On August 9, 2011, SCOR SE, a global reinsurer with offices in more than 31 countries, acquired substantially all of the life reinsurance business, operations and staff of Transamerica Reinsurance, the life reinsurance division of the AEGON companies. The business of Transamerica Reinsurance will now be conducted through the SCOR Global Life companies, and Transamerica Reinsurance is no longer affiliated with the AEGON companies.

While articles, treaties and some historic materials may continue to bear the name Transamerica, AEGON is no longer producing new reinsurance business.

Archive Materials

Special Report: Underwriting Trends for Older Age Applicants
Reprinted from the March 2008 Messenger newsletter

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Numerous accounts of the aging of America have been published. The U.S. Census Bureau estimates that the number of people aged 65 or older will more than double, to over 70 million, by 2035, and with continuing mortality developments, many of these individuals are expected to live longer. The expected demand for financial products has spurred many life insurers to expand the availability of life insurance and related products to older individuals.

However, underwriting seniors using a traditional approach raises a number of challenges. The easiest of these may require a simple tweak to acceptable test-result criteria; other challenges raise questions about the validity of some medical tests at all for older applicants. This is especially true when offering preferred products is considered.

As a result, underwriters are investigating tests and other qualitative information that may help in assessing older age risks. Among the tests being considered are cognitive and functional tests and additional lab tests. Financial underwriting is also increasing, especially in light of life settlements and stranger-originated life insurance (STOLI).

Due to the increased interest in the senior market, this underwriting trends report focuses on the challenges and advances in underwriting older age applicants. The following issues will be examined:

• Why the industry can’t ignore this market
• The effectiveness of traditional underwriting tools in assessing preferred risk at older ages
• Alternative or complementary tests to enhance older-age underwriting for preferred risk
• Additional tools to assess risk at older ages
• Financial underwriting at older ages

Following our Customers
Reports and news articles discuss the “graying of America,” a trend caused by aging Baby Boomers and the shrinking size of the nuclear family. This trend is pushing up the median age of individuals in the United States. It should not be surprising then, that the average age of life insurance applicants is also increasing.
As the median age in the United States increases, life expectancy also continues to increase. Therefore, companies have adjusted the upper thresholds associated with their products. Whereas policies even a decade ago commonly offered no or limited coverage to applicants over the age of 65 or 70, companies now are accepting multi-million dollar applications from individuals of 75, 80 or even 90 years in some cases.

Implications are numerous. But from a marketing perspective, it is important to acknowledge that insurers are attempting to service a growing segment of the community, a segment that has amassed – it is hoped – substantial assets for protection. In essence, life insurers are merely going to where their customers are moving.

The underwriting profession is exploring various techniques in order to develop an optimal underwriting process for older applicants. It should be noted that consensus on best practices does not currently exist. Some in the underwriting profession may feel that the status quo is appropriate, perhaps with some tweaking of the parameters. Others may view emerging tests as the way toward more accurate and appropriate risk assessment for seniors. Many underwriters and medical directors likely fall somewhere in between, recommending a blending of the old with the new.

The next section examines underwriting older age customers, examining specifically:
- The challenges of medical information assessment for the elderly
- How underwriting for preferred changes for older applicants, including a discussion on the selection period for the elderly
- How traditional medical underwriting tools for preferred change for older-age applicants
- Ways underwriters are experimenting in enhancing the underwriting process for seniors

Older Age Underwriting Challenges
When applied to elderly applicants, traditional medical underwriting procedures can result in misleading risk assessments. Healthy seniors may be denied coverage or classified at a higher risk, because old-age considerations are not factored into the underwriting process. The result could be lost business opportunities for a growing market segment.

The challenges in underwriting older age applicants often revolve around too much information. By their nature, older individuals tend to have more health-related issues. We expect to see seniors exhibit certain conditions such as arthritis or hypertension, which can affect underwriting results both directly and indirectly (e.g., through affecting the prevalence of other ailments). The key is to assess the information appropriately given the age of the applicant.

Underwriting for Preferred at Older Ages
Underwriting preferred risk is a comparatively new discipline across all ages, and it is even less time-tested at the older ages. As a result, many insurers do not have substantial data to support classification of older individuals, especially at the oldest age groups (age 85 and older).

The question of offering preferred status to older-age applicants has two basic considerations: the range of mortality at older ages and the persistence of any selection process at those ages.

