

NATIONAL DOSE ASSESSMENT WORKING GROUP

PAPER 7-08: REPORT BACK FROM SUB-GROUP ON HABIT DATA AND CRITICAL GROUPS

1. Introduction

The aim of this sub-group is to consider the use of habits data in assessing individual doses and in defining critical groups. The initial emphasis was to be on retrospective assessments (doses from discharges and direct shine), but with prospective assessments to be considered at a later date. In particular, the sub-group was asked to consider:

- Methods for obtaining integrated habits data around particular sites
- What is meant by 'locally produced food' – how plausible is it for certain foods to be produced and consumed by individuals
- Assumptions regarding where people are assumed to live and to obtain their food in dose assessments together with the combination of pathways
- Data analysis including the relationship between the sample population and assessment of individual doses including the use of critical groups
- The adequacy of data on occupancy, e.g. general beach occupancy and time spent indoors and outdoors
- The use of national survey data and site specific data, including how regularly site specific data should be reviewed and updated
- Use of habits survey and dosimetric data for infants, children and adults (including pregnant women).

In fulfilling these aims, the sub-group has developed a position paper on the collection and use of habits data for retrospective dose assessments. This paper is tabled as NDAWG Paper 7-08. It has been developed and reviewed through several drafts by the sub-group and is now submitted to the NDAWG for wider review. Conclusions and recommendations from the paper address all the items from the terms of reference listed above in the context of retrospective assessments.

2. Sub-group Meeting

The most recent meeting of the sub-group was held on 10 March 2005. Minutes of that meeting are reproduced as an Annex to this paper. Most of the meeting was devoted to revision of the position paper. Although there was agreement that there is potential further work for the sub-group to undertake, e.g. in expanding on issues identified in the position paper and giving consideration to the use of habits data in prospective assessments, it was considered inappropriate to formulate a programme of work until the position paper had been discussed by the NDAWG. It is anticipated that the sub-group will meet again in the autumn, but no date has yet been agreed for that meeting.

M C Thorne
Chairman

Minute of the NDAWG Habits Subgroup

10th March 2005, FSA London

Present:

Mike Thorne - MT (Mike Thorne & Associates, Chair)
Darren Cutts - DC (FSA, Secretary)
John Hunt - JH (CEFAS)
Rachel Smith - RS (NRPB)
John Titley - JT (EA)
David Webbe-Wood - DWW (FSA)

Apologies:

Mike Gaunt - MG (Rolls Royce)
Peter Roche - (Greenpeace)

1. Introduction and Apologies

MT thanked everyone for coming to the meeting and noted that he hoped to be close to producing a completed position paper by the end of the meeting. Apologies were received from Mike Gaunt and Peter Roche. MG had e-mailed MT with comments on the draft document received the preceding evening. He noted that there was generally little information with respect to the SEPA and their involvement in Habits surveys. There was a need for their input on the position paper. It was also noted that comments should be received from Northern Ireland.

Action 3/01: MT to Contact George Hunter (SEPA) and Ken Ledgerwood (DHSNI) to seek their thoughts on position paper, subsequent to its revision and prior to its presentation to the NDAWG.

2. Agreement of the Agenda

The Agenda was agreed noting that many of the actions arising would be raised while discussing Agenda item 5, 'Discussion of the draft position' paper. As such actions would be quickly reviewed.

The question was raised, 'Are we expecting comments on the position paper from the main NDAWG meeting?' Do we need some form of approval from the EA, FSA etc before completion?. These questions are to be addressed.

Action 3/02: Action on all relevant contacts to ensure there is approval for the position paper from their respective Agencies

3. Minutes of the Meeting of 30th September 2004

The minutes of the last meeting were agreed as an accurate account.

4. Actions Arising

All actions from the last meeting are either completed or were discussed under Agenda item 5 unless mentioned in the following:

Action 2/03: MT to provide NDAWG with finalised position paper by April 2005.

