

**Comments on  
ASB Exposure Draft of Proposed Revision of Actuarial Standard of Practice No. 23 on Data Quality**

Prepared by Al Klein, Principal and Consulting Actuary, Milliman, Inc., December 15, 2015

My responsibilities at Milliman include conducting industry experience studies and helping clients set assumptions. These responsibilities involve dealing with all kinds of data.

I will first comment on specific components of the revised Standard of Practice and then respond to one of the questions you requested comments on.

Section 2.6

I would suggest either removing the word “informal” or adding the word “formal”. The latter would make the beginning of this section read “Review – A formal or informal examination ...”. The reason for this suggestion is that I conduct experience studies and we do a formal review of the data. It is clearly a review and not an audit, but we have a formal process in place. Calling in “informal” could lead to one think it should be an “ad hoc” review. While it could be an ad hoc review, a formal review is often necessary and better.

Also, consider strengthening the difference between a review and audit by adding the following words to the last sentence: “as detailed of an examination” between the words “not” and “an audit”.

Section 3.2 b.

In item 5 and many times in the Standard of Practice, you use the word “significant”. I would like to suggest either defining what you mean by significant or changing the term to “material”, which may also need to be defined. Or maybe other terminology should be used. My reasoning in this instance is that in the selection of the data for analysis, due considerations should be made to any of a number of limitations, which do not necessarily need to be considered “significant”.

In item 7, it mentions “sampling methods”. I think a definition may be appropriate as I am not sure exactly what you are referring to here.

Section 3.3 b.

Here again my comment relates to multiple uses of the term “significant”. It is my opinion that any questionable or inconsistent data, first should not be used in an analysis, but if it is it should be disclosed, whether it has a significant effect or not. It is possible it may have a significant effect, but that is not known upfront. This is another reason I believe this should be disclosed. In this case, I am recommending the removal of the word “significant” since it relates to disclosure.

### Section 3.3 c.

I would suggest adding the words “if relevant” to the end of this paragraph. The actuary should only consider requesting prior data if relevant. In many instances, prior data is not relevant, e.g., if there was a major change in underwriting between the current and prior periods.

### Last paragraph of Section 3.3

It is my opinion that a review of the data, even if cursory, should always be done, unless the data used comes from a well-established industry study where it is known that the data has been vetted. Even in this situation, it may be appropriate/necessary to review specifics about the industry data before using it so that it is properly used. But the important point here is that all data should be reviewed before using it.

### Section 3.6

In the 8<sup>th</sup> line, the word “unsuitable” is used. I think this term should be defined because it can have multiple meanings and certain data that may be unsuitable in one situation may not be unsuitable in another. Should there be a comment about disclosing what the actuary considers to be unsuitable data if they are “forced” to use it? This may be covered in other places and not need to be covered here, but I just thought I would mention it here.

### Section 3.8

In item c, I believe all adjustments and modifications should be disclosed, not just the significant ones, so that results can more easily be reproduced.

How do sections 3.8 and 4 fit together? More items are supposed to be communicated and disclosed (item 4) than documented (item 3.8). I would think these sections should be combined in some way.

### Section 4.1

Item b – I would suggest changing the wording to “the nature of the review of the data performed by the actuary, and if no review was performed, the reason for not reviewing the data;”.

Item d – I am not sure what you mean by “in summary form” to begin this point. Also, as described before, I believe all judgmental adjustments or assumptions should be disclosed, not just the “significant” ones.

In item f, consider changing “significant effect” to “impact”. This would require disclosure of the use of any data that could have an impact on the actuarial work product.

### Request for Comments

Item 1 – Yes, the proposed revision provides appropriate guidance, with my suggested changes.

Item 2 – I wanted to specifically address your second question as it relates to predictive models, as this is becoming more popular and will continue to do so in the future. One issue I see is the use of machine

learning tools with the data. First, it is important for good data to be used as input or the results may not be appropriate.

One of the things that machine learning tools do is to produce potentially meaningful findings in the data that you may not notice looking at one or even several variables at a time. Sometimes these findings are meaningful and sometimes they just don't make intuitive sense, even if the data is good. As the actuary begins to use these tools more frequently, I think disclosure is needed of the data, how it is used, and even how the results were derived. I have suggested throughout this letter considering removing or changing the word "significant" because, in my opinion, it may not always be known if it is a significant issue, particularly with the use of these new tools.

Item 3 – I think the title "Data Quality" is fine, but you could change it to:

- Data Quality and Use
- Data Quality and Disclosure, or
- Data Quality, Use and Disclosure

I would be happy to answer any questions you have on my comments and suggestions or discuss them further.

Sincerely,



Al Klein, FSA, MAAA  
2150 Lake Cook Road, Suite 1110  
Buffalo Grove, IL 60089  
(312) 499-5731  
al.klein@milliman.com