Financial Literacy and the Challenges of the Postretirement Period

by Anna M. Rappaport and Steven Siegel

The Society of Actuaries has undertaken a significant number of integrated research efforts to identify risks associated with the postretirement period, understand the general public’s awareness and perception of those risks over time, and determine approaches used to manage them. This article reviews the categories and specific types of risks identified, observations from Society of Actuaries research about the extent to which they are recognized and acted upon, and challenges that gaps in financial literacy create for managing them. Recommendations to improve financial literacy through employers and others providing benefit guidance are also discussed. The recommendations draw upon testimony presented to the Employee Retirement Income Security Act (ERISA) Advisory Council in 2007.
The value of money changes. The value of $100 today will not be the same a decade or even a year from now. The impact of inflation and price changes is an important aspect of planning over a long period of time.

The unexpected can happen. Various shocks to daily life such as serious illness, the need for long-term care, loss of a spouse, loss of employment, adverse market conditions and others are likely over time, but their impact and timing is difficult to predict. Some occurrences can be managed by financial strategies such as purchasing insurance.

Effective planning in an integrated manner in light of these fundamental realities can be a very difficult task. This article provides further discussion of each of these issues and how financial literacy directly impacts the ability of many individuals to deal with them successfully.

### Table I

**Probability of Survival from the Age of 65 to the Ages of 80, 90 and 100—In 2005 and Projected to 2045**

<table>
<thead>
<tr>
<th>Probability of Survival From the Age of 65 in 2005</th>
<th>Female</th>
<th>Male</th>
<th>Both</th>
<th>One Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>To the age of 80</td>
<td>75.3%</td>
<td>64.7%</td>
<td>48.7%</td>
<td>91.3%</td>
</tr>
<tr>
<td>To the age of 90</td>
<td>37.0%</td>
<td>23.5%</td>
<td>8.7%</td>
<td>51.8%</td>
</tr>
<tr>
<td>To the age of 100</td>
<td>4.2%</td>
<td>1.5%</td>
<td>0.1%</td>
<td>5.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Probability of Survival From the Age of 65 in 2045</th>
<th>Female</th>
<th>Male</th>
<th>Both</th>
<th>One Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>To the age of 80</td>
<td>80.4%</td>
<td>77.8%</td>
<td>62.6%</td>
<td>95.6%</td>
</tr>
<tr>
<td>To the age of 90</td>
<td>45.3%</td>
<td>36.2%</td>
<td>16.4%</td>
<td>65.1%</td>
</tr>
<tr>
<td>To the age of 100</td>
<td>5.7%</td>
<td>2.5%</td>
<td>0.1%</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

Note: Calculations in table are based on UP 1994 Tables projected.

Source: Longevity: The Underlying Driver of Retirement Risk, Society of Actuaries.
To illustrate the impact of increasing life expectancy, Table I shows the probability of one or both members of a couple (both of whom are aged 65) living to the ages of 80, 90 and 100. Of couples now both aged 65, one of them will live to the age of 100 in more than one in 20 couples, and at least one of them will live to the age of 90 in more than five out of ten couples. Furthermore, in terms of planning, it is nearly certain that at least one will live to the age of 80, with this occurring in more than nine out of ten couples.

A consequence of the expectation that the probabilities of living to higher ages will increase over time is that more people will spend part of their life in poor health. Health expectancy calculations provide estimates of the remaining years of life expectancy, segregated into different states of relative healthiness.

Using data from the National Long Term Care Study series, Table II shows estimates of time spent in different states of health during remaining years of life expectancy. As with total life expectancy calculations, the figures in Table II represent averages, with periods of moderate and severe disability varying widely by individual. In addition to years spent in the different health states, estimates are provided for the overall lifetime average costs of long-term care for individuals, as well as those who are more intensive users of such care. The greatest users of institutional long-term care tend to be females, of whom many are widows during periods of usage.

### TABLE II

<table>
<thead>
<tr>
<th>Remaining Life Expectancy</th>
<th>In Healthy State</th>
<th>Mild/Moderate Disability</th>
<th>Severe Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male aged 65</td>
<td>15.3</td>
<td>12.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Female aged 65</td>
<td>19.4</td>
<td>13.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Male aged 85</td>
<td>5.7</td>
<td>2.9</td>
<td>1.0</td>
</tr>
<tr>
<td>Female aged 85</td>
<td>7.2</td>
<td>2.5</td>
<td>1.7</td>
</tr>
</tbody>
</table>

**Estimated average lifetime costs of long-term care in year 2000 dollars.**

<table>
<thead>
<tr>
<th>All Individuals*</th>
<th>Users of Long-Term Care Services**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>$29,000</td>
</tr>
<tr>
<td>Female</td>
<td>$82,000</td>
</tr>
</tbody>
</table>

*Ninety-two percent of these amounts are expected to be incurred during periods of severe disability.

