# An Introduction to the SOA LTCI Section and ILTCI Conference Board-sponsored LTC Morbidity Improvement Study

## Study Background

A recent study sponsored by the Society of Actuaries (SOA) and ILTCI Conference Board examines morbidity improvement and how it impacts long-term care (LTC). The study was authored by P.J. Eric Stallard and Anatoliy Yashin of Duke University. This article summarizes the study's findings and provides useful background for readers who may not be familiar with LTC services and insurance.

LTC insurance is a relatively modern product by insurance standards – the first products were introduced in the 1970s. Early products typically covered stays in a nursing home; more recent generations of products incorporate other types of care including care provided at assisted living facilities or at home. Depending on the specific product, care is generally triggered by cognitive impairment (CI) or the inability to perform a certain number of activities of daily living (ADL – eating, bathing, dressing, toileting, transferring, and continence).

LTC financing is among the largest financial risks facing older Americans today. There are generally three options, or combinations thereof, for funding long-term care:

1. Medicaid and other public programs
2. Private insurance
3. Out-of-pocket

Well over half of people financing LTC are doing so with Medicaid and other public programs. Qualifying for Medicaid typically requires first spending down one's assets. Roughly one in five people pay for long-term care services out of pocket. This can be expensive for many adults needing these services – a home health aide costs more than $45,000 per year on average, and a private room in a nursing home costs roughly twice that. Private LTC insurance was developed to help mitigate this risk. At present, less than 10% of the population has private LTC insurance, which is at least in part due to the high cost for such products.

The LTC Morbidity Improvement Study was initiated to evaluate the changes in the use of LTC over the 20-year period from 1984–2004. In particular, it was intended to examine how morbidity due to the inability to perform ADL's and the onset of CI has changed. This is significant for LTC insurance, at least in part because generally people are living longer. Increased longevity by itself means increased chances for people to need long-term care services as they age, in turn leading to increased LTC insurance costs. Declines in the inability to perform ADL's and CI disability, however, act as an offset to this trend and represent a critical factor in LTC insurance pricing.

## Findings

The LTC morbidity improvement study resulted in several key findings including:

- ADL and CI disability prevalence rates differed substantially between the sexes in 1984 and 2004.
- Relative declines in ADLs were substantial for both sexes but larger for males.

- Declines in ADL disability applied specifically to the provisions of ADL triggers implemented under HIPAA rules which disallowed disability levels that were or could be resolved by the use of special equipment or devices without the use of active personal assistance
- CI exhibited substantively important, highly statistically significant and similar relative declines for both sexes during the same period.
- It was not anticipated to find that the decline in CI disability was actually much larger than the ADL decline, and that the difference was highly statistically significant and substantively meaningful.
- CI and ADLs exhibited complex dependencies by residence type and sex.
- The age-adjusted joint ADL and/or CI prevalence rates declined at an annualized rate of 2.29%/yr. during 1984–2004 ($t = 16.27$, $p < 0.001$)
- The report includes a discussion of how the results on ADL and CI disability declines in the general non-insured population might be used in LTCi actuarial work on underwritten insured populations. Particular focus is placed on design issues that need to be satisfied by various data sources and how such data could be employed to develop estimates of disabled life-years for specific cohorts meeting specific underwriting criteria.
- Actuarial analyses and forecasts that ignore these trends and dependencies may be severely biased.

**Future Studies**

With the completion of this study, suggestions for future research include:

- Exploring questions regarding the extent to which ADL declines can be explained by CI declines.
- Investigating the degree to which the CI declines are attributable to Alzheimer's disease (AD) vs. non-AD changes. Better understanding of the dynamics of these processes has the potential to yield substantially improved forecasts of future changes in ADL and CI morbidity.
- Examining the differences that may be encountered by those who have private LTC insurance versus other.

**Read the report**

The report can be found on the SOA website at: http://www.soa.org/research/research-projects/ltc/default.aspx

We welcome comments on this research report and suggestions for future research. You may write us at Research@soa.org