

01-26-16 Preliminary Draft Comments from the Clean Air Scientific Advisory Committee (CASAC) Sulfur Oxides Panel. These preliminary pre-meeting comments are from individual members of the Panel and do not represent CASAC consensus comments nor EPA policy. Do not cite or quote.

**Additional Preliminary Comments from Dr. Frank Speizer on  
EPA's Integrated Science Assessment for Sulfur Oxides – Health Criteria  
(External Review Draft – November 2015)  
1/26/2016**

**Comments on Chapter 6**

Overall I found this chapter almost useless. Most of the information presented is selected from previous chapters and much more adequately discussed in those chapters. The tables are for the most part incomplete in either not being fully representative of the data from the various studies, not presented in a consistent manner, and highly selective on which studies are included. I fear that the chapter will lead to more controversy than clarity and suggest it be left out. Table 6-16 could just as easily been presented as part of chapter 5 with the saving of 40 pages of text.

Page 6-1, line 20. Suggest change “increase risk” to “modified risk”. Risk may be increased or decreased by factors. If accept idea may have to reward next paragraph as well.

Pages 6-6, Table 6-3 and discussion on pages 6-7, 8. Footnote a does not apply to all the studies, since outcomes are not all changes in FEV. I find this section as presented extremely weak for documenting the causal association with asthma. The table suggests that “convincing evidence of a causal relation is based on clinical studies in 152 asthmatic subjects (some of whom were not exposed to SO<sub>2</sub> below .5 ppm)! This is followed by Table 6-4 which is not discussed at all. The causal argument is much better made in Chapter 5 and if it is necessary to be convincing in this Chapter would have to repeated in greater detail. I suggest greater consideration be given to the combination of all the data rather than suggesting “the primary evidence is from controlled exposure studies”. (See specifically Figure 5-2 on page 5-39).

Page 6-9, Table 6-5. Footnote “a” seems to have been copied from the previous table and doesn't belong here as stated.

Table 6-6 This needs to be reviewed. States that dealing with older adults with pre-existing CVD, yet states dealing with adults 5-75. Either a serious typo of something else.

Page 6-10, line 8. What does Section A.B.C mean?

Page 6-12, line 17. As stated this is almost the opposite of what is said on lines 3 and 4 on the same page.

Table 6-8 (as an example of inappropriate selection of studies to report) Although I agree that the data in Chapter 5 are suggestive at best the studies selected here to put in the table would not lead one to make that conclusion. In fact the results are more consistent with a positive effect.

Table 6-10. Results as presented are quite misleading. When comparing older to younger children or children to adults for asthma admission or ED visits these may not be fair comparisons and since many of these same studies are discussed in greater detail in chapter 5, presented here in brief summary form is confusing at best and appears to be somewhat biased toward the null in the selection of the studies (particularly since in Chapter 5 the conclusion is that the association is causal).