Dear Reader,

Risk Insights is a technical publication produced by Gen Re for life and health insurance executives worldwide. Articles focus on actuarial, underwriting, claims, medical and risk management issues for products including Life, Health, Disability Income, Long Term Care and Critical Illness insurance.

To ensure Risk Insights continues to meet the expectations of its readers, we would like your feedback. This will be used to help us define the content and style of future editions.

Please participate by answering a few questions that should take only a couple minutes of your time to complete. The survey is conducted online through the following link: http://www.zoomerang.com/Survey/WEB22B34648NHF

Thank you for your help.

Andres Webersinke
Editor, Risk Insights

Contents

Cancer Screening –
Developments and Implications for Critical Illness Benefits
by Adele Groyer 2

Biometrical Trends and Their Effects on
Long Term Care Insurance
by Tim Eppert 7

Long Term Care Insurance Premium Increases –
Summary of Survey Findings
by Andy Perkins 11

Improvements to Traffic Accident Mortality in Spain
by Javier Ruiz del Moral Lizundia 13

Inside Gen Re 17

A Berkshire Hathaway Company
It is commonly believed that early identification of disease means that it will be more easily treated and that lives will be saved. Because of the promise this holds, developments of screening tests attract a lot of attention in both medical journals and the popular press. But the decision to recommend screening is not always clear-cut. Early treatment may not always alter the course of disease, and the physical and emotional harm brought about by unnecessary treatment, as well as the economic costs involved, may outweigh the benefits of screening.

From an insurer’s perspective, we would expect that screening will have no negative effects on mortality and disability rates but may defer or reduce claims costs. For Critical Illness (CI) benefits, in contrast, it is unclear how screening and the associated increased detection influence the cost of providing these covers. In this article we focus on the effects of cancer screening on pricing, product design and underwriting of CI benefits.

Health policy and screening
Availability of screening is determined by medical advances as well as the choices made by health policy decision-makers. The UK National Screening Committee (UK NSC), for example, is a body that advises government ministers and the UK’s National Health Service (NHS) on all aspects of screening policy.¹ The committee appraises existing and new screening programmes against specified criteria that are based on principles set out by the World Health Organisation. At a high level, the principles are as follows:

- A suitable test should be available. The test should give few false positive and false negative results and should be safe.
- The test should be acceptable to the population. Painful, intrusive and embarrassing procedures are less acceptable.
- An effective treatment should be available and early treatment should lead to better outcomes than late treatment.
- The benefit of the screening programme should outweigh any harm caused by the screening itself and any resulting treatment.
- The cost of the screening programme and resulting treatment should be economically balanced in relation to expenditure on medical care as a whole.

The University College of London is currently conducting the UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS) to gather evidence in relation to the evaluation criteria.² Measurements will also be taken to establish the suitability of the tests. Feedback from the participants is used to assess their response to the screening process and to monitor their health and emotional well-being. The health resources utilised in screening and treatment for the participants are also analysed to estimate the resource implications of the screening at a national level. The mortality rates between the screening and control groups will be compared in 2014. A significantly lower mortality rate in the screened groups would demonstrate that screening saves lives.

Cancer screening in the UK
In Great Britain, there are formal screening programmes for breast, cervical and bowel cancers. In Northern Ireland programmes are offered for both breast and cervical cancers. Screening tests for other cancer sites have been considered by the UK NSC but have yet to receive approval for formal population-based use.

Formal screening programmes
The NHS Breast Cancer Screening Programme was introduced in 1988 and women aged 50 - 64 were invited for mammography every three years. In 2003 the programme was extended to include women up to the age of 70. The 2007 Cancer Reform Strategy document³ included a recommendation that the screening age range be further extended to the ages of 47 - 73. This extension is currently in a pilot phase and is due to be rolled out by 2012.
Cervical cancer screening began in the UK in the mid-1960s but was not population-based until 1988. The NHS invites women aged 25 - 49 to attend screening every three years while women aged 50 - 64 are invited every five years. The test is a cervical smear, whereby a sample of cells is swept from the cervix and then analysed under a microscope.

In 2006 the NHS started bowel cancer screening in England. Men and women aged 60 - 69 are invited to participate every two years, and there are plans to extend the programme up to age 75 by 2012. A similar programme began in Scotland in 2007 for people aged 50 - 74. The screening test used is the Faecal Occult Blood (FOB) test, wherein respondents are given a kit to be used at home to collect stool samples that are then sent to a laboratory. If blood is detected in the sample, the respondent is asked to undergo a colonoscopy to identify whether the bleeding has been caused by cancer.

**Screening tests not yet approved for formal screening**

The UK NSC has evaluated screening tests for a number of cancer sites but has not recommended that they be used for a systematic screening programme. These cancer sites are anus, bladder, lung, mouth, ovary, prostate, stomach and testicle. The screening policies for bladder, oral, prostate and stomach cancers are currently under review as part of a regular review cycle. The review for ovarian cancer will take place once the screening trial has been completed. The implemented screening programmes are also reviewed from time to time. Despite not being part of a formal programme, there is widespread use of the prostate-specific antigen (PSA) blood test to screen for prostate cancer. PSA testing is believed to be behind the three-fold increase in prostate cancer incidence among UK men aged 45 - 54 in the period 1993 - 2007 (two-fold increase for the age group 55 - 64).

**Effect of screening on incidence**

We would expect screening to accelerate diagnosis. The amount of time by which diagnosis is accelerated is known as the “lead time”. We would also expect more cancers to be diagnosed by screening because some cancers may be slow-growing or even regress and may not become symptomatic in the patient’s lifetime. This effect is known as “over-diagnosis”. Screening may reduce the incidence of cancer if pre-malignant abnormalities can be detected and treated.

**A model for cancer incidence with screening**

Estimates of lead time and over-diagnosis are derived from screening trial data and can be used to model the effect that a screening programme may have on population cancer incidence. By means of the following example, we demonstrate the types of changes that can be expected.

For a screening programme with an eligible age range of 50 - 70 years and a two-year invitation cycle we assume:

- A 100% take-up rate
- An exact two-year lead time in all cases

The pre-screening curve represents clinically detected cancer incidence and has the typical feature of increasing with age. The curve representing incidence in the presence of screening is identical to the pre-screening curve outside the range that is eligible for screening.

Between ages 52 - 70 the curve has shifted two years to the left, reflecting the two-year acceleration of diagnosis in all cases. There is a peak at ages 50 and 51. At these ages the people invited to screening will not have been screened previously. The incidence rate is made up of those cancers that would have been diagnosed clinically at these ages as well as the screen-detected cancers that would otherwise have been diagnosed between ages 51 - 53. There is also a dip at the ages immediately following the upper limit of the screening age range. This is because most of the cancers that would have presented clinically at ages 71 and 72 will have already been diagnosed among people who were screened when they were 69 and 70.

In practice, individual tumours grow at different rates so lead times can vary. This would make the dip beyond the screening ages shallower but last longer. There may be a further increase in incidence in the screened age range where some of the screen-detected cancers are over-diagnosed. Also, not everyone will attend screening, so the resulting population incidence will be a mixture of screened and unscreened incidence.
The effect of breast screening on cancer incidence

By comparing breast cancer incidence before and after the implementation of the NHS Breast Cancer Screening Programme, we can see an actual example of the effects of screening. Figure 2 shows how breast cancer incidence has changed in Great Britain relative to an assumed incidence rate projected from 1988 onwards, using pre-1988 trends.

