



Scientific Advisory Committee on Nutrition

**Trans fat meeting  
22<sup>nd</sup> November 2007, Aviation House, London**

**Draft Minutes**

<b>Chairman</b>	Professor Alan Jackson (via telephone conference)
<b>Members</b>	Professor Peter Aggett (via telephone conference) Dr Paul Haggarty (via telephone conference) Professor Tim Key (via telephone conference) Professor Ian Macdonald (via telephone conference) Dr David Mela (via telephone conference) Dr Anthony Williams (via telephone conference)
<b>Secretariat and other Government observers</b>	Ms Lynda Harrop (FSA) Dr Alison Tedstone (FSA) Dr Elaine Stone (FSA) Ms Emma Peacock (FSA) Ms Judith Holden (FSA) Dr Corinne Vaughan (FSA) Dr Vivien Lund (FSA)
<b>University of Reading</b>	Professor Christine Williams Dr Anne-Marie Minihane Dr Danielle Shaw Dr Abby Thompson

**Agenda item 1: Welcome, apologies and declaration of interests**

1. The Chair welcomed Members to the additional meeting of the Scientific Advisory Committee on Nutrition (SACN).
2. Apologies were received from Ann Prentice, Anita Thomas, Peter Kopelman, Christine Gratus and Sheila Bingham. Stella Walsh had anticipated attending the meeting but unfortunately there were technical issues connecting her to the call.
3. Thanks were given to Professor Christine Williams and her team at Reading for preparing the report in such a short time.
4. Declarations of interest were received as follows:
  - Professor Christine Williams:
    - SRC grant
    - BBSRC award with Unilever
    - Advisory Board of Pepsico
  - Dr Anne-Marie Minihane:
    - IONA sponsorship
    - Phd studentship with Unilever
  - Dr Danielle Shaw:
    - BBSRC project with Unilever
  - Dr Abby Thompson:
    - BBSRC project with Unilever
  - Professor Ian MacDonald:
    - Unilever study on green tea
  - Professor Alan Jackson:
    - Works with Professor Philip Calder who is involved in studies in this area

**Process**

5. The Chair outlined the purpose of this ad hoc conference call, which was to ask SACN to comment on the report reviewing the evidence on the health effects of *trans*-unsaturated fatty acids (TFAs).
6. It was confirmed that this meeting would be treated as a normal SACN meeting, with full minutes that would be circulated for comment.

**Background**

7. Dr Alison Tedstone provided some background to this issue which is summarised as follows:
  - The Secretary of State for Health, Alan Johnson, has sought the Agency's advice on the evidence relating to health effects of TFAs and whether or not TFAs should be restricted in the light of actions already taken in some other countries.
  - Specifically the Agency has been asked to provide advice on:
    - i. The available evidence on the health impacts of TFAs;

- ii. An international comparison, both in terms of TFA intakes and action taken;
    - iii. Options for unilateral action to restrict TFAs in foods, covering voluntary and legislative actions, and the associated legal implications;
    - iv. Other relevant considerations with respect to food reformulation and alternatives to TFAs, particularly their impact on health.
  - The Agency is committed to providing advice to Ministers on 19<sup>th</sup> December and the Board will be discussing the issue at their open session on 13<sup>th</sup> December.
  - Due to the very short timescale, the Agency commissioned the University of Reading, led by Professor Christine Williams to review the evidence on the health effects of TFA for SACN.
  - There is a team within the Agency who is responsible for broader risk management issues, who are, amongst other things, collecting information from industry.
8. The Chair clarified that the consideration of the Committee should be against existing advice from the Committee on Medical Aspects of Food Policy (COMA) on TFA, which is that on average intakes of TFA should not exceed 2% food energy.
9. Professor Christine Williams confirmed the work programme, explaining that her team consisted of 2 full time researchers, herself and another colleague. It was acknowledged that although the evidence in the report was considered accurate, due to the tight deadline, time for contemplation and cogitation has been limited. The WHO/FAO and EFSA reports were used as an initial baseline and the evidence in this current report was viewed as a continuum of this work.
10. Reading had been asked by the Agency to consider two specific issues:
- Whether there was sufficient evidence to support a revision to the current UK recommendation, in particular a move toward the recommendations in that TFA should be no more than 1% food energy;
  - Whether there was sufficient evidence to distinguish between effects of TFAs from animal sources or vegetable oil.
11. It was found that there was very little evidence available on cardiovascular disease other than that on coronary heart disease. Reading explained that they focussed on 3 key areas:
- whether it was possible to determine an effect in the range of exposures from 0.5 – 3% of energy; and,
  - whether it was possible to distinguish between effects of fats from animal or vegetable oil sources.
12. With regards to other chronic disease, it was confirmed that the evidence on cancer (including breast, colon and prostate) had been reviewed. The evidence on diabetes was mainly prospective epidemiology and post prandial studies. Studies on obesity included animal studies which were used to investigate whether further mechanisms were involved. Some animal studies were also included on breast and colorectal cancer, obesity and weight gain and diabetes. Due to limited time, only

a brief review of the evidence on conjugated linoleic acid (CLA) and health was conducted.