You’re Healthy – or Not
Evidence suggests that the case for offering preferred at older ages is as valid as for younger ages. One school of thought argues that by the time an individual has reached an older age, family history, accidents, lifestyle and habits have all played their role in determining that person’s mortality. In addition, life expectancy increases as a person ages. To some, these considerations point to a clear delineation between those seniors who should be offered preferred status and those who should not.

In older ages, this mortality distribution results in a spreading out of the range of mortality among the elderly (see an illustration of this in Figure 1). In contrast to underwriting at middle ages, the resulting overlap between classes – and therefore the risk of misclassifying a risk – may be much lower in older-age groups.
Figure 1: The “Stretched” Mortality Distribution Curve at Older Ages
Figure 1 illustrates the “stretching” of mortality distribution that appears to occur in older age groups during the selection period. The standard deviation is much higher than in younger age groups. (For illustrative purposes only.)

**Does Preferred Wear Off?**
However, data also appears to show that the selection period at older ages wears off much more quickly than initial speculations. If this is the case, the mortality rates for standard and preferred will converge more rapidly at older ages. Some estimates point to the selection period wearing off within five to ten years at ages 80 and above.

**The Role of Traditional Underwriting Tools**
Evidence suggests that traditional underwriting tools for preferred risk selection lose their effectiveness at older ages. These include:
- Family history
- Cholesterol
- Body mass
- Smoking history
- Blood pressure

**Family history** is usually used to identify markers for higher mortality. The underwriter looks for evidence such as cancer history, cardiac disease or alcohol or drug abuse. For an older applicant, any of these family-related markers will have likely emerged by the time of application, so its effectiveness as a risk measurement tool is weakened.

However, family history remains a useful factor. Its significance emerges when examining longevity in family history instead of mortality. An applicant whose parents lived long lives will more likely do the same when compared to other applicants whose family history is different.

**Cholesterol** likewise should be examined from a different viewpoint. In general, most underwriting decisions for preferred outline specific maximum cholesterol levels to be allowed. As an individual ages, cholesterol tends to trend upward slightly, and many companies recognize this through revising allowable levels upwards by age bands.
However, the more important measurement for senior ages regards LDL count, so companies might be better served by incorporating an LDL/total-cholesterol ratio factor into their medical review. Still, recent studies raise questions about the usefulness of cholesterol as a preferred underwriting tool at all for older-age applicants.

Body mass likewise requires a different perspective. In the past, underwriters have followed strict guidelines on weight and body mass index, or a weight-to-height ratio. In traditional situations, underwriters view values slightly under the average more favorably than above-average scores.

For the senior market, however, below-average results may mask an underlying medical condition which may signal deteriorating mortality. Therefore, underwriters should view slightly above-average body mass ratios more favorably than below-average values.

Smoking history becomes more complex at older ages. The traditional approach is to treat current tobacco users or those who have ceased use within a predetermined time period (e.g., two years from date of application) as a smoker/tobacco risk and apply the appropriate risk premium to any policy issued.

For seniors with a history of tobacco use, two considerations have emerged.
1. An older applicant with a smoking history is likely to have been a smoker for decades. The traditional underwriting approach is less reliable for someone with a 40-year smoking history. While lung tissue has been shown to be able to repair itself during smoking cessation – even over a period of one to two years – the damage done over a lifetime is likely impossible to completely repair over the senior’s remaining life expectancy.
2. Smoking is the leading cause of lung cancer and emphysema and contributes to high blood pressure and coronary disease. However, some individuals’ physiology allows them to naturally fight off such effects. Therefore, if a person with a long smoking history exhibits none of the traditional problems associated with the habit, he or she is less likely to contract diseases related to tobacco use and have his mortality suffer as a result. In such a rare circumstance, penalizing the applicant for a smoking history that has been more or less benign may be debatable.

Blood pressure tends to be one of the primary indicators of preferred risk that remains effective. However, blood pressure tends to rise as individuals age, so upward adjustments to qualifying results should and do take place. Measuring pulse pressure along with more traditional blood pressure measurements can also provide valuable information. Pulse pressure, taken by subtracting the diastolic pressure from systolic pressure, can affect arteries and ventricles, and therefore can be a valuable indicator of cardiovascular health.

As a result of the differences mentioned above, insurers are seeking new tools to help in the risk selection process for older ages in general, and for preferred specifically. Many of these tools seem to hold promise, but their effectiveness today still makes them useful primarily in an augmenting role for traditional underwriting, not as a replacement.

