

# LifeSelect™

*Fasano Associates' top priority is providing Consistency, Accuracy and Professionalism in estimating life expectancies!*

FASANO eNEWSLETTER© 2020

March 2020

## Actual to Expected Results: 101% Over Past 10 Years

We are pleased to report the results of the latest, independent analysis of our Life Settlement Actual to Expected accuracy, covering the 10-year period that ended on 12/31/2019. Our overall Actual to Expected ratio was 101%, with 101% and 102% A to E ratios for male and female life expectancies, respectively. These results were *based on our actual life expectancy estimates*, with no adjustments made, and assumed an IBNR (incurred but not reported) factor of 4%.

We reduced our IBNR assumption slightly this year to 4%, versus 7% for the 1<sup>st</sup> duration and 5% for subsequent durations, which we had assumed in prior A to E studies. This reduction was the result of a significant increase in reported deaths facilitated by PBI's Certideath® search service. Without IBNR, total, male and female Actual to Expected ratios would be 97%, 97% and 98%, respectively.

Although we are very happy with our overall results, we still hope to improve our performance. Recently we implemented changes that had the effect of lengthening our life expectancy estimates in segments where our A to E ratio was lower than target, mostly at younger ages and at low Mortality Ratios. In the months to come, we expect to implement changes that will shorten life expectancies for impairments where our A to E ratio is higher than target, namely dementia, diabetes and neurologic impairments.

The full Actual to Expected report is published below. As always, we would be interested in any comments or questions you might have.



Michal Fasano, President

## Fasano 17th Annual Longevity Conference

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### Look Who's Talking!



Mike Fasano will be a panelist discussing: "What's New In the U.S. Market Place" during the ILMA Eleventh Annual INVESTOR CONFERENCE in New York on May 8, 2019. Also Presenting is Fasano Medical Director, Dr. Robert Feingold, who will discuss "Health Trends – Developments in Cancer Treatments and Mortality". A "Must Attend Conference"!

## ***Actual to Expected Analyses: Ten Years Ending 12/31/2019***

*By Gary D. Lake and Jon R. Jennings*

Dear Mike:

Lake Consulting, Inc. was retained to perform Actual to Expected analyses of Fasano Associates' performance covering the ten-year period from 2010 through 2019. This report presents the results of those analyses. The analyses cover actual life expectancy estimates provided by Fasano in the life settlement market. **No adjustments have been made to Fasano's life expectancy estimates.** Only files in which date of birth or social security number errors were documented or estimates that were explicitly qualified in the report given to Fasano's clients were excluded from the analyses.

### **Methodology Overview**

Fasano supplied to Lake data on 22,527 individuals that were underwritten by Fasano during the ten years ending December 31, 2019. For each individual, Fasano was able to provide Lake with the following:

- Date of underwriting
- Date of birth
- Attained age
- Gender
- Smoking status as smoker, non-smoker, or aggregate
- Life expectancy estimate, in months
- Date of death, if any

Standard underwriting practice in the life settlement market results in some individuals being underwritten more than once. This might happen because several different organizations submit information on a given insured. It might also happen because after a period of time, a refreshed opinion is requested based upon more current medical information. Consequently, Fasano has produced more than 35,000 life expectancy estimates on the 22,527 individuals. We chose to report experience based upon each individual no more than once in a calendar year. When an individual was reviewed more than once in a calendar year, we used the most recent review for that calendar year in our calculations. This practice of considering an individual more than once, but only once in a calendar year, led to a universe of 32,419 life expectancy estimates being considered in our analysis. Therefore we included estimates that totaled more than the number of individuals reviewed, but less than the number of total reviews. From the demographic data provided to us, we were able to calculate a mortality curve for each individual such that the actuarial life expectancy matched the life expectancy estimate supplied by Fasano.

Our method of calculating the mortality curve for each individual was to solve for a mortality multiplier that calibrated to Fasano's life expectancy estimate. When the mortality rates from the base table were multiplied by the mortality multiplier for the individual, the resulting actuarial life expectancy matched the Fasano estimate.

For our purposes, deaths were taken directly from the Fasano database. Although Fasano used multiple sources to identify known deaths, its primary source was an enhanced database developed by an independent vendor, Pension Benefit Information ("PBI"). PBI matches records with Social Security

Administration records, using social security numbers as their primary data key. They also provide mortality information derived from obituary searches.

