LIFE EXPECTANCY ESTIMATES – WHAT YOU NEED TO KNOW

WHAT IS AN LE?

Longevity - how long the insured is going to live – is one of the most important things to consider in purchasing a viatical or senior life settlement. That is why potential investors in life settlements seek the services of an independent life expectancy provider before they buy a policy or portfolio of policies. The life expectancy provider produces a report called a **Life Expectancy Estimate**, or **LE** for short, which gives insight into the health of the insured and their *potential life span*.

A good way to define an LE is to say what it is not. *An LE does not tell you the exact date that a person is going to die.* Hardly anyone dies in the exact month of their LE, nor are they expected to. For example, a 75-year-old with a life expectancy of 120 months is not expected to die in 120 months. To better illustrate how an LE works, let's pretend that we have a group of 1,000 people who are identical in every way and all have a 120 month LE. Of these 1,000 folks, some may die next month and some the following month and so on. Some will live way beyond that 120 month LE; in fact, the last of these folks will likely die over 250 months from now.

Another way to think about this is that we often hear statistics such as, a male born today is expected to have a life expectancy of 78 years. Well, we all know that does not mean that all males born today will die when they are 78; some will die before they reach age 78 and others will die after the age of 78.

So how are LEs determined? Actuaries use statistical techniques to essentially create studies using hundreds of thousands of insureds and they isolate the causes of mortality and identify how long someone who is in average health for their age will live - on average. They also compute the effect of impairments like HIV, heart attacks and cancer on life expectancy. Together, these analyses come together to create a life expectancy. *So an LE is the average expected lifespan of a person, based on their current health.* Further, there are two components to a life expectancy – the mortality curve and the adjustments to that curve for impairments, which is called the underwriting process. The mortality curve, which is often expressed in the form of a table of mortality rates that vary by age, gender and sometimes other things like smoking status, provides the probability that a given person of average health will die in each year. The underwriting process provides a factor that modifies the mortality rates in the mortality curve. That factor, called the mortality multiplier, can be higher than one, which is most common in life settlements, signifying impaired health, or less than one, signifying better than average health. We already talked about the things that contribute to a high multiplier – impairments like heart problems, etc. But some people come from families who live a long time and that reduces the multiplier and leads to longer life expectancies.

So the actuary uses these two elements to compute the chance that a person will die next month and the month after that and the month after that and so on until there comes a month where there is a zero chance of that person living that long. This creates a mortality curve, sometimes called a survival curve, from which the LE is calculated; the LE being the average number of months each person is expected to live. So another way to define an LE is a number that is shorthand for a person's survival curve. **It is really important to note that the actuary can predict with great certainty the average life expectancy of a group of a thousand people, but when it comes down to predicting the life expectancy of a single person, it is an educated guess and little more.** It's like flipping a coin; you know that you should get heads 50% of the time. However, there is a chance that you could flip the coin a few times and get tails every time. But if you flip the coin 500 times, you will most certainly get heads 50% of the time or nearly so. So if you buy a single policy, you might be a big winner if the insured dies soon, or you could be a big loser if the insured lives a long time. On the other hand, if you invest in a pool of life settlements, your potential winnings or losses is much narrower, but it is much more certain that you will actually get the results you expected.

It is also important to realize that not all mortality tables are built for the same reason or even use the same data. They are not interchangeable and they are certainly not the same. Lots of people mistakenly assume that they can take any old table they find and use it to analyze life settlements or viaticals. This is just not true.

The last thing I want to tell you about LEs is that each LE provider's mortality table and underwriting process are linked together. Because of this, it requires considerable judgment to properly analyze two different life expectancies on the same life. It is not a mix and match kind of thing.

To summarize, an LE is the product of many sophisticated analyses by trained professionals who understand life expectancy and longevity. However, the professional investor in life settlements and viaticals also knows that unless there is a large number of lives in their portfolio, they will see great statistical fluctuations in their results, which can result in great losses even if they guess right on the mortality risk of the policies they buy. That is why the most successful investors buy at least 300-350 policies for their portfolios; it is only through investing in a large portfolio that the normal, natural variation in results becomes very small and the investor has a better chance of success.

LES AND THE LIFE PARTNERS PORTFOLIO

The most important thing to realize about policies in the Life Partners portfolio is that we do not have the same information about the longevity of every insured. For some insureds, we have a current (fresh, valid) LE that is based on current medical records. For others, we have an outdated LE that was updated, but is based on the insured's health two to six years ago. Obviously, this updated LE is not as useful as a current LE, but it is better than nothing; which is exactly what is available for many insureds. In the situation where there is no information available, we will produce an LE based on the trustee's assumptions about the longevity of the average insured in the portfolio, which varies by age and gender (male or female) for the viatical portfolio. For the insureds in the senior portfolio, we will include an LE that varies by age and gender that reflects 100% of the Society of Actuaries' 2015 VBT table, which serves as a reference point only, and is not reflective of our longevity expectations for these individuals.

So one of the above three situations will apply to each policy in the portfolio – either a current LE, an updated longevity estimate, or a potential illustrative LE, will be made available. Keep in mind that as we move from a fully underwritten, current LE to the other possibilities, the uncertainty of the information increases dramatically and the accuracy decreases accordingly. It is also important to note that in some cases, the available current medical records are quite sparse, which increases the uncertainty of the associated LE.

INFORMATION COMMONLY FOUND IN LES

Although there is no legally-required or even mutually agreed-upon standard for information that must be contained in an LE, there are certain elements that all LEs generally have. This information would include:

1. LE provider's name: the company that calculated the LE
2. LE Date: the date the LE was calculated (the more recent the better)
3. Mortality Table: the mortality table used in the LE calculation
4. Mortality Multiplier: the result of the underwriting process that adjusts the mortality table for the insured's impairments. The multiplier is usually expressed in two different ways. Some LE providers quote a percentage, for example, 350% means that the subject's chance of dying is 3.5 times that of a similarly-situated insured of the same age and gender. Other LE providers use a numerical multiplier, in this case 3.50. Both these are mathematically equivalent. (see above)

5. Mean LE: the length of time, on average, that the insured is expected to live (also called the actuarial LE)
6. Median (or 50th percentile) LE: this is the number of months in the future that the insured has exactly a 50% chance of being alive; i.e. when 50% of a hypothetical population of insureds identical to the subject are projected to have died (different than the mean LE, but closely related)
7. Medical Records Range: the date range of the medical records considered in calculating the LE

The following elements appear in some LE providers' reports but not all of them:

1. 85th Percentile LE: the number of months in the future where the insured has exactly a 15% chance of being alive; i.e. when 85% of a hypothetical population of persons identical to the subject are projected to have died (a more conservative rendering of the 50th percentile LE)
2. The Mortality Curve: the actual mortality table used to compute the LE, after adjusting for the insured's impairments
3. Summary Medical History: a synopsis of the medical records
4. Summary of Impairments: a listing of the impairments that were judged to be present for the insured

Type of LE – most LEs are issued as secondary LEs. This means that it is assumed that the insured has direct control of the decision whether to sell their policy or hold it. This distinction is important because research indicates that insureds who control the decision whether to sell their policy who actually do sell it will exhibit lower mortality rates than those who decide to keep their policy. If the insured does not control the decision of whether to sell the policy (for example, in the case of an investor who bought the policy years ago and is offering to sell it again), some LE providers take this into account and issue what is called a tertiary LE. All else equal, the tertiary LE will be shorter (fewer months) than the secondary LE. If it is not specified on the LE, you can assume it is a secondary LE.