**Highest lifetime costs average $300,000-$750,000.


FINANCIAL LITERACY—HOW EQUIPPED ARE INDIVIDUALS TO DEAL WITH RISKS?

The Health and Retirement Survey (HRS) has documented that significant gaps in financial literacy exist, with many Americans at retirement age unable to correctly answer several simple questions measuring financial and math aptitude. Three questions were included in the HRS to gauge financial literacy:

1. “If the chance of getting a disease is 10%, how many people out of 1,000 would be expected to get the disease?” Eighty-four percent answered correctly.
2. “If five people all have the winning number in the lottery and the prize is $2 million, how much will each of them get?” Fifty-six percent answered correctly.
3. Respondents who answered either of the first two questions correctly were then asked, “Let’s say you have $200 in a savings account. The account earns 10% interest per year. How...
much would you have at the end of two years?” Only 18% of those asked the third question were able to answer the question correctly.²

Individuals who are unable to correctly answer these questions likely do not have an adequate understanding of compound interest and approaches for making long-term financial estimates. As a result, they are more likely to be less equipped to deal with managing complex risks in the postretirement period even if they understand the risks well. The next section explores the major risks of retirement and observations about retiree knowledge of them.

THE MAJOR RISKS OF RETIREMENT AND WHAT IS KNOWN ABOUT THEM

Managing Post-Retirement Risks³ is an updated chart and guide recently produced by the Society of Actuaries that identifies and describes 15 postretirement risks. The risks span a wide range of areas including outliving resources; financial and market perils; deterioration of health and special housing needs; changes in family status and support needs; governmental and legislative policy issues; and poor advice, theft and fraud. More discussion is presented here on several of the key risks.

Longevity risk: There are two main facets of longevity risk—significantly outliving assets or dying prematurely without providing adequately for dependent family members. The primary challenge in managing this risk is that although longevity can be predicted reasonably accurately in the aggregate for a group of people, it is virtually impossible to predict accurately for an individual.

Society of Actuaries research shows that many retirees and those nearing retirement underestimate population longevity statistics. Research found that 40% underestimate population life expectancy by five years or more, and another 20% by one to four years.⁴ In terms of personal life expectancy, family history and personal health were the major factors most often cited by retirees and those near retirement for formulating individual estimates. Overall, it is clear that proper planning needs to carefully take into account longevity risk to alleviate the potential for a significantly diminished standard of living.

Inflation risk: The Society of Actuaries research also indicated that inflation risk was the top concern of retirees in 2007, with 57% very or somewhat concerned about inflation compared to 52% being concerned about having enough money to pay for a long stay in a nursing home, and 51% being concerned about having enough money to pay for adequate health care. Among preretirees, the corresponding levels of concern were 63%, 63% and 69%.⁵ Inflation is a major issue for those on fixed incomes, and its impact is difficult to predict. As with longevity, averages can be misleading and may not communicate the full extent of the potential impact. For instance, the United States experienced double-digit inflation in 1947, 1974 and 1979-81; the current economic crisis makes short-term predictions of inflation even more difficult to assess.⁶

Interest rate and stock market risk: Related to inflation risk are other economic risks including interest rate risk and stock market risk. Lower interest rates tend to reduce retirement income because workers need to save more to build up asset values; retirees earn less income on investments such as certificates of deposit and bonds; reinvested income will be earning less and have a lessened compounding effect; and annuities are more expensive when long-term interest rates are low.
showed that respondents believed that the stock of their employer was less risky than a diversified portfolio of stocks, and that they did not understand the relationship between changes in interest rates and bond prices.\textsuperscript{7}

Another factor complicating literacy is that there is a tendency toward overoptimism about expected returns on investments and personal ability to manage investments. One study showed that 401(k) participants expected to receive, on average, a five-year annual return of 10.9\% from stocks on the New York Stock Exchange, 8.1\% from bonds issued by large corporate entities, 7.7\% from money market funds and 7.6\% from stable value funds.\textsuperscript{8}

**Health care and long-term costs:** Having adequate resources to pay for health and long-term care are consistently two of the top three concerns expressed by respondents to Society of Actuaries research about retirement risk. There is a fairly small percentage difference in the level of concern expressed about the two types of care, even though after the age of 65 Medicare pays for a substantial part of acute health care while there is no similar universal program to cover long-term care services. Expenses for both types of care vary greatly by individual, with a small percentage of those utilizing services typically accounting for a large percentage of the overall cost.