### **Mortality Tables**

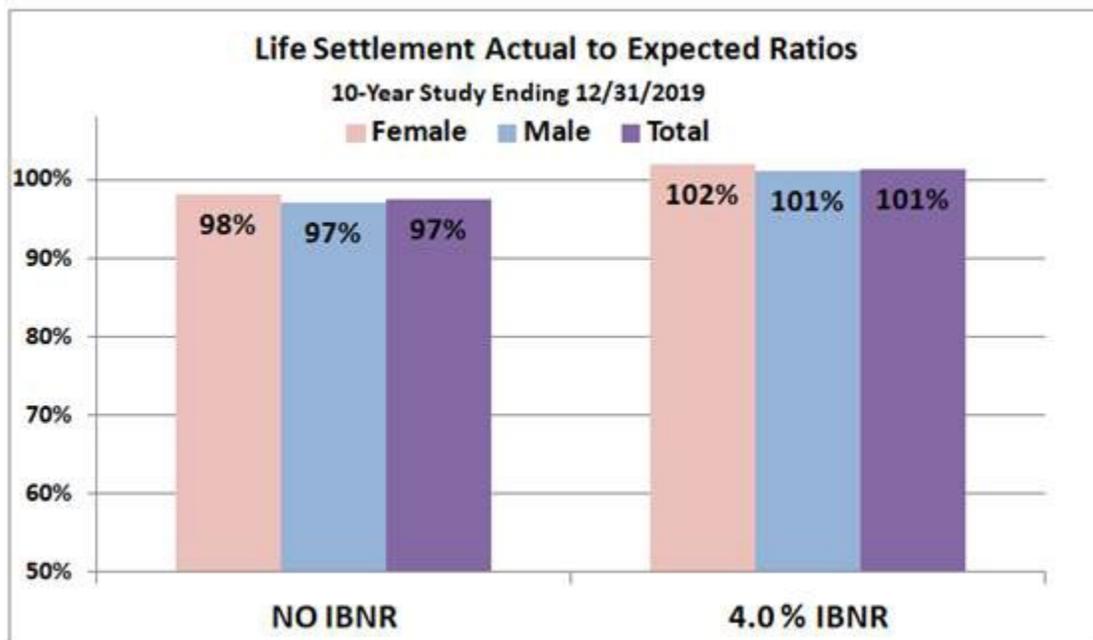
We performed our analyses based on the Fasano 2008 Mortality Tables, updated through 2020.

### **Adjustment for under reporting (IBNR)**

Our underlying IBNR (incurred but not reported deaths) assumption is 4.0%. This is slightly less than we have assumed in prior analyses, largely due to a significant increase in reported deaths (as compared with prior death searches) due to enhanced obituary search services that supplement the deaths reported from the Social Security Administration Death Master File.

### **Summary of Results**

The final results, including a breakdown by gender are summarized below:



### **Credibility**

Some volatility of results is to be expected in any experience analysis. For example, larger samples are more credible than smaller samples. In the case of an experience study, the number of expected deaths is the relevant measure of "sample size". Hence, we have defined the minimum number of expected deaths to be credible at 100. Once the expected number of deaths exceeds 100, each actual death affects the experience ratio by less than one full percentage point. Until the cumulative number of deaths expected equals or exceeds 100, results are not displayed due to the lack of credibility.

Also, the percentage of the total cases that should have died relative to the population size is also important. Cells in which a very small percentage of the individuals should have died are less credible than those in which a larger proportion of the insureds are expected to have died. These lower percentages of expected deaths are typically associated with Actual to Expected study periods that are too short relative to the average length of life expectancies in the study. At the same time, if the percentage of deaths relative to the total population is too large, which typically is the case when the study period is too long relative to the average length of life expectancies,

The results lose credibility due to the “pull to 100%” distortion. (See Daniel Bauer et.al. (2017) Evaluating Life Expectancy Evaluations, North American Actuarial Journal, DOI: 10.1080/10920277.2017.1381031.) The percentage of expected deaths to population size in this study was 22%, 25% and 23% for males, females and combined genders, respectively. We believe that these percentages suggest a credible sample size that is neither too small nor too large.

It was a pleasure working on this engagement with you. If you have any questions about the results reported in this letter, please let us know. We would be happy to discuss assumptions, methodology and/or results with you.

Sincerely,



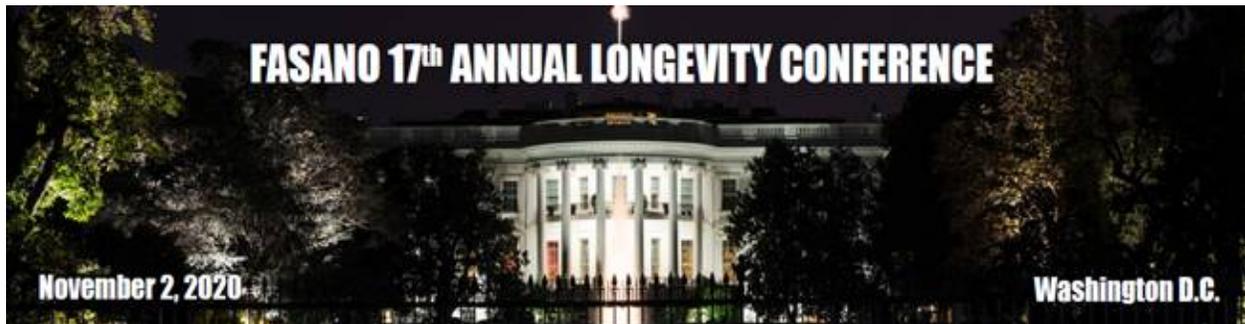
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Consulting Actuary



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