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# Trends In Longevity And Carrier Underwriting Standards

Human beings, like all mammals, are bound by biological limitations imposed by nature. For example, every mammal, no matter what size, is issued in nature about 1.5 billion heartbeats. This same rule also applies to metabolism rate. Shrews that live a year will have a heart and metabolism rate 20 times faster than humans. In mammals, each doubling of body mass leads to about a 16 percent increase in lifespan. Consequently, elephants, who weigh almost four tons, live up to 70 years, while shrews, at only several ounces, live only a few years.

Humans, at one-twentieth the scale of elephants, no longer fit this model. Our ability to harness technology and medical science to treat disease and control our environment has had an enormous impact on the length and quality of human lifespan.

Thanks to groundbreaking advances in medical science, the average human lifespan may potentially be even longer. During the past century, life expectancy has been going up at a rate of six hours a day, every day. Since the mid-1940s, the average age to which a U.S. citizen can expect to survive has risen by 10 years. In 1944 it was 70, and now it's close to 80. Currently, the world has 12,000 centenarians, four times more than in the 1960s, and that number could rise to 100,000 by the end of the century.

## Factors Impacting Lifespan

Human lifespan is a function of several factors: family history, lifestyle, diet and exercise, effective use of health care, and

the discipline and education to follow the advice of a doctor. *In a world of ever-advancing medicine and treatments, a person capable of effectively utilizing health care advances will have an advantage in achieving better outcomes and living longer.*

For some, there may not be a correlation between this generation's longevity versus the last generation. Almost imperceptibly the combination of medical breakthroughs, improvements in medical procedures and diet and exercise have all contributed to extending lifespans. In 2007, the *New England Journal of Medicine* published the results of a 20-year study on death rates from coronary heart disease, and the results were astounding. The age-adjusted death rate for coronary heart disease fell from 542.9 to 266.8 deaths per 100,000 among men—a 50 percent reduction in coronary heart disease deaths and the same applies to women.

Approximately 47 percent of the decrease was attributed to treatments, while about 44 percent was attributed to changes in risk factors, including reductions in total cholesterol (24 percent), systolic blood pressure (20 percent), and lifestyle changes (17 percent). Unfortunately, these reductions were partially offset by increases in body mass index and diabetes, which increased deaths by 8 and 10 percent, respectively.

Some of those improvements in risk factors can be attributed to new drugs, such as statins introduced in the mid-1980s, which lower cholesterol. Cholesterol is the main constituent of atheroma, the fatty lumps in the wall of arteries that occur in athero-

sclerosis that, when ruptured, cause the majority of heart attacks. The implication is that by lowering cholesterol, the onset of atherosclerosis can be delayed.

Other drugs that became available in the mid-1980s were ACE inhibitors (which relax blood vessels), used to manage high blood pressure. In the mid-1990s, the blood thinner Plavix was introduced to manage coronary disease risks. It works by preventing the buildup of blood clotting agents around plaque deposits in the arteries and, unlike Warfarin, doesn't require testing of protime levels (time for blood to clot).

### The Human Aging Process

**As people live longer, the likelihood that they will be battling chronic illnesses increases.** Success in treating and preventing coronary disease has resulted in an increase of congestive heart failure (CHF) cases. Even if a person succeeds in avoiding coronary disease, many will ultimately develop CHF. There are more than five million cases of CHF in the United States alone.

CHF typically occurs in older people approaching the latter stage of life. The most common cause is change in the heart muscle causing either an enlarged heart, a weakening of the heart wall or a thickening of the heart wall. The outcome is the same—the heart becomes less efficient at pumping blood. The most common symptoms can range from shortness of breath; fluid retention; swelling of the legs, ankles and feet; and fluid in the lungs.

### The Medical Health Care/ Patient-Doctor Exchange

The coronary disease study clearly demonstrates the significant contribution of medical care in increasing longevity, in spite of some significant shortcomings in the patient-doctor exchange. Every medical and nursing student is taught the following passage: "Dogs bite, patients lie."

It's an attempt to underscore to future doctors and nurses that they can't always accept at face value what a patient says. Deception between patient and doctor can run both ways, such as benign withholding

of relevant medical information by doctors, who intentionally withhold significant information because they don't want to worry the patient unnecessarily—since it most likely won't change anything. This can also be the root issue with patients who sometimes disadvantage themselves when faced with the diagnosis of a major illness. Some may refuse to confront their disease and may go into denial or decide to pursue alternative treatment of questionable efficacy.

