Leimberg Information Services, Inc.

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Subject: Steve Leimberg & Life Expectancy Analysis: Planners (and Their Clients) Need to Know

"I predict that planners will find many uses for professionally prepared LE analysis reports due to their advantages over free sources, and employ them in direct proportion to how comfortable they become with them on a personal level. Proper and judicious use of LE reports might help us make much better decisions, not only about which tools and techniques we suggest to clients but also in how we use and apply those planning resources. Most importantly, insight into a client's specific longevity curve can provides a planning professional with an invaluable key to figuring out what tool or technique or combination will be most appropriate and suitable for that particular client."

Steve Leimberg provides **LISI** members with important commentary on life expectancy analysis tools and their potential for vastly improving the soundness of our planning.

Steve Leimberg, Publisher of Leimberg Information Services, Inc. (LISI), is co-author with **Howard Zaritsky**, of Tax Planning With Life Insurance, and creator of NumberCruncher Estate and Financial Planning Software. A frequent speaker at estate planning councils on life insurance, ethics, and marketing, Leimberg is the creator of The **Tools and Techniques** series including The Tools and Techniques of Estate Planning (17th Edition),The Tools and Techniques of Life Insurance Planning (6th Edition), The Tools and Techniques of Employee Benefit and Retirement Planning (14th Edition),The Tools and Techniques of Income Tax Planning (5th Edition), The Tools and Techniques of Financial Planning (11th Edition), The Tools and Techniques of Charitable Planning (3rd Edition), The Tools and Techniques of Investment Planning (3rd Edition), Life Settlement Planning, and his *two latest books*, The Tools and Techniques of Estate Planning for Modern Families (2nd Edition), and The Tools and Techniques of Trust Planning.

Here is Steve's commentary:

EXECUTIVE SUMMARY:

Better and more complete information leads to better decisions - in some cases *much* better decisions! This is particularly true with respect to calculations that require an input for your client's lifespan in estate, financial, retirement, and charitable planning. By knowing more, you can help more and a client can make a much more informed and intelligent choice of action.

Longevity assumptions are critical to proper planning. There is no safe harbor if you want to create the optimal plan. Many planners use life expectancy, which can be obtained from several sources with varied results. A more prudent approach is to use a risk adjusted probability so the client can understand the level of risk associated with the time horizon, more consistent with approaches used in asset modeling.

Generally, there are three options for life expectancy information: (1) the free calculators and tables easily available on the internet, (2) the life settlement industry reports that use physician files and questionnaires, and (3) a robust client specific report. This commentary will focus on the report available from a company called LongevityQuest that includes current medical lab tests and physical measurements done by a paramed and backed by scientific algorithms used behind the scenes in the life insurance community to assess mortality risk. Certainly, planners need to know about the life expectancy analysis tool and its potential for vastly improving the soundness of our planning.

COMMENT:

WHAT IS A LIFE EXPECTANCY ANALYSIS AND WHY DO ALL PLANNERS NEED TO KNOW ABOUT IT?

A client's longevity, that is, life expectancy assumption, is the starting place for almost every key assumption that must be made in shaping an estate, financial, or retirement plan (see the section entitled "TIME

HORIZON RISK TOLERANCE IN RETIREMENT PLANNING" for a superior approach using lifespan probabilities).

But until recently, that number - the client's life expectancy assumption - has been little more than a guesstimate with respect to a specific client. "One hundred and five and still alive" has been the blind motto of too many planners, a "one size fits all" approach necessitated by the absence of a more precise, realistic, and economically practical method of arriving at a reasonable estimation of a number reflective of a *specific* person's likely life span. Consider the potential misinformation mischief (and therefore serious planning mistakes) possible from even the best of estate, financial, or retirement planning software packages if the key assumption, i.e. when the client will *die* (stated another way, how long the client is likely to *live*) is significantly incorrect?

Shockingly, there is no good reason to believe that the *actual* mortalities of specific clients will in any way approximate the mortality assumptions we've long used! When it comes to an individual client, the number has generally been based on a government actuarial table or worse yet, a wrong-handed rule of thumb that might not even remotely reflect your specific client's actual life expectancy.

THE BUCK STARTS HERE – BY ASKING YOURSELF THESE QUESTIONS:

- If you could determine, within a relatively narrow range of years and with calculated age-related probabilities, how long your client would live, would this not significantly improve the accuracy and therefore the credibility of your planning?

- Would you not be better able to choose more appropriate tools and techniques – and use them more effectively - if you could better approximate the range of how long your client would likely live or the age at which that client would die?

- Suppose there was a way to obtain a customized longevity report that cost effectively evaluated the information for a specific client – say Mr. L – age 73 years – and could assess a median life expectancy[i] at age 90.4, i.e. a life expectancy of 17.4 years. Could you not create a much better plan if you knew that your client's life

expectancy was – say 44% longer than the median life expectancy for an "average individual" of your client's age and gender?

- Wouldn't the ability to better ascertain a specific client's expected longevity enhance your ability to demonstrate (and if necessary defend or check or re-evaluate) the cash needs analysis you have performed and the suitability of your recommendations?

- Would third party expert informed input as to specific probable longevity help fulfill your duty of care and add objectivity, credibility and assurance to your recommendations?

- If your client knew his/her own life expectancy, would he/she better understand the urgency and significance of action and preparation if he or she knew his or her specific longevity curve?

- If a client could see and understand his/her longevity odds, could better decisions with regard to the choice of financial tools and techniques be made?

- What if the longevity report also highlighted the medical factors that could have a positive or negative impact on his/her longevity odds, i.e., what positive change in behavior[ii] could help to extend his or her life expectancy (and perhaps enhance future life quality)?; Would that information enable your client make better life choices and live both a longer and more healthy life?

- Would positive answers to all of these questions mean you could significantly strengthen your credibility and relationship with your clients?

All these things are not only currently possible; they are now available to professionals and their clients on a cost efficient and time sensitive basis. The short-hand term being used for the process is Life Expectancy Analysis (LE).[iii]

WHAT A LIFE EXPECTANCY ANALYSIS REPORT IS:

An LE is a scientific assessment of expected life span of a specific client. It is a combination of (1) medical information and (2) actuarial and (3) statistical analysis designed to assess the relevance and significance of risk associated with various impairments and translate that into meaningful longevity numbers. Life expectancies[iv] are generated by assessing these three major factors and correlating the findings with actuarially-generated mortality tables.