Emerging Tools: Cognitive and Function Testing
For older age underwriting, many insurers are exploring the use of cognitive testing to complement – or even supplant – the traditional underwriting process. Still, many questions have yet to be answered sufficiently to validate the accuracy of this process.

Dozens of different tests exist in the cognitive arena. For example, in the Delayed Word Recall (DWR) Test an individual is told a series of words, which the subject repeats and uses in a sentence. The test subject then recites back the words from memory at a later time, for example, after 15 minutes. In the Clock Test, subjects are given a sheet of paper with a blank clock face and asked to place the hours on the clock face and draw hour and minute hands to reflect a certain time (see Figure 2 for a list of common cognitive tests).
The Chair Rise Test is an example of a functional test. Functional tests primarily seek to provide information on the test subject’s physical condition, such as motor skills, stamina and balance, but can also provide insight to certain cognitive abilities, such as responding to commands, understanding, and mental clarity (see Figure 3 for a list of common functional tests).
Figure 3: Common Functional Tests
Source: “Report of the Society of Actuaries Older Age Underwriting Practices Survey Subcommittee,” July 2007, based on responses from 24 reporting companies. Frequency includes companies that either currently use or plan to use the described test.

All of these tests can shed light on an applicant’s mental acuity and stamina, but translating test results into a quantifiable risk assessment remains uncertain. For example, in the DWR a score of nine out of ten or two out of ten may be telling but difficult to translate into a risk classification. Moreover, a score of five or six out of ten would be of even less value. Similarly, in administering the clock test a 2:30 drawing for a seven-o’clock request may have serious implications, but how that should be interpreted in classifying risk is uncertain at best. See Figure 2 for an example of the results of one clock draw test.

Figure 4: Sample Result of Clock Draw Test
The subject was asked to draw a clock face with hourly numbers, and place the minute and hour hands to correspond to a time of 11:10. How should an underwriter classify this applicant based on the drawing?

Other challenges for such tests exist. One key issue is ensuring that the tests are delivered consistently to obtain comparable results. If in one case an individual administers a DWR test with a ten-minute delay, overall the test’s value becomes less effective if a different examiner used a 20-minute delay. In the chair rise test, different chair heights can cloud results.

Another key drawback of the tests is that their results are at least partly affected by the subject’s mental state at the time of the test. This would require the underwriter or test administrator to make a judgment call to determine if a subject is distracted or is unusually acute on the day the test is delivered.
After all everyone has bad days and good days, and the risk for an underwriter would be assessing an applicant’s cognitive abilities when the applicant is having “a really good day.”

Many companies are conducting studies of various cognitive tests and their effectiveness in underwriting using, for example, long-term care data as a proxy. But while the results of cognitive testing at extreme scores may indicate better or worse mortality, quantifying those results in a traditional underwriting and pricing process is still problematic at best.

**Additional Tools for Underwriting Older Ages**

Traditional medical underwriting for older individuals can alternatively be enhanced by more qualitative information on the applicant’s capacity for physical activity. Information on the ability to walk unimpaired, the number of falls the applicant experiences and the number of activities of daily living the applicant can independently engage in can provide valuable information not only on the applicant’s underlying health (age-related chronic problems notwithstanding) but also on the applicant’s mental faculties.

Application questions regarding an applicant’s exercise habits can provide increasingly valuable information about older-age applicants. Questions about the type of exercise, frequency and use of trainers or fitness clubs provide not only the physiological information but also some sociological and mental information as well. Using gyms or instructors requires interaction. In many such circumstances exercise becomes as much of a socializing as a fitness activity. There is strong evidence that shows that more social seniors tend to be healthier and thus generally exhibit better mortality.

Outlook on life for older-age persons is also a strong indicator of an individual’s overall health. An optimist is more likely to more fully recover from minor illnesses and have a longer life expectancy than a person whose outlook is neutral or negative – even if they exhibit the same mental and physical health conditions.

However, as with any subjective questions in an application, answers may be difficult for a home office underwriter to verify. As discussed more in detail below, this leads to opportunities for abuse among producers, especially those also involved in life settlements.

Further medical-related information can be beneficial. Information on regular doctor’s visits can help ensure that the applicant/proposed-insured will receive preventive care, resulting in generally better outcomes for illnesses with high co-morbidity rates, such as pneumonia or diabetes. Additional lab tests, or tests with values different from traditional values, are also used (see Figure 5).

