Article from:

Product Development News

July 2004 – Issue 59

SOA 1995-2000 Mortality Study

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Introduction

In May 2004, the Individual Life Insurance Experience Committee (ILEC) released its report on Mortality Under Standard Individually Underwritten Life Insurance Between 1995 and 2000 Anniversaries (1995-00 Report). The 1995-00 Report contains yearly submitted data from 10 to 12 companies. It covers standard issues (preferred and standard combined) analyzed by issue age, gender, nonsmoker/smoker, face amount and medical basis. These results are analyzed by individual year and the entire five-year period.

The ILEC views the 1995-00 Report as a "catch-up" report. The 2000-01 Report that includes over 20 companies will be released in October 2004. Thereafter, annual studies will be issued every year. This article will focus on selected trends over the five years in the 1995-00 Report. The results are shown based on the 2001 VBT; the complete report also shows results based on the 1975-80 table.

Overview of Results

Throughout the 1995-00 Report, the progression of Actual to Expected ratios (A/E ratios) generally shows an increasing pattern from 1995-96 to 1996-97 and then decreasing through the end of 1999-00 shown in Figure 1.

The overall trend indicates an improvement in mortality. Select male mortality had slightly greater improvement as A/E ratios improved from 91.1 percent in 1995-96 to 83.3 percent in 1999-00.

The insured population is subject to two main sources of decrease in mortality. The first source is a secular decrease in mortality in the general population. Intercompany improvement over 1995-2000 was consistent with improvement in the general population. The second source of decrease is the trend toward higher face amount policies with more underwriting requirements.

It should be noted that the 2000-01 Report will use improved system capabilities to study results by face amounts and by the Preferred/Standard indicator submitted by companies.

The most reliable nonsmoker and smoker data is within the first 15 durations, as shown in Figure 2 on page 14.

The overall trend of improving mortality exists in the nonsmoker A/E ratios. In contrast, smoker A/E ratios do not show mortality improvement.

Readers who expected smoker ratios to be twice nonsmoker ratios should be reminded that the 2001 Valuation Basic Table (2001 VBT) has composite and smoker distinct tables. In the 1995-00 Report and subse-

Figure 1

Durations 1-25	Select A/E Ratios by Face Amount Based on the 2001 VBT Combined Nonsmoker, Smoker and Unknown Smoker				
	95-96	96-97	97-98	98-99	99-00
Males	91.1%	93.5%	87.5%	83.4%	83.3%
Females	87.8%	87.9%	86.8%	87.3%	83.9%
Total	90.4%	92.2%	87.4%	84.3%	83.5%

quent reports, the A/E ratios based on the 2001 VBT are consistently calculated by applying its composite table to unknown smokers, its nonsmoker table to nonsmokers and its smoker table to smokers.

Detailed Select Results
By Issue Age

For the 25-year select period, the 1995-00 Report results by issue age groupings are shown in Figure 3.

The mortality improvement over the five one-year studies is greatest for the issue ages 20-49. From 1995-96 to 1999-00, the A/E ratios decrease in every issue age grouping except for 60+.

By Policy Year

For the 25-year select period, the 1995-00 Report results by policy year grouping are shown in Figure 4.

The mortality improvement over the five one-year studies is greatest for both policy years 1-2 and policy years 3-5. From 1995-96 to 1999-00, the A/E ratios decrease in every policy year grouping except for 6-10.

By Face Amount

For the 25-year select period, the 1995-00 Report results by face amount bands are shown in Figure 5.

Within each study year, there is a general pattern of decreasing A/E ratios as amount bands increase for all years in the study (except for some expected fluctuations in the highest amount bands). From 1995-96 to 1999-00, the A/E ratios decrease in every face amount grouping except for 50,000-99,999.

Ultimate Mortality

For the ultimate durations of 25 and over, the experience is shown in Figure 6.

In general, the ultimate A/E ratios also decreased over the five-year period. Male A/E ratios show a greater improvement than female A/E ratios. The ultimate A/E ratios are much higher than the select period A/E ratios. The ILEC is in the process of producing a more detailed analysis of older age mortality against both insured and U.S. population tables, which will be available late this year or early next year. □

Figure 2

Select A/E Ratios by Face Amount Based on the 2001 VBT					
Durations 1-15	95-96	96-97	97-98	98-99	99-00
Nonsmoker	87.4%	91.5%	86.1%	83.5%	80.6%
Smoker	93.1%	106.0%	99.2%	99.7%	98.0%

Figure 3

Select A/E Ratios by Face Amount Based on the 2001 VBT Combined Nonsmoker, Smoker and Unknown Smoker					
Issue Age	95-96	96-97	97-98	98-99	99-00
0-19	100.4%	96.8%	99.8%	88.4%	92.1%
20-29	92.0%	82.6%	79.3%	81.2%	80.0%
30-29	88.4%	87.3%	78.2%	77.2%	76.6%
40-49	91.5%	92.2%	84.6%	81.9%	75.1%
50-59	89.2%	95.1%	90.6%	88.5%	86.2%
60+	90.7%	94.2%	92.9%	87.3%	91.7%
Total	90.4%	92.2%	87.4%	84.3%	83.5%

Figure 4

Select A/E Ratios by Face Amount Based on the 2001 VBT Combined Nonsmoker, Smoker and Unknown Smoker					
Policy Year	95-96	96-97	97-98	98-99	99-00
1-2	85.4%	92.3%	73.2%	79.4%	70.3%
3-5	96.0%	90.3%	83.1%	80.2%	71.9%
6-10	84.9%	93.2%	91.4%	88.1%	88.1%
11-15	92.6%	98.6%	92.5%	88.7%	87.1%
16-20	92.4%	82.8%	82.0%	77.0%	86.2%
21-25	98.4%	85.8%	84.6%	79.6%	83.3%
Total	90.4%	92.2%	87.4%	84.3%	83.5%

Figure 5

Select A/E Ratios by Face Amount Based on the 2001 VBT Combined Nonsmoker, Smoker and Unknown Smoker					
Face Amount	95-96	96-97	98-98	98-99	99-00
<25,000	110.1%	111.3%	110.8%	99.7%	100.1%
25,000-49,999	104.7%	102.1%	99.9%	96.9%	98.5%
50,000-99,999	96.5%	104.1%	100.7%	99.1%	99.3%
100,000-249,999	89.3%	91.7%	87.2%	84.9%	85.1%
250,000-499,999	79.2%	82.5%	75.2%	71.1%	75.4%
500,000-999,999	84.0%	78.8%	70.6%	70.6%	76.6%
1,000,000+	75.1%	81.3%	79.7%	78.0%	60.4%
Total	90.4%	92.2%	87.4%	84.3%	83.5%

Figure 6

Ultimate A/E Ratios by Face Amount based on the 2001 VBT Combined Nonsmoker, Smoker and Unknown Smoker					
	95-96	96-97	97-98	98-99	99-00
Males	112.9%	103.8%	100.4%	99.6%	96.5%
Females	120.9%	106.2%	114.1%	111.8%	112.8%

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