Figure 2 – Breast cancer incidence in Great Britain 1975 - 2007 (Cancer Research UK)

For ages 50 - 64, there is a clear peak in the incidence for the years 1991 and 1992. The programme rollout was completed in 1993. During this time women were being screened for the first time, so the incidence rates were made up of cancers detected purely by screening as well as cancers that would ordinarily have been detected clinically at that time. This initial period of a screening programme is known as the “prevalent round”.

In subsequent rounds of screening there is a reduction in the number of clinically detected cancers because they will have already been diagnosed in a prior screening round. Breast cancer incidence decreased in 1993 but in general continued to move up, albeit in a less steep pattern than that seen before screening, resulting from a combination of age-shift and possibly some over-diagnosis. Between 1994 and 2003, incidence increased in line with the pre-1988 trends for this age group. The reduction in incidence between 2003 and 2006 is not related to screening, but rather to a sharp reduction in the use of hormone replacement therapy (HRT) as a result of the publication of study results that showed that HRT use was associated with a significant increase in risk of breast cancer.6

For ages 65 - 69, incidence dipped below the rates that would have been predicted had pre-1988 trends continued. Until 2003, they were also lower than incidence rates for the screened age range, which suggests that cancers that would otherwise have presented symptomatically in this age group were detected during screening at younger ages. Following the extension of the screening programme to age 70 in 2003, incidence rates have increased dramatically. For ages 70 and over, incidence rates are currently well below the levels predicted by extrapolation of pre-1988 trends, which may suggest that some cases of screen-detected breast cancer have a lead time of much longer than five years.

This data shows that introduction of and changes to screening programmes can have a significant effect on incidence rates. It also shows that statistics representing the prevalent round of screening should be treated with caution as they may overstate the eventual position that will be reached.

The effect of cervical screening on cancer incidence

Almost all cases of cervical cancer are caused by the human papillomavirus (HPV) which is generally transmitted sexually.7 Cervical screening can identify abnormalities caused by this virus and treatment can be administered before cancer develops. Table 1 below shows how the European age-standardised incidence rate of cervical cancer in Great Britain has fallen since the introduction of screening.

Table 1 – Cervical cancer incidence in Great Britain in selected years (Cancer Research UK)

<table>
<thead>
<tr>
<th>Year</th>
<th>Incidence per 100,000 female population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>16.2</td>
</tr>
<tr>
<td>1993</td>
<td>11.9</td>
</tr>
<tr>
<td>1998</td>
<td>9.7</td>
</tr>
<tr>
<td>2003</td>
<td>8.4</td>
</tr>
<tr>
<td>2007</td>
<td>8.3</td>
</tr>
</tbody>
</table>

The significant cancer prevention element of this type of screening has resulted in a decrease in incidence rates. This is a very different picture to that seen for breast cancer where there is less of a preventative element.
Effect of screening on Critical Illness benefits

Pricing
Critical Illness pricing is often based on past statistics. Where screening programmes are long-established, it is reasonable to use this past data with little further adjustment because it represents a stable position. However, any proposed changes or recently introduced screening programmes not yet fully reflected in the data may necessitate further adjustments, and there may be a range of possible outcomes.

The figures shown above for breast and prostate cancers demonstrate that significant increases in incidence rates are possible. Changes in incidence can be estimated either by constructing theoretical models, or by looking at the effect of screening has had on population incidence in other countries that have already introduced screening or have high voluntary testing rates.

Because cancer incidence usually increases with age, any acceleration in cancer diagnosis will shift later incidence rates to younger ages, thereby increasing incidence rates at all ages.

In the UK, Critical Illness benefits are now mostly sold as term cover, which ceases by age 70, so changes attributable to screening at older ages are less relevant for pricing. In other markets CI benefits are often sold as whole of life benefits so incidence changes at older ages are relevant for pricing.

Product design
In addition to pricing implications, there are also product design considerations.

One could limit the cost associated with increases in incidence brought about by screening by limiting the circumstances in which a payment may be made. The Association of British Insurers (ABI) amended the industry-standard cancer definition in 2002 so that less severe cases of prostate cancer no longer trigger a claim. Only tumours of the prostate which progressed to at least size or extent T2 or being classified as having a Gleason score of 7 or more qualify.

A medical commentary on this article by Dr. Ian Cox
Consultant, CMO, Gen Re Life/Health Research & Development

Many countries have started screening programmes for various cancers, with cervical, breast and colorectal cancer the most commonly instituted. Whenever a new programme is started, we see increased CI claims for cancer. The expectation is that these claims will be matched by lower claims at a later date as cancer diagnoses are brought forward. However, there is controversy in medical journals that this effect is not actually occurring to the degree that is expected. Over-diagnosis of cancers does occur in screening.

In the past, it was thought that once started, cancers would inevitably progress to larger, more obvious, palpable and eventually metastatic cancers. It was thought that cancers had a roughly constant doubling time – the time it takes for a tumour to double in size. Prostate cancers were thought to be an exception to this ‘rule’ in that they may stay small and not grow, invade or metastasise during a person’s life. Other cancers were believed to be on an unstoppable journey of constant growth that could only be altered by surgery or drugs.

It is now thought that there are a significant number of small cancers that do not progress to more frankly invasive cancers or then metastasise. The number of breast cancers diagnosed by screening has not been matched by a corresponding reduction in later years. There is an excess of diagnoses overall that can only be explained by some small cancers not progressing to cancers that would have been identified or even become a problem without diagnosis by screening. In breast cancer screening, it is thought that up to one in three cancers diagnosed by screening might not have progressed to clinically obvious or dangerous malignancies.

This issue of over-diagnosis has been discussed in medical journals around the world over the past few years. The conclusion is that screening is still beneficial overall, that it is not possible to identify which small cancers would not have progressed and that women should continue to attend for mammography. However, it does cause concern in insurance. For CI, the pricing is under even higher pressure as claims payments are made for small cancer of the breast that would not have become clinically important.

In some cancers, such as prostate cancer, the definition used in CI policies has needed adjustment. Now in some countries a similar problem is occurring with thyroid cancers. Sensitive ultrasound of the thyroid is identifying minute nodules that when removed have a histological appearance of malignancy. However, many more are being identified in this manner than would have been expected from incidence statistics when this form of screening was not taking place.

How can we respond to this issue of over-diagnosis?

• We can increase the price to reflect the number of claims but this is likely to make the product increasingly expensive, taking it out of the reach of an average person.

• We could adjust the definition of cancer to exclude these micro-cancers.

• We could have a staged critical illness product that gives a smaller benefit to smaller, less advanced cancers while giving a higher benefit to more advanced cancers.

Each of these is valid but has different problems. We certainly want to have widespread coverage, so increasing the cost – while not attractive – is currently the situation in many markets as inertia is limiting change to the product. Standardised definitions add to the limitations on progress. Defining what micro-cancers should be excluded or have a lower benefit is difficult and fraught with problems of trying to write in words exactly what should be placed in different categories.
Rather than limiting benefits altogether, partial benefits may also be considered as a more attractive way of limiting the cost. Insurers in the UK are starting to offer cover for low grade prostate cancer, typically paying 20% - 25% of the sum insured and subject to a fixed monetary cap to limit payments on larger policies.

Ductal carcinoma in situ of the breast (DCIS) has historically been excluded by cancer definitions. But offering a benefit for this condition can be perceived as fair or attractive because the policyholder does not feel penalised for treating a condition that could otherwise have progressed to invasive cancer and only then qualified for a claim payment.

