



Scientific Advisory Committee on Nutrition

8th MEETING

23 May 2008, Congress Centre

28 Great Russell Street, London, WC1B 3LS

DRAFT MINUTES

Chairman: Professor Alan Jackson
Members: Professor Ian MacDonald
Dr Anthony Williams
Ms Stella Walsh
Professor Marinos Elia
Professor Joe Millward
Professor Andrew Prentice

Secretariat: Dr Alison Tedstone (FSA)
Dr Peter Sanderson (FSA)
Ms Vicki Pyne (FSA)
Mr Andrew James (FSA)
Dr Clifton Gay (FSA)
Dr Sheela Reddy (DH)

Apologies:

Ms Emma Peacock (FSA)
Professor Chris Riddoch
Dr Anita Thomas
Ms Rachel Coomber (DH)

Chairs' introduction and welcome

1. The Chair welcomed Members to the eighth meeting of the SACN Working Group on Energy Requirements.
2. Apologies were received from Professor Chris Riddoch, Dr Anita Thomas, Ms Rachel Coomber and Ms Emma Peacock.

Minutes from previous meeting (7 December 2007) - SACNenergy/07/min02

3. Members were invited to comment on the minutes of the previous Working Group meeting. It was noted that the majority of action points arising from the last meeting would be discussed in the current meeting.
4. Paragraph 35 had been removed, as requested.
5. It was noted in the previous meeting that the NDNS DLW data was not included in the overall data set. However, since that meeting it was realised that the NDNS DLW data was already contained within the overall DLW data set.
6. Members were informed that the UK Panel for Research Integrity in Health and Biomedical Sciences had been contacted regarding whether to cite articles on which E.T Poehlman was an author, but the papers had not been retracted. The panel considered although the work of E.T Poehlman might be cited, extreme caution should be exercised if any cited work did not fit with a position presented by other authors.
7. The minutes were agreed as a correct record of the 7th meeting of the SACN Energy Requirements Working Group.
8. The timeline for completing the energy report was discussed. It is anticipated that a draft version will be completed for the next working group meeting in September and at that meeting it will be finalised to go to the main SACN meeting in October. Therefore, the draft was expected to be circulated to the working group in August.

Agenda Item 3

Doubly labelled water dataset (SACNenergy/07/05)

9. Andrew James introduced the above paper for discussion
10. Weight and height interactions in terms of TEE have been evaluated in further detail, as requested by members, and described in appendix 2, page 36. It was decided not to include height in the final model.
11. A member raised the issue that for children the height component is significant. In the equation for height and weight the standard error of the estimate decreases substantially. Therefore, should height be used across all age groups or just in the younger age groups? Height is not significant in adults. Therefore, it was recommended that a statement regarding the above issue is included.

Action: Secretariat

12. Table 8- it was observed that as age increases the regression coefficients decrease, becoming slightly negative with adults over 65 years.
13. A member suggested a possible explanation for this observation; in young

children as weight increases, lean body mass also increases, therefore leading to raised basal energy expenditure. Whereas in adults, weight increases are a reflection of adiposity, therefore the coefficients decrease. In older adults the lean to fat mass ratio decreases, particularly in males, so as the lean mass is replaced by fat, a negative relationship of energy expenditure with age would be expected.

14. The Chair stated that the group will have to consider whether to include height across age groups.
15. Members were informed that currently adults over 90 years have been excluded in the report because there are only 2 points in this age group. The data has been reduced further reduced to adults up to and including 75 years, due to the paucity of data in older adults.
16. The Chair highlighted that there is also an argument for including the information for older adults, as it may be the only data we have for that age group and, therefore, may prove useful. Consequently, the group will need to make a judgement on this.
17. Members were informed that for the main report, data are reported for adults 61-75, but regression equations for all adults over 61 have been included in the appendix. The plot on page 52 for adults over 61 years demonstrates that the points fit the extrapolation well.
18. Appendix IV- further investigation into whether the age group 2-18 years can be split into smaller groups. There are a greater number of studies around the age range 8-11 years, therefore if the range group (2-18 years) was split into two groups, there would be a higher weighting given to these ages. A statistical reason cannot be found for dividing children at any particular point. The energy report has followed the cut offs used in the COMA 1991 report: 2-10 and 11-18.
19. A member asked whether there is any benefit of splitting the children's data set by age, as although the standard error is smaller, the points fit the model less well.
20. Appendix IV, page 42- plot for TEE vs. weight by gender for ages 2-18- several points with low TEE and weight appear to be being overestimated by the lines of best fit.
21. A member enquired whether the children that fall below the line are normal or whether they have a pathology?
22. A member recommended that these figures are compared with past reports and estimates. This represents a serious deviation from the 1991 report. It was agreed that these papers should be scrutinised to determine how these figures had been obtained and to identify which populations these children had been drawn from and whether they relate to standard criteria.

