behind public health policy. Mike Rayner described the results of one study he had carried out which had used discourse analysis to examine the values underpinning one piece of public health policy – the National Service Framework for Coronary Heart Disease. He had identified six aspirational values with different degrees of salience: effectiveness, efficiency, equity, universalism, autonomy and compassion.

Summary

31. In summary:

- Food policy should be based on systematic reviews of the evidence
- One function of these reviews will be to identify gaps in the science base
- Food policy cannot be based on science alone – it also needs to be based on values
- We need a more systematic approach to values

Questions and Answers

32. **Lord Rea** thanked **Mike Rayner** for his talk and opened the meeting up to questions. **Gaynor Bussell**, Food and Drink Federation, was interested in the philosophical 'values' idea and could it feed it back to the position where the Food and Drink Federation had got to. She wanted to know how aspirational values and normal values could be divided. **Mike Rayner** said that equity is the easiest value to talk about, as it is a strong value; the competing value here is efficiency. There is a trade off between the two and it is important to be explicit about which one is a priority in a given context. Some values are not often discussed e.g. compassion and love. Consumer choice is an important value. Mike Rayner added that he had not done enough research on food policy to see what the values are but you should not abandon consumer choice.

33. **Susan Jebb,** MRC Human Nutrition Research, agreed with some of Mike Rayner's points and added that research has to be accountable. However, she said that Mike Rayner's emphasis on systematic reviews is inappropriate as you cannot put 'all your eggs in one basket.' **Mike Rayner** said that most research is done with reference to previous research although too much has been done without it. He added that he felt that nutritionists had been 'pretty bad' in this area. **Lord Rea** added that he was always taught that whenever you undertake any research, you should do a proper trawl before beginning.

34. **Michael Crawford**, Institute of Brain Chemistry and Human Nutrition, London Metropolitan University, said that the problem is when you hear Mike Rayner saying that you do not need education. This is not true in East London where the low birth rate is the same as Romania. Hard work is being done in this area and education is badly needed. Research by the Global Forum for Health (www.globalforumhealth.org) says that of the trillions of dollars invested, only 10% is going into 90% of the area where it is needed. More cohesion is needed. For example, during World War II, an individual called Jack Drummer galvanised food and agriculture by making all people with gardens in North London grow food. All the wheat grown was then made into bread. This is a good example of a cohesive policy at a time of stress and war. We have not got time for systematic reviews. Responding to this, **Alan Jackson** said that no one was in any doubt that problems existed; there is a reasonable evidence base on which to make rational judgements and policies. Alan said that it was not clear whether the policy makers had taken any of this on board yet. Nourishing was not one of the values which Mike Rayner referred to – this term goes beyond diet and nutrition and considers the need to provide food within the context of all the other values. Finally, Alan said that he chairs a Committee (SACN - www.sacn.gov.uk) whose responsibility is to provide a risk assessment to Government. It is not always clear how the risk assessment is used to affect policy. SACN can only give advice on risk assessment. **Lord Rea** felt that the reason why the EU is 'going nowhere' was because the Common Agricultural Policy was preventing it from doing so. **Alan Jackson** said that for a rational policy, a wide range of different factors needed to be considered together.

35. **Alan Long**, VEGA Research, said that he is interested in the well-being of all livestock and said that he had experienced issues relating to diet and war and imagined what it would be like if the Department of Health established a radio doctor now. He suggested using VAT as an instrument for ensuring better eating habits. **Mike Rayner** said that this issue needed to be explored in more detail but said that VAT could not be randomly

applied. **Alan Jackson** said that the impact on different sections of society needed to be considered. SACN was encouraged to make comments but they were concerned about the implications. In the end, it was important to be cautious and to respect the different perspectives. Simple, single answers to the whole of a complex problem seldom exist.

36. **Luci Daniels**, British Dietetic Association, said that it was now 10 years since the formation of COMA and 20 years since NACNE and questioned whether the research had already been carried out and that people were getting bogged down in reports and research. **Mike Rayner** said that there was a tendency to just do research and this is not the right way to go. He agreed with Luci's point saying that it largely came down to common sense. For example, nutrition labelling was often incomprehensible to a lot of people. **Alan Jackson** said that more research is required but policy also needed to be developed. These are complementary ideas but the problem is that a sufficient framework does not exist. He added that he had spent a lifetime providing advice, not all of which was wasted.

37. **Peter Roberts**, WRVS, said that the Government does not want to encourage a 'nanny state' but suggested that the Government always backs off and appears to be reluctant to get involved. Nobody is asking 'what are they eating?' He drew attention to the fact that lack of food and nutrition are not mentioned in the National Service Framework for Older People. **Mike Rayner** said that this was illustrating the point of playing down nurture and playing up consumer choice. He said that there has to be a return to nurture and compassion.

38. **Lord Rea** thanked both speakers for their interesting talks and to everyone else for participating in another interesting and informative meeting.

CLC, July 2003