Furthermore, a similar proportion of in situ and invasive cancers found by screening present in an aggressive form and require treatment by mastectomy. A CI product may not seem equitable if a case of in situ cancer involving mastectomy does not qualify for any payment, while an early-stage invasive cancer that requires no such aggressive treatment does. UK insurers have begun to offer partial payments for DCIS treated by mastectomy (but not lumpectomy). Pricing of this benefit is aided by the detail and quality of the available statistics for DCIS.

Underwriting
If the UK is any guide, most public screening programmes start at age 50 and the bulk of the concern will therefore lie in applicants of this age range, although voluntary testing may start at younger ages. As a result of undergoing cancer screening, an applicant for insurance will hold material information about their health.

Underwriting should identify those cases where the decision to purchase insurance is motivated by a suspicious finding during screening and poses an additional risk. At the same time, the underwriter should filter out findings that the applicant feels obliged to disclose but that do not suggest increased risk. Underwriters and interviewers need techniques that enable a quick assessment of the probable seriousness of disclosed screening findings, which will then indicate whether further investigation or additional evidence is required.

The trend in insurance markets around the world is to place the onus for asking “the right questions” of applicants squarely on the insurer. The ABI issued non-disclosure guidance4 to its members, which points out that customers may not always realise the material relevance of information to the insurer if it is not specifically requested. If it cannot be established that the customer knowingly withheld relevant information, the insurer is likely to be required to pay any resulting claim.

Future
The availability of screening tests can affect the pricing and selection of risks. Widespread use of these tests, especially in the form of systematic population screening, can significantly alter cancer incidence rates and the knowledge that the public has of their health.

Actuaries and underwriters need to keep abreast of medical and public health policy developments in order to respond timeously and appropriately. Responses include building models of cancer incidence to estimate the effect on pricing and considering how product design can contain costs of increased incidence or better cover traumatic treatments associated with screening findings. Meanwhile, underwriters must utilise application forms and tele-interview scripts designed to elicit relevant information in respect of screening and deploy underwriting guidelines that differentiate between serious and minor screening findings.

Endnotes
1 UK National Screening Committee website http://www.screening.nhs.uk/ accessed on 31 March 2010.
4 See endnote 2.

Adele Groyer is an actuary on Gen Re UK’s technical team and is responsible for quotes and pricing development work. Before joining Gen Re in 2008, she worked on product development and pricing in the South African protection market. She can be reached at Tel. +44 20 7426 1807 or adele.groyer@genre.com.
Introduction

The phenomenon of ageing societies is widespread. Territories as diverse as the U.S., Japan, Western Europe or China are all experiencing significant societal changes. A rapidly increasing proportion of elderly people not only makes for more pensioners, but also for additional numbers of people in need of care in their old age.

Having said this, the consequences of the ageing of an individual are still controversial. Does a higher life expectancy (LE) imply that more years will be spent in good health, as the compression of morbidity theory\(^1\) states, or does it lead merely to an extension of life with morbidity?\(^2\) These questions led to the definition of healthy life expectancy (HLE), which measures the years a person spends in good health. HLE plus the years people can expect to live with health-related limitations in daily activities make up the total LE.

Unfortunately, the results for HLE do not seem to be very reliable so far. Whereas the LE for people aged 65 in the decade to 2007 increased in almost all countries in the European Union, changes in the HLE have varied significantly from country to country. While some countries, such as the UK and the Netherlands, report slight improvements, others either report more significant improvements or, as in Germany and Italy, experience deteriorations. Table 1 shows the trends for some selected countries.\(^1\) Apart from real differences in functional status, the results may be biased as they are based on self-reported health. Also, the underlying survey changed over time in some countries.

<table>
<thead>
<tr>
<th></th>
<th>Life Expectancy</th>
<th>Healthy LE</th>
<th>Proportion of HLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>18,0 19,2</td>
<td>8,9 14,3</td>
<td>49% 75%</td>
</tr>
<tr>
<td>Italy</td>
<td>20,2 21,8</td>
<td>12,7 7,3</td>
<td>63% 33%</td>
</tr>
<tr>
<td>Germany</td>
<td>19,1 20,7</td>
<td>9,4 7,6</td>
<td>49% 37%</td>
</tr>
<tr>
<td>UK</td>
<td>18,5 20,2</td>
<td>9,5 11,7</td>
<td>51% 58%</td>
</tr>
<tr>
<td>Denmark</td>
<td>14,6 16,5</td>
<td>8,6 13,1</td>
<td>59% 79%</td>
</tr>
<tr>
<td>Italy</td>
<td>16,2 18,0</td>
<td>10,9 7,9</td>
<td>67% 44%</td>
</tr>
<tr>
<td>Germany</td>
<td>15,2 17,4</td>
<td>9,8 7,7</td>
<td>64% 44%</td>
</tr>
<tr>
<td>UK</td>
<td>15,1 17,6</td>
<td>8,7 10,4</td>
<td>58% 59%</td>
</tr>
</tbody>
</table>

This article cannot answer the question if we will grow old in good or bad health, but it reveals different possible drivers of an increasing life expectancy and analyses their impact on Long Term Care (LTC) business, using a simplified multi-state model. The effects on prevalence rates are also analysed, as they are often used to get an indication of the future development of LTC costs. Taking account of the target market for LTC, the analysis is limited to lives aged 50 at policy issue. The effects are shown for a stand-alone product with whole of life cover and an unlimited benefit period without a deferment period.

Model

The simplified actuarial model for LTC insurance (Figure 1, on page 8) has three different states: active, in the sense of “not in need of care”; disabled, defined as “in need of care”; and dead. The transition probabilities between these states are:

- The incidence rates \( i_d \): the probability of becoming disabled, defined as the permanent inability to perform at least two out of six activities of daily living without the physical support of another person\(^4\)
• The mortality rates for active lives $q_x^a$
• The mortality rates for disabled lives $q_x^d$

It is assumed that disabled lives cannot recover to the active status, as only permanent disability will lead to benefits. For the transition rates the LTC table of the German Actuarial Association (DAV) was used – DAV 2008 P. Since this article models an insured population of 50-year-olds at policy issue, it is assumed that the prevalence rate of disabled lives aged 50 is zero.6

Figure 1 – Simplified actuarial model for LTC

The aggregate mortality rate is a combination of the mortality rates for active and disabled lives, each weighted with the age-dependent proportions of active and disabled lives respectively (Figure 2). The active lives’ mortality is lower than the disabled lives mortality.

Figure 2 – Interaction of different mortalities

An increasing life expectancy (which means lower population mortality rates) can be caused by a decreasing active lives’ mortality, a decreasing disabled lives’ mortality and/or by a changed proportion of disabled lives within the population – the prevalence rate of disabled lives. This prevalence rate is mainly driven by the incidence rates but also by the mortality of active and disabled lives respectively.

In the past 20 years, mortality rates for Germans aged 50 and over decreased by slightly more than 2% annually. Similar developments can be found for Japan (see Table 2).

Even if only half of this trend is assumed as a lasting annual improvement rate for mortality for each age, this would lead to an increase in German life expectancy of about 2.5 years (2.5 for men, 2.6 for women) for people currently aged 50, compared to LE without a further decrease of mortality.

What does a moderate change in total life expectancy of 2.5 years mean for LTC, if it is gained by a constant permanent trend on one of the three transition probabilities of the model only? This is analysed in the following scenarios and is then complemented by a scenario assuming that an identical trend is applied to all transition probabilities.

