



SOCIETY OF ACTUARIES

Article from:

Health Section News

September 2001– Issue No. 41

Data Quality in Real Life

by Karl G. Volkmar

The following is an excerpt from an article I wrote for the August 2000 edition of the *Health Section News*:

“Many times, the precise company-specific data you need to do your job...does not exist. This may be true because it has never been recorded, or because no one has ever requested or used it before (including the actuary that preceded you!). This can make an actuary’s job extremely difficult or even impossible from a purist viewpoint.

*As if this is not difficult enough, attempts to establish the infrastructure needed to collect, record and report needed data will be met by another fact of life...the majority of home office personnel do not want to collect, record, and report what they view to be **additional** data. In fact, they are generally incented to do otherwise.”*

This excerpt summarizes my career as it relates to data quality.

In response to the above excerpt, I was asked to moderate a session entitled “Session 96IF – Data Quality Concerns for Health Actuaries” at the recent SOA meeting in Dallas. I began my preparation by asking a number of health actuaries the following question: Do you consider yourself a data quality expert? I was surprised to find out that not one of them, not even those that worked with data day-to-day, considered himself/herself an expert.

How could this be true given that virtually all actuaries working in the profession work with data, either directly or indirectly, every day? Based on some additional discussions, I believe it is true because actuaries know that the data quality situations/scenarios an actuary can be faced with are endless. Every situation is different, and all require analysis

and, ultimately, professional judgment. This is a perfect lead-in to a discussion regarding ASOP No. 23.

If you have not read ASOP No. 23 before or it has been a while since you did, I suggest that you do so both now and on a regular basis. Every time I read it (assuming sufficient time between readings), I take something new from it. It not only provides guidance on a tough subject, but it is the authority — every member of the SOA is bound by it! It applies to all SOA members in every area of practice.

The following is the opening paragraph to the standard.

“Data which are completely accurate, appropriate and comprehensive are seldom, if ever, available. An actuary performs an analysis with available data and includes in the report sufficient information so that users may be aware of material data limitations known to the actuary, and their implications.

Furthermore, a review of data may not always reveal imperfections. This standard does not recommend that an actuary audit data.”

As indicated from this opening paragraph, the following is a three-point summary of ASOP No. 23:

- 1) Know what your data represents and where it comes from.
- 2) Understand the impact that has on what you’re working on.
- 3) Document, document, document.

In more detail, the standard of practice addresses the selection of data including the extent of any needed review and the number of data alternatives to be reviewed. In addition, it includes a list of items to consider when selecting data.

The standard also includes a section on imperfect data that basically boils down to two questions:



- 1) Will the imperfections produce material biases in the results?
- 2) Are the data so inadequate that they cannot be used?

Disclosure, the responsibility for the accuracy and comprehensiveness of the data, the review for reasonableness and consistency and the extent of that review are all outlined in a section discussing an actuary’s reliance on data supplied by others.

The last section addresses appropriate communications and disclosures including direction on how long to maintain documentation, what should be included in the actuary’s report, and the standard ASOP directive “If any procedure departs materially from this standard, the nature, rationale, and effect of the departure must be disclosed.”

If you would like to read more about this subject, the Record will contain a summary of the session referenced above. After I begin the session by outlining ASOP No. 23, the session panelists discuss various subjects relating to data quality given their differing backgrounds/perspectives. The interactive portion of the session, which revolves around case studies, includes excellent participation from the audience.

If you have any questions or comments regarding this article, please feel free to contact me at (317) 580-8661 or via e-mail at kvolkmar@tici.com.

Karl G. Volkmar, FSA, MAAA, is a consulting actuary at United Actuarial Services in Carmel, IN.