### **Agenda item 2 – Trans fatty acid report**

13. The Chair then asked Members for their general comments on the report. These are outlined in the following paragraphs.
14. A comment was raised about the values of 1% and 2% and whether any intermediary values had been considered. It was confirmed that the key issue is the nature of the dose response across this range. Values between 1% and 2% have not been covered in randomised controlled trials (RCTs) so can only assume a linear response. It was also confirmed by the Secretariat that the Agency had only asked Reading to consider these two values.
15. It was queried whether it might be wise to await the publication of a WHO report on TFAs, which was expected shortly. It was confirmed that this was likely to have covered similar evidence to that covered in this report and it was therefore unnecessary to delay.
16. The Chair then asked Members to consider the report section by section.

### **Introduction and background**

17. It is stated in the introduction that Canada have legislation on TFAs, however, this is not the case as they currently only have voluntary guidance on this issue.
18. A Member questioned the estimation of intake, which was considered conservative and that it was agreed that it was important that this should be reflected consistently throughout the report. The Chair stated that it was important to recognise that the values and intakes mentioned should be viewed against the background of a dynamic situation.
19. It was confirmed that the Agency is dealing with intakes from other countries separately.
20. It was noted that there was not much difference between NDNS and LIDNS intake data although there is a much greater spread in LIDNS so it may appear as though this is the target population. Clarification was requested on this point as the data used was out of date so might provide a misleading picture.
21. It was suggested that a heading in this section to clarify this point would be useful and that would cover how the data had been interpreted, any assumptions that had been made and the implications of these assumptions.

### **Coronary Heart Disease (CHD) section**

22. There was a request that more detail on the mechanisms of TFA and CHD be included. In particular where the fatty acid sits on the glycerol backbone and whether this needs consideration in terms of the mechanism in that it is similar but

not the same as that for saturated fats. It was clarified that the current data demonstrates that the adverse effects of TFAs is not as a result of membrane related events. With regard to lipoprotein interaction, it was also confirmed that the literature on this mechanism has not progressed. It was agreed that this mechanism was putative and should not be mentioned as it would mean that other putative mechanisms would need to be covered.

23. It was confirmed that for the instances that data was given in %, it had been converted to g/day. This was because the majority of the data was already in g/day and therefore converting the data in this direction meant less assumptions had to be made.
24. Reading confirmed that there was very little evidence to show relationship between CHD and TFA from animal origins and only one report, which showed data from animal and vegetable sources.
25. The Chair summarised by stating that overall there was good evidence to show that TFA do have influence on lipids profiles but that there is insufficient evidence to differentiate between TFAs of different dietary origin.
26. Clarification was requested on whether there is a correlation between saturated fat and TFA intake. It was confirmed that this was the case and that studies had been adjusted for saturated fat intake.
27. The Chair stated that the bottom line is that the evidence in this area is not sufficiently strong enough and that there is insufficient data to answer the questions posed by the Agency.

### **Cancer section**

28. Members agreed that none of the statements in the cancer section were strong enough to make a statement of causality.
29. In the breast cancer section it was commented that there are assumptions made by the study authors that any effects are markers of intake but it was agreed by Members that the differences could be due to differences in metabolic processes between individuals.

### **Obesity section**

30. It was noted that this section reflected the evidence too positively given that there is very little data in this area.

### **Diabetes section**

31. It was noted that although some big effects were reported, this was because participants with type 2 diabetes were fed diets containing 20% dietary energy from TFA, which is a level outside the normal range of intakes seen in the UK.

### **Foetal development section**

32. It was agreed that the evidence in this area is limited and contradictory and that the available data is somewhat unreliable.

### **CLA section**

33. It was noted that the human intervention studies do not support data from animals in terms of beneficial effects of lipoproteins etc.
34. It was agreed that although it might be relevant to include something in this section about the risks of CLA's there simply is not enough time to look at all the evidence, particularly when it is the animal studies using pharmacological doses which show the effect.
35. The Secretariat stated that the ongoing work with nutrition and health claims that would shortly be going to EFSA would address the issues around CLAs and that this was not within the remit of this brief, although it is an important issue that does need to be addressed in due course.

### **Summary**

36. Clarification was requested about how much weight could be put on the intake estimates which are not yet published and it was confirmed that these would be published in December with the SACN report and Board paper.
37. There was a discussion about the estimated risk reduction, which has been extrapolated from the studies and whether these were appropriate. Members confirmed that they were not comfortable making a recommendation on this as the evidence does not embrace a range of intakes so were uncomfortable extrapolating from a range outside the evidence available.

### **Conclusions**

38. It was considered that some of the information in these paragraphs fell outside the remit of SACN, into risk management areas.

### **Recommendations**

39. There was general concern from Members about the implications of removing TFA and not replacing with monounsaturated fatty acids (MUFA) and the implications of this on lipoprotein ratios. However, it was agreed that although this was an important consideration, it was outside the scope of this review.
40. All Members present agreed with the recommendations against the Terms of Reference, subject to minor amendments. The recommendations section would be circulated to Members one final time.

**Action: Secretariat**

**Next steps**

41. This report would not be published for public consultation as it was a SACN position statement and this caveat would be included in the report.
42. It was agreed that because of the tight deadline the Secretariat would make the amendments and agree the report by Chair's action only. All Members would be provided with a copy of the report once complete.

**Action: Secretariat**