Scenarios
Active lives
An annual improvement in active lives’ expectancy of 2.5% for men and 3.5% for women would lead to the increase in total life expectancy of 2.5 years. Since the mortality rates of disabled lives shall remain unchanged, the prevalence rates of disabled lives are slightly declining for each age, whereas the absolute number of disabled lives increases. Fewer people die before they become frail and require care, thus worsening the total claims experience. The level premium for a 50-year-old would need to be higher by about 20% (21% for men, 18% for women) to take this trend into account. Accordingly, a reducing prevalence rate of disabled lives can lead to dramatically false conclusions.

Disabled lives
On its own, a reducing disabled lives’ mortality does not change the number of new claimants, but increases the cost per claim and the prevalence rate of disabled lives. In this
scenario, the disabled lives’ mortality improves with a rate of 2.6% for male policyholders (1.8% for females) per year. Premiums react very sensitively to this trend and would roughly need to be doubled (men +128%, women +73%).

**Incidence rates**

Declining incidence rates for disability – and being in need of care – is a positive possible explanation for an increasing life expectancy. The number of new LTC claimants would decrease, as would consequently the prevalence rates of disabled lives as well as the total number of claimants. This in turn will lead to lower premium rates required to cover the expected claim costs. But the calculations show that a decrease of incidence rates alone cannot explain future mortality trends. An annual decline of 8.4% is needed to achieve the desired increase in life expectancy for men (5.3% for women). In this case the required premium would drop by 85% for men and 71% for women.

Even if incidence rates were to drop to zero, this would only result in a three-year higher LE for men and 3.7 years for women. This limitation is caused by the shape of the underlying mortality rates. In high ages the difference between active and disabled lives is less pronounced than in younger years, so a dependency above age 90 will not lead to a significantly reduced life expectancy.

**Combined scenario**

In this scenario, all three biometric factors are changed by an equal relative amount with the aim of increasing the total life expectancy by 2.5 years. This was achieved with an annual rate of change of 1% for men and 0.9% for women. As in the first scenario, a slight decrease in the prevalence rates of disabled lives can be observed, but the increased LE leads to additional claims and now also longer benefit periods. To cover the extra cost, premiums for policies would need to increase by 27% for 50-year-old men (20% for women the same age), compared to a scenario without trends.

In an extreme scenario the benefits of decreasing incidence rates would finally dominate the effect of reducing mortality on LTC costs. But the combined trend would need to reach more than 8% until the premiums for men became cheaper than in a scenario without trend (women: > 7%). In this case about 80% of the policyholders would live to age 120, making the assumptions unrealistic.

**Discussion and conclusion**

The model used has some limitations. Besides ignoring lapses, trends in biometric risks will neither be constant over time nor over all ages. Also, a reduction of disabled lives’ mortality without a reduction of active lives’ mortality might lead in the chosen model to a situation where the disabled lives’ mortality is lower than the active lives’ mortality at very high ages, which seems implausible. But despite these constraints, the scenarios are revealing.

Decreasing incidence rates have been observed in some LTC portfolios. But this cannot fully explain the gains made in life expectancy of the past. In addition, mortality for active and/or disabled lives declined. The fourth scenario showed that the reducing mortality rates may have a stronger effect on the profitability than the decreasing incidence rates. For this reason, trend assumptions regarding decreasing incidence rates should be used with much care, if at all, when pricing LTC insurance when at the same time the mortality trends are not well understood. Particular care is required when analysing prevalence rates of disabled lives. Although they are and will remain an important way to evaluate the development of LTC costs, in itself they are not a reliable source for an evaluation of a block of LTC policies unless considered with other information. Both the combined scenario and the active lives’ mortality trend scenario led to decreasing prevalence rates but increasing costs for LTC.
In general, the significance of the active lives’ mortality is often underestimated. Unlike other risk products, it has a vital impact on premium settings in LTC insurance. Also, the longevity risk may not be taken appropriately into account if a standard annuitants’ mortality table is used for pricing. At higher ages where the prevalence of disabled lives is in excess of 10%, the mortality of disabled lives will significantly influence the overall mortality rates of the aggregate lives.

Decreasing disabled lives mortality is the possible driver for increasing life expectancy with the most negative consequences on LTC pricing. Unfortunately, very limited data is available on this biometric risk amongst insured lives to determine a possible trend. Only a more mature portfolio could provide sufficient information. A limited benefit period, as is common in the U.S., Israel and Asia, may protect the insurance company against the scenario of longer-than-expected LTC claim periods to some extent. On the other hand, it weakens the financial protection offered to policyholders.

The scenarios outlined above probably rather underestimate the impact of future trends. Firstly, the future improvement in life expectancy chosen was on the low side. Secondly, the necessary premium adjustment was calculated for new business. As LTC insurance has a strong savings component, premium adjustment for existing business will be even more significant than for new business. Assuming future expected claims experience 30 years after policy issue to be 10% higher for the remaining period than initially expected as a result of longer claim durations, the premium hike for the then 80-year-old insured person would be about 50% to cover the change in the future risk.

Premium increases have already been necessary in a number of markets and, besides binding significant resources, placed some mistrust of LTC insurance in the minds of consumers and regulators. As even current data for LTC is afflicted with insecurity, risk mitigation through both careful product design and pricing is necessary. A continuous monitoring of the emerging portfolio experience is key in order to understand the dynamics affecting an LTC portfolio. Increasing life expectancy should not be ignored but taken into account in the pricing. The above calculations suggest that trend assumptions for the active lives’ mortality alone may be an appropriate – not to mention simple – approach to cope with future developments. If a trend in another biometric risk is observed, a more holistic pricing approach is required.

Endnotes
3 Eurostat, own calculations, Healthy LE is defined as “the mean number of years still to be lived by a person at age 65 in the absence of limitations in functioning/disability”.
4 Washing, Dressing, Eating, Continence, Transferring and Mobility.
5 The DAV 2008 P uses a trend for active lives mortality, which has only been applied to calculate current active lives mortality rates and is not used to factor in future improvements in this document.
6 LTC prevalence of German population in compulsory LTC insurance is slightly below 1%. The influence of the zero-prevalence assumption is hence negligible.
7 Own calculations based on destatis and Japanese Statistics Bureau.
8 Own calculations.
9 Own calculations.
10 Own calculations.
11 For LTC riders or special product designs the situation may be different.

Tim Eppert is a product specialist for LTC insurance. He joined Gen Re in 2005 and is a member of the German Actuarial Association (DAV). He can be reached at Tel. +49 221 9738 579 or tim.eppert@genre.com.
Gen Re, in conjunction with Milliman, Inc., an actuarial consulting organization, recently completed a survey on premium increases for the U.S. Long Term Care (LTC) insurance industry. This is an important industry topic, since this line of business has been very challenging financially for most of the companies that are active in LTC. Premium rate increases have been common, though we believe most companies did their initial pricing with the intent of pricing adequately from the start.

Thirty-four companies participated in the survey, representing over one-third of the LTC industry by premium volume. Participants included companies with large market shares and operating nationally, as well as smaller participants. A number are still selling new LTC insurance policies while others have only closed blocks. A brief summary of the survey findings follows.

**Most participants have raised rates recently**

Of the 34 participants, 20 (59%) had filed for at least one increase on inforce policies during the prior 36 months. Of those 20, ten had filed at least one earlier round of increases on the same policy series. Of the 14 who had not filed any increase in the last 36 months, at least four felt their experience justified an increase but chose not to file for various reasons.

