

First Draft Statement on the potential risks from cadmium in the maternal diet

This is a paper for discussion.

This does not represent the views of the Committee and should not be cited.

1. The Scientific Advisory Committee on Nutrition (SACN) last considered maternal diet and nutrition in relation to offspring health in its reports on 'The influence of maternal, fetal and child nutrition on the development of chronic disease in later life' (SACN, 2011) and on 'Feeding in the first year of life' (SACN, 2018). In the latter report, the impact of breastfeeding on maternal health was also considered. In 2019, SACN agreed to conduct a risk assessment on nutrition and maternal health focusing on maternal outcomes during pregnancy, childbirth and up to 24 months after delivery; this would include the effects of chemical contaminants and excess nutrients in the diet.
2. SACN agreed that, where appropriate, other expert Committees would be consulted and asked to complete relevant risk assessments e.g., in the area of food safety advice. This subject was initially discussed during the horizon scanning item at the January 2020 meeting with a scoping paper being presented to the Committee in July 2020. This included background information on a provisional list of chemicals proposed by SACN. It was noted that the provisional list of chemicals was subject to change following discussion by COT who would be guiding the toxicological risk assessment process: candidate chemicals or chemical classes can be added or removed as the COT considered appropriate. The list was brought back to the COT with additional information in September 2020. Following a discussion at the COT meeting in September 2020, it was agreed that papers on a number of components should be prioritised. This draft paper presents information on the potential effects of cadmium on maternal health.

3. Following the Committee discussions at the December 2021 meeting, additional information has been provided on a) exposures in subpopulations, especially with regard to certain foodgroups such as rice, b) non-dietary cadmium sources, such as smoking as well as potential direct/indirect and synergistic/additive effects of cadmium and c) the role metallothionein plays in the body and in the placenta, where applicable. Information has been included in Appendix B to the statement on the breakdown of subpopulations in the TDS. The information has also been summarised in the text and tables are suggested to be removed in the final statement.

4. Members also highlighted that the total daily exposure used in the exposure assessment was an appreciable overestimate because the upper bound 97.5th percentile intakes would not be consumed for all commodities. However, this was the standard approach but the uncertainties should be reflected in the document.

5. Attached at Annex B to this paper is an unpublished paper provided by UK HSA colleagues which considers toxicokinetic modelling of cadmium exposure in the kidney. Members are asked to consider whether any of the information it contains could be used in the risk assessment or for any other comments they may have on this paper.

Questions for the Committee

6. The Committee are asked to consider the following questions:

- a) Does the Committee have any comments on the content and structure of this draft statement?
- b) Does the Committee have any comments on the currently unpublished modelling paper attached at Annex B and does the Committee consider that contents of the paper affects the outcome of the cadmium risk assessment in the maternal diet?

Secretariat

March 2022