A classic case of this is Steve Jobs' reaction to being diagnosed with pancreatic cancer. In spite of having access to one of the best medical facilities in the world (Stanford Medical), he elected to pursue alternative treatment based on some version of macrobiotics, a quasi-religious (metaphysical) philosophy that advocates a semi-vegetarian diet and meditation. "Macrobiotic" means "way of long life." Followers believe that macrobiotic diets can maintain general health or can even prevent and "relieve" cancer and other diseases. This resulted in Jobs' delaying medical treatment for nine months, while early and aggressive treatment of cancer is usually crucial in determining survivable outcomes.

### The Patient-Doctor Communication Gap

In a surprising report from the *Archives of Internal Medicine*, we learn that most hospitalized patients (82 percent) could not accurately name the physician responsible for their care, and almost half of the patients did not even know their diagnosis or why they had been admitted. This in spite of researchers polling results of physicians, 67 percent of whom thought their patients knew their name and 77 percent of whom thought their patients "understood their diagnoses at least somewhat well."

Ninety percent of the patients said they received a new medication and didn't know the side effects. Although 98 percent of physicians thought they had discussed their patients' fears and anxieties with them, only 54 percent of patients thought they had.

The researchers from Yale University School of Medicine and Waterbury Hospital concluded: "Significant differences

exist between patients' and physicians' impressions about patient knowledge and inpatient care received." Moreover, responses didn't significantly differ by sex, age, race, language or payment source for the patients, or level and type of training for the doctors.

From all appearances, patient-doctor exchanges suffer from severe limitations. Some possible explanations can be that patients are stressed while hospitalized and do not remember; they are heavily medicated, which affects their ability to learn and remember; or doctors are too rushed and deliver information too quickly to be comprehended.

### Challenges to Achieving Better Outcomes

Evidence suggests that patients who understand their conditions, are educated and have good rapport with their physicians, have better outcomes. Medical students are taught to do no harm, which can result in doctors sometimes being too conservative in exercising preventive measures. For example, statin drugs have had a significant impact on coronary disease outcomes, yet most doctors, historically, have been reluctant to prescribe statins to prevent the onset of the disease.

We take our health for granted. Many, including executives in their mid- to late-fifties, view their demise from cancer, heart disease or diabetes at some immeasurably distant point in time (even if there is an inherited component). This view by patients, combined with doctors' inherent reluctance to aggressively apply preventive care, can result in less than optimum long term medical outcomes.

While we have the medical technology that can extend functional human lifespans, sophisticated communication and cooperation between the patient and doctor is still required. Gaps in patient-doctor exchange can often lead to a patient's failing to implement appropriate daily living protocol that may include specialized diets, exercise and consistent intake of medications at the appropriate times and follow-up testing to treat chronic illness.

### Carrier Underwriting Standards Largely Unchanged

Insurers use life expectancies (LE) to price life policy products. Carrier mortality tables are designed to provide guidelines of LEs of cohort groups. Carrier underwriters are quick to embrace advances in diagnostic medicine to define the health status and impairments of insurance candidates or to better determine the clinical course of a pre-existing illness in their efforts to prognosticate the risk of candidates with known disease and impairments.

Alternatively, life insurers are not quick to embrace the impact of new therapies and treatments in their underwriting. Instead, they tend to rely on factors that have shown over time to be reasonably accurate at predicting risk.

Life expectancy mortality tables used to price policies in the secondary market clearly demonstrate that successful, highly-educated people who are proactive in managing their health can achieve significantly better life span outcomes. Even though we have witnessed substantial advances in medical treatment, procedures and drug therapy, and observed that certain population cohorts are better at achieving long term wellness outcomes, as a general rule we have not seen this reflected in carrier underwriting.

### Trends in Carrier Underwriting

The carrier underwriting process is based on the law of large numbers. Alternatively, we know from various mortality tables that certain cohorts of a population can and will achieve greater longevity.

Carrier underwriters are quick to exploit advances in medical testing to facilitate underwriting, but from a treatment and preventive measure perspective, carriers have been relatively slow to adopt a program of underwriting considerations—and somewhat reluctant to apply credits for preventive health care for its effectiveness.