**Why were the increases necessary?**

The reasons for the increases vary by company; but looking at all the responses combined, the reasons are probably not surprising to those who have been active in the LTC market segment. The fact that voluntary lapses are significantly lower than had been assumed in the original pricing is the most common reason, given by 18 of the 20 companies that have applied rate increases. Mortality, a close relative of voluntary lapses in terms of its effect on LTC financials, was included as a reason by ten companies. Both of these factors result in more policyholders keeping their coverage until their advanced years, when claims are more common. This issue has caused a particularly large drag on the financial results of older LTC blocks, but even blocks sold in the last decade have not been immune.

Morbidity issues were also a common cause for increases. Thirteen of the 20 companies that filed increases listed unfavorable morbidity as one of the reasons. While this survey did not delve into the details of the morbidity issues, we suspect some of the candidates could be adverse home health care claims and longer than expected lengths of claims regardless of service type.

**Magnitude of the increases filed versus what was approved**

LTC insurers are usually obtaining approval for the majority of the increases they file, but not the full amount. Increases filed ranged from 12% to 73%, with an average of 32.2%. Overall the average increase approved by the states ranged from 10% to 62%, and averaged 25.3% across all companies that filed increases. That average approval figure is 79% of the average amount requested for increases reported in the survey. Another interesting finding is that out of 536 total filings, counting each filing...
Alternatives for the policyholders

All of the companies that implemented rate increases offered their customers one or more types of coverage modification as an alternative to the premium increase. The most common ones were a reduced benefit period and a reduced daily benefit amount. Other examples included a reduced paid up benefit, increased elimination period (outside the U.S. also known as benefit deferment period), conversion to a new policy form and dropping an existing benefit rider from the policy. The percentage of policyholders who took a coverage reduction rather than the rate increase ranged from 0% to 55%, but averaged only 8% overall.

Rate stabilization filings

For 13 of the companies that did rate increases, the affected block included business that fell under rate stabilization guidelines rather than traditional loss ratio guidelines. Rate stabilization guidelines refer to a new set of rules adopted in recent years by a number of states, though not all, to be used in place of the previous minimum loss ratio rules. Of the 12 companies with both categories in the same filing, 17% indicated they got about the same level of increase approved on Rate Stabilized business as on other business. 58% got lower increases approved on their Rate Stabilized business and the remaining 25% got more.

Impacts on sales and lapse rates

Among companies that filed increases and still market an LTC product, the majority (75%) reported that the increase did not seem to adversely affect new sales. Only ten of the 20 companies that increased rates reported an increase in lapses that they attribute to the increase. The average reported increase in lapse rates for those companies was 3.8%, but excluding the effect of one outlier, the average was only 2.4%.

The information reported demonstrates that the majority of the U.S. states have been understanding of the issues facing the LTC insurance industry and has been generally supportive of those companies that have needed rate increases to help stabilize their blocks. Despite some industry “scuttlebutt” about the difficulty in getting approvals, it has proved common for carriers to get approval for either the full increase requested or a majority portion of the amount applied for when well justified. The increases approved are material enough to have significantly reduced the financial pain experienced by many companies in this line of business.

**Table 1 – Rate increase filings and approvals**

<table>
<thead>
<tr>
<th>Requested Increase</th>
<th>Average</th>
<th>Average Approved</th>
<th>Average Percent Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-19</td>
<td>16</td>
<td>15</td>
<td>7%</td>
</tr>
<tr>
<td>20-29</td>
<td>24</td>
<td>17</td>
<td>31%</td>
</tr>
<tr>
<td>30-39</td>
<td>31</td>
<td>25</td>
<td>21%</td>
</tr>
<tr>
<td>40-49</td>
<td>48</td>
<td>31</td>
<td>36%</td>
</tr>
<tr>
<td>50+</td>
<td>65</td>
<td>40</td>
<td>39%</td>
</tr>
</tbody>
</table>

**Andy Perkins, FSA, MAAA, is a Senior Vice President in Gen Re’s Stamford office, responsible for the Health Division. He has 37 years of experience in health insurance, including 20 years in Long Term Care. He can be reached at Tel. +1 203 332 3103 or aperkins@genre.com.**
Legislation to make speeding and driving under the influence of alcohol unlawful was introduced in May 2010, a move by the justice administration that demonstrates the strengthening commitment of the public authorities in the fight to reduce road traffic casualties.\(^8\)

According to the DGT, major factors that have served to modify driving habits include:

1. Improved awareness of the risks of the road
2. The presence of speed control cameras
3. Stricter application of law
4. Safety awareness campaigns
5. A demerit point system
6. Press coverage of road accidents involving famous people
7. High petrol prices and the environmental impact of driving

The main measures introduced to reduce the number of traffic accidents have been the lowering of the speed limit, intensification of alcohol and drug tests and introduction of the demerit point system (DPS). In this system, road users who violate traffic laws accrue penalty points according to the severity of the offence. The DPS is typically a debit and credit points system that can potentially result in the suspension or withdrawal of a driver’s licence if an offender breaches a penalty-points threshold.

In Spain, road accidents have remained the commonest, non-natural cause of death for many years.\(^1\) Several initiatives have addressed this, including improvements to the road infrastructure, public awareness campaigns, tax incentives on new and safer cars, and the introduction of a demerit point system on driver’s licences. Although these have all contributed to reduce fatalities, the number of deaths reported on Spanish roads remains higher than in many other European countries.

In addition to the emotional effect of this loss of life, an economic impact results from the direct costs generated by medical bills, property repairs and administrative fees, as well as indirect costs stemming from lost work productivity and impoverished quality of life.\(^2\) For example, a study of the direct and indirect costs of car crashes in Barcelona during the year 2003 calculated this to total €367m.\(^3\) According to the Spanish General Directorate of Traffic (DGT), all areas of the country have experienced reduced road deaths as a result of the initiatives.\(^4\) In June 2010, the Royal Automobile Club of Cataluña (RACC) Director hailed as a “success story” the dramatic reduction in deaths on Spanish roads, approaching 53%, against a European average of 40%.\(^5\) The RACC subsequently published a detailed report to record and highlight the progress.\(^6\)

The European Commission announced its “Road Safety Programme 1997-2001” to help in the selection of measures to tackle the problem of road traffic death. In response, the DGT in Spain launched the “Programa de Acción Europeo de Seguridad Vial 2001-2010”, a strategic road safety plan with the ambitious objective of reducing deaths by 40% in the period 2003-2008.\(^7\) A change in driving habits has been observed since the programme was implemented. Average speeds have decreased, many more drivers and passengers are using safety belts, and the number of drivers testing positive in alcohol control tests has significantly declined.
theirs. On a more positive note, almost 15,000 errant drivers had participated in awareness training courses that result in the expunging of demerit points from the licence.

Some real progress is being made as a result of the changes that have been implemented. For the first time since 1964, fewer than 2,000 deaths from traffic accidents (excluding deaths from roads within city limits and deaths resulting more than 24 hours after the accident) were registered in a twelve-month period, despite a 15-fold increase in the number of vehicles during the same period. The number of individuals who lost their lives on Spanish roads (defined as above) was 1,897 in 2009, an historic figure.

In Spain, there are 31 million vehicles, and last year a further 1.6 million new vehicles were registered.10 The potential of risks have certainly not deterred citizens from acquiring cars. However, new vehicles have higher levels of built-in safety features, which is a major contributor to improved road safety. In the last six years, the number of road accidents has been reduced by half. The European Union (EU) set the objective of reducing deaths in traffic accidents by 50% by 2010; Spain met this target one year in advance.