Ongoing.

Action 2/18: JH to inform on the availability of habits surveys in the Public domain.

Ongoing. Will be finalised on 11/03/05 after EA, FSA, NII liaison meeting. DC taken over action.

Action 2/23: DWW to investigate what data is available on consumption by pregnant women, as compared to women in general.

Completed. No useful data was available from FSA nutrition surveys. These only contained numbers for nutritional categories, there were no data for specific foodstuffs.

Action 2/34 & 2/35: MT to clarify with Rob Allot what is meant by the terms 'worker' and 'member of the public' so as to ensure consistency with the paper on retrospective dose assessment.

Ongoing.

Action 2/52: MT to insert a paragraph describing food processing.

Ongoing.

5. Discussion of the Draft Position Paper

All changes to the Draft Position Paper discussed below are an action on MT to address, unless otherwise stated. They are described under the overall action below.

Action 3/03: MT to address all relevant changes raised under Agenda item 5, of the NDAWG Habits subgroup meeting.

Contents page.

It was noted that the title of section 3 has been changed to make clear that it is a discussion of the relevant issues. It now reads, 'Desirability of Complete or Sampling-Based Habits Surveys. JT suggested that sections 4 and 5 should be merged into one section. This would get the point across that the surveys are integrated and therefore all pathways are treated on an equal footing.

MT noted that the information on Habits surveys (appendix) provided by JH was valuable and highly relevant, as many people would not have seen the Habits Surveys.

1. Introduction.

1.1 Background.

DWW asked whether the introduction should include reference to future ICRP basic recommendations. It was decided that the document should only look at the current situation, particularly as ICRP recommendations are potentially subject to further consultation and may not be released until 2006. It was agreed that this would be an issue for the main NDAWG group to decide. It was decided that the footnote referred to in this section should be removed to eliminate any contentious points. The information would be rewritten and placed into the main text of the '*background*'.

1.3 Scope of the Paper.

It was noted that if sections 4&5 are to be merged, then references within this section need to be amended.

This section needs to include a sentence that the document is meant as guidance and not a description of quantitative methods.

MT showed concern over the term 'representative individual' used in this section. Throughout the document there is a need to clarify that we are looking at a critical group and not a representative individual of a group. The text needs 'tightening up' to closely match legislation. Paragraph 3 of this section should also be simplified to remove confusion.

RS noted that we should include the legislation which is driving the direction of the position paper. There is currently no mention of regulations, such as BSS and ICRP recommendations which support the reasoning behind the position paper.

It was noted that there is reference to this information in section 2 which should be expanded and an explanatory sentence added to the 1st paragraph of section 1.3.

2. Current Approach to the Acquisition of Habits Data.

JT suggested major changes to this section. These were accepted with the following amendments.

1st paragraph. Addition of a sentence explaining the role of FSA and protection of the food chain and another on the NII and their obligation to examine direct radiation. This should be added after the sentence explaining the BSS Directive. Emphasis should also be given that, for nuclear sites, local surveys should be used and then national only if necessary. For non-nuclear sites, national surveys should be used.

The 2nd paragraph describes surveys as being 'site specific' rather than 'location specific'. It was thought that a paragraph needed to be added stating that some past surveys, e.g. of the Channel Islands, have been non-site specific and that such surveys are separate from nuclear site charging issues. It was suggested that this should be added before the '3rd to last' paragraph, preceding the paragraph starting 'For other, non-nuclear, sites...'

It was felt that similar text should be added to section 3 to explain remote surveys and why they are done, also demonstrating reassurance issues.

This section also describes the most exposed group. There is a need to clarify that this group is not necessarily close to the site due to potentially dominant pathways being associated with the 'export' of foods.

3rd paragraph should state that polluter pays and is allowed to receive a copy of the relevant habits survey. However this needs to be confirmed by all parties.

Action 3/04: DC to check that EA, FSA and NII are happy for the sites to have copies of the habits report.