Action: Secretariat

23. A member suggested that those children who fall below the line could be

particularly inactive, the papers should be checked to clarification.

24. A member stated that there was the need to check whether there were gender differences.
25. Appendix III, figures for TEE and age- the outliers circled were identified and tabulated. After referring back to the papers no explanation could be found as to why they had such high TEE values.
26. A member observed that the value of the outliers are incredibly high and it may be possible that those subjects are very active
27. A member clarified that although the values are higher than average, they are not in the pathological range. Therefore, it is required to cross check the papers again to ascertain whether the values are real.

Action: Secretariat

28. Page 24, Figure 18- TEE against weight with individual NDNS points, data from the DLW set for the energy report and individual points from NDNS have been plotted together and descriptive statistics tabulated. With mean study values for the DLW data set it is not reasonable to test for differences with the individual data points of the NDNS data.
29. A member of the Secretariat stated that data from LIDNS and the comparison study for the new NDNS programme are available to add to this data set.
30. A member enquired whether the NDNS data reflects the current levels of BMI in the population. If the analysis is done by BMI, it can be confirmed whether this is the case.
31. Members were informed that the studies are currently not weighted, as the only information available to do this is on study size. However, it would not be appropriate to use study size as the only measure of precision, for the studies, since it would assume that results from larger studies are more accurate.
32. The Chair invited members to comment on the latest draft.
33. A member enquired whether if weight and age were included together in the equation for TEE in children, it would improve the predictive power?
34. Members were informed that this had been done, together with a range of other characteristics, but it does not improve the result significantly.
35. The Chair invited discussion of the paper by section.
36. Page 8, height vs. weight- there is a lot of variation with weight. It is not possible to use both height and weight in the equations due to the high level of co-linearity.

37. Members discussed the issue of height vs. weight and supported the use of simple analyses in order to see if there are any significant deviations using different models. Therefore, the equations need to be re-run. [*DN Would it be possible to obtain some clarification on this point, since the equations are already in the appendix of the DLW data set?*]

Action: Secretariat

38. Members agreed that the studies should not be weighted, however, a paragraph needs to be included explaining why this is not being done.

39. The Chair asked for comments about what should be done with the data points for adults above 60 years.

40. Members were informed that there is no statistical evidence that a difference exists between these age groups.

41. A member highlighted that according to data in appendix 5, there are no differences for women, but there are for men at 60.

42. The Chair suggested using a cut off at 75 years as biological differences become more evident after this point. Thus a request was made to run the equations using the age range of 19-75, expressed in terms of weight.

Action: Secretariat

43. Members agreed that the degree of transparency of the final report and how much information can be fitted into the appendix needs to be discussed.

44. Members agreed that the next steps are to; run the equations for different age groups and PAL values and to model with other data. Comparisons should be made with COMA, US and WHO equations for real heights and weights of British people.

45. A member requested that the Kaczkowski 2000 paper is checked as a TEE value of 9.6 seems very high.

Action: Secretariat

Agenda item 4

SACN Energy Requirements Working Group draft report (SACNenergy/08/02)

46. The members were informed that this is a further draft of the report and includes additional chapters six and nine.
47. The Chair invited general comments on the energy report. Comments included the following:
 - Point 28 in the previous minutes has not been addressed- the chapter title “Energy requirements for illness” should be changed to “Discussion of energy in ill health”.
 - Data from Wales, Scotland and Northern Ireland needs to be included
48. A member requested that the ‘Terms of Reference’ be considered and clarified before the next meeting.
49. Members agreed that the report requires further editing. The report will eventually go out for public consultation.
50. A member enquired whether a comprehensive draft will appear on the website.
51. It was suggested that some of the information that would be edited out could be posted on the website as background papers to the report.

Action: Peter Sanderson

52. The Chair invited detailed comments by each section and the main drafting points were as follows:

Chapter 1 Introduction

- ToR 1- a statement needs to be included which identifies that the EAR in the 1991 report was constructed by applying the PAL
- ToR 2-the framework discussions have not been finalised, a process has been agreed which will lead to the development of a framework
- ToR 3- produce using factorial approach, as previously agreed. Growth has not been discussed in any great detail. Physical activity is used to inform the DRVs, but it is not part of making the recommendations.
- Illness is not part of the ToR, but it’s important to say that they are not being included, a discussion of how illness can affect energy requirements should be included later in the report.
- ToR 4- this requires further reflection. If people are meeting their energy requirements, what does this mean in terms of their micronutrient intake. A simple statement is required.