![Figure 5: Common Lab Tests with Changed Risk Values for Older Ages](image-url)


The physiology of many older individuals is not particularly accommodating to change. More routine illnesses, such as influenza, have more extreme effects in the oldest and youngest people. A middle-aged person might take an over-the-counter medication to help treat symptoms arising from the flu; in many cases the same symptoms will lead to hospitalization for older individuals. This, in turn, can lead to exposure to other diseases and compound the patient’s deteriorating condition, in the worst case leading to death. Understanding the impact of co-morbidity is not an easy process, but underwriters must contemplate its significance when assessing older-age risks.
Avocations, normally a sign of greater mortality risk, can shed light on an older-age applicant’s stamina and mental faculties. Underwriters should view activities such as scuba diving or piloting aircraft as a sign of more robust cardiovascular health and (in the case of piloting aircraft) high mental acuity. In fact, an active lifestyle in general should be viewed as a positive indicator.

Lastly, an applicant’s motivations for buying coverage can provide valuable insight. No one likes to be confronted with their own mortality, and this is especially true for many seniors. Understanding why the applicant wants coverage will help shed light on many of the other factors mentioned above, especially outlook on life. But it is also important for the life insurer to understand an applicant’s behavior from a financial perspective.

**Financial Underwriting at Older Ages**

Seeking coverage late in life is an expensive prospect. This fact, combined with the consideration of mortality, may be signs of adverse selection: the applicant knows that problems currently exist or have a greater likelihood of emerging in the near future.

To be sure, many valid reasons exist for seeking coverage later in life, such as term life replacement, succession issues or estate protection. This is especially true with the uncertain fate of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA). If EGTRRA is allowed to sunset in 2011, estate tax rates and the unified tax credit will reset to 2001 levels at 55 percent and $1 million, respectively. This will likely prompt great interest in life insurance as an estate protection tool among seniors.

But with the emergence of life settlements – and especially the STOLI variant – it is in the best interest of the life insurer to closely examine why an elderly person may now seek millions of dollars in coverage. This is made more important when considering that the top two products marketed to older-age clients are permanent policies (whole life and UL).

A key issue is the existence of insurable interest. Is the individual seeking wealth protection, for example, using the coverage to ensure that an estate passes to heirs in tact (especially if it contains highly illiquid assets such as a farm or family business)? Or is the individual essentially seeking wealth creation, purchasing the coverage with the intent on selling it to an arms-length third party for a sizeable lump sum, perhaps to fund costs associated with retirement?

While these are sensitive questions, they bear considering and for reasons beyond the financial well-being of the issuing company. Life insurance benefits from a number of tax advantages, from the day the policy is purchased to the payment of benefits. These tax favors periodically come under review in Congress, with the legislature usually concluding that the benefits (life insurance serves a public good, providing financial protection for survivors that would otherwise be borne by the state) outweigh the lost or deferred tax revenue. However, should the Internal Revenue Service, the Department of Treasury or Congress conclude that these benefits are being abused – irrespective of the source of the abuse – the government may come to a different and very painful determination in the future.

Several approaches are being considered to address potential abuse. Many life insurers have already incorporated questions regarding the funding of premiums into their application process. Some companies are considering design modifications to make their products less attractive as a settlement/STOLI target, though some of the changes being considered may not pass regulatory scrutiny.

The most recent developments involve making loans available to the policyowner-insured, based on the face amount of the policy (as opposed to the cash surrender value). The death benefit is used as collateral against the loan amount, which is paid back on a standard repayment schedule. Should the borrower die before repaying the loan, outstanding principal and interest is repaid through the death benefits with the residual benefits passing to the beneficiary.

From the insurer’s perspective, this solves a number of challenges posed by the settlement industry:

- **Retained Ownership:** As collateral, no assignment to an arm’s-length third party is involved. The policyowner-insured retains ownership, relieving any questions about insurable interest.
• **Transparency:** As with any loan transaction, it is highly transparent. Fees that the lending institution collects are clear through the interest rate charged. And there is a direct correlation to the loan amount (“value”) and the face amount of the policy that currently does not exist in the settlement market.

• **Alignment of Interests:** Perhaps most importantly, both the lender’s and the policyowner’s interests are aligned: both want to see the policyowner live a long life, as the lender’s source of profits is the spread between the its cost of capital and the interest it charges the borrower.