Figure 1 – Number of deaths (including deaths at the accident scene or during the 24 hours after the accident but excluding deaths on urban routes, i.e., within the city limits), 2000 - 2009

Spain’s DGT figures for 2009 reveal a 13% reduction in fatalities in comparison to 2008. In fact, the number of road traffic fatalities has declined for six consecutive years. This trend has continued into 2010 with the death toll recorded as falling by a further 8% during the first two months of the year. In comparison to 2008, the number of fatalities reduced in 2009 across all age groups.11 Over the last six years, the age groups that have seen the highest reductions in fatalities have been:

- From 0 to 14 years, with an accumulated decrease of 68.6%
- From 15 to 24 years, with an accumulated decrease of 64.6%
- From 25 to 34 years, with an accumulated decrease of 56.3%

Despite improvements, younger lives (15- to 34-year-olds) have a risk rate almost 40% higher than the overall rate (56 compared to 41 in 2009). On the other hand, people over 55 years old present risk rates that are lower than the overall.

Spain in the European context

For international comparison, the figures of deaths used are per million of population and include deaths within city limits. In 2003, Spain was in the bottom third (17th) of the then 25 member states of the EU (Figure 3). DGT data shows that by 2008 the “per million” fatality rate had reduced from 128 to 68. Today, ranked eighth of 27 EU members, Spain belongs to the top tercile and is below the European average of 79 (Figure 4).

Table 1 – Risk rate per age group – Deaths on road (within 24 hour of an accident and outside urban areas) per million (2003 - 2009)12

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2003</th>
<th>2005</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 15 yrs</td>
<td>19</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>15 - 24 yrs</td>
<td>139</td>
<td>95</td>
<td>56</td>
</tr>
<tr>
<td>25 - 34 yrs</td>
<td>124</td>
<td>86</td>
<td>53</td>
</tr>
<tr>
<td>35 - 44 yrs</td>
<td>92</td>
<td>68</td>
<td>46</td>
</tr>
<tr>
<td>45 - 54 yrs</td>
<td>86</td>
<td>66</td>
<td>42</td>
</tr>
<tr>
<td>55 - 64 yrs</td>
<td>87</td>
<td>63</td>
<td>38</td>
</tr>
<tr>
<td>&gt; 64 yrs</td>
<td>78</td>
<td>61</td>
<td>39</td>
</tr>
<tr>
<td>All</td>
<td>94</td>
<td>76</td>
<td>41</td>
</tr>
</tbody>
</table>
In 2001, the EU published a white paper entitled “European Transport Policy for 2010: Time to Decide”. It included an objective to reduce the annual number of deaths on all EU roads by half over ten years.\(^\text{13}\) Measures proposed to achieve this included harmonisation of driving penalties across borders and the promotion of new technologies to improve road safety. Since then, countries that show significant reduction in road deaths include Germany, Luxembourg, France, Portugal, Spain and Latvia.

Spain is the EU country that has improved most in terms of road fatalities during the period 2001-2008. Sweden, the UK and the Netherlands are the safest EU countries for road use, while Romania, Greece and Poland represent the other extreme, according to the 4th Road Safety Performance Index Report (PIIN) from the independent organisation ETSC (European Transport Safety Council) that presents data from all EU countries.\(^\text{14}\) The report also marks 2009 as the 50th anniversary of the introduction of car seat belts, but while 95% of drivers in Sweden, the UK and the Netherlands buckle up for safety, in Spain the number remains a little lower (80%) but is increasing. Measures to tackle the remaining two main killers on the road, excessive speeding and driving under the influence of alcohol (or drugs), are also making a difference. The 4th European Road Safety Action Programme was announced in April 2009 and is likely to emphasise further action on these three areas.

On a more global scale, data released in June 2010 by the International Travel Forum (part of the Organisation for Economic Co-operation and Development) demonstrates a continuing and significant reduction in the number of road deaths for member states. Apart from the improved road safety policies of governments, the moderating effect of the economic crisis on road use is cited as one reason for the favourable trend.\(^\text{15}\) The impact of the global financial crisis has affected the world of traffic with a reduction seen in long-distance journeys and in new vehicle registrations.

### The insurance and reinsurance market

From the point of view of the life insurance market, the improvement as seen from 2003 to 2008, though considerable, is only a small fraction of the overall mortality rate. The improvement over this period (0.06 per mille) is reflected in newer tables. A similar absolute improvement cannot continue into the future. However, an important aspect to be taken into account when looking at these statistics is the way the fatality rate from traffic accidents is defined. Except for Figures 3 and 4, the definition of road fatality used in this article refers to death within 24 hours of a road accident outside city limits. In the insurance sector, accident benefits are typically not dependent upon these limitations. In Spain, an additional 22% die in road accidents within 24 hours in city limits, and an additional 17% die during the following 29 days (based on 2008 figures).\(^\text{16}\)

During the 1980s and 1990s, an insurance product known as ”Triple C” was commonly available on the market. This type of plan provided cover against the risk of death from cancer, heart attack or traffic accident. Typically, an additional benefit covering traffic accidents was also included in life policies. This complementary benefit served to increase the sum insured where the death was the consequence of a traffic accident. However, some insurers stopped marketing these products due to the negative impact traffic accident claims had on the stable results of their life portfolio. The current rates used for the complementary benefit of traffic accidents are usually independent of age.\(^\text{17}\) However, in this article we have observed that the incidence of deaths by this cause varies in a substantial way, according to age.

### Conclusions

This article has been focused on mortality as a consequence of traffic accidents on the road. The reduction in the number of accidents not only had a positive impact on death rates, but also on levels of disability resulting from them. Although not covered here, the latter is of great importance from an insurance point of view.

Much has changed in Spanish motoring during the past six years as a result of the introduction of the strategic road safety plan, a demerit point system and new traffic legislation. The local infrastructure has been much improved, and car users have benefitted from safety improvements in the design of new vehicles they have registered. All this has led to a drop in Spanish traffic casualties that has even exceeded expectation. From the point of view of the insurance industry, this may be the right moment to return to promoting products that include traffic accident cover.

---

\(^\text{13}\) Economic Co-operation and Development

\(^\text{14}\) Source: Accidentes Mortales en Carretera, DGT 2009

\(^\text{15}\) Risk Insights, 2010 – No. 3

\(^\text{16}\) From the point of view of the life insurance market, the insurance and reinsurance market

\(^\text{17}\) Conclusions

**Risk Insights, 2010 – No. 3**
Endnotes


3 Garcia-Altes A. The Economic cost of road traffic crashes in an urban setting. Inj Prev 2007 February: 13(1)65-68.


5 http://live.kyero.com/2010/06/30/spanish-roads-safer-than-ever/


8 Normas y legislación; – General Directorate of Traffic in Spain, http://www.dgt.es


Javier Ruiz del Moral Lizundia is a Fellow of the Spanish Institute of Actuaries. Based in Madrid, he is responsible for providing comprehensive support to Life and Health insurers in Spain and Portugal. He joined Gen Re in 2009 with 13 years of prior experience in reinsurance. He can be reached at Tel. +34 91 722 4736 or javier.ruizdelmoral@genre.com.
> **Gen Re, Mexico**, organised **Underwriting Seminars** in Buenos Aires (April 27, 2010), Santiago de Chile (April 29, 2010) and Colombia (May 5, 2010). Ninety-one participants representing 33 companies attended the seminars. Rosa Keiko, Medical Underwriter, presented the main topic “The Impact of Infectious Diseases in Life and Health Insurance”. The program included concepts, history and underwriting experience in Influenza, Hepatitis B & C and HIV/AIDS.