For individuals not yet eligible for Medicare coverage, the availability of employer-provided health insurance is a key financial consideration in the viability and timing of retiring. Employer-provided coverage is common for active employees and less common for retirees. Public and larger employers are more likely to offer retiree health coverage to long-term employees not yet eligible for Medicare.

**PLANNING TO ADDRESS THE RISKS AND LESSONS LEARNED FROM RESEARCH**

Research has repeatedly shown significant gaps in knowledge about retirement planning.

**Time horizon:** Many people are short-term focused as they plan for retirement. Retirement planning often does not include serious and deliberate analysis of life and financial issues.\textsuperscript{8} Without a longer term focus or significant retirement assets that are paid out as regular income, middle-income earners are likely to be in trouble in the absence of sensible planning.

**Scope of retirement planning:** When individuals undertake retirement planning, it is common for them to consider this as primarily an investment management exercise. Saving and investments are, of course, very important but only part of the picture. Professional advisors vary in their approaches, but many of them are also primarily investment focused. Yet, besides the need for sound investments, planning should consider the potential for rapid deteriorations in health, the onset of disabling conditions and the loss of a spouse, among other life status changes.

**Expectations about retirement income:** Workers consistently underestimate how much of their retirement income is likely to come from Social Security and then tend to overestimate how much income they will receive from pensions and potential part-time work in retirement. Studies have shown that retirees find Social Security is much more important than expected.\textsuperscript{10} The poor estimation of income sources in retirement creates serious challenges for retirement planning, as a fundamental part of planning requires making estimates of resources for retirement.

**THE ROLE OF HOUSING AND THE EFFECT OF THE INITIAL TIMING OF RETIREMENT**

The current political climate has fostered an environment where individuals are increasingly responsible for their own security. In light of this environment, two issues deserve special attention in thinking about the postretirement period: home ownership and retirement timing.

**Home ownership:** The Society of Actuaries’ 2007 Risks and Process of Retirement Survey explored the thinking of retirees on housing and its relationship to retirement planning. In that survey, 19\% of retirees and 18\% of preretirees indicated that they planned to use their home equity to help finance retirement.\textsuperscript{11} Generally speaking, the role of housing equity in helping retirement security can be regarded in a number of ways:\textsuperscript{12}

- Mortgage-free housing can be viewed as somewhat parallel to an income stream, partly inflation adjusted, as it keeps ongoing housing costs down.
- In the event of death, housing values can be a primary source of bequests for surviving spouses and other heirs.
- Housing values are a contingent form of financing for long-term care needs as the house can be sold to pay for long-term care services or rented to help finance long-term care costs.
- Housing can also be converted to a direct income stream through a reverse mortgage.

It is the opinion of the authors that those who approach planning from an intuitive, less rigorous basis
When a retiree starts to use savings at a later age, there is a shorter period of time for which savings need to be used and a longer period of time to build up investment income.

A greater number of working years for individuals who are covered by pension plans usually translates into more years of pension credit. If traditional pension benefits are paid before “normal retirement age,” the monthly benefit amount is usually reduced to reflect the fact that benefits will be paid for more years.

The factors described above do not operate individually in a vacuum and, indeed, have significant interaction among them. Here is an example considering several of the factors together. A Congressional Budget Office (CBO) study, Retirement Age and the Need for Saving, May 2004, illustrates the impact of choosing retirement at the ages of 62, 66 and 70 for single persons and married couples. A couple aged 62 needs eight to 11 times annual income in assets in addition to Social Security if they are to retire and replace 80% of income. At the age of 70, the amount of assets needed is one-half to two times income. Much of the difference stems from higher Social Security benefits, immediate access to Medicare and more time to build up savings. This reinforces the benefit of considering both timing and needs for planning purposes.

The CBO study emphasizes the fact that the gap between what Social Security provides and what is needed for a reasonable level of retirement income is very large at the age of 62 and gradually decreases over time as Social Security benefits provide more of what is needed.

This issue is being recognized in a number of academic and research circles. Alicia Munnell and Steven A. Sass write in Working Longer: “Americans will need to work two to four years longer than they do at present to ensure a reasonably comfortable old age. As the average retirement age for men has been 63 for the past quarter century, they must now remain employed until their mid-to-late 60s.”

The Society of Actuaries’ 2007 Risks and Process of Retirement Survey explored what the public knows about the implications of delaying retirement. Responses are shown in Table III.

The survey also asked respondents how much, if at all, various financial benefits of retiring three years later would contribute to added retirement security. Results are as shown in the figure.