The life expectancy analysis process involves a sensitive weighing of dozens (and in more sophisticated analysis hundreds) of data points. These data points are translated into debits and credits or factors which then are used to ascertain how a specific client's life expectancy is likely to play out in terms of a median (e.g. years and months) and how it will differ – if at all – from other similar age and gender lives.

Typically performed by professionals with experience in life and heath underwriting, the LE has been used in the past mainly for the life settlement community to help them and their investors determine potential payback/profit likelihood scenarios. But today, LEs are poised to become a unique and invaluable tool for estate, financial, retirement, and charitable planners in a multiplicity of situations.

The LE report, while varying in name and format from company to company,[v] typically provides information[vi] that depends in level of detail upon the price paid for the report and the mortality based transactional purpose for which it is to be used. For financial planning purposes, it will typically be sufficient to obtain a mortality rating which compares the individual's expected longevity to a cohort[vii] of similar persons and provides an expectancy estimate and gives a percentage (e.g. 85%) curve and spread of probability of dying sooner or living longer than that given number of years.

HOW DOES AN LE WORK?

The LE report will vary in format from company to company but in general will work like this:

As a preliminary, information about a client's functional status and medical history must be gathered.[viii] That information can be gathered by the life expectancy company itself[ix] or by a comprehensive phone interview with

the client, or through the internet directly with the client and/or by obtaining labs and what are called APSs (Attending Physician Statements or APQs (Attending Physician Questionnaires) from doctors, a clinic, or hospital.[x] The more work in gathering data the LE company must do, the more expensive the report typically is.

Data is immediately verified with respect to the client's Social Security number and date of birth.

A medical "abstractor"[xi] pre-screens, reviews and highlights the medical record using proprietary underwriting criteria and forwards findings and the records on to an underwriter or risk evaluation program. The abstractor confirms both the currency of the data and that the records are for the correct person. Pertinent records and diagnostics test results are highlighted based on risk evaluation guidelines.

The underwriter or risk evaluation program will then focus on those areas most likely to affect survival. Among the facts typically examined are the individual's gender and build (i.e. height and weight), family medical history (father, mother, siblings, and children), "social habits" (tobacco, alcohol, drugs, and level of exercise and social activity and travel), cardio, cerebro, and peripheral vascular issues, pulmonary problems, renal and genitourinary, gastrointestinal, hematological, cancer, neurological/psychiatric, orthopedic/rheumatologic, autoimmune, disorders of thinking and emotion, and others. Emphasis is placed on what is adding to or subtracting from the individual's life expectancy.

What occurs next will vary (in some cases widely) from company to company. **LongevityQuest**, for instance, (LongevityQuest serves the general public while most other providers generally service only the life settlements market – see below)[xii] has an underwriting process, unlike some others in the field, that involves a combination of a third-party proprietary "rules-based"[xiii] risk evaluation system and an actuarial translation and comparison. I based this report on my own personal experience with this company.

- The client's lab results and physical measurements are transmitted to a diagnostic testing facility.

- The testing facility studies the information and subjects the results to their proprietary risk evaluation system.

- Results from the risk evaluation system are then sent through an actuarial translation to determine how the client's mortality slope compares with published benchmarks. The slope can range from a small fraction of the benchmark, to a significant multiple of the benchmark. That slope is then translated into life expectancy and related probabilities for each attained age. Generally 100% mortality is a standard slope. "Standard" means that the individual has no significant problems and that he or she will likely survive to the age which most persons of the same gender, age and smoking status will attain. A lower percent mortality slope means the person is likely to survive a longer period. A higher percent mortality slope means the person is likely to survive a shorter time.[xiv]

- Longevity Quest uses a proprietary risk evaluation system capable of analyzing and quantifying 144 variables, each in the context for the other 143. The risk evaluation system adjusts for the erosion of effects[xv] over time ("age-based debiting"), the impact of time elapsed since onset of a condition ("elapsed time debiting"), mortality credits, and co-morbidity logic.[xvi]

- A longevity analysis report is then issued to the client which will show the client's longevity rank compared to their peers (U.S. patent pending), their average life expectancy and a tool that shows the percentile of probability of dying before and after that average. The report also lists the key factors that comprised the basis for the report.

  - Longevity Quest electronically archives the complete file for permanent storage in the client's personal, password-protected and HIPAA-compliant online account vault.

HOW AN LE DIFFERS FROM MAKING ASSUMPTIONS FROM A LIFE EXPECTANCY TABLE:

With a standard life expectancy table, the average life expectancy for the general U.S. male or female population is obtained. This, of course, is *not* customized to the individual client. Nor does the standard table provide

the planner with the client's maximum life span. As an estate, financial, or retirement planner, it is essential to have both of these numbers to provide a solid financial plan.

Exhibit 1 is based on four government mortality tables[xvii] and on my personal longevity report performed by Longevity Quest.[xviii] It compares key estimations for a male my age (73) based on a general population with – in the column on the far right – my personal analysis. The disparities are both obvious and significant.

EXHIBIT 1
Life Expectancies

	Sec. 1.401(a)(9) (2002)	90 CM (1990)	80CNSMT (1980)	Sec. 1.72 (1983)	Longevity Quest*
Additional Life Expectancy (Years)	14.8	12.1	11.5	13.9	17.4
Age at Expectancy	87.8	85.1	84.5	86.9	90.4

* The author wishes to acknowledge Longevity Quest (www.mylongevityquest.com) who generously provided me with a customized comprehensive evaluation and walked me through the entire analysis process. Longevity Quest provides this service to consumers directly from their website. See endnotes for various provider information.

Exhibit 1 illustrates first that the expectancy for a specific individual can (and often will) vary considerably from any estimation from a general population pool.[xix] The government's *annuity* table, for instance, shows a person my age (73) can be expected to live another 14.8 years – to age 87.8. But based on Longevity Quest's biomedical analysis, I may expect to live another 17.4 years – to age 90.4. Secondly, planners should note that for retirement planning, Social Security purposes, and many other needs, use of any of the government's tables, although convenient and readily accessible, would have yielded what is likely to be a very wrong place from which to start my planning calculations!

LONGEVITY ANALYSIS NOW PRACTICAL!