On the regulatory front, life insurers, on their own and through the American Council of Life Insurers, are urging the National Association of Insurance Commissioners to lengthen the contestability period for settling a policy to five years¹³. An alternative recommendation, championed by the Life Insurance Settlement Association and proposed by the National Council of Insurance Legislators, recommends keeping the two-year contestability period constant for all life insurance issues, including STOLI. So far, there is little if any consensus among the states on how to treat this issue.

Lastly, some life insurers are known to be taking the “if-you-can’t-beat-them, join-them” approach, and are exploring forming or have formed their own settlement divisions¹⁴. However, very few – if any – companies are known to be combating the challenge head on by offering a more competitive surrender value to the customer.

**Conclusion**

The seniors market is becoming an increasingly attractive market for life insurers and their producers. Insurers hope that the growth rate of this segment assures future sales opportunities.

However, profitably selling life insurance products to this market has its challenges. Traditional underwriting, the front-line defense against misclassifying poor risks, loses some of its effectiveness in assessing risks for this age group, particularly for assessing preferred risks.

Companies are addressing these underwriting challenges through a myriad of ways: some are readjusting acceptable test results for the most common lab tests; others are looking to the potential protective value of cognitive or functional tests, alone or in conjunction with traditional underwriting. But bottom line, consensus on the ideal approach is still some time off.

However, one area where company underwriters can agree, and should examine closely, is perhaps the most difficult: human behavior. Motivations for purchasing life insurance during old age are likely very different than those that influence a 35 year old to buy similar coverage, and few of these incentives are likely either to be in favor of the life insurer or at best neutral. This is especially true in a market commingled with STOLI.

Experience in this market segment is still emerging, but at a faster pace than other market segments. Relatively soon one should expect to be able to verify how original assumptions have fared.

**Endnotes**


ii. This section draws on information gathered from “Agile or Fragile? Underwriting at Older Ages,” a series of sessions at the Society of Actuaries Life Spring Meeting, May 2005

iii. According to the Census Bureau in 2001, life expectancy in the United States for a newborn was 76.9 years. For 2001’s 65-year-old, it was 83.1.

iv. Rick Bergstrom, Principal with Bergstrom Consulting LLP and a member of the Society of Actuaries’ Older Age Underwriting Practices Survey Committee, estimates that the selection period at older ages can wear off as quickly as 12 months. For more information, see Transamerica Reinsurance’s December 2007 issue of The Forecaster, “Courting Older Age Customers”.


vii. One anecdote reveals another weakness in the DWR test. An older-age female applicant was administered the test with a resulting score of two out of ten. The administrator reported that in addition to exhibiting difficulty in recalling the words, the subject had difficulty pronouncing some of the words and was unable to use some words in a sentence. Upon further investigation, however, it was discovered that the applicant was an immigrant for whom English was not her primary language. This fact had a direct detrimental effect on her results, and she was later issued a standard policy.

viii. David Wesley, MD, Vice President of Transamerica Reinsurance’s Medical Research and Development, defines “frailty” as a body’s increased physiological resistance to environmental changes.


x. Fidelity Investments estimates that a couple will need at least $225,000 to finance post-retirement health care alone, up 41 percent from when the costs were first estimated in 2002. When combined with improving one’s quality of life in retirement through a large lump sum, factors such as considering post-retirement health care costs could provide enormous incentive to engage in STOLI. (“Fidelity Investments Estimates $225,000 Needed to cover Retiree Health Care Costs,” Press Release, 03/05/2008.)

xi. Senator Kent Conrad, chairman of the Senate Budget Committee, hinted as recently as early November 2007 that, should President Bush’s tax cuts become permanent, his committee may review the tax treatment of some life insurance and annuity policies in an effort to help manage the budget deficit. Mark Thresher, president and chief operating officer for Nationwide Financial, said concerns over corporate and product tax treatment are his biggest concerns moving into 2008. (“Senator Warns Life Insurers on Bush Tax Cuts,” Investment News, 11/14/2007.)


xiii. As with most laws restricting ownership rights, the proposed model act includes a number of safe harbors under which a policy could be settled within the five-year exclusion period. These include instances where the reason for the purchase is no longer valid, such as divorce where the ex-spouse was the beneficiary and key person policies in the event the insured executive resigns or is terminated.

xiv. It should be noted, for disclosure purposes, that Transamerica Reinsurance’s parent has taken this approach in forming Transamerica Life Settlements. Genworth Financial is also active in the settlement market at the time of this writing.