The responses indicated that the biggest expected impact among preretirees is continuing to receive health insurance from their employer, with 59% saying it would increase security a lot and 17% a little.

### Table III

<table>
<thead>
<tr>
<th></th>
<th>Retirees</th>
<th>Pre-retirees</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot more secure</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>A little more secure</td>
<td>30%</td>
<td>54%</td>
</tr>
<tr>
<td>No more secure</td>
<td>51%</td>
<td>30%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4%</td>
<td>3%</td>
</tr>
</tbody>
</table>

The other financial benefits that garnered the most positive responses were having three more years to make contributions to investments, with 28% of preretirees saying it would increase their security a lot and 58% a little; and increasing the amount received from a traditional pension plan, with 28% saying it will increase it a lot and 54% saying it will increase it a little.

The focus on health care coverage is particularly relevant since, as mentioned earlier, it is very difficult, expensive and sometimes impossible to buy coverage as an individual on the open market. Other research has repeatedly shown that access to health insurance is a decisive factor for many individuals in when they will retire and whether they will seek new employment opportunities.

**MANAGING THE RISK**

The cited research also provided insights into managing risk, as does the publication *Managing Post-Retirement Risk*. Below are some considerations for managing risks that have been previously discussed.14

**Longevity risk:** It appears unlikely that most people understand the variability of longevity and have evaluated options for managing this risk. Some of the options for managing this risk include investment strategies that preserve principal, pay-out annuities with income guaranteed for the life of the survivor, and longer term payouts without lifetime guarantees. The choice of a strategy for managing the payout period involves trade-offs between greater vs. lesser income, lifetime guarantees, availability of a bequest and control of assets.15 The best choice in a specific situation depends on resources, risk tolerance, amount of lifetime income vs. basic needs, and investment and management sophistication. The risk surveys conducted by the Society of Actuaries asked retirees what strategies they were using. The strategies that retirees cited as most common for managing longevity risk were elimination of consumer debt, paying off mortgages, trying to save as much as possible and cutting back on spending.16 Most try to manage this risk themselves rather than insuring it.17 It appears unlikely that most individuals managing on their own could identify well the range of options for managing resources so as to not outlive them, or could analyze the differences. It also appears unlikely that most advisors would present the full range of options. The authors also believe that many advisors have individual preferences and that their preferences, as well as the situation of those they advise, may drive the end result.

**Inflation risk:** Understanding and managing inflation risk requires longer term thinking and a grasp of the time value of money. This type of financial knowl-
There is disagreement about the appropriate role of employers in the postretirement period, with an increasing tendency to limit employer involvement to the period up to retirement. Many individuals are more likely to focus on information, advice and access to products if offered through an employer, and this newer development can create a significant gap.

Severe disability: Long-term care is a serious issue. As shown in Table II, in the average case, men aged 65 can expect to spend 1.5 years with mild or moderate disability and 1.5 years with severe disability. For women, the expected periods of disability are 3.0 and 2.8 years.19 Most long-term care is provided by family members or friends at home, but long-term care can also be provided at home by paid caregivers, in nursing homes, in continuing care retirement communities, in assisted living facilities and at adult care centers. For those with virtually no assets, Medicaid is a primary source of financing long-term care. Those with modest assets often deplete them and then enroll in Medicaid. Long-term care insurance and dedicated savings are private methods of advance financing for these needs. Of the respondents in the 2007 Risks and Process of Retirement Survey, 28% of retirees say they have purchased long-term care insurance and 9% say they plan to do so. Seventeen percent of preretirees (aged 45 and older) say they have purchased long-term care insurance and 23% say they plan to do so. These responses are high compared to other sources, which expect 5% to 10% of the public to buy this coverage.20

Health care costs: Health care costs are much more likely to be covered by insurance. Virtually all Americans over the age of 65 have Medicare coverage. Of the respondents in the 2007 Risks and Process of Retirement Survey, 61% of retirees say they have purchased supplemental health insurance or participate in an employer’s health plan and 14% say they plan to do so. The most commonly cited strategy by survey respondents to protect financially against health risks is to maintain healthy lifestyle habits. Seventy-five percent of retirees say they do this and 23% say they plan to, while 69% of preretirees say they do this and 29% say they plan to. The discussion of these findings in the Society of Actuaries report comments: “While maintaining healthy lifestyle habits is an admirable goal, in light of other research reporting increases in obesity, these high percentages may be more indicative of wishful thinking than tangible action.”21

Health spending varies greatly by individual. It has been estimated that 10% of the population accounts for 60% of spending on health services and that the 50% of the population with the lowest health spending accounts for 3% of the costs. The value at the age of 65 of lifetime health costs per couple both aged 65 (in excess of Medicare) and excluding long-term care has been estimated at $225,000 in 2008, and in another estimate was projected to be $206,000 in 2010 and $294,000 in 2020.22

Financial products: There is a lack of understanding about financial products that are useful in helping to mitigate risk and when they might be most helpful. The most commonly used risk-reduction strategy is to reduce spending.