The state of the art[xx] is just that, art. And art is not certain. But now it can be customized and rerun each year based on the latest and previously unavailable scientific data and on advanced statistical analysis. In short, it's a much better starting point to begin the assumptions underlying any financial planning product, tool, or technique based on or impacted by a

client's longevity. LE companies are now providing such reports in considerable detail to planners for as little as $325.[xxi]

HOW ACCURATE WILL THE LE BE?

How accurate is the longevity assessment relative to the actual death rate?[xxii] More importantly, how close will the LE analysis be to reality in a given case?

It's important to remember that the LE is a relatively new tool and at this point should be considered more guideline than gospel. Mortality science is based on the law of large numbers. With enough individuals with the same profile, the expectancies will be highly accurate for the pool. What is impossible to determine is the actual death time for a given individual. Since these tools speak in terms of *probabilities*, the accuracy is very high in the aggregate but no one individual can be certain of an actual date of death.

As to the accuracy in a specific person's situation, a number of factors must be considered:

- As noted above, the business of providing personal reports on longevity is in its relative infancy[xxiii] with most companies having less than 20 years experience so it is impossible to really know with certainty how accurate any of the companies are.[xxiv] There is essentially no long-term track record upon which to check. With the introduction of relatively new actuarial tables by the Society of Actuaries and with fairly recent information, it can be expected that longevity reporting companies will – from time to time – reassess their numbers.

- The data base upon which conclusions are drawn is relatively small.   However, reporting companies are continually reviewing and refining both their mortality tables and their debit/credit models. Longevity Quest's risk evaluation system is built upon over 7 million case histories. At least one LE company is continually expanding beyond its own data and incorporating the results of rapidly growing external sources such as publicly available government source information such as Social Security or Medicare.   This will enable it to essentially go back in time to create longevity reports

for these individuals and track their mortality forward – so as to validate and/or modify its approach to increase precision even further.

- To date, the major clients of longevity analysis report companies have been life settlement companies and what they want to know is how *soon* the client is likely to die[xxv] (obviously, for their investors, the sooner the better). Skeptics and cynics will ask the question, "Will results be skewed by the natural tendency to tell buyers of the service what they want to hear or what the life settlement company wants to be able to tell investors?"[xxvi] Others may question if a "fudge factor" is built in to protect the longevity report producing company. It is important to recognize that there is an active and highly competitive market so if one LE company's numbers are significantly out of line with others' – and prove to be consistently wrong - that company would quickly be abandoned by the highly sophisticated profit-oriented life settlement companies who regularly use more than one longevity report – typically at least two or three - on every case) as well as by the other parties who use them over time.

In my opinion, however, the key, beyond an actuarially sound and accurate approach to gathering and interpreting highly complex medical and other personal information on the subject of the longevity report is that the company's consistency, ethics, integrity, transparency, objectivity, and systematic bias safeguards will all play a significant part in how the final numbers are determined and how accurate they will be.

Furthermore, it is to be expected that an accurate prediction with respect to any one life is considerably more difficult and less likely than a prediction using a large number of lives (i.e. the "law of large numbers"[xxvii] – which of course is what both life insurers and life settlement companies base their financial analysis on.

The information available to LE providers is constantly changing. The release of newer actuarial tables (e.g. 2014 VBT) will doubtlessly result in greater accuracy. But the *interpretation* of information and data will inevitably vary.

An LE is only a snapshot in time. It is the best information available at present. Just as constant review and adjustments to a client's financial plans due to changes in interest rates, inflation, spending rates, etc. are necessary, so must new "pictures" be taken of a client's life expectancy by obtaining updated LE reports every 2 or 3 years. Longevity Quest will track and graphically chart a client's rank with each subsequent analysis, which helps the client understand trends in their longevity health.

So an LE should not be considered a static analysis, i.e. medical treatments, medical technology, consumer education, and a person's environmental health conditions are constantly evolving. An LE that is "accurate" today is likely to be out of date perhaps even two or three years from now.[xxviii]

Planning professionals using LEs must understand both their outstanding potential and their significant limitations.

TIME HORIZON RISK TOLERANCE IN PLANNING

Wouldn't it be wise to help the client determine their time horizon risk tolerance, like planners usually do for asset management, and incorporate that into their plan?

Understanding the difference between life expectancy and a lifespan probability is critical. Life expectancy is generally the average number of years that a person may expect to live. To be more precise, it is the point at which 50% of a cohort (a large number of people with a common characteristic) have died and 50% remain alive. To use life expectancy, then, to determine how long a given amount of retirement income needs to last, will by definition mean that the client will outlive that age 50% of the time.

Let's use my personal situation an example. Longevity Quest calculated my LE to be age 90.4 (17.4 years). That LE indicates I stand a 50% chance of needing retirement income longer than 17.4 years. That would mean a confidence level of 50%. Their analysis includes probabilities for any age, so I can find the age that corresponds to my personal confidence level. For example, if I want a 90% confidence level, I would use their "odds calculator" to find the age where my odds of still being alive is 10%.

In my case, that is just over age 100.   Does 10 years make a difference? Yes. It may make a significant difference.

Not all males my age will "score" the same as I did. Scores could have resulted in LE's as low as age 77.7 up to a high of age 97.5, with 90% confidence levels differing by up to 29.6 years. So, does 29.6 years make a difference? Of course it does.

USING AN LE REPORT IN THE RETIREMENT PLANNING PROCESS

Consider the following key retirement planning issues – and how much more authoritative your answers could be if you had obtained an LE Report on your client:

- "Will my client's wealth last as long as my client lasts?"

- "How much money will my client need at retirement?"

- "How long will that money have to last?"

- "When should my client start taking social security benefits?" (Should my client start taking social security before full retirement age?)[xxix]

- "Should my client be considering an annuity?"

- "Should my client insist his/her agent investigate a substandard annuity and can a life expectancy analysis help to bargain for a better rate or higher income?"

- "When should my client start making withdrawals from an annuity or qualified plan or IRA?

- "Should my client take a lump-sum rather than annuity payments from the retirement plan?"

- "Should I recommend my client retire (earlier)(later) knowing his/her life expectancy?"

- "Is the concept of pension maximization" a viable consideration in my client's situation?"

- "If my client has to go into a nursing home,[xxx] what terms – based on his/her life expectancy – are reasonable – and at what point do the economics no longer make sense?"