Some life insurance underwriters are transforming their consideration of heart disease and several forms of cancer which no longer carry the “death markers” they

### Case 1: Male, age 64, real estate investor, net worth in excess of \$18 million

The client is 6 feet tall and weighs 195 pounds. From a physical appearance, he is relatively lean and in good shape, with great energy and conditioning. From the backyard of his home, he hikes the California mountains three to four times a week. He visits his doctor regularly, and yet, after a review of his medical files, he was borderline insurable.

The client had an abnormal EKG, suggesting damage to the left ventricular region of his heart. He has a history of hyperlipidemia (high cholesterol), long term hypertension, and stenosis (partial blockage) of both the left and right carotid arteries leading to the brain.

Based on our advice, the client went to a leading medical center for a heart evaluation. They performed an EKG and scan of his carotid arteries. His EKG suggested an inferior myocardial infarction of the left ventricular region of his heart. A duplex scan of his neck region showed stenosis of both his left and right carotid arteries, up to 70 percent blockage. The medical center effectively red-flagged his condition when it had gone largely unnoticed by his primary care group.

When his primary care group was presented with the results, they conducted a thallium stress test/myocardial perfusion scan, followed by a consult with a specialist brought in to review the results of the scan. They confirmed the medical center’s findings. However, in their view, given his lack of symptoms and exercise tolerance, he could be medically managed and no medical procedure was warranted.

We prepared a detailed summary of the client’s medical history and marshalled arguments to counter and delineate the medical findings to counter some medical speculation in his attending physician records. We directly engaged underwriters at selected carriers who were perceived to be more flexible in evaluating coronary disease impairments.

The results were that the client was declined outright by some carriers, while other carriers wanted more tests done before making a determination. After several conferences, we were able to get Table 6 underwriting from one of the carriers.

once had. A couple of carriers have made significant revisions in their life insurance underwriting guidelines. For example, people who have battled breast cancer, based on a review of recent medical studies, can have very good long term outcomes. Consequently, more breast cancer survivors are likely to be eligible for life insurance coverage even if they have not been in remission for five years or more.

Some insurance companies realize that serious health problems that used to frequently lead to death are increasingly treatable and manageable, and they are adjusting their underwriting practices to offer coverage to previously uninsurable people. On the flip side, many people are now living much longer than they would

have before advances in modern medicine, but they are not necessarily taking this into account in their retirement planning.

In 2012, a major carrier announced an underwriting program that takes into account a prospective insured’s favorable lifestyle factors. This proprietary program applies only to permanent life insurance products (both individual and survivorship). Under the program, applicants with favorable health and lifestyle factors can garner improved underwriting rate classification.

Based on their underwriting research, a few carriers have concluded that some potential applicants have access to and have adopted a broader range of health and lifestyle behaviors than ever before. Some applicants have incorporated in their

daily living routine exercise, low fat diet, stress management and other preventive health care choices. They also have access to health care that places greater emphasis on preventive care.

Given the broad range in personal behaviors of clients, one carrier felt the need to score the benefits of some of these health care choices in its underwriting methodology. Applicants can now directly translate the benefits of their health care choices into greater savings through a broader underwriting perspective.

Specifically, the new program offers potential class upgrades on standard or

better risks for clients ages 20 to 65, and potential upgrades on certain substandard decisions to a maximum of standard for clients ages 18 to 70. The carrier's acknowledgement of these health choices rewards prospective insurance clients.

Given the evolving underwriting strategies of some carriers, there is opportunity to achieve better underwriting results for a client, yet there still remains a divergence in underwriting results. This only serves to underscore the art and craft necessary to properly underwrite a case and why it makes sense to employ an underwriting specialist. 🌐

### Case 2: Male, age 52, managing partner of a CPA firm, net worth in excess of \$5 million

The client is 5' 10" tall and weighs 190 pounds. He is relatively fit, with a waist of 36 inches, but suffers from hyperlipidemia. At age 48, he had two stents put in his right coronary artery. He has a normal EKG and visits his doctor regularly but, given his history at such an early age, was viewed to be borderline insurable.

We prepared a summary of the client's medical records and history, but we also reviewed the client's daily living protocol. Studies have shown that people who suffer from hyperlipidemia can have better outcomes if they embrace a very aggressive program of low fat diet, exercise and aggressive medication treatment. In our review, we were able to conclude that the client had fully adopted an aggressive daily living protocol, as evidenced by very favorable blood panel results.

Again, the results were that the client was declined outright by some carriers, but after several conferences with underwriting teams, we were able to get Table 6 underwriting from one of the carriers in spite of his impairment.