

Bloomer, Bryan

From: Vork, Kathleen
Sent: Monday, April 20, 2020 12:16 PM
To: Bloomer, Bryan; Hugh Barton
Subject: RE: Transmission of Draft Panel Review Report of the All Ages Lead Model v2.0

Follow Up Flag: Follow up
Flag Status: Completed

Dear Dr. Bloomer and Dr. Barton,

Here are a few new edits and recommendations to add to the draft panel review report.

Issues to be discussed/added to the draft report

Within the following sections of the draft report:

CQ 3b uptake/absorption to the respiratory tract (Inhalation)

The equation for UPTAKERT in the TSD provides the expected result when changed to:

$$\text{UPTAKERT} = (1 - \text{CILAR}) \times \sum (\text{YRi} \times (1 - e^{-\text{BRi}}))$$

There are also some small errors in the Table on page 23 of the TSD

Other equations appear to have a similar error as the one for UPTAKERT

CQ3 continued

New recommendations – suggest Tier 1:

The equation for AGESCL appears in multiple places in the TSD with differing definitions. Also, AGE scaling to account for bone growth seems duplicative given that the original age-specific transfer rates are already based on calcium addition. This needs to be clarified or reconsidered as a necessary adjustment factor in the AALM.

Due to multiple adjustments and updates to transfer rates for Pb leaving diffusible plasma, the mass balance on transfer of Pb leaving diffusible plasma (TSUM=2000) needs to be checked over a range of blood lead levels and ages and/or include a statement in the TSD that this specific check on mass balance has been conducted and maintained.

CQ4a

New equations for bone weight and bone volume have been added to the AALM. Given these additions, the adjustment for bone Pb based on bone mineral does not provide the expected answer. However, $ASHwt = WBONE \times 0.6$ based on information provided in ICRP (2002) for bone ash density and bone volume does.

Recommend raising the adjustment for converting WBONE to bone mineral for cortical and trabecular bone from 0.55 and 0.5 respectively to 0.6.

CQ5 specific comments and questions by section

Clarifying edits

On page 46 (pdf page 51) of the draft panel report under section III, line 22 references “in the Leggett era”. That reference should be changed to “during the early 1990s...” as Dr. Leggett’s era extends to the present.

On page 48 (pdf page 54 of the draft panel report under the subheading Integration Algorithm

The second sentence is confusing. Suggested edit:

Add a period after “simulation” and move the rest of the sentence to the end of the paragraph by replacing “or” with “Alternatively,”.

On page 48 (pdf page 51), line 26 delete “on average” and “difference in”

Please let me know if you have questions regarding my additional comments. I look forward to the meeting on April 23rd.

Best,

Kathleen