Increased probability of living to an advanced age coupled with the consequent anxiety has led to much excitement about "longevity insurance."[xxxi]   This has been described as "a deep-deferred annuity with a forfeiture provision." For instance, a 60 year old client pays an insurer a single premium of $50,000 in return for its promise to pay $4,000 a month for life beginning at age 85. If the annuitant dies prior to that date, the investment is lost.[xxxii] If he lives to 100, the insurer must continue to pay until that date – and would have paid $720,000. Using an LE report to determine likely longevity for the client would enable more effective use of longevity insurance.

WHAT ARE OTHER PLANNING USES OF AN LE?

ESTATE PLANNING USES:

- "Given my client's (short)(long) life expectancy, how time critical is it to draft the documents, get them signed, and otherwise complete the contemplated plan?"

- "What changes should be made in the plan knowing how (short)(long) my client is likely to live?"

- "How long will assets in a trust have to last to provide for an adult child? A spouse?"

- "Over how many years is an estate likely to appreciate during my client's lifetime – and how large is the estate (and possible estate tax burden) likely to be?"

- "What is the likelihood that my client will survive the term of the GRAT or QPRT I am setting up?"

- "What is the viability of a SCIN or Private Annuity in the light of my client's probable life expectancy?"

- "What are the economics of a life estate? Remainder interest? Annuity interest?"

- "Should my client accelerate a gift giving program?"

FINANCIAL PLANNING USES:

- "Should my client's relatively short life expectancy be viewed positively as a signal ("permission"?) to use up more income/capital "currently?"

- "Should my client's money be invested in securities with maturities that more closely match his/her lifespan probabilities?"

- "Taking into consideration my client's life expectancy, is his/her portfolio properly balanced for income/growth?"

- "Should my client be making shorter term higher income producing investments?"

LIFE INSURANCE PLANNING USES:

- "Should my client be converting term to some type of permanent coverage?

- "Should the conversion be done now or at some later date?"

- "Should my client who has health problems purchase credit life insurance at the time he/she is applying for a loan/mortgage?"[xxxiii]

- "Should my client, who has health problems, buy all the association/group term coverage possible?"

- "Should a term policy be cancelled and a second to die policy be obtained?"

- "Does my client's (short)(long) life expectancy indicate the desirability/appropriateness of a different type of insurance policy/portfolio?"

- "Should my client be purchasing term or permanent coverage?"

- "Should my client buy the life insurance he's contemplating – even though he/she'll have to pay a rating?"

- "How should I react – when my client asks me to plan for her to live to age X?"

LIFE SETTLEMENT PLANNING USES:

- "Should my client "hold" (retain) or "fold" (sell) currently owned Life Insurance?"[xxxiv]

- "What is the impact on the hold-fold decision if his life expectancy was much (shorter)(longer) than he thought?

- "Is the life expectancy he has been given by a company willing to buy his life insurance a reasonably accurate number?"

LONG-TERM CARE USES:

- "Is there a realistic need for long-term care insurance, i.e. how likely is my client to live to an age where protecting assets for the survivor of a couple and/or for future generations is important?"

- "How much money is my client likely to need – based on his/her specific probable life expectancy?"

CHARITABLE PLANNING USES:

- "Does a gift annuity make economic sense for my client?"

- "Can my client afford (afford not to) to make significant charitable gifts now?"

- "How much payback can my client anticipate from a CRAT or CRUT?"

BUY-SELL PLANNING USES:

- "How should I structure this buy-sell and what logical assumptions about the survivorship of the owners should I make in drafting it?"

DIVORCE PLANNING USES:

- "Is the split-up of pension assets entirely unfair to one of the parties?" (Is the longevity assumed grossly misleading so that the actuarial calculations improperly divide assets?[xxxv]

WHY NOT GET IT FOR FREE?

There are several "longevity calculators" that can be found online and quickly completed. These calculators are easy to use, and some are actually entertaining. But from a professional advisor's viewpoint, the essential question must be, "How accurate, reliable, and credible are these calculators in predicting a client's life expectancy?"

Try them and spreadsheet the results. You will find that the answers will be far from even approaching consistency of results. Life expectancies may vary by a decade or more!   The reasons for such variability are obvious:[xxxvi]

- The calculators do not use the same inputs and parameters for making the estimates.

- Although they all include some lifestyle modalities, they don't all use the same ones.[xxxvii]

- It is not clear how various factors are weighted but it's likely that they are not all weighted the same.

- Most importantly, universally lacking is an input for detailed medical history. The medical questions asked are superficial. Nor are there

blood tests or blood pressure tests involved, and data is self-reported.

Furthermore, when you do a "free" life expectancy analysis over the internet, there is no "trapping" factor that filters out a self-serving or wish fulfilling answer. For instance, if a person subconsciously wanted to obtain a report which generates a longer life expectancy, it would be relatively easy to fool the calculator and enter responses that will generate a longer lifespan.[xxxviii] (One calculator even generates "applause" when a "healthy" answer is given.) In fact, it's all too easy to do a "do-over", and keep doing-over until one gets what is felt to be a "desirable" longevity prediction. Human nature makes it easy to respond to a different calculator and go with the one that gives the most desirable result.

So there is a lack of both professional detailed analysis and rigorous objectivity with a "free" life expectancy calculator. The result is worse than meaningless as a guide and certainly not defensible as a financial planning tool. Absent scientifically reviewed information about a specific calculator's accuracy, it can only be regarded by a professional as entertainment rather than as the basis for taking financial planning actions and implementing tools and techniques related to a person's specific longevity curve.

Lifestyle,[xxxix] diet, safety measures, wealth and income, and mental and physical activity level are all very important in predicting longevity.[xl] But without a thorough and professional evaluation and analysis of documented medical facts,[xli] the single most important basis for a longevity determination is absent.[xlii] That critical factor is how your specific biomedical profile is responding to those lifestyle and other factors. That is one reason the new report by Longevity Quest is appealing to me. It uses your client's current profile and compares it to their database of millions of studied lives to determine your client's individual longevity expectancy. Furthermore, life expectancy changes with biomedical changes over time. In fact, merely another year of aging impacts life expectancy. Current readings, performed regularly over time, are critical in maintaining an up to date view of longevity health.

IS THE PRIVACY OF THE INFORMATION GIVEN TO AN LE ANALYSIS COMPANY PROTECTED?