5th Paragraph. Clarify which bodies have responsibility for England/Wales, Scotland and Northern Ireland. Northern Ireland currently has no licensed nuclear sites. A sentence needs to be added describing the current situation of the SEPA habits survey programme. It was noted that the programme seems static at the moment.

Action 3/05: MT to contact George Hunter to address all relevant changes raised under Agenda item 5, of the NDAWG Habits subgroup meeting.

Change the words in the last sentence of paragraph 5, 'tools' and 'nets' to 'items' and 'gear'.

8th paragraph. Need to include all inputs into the habits surveys and add more detail of others already mentioned, such as the identification of individuals. This is explained in appendix A4.1 but the information would be useful here also. CEFAS needs taking out of this section, along with other references, with the suggestion that the words 'surveying organisation' are substituted.

9th paragraph. The last sentence explaining observed changes in habits needs to be removed as there is no evidence to support this.

10th paragraph. An example of export pathways should be added e.g. Morecambe Bay Cockles to Europe.

11th paragraph. Need to emphasise why seafood consumption is very locally specific to a nuclear site, with certain seafoods only available at certain locations whereas terrestrial foods produced are less location specific. Reference to national habits surveys would be beneficial.

It was stated that it was vital to know what the criteria were when deciding that a localised habits rate was not suitable and so start using national data. RS stated that there is a need to compare the local data with national to determine whether there were any major differences. It is important that this is done while keeping in mind localised pathways. MT will change wording of this paragraph.

3. Desirability of Complete or Sampling-based Habits Surveys.

JT suggested major changes to this section which were discussed before acceptance. General notes on this section were:

Poachers etc. and others who do not wish to be surveyed need to be mentioned in this section. Highlight issues such as the Dounreay hot particles. Scope of work (section 1.3) paragraph 3 should be described within section 3. Clarifying that habits surveys do not include physiological information.

1st paragraph. Change from 'sites licensed' to 'sites authorised' and remove the text starting, 'or they could be...' finishing '...exposed individual'.

It was noted that it would be beneficial to turn the bullet points into sub headings, MT to adapt these to the relevant paragraphs.

2nd paragraph. Need to state that the surveys are orientated towards the high end of distribution. Need to justify why we do not perform resource intensive surveys i.e. cover everyone in the vicinity of the site.

3rd paragraph. Need to expand the information on sampling, clarifying what we mean and what the implications are, a back justification. Reference to national data should be added when referring to stratified or weighted sampling schemes.

5th paragraph. Needs some text added to describe how feedback between assessments, monitoring and habits surveys help support and develop all of these programmes inclusively.

6th paragraph. Remove 'EA' and 'CEFAS' and replace with 'agencies'.

4. Key Foodstuffs and Consumption Rates.

JT explained his suggestions and comments as highlighted in the draft position paper.

Generally in this section, there was a need to clarify the situation regarding data for children and infants. A new subheading 'collection and application of habits data on children and infants' to be created using information previously supplied by JH. This will describe problems in determining which data to use when the local data set is too small. The group also identified problems with second-hand information when received from the parents of the children. Reference should be made to section 6 which contains some information on this.

Need to add information on the importance of sample size for all pathways. When do we audit national surveys to see how the local results fit. We should only walk away from the local data if national surveys are significantly different and legitimately applicable.

Have to think about women in the survey, who will be at child bearing age within the period of habits survey, how should they be identified. We need to bear in mind that many of these women will have been pregnant or will become pregnant over the period for which the survey results are applied. JH to explore this issue.

Action 3/06: JH to write a description on habits surveys and the identification of 'potential' pregnancy.

JT asked about the need to add retrospective assessment protocol and the profiling method. It was decided to ask Bill Camplin (CEFAS) for information he has written on this method. It is hoped this will provide information on homogeneity.

Action 3/07: MT to ask Bill Camplin for text on retrospective assessment protocol.