Complex and interacting risks: The risks in retirement are complex and interacting. Transferable and poolable risks include increasing longevity, the cost of disability and long-term care, the cost of acute health care, economic loss on death of a spouse, and investment risk and interest rate risk. Risks that can’t be transferred or pooled include the inability to find a job, premature retirement risk, family members needing help and aspects of inflation risk. These are some of the key risks, and there are others as well.
EMPLOYER ROLES IN SUPPORTING RETIREMENT

When employers offer traditional DB plans and retiree health care coverage, this provides significant support for overall management of financial risks during the postretirement period. However, DB plans often also offer lump-sum benefits, leaving employees with more responsibility for postretirement management. In the provision of lump sums and DC plans, employers can play a number of roles in better supporting the postretirement period through:

• Offering retirement and capital accumulation benefits that are paid for and offered to all employees without choice
• Offering retirement and capital accumulation benefit plans that include optional methods of payout, which can be used as defaults or as options that must be affirmatively chosen
• Serving as “purchasing agent” to allow employees access to financial products such as long-term care insurance on a group basis, usually with features and/or pricing more favorable than can be obtained in the individual market
• Creating expectations and providing information about how retirement is usually integrated into the lifecycle
• Advising and educating employees on general retirement issues
• Acting as a resource and conduit for information
• Acting as a facilitator to help support and organize networks of employees. As an example, such facilitation can bring together those in a common situation such as caring for an elderly family member or those employees dealing with similar illnesses, such as cancer or diabetes.

There is disagreement about the appropriate role of employers in the postretirement period, with an increasing tendency to limit employer involvement to the period up to retirement. Many individuals are more likely to focus on information, advice and access to products if offered through an employer, and this newer development can create a significant gap.

THE BRIDGE TO FINANCIAL LITERACY: MESSAGES TO EMPLOYEES

It is the authors’ view that a path to financial literacy can be helped with appropriate messages to employees as they approach retirement. However, the authors recognize that education has limits and support structuring programs to limit the number of decisions that individuals need to make to ensure security.

Messages and information to be communicated include:

• The importance of adopting a longer term planning horizon
• The impact of earlier vs. later retirement including impact on Social Security income, pensions and how long assets are likely to last
• The variability of life expectancy and the financial effects of living longer
• Options to convert lump-sum amounts into regular annual income and other avenues for guaranteeing regular income streams
• Consideration of the needs of surviving dependents, with particular focus on ensuring adequate resources for spouses no longer able to seek employment
• Financial products and governmental programs to help fund the costs of long-term care
• Ways to assess the cost/benefit trade-offs of purchasing risk protection products
• Direction on how to seek professional planning advice and learning the fundamentals of investing in retirement.

It can be argued that this list is fairly basic and obvious to many who regularly think about benefits, yet this is exactly the type of information that many retirees have not used effectively in approaching retirement issues. Potential communicators and sources of this information are employers, government agencies such as the Department of Labor, not-for-profit organ...
organizations such as WISER and the Actuarial Foundation, and personal advisors and planners. Employers can produce information directly or they can help distribute information from third parties.

Employers are encouraged to at least distribute information. Given their prominent role in an employee’s financial stability, if an employer chooses to opt out of providing this information, it will make it considerably more difficult to reach employees. And employers should also remember that the structuring of programs is critical.

**CONCLUSION**

Research by the Society of Actuaries and other organizations has documented the challenges facing employees nearing retirement as they prepare to embark on the new chapter in their lives. Research also provides insights into how they deal with these challenges. As individuals increasingly shoulder more of the responsibility for ensuring their own retirement security, the need for financial literacy is becoming ever more important. Yet, the authors know that there are limits on what can be achieved. Employers and others have an opportunity to build a bridge to improve the current situation by becoming actively involved in delivering the appropriate messages and providing a conduit to useful resources and products.

**Endnotes**


12. More information on this topic is expected in mid-2009. The Society of Actuaries has released a call for papers on housing wealth and retirement, and papers are expected by mid-2009.


19. The analysis of average periods of disability is based on data from the National Long Term Care Surveys from 1984, 1989 and 1994 performed by Eric Stallard, a researcher who works regularly with the surveys.