Congress recognized the need for national patient record privacy standards in 1996 when it enacted the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The law encouraged electronic transactions of medical and patient information and required new safeguards to protect the security and confidentiality of such information.

Although technically, LE analysis companies do not fall under HIPAA, they are aware of the importance of behaving as if they do – and so to protect the privacy of clients – generally voluntarily follow all HIPAA guidelines and requirements.

WHERE CAN I FIND MORE INFORMATION ON A SPECIFIC LE COMPANY?

Longevity analysis providers may have significant disclosure/reporting obligations in the states in which they operate. Generally, if a report is to be used in the life settlements arena, a provider will be required to register and provide detailed formation about various aspects of their business. These reports are typically public information, and can be obtained from the state insurance department.

HOW WILL THE CLIENT REACT TO "KNOWING WHEN?"

Will clients want to know their life expectancy? The truth is that few people really want to know the date they are going to die (and obviously, *no one* can tell them with 100 percent accuracy).

And the availability of an LE is such a relatively new phenomenon. To my knowledge, there are no studies on how people react. But from personal experience (I've done this twice now, once before), I can say that the anticipation of the knowledge accelerates the heart and that, having read my own LE report – once in 2008 – and now again in 2017 - the number becomes a hard (almost impossible) to ignore or forget "anchor number" that – even though enveloped in a range and couched in terms of probability – keenly focuses the mind.

It's been my experience (and from what I've read) that people are likely to accept the "good" ("bad") news and interpret, react to, and assimilate the bottom lines of a longevity report (and to thoughts of and discussions on death) the way they have lived their lives up to that point.[xliii]

- For some, there will be fear or relief or perhaps disbelief or shock[xliv] or joy and that emotion will take the form of either a conscious or subconscious reaction.

- For others, it will be the incentive (excuse?) to exercise choices that will increase their health, happiness, productivity, and accelerate the giving and sharing they've been putting off – or slack off and maybe even give up.

- Some will see it as information they need to know – even if it is – perhaps – information they didn't *want* to know. Some will say they "like to know things" (and some do not).

The bottom line is that this information will be assimilated by different clients in differing ways over differing periods of time.[xlv]

An important, if not major factor in client reaction, will be the knowledge and sensitivity and training (or lack thereof) of the planning professional. Working with clients, practitioners must use this new tool and the knowledge it brings in a caring and careful manner.[xlvi] I strongly suggest obtaining your *own* LE before using it in the estate planning process with clients.

CONCLUSION:

I predict that planners will find many uses for professionally prepared LE analysis reports due to their advantages over free sources (Exhibit 2) – and employ them in direct proportion to how comfortable they become with them on a personal level. Proper and judicious use of LE reports might help us make much better decisions, not only about which tools and techniques we suggest to clients but also in how we use and apply those planning resources. Most importantly, insight into a client's specific longevity curve can provides a planning professional with an invaluable key to figuring out what tool or technique or combination will be most appropriate and suitable for that particular client.

EXHIBIT 2
Life Expectancy Options

	Free/Internet	Life Settlement LE	Longevity Quest LE
Access:	Anyone	Life settlement participants	Consumers age 18-79
Pluses:	Fast	Client-specific data	Current biomedical data
	Easy to access	LE curves with probabilities	"What are my odds?" tool
	Free	Data from multiple sources	Multivariate data analytics
		Integrates non-medical info	Rank and contributing factors
Minuses:	Broad averages	Cost	Cost
	LE only	Not for consumer use	Requires fluids and measurements

The great value of an LE report is in how it is applied, integrated and used on a client's behalf in a customized manner. Using an LE analysis will make better planning decisions possible and enable a plan to be better tailored – and more credible to the client - then ever before possible. Furthermore, an LE may provide the client with information that may help move him, her, or them beyond denial and into realizing the extent of a planning problem and the significance and urgency of action.

What questions would you ask a client and what would you recommend to your client if you could know within a discrete range "when"? A client who has vocally expressed complaints of aches and pains over the course of a professional relationship may be on the positive side of the life expectancy curve and live far beyond the average person's. Conversely, many clients in seemingly good health are far below the standard curve for life expectancy – and will not survive anywhere near either the average or the hoped-for length of life. But without an LE, neither the planner nor the client has any way of knowing or planning for it. Better and more complete information leads to better decisions – in some cases much better decisions. Certainly, a LE analysis is a reality tool leading to a more accurate starting point than has ever previously been available and is one no sophisticated planner can afford to ignore!

When a person lives longer than expected, a situation termed "longevity risk" is created that will impact on many of the tools and techniques of financial planning. When a person dies prior to expected his or her survival period, that event is called "mortality risk." Death earlier than anticipated is also a major financial planning problem. Both longevity and

mortality risk must be understood and anticipated to the extent possible by estate planners and an LE analysis is an important step in the selection and use of appropriate tools, techniques, and strategies. Think of how much more accurate, appropriate, and defensible your responses and how much more effective the tools, techniques, and strategies you implement would be if your client obtains an LE.

Common Sources of Free Tables and Calculators:

Internal Revenue Service
https://www.irs.gov/publications/p590b/

Social Security Administration
https://www.ssa.gov/planners/lifeexpectancy.html
https://www.ssa.gov/oact/STATS/table4c6.html

Centers for Disease Control and Prevention
https://www.cdc.gov/nchs/products/life_tables.htm

Living to 100
https://www.livingto100.com/

The following companies combine medical assessments, actuarial statistics, and information on daily living habits and demographics to generate life expectancy evaluations in a report format. The prices they charge will vary depending on the level of the report requested:

Current Biomedical Profile Providers for Consumers:

Longevity Quest
http://mylongevityquest.com
Longevity Quest, Inc.
200 Union Hill Drive, Suite 101
Birmingham, AL 35209
Larry Adams, President and CEO
Tel: 205-414-9956
Email: info@mylongevityquest.com

Selected Life Settlement and Viatical Industry Providers:

ITM TwentyFirst
http://www.itm21st.com
ITM TwentyFirst, LLC
333 South Seventh Street, Suite 300
Minneapolis, MN 55402
Tel: 612.371.3008
Fax: 612.238.2323
Michael Brohawn, Chief Marketing Officer
Email: mbrohawn@itm21st.com

Fasano Associates
1201 15th St. N.W., Suite 250
Washington, D.C.
http://www.fasanoassociates.com/
Tel: (202) 457-8188
Fax: (202) 457-8198
gmarshall@fasanoassociates.com

AVS (American Viatical Services)
175 Town Park Drive, Suite 400
Kennesaw, GA 30144
Tel: (770) 926-8880
Fax: (770) 926-7933

HOPE THIS HELPS YOU HELP OTHERS MAKE A *POSITIVE* DIFFERENCE!