> **Gen Re, Lebanon**, organised a **Risk Management Seminar** in Nicosia (Cyprus) during April 27 - 28, 2010. 25 participants were given the opportunity to participate in the Primary Insurance Management Exercise (PRIME), a computer-assisted learning exercise, which demonstrates some of the decision-making processes involved in operating an insurance company. Mazen Abouchakra, Regional Director MENA & Cyprus, and Sascha Adler, Senior Account Manager for MENA & Cyprus, held the PRIME session. Andres Webersinke, Head of Research & Development, presented on “The right to underwrite”, “Questionnaires – Does it matter how I ask?”, “Tele-underwriting” and “Financial underwriting” with case studies.

> **Gen Re, China**, organised an **Actuarial Seminar** in Beijing and Shanghai on May 21, 2010 and May 26, 2010 respectively. Sixty senior actuaries from major insurers in China attended the seminars. Dr. Wolfgang Droste, Chief Executive Asia Pacific; Frank McInerney, General Manager SEA and India; Louis Rossouw, Regional Chief Actuary SEA and India; John Ferguson, Regional Chief Actuary Greater China; and Chua Tuan Miang, General Manager China and Hong Kong, presented in the seminar. Topics included “Solvency II”, “India Life & Health Insurance Industry – Development and Current Issues”, “Longevity” and “Health Insurance Products – Towards Whole Life Coverage”.

> **Gen Re, China**, held a **Chief Operation Officer and Senior Risk Managers summit** in Huangshan, China on May 19 - 21, 2010. Forty-six participants representing most life/health insurers in China attended the seminars. The topics included “Evidenced based underwriting”, “Introduction to product pricing”, “New PRC IFRS accounting”, “Tele-underwriting” and “Introduction to telemarketing”. Gen Re also launched the Chinese-language version of its online underwriting manual CLUE during the meeting. Speakers were Dr. Wolfgang Droste, Dr. Detloff Rump, Ms. Yvonne Ren, Ms. Celia Zhang and Mr. Lu Jian.

> **Gen Re, China**, hosted the **Actuarial Course (GRAC)** in Shanghai during May 23 - 28, 2010. Forty-six participants from China, Hong Kong, India, Indonesia, Japan, Malaysia, Singapore and Taiwan attended the course. The participants had an excellent opportunity to acquire advanced actuarial techniques from Gen Re experts. They also contributed to lively discussions about the Primary Insurance Management Exercise (PRIME), a computer-assisted learning exercise which demonstrates some of the decision-making processes involved in operating an insurance company.
Client Seminars (cont’d)

> **Gen Re, India,** organised an **Underwriting Seminar** in Mumbai on July 14, 2010. Nearly 50 participants attended the seminar. Following a welcome address by Dr. Manisha Kalaver, Medical Consultant, Dr. Wolfgang Droste, Hong Kong, gave an “Overview on the Evidence Based Underwriting project carried out by Gen Re”. Dr. Detloff Rump, Hong Kong, presented on “Genetic testing” as well as on “Stem cells”. Andres Webersinke, Cologne, presented on “Financial underwriting” and held an interactive session with case studies. Irene Ng, Chief Underwriter SEA and India, presented on “Simplified underwriting”.

> **Gen Re, India,** organised an **Actuarial Seminar** in Mumbai on July 15, 2010. Nearly 40 participants attended the seminar. Following a welcome address by Subha Neelakantan, Country Manager India, Dr. Wolfgang Droste, Hong Kong, presented on “Disability Products” and “Solvency II”. Dr. Detloff Rump, Hong Kong, discussed “30 years of HIV/AIDS: What have we learned?”. Irene Ng, Singapore, presented on “Tele-underwriting” while Andres Webersinke, Cologne, presented on “Shopassurance” and “Longevity”.

**North America**

> **Laura Vecchione,** MD, Second Vice President, Medical Director, gave a Webinar presentation on “Breast Cancer Research” at Gen Re’s Stamford office that was broadcast to 25 client companies on July 29, 2010.

> **JHA, North America,** hosted the annual Group Disability and Life Risk Forum from August 11 - 13, 2010 in Portland, Maine. This event, for group reinsurance clients only, covers the latest trends and topics for attendees representing claims, underwriting and administration.

> **JHA’s** Individual DI team held an educational forum for a client company in Lincoln, Nebraska from August 17 - 18, 2010. Presentations focused on financial underwriting and claims management in economically turbulent times.

Industry Meetings

**International**

> **Jutta Eich,** Head of Life/Health Client Services, spoke on June 16, 2010 at the 5th Sopot Summer Insurance & Reinsurance Days in Sopot, Poland, about “Rehabilitation is key – A case management approach to living assurance benefits”.

**North America**

> **John S. Cathcart,** FSA, MAAA, Vice President, Health Division, spoke at the June 28 - 30, 2010, SOA Spring Health meeting in Orlando, Florida, as part of a panel addressing “Medicare Supplement — Critical Factors for Success”.

> At the SOA Health Meeting in Orlando, Florida, on June 29, **Bob Hardin,** Vice President, Group Life Actuary, co-presented a workshop and led a discussion on Group Life “Hot Topics”. He also chaired a meeting of the SOA Group Life Experience Committee. **Jena Breece,** Second Vice President, Actuarial Services, also co-presented a workshop titled “Group Disability Market Trends” with **Tom Corcoran** of Towers Watson.
Mark Your Calendar

International

> Gen Re will be hosting the 3rd Seminar on International Product Trends in Cologne, Germany, on September 27 - 28, 2010. Gen Re experts and external speakers will focus on the effect ageing societies have on the product landscape for life insurers. The ability to earn a living or to maintain a minimum degree of independence is an important personal asset which demands different and innovative protection products at different life stages. For more information, please contact your local Gen Re contact.

> Gen Re will be hosting the 8th International Seminar on Risk Management in Cologne, Germany, on September 30 - October 1, 2010. The conference will focus on Risk Management in the Wake of the Financial Crisis addressing the ensuing challenges the Life Insurance Industry faces. This will include – among other topics – the question of How will the Life Insurance Industry’s future change under different economic scenarios? For more information, please refer to http://www.genre.com/sharedfile/pdf/RiskManagementSeminar2010-en.pdf.

North America

> Neal Jones, ALHC, CEBS, Assistant Secretary, will make a presentation on “Foreign Deaths – Procedures to handle a death that occurs in an obscure locale or unfriendly country”, during the October 2010 International Claim Association meeting in Austin, Texas.

> Thomas Ashley, MD, FACP, Vice President and Chief Medical Director, will give a presentation on bipolar disorder at the North East Home Office Underwriter Association (NEHOUA) meeting on October 14, 2010 in Worcester, Massachusetts.

> Laura Vecchione, MD, Second Vice President, Medical Director, will give a presentation entitled “Breast Cancer – A Look at Some Newer Aspects of Risk Assessment” on November 5, 2010 at the Midwestern Medical Directors Association (MMDA) near Hartford in Avon, Connecticut.

> Steve Rowley, Vice President, will be presenting at the LIMRA LOMA SOA DI and LTC Meeting September 22 - 24 in Orlando as part of a panel discussing the subject of Managing Existing Blocks of LTC, including reporting on a major industry survey that Gen Re has initiated looking at rate increase filings.