Food energy

- Para13- net metabolisable energy should be discussed in a separate paragraph because the point gets overlooked.
- A glossary needs to be included
- Paragraph 16, insert sentence that the committee endorses the FAO's stance on Metabolisable energy.
- Paragraph 24, a discussion of body composition vs. energy expenditure is required. It also needs to be clear that the section relates to obesity.
- Paragraph 25, include how childhood obesity is defined.
- Where costs have been included in tables, this information should be removed.
- Paragraph 28, reference Foresight report
- Tables 1.2 and 1.3 require a footnote that the data have been adjusted for known rates of non-response. Also need to be clearer which variables the data have been adjusted for.

Components of energy requirements

- Paragraph 32, describes that REE is measured after 6 hours, include a note to say this term has been used in different contexts.
- A note should be included about energy and diseases involving malabsorption
- Paragraph 33, replace "amount" with "estimated".
- Paragraph 35, last sentence- very small ratio, but negligible.

Factors affecting energy expenditure

- Paragraph 59, muscle needs to be included in the list of organs for FFM and then check whether it still represents 5% of body weight. The sentence requires editing.
- Paragraph 65, cross reference the reason for excluding fitness into this section. The average PAL for the adult population also needs to be included.
- Paragraph 70, the term older age is a bit vague.
- Paragraph 71, the beginning of the paragraph is unclear, it suggests that different measures of FFM produce different results with respect to age. It would be useful to refer to sarcopenia in this section as it is the most researched condition and it has been identified as an age related cause of decrease in FFM.
- Paragraph's 74-86 should be edited down to one paragraph, 74 and 86 sum up the subject sufficiently. Maybe include two examples of polymorphisms e.g. UCP 2 and 3.
- Paragraph 90, differences in body composition and adipose tissue partitioning. Include information in a draft summary so if the committee decides not to include ethnicity it will still be captured.

Chapter 6 Energy requirements for illness

- The chapter requires editing, as it is too detailed.
- Paragraph 113, is more about ethics
- Data from LIDNS should be included, as it includes data on the chronically ill.

Chapter 7 Physical Activity

- The evidence included in this section is not very critically reviewed.
- Table 7.1 is too detailed and requires summarising, put some of the information into sentences
- Paragraph 171, when discussing the physical activity recommendations, it needs to be emphasised not to reduce the amount of activity that is being done already. This is particularly true of middle aged women. The HSE requires referencing.
- The HSE requires referencing.
- Older people are not mentioned, if there is insufficient data to comment on this age group, it needs to be stated.
- Include a definition of what is considered to be underweight.
- Paragraph 214, clarify what is meant by the statement that physical activity is ineffective in causing weight loss. Were the studies unsuccessful because of lack of compliance, biology, body composition? The Wing and Hill study should be cited, as it is a retrospective investigation demonstrating successful weight loss.
- Paragraphs 216-223, give examples of the magnitude to weight change. Define what is meant by (?)
- Paragraph 224, change sentence so that Molnar and Livingstone 2000 is not repeated.
- Paragraph 273-276, change title to “Summary”.
- Paragraph 273, take out the word “only”.
- Paragraph 276, explain what is meant by complicated.

Chapter 8 Dietary determinants of energy intake and weight regulation

- Household data should be edited down.
- Paragraph 283, take out the word “negative”.
- Paragraph 300, the sentence “Overall, however, and despite very different approaches to measuring food...” is very confusing.
- The temporal trends section (paragraphs 314-316) is too long and needs simplifying. The eating out data should be removed.
- The title “conclusion” should be changed to “summary”.

Chapter 9- A consideration of energy intake and physical activity in relation to weight gain

- Paragraph 335, change “flux” to “turnover”
- Expenditure and substrate oxidation, the information needs to be edited and simplified, as it is not clear what it is for.
- Paragraphs 360 and 364 regarding overlap.
- Paragraph 383, is not clear and requires different rephrasing.

53. It was agreed for the background report to go on the website.

Action: Secretariat

Agenda item 5- Future work plan

54. Members agreed that the draft will be revised for the Sept energy working group meeting in order to go to the main SACN meeting in Oct.

55. Circulate outcomes of equations and summaries by email.

Action: Secretariat

Agenda item 6- AOB and date of next meeting

The Chair closed the meeting and thanked members for attending. The date of the next meeting is 29th September 2008.