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## 1995-1996 Individual Life Mortality Study

by Douglas C. Doll

**T**he SOA recently released the results of its study of “Mortality Under Standard Individually Underwritten Life Insurance Between 1995 and 1996 Policy Anniversaries.” This data is pretty old. (See Faye Albert’s article in this issue regarding the SOA’s plans for bringing these studies up-to-date.) Also, with today’s multitude of preferred risk classes, there is less direct comparability of these results to pricing assumptions. Nevertheless, there are some interesting results to consider. The report and tables are available on the SOA’s Web site under *Research*.

Only 10 companies contributed directly to the SOA’s study, compared with 21 companies in the 1990-95 study. The SOA supplemented its select data with data from five additional companies that had contributed to studies performed by Bragg Associates. Some of the results are shown using SOA data only; other results include the Bragg data. Comparison with prior years’ results should be made with caution.

The results are shown as a percentage of both the 1975–80 Table and the 2001

Valuation Basic Table (VBT). There are tables showing results by issue age, policy year, policy size and underwriting class (but not for preferred versus standard). Results also are shown for the five-year period of 1991-96. I was somewhat disappointed not to see the 1995–96 experience separate by sex, although the 1991-96 experience is shown that way. I suppose the committee had to draw the line somewhere—the report already has 183 pages of tables!

The rest of this article presents some selected results from the report. Unless otherwise noted, the results are percentages of the 1975–80 Table.

The aggregate 1995-96 actual to expected results are 66.3 percent, compared with 71.4 percent in the 1994-95 study. The decrease could be attributable to the different mix of contributing companies. Some of it also could be attributable to increasing proportions of business represented by preferred risk underwriting. The latter point may be the cause of the increasing ratios by duration for the 1975–80 Table ratios (see Table 1 below).

**Table 1**  
1995-1996 Ratios by Policy Year

Policy Year	1975-80 Table	2001 VBT
1-2	54%	88%
3-5	63%	100%
6-10	64%	86%
11-15	73%	90%

**Table 2**  
1995-1996 Nonsmoking Select Ratios, by Issue Age and Underwriting Class

Issue Age	Medical	Paramedical	Nonmedical
30-39	55%	45%	55%
40-49	53%	49%	51%
50-59	50%	60%	60%
60+	64%	72%	71%

**Table 3**  
1995-1996 Nonsmoking Select Ratios, by Amount Band

Amount Band	Ratio to 1975-1980
Under \$25,000	89%
\$25,000 – \$49,999	75%
\$50,000 – \$99,999	62%
\$100,000 – \$249,000	54%
\$250,000 and over	49%

**Table 4**  
1995-1996 Smoker Ratios for Policy Years 1-15

Policy Year	Ratio to 1975-80			Ratio to nonsmoker		
	Medical	Paramedic	Nonmed.	Medical	Paramedic	Nonmed.
1-2	96%	103%	117%	1.65	2.54	2.33
3-5	110%	142%	146%	2.10	2.67	2.47
6-10	123%	124%	128%	2.34	2.28	2.23
11-15	137%	125%	127%	2.10	2.17	2.13

The report notes the large increase in ratios between policy years 1–2 and 3–5, and suggests there may be some degree of antiselection following the end of the contestability period. If this is so, I am surprised that the 2001 VBT does not already reflect this, as I expect that similar antiselection would exist in its underlying data.

Table 2 shows nonsmoking select experience. The advantages of medical versus nonmedical, and paramedical versus nonmedical are less than one might expect. The higher ratios for medical at the younger issue ages could be attributable to medical reports being requested on suspicious applications.

Several of the tables show results grouped by policy size. There is a nice progression of decreasing mortality by policy size. For

example, Table 3 shows the ratios for nonsmoking select.

Looking at smoking experience, the results are distorted by including experience for policy years 16–25, which appear to have a significant amount of “standard” (i.e., including nonsmokers) experience classified as smoker. The 1995–96 smoker ratios for policy years 1–15 are shown in Table 4.

The ultimate experience (now, policy years 26 and over) is somewhat strange. For 1995-96 the ratio is 113.7 percent. For 1991-96 the ratio is 97.1 percent. Either 1995-96 was a very bad year, or (more likely) the contributing company mix for 1995-96 is significantly different. Probably the ultimate data is dominated by a few companies, such that adding or deleting one can change the aggregate results significantly. □



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