> Barry Eagle, Vice President, will be speaking at the LIMRA LOMA SOA NACII Forum on September 21 and 22 where he will provide results of the 2010 Gen Re / NACII Survey on Critical Illness Insurance in the US Market.

> Peter Sauer, Second Vice President, will facilitate and present a technical underwriting session at the LIMRA LOMA SOA NACII Forum September 21 - 22 in Orlando on the subject of “Critical Illness Insurance Application Form Design – the Importance of Question for Simplified vs. Guaranteed Issue and Current Best Definitions (Don’t Use 2005 Definitions with a 2010 CI Product!)”.

Risk Insights, 2010 – No. 3
Mark Your Calendar (cont’d)

> Mary Ann Wilkinson, Vice President, will facilitate and present at a session during the LIMRA LOMA SOA NACII Forum September 21 - 22 in Orlando on the subject of “Claims Experience, Current Claims Procedures and Guidelines, as well as Difficult Events for Claims Assessment”.

> Steve Rowley, Vice President, will be speaking at the LIMRA Group Benefits and Worksite Leadership Conference in Baltimore from September 13 - 15 on “Critical Illness Insurance – Implications for the Future of Markets”. It will offer insight on the product’s evolution and educate attendees on the challenges and opportunities.

> Mary Susan Bradley, Vice President, Marketing; John S. Cathcart, FSA, MAAA, Vice President; and Rob Himmelstein, ASA, MAAA, Second Vice President, all of the Health Division will be speaking at the Issues & Trends in Medicare Supplement Insurance Conference October 11 - 13, 2010 in Scottsdale, AZ. John will be part of a panel discussing the “Medicare Supplement Market Overview and the Latest Hot Topics”, while Rob and Mary Susan will be presenting the “Key Findings of Gen Re’s 2009 Medicare Supplement Industry Survey”.

> Drew King, President, JHA, will present on the U.S. Group Disability and Voluntary/Worksite marketplace at Gen Re’s annual seminars being held in Sydney, Melbourne and Auckland, Australia and Wellington, New Zealand from August 23 - 27, 2010. He will also present on Customer Service and Satisfaction in the U.S. Disability market at Gen Re’s UK Disability Dynamics Seminar on September 17. On October 1, 2010 he will present on the 2009 Group Disability industry results and expectations for beyond 2010 at OneAmerica Financial Group’s Broker event being held in Charlotte, NC.

> Diane Ferreira, Sr. IDI Benefit Consultant, JHA, will moderate at the International Claim Association conference being held in Austin, TX from October 3 - 6, 2010.

> Andy Baillargeon, Vice President, Group Life Actuary, JHA, will present at the SOA Annual Meeting being held in New York, NY from October 17 - 20, 2010.
Inside Gen Re

Publications

International

> Risk Matters
  May – LTC Quarterly Spring 2010 – The Depression-Disability Spiral
  Declining function is associated with depression and depression is itself associated with a decline in function. This edition of the LTC Quarterly looks in more detail at this process which is potentially identifiable at underwriting and modifiable at claim.

  July – Everyday Cannabis Use
  In Risk Matters March 2007, we reviewed new evidence that clearly demonstrated the causative role played by cannabis in the development of psychosis. In this issue of Risk Matters we consider why the research supports a cautious approach to underwriting those who use cannabis.

  July – Malaria
  This edition of Risk Matters looks at the risk malaria poses.

> Risk Matters Oceania
  May – This issue covers: An underwriting solution for chromosome 6p duplication; Mental Health Claims, the GP and the Claims Professional; and Upcoming International Gen Re events.

  June – This edition looks at Predictive Modeling: The evolution of the underwriting engine; Breast cancer vaccine in mice gives new hope; Gen Re’s Upcoming Events; and COMET Core Workshop.

  July – The content of this issue is Insuring the HIV/AIDS Risk; Annual Seminar 2010; When Claims Investigation Can Go Too Far; and Research and Development News.

> Underwriting Focus (a publication of the Gen Re Business School) –
  The main topics in this issue are Depression: Statistics and Cultural Differences; The Short and the Long of it: The Natural History of Depressive Disorders; Deliberate Self-harm, Attempted Suicide and the Risk of Future Suicide; Depression and Self-harm – Case Examples; An Exceptional Sport – Slacklining; An Exceptional Profession – Acoustic Designer; and Seminar Dates.
North America

> Thirty-one client companies, representing USD19.6 billion individual life premium, participated in Gen Re’s 2010 Individual Life Claim Survey. A report was published to provide a solid foundation for benchmarking client results against a perspective of typical issues the industry faces including specific feedback on STOLI claims. For additional information, please contact Connie Wing, FLHC, FLMI, ACS, Assistant Vice President, Claims at cwing@genre.com.

> Gen Re released SOURCE–Life™ Version 7 on July 26, 2010 with major content revisions for sleep apnea, prostate cancer, bipolar disorder, coarctation of aorta, incidentaloma images, viral hepatitis, anemia, leucopenia, kidney function tests, T-cell lymphoma, Barrett’s esophagus, Chiari I malformation, stroke and repaired PFO, and chronic lymphocytic leukemia. Also included are “Classroom” additions and update and general page layout improvements. For more information, please contact Thomas Ashley, MD, at tashley@genre.com.

> The Health Division published the Long Term Care Rate Management Survey 2010 Report. The results of a survey undertaken by Gen Re in conjunction with Milliman focused on Rate Management Decisions made in the past 36 months including filing information, results, alternatives and impact on carriers.

Our Professionals

North America

> **Gary Kranich**, CLU, FLMI, and Assistant Vice President, Individual Life Division joined Gen Re in 2005 as a life underwriter after 23 years of direct life experience. Gary is a graduate of SUNY College at Cortland with a BS in Health Science. Gary recently attained the FALU designation from the Academy of Life Underwriting, adding to his existing professional designations. He is the current chairperson for the aviation risk committee and made contributions to the Mitral Valve Disorder Classroom in SOURCE–Life™.

> **Joan Oddie**, FLMI, was promoted to Assistant Vice President, Individual Life underwriting. She joined Gen Re in 2002 as a life underwriter and has more than 25 years experience in the industry. Joan’s research for the SOURCE–Life™ appears in the Classroom sections on Prostate Cancer, Crohn’s and Ulcerative Colitis. She is certified for interpretation of normal ECGs.

> **Cindy Sempey** was promoted to Assistant Vice President, Individual Life underwriting. She joined Gen Re in 1973. Since 1985 she has worked as a life underwriter with many seasoned professionals including Charles Will, author of the well-known industry publication “Does it Make Sense?”. Cindy is certified in all four ECG interpretation courses. Cindy continues as chairperson of the occupation committee, researching the underwriting risk of aerial firefighters and commercial fishermen, among others. Her research appears in the SOURCE–Life™ Medical Guide Classroom for Neurocardiogenic Syncope.

> **Michele O’Neill** recently joined us as Senior Underwriter, Assistant Vice President, Risk Management team in the Individual Life Division. Michele brings with her a wealth of experience. Her most recent position was Chief Underwriter at Mutual of Omaha where she was responsible for developing underwriting guidelines as well as assessing the more complex underwriting risks. Michele is a graduate of SUNY, Oswego.

> **Rebecca Kokes** has joined the Stamford office as an Actuarial Trainee in Individual Health, working on Long Term Care Insurance.
This information was compiled by Gen Re and is intended to provide background information to our clients, as well as to our professional staff. The information is time sensitive and may need to be revised and updated periodically. It is not intended to be legal or medical advice. You should consult with your own appropriate professional advisors before relying on it.