1st paragraph. Needs a sentence explaining how habits data are collected and what different purposes they are used for. An explanation of how we use combinations of site specific data to create data sets and why we do this. Need to be clear on locally produced food and what we mean by national data.

4th paragraph. At the end of last sentence regarding milk farms, add a statement saying that 'unless evidence is there to say otherwise'.

5. Other exposure pathways.

1st paragraph. Remove the word 'spatial'.

2nd paragraph. Need to add a statement regarding the robustness of the children's and infants' occupancy data.

3rd paragraph. Last sentence needs deleting.

4th paragraph. Delete this paragraph.

5th paragraph. Change beginning of sentence to 'For exposure to the plume.....'
Also remove the word 'should' from the second sentence.

Generally in this section, it is important to add how regularly habits surveys should be performed, however this may be better suited for section 3. At the moment many are done on average every 7 years, Sellafield every year for review.

Indoor and outdoor habits should be clearly identified, including beach occupancies. As data are limited, say how we extrapolate for children and infants. Note that no national data sets are available with this information.

An extra bit of text to be added by JH about any major changes identified in the surveys. If these occur they may infer a need for increased survey frequency. This should be put into a dose context.

Action 3/08: JH to forward text on identified changes and increased survey frequency.

6. Use of Critical Groups in Estimating Individual.

After paragraph 5, delete the first bullet point.

Delete paragraph 6 as this talks about retrospective dose.

7th paragraph. Change 'second' to 'first'.

8th & 9th paragraphs, change 'third' to 'second'.

10th paragraph. Need to include 'potential' pregnant women at this stage and refer back to section 4.

11th paragraph. Make sure that the scaling methods used for children and infants are described and how we interpret how to use them.

12th paragraph. Make sure we have explained what generic data are.

7. Characterisation of Representative Individuals for assessing Effective Dose.

This section will be deleted as it is no longer needed, however, the final paragraph is important and will be used in section 8.

MT will adapt chapter 8, Conclusions, to include all relevant changes made in the previous sections.

As the appendices were not discussed, MT asked for comments to be sent to both JH and himself, for inclusion.

Action 3/09: All to forward comments on appendices to MT and JH.

6. Future Work of the Subgroup

Work will concentrate on producing the position paper for the April NDAWG meeting.

7. Preparation of a Report to the forthcoming NDAWG Meeting.

MT will be reporting back to the NDAWG meeting with the completed Habits Subgroups position paper, for comment by the group.

8. Other Relevant Business.

DAC asked what the group thought about the current method of logging sheets for high rate consumers in the Sellafield area. Should these be applied to other sites. The consensus was it is only necessary to do for 'high dose' sites. By doing other sites, it may raise unnecessary concern for very little information. JT mentioned that the only site there may be a reason for doing this for was Dungeness, due to the problems from direct radiation, however, this was for a small number of people.

9. Date and venue of the next meeting.

No set date was fixed for the next meeting as this would be dependent on the response from NDAWG. However, it is expected that the meeting will be held in autumn. To be agreed.

Dr Darren A Cutts
Emergency Planning, Radiation and Incidents Division

Summary of actions

Action 3/01: MT to Contact George Hunter (SEPA) and Ken Ledgerwood (DHSNI) to seek their thoughts on position paper, subsequent to its revision and prior to its presentation to the NDAWG.

Action 3/02: Action on all relevant contacts to ensure there is approval for the position paper from their respective Agencies

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Action 3/07: MT to ask Bill Camplin for text on retrospective assessment protocol.

Action 3/08: JH to forward text on identified changes and increased survey frequency.

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Ongoing actions

Action 2/03: MT to provide NDAWG with finalised position paper by April 2005.

Action 2/18: JH to inform on the availability of habits surveys in the Public domain.

Action 2/34 & 2/35: MT to clarify with Rob Allot what is meant by the terms 'worker' and 'member of the public' so as to ensure consistency with the paper on retrospective dose assessment.

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