Steve Leimberg

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CITATIONS:

[i] Median life expectancy is the point at which half of a group of individuals with a given client's same health profile would still be living. It is an average rather than a prediction. It is based on a pool of people of an actual client's age and gender.

[ii] The leading causes of death in the U.S. in descending order of occurrence are heart disease, cancer, stroke, accidents, and diabetes Mellitus. To some extent, changes in behavior, life style, and proper medication can impact on all of these. The quality of health care, level of physical and metal activity, nutrition, and exercise can in some instances vastly expand life expectancy. For instance, a person with hypertension or high blood pressure can increase life expectancy by increasing physical activity and making dietary changes such as eating more fruits, vegetables, low-fat diary products and by decreasing fats, red meats, sweets, and sodium – as well as by increasing the frequency of medical intervention and maintaining the proper medical treatment. People who have a family history of longevity, lead a vigorous lifestyle, and demonstrate excellent exercise tolerance generally tend to live longer than their peers. Some studies show that people of higher net worth in certain geographic locations who have better access to both health care and health care education are likely to live longer. The credibility and weight given to those studies is likely to vary from company to company (and perhaps even from underwriter to underwriter in some companies). Note that, to date, most LE companies have been doing analysis on mainly high net worth individuals. This of course, will now be "fine-tuned" as the demand for LE information increases beyond the traditional ages.

[iii] Some also call this life expectancy evaluation.

[iv] According to Paul A. Seigert, President and CEO, Insurance Studies Institute and co-author of the Tools and Techniques of Life Settlement Planning (National Underwriter Company), "Life expectancy"(LE) is an actuarial calculation and is best represented in formulaic form. An LE is a determination of the average future lifetime of someone currently at age *x*,

and is typically denoted by the symbol *ex*. In formula form, life expectancy is:

$$e_x = \sum_{t=1}^{\infty} {}_t p_x + .5$$

where *tpx* is the probability of living from age *x* to age *x+t*, and includes calculations through the end of the assumed mortality table (age *x=∞*), which is some age greater than 100 for all recent tables. Another way of viewing the life expectancy is this: if 1,000 people were alive at age *x*, then roughly half of them would still be alive at their life expectancy, or age *x + ex*, or roughly half would also have died. (While this is a reasonable analogy — a 50/50 chance to live to one's life expectancy, the theoretical calculation does differ from this by a few months due to the actual shape of the mortality curve so that slightly more than 50 percent of a population will typically die before their life expectancy is reached. This is particularly noticeable for older ages and/or mortality assessed with impairment ratings. See "Mortality Considerations and Their Affect on Portfolio Valuations", March, 2008 by Ed Mohoric, FSA, MAAA and Robert O. Kinney, M.D., FLMI)

[v] It is quite possible for different LE companies to report significantly different (months or even years) expectancies (longer or shorter) due to (a) missed or absent data, (b) differing interpretation of medical examination results, (c) differing determination of the severity of a person's illness, and (d) differences in the presumptions of the actuarial impacts of various medical problems, i.e. in the conversion of rated debits to months of life expectancy.

[vi] Although most (there are three major companies and a few smaller ones). LE companies focus on older (65 and up) individuals, a few will now do evaluations on individuals younger than 60, even as low as 18.

[vii] As used here, a cohort is a group of subjects of the same age studied from a statistical/demographic characteristic viewpoint, i.e. their health and mortality.

[viii] Records will generally will preferably be current within one year from the date of review. Five years of medical records are generally obtained. The

client's "initial intake" and history and physical performed when a person initially visits a new doctor is studied in detail as are social habits such as alcohol and tobacco use. The LE company will want more comprehensive and older information on "events" such as a heart attack or diagnosis of cancer.

[ix] The process can start, depending on the life expectancy company, by fax, overnight carrier, mail, or over the internet. Note that not all life settlement companies will offer individual services to non institutional sources.

[x] Medical Records Information Form and Authorizations for Disclosure of Protected Health Information (HIPAA) must be obtained.

[xi] An abstractor is a person with insurance underwriting experience or a person with medical expertise such as a fourth year medical student, nurse, physician's assistant, or in some cases medical doctors.

[xii] There are others listed at the conclusion of this newsletter.

[xiii] Rules based means that the underwriting system is designed to grade every medical disease in the same manner in order to achieve a high degree of objectivity and repeatability, i.e. the system will evaluate and rate everyone with a given impairment profile in a consistent manner. This should be compared with a "subjective overlay" approach where the underwriter's individual judgment will much more greatly affect the bottom line (but may differ widely from underwriter to underwriter and possibly from case to case). (I am not suggesting or making a value judgment on either approach.)

[xiv] Dr. Barry Reed, co-author of Tools and Techniques of Life Settlement Planning (published recently by The National Underwriter Company).

[xv] According to Dr. Barry Reed in Tools and Techniques of Life Settlement Planning (National Underwriter Company 2008), "The final sum of the credits and debits is linked to the percent mortality which allows for calculating survival of different ages, genders and smoking status based on all medical problems identified. Persons who are sicker are assigned more debits. Credits are assigned for problems which have been minimized. Examples are well controlled uncomplicated diabetics or a person who has coronary artery disease but who has had coronary artery

bypass surgery or an angioplasty." Some individuals, due to their typical relative affluence, better nutrition, high quality health care, and other positive characteristics, often live longer than previously actuarially projected.

[xvi] There is a concept known as "co-morbid" conditions (e.g. a person has a history of both coronary and diabetic conditions) which together have an impact on longevity that is likely to be greater than the sum of the two individually, i.e., the death rates are higher when there is a combination of these two things. In other words the person's risk profile "accumulates."

[xvii] Government figures courtesy NumberCruncher Software (http://www.leimberg.com)

[xviii] The author wishes to acknowledge Longevity Quest, Inc. (www.mylongevityquest.com) who generously provided me with a customized comprehensive evaluation and walked me through the entire process of the life expectancy process. LongevityQuest offers their analysis to consumers age 18 to 79, and is not affiliated or associated with life settlements or life settlement companies. Life expectancy estimates for life settlements have been provided mainly by several major underwriter firms but newer firms have recently entered the market.

[xix] According to The National Center for Health Statistics, the average American life expectancy is 78.8 years. Note, however, that gender, race, health, genetics, lifestyle choices, and even socioeconomic status will have a great impact on the reality in a specific situation.

[xx] A life expectancy estimate is just that, an estimate and can not and does not represent that a given individual will die on or near a projected date. It should be taken as more guidance than gospel. It merely establishes a client-specific date and range of probability of death. For instance, the report might show, based on the population of a group with a medical profile identical to the client, the likely life expectancy curve of the client as compared to the standard curve and show that the expectancy for 85% of the people with a profile identical to the specific client is between the ages of 69 and 87 and that the median life expectancy for the client is 78.4.

[xxi] The most comprehensive analysis performed by ITM TwentyFirst, for example, is currently $325 if all medical records are provided.

[xxii] There is no generally accepted method for reporting actual experience, nor are there any independent audit services for the industry to use when tracking and reporting actual deaths versus estimated deaths. Longevity Quest uses a third party proprietary risk evaluation system that is periodically updated with mortality results.

[xxiii] It is likely that as the life settlements LE business matures in terms of "look-back" records and have greater history tracking the actual results of a given age population, LE companies will learn more and become more precise on estimates. Currently, according to James Magner, co-author of The Tools and Techniques of Life Settlement Planning, there is no generally accepted method for reporting actual experience, nor are there any independent audit services for the life settlements LE industry to use when tracking and reporting actual deaths versus estimated deaths. But this is likely to change and in the future, mandatory reporting by life settlements LE companies to state regulators across the country is highly likely.

[xxiv] The older and more established life settlements LE firms track actual deaths of the people for whom they have issued estimated LE reports and can use those statistics to check and update their methodology. But even within this narrow configuration, such LE estimates have varied – in some cases widely – illustrating that the industry process is – overall - still somewhat an art rather than a thoroughly repeatable and demonstrable science.

[xxv] The average life expectancy of a person selling life insurance to a life settlement company approximates 10 years.

[xxvi] James Magner in Tools & Techniques of Life Settlement Planning points out that, " Because older-age underwriting and mortality on life settlements is evolving daily, careful practitioners should ask whether the provider's LEs have been independently verified by an actuarial consulting firm. The accuracy and reliability of life expectancy reports is the subject of some controversy within the settlement industry. According to published reports, a top executive of a major provider allegedly put pressure on an underwriting company to shorten life expectancy reports, and allegedly sent a gift to its then-chief underwriter. See D.M. Bayston, "Life Settlement Risks – Lessons from the Sub-Prime Mortgage Market", October 23, 2007, See also http://www.milliman.com/expertise/life-

financial/publications/published/pdfs/life-settlement-mortality-considerations-PA-03-01-08.pdf

[xxvii] Originally called the "Golden Rule," this theorem in probability developed by Jacob Bernoulli in 1713 and refined by S.D. Poisson in 18935 as "The Law of Large Numbers" describes the long-term stability of the mean of a random variable. In a nutshell, given a random variable with a finite expected value, as the number of observations increases, their mean will tend to approach the expected value. This will work only when a large number of observations is considered.

[xxviii] Since an LE is a snap-shot picture, at some point, say every three years, professionals may consider obtaining "follow-up" LEs – just as they now review later balance sheets and profit-and loss statements. Also, knowing the LE is created to provide an estimate as to longevity expectancy at a specific period of time should alert the planner to yet another advantage; in many cases the report itself will note actions the client can take to change the future. For instance, by exercising more vigorously, losing weight, changing diet (e.g. greater avoidance of trans-fats or restricting sugar intake), stopping smoking, or taking a proscribed course of medicine, it may be possible for the client to prevent or delay the progression of a problem – and thereby positively impact either the time remaining and/or significantly enhance the quality as well as the length of that time. The LE can be looked at as an opportunity and "call to action" on many positive levels.

[xxix] Full retirement age (FRA) is 65 for persons born before 1938, gradually increasing to 67 for those born in 1960 and later. Early retirement results in a reduced Social Security benefit. The question is, will that monthly reduction in amount be more than offset by the additional years of benefits - if the client dies at age 70, or even age 75? On the other hand, suppose the probability is that the client's death will not occur until after age 80 or 85. The longer the expected lifespan, the more it makes sense to defer collecting Social Security benefits until at or even after age 65. Overall payments should be actuarially equivalent regardless of whether a person takes reduced benefits but gets them longer or waits and gets full benefits over a shorter number of years. The real world fallacy in that basic assumption is that it is assumed (wrongly in all too many cases) that the client will live an "average" life expectancy. There are, of course, other factors which must enter the decision-making process including: (1) a

client's income from earnings while working may be adequate, and a deferral will increase benefits when the income from Social Security is needed more, (2) more benefits may be subject to income tax – and therefore lost - if they are received while still receiving income from working, and a deferral of benefits results in an increase in the benefit payable to a widow(er).

xxx Consider how much better a nursing home company could price their "products" if an LCR could be obtained on their potential clients – and perhaps both parties could benefit – because – for a relatively small cost - the price could be adjusted to more accurately reflect reality. New nursing home options could be much more competitively priced – if based on an individual applicant's realistic longevity.

xxxi See A. Gespass, "Longevity Insurance: Financial Product for the Ages", Journal of Financial Planning, 2008.

xxxii Refund-of-premium provisions and/or option for increasing annuity payments are available for additional fees.

xxxiii From the viewpoint of the insurance company, an LE would help to decide if such coverage should be offered and issued.

xxxiv See S. Leimberg, M. Weinberg, B. Weinberg, C. Callahan, "When to Hold and When to Fold," Estate Planning, Sept. 2008.

xxxv It is common in a divorce situation for a court to determine the present value of the worker's pension and other retirement benefits and award the non-worker divorcing spouse a lump sum interest in cash or other property. This is called the immediate offset method. The spouse receives an interest in other property owned by the parties equal to the interest in the covered employee's pension benefit, while the pension holder retains full ownership rights to the retirement benefits. The primary advantage of this method, according to the book, Tools and Techniques of Divorce Planning, is that "it completely resolves the issue of dividing the pension at the time of the divorce. The benefits are divided, and each party walks away with their respective portion at the time of the divorce. By using this method all issues are immediately resolved, thereby eliminating the possibility of future litigation." The problem is the blind assumption that the pension holder will live long enough to collect his/her pension; the present

value of future benefits must be calculated using actuarial assumptions relative to the pension holder's expected life span. Those actuarial assumptions measure the probability that the pension holder will reach retirement age, thus entitling him/her to benefits and the length of time beyond his/her retirement date that benefits are expected to be received. But what happens if the pension holder dies prematurely – at least prematurely according to the mortality table being used to compute life expectancy? Clearly, the non-working spouse - at the time of divorce - would have received an interest in the retirement benefits which, due to the premature death of the pension holder, were never actually received by the pension holder. The pension holder ends up having to trade current dollars for future dollars which bear a great risk of never being received.

[xxxvi] Dr. Charlotte Lee, 2008 Medical Director for 21st Services/ITM TwentyFirst.

[xxxvii] A few take into account one's engagement in activities such as teeth flossing while others consider such safety issues as using seat belts.

[xxxviii] It is important that no documented medical history be ignored, regardless of whether it will lengthen or shorten a person's LE. The goal should not be either "long" or "short" but rather to be as accurate as possible given the relatively young state of the life expectancy art.

[xxxix] "Yes, I know there are sites where one can enter such information as how many beers you drink, whether you smoke, how fat you are, that you drive your car without the seat belt buckled…But I have a variety of medical conditions and can't seem to find any expectancy information." Reader comment quoted by columnist Scott Burns, Boston Globe, December 1, 2007

[xl] It's also important to ask how lifestyle factors impact on the ultimate life expectancy prediction or how valid they are in drawing conclusions about the long-term impact of these behaviors.

[xli] "One on-line calculator never asked if the individual taking the "test" had been diagnosed with cancer or some other such serious life shortening factor. It's unlikely that any of these on-line models are based on any sound evidence or any model of multiple variable analysis that puts all the

factors together with the proper weight given to each (and to combinations of issues). Nor is it probable that any are based on any substantial real data.

xlii However, online lifespan calculators do have some benefit for the client personally, that of creating more awareness of the importance of health and lifestyle. For example, someone who have never had a cholesterol check before might be prompted (scared into?) a medical check-up and analysis. Certainly, on-line calculators drive home the undisputed (except perhaps by tobacco companies) fact that smoking is a major factor in shortening life expectancy – if in no other way than by asking the question, "Do you smoke?" Likewise, on-line calculators that ask about seatbelt usage remind users of the importance of buckling up.

xliii See J. Pennell, "Pennell on Death and Dying," LISI Estate Planning Newsletter # 811 (April 12, 2005); S. Leimberg, Death – Sensitization for the Estate Planner, Journal of the American Society of Chartered Life Underwriters (Journal of Society of Financial Services Professionals), 1976; "Dying and Death – What Every Financial Services Professional Needs to Know,", LISI Estate Planning Newsletter # 806 (March 29, 2005). The works of the following individuals will be of great help: Thomas L. Shaffer , Ignace Lepp , Simonne. deBeauvoir , E. Kubler-Ross, Stewart Alsop , Jack Lynch, Ed Schlesinger, and Gerald Graffner are particularly helpful on the psychology of death and dying. Three additional books are Plotnick and Leimberg, HOW TO SETTLE AN ESTATE , Armstrong and Donahue, ON YOUR OWN, and Caine, BEING A WIDOW. The first is available by calling 610 924 0515. All of these are also available from http://www.amazon.com . See also "Being Dead is No Excuse: The Official Southern Ladies Guide to Hosting the Perfect Funeral," Gayden Metcalfe, Charlotte Hays $13.57 at Amazon.com; "A Good Death - Challenges, Choices and Care Options" Charles Meyer (Episcopal priest. First director of pastoral care at St. David's, 1980.) $6.95, at St. David's Medical Center gift shop, Austin, Texas; 512.340.4372, March 29, 2005; "Surviving Death" Charles Meyer Twenty-third Publications, Second printing, 1988 ISBN 0-89622-364-7 $9.95, at St. David's Medical Center gift shop, Austin, Texas; 512.340.4372, March 29, 2005; "SURVIVING DEATH" (1988) Becker, Ernest. The Denial of Death. New York: The Free Press, 1973. Bugen, Lawrence. Death and Dying: Theory, Research and Practice. Dubuque, Iowa: William C. Brown

Publishers, 1979; Shelp, Earl E., and Ronald H. Sunderland. AIDS and the Church. Philadelphia: The Westminister Press, 1987; laikeu, Karl. Crisis Intervention: A Handbook for Practice and Research. Boston: Allyn and Bacon, 1983; Slaikeu, Karl, and Steve Lawhead. Up From The Ashes: How to Survive and Grow Through Personal Crisis. Grand Rapids, Michigan: Zondervan Publishing House, 1987; Timmerman, Joan. Widowed Persons Service, AARP, 1909 K Street, N.W. Washington, D.C. 20049; National Hospice Office, Suite 307, 1901 North Fort Meyer Drive Arlington VA 22209; The Living Bank, P.O. Box 6725, Houston TX 77265; "As Long as There Is Life" (film), The Hospice Institute, 765 Prospect Street, New Haven CT 06511; Society for the Right to Die, 250 West 57th Street, New York NY 10107.

[xliv] I was surprised to find that a condition I thought would be a life-shorting factor was judged as relatively benign. I also learned that some medical conditions, while sounding and seeming life shortening – are "standard for age". On the other hand, a seemingly innocuous medical problem was considered much more of a "debit." In many cases a client's doctor will not apprise a patient of the life span implications of a condition or more likely the combination of conditions that have a greater effect than would be expected from the sum of the parts. Furthermore, I found out that each year a person survives may lessen the impact of certain medical conditions. For instance, a heart condition may be less of a problem as a person ages – and therefore the debits assigned to it will be given less of a weight. The LE brings a new perspective to these things.

[xlv] This is much like the classic stages through which a dying person passes and survivors react, denial, anger, bargaining, depression, and acceptance discussed in the classic text, Death and Dying by Elizabeth Kubler-Ross.

[xlvi] Hopefully, LE companies will provide some "partnering" assistance to professionals in not only in identifying how an LE can be used as a planning tool but also in interpreting results and tactfully and appropriately